CHAPTER

23

COMMUNICATIONS

CHAPTER 23
COMMUNICATIONS

Subject/Page	Date	COC
23-EFFECTIVE PAGES		
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23-CONTENTS		
1	Oct 15/2024	
2	Oct 15/2024	
O 3	Feb 15/2025	
4	Oct 15/2024	
5	Oct 15/2020	
6	Jun 15/2023	
7	Oct 15/2024	
8	Oct 15/2024	
9	Oct 15/2024	
10	Oct 15/2024	
11	Oct 15/2024	
O 12	Feb 15/2025	
13	Oct 15/2024	
14	Oct 15/2024	
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22	Oct 15/2024	
23	Oct 15/2024	
24	Oct 15/2024	
25	Oct 15/2024	
26	Oct 15/2024	
O 27	Feb 15/2025	
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29	Oct 15/2024	
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32	Oct 15/2024	
33	Oct 15/2024	
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23-00-00		
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902	Oct 15/2024	
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913	Oct 15/2024	
914	Oct 15/2024	C
915	Oct 15/2024	
916	Oct 15/2024	C
917	Oct 15/2024	C
918	Oct 15/2024	
919	Feb 15/2024	
920	Feb 15/2024	
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922	Oct 15/2024	
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206	Oct 15/2024	
207	Oct 15/2024	
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23-11-00		
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508	Oct 15/2024	
R 509	Feb 15/2025	
510	Oct 15/2024	
R 511	Feb 15/2025	
R 512	Feb 15/2025	
23-11-21		
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402	Oct 15/2024	
403	Oct 15/2015	
404	Oct 15/2021	
405	Oct 15/2024	
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410	Oct 15/2024	
23-11-51		
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402	Oct 15/2024	
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404	Jun 15/2020	
23-11-51		
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602	Oct 15/2017	
603	Oct 15/2015	
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23-11-61		
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402	Oct 15/2024	
403	Oct 15/2024	
404	Oct 15/2024	
405	Oct 15/2021	
406	Oct 15/2024	

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Subject/Page	Date	COC
23-11-61 (cont)		
407	Oct 15/2024	
408	Oct 15/2024	
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23-12-00		
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204	Oct 15/2024	
205	Oct 15/2024	
206	Oct 15/2024	
23-12-00		
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506	Feb 15/2023	
507	Oct 15/2024	
508	Oct 15/2024	
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23-12-11		
O 401	Feb 15/2025	C
R 402	Feb 15/2025	
O 403	Feb 15/2025	
O 404	Feb 15/2025	
O 405	Feb 15/2025	
O 406	Feb 15/2025	
O 407	Feb 15/2025	C
O 408	Feb 15/2025	C
O 409	Feb 15/2025	C
O 410	Feb 15/2025	C
23-12-11 (cont)		
O 411	Feb 15/2025	C
O 412	Feb 15/2025	C
R 413	Feb 15/2025	
O 414	Feb 15/2025	
O 415	Feb 15/2025	
O 416	Feb 15/2025	
O 417	Feb 15/2025	
O 418	Feb 15/2025	C
R 419	Feb 15/2025	C
O 420	Feb 15/2025	C
O 421	Feb 15/2025	C
O 422	Feb 15/2025	C
23-12-21		
401	Oct 15/2024	
402	Oct 15/2024	
403	Jun 15/2023	
404	Oct 15/2024	
405	Oct 15/2024	
406	Oct 15/2024	
407	Oct 15/2024	
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23-12-41		
401	Oct 15/2024	
402	Feb 15/2023	
403	Jun 15/2018	
404	Oct 15/2024	
405	Oct 15/2024	
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407	Oct 15/2024	
408	Oct 15/2024	
409	Oct 15/2024	
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23-15-00		
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202	Jun 15/2018	
23-15-00		
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23-15-10		
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209	Oct 15/2024	
210	Oct 15/2024	
211	Oct 15/2024	
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23-15-10		
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402	Jun 15/2018	
403	Jun 15/2018	
404	Jun 15/2018	
405	Jun 15/2018	
406	BLANK	
23-15-13		
401	Jun 15/2018	
402	Jun 15/2018	
403	Jun 15/2018	
404	Jun 15/2018	
405	Jun 15/2018	
406	Jun 15/2018	

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Subject/Page	Date	COC
23-15-13 (cont)		
407	Jun 15/2018	
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409	Jun 15/2018	
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23-15-27		
R 401	Feb 15/2025	
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403	Feb 15/2021	
404	Jun 15/2023	
405	Feb 15/2021	
406	Feb 15/2021	
23-15-30		
401	Jun 15/2024	
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404	Oct 15/2019	
405	Jun 15/2024	
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23-15-40		
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23-15-41		
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23-15-41		
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404	Oct 15/2022	
23-15-41 (cont)		
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23-15-42		
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203	Oct 15/2022	
204	Feb 15/2019	
205	Oct 15/2022	
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207	Oct 15/2022	
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23-15-42		
401	Feb 15/2021	
402	Feb 15/2021	
403	Feb 15/2019	
404	Feb 15/2021	
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23-15-43		
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402	Jun 15/2023	
403	Jun 15/2023	
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407	Jun 15/2023	
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23-19-34		
R 401	Feb 15/2025	
402	Jun 15/2020	
403	Jun 15/2020	
23-19-34 (cont)		
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405	Feb 15/2022	
406	Feb 15/2022	
23-24-00		
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203	Jun 15/2023	C
204	Jun 15/2023	C
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208	Jun 15/2023	C
23-24-00 Config 1		
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202	Oct 15/2024	C
203	Oct 15/2024	C
204	Oct 15/2024	C
205	Oct 15/2024	C
206	Oct 15/2024	C
207	Jun 15/2023	C
208	Oct 15/2024	C
209	Jun 15/2023	C
210	Oct 15/2024	C
211	Oct 15/2024	C
212	Oct 15/2024	C
213	Oct 15/2024	C
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23-24-00 Config 2		
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202	Oct 15/2024	C
203	Feb 15/2023	C
204	Feb 15/2023	C
205	Feb 15/2023	C
206	Jun 15/2024	C
207	Feb 15/2023	C

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Subject/Page	Date	COC
23-24-00 Config 2 (cont)		
208	Feb 15/2023	C
209	Feb 15/2023	C
210	Oct 15/2024	C
211	Oct 15/2024	C
212	Oct 15/2024	C
213	Oct 15/2024	C
214	Oct 15/2024	C
215	Oct 15/2024	C
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23-24-00 Config 3		
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202	Jun 15/2024	C
203	Oct 15/2021	C
204	Oct 15/2023	C
205	Jun 15/2024	C
206	Oct 15/2021	C
207	Jun 15/2024	C
208	Jun 15/2024	C
23-24-00 Config 1		
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502	Oct 15/2024	C
503	Oct 15/2024	C
504	Oct 15/2024	C
505	Oct 15/2024	C
506	Oct 15/2024	C
507	Oct 15/2024	C
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23-24-00 Config 2		
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506	Jun 15/2024	C
507	Jun 15/2024	C
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23-24-00 Config 3		
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502	Jun 15/2024	C
503	Jun 15/2024	C
504	Jun 15/2024	C
505	Nov 15/2022	C
506	Nov 15/2022	C
507	Jun 15/2024	C
508	Nov 15/2022	C
23-24-01		
R 401	Feb 15/2025	C
402	Oct 15/2024	C
403	Oct 15/2024	C
404	Feb 15/2023	C
405	Oct 15/2024	C
R 406	Feb 15/2025	C
407	Oct 15/2024	C
408	Oct 15/2024	C
23-24-02		
401	Oct 15/2024	C
402	Oct 15/2024	C
403	Oct 15/2024	C
404	Oct 15/2024	C
405	Oct 15/2024	C
406	Oct 15/2024	C
23-25-03		
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23-25-03		
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402	Oct 15/2024	
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405	Oct 15/2024	
406	Oct 15/2024	
407	Oct 15/2024	
23-25-03 (cont)		
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23-25-03		
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502	Oct 15/2024	
503	Oct 15/2024	
504	Oct 15/2024	
505	Oct 15/2024	
506	Oct 15/2024	
23-27-00 Config 1		
R 201	Feb 15/2025	
R 202	Feb 15/2025	
O 203	Feb 15/2025	
204	Oct 15/2015	
205	Jun 15/2020	
206	Oct 15/2024	
R 207	Feb 15/2025	
O 208	Feb 15/2025	
23-27-00 Config 1		
501	Jun 15/2015	
502	Oct 15/2023	
503	Oct 15/2023	
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505	Oct 15/2023	
506	Oct 15/2023	
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23-27-00 Config 9		
R 501	Feb 15/2025	
R 502	Feb 15/2025	
503	Oct 15/2024	
R 504	Feb 15/2025	
O 505	Feb 15/2025	
O 506	Feb 15/2025	
O 507	Feb 15/2025	
O 508	Feb 15/2025	
O 509	Feb 15/2025	
O 510	Feb 15/2025	

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O 511	Feb 15/2025	
512	Oct 15/2024	
513	Oct 15/2024	
514	Oct 15/2024	
515	Oct 15/2024	
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517	Oct 15/2024	
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23-27-00 Config 10		
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507	Oct 15/2024	
508	Oct 15/2024	
509	Oct 15/2024	
510	Oct 15/2024	
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23-27-32		
R 201	Feb 15/2025	
R 202	Feb 15/2025	
O 203	Feb 15/2025	
O 204	BLANK	
23-27-32		
401	Oct 15/2022	
402	Oct 15/2022	
403	Oct 15/2015	
404	Oct 15/2022	
405	Oct 15/2022	
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23-27-33		
R 201	Feb 15/2025	
O 202	Feb 15/2025	
O 203	Feb 15/2025	
23-27-33 (cont)		
O 204	Feb 15/2025	
R 205	Feb 15/2025	
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207	Oct 15/2024	
208	Oct 15/2024	
R 209	Feb 15/2025	
O 210	Feb 15/2025	
O 211	Feb 15/2025	
R 212	Feb 15/2025	
O 213	Feb 15/2025	
O 214	Feb 15/2025	
R 215	Feb 15/2025	
O 216	Feb 15/2025	
R 217	Feb 15/2025	
R 218	Feb 15/2025	
R 219	Feb 15/2025	
R 220	Feb 15/2025	
221	Oct 15/2024	
222	Oct 15/2024	
23-27-33		
401	Oct 15/2024	
R 402	Feb 15/2025	
403	Jun 15/2020	
404	Oct 15/2024	
R 405	Feb 15/2025	
R 406	Feb 15/2025	
R 407	Feb 15/2025	
408	BLANK	
23-27-35		
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203	Oct 15/2024	
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23-27-35 (cont)		
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213	Oct 15/2024	
214	Oct 15/2024	
23-27-35		
401	Oct 15/2024	
R 402	Feb 15/2025	
403	Oct 15/2024	
404	Jun 15/2020	
405	Jun 15/2020	
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408	Oct 15/2024	
409	Oct 15/2024	
R 410	Feb 15/2025	
R 411	Feb 15/2025	
R 412	Feb 15/2025	
23-28-00		
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23-28-00		
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502	Oct 15/2024	
503	Oct 15/2024	
504	Oct 15/2024	
505	Oct 15/2024	
506	BLANK	

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Subject/Page	Date	COC
23-28-11		
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402	Oct 15/2014	
403	Oct 15/2015	
404	Oct 15/2024	
405	Oct 15/2024	
406	Jun 15/2023	
23-28-21		
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402	Oct 15/2024	
403	Oct 15/2024	
404	Oct 15/2024	
405	Oct 15/2024	
406	Oct 15/2024	
23-31-00		
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R 505	Feb 15/2025	
R 506	Feb 15/2025	
R 507	Feb 15/2025	
R 508	Feb 15/2025	
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O 510	Feb 15/2025	
O 511	Feb 15/2025	
O 512	Feb 15/2025	
O 513	Feb 15/2025	
O 514	Feb 15/2025	
23-31-01		
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202	Oct 15/2015	
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23-31-01		
401	Oct 15/2018	
402	Oct 15/2015	
403	Oct 15/2024	
23-31-01 (cont)		
404	Oct 15/2024	
23-31-02		
201	Feb 15/2015	
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23-31-02		
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403	Oct 15/2024	
404	Oct 15/2024	
405	Oct 15/2024	
406	Oct 15/2024	
407	Oct 15/2024	
408	Oct 15/2024	
23-31-03		
201	Oct 15/2022	
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203	Oct 15/2022	
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23-31-03		
401	Oct 15/2024	
402	Oct 15/2015	
403	Oct 15/2022	
404	Oct 15/2024	
405	Oct 15/2024	
406	Oct 15/2024	
23-31-05		
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23-31-05		
401	Oct 15/2024	
402	Oct 15/2022	
403	Oct 15/2022	
404	Oct 15/2021	
23-31-05 (cont)		
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406	Oct 15/2022	
23-31-07		
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202	Oct 15/2024	
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213	Oct 15/2024	
214	Oct 15/2024	
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23-31-07		
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408	Oct 15/2024	
409	Oct 15/2024	
410	BLANK	
23-32-00		
501	Oct 15/2024	
502	Oct 15/2024	
503	Oct 15/2024	
504	Oct 15/2024	

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Subject/Page	Date	COC
23-32-00 (cont)		
505	Oct 15/2024	
506	Oct 15/2024	
23-32-01 Config 1		
201	Oct 15/2024	
202	Oct 15/2024	
23-32-01		
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404	Oct 15/2024	
405	Oct 15/2024	
406	Oct 15/2024	
407	Oct 15/2024	
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23-32-02		
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207	Oct 15/2024	
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23-32-02 Config 1 (cont)		
408	Oct 15/2024	
23-32-03		
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R 202	Feb 15/2025	
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23-32-03		
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407	Oct 15/2024	
408	Oct 15/2024	
23-32-06		
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206	Oct 15/2024	
207	Oct 15/2024	
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23-32-06		
401	Oct 15/2024	
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404	Oct 15/2024	
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23-32-08		
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202	Feb 15/2015	
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23-32-08 (cont)		
204	Feb 15/2015	
23-32-08		
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402	Oct 15/2015	
403	Jun 15/2019	
404	Jun 15/2019	
23-32-13		
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202	Oct 15/2024	
23-32-13 Config 1		
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202	Oct 15/2024	
203	Oct 15/2024	
204	Oct 15/2024	
23-32-13		
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409	Oct 15/2024	
410	Oct 15/2024	
411	Oct 15/2024	
412	Oct 15/2024	
23-32-14		
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23-32-14		
401	Oct 15/2024	
402	Oct 15/2024	

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23-32-14 (cont)		
403	Oct 15/2024	
404	Oct 15/2024	
23-34-00		
201	Oct 15/2024	
202	Oct 15/2024	
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23-34-00		
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23-34-01		
201	Oct 15/2024	
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203	Oct 15/2024	
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205	Oct 15/2024	
206	Oct 15/2024	
207	Oct 15/2024	
208	BLANK	
23-34-02		
401	Oct 15/2024	
402	Oct 15/2024	
403	Oct 15/2024	
404	Oct 15/2024	
405	Oct 15/2024	
406	BLANK	
23-34-03		
201	Oct 15/2024	
202	Oct 15/2024	
203	Oct 15/2024	
204	BLANK	
23-34-03		
401	Oct 15/2024	
402	Oct 15/2024	
403	Oct 15/2024	
404	Oct 15/2024	
23-34-04		
401	Oct 15/2024	
402	Oct 15/2024	
403	Oct 15/2024	
404	Oct 15/2024	
405	Oct 15/2015	
406	Oct 15/2024	
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23-34-05		
401	Oct 15/2024	
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404	Oct 15/2024	
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406	BLANK	
23-34-11		
401	Oct 15/2024	
402	Oct 15/2024	
403	Oct 15/2024	
404	Oct 15/2015	
405	Oct 15/2024	
406	Oct 15/2024	
23-41-00		
501	Oct 15/2024	
502	Oct 15/2024	
503	Oct 15/2024	
504	Oct 15/2024	
23-42-00		
501	Feb 15/2018	
502	Oct 15/2024	
503	Oct 15/2014	
504	Oct 15/2024	
23-42-01		
401	Jun 15/2015	
402	Oct 15/2015	
403	Oct 15/2015	
404	Oct 15/2014	
23-42-01 (cont)		
405	Oct 15/2024	
406	Oct 15/2024	
407	Oct 15/2024	
408	Oct 15/2024	
23-42-02		
401	Oct 15/2015	
402	Oct 15/2015	
403	Feb 15/2019	
404	Oct 15/2017	
405	Jun 15/2019	
406	Jun 15/2019	
407	Feb 15/2021	
408	Oct 15/2020	
23-42-03		
201	Oct 15/2024	
202	Oct 15/2024	
203	Oct 15/2024	
204	Oct 15/2024	
205	Oct 15/2024	
206	Oct 15/2024	
207	Oct 15/2024	
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23-42-03		
501	Oct 15/2024	
502	Oct 15/2024	
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23-42-04		
401	Oct 15/2024	
402	Oct 15/2024	
403	Oct 15/2024	
404	Oct 15/2024	
405	Oct 15/2024	
406	BLANK	
23-43-00		
501	Jun 15/2015	
502	Oct 15/2024	

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Subject/Page	Date	COC
23-43-00 (cont)		
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504	BLANK	
23-43-02		
401	Oct 15/2022	
402	Oct 15/2015	
403	Oct 15/2015	
404	Oct 15/2023	
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23-51-00		
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202	Feb 15/2015	
203	Feb 15/2015	
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23-51-00		
R 501	Feb 15/2025	
R 502	Feb 15/2025	
R 503	Feb 15/2025	
R 504	Feb 15/2025	
R 505	Feb 15/2025	
R 506	Feb 15/2025	
R 507	Feb 15/2025	
R 508	Feb 15/2025	
R 509	Feb 15/2025	
R 510	Feb 15/2025	
R 511	Feb 15/2025	
R 512	Feb 15/2025	
A 513	Feb 15/2025	
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23-51-01		
401	Oct 15/2014	
402	Oct 15/2017	
403	Oct 15/2015	
404	Oct 15/2023	
405	Oct 15/2023	
406	Jun 15/2015	
23-51-02 Config 1		
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23-51-02		
R 401	Feb 15/2025	
R 402	Feb 15/2025	
403	Oct 15/2024	
404	Feb 15/2020	
405	Feb 15/2020	
R 406	Feb 15/2025	
R 407	Feb 15/2025	
R 408	Feb 15/2025	
A 409	Feb 15/2025	
A 410	BLANK	
23-51-03		
401	Jun 15/2021	
402	Jun 15/2021	
R 403	Feb 15/2025	
R 404	Feb 15/2025	
R 405	Feb 15/2025	
406	BLANK	
23-51-04		
401	Jun 15/2024	
402	Oct 15/2014	
403	Jun 15/2024	
404	Oct 15/2024	
405	Jun 15/2024	
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409	Jun 15/2024	
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23-51-05		
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406	Oct 15/2024	
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23-61-00		
201	Jun 15/2015	
202	Oct 15/2017	
203	Oct 15/2015	
204	Oct 15/2015	
205	Oct 15/2015	
R 206	Feb 15/2025	
207	Jun 15/2024	
208	Jun 15/2024	
209	Jun 15/2024	
210	Jun 15/2024	
R 211	Feb 15/2025	
O 212	Feb 15/2025	
R 213	Feb 15/2025	
214	Oct 15/2021	
R 215	Feb 15/2025	
O 216	Feb 15/2025	
O 217	Feb 15/2025	
R 218	Feb 15/2025	
219	Jun 15/2022	
220	Feb 15/2022	
221	Oct 15/2021	
222	Jun 15/2023	
R 223	Feb 15/2025	
O 224	Feb 15/2025	
225	Oct 15/2021	
226	Oct 15/2021	
227	Jun 15/2023	

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23-61-00 (cont)		
R 228	Feb 15/2025	
O 229	Feb 15/2025	
230	Oct 15/2024	
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23-61-00		
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613	Feb 15/2022	
614	Feb 15/2022	
615	Oct 15/2021	
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23-71-00		
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204	Oct 15/2022	
205	Oct 15/2024	
206	Oct 15/2022	
207	Oct 15/2024	
208	Oct 15/2024	
R 209	Feb 15/2025	
R 210	Feb 15/2025	
R 211	Feb 15/2025	
212	Oct 15/2024	
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23-71-00 (cont)		
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23-71-00		
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23-71-11		
401	Oct 15/2024	
R 402	Feb 15/2025	
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R 407	Feb 15/2025	
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23-71-12		
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23-71-21		
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225	Feb 15/2022	
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230	Oct 15/2024	
23-71-22		
201	Oct 15/2024	
202	Oct 15/2024	
203	Oct 15/2024	
204	Oct 15/2024	
205	Oct 15/2024	

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Subject/Page	Date	COC
23-71-22 (cont)		
206	Oct 15/2024	
207	Oct 15/2024	
208	Oct 15/2024	
23-71-22		
401	Oct 15/2024	
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23-71-22		
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23-75-02 Config 1		
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406	Oct 15/2024	
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23-75-03		
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406	Oct 15/2021	
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23-75-07		
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23-75-10		
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23-75-11		
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403	Feb 15/2022	
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405	Feb 15/2022	
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23-75-12		
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23-81-00		
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503	Jun 15/2021	
504	Jun 15/2021	
23-81-01		
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402	Jun 15/2021	
403	Jun 15/2018	
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405	Jun 15/2021	
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23-81-04		
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23-81-05		
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402	Feb 15/2023	
403	Feb 15/2023	
404	Feb 15/2023	

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23-81-05 (cont)								
405	Feb 15/2023							
406	Feb 15/2023							
23-81-07								
401	Jun 15/2021							
402	Jun 15/2018							
403	Jun 15/2021							
404	BLANK							
23-82-00								
501	Oct 15/2021							
502	Oct 15/2021							
23-82-01								
401	Oct 15/2021							
402	Oct 15/2015							
403	Oct 15/2021							
404	Oct 15/2021							
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406	BLANK							
23-82-02								
401	Jun 15/2022							
402	Jun 15/2022							
403	Jun 15/2023							
404	Jun 15/2023							
23-82-03								
401	Jun 15/2022							
402	Jun 15/2022							
403	Jun 15/2023							
404	Jun 15/2022							

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COMMUNICATIONS

SUBJECT	CHAPTER SECTION SUBJECT	CONF	PAGE	EFFECT
COMMUNICATIONS - DDG MAINTENANCE PROCEDURES	23-00-00		901	LOM ALL
MMEL 23-10-2 (DDPG) Preparation - Voice Recorder System Inoperative TASK 23-00-00-040-805			901	LOM 423, 424, 432, 437-439, 441, 443-447, 450-452, 455-999
MMEL 23-10-2 (DDPG) Restoration - Voice Recorder System Inoperative TASK 23-00-00-440-804			902	LOM 423, 424, 432, 437-439, 441, 443-447, 450-452, 455-999
MMEL 23-10-2-1 (DDPG) Preparation - Recorder Independent Power Supply (RIPS) Inoperative TASK 23-00-00-040-806			903	LOM 423, 424, 432, 437-439, 441, 443-447, 450-452, 455-999
MMEL 23-10-2-1 (DDPG) Restoration - Recorder Independent Power Supply (RIPS) Inoperative TASK 23-00-00-440-805			908	LOM 423, 424, 432, 437-439, 441, 443-447, 450-452, 455-999
MMEL 23-12-2 (DDPG) Preparation - Fixed Type Emergency Locator Transmitter (ELT) System Inoperative TASK 23-00-00-040-808			909	LOM 402, 404, 406, 407, 411, 416, 420, 422-434, 437-447, 450-999
MMEL 23-12-2 (DDPG) Restoration - Fixed Type Emergency Locator Transmitter (ELT) System Inoperative TASK 23-00-00-440-807			914	LOM 402, 404, 406, 407, 411, 416, 420, 422-434, 437-447, 450-999
MMEL 23-12-02-1 (DDPG) Preparation - Emergency Locator Transmitter (ELT) Remote Switch Inoperative TASK 23-00-00-040-809			915	LOM 402, 404, 406, 407, 411, 416, 420, 422-434, 437-447, 450-999
MMEL 23-12-02-1 (DDPG) Restoration - Emergency Locator Transmitter (ELT) Remote Switch Inoperative TASK 23-00-00-440-809			916	LOM 402, 404, 406, 407, 411, 416, 420, 422-434, 437-447, 450-999
MMEL 23-16-1 (DDPG) Preparation - Control Wheel Push-To-Talk (PTT) Switches Inoperative TASK 23-00-00-040-801			918	LOM ALL
MMEL 23-16-1 (DDPG) Restoration - Control Wheel Push-To-Talk (PTT) Switches Inoperative TASK 23-00-00-440-801			919	LOM ALL

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MMEL 23-16-2 (DDPG) Preparation - Flight Crew Audio Control Panel Push-To-Talk (PTT) Switches Inoperative TASK 23-00-00-040-807			920	LOM ALL
MMEL 23-16-2 (DDPG) Restoration - Flight Crew Audio Control Panel Push-To-Talk (PTT) Switches Inoperative TASK 23-00-00-440-806			921	LOM ALL
MMEL 23-16-3 (DDPG) Preparation - Glareshield Panel Push-To-Talk (PTT) Switches Inoperative. TASK 23-00-00-040-803			921	LOM 402, 404, 406, 407, 411, 412, 415, 416, 420, 422-434, 437-447, 450-460, 464-999
MMEL 23-16-3 (DDPG) Restoration - Glareshield Panel Push-To-Talk (PTT) Switches Inoperative. TASK 23-00-00-440-802			922	LOM 402, 404, 406, 407, 411, 412, 415, 416, 420, 422-434, 437-447, 450-460, 464-999
HIGH FREQUENCY (HF) COMMUNICATION SYSTEM - MAINTENANCE PRACTICES	23-11-00		201	LOM ALL
High Frequency Communication System - Deactivation TASK 23-11-00-040-801			201	LOM ALL
High Frequency Communication System - Activation TASK 23-11-00-440-801			207	LOM ALL
HIGH FREQUENCY (HF) COMMUNICATION SYSTEM - ADJUSTMENT/TEST	23-11-00		501	LOM ALL
HF Communication System - Operational Test TASK 23-11-00-710-801			501	LOM ALL
HF Communication System - System Test TASK 23-11-00-730-801			506	LOM ALL
HF TRANSCEIVER - REMOVAL/INSTALLATION	23-11-21		401	LOM ALL
HF Transceiver - Removal TASK 23-11-21-000-801			401	LOM ALL
HF Transceiver - Installation TASK 23-11-21-400-801			406	LOM ALL
HF COMMUNICATION ANTENNA - REMOVAL/INSTALLATION	23-11-51		401	LOM ALL
HF Communication Antenna Removal TASK 23-11-51-000-801			401	LOM ALL

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HF Communication Antenna Installation TASK 23-11-51-400-801			402	LOM ALL
HF ANTENNA - INSPECTION/CHECK	23-11-51		601	LOM ALL
HF Antenna - Electrical Bond Check TASK 23-11-51-760-801			601	LOM ALL
HF ANTENNA COUPLER - REMOVAL/INSTALLATION	23-11-61		401	LOM ALL
HF Antenna Coupler - Removal TASK 23-11-61-000-801			401	LOM ALL
HF Antenna Coupler - Installation TASK 23-11-61-400-801			407	LOM ALL
VERY HIGH FRENQUENCY (VHF) COMMUNICATION SYSTEM - MAINTENANCE PRACTICES	23-12-00		201	LOM ALL
Very High Frequency Communication - Deactivation TASK 23-12-00-040-801			201	LOM ALL
Very High Frequency Communication - Activation TASK 23-12-00-440-801			206	LOM ALL
VERY HIGH FREQUENCY (VHF) COMMUNICATION SYSTEM - ADJUSTMENT/TEST	23-12-00		501	LOM ALL
VHF Communication System - Operational Test TASK 23-12-00-710-801			501	LOM ALL
VHF Communication System - System Test TASK 23-12-00-730-801			504	LOM ALL
VHF COMMUNICATION ANTENNA - REMOVAL/INSTALLATION	23-12-11		401	LOM ALL
VHF Communication Antenna - Removal TASK 23-12-11-000-801			401	LOM ALL
VHF Communication Antenna With Gasket - Removal TASK 23-12-11-000-802			407	LOM 402, 404, 406, 407, 411, 412, 415, 416, 420, 422-431, 433, 434, 437-447, 450-999
VHF Communication Antenna - Installation TASK 23-12-11-400-801			412	LOM ALL
VHF Communication Antenna With Gasket - Installation TASK 23-12-11-400-802			418	LOM 402, 404, 406, 407, 411, 412, 415, 416, 420, 422-431, 433, 434, 437-447, 450-999

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SUBJECT	CHAPTER SECTION SUBJECT	CONF	PAGE	EFFECT
VHF COMMUNICATION TRANSCEIVER - REMOVAL/INSTALLATION	23-12-21		401	LOM ALL
VHF Communication Transceiver - Removal TASK 23-12-21-020-801			401	LOM ALL
VHF Communication Transceiver - Installation TASK 23-12-21-420-801			406	LOM ALL
RADIO TUNING PANEL - REMOVAL/INSTALLATION	23-12-41		401	LOM ALL
Radio Tuning Panel (RTP) - Removal TASK 23-12-41-000-801			401	LOM ALL
Radio Tuning Panel (RTP) - Installation TASK 23-12-41-400-801			404	LOM ALL
Radio Tuning Panel - INOP Display Toggle TASK 23-12-41-800-802			408	LOM 402, 404, 406, 407, 411, 412, 415, 416, 420, 422-434, 437-447, 450-464
SATCOM SYSTEM - MAINTENANCE PRACTICES	23-15-00		201	LOM 429-431, 464
Satcom System - Deactivation TASK 23-15-00-040-801			201	LOM 429-431, 464
Satcom System - Activation TASK 23-15-00-440-801			202	LOM 429-431, 464
SATELLITE COMMUNICATIONS (SATCOM) SYSTEM - ADJUSTMENT/TEST	23-15-00		501	LOM 429-431, 464
Satellite Communications (SATCOM) System - BITE Test at the Flight Management Control Display Unit TASK 23-15-00-740-801			501	LOM 429-431, 464
Satellite Communications (SATCOM) System - BITE Test at the Satellite Data Unit TASK 23-15-00-740-802			502	LOM 429-431, 464
Satellite Communications (SATCOM) System - Operational Test TASK 23-15-00-710-801			504	LOM 429-431, 464
Satellite Communications (SATCOM) System - System Test TASK 23-15-00-710-802			508	LOM 429-431, 464

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Satellite Data Unit (SDU) Software Installation with a Portable Data Loader TASK 23-15-10-470-801			207	LOM 464, 465
SATELLITE DATA UNIT - REMOVAL/INSTALLATION	23-15-10		401	LOM 429-431, 464
Satellite Data Unit Removal TASK 23-15-10-000-801			401	LOM 429-431, 464
Satellite Data Unit Installation TASK 23-15-10-400-803			404	LOM 429-431, 464
SDU CONFIGURATION MODULE - REMOVAL/INSTALLATION	23-15-13		401	LOM 429-431, 464, 465
SDU Configuration Module Removal TASK 23-15-13-000-801			401	LOM 429-431, 464
SDU Configuration Module Installation TASK 23-15-13-400-801			404	LOM 429-431, 464
SDU Configuration Module (Iridium) - Removal TASK 23-15-13-000-802			406	LOM 465
SDU Configuration Module (Iridium) - Installation TASK 23-15-13-400-802			408	LOM 465
LOW NOISE AMPLIFIER/DIPLEXER - REMOVAL/INSTALLATION	23-15-27		401	LOM 429-431, 464
Low Noise Amplifier/Diplexer Removal TASK 23-15-27-000-801			401	LOM 429-431, 464
Low Noise Amplifier/Diplexer Installation TASK 23-15-27-400-801			404	LOM 429-431, 464
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High Gain Antenna Removal TASK 23-15-30-000-801			401	LOM 429-431, 464
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IRIDIUM SATCOM SYSTEM - MAINTENANCE PRACTICES	23-15-41		201	LOM 437, 438, 465
Satcom Iridium System - Deactivation TASK 23-15-41-040-801			201	LOM 437, 438, 465
Satcom Iridium System - Activation TASK 23-15-41-440-801			201	LOM 437, 438, 465
SATELLITE DATA UNIT (IRIDIUM) - REMOVAL/INSTALLATION	23-15-41		401	LOM 437, 438, 465
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Satellite Data Unit Installation TASK 23-15-41-400-801			405	LOM 437, 438, 465
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SATCOM ANTENNA - REMOVAL/INSTALLATION	23-15-43		401	LOM 437, 438, 465
Iridium SATCOM Antenna - Removal TASK 23-15-43-000-801			401	LOM 437, 438, 465
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EMERGENCY LOCATOR TRANSMITTER - MAINTENANCE PRACTICES	23-24-00	1	201	LOM 402, 404, 406, 407, 411, 416, 420, 423, 424, 426-432, 437-439, 441, 457, 465-999
Emergency Locator Transmitter - Deactivation TASK 23-24-00-040-801-001		1	201	LOM 402, 404, 406, 407, 411, 416, 420, 423, 424, 426-432, 437-439, 441, 457, 465-999
Emergency Locator Transmitter - Activation TASK 23-24-00-440-801-001		1	204	LOM 402, 404, 406, 407, 411, 416, 420, 423, 424, 426-432, 437-439, 441, 457, 465-999
Emergency Locator Transmitter Removal TASK 23-24-00-000-801-001		1	205	LOM 402, 404, 406, 407, 411, 416, 420, 423, 424, 426-432, 437-439, 441, 457, 465-999
Emergency Locator Transmitter Installation TASK 23-24-00-400-801-001		1	210	LOM 402, 404, 406, 407, 411, 416, 420, 423, 424, 426-432, 437-439, 441, 457, 465-999
ELT/Navigation Interface Unit Removal TASK 23-24-00-020-801-001		1	211	LOM 411, 416, 423, 424, 427, 428, 439, 441
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EMERGENCY LOCATOR TRANSMITTER - MAINTENANCE PRACTICES	23-24-00	2	201	LOM 422, 425, 433, 434, 440, 442, 445-447, 451-456, 461-463
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EMERGENCY LOCATOR TRANSMITTER - MAINTENANCE PRACTICES	23-24-00	3	201	LOM 443, 444, 450, 458-460, 464
Emergency Locator Transmitter - Deactivation TASK 23-24-00-040-803-003		3	201	LOM 443, 444, 450, 458-460, 464
Emergency Locator Transmitter - Activation TASK 23-24-00-440-803-003		3	204	LOM 443, 444, 450, 458-460, 464
Emergency Locator Transmitter Removal TASK 23-24-00-000-804-001		3	204	LOM 443, 444, 450, 458-460, 464
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ELT System - Operational Test TASK 23-24-00-710-801-001		1	501	LOM 402, 404, 406, 407, 411, 416, 420, 423, 424, 426-432, 437-439, 441, 457, 465-999

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EMERGENCY LOCATOR TRANSMITTER - ADJUSTMENT/TEST	23-24-00	2	501	LOM 422, 425, 433, 434, 440, 442, 445-447, 451-456, 461-463
ELT System - Operational Test TASK 23-24-00-710-802-002		2	501	LOM 422, 425, 433, 434, 440, 442, 445-447, 451-456, 461-463
ELT System - System Test TASK 23-24-00-730-802-002		2	504	LOM 422, 425, 433, 434, 440, 442, 445-447, 451-456, 461-463
EMERGENCY LOCATOR TRANSMITTER - ADJUSTMENT/TEST	23-24-00	3	501	LOM 443, 444, 450, 458-460, 464
ELT System - Operational Test TASK 23-24-00-710-803-003		3	501	LOM 443, 444, 450, 458-460, 464
ELT System - System Test TASK 23-24-00-730-803-003		3	504	LOM 443, 444, 450, 458-460, 464
EMERGENCY LOCATOR TRANSMITTER ANTENNA - REMOVAL/INSTALLATION	23-24-01		401	LOM 402, 404, 406, 407, 411, 416, 420, 422-434, 437-447, 450-999
ELT Antenna - Removal TASK 23-24-01-000-802			401	LOM 402, 404, 406, 407, 411, 416, 420, 422-434, 437-447, 450-999
ELT Antenna - Installation TASK 23-24-01-400-802			405	LOM 402, 404, 406, 407, 411, 416, 420, 422-434, 437-447, 450-999
EMERGENCY LOCATOR TRANSMITTER CONTROL PANEL - REMOVAL/INSTALLATION	23-24-02		401	LOM 402, 404, 406, 407, 411, 416, 420, 422-434, 437-447, 450-999
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Emergency Locator Transmitter (ELT) Control Panel Installation TASK 23-24-02-400-801			405	LOM 402, 404, 406, 407, 411, 416, 420, 422-434, 437-447, 450-999

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Low Frequency Underwater Locating Device (LF-ULD) - Battery Replacement TASK 23-25-03-300-801			201	LOM 422, 425, 429-431, 433, 434, 440, 442-444, 451-453; LOM 420, 428, 445, 454, 457 POST SB 737-23-1605
LOW FREQUENCY UNDERWATER LOCATING DEVICE (LF-ULD) - REMOVAL/INSTALLATION	23-25-03		401	LOM 422, 425, 429-431, 433, 434, 440, 442-444, 451-453; LOM 420, 428, 445, 454, 457 POST SB 737-23-1605
Low Frequency Underwater Locator Device (LF-ULD) Removal TASK 23-25-03-000-801			401	LOM 422, 425, 429-431, 433, 434, 440, 442-444, 451-453; LOM 420, 428, 445, 454, 457 POST SB 737-23-1605
Low Frequency Underwater Locating Device (LF-ULD) Installation TASK 23-25-03-400-801			407	LOM 422, 425, 429-431, 433, 434, 440, 442-444, 451-453; LOM 420, 428, 445, 454, 457 POST SB 737-23-1605
LOW FREQUENCY UNDERWATER LOCATING DEVICE (LF-ULD) - ADJUSTMENT/TEST	23-25-03		501	LOM 422, 425, 429-431, 433, 434, 440, 442-444, 451-453; LOM 420, 428, 445, 454, 457 POST SB 737-23-1605
Low Frequency Underwater Locating Device (LF-ULD) - Functional and Battery Test Using ULD Tester TASK 23-25-03-700-801			501	LOM 422, 425, 429-431, 433, 434, 440, 442-444, 451-453; LOM 420, 428, 445, 454, 457 POST SB 737-23-1605
Low Frequency Underwater Locating Device (LF-ULD) - Functional and Battery Test Using Multimeter TASK 23-25-03-700-802			504	LOM 422, 425, 429-431, 433, 434, 440, 442-444, 451-453; LOM 420, 428, 445, 454, 457 POST SB 737-23-1605
AIRCRAFT COMMUNICATION AND REPORTING SYSTEM (ACARS) - MAINTENANCE PRACTICES	23-27-00	1	201	LOM 402, 406, 407, 412, 415, 420, 422-425, 427-434, 437-447, 450-999; LOM 404 POST SB 737-23-1484 OR POST SB 737-23-1483
Aircraft Communication and Reporting System - Deactivation TASK 23-27-00-040-801-001		1	201	LOM 402, 406, 407, 412, 415, 420, 422-425, 427-434, 437-447, 450-999; LOM 404 POST SB 737-23-1484 OR POST SB 737-23-1483

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ACARS SYSTEM - ADJUSTMENT/TEST	23-27-00	1	501	LOM 402, 406, 432
ACARS - Operational Test TASK 23-27-00-740-815-001		1	501	LOM 402, 406, 432
ACARS Initialization, FMC and VHF Link Test TASK 23-27-00-700-813-001		1	502	LOM 402, 406, 432
ACARS Interface Out-Off-On-In Discrete Test TASK 23-27-00-700-814-001		1	504	LOM 402, 406, 432
ACARS - System Test TASK 23-27-00-700-815-001		1	507	LOM 402, 406, 432
ACARS SYSTEM - ADJUSTMENT/TEST	23-27-00	9	501	LOM 407, 412, 415, 420, 423, 424, 437, 438, 443-445, 457-460, 464; LOM 404 POST SB 737-23-1484 OR POST SB 737-23-1483
ACARS - Operational Test TASK 23-27-00-740-814-009		9	501	LOM 407, 412, 415, 420, 423, 424, 437, 438, 443-445, 457-460, 464; LOM 404 POST SB 737-23-1484 OR POST SB 737-23-1483
ACARS - System Test TASK 23-27-00-700-812-009		9	502	LOM 407, 412, 415, 420, 423, 424, 437, 438, 443-445, 457-460, 464; LOM 404 POST SB 737-23-1484 OR POST SB 737-23-1483
ACARS SYSTEM - ADJUSTMENT/TEST	23-27-00	10	501	LOM 422, 425, 427-431, 433, 434, 439-442, 446, 447, 450-456, 461-463, 465-999
ACARS - Operational Test TASK 23-27-00-740-816-010		10	501	LOM 422, 425, 427-431, 433, 434, 439-442, 446, 447, 450-456, 461-463, 465-999
ACARS - System Test TASK 23-27-00-730-806-010		10	501	LOM 422, 425, 427-431, 433, 434, 439-442, 446, 447, 450-456, 461-463, 465-999

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ACARS Software Configuration Check TASK 23-27-32-700-801			201	LOM 402, 406, 432
ACARS Software Installation with an Airborne Data Loader (ADL) TASK 23-27-32-000-801			202	LOM 402, 406, 432
ACARS MANAGEMENT UNIT (MU) - REMOVAL/INSTALLATION	23-27-32		401	LOM 402, 406, 432
ACARS Management Unit Removal TASK 23-27-32-020-801			401	LOM 402, 406, 432
ACARS Management Unit Installation TASK 23-27-32-420-801			404	LOM 402, 406, 432
ACARS COMMUNICATIONS MANAGEMENT UNIT (CMU) - MAINTENANCE PRACTICES	23-27-33		201	LOM 407, 412, 415, 420, 422-425, 427-431, 433, 434, 437-447, 450-999; LOM 404 POST SB 737-23-1484 OR POST SB 737-23-1483
ACARS Communications Management Unit (CMU) Software Configuration Check TASK 23-27-33-700-802			201	LOM 407, 412, 415, 420, 422-425, 427-431, 433, 434, 437-447, 450-999; LOM 404 POST SB 737-23-1484 OR POST SB 737-23-1483
ACARS Communications Management Unit Software Installation with an Airborne Data Loader (ADL) TASK 23-27-33-470-802			204	LOM 407, 420, 422, 425, 433, 434, 437, 438; LOM 404 POST SB 737-23-1484 OR POST SB 737-23-1483
ACARS Communications Management Unit Software Installation with an Enhanced Airborne Data Loader (eADL) TASK 23-27-33-470-805			208	LOM 429-431, 440, 442-447, 450-460, 464-999
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ACARS COMMUNICATIONS MANAGEMENT UNIT - REMOVAL/INSTALLATION	23-27-33		401	LOM 407, 412, 415, 420, 422-425, 427-431, 433, 434, 437-447, 450-999; LOM 404 POST SB 737-23-1484 OR POST SB 737-23-1483
ACARS Communications Management Unit (CMU) Removal TASK 23-27-33-020-801			401	LOM 407, 412, 415, 420, 422-425, 427-431, 433, 434, 437-447, 450-999; LOM 404 POST SB 737-23-1484 OR POST SB 737-23-1483
ACARS Communications Management Unit (CMU) Installation TASK 23-27-33-420-801			405	LOM 407, 412, 415, 420, 422-425, 427-431, 433, 434, 437-447, 450-999; LOM 404 POST SB 737-23-1484 OR POST SB 737-23-1483
AIRPLANE PERSONALITY MODULE (APM) - MAINTENANCE PRACTICES	23-27-35		201	LOM 407, 412, 415, 420, 422-425, 427-431, 433, 434, 437-447, 450-999; LOM 404 POST SB 737-23-1484
ACARS Airplane Personality Module (APM) Data Verification Check TASK 23-27-35-700-801			201	LOM 407, 412, 415, 420, 422-425, 427-431, 433, 434, 437-447, 450-999; LOM 404 POST SB 737-23-1484
ACARS Airplane Personality Module (APM) Software Installation TASK 23-27-35-700-802			204	LOM 407, 412, 415, 420, 422-425, 427-431, 433, 434, 437-447, 450-999; LOM 404 POST SB 737-23-1484
ACARS AIRPLANE PERSONALITY MODULE - REMOVAL/INSTALLATION	23-27-35		401	LOM 407, 412, 415, 420, 422-425, 427-431, 433, 434, 437-447, 450-999; LOM 404 POST SB 737-23-1484
ACARS Airplane Personality Module (APM) Removal TASK 23-27-35-020-801			401	LOM 407, 412, 415, 420, 422-425, 427-431, 433, 434, 437-447, 450-999; LOM 404 POST SB 737-23-1484
ACARS Airplane Personality Module (APM) Installation TASK 23-27-35-420-801			409	LOM 407, 412, 415, 420, 422-425, 427-431, 433, 434, 437-447, 450-999; LOM 404 POST SB 737-23-1484
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SELCAL Control Panel - Installation TASK 23-28-21-400-801			404	LOM 404, 411, 412, 415, 416, 422-426, 432-434, 437-442, 445-447, 451-457, 461-463, 466-999
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PASSENGER VIDEO SYSTEM - ADJUSTMENT/TEST	23-32-00		501	LOM 402, 404, 406, 407, 412, 415, 416, 420, 423, 424
Passenger Video System - Operational Test TASK 23-32-00-710-802			501	LOM 402, 404, 406, 407, 412, 415, 416, 420, 423, 424
VIDEO REPRODUCER - MAINTENANCE PRACTICES	23-32-01	1	201	LOM 402, 404, 406, 407, 412, 415, 420, 423, 424
Video Reproducer - Deactivation TASK 23-32-01-040-802-001		1	201	LOM 402, 404, 406, 407, 412, 415, 420, 423, 424
Video Reproducer - Activation TASK 23-32-01-440-802-001		1	202	LOM 402, 404, 406, 407, 412, 415, 420, 423, 424
VIDEO REPRODUCER - REMOVAL/INSTALLATION	23-32-01		401	LOM 402, 404, 406, 407, 412, 415, 420, 423, 424
Video Reproducer Removal TASK 23-32-01-000-801			401	LOM 402, 404, 406, 407, 412, 415, 420, 423, 424
Video Reproducer Installation TASK 23-32-01-400-801			406	LOM 402, 404, 406, 407, 412, 415, 420, 423, 424
VIDEO SYSTEM CONTROL UNIT - MAINTENANCE PRACTICES	23-32-02		201	LOM 402, 404, 406, 407, 412, 415, 420, 423, 424
Video System Control Unit - Deactivation TASK 23-32-02-040-802			201	LOM 402, 404, 406, 407, 412, 415, 420, 423, 424
Video System Control Unit - Activation TASK 23-32-02-440-802			202	LOM 402, 404, 406, 407, 412, 415, 420, 423, 424
Video System PC Card Installation TASK 23-32-02-400-803			203	LOM 412, 415, 423, 424
Video System Configuration TASK 23-32-02-800-801			205	LOM 402, 404, 406, 407, 412, 415, 420, 423, 424

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Video System BITE Test TASK 23-32-02-700-801			211	LOM 402, 404, 406, 407, 412, 415, 420, 423, 424
Video System Control TASK 23-32-02-800-802			213	LOM 402, 404, 406, 407, 420
VIDEO SYSTEM CONTROL UNIT - REMOVAL/INSTALLATION	23-32-02	1	401	LOM 402, 404, 406, 407, 412, 415, 420, 423, 424
Video System Control Unit Removal TASK 23-32-02-000-801-001		1	401	LOM 402, 404, 406, 407, 412, 415, 420, 423, 424
Video System Control Unit Installation TASK 23-32-02-400-801-001		1	406	LOM 402, 404, 406, 407, 412, 415, 420, 423, 424
VIDEO DISTRIBUTION UNIT - MAINTENANCE PRACTICES	23-32-03		201	LOM 402, 404, 406, 407, 412, 415, 416, 420, 423, 424
Video Distribution Unit - Deactivation TASK 23-32-03-040-801			201	LOM 402, 404, 406, 407, 412, 415, 416, 420, 423, 424
Video Distribution Unit - Activation TASK 23-32-03-440-801			202	LOM 402, 404, 406, 407, 412, 415, 416, 420, 423, 424
VIDEO DISTRIBUTION UNIT - REMOVAL/INSTALLATION	23-32-03		401	LOM 402, 404, 406, 407, 412, 415, 416, 420, 423, 424
Video Distribution Unit Removal TASK 23-32-03-000-801			401	LOM 402, 404, 406, 407, 412, 415, 416, 420, 423, 424
Video Distribution Unit Installation TASK 23-32-03-400-801			406	LOM 402, 404, 406, 407, 412, 415, 416, 420, 423, 424
DIGITAL INTERFACE UNIT - MAINTENANCE PRACTICES	23-32-06		201	LOM 402, 404, 406, 407, 412, 415, 420, 423, 424
Digital Interface Unit - Deactivation TASK 23-32-06-040-801			201	LOM 402, 404, 406, 407, 412, 415, 420, 423, 424
Digital Interface Unit - Activation TASK 23-32-06-440-801			204	LOM 402, 404, 406, 407, 412, 415, 420, 423, 424
DIU Software Configuration Check TASK 23-32-06-700-801			204	LOM 402, 404, 406, 407, 412, 415, 420, 423, 424
Digital Interface Unit Software Installation TASK 23-32-06-400-806			206	LOM 407, 412, 415, 420, 423, 424
DIU CD-ROM Removal TASK 23-32-06-000-803			207	LOM 402, 404, 406

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DIU CD-ROM Installation TASK 23-32-06-400-805			208	LOM 402, 404, 406
DIU CD-ROM Cleaning and Handling TASK 23-32-06-100-801			209	LOM 402, 404, 406
DIGITAL INTERFACE UNIT - REMOVAL/INSTALLATION	23-32-06		401	LOM 402, 404, 406, 407, 412, 415, 420, 423, 424
Digital Interface Unit (DIU) Removal TASK 23-32-06-000-804			401	LOM 402, 404, 406, 407, 412, 415, 420, 423, 424
Digital Interface Unit (DIU) Installation TASK 23-32-06-400-801			404	LOM 402, 404, 406, 407, 412, 415, 420, 423, 424
RANDOM ACCESS DEVICE - MAINTENANCE PRACTICES	23-32-08		201	LOM 402, 406
Random Access Device - Deactivation TASK 23-32-08-040-801			201	LOM 402, 406
Random Access Device - Activation TASK 23-32-08-440-801			204	LOM 402, 406
RANDOM ACCESS DEVICE - REMOVAL/INSTALLATION	23-32-08		401	LOM 402, 406
Random Access Device (RAD) Removal TASK 23-32-08-000-802			401	LOM 402, 406
Random Access Device (RAD) Installation TASK 23-32-08-400-801			403	LOM 402, 406
PSU-MOUNTED LCD MONITOR - INDIVIDUAL MONITOR DEACTIVATION/ACTIVATION	23-32-13		201	LOM 402, 404, 406, 407, 412, 415, 416, 420, 423, 424
PSU-Mounted LCD Monitor - Individual Monitor Deactivation/Activation TASK 23-32-13-040-801			201	LOM 402, 404, 406, 407, 412, 415, 416, 420, 423, 424
PSU-MOUNTED LCD MONITOR - MAINTENANCE PRACTICES	23-32-13	1	201	LOM 402, 404, 406, 407, 412, 415, 416, 420, 423, 424
PSU-Mounted LCD Monitor - Deactivation TASK 23-32-13-040-802-001		1	201	LOM 402, 404, 406, 407, 412, 415, 416, 420, 423, 424
PSU-Mounted LCD Monitor - Activation TASK 23-32-13-440-801-001		1	204	LOM 402, 404, 406, 407, 412, 415, 416, 420, 423, 424

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PSU-MOUNTED LCD MONITOR - REMOVAL/INSTALLATION	23-32-13		401	LOM 402, 404, 406, 407, 412, 415, 416, 420, 423, 424
PSU-Mounted LCD Monitor Removal TASK 23-32-13-000-801			401	LOM 402, 404, 406, 407, 412, 415, 416, 420, 423, 424
PSU-Mounted LCD Monitor Installation TASK 23-32-13-400-801			409	LOM 402, 404, 406, 407, 412, 415, 416, 420, 423, 424
WALL MOUNTED LCD MONITOR - MAINTENANCE PRACTICES	23-32-14		201	LOM 402, 406, 407, 420
Wall Mounted LCD Monitor - Deactivation TASK 23-32-14-040-801			201	LOM 402, 406, 407, 420
Wall Mounted LCD Monitor - Activation TASK 23-32-14-440-801			205	LOM 402, 406, 407, 420
WALL-MOUNTED LCD MONITOR - REMOVAL/INSTALLATION	23-32-14		401	LOM 402, 406, 407, 420
Wall-Mounted LCD Monitor Removal TASK 23-32-14-000-801			401	LOM 402, 406, 407, 420
Wall-Mounted LCD Monitor Installation TASK 23-32-14-400-801			403	LOM 402, 406, 407, 420
PASSENGER ENTERTAINMENT SYSTEM - MAINTENANCE PRACTICES	23-34-00		201	LOM 402, 406, 407, 420, 426
Passenger Entertainment System - Deactivation TASK 23-34-00-040-801			201	LOM 402, 406, 407, 420, 426
Passenger Entertainment System - Activation TASK 23-34-00-440-801			202	LOM 402, 406, 407, 420, 426
PASSENGER ENTERTAINMENT SYSTEM - ADJUSTMENT/TEST	23-34-00		501	LOM 402, 406, 407, 420, 426
Passenger Entertainment System - Operational Test TASK 23-34-00-710-801			501	LOM 402, 406, 407, 420, 426
AUDIO ENTERTAINMENT PLAYER - MAINTENANCE PRACTICES	23-34-01		201	LOM 402, 404, 406, 407, 420, 426
Compact Disc (CD) Removal TASK 23-34-01-000-801			201	LOM 402, 404, 406, 407, 420, 426
Compact Disc (CD) Installation TASK 23-34-01-400-801			202	LOM 402, 404, 406, 407, 420, 426

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Audio Entertainment Player Removal TASK 23-34-01-000-803			203	LOM 402, 404, 406, 407, 420, 426
Audio Entertainment Player Installation TASK 23-34-01-400-803			206	LOM 402, 404, 406, 407, 420, 426
AUDIO MULTIPLEXER - REMOVAL/INSTALLATION	23-34-02		401	LOM 402, 404, 406, 407, 420, 426
Audio Multiplexer Removal TASK 23-34-02-000-801			401	LOM 402, 404, 406, 407, 420, 426
Audio Multiplexer Installation TASK 23-34-02-400-801			404	LOM 402, 404, 406, 407, 420, 426
AUDIO BITE PANEL - MAINTENANCE PRACTICES	23-34-03		201	LOM 402, 404, 406, 407, 420
Audio Multiplexer Memory Update TASK 23-34-03-700-801			201	LOM 402, 404, 406, 407, 420
BITE Panel Memory Update TASK 23-34-03-700-802			202	LOM 402, 404, 406, 407, 420
Passenger Entertainment System BITE Test TASK 23-34-03-700-803			203	LOM 402, 404, 406, 407, 420
AUDIO BITE PANEL - REMOVAL/INSTALLATION	23-34-03		401	LOM 402, 404, 406, 407, 420
Audio BITE Panel Removal TASK 23-34-03-000-801			401	LOM 402, 404, 406, 407, 420
Audio BITE Panel Installation TASK 23-34-03-400-801			403	LOM 402, 404, 406, 407, 420
SEAT ELECTRONICS BOX - REMOVAL/INSTALLATION	23-34-04		401	LOM 402, 404, 406, 407, 420, 426
Seat Electronics Box Removal TASK 23-34-04-000-801			401	LOM 402, 404, 406, 407, 420, 426
Seat Electronics Box Installation TASK 23-34-04-400-801			406	LOM 402, 404, 406, 407, 420, 426
ENTERTAINMENT SWITCH MODULE - REMOVAL/INSTALLATION	23-34-05		401	LOM 402, 404, 406, 407, 420, 426
Entertainment Switch Module Removal TASK 23-34-05-000-801			401	LOM 402, 404, 406, 407, 420, 426

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Entertainment Switch Module Installation TASK 23-34-05-400-801			404	LOM 402, 404, 406, 407, 420, 426
PASSENGER CONTROL UNIT - REMOVAL/INSTALLATION	23-34-11		401	LOM 402, 404, 406, 407, 420, 426
Passenger Control Unit Removal TASK 23-34-11-000-801			401	LOM 402, 404, 406, 407, 420, 426
Passenger Control Unit Installation TASK 23-34-11-400-801			405	LOM 402, 404, 406, 407, 420, 426
SERVICE INTERPHONE SYSTEM - ADJUSTMENT/TEST	23-41-00		501	LOM ALL
Service Interphone System - Operational Test TASK 23-41-00-710-801			501	LOM ALL
CABIN INTERPHONE SYSTEM - ADJUSTMENT/TEST	23-42-00		501	LOM ALL
Cabin Interphone System - Operational Test TASK 23-42-00-710-802			501	LOM ALL
Cabin Ready System - Operational Test TASK 23-42-00-710-804			502	LOM 429-431, 445
Cabin Interphone system - Attendant Panel Installation Test TASK 23-42-00-710-803			503	LOM ALL
ATTENDANT HANDSET - REMOVAL/INSTALLATION	23-42-01		401	LOM ALL
Attendant Handset Removal TASK 23-42-01-000-801			401	LOM ALL
Attendant Handset Cord Removal TASK 23-42-01-000-802			404	LOM ALL
Attendant Handset Cradle Removal TASK 23-42-01-000-803			404	LOM ALL
Attendant Handset Cradle Installation TASK 23-42-01-400-801			404	LOM ALL
Attendant Handset Cord Installation TASK 23-42-01-400-802			406	LOM ALL
Attendant Handset Installation TASK 23-42-01-400-803			406	LOM ALL

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Attendant Handset Installation Test TASK 23-42-01-700-801			407	LOM ALL
FLIGHT DECK HANDSET - REMOVAL/INSTALLATION	23-42-02		401	LOM 461-463
Flight Deck Handset Removal TASK 23-42-02-000-801			401	LOM 461-463
Flight Deck Handset Installation TASK 23-42-02-400-801			405	LOM 461-463
Flight Deck Handset Cord Removal TASK 23-42-02-000-802			405	LOM 461-463
Flight Deck Handset Cord Installation TASK 23-42-02-400-802			406	LOM 461-463
Flight Deck Handset Cradle Removal TASK 23-42-02-000-803			406	LOM 461-463
Flight Deck Handset Cradle Installation TASK 23-42-02-400-803			406	LOM 461-463
Flight Deck Handset Cradle Magnet Removal TASK 23-42-02-000-804			407	LOM 461-463
Flight Deck Handset Cradle Magnet Installation TASK 23-42-02-400-804			407	LOM 461-463
ATTENDANT CONTROL PANEL - MAINTENANCE PRACTICES	23-42-03		201	LOM 427-434, 437-447, 450-999
Attendant Control Panel (ACP) Software Loading TASK 23-42-03-470-801			201	LOM 427-434, 437-447, 450-999
Attendant Control Panel (ACP) Configuration Check TASK 23-42-03-700-801			203	LOM 427-434, 437-447, 450-999
Attendant Control Panel (ACP) - Saving Data Diskette Preparation TASK 23-42-03-940-801			204	LOM 427-434, 437-447, 450-999
Attendant Control Panel (ACP) - Saving Configuration Data TASK 23-42-03-970-801			205	LOM 427-434, 437-447, 450-999
Attendant Control Panel (ACP) - Saving Fault Data TASK 23-42-03-970-802			206	LOM 427-434, 437-447, 450-999

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Attendant Control Panel (ACP) - Erasing Mass Storage Area (MSA) TASK 23-42-03-070-801			206	LOM 427-434, 437-447, 450-999
Attendant Control Panel (ACP) Touchscreen Cleaning TASK 23-42-03-100-801			207	LOM 427-434, 437-447, 450-999
Attendant Control Panel (ACP) LCD Screen Display Check TASK 23-42-03-700-802			207	LOM 427-434, 437-447, 450-999
ATTENDANT CONTROL PANEL - ADJUSTMENT/TEST	23-42-03		501	LOM 427-434, 437-447, 450-999
Attendant Control Panel - Operational Test TASK 23-42-03-710-801			501	LOM 427-434, 437-447, 450-999
INLINE FILTER - REMOVAL/INSTALLATION	23-42-04		401	LOM 423-434, 437-447, 450-999
Inline Filter Removal TASK 23-42-04-000-801			401	LOM 423-434, 437-447, 450-999
Inline Filter Installation TASK 23-42-04-400-801			404	LOM 423-434, 437-447, 450-999
FLIGHT AND GROUND CREW CALL SYSTEM - ADJUSTMENT/TEST	23-43-00		501	LOM ALL
Flight and Ground Crew Call System - Operational Test TASK 23-43-00-710-801			501	LOM ALL
GROUND CREW CALL HORN - REMOVAL/INSTALLATION	23-43-02		401	LOM ALL
Ground Crew Call Horn Removal TASK 23-43-02-000-801			401	LOM ALL
Ground Crew Call Horn Installation TASK 23-43-02-420-801			404	LOM ALL
FLIGHT INTERPHONE SYSTEM - MAINTENANCE PRACTICES	23-51-00		201	LOM ALL
Flight Interphone System - Deactivation TASK 23-51-00-040-801			201	LOM ALL
Flight Interphone System - Activation TASK 23-51-00-440-801			202	LOM ALL

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FLIGHT INTERPHONE SYSTEM - ADJUSTMENT/TEST	23-51-00		501	LOM ALL
Flight Interphone System - Operational Test TASK 23-51-00-710-801			501	LOM ALL
Oxygen Mask Microphone - Operational Test TASK 23-51-00-710-803			511	LOM ALL
REMOTE ELECTRONICS UNIT - REMOVAL/INSTALLATION	23-51-01		401	LOM ALL
Remote Electronics Unit (REU) Removal TASK 23-51-01-000-801			401	LOM ALL
Remote Electronics Unit (REU) Installation TASK 23-51-01-000-802			404	LOM ALL
AUDIO CONTROL PANEL - MAINTENANCE PRACTICES	23-51-02	1	201	LOM ALL
Audio Control Panel - Mic Select Switch Lamp Replacement TASK 23-51-02-300-801-001		1	201	LOM ALL
AUDIO CONTROL PANEL - REMOVAL/INSTALLATION	23-51-02		401	LOM ALL
Audio Control Panel Removal TASK 23-51-02-000-801			401	LOM ALL
Audio Control Panel Installation TASK 23-51-02-400-801			406	LOM ALL
FLIGHT INTERPHONE SPEAKER - REMOVAL/INSTALLATION	23-51-03		401	LOM ALL
Flight Interphone Speaker Removal TASK 23-51-03-000-802			401	LOM ALL
Flight Interphone Speaker Installation TASK 23-51-03-000-804			403	LOM ALL
CONTROL WHEEL PTT SWITCH - REMOVAL/INSTALLATION	23-51-04		401	LOM ALL
Control Wheel PTT Switch Removal TASK 23-51-04-000-801			401	LOM ALL
Control Wheel PTT Switch Installation TASK 23-51-04-400-801			405	LOM ALL

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Catch Ball Adjustment and Test TASK 23-51-04-820-801			409	LOM 422, 425-431, 433, 434, 440, 442-444, 451-454, 457; LOM 445 POST SB 737-23-1942
GLARESHIELD PTT SWITCH - REMOVAL/INSTALLATION	23-51-05		401	LOM 402, 404, 406, 407, 411, 412, 415, 416, 420, 422-434, 437-447, 450-460, 464-999
Glareshield PTT Switch Removal TASK 23-51-05-000-801			401	LOM 402, 404, 406, 407, 411, 412, 415, 416, 420, 422-434, 437-447, 450-460, 464-999
Glareshield PTT Switch - Installation TASK 23-51-05-400-801			405	LOM 402, 404, 406, 407, 411, 412, 415, 416, 420, 422-434, 437-447, 450-460, 464-999
STATIC DISCHARGERS - MAINTENANCE PRACTICES	23-61-00		201	LOM ALL
Static Discharger Removal TASK 23-61-00-000-801			201	LOM ALL
Static Discharger Installation TASK 23-61-00-400-801			206	LOM ALL
Static Discharger Base Removal (Base Attached with Screws) TASK 23-61-00-000-802			210	LOM ALL
Static Discharger Base Removal (Base Attached with Rivets) TASK 23-61-00-000-803			212	LOM ALL
Static Discharger Base Removal (Adapter Plate Assembly) TASK 23-61-00-000-804			215	LOM ALL
Static Discharger Base Installation (With Screws) TASK 23-61-00-400-802			217	LOM ALL
Static Discharger Base Installation (With Rivets) TASK 23-61-00-400-803			221	LOM ALL
Static Discharger Base Installation (Adapter Plate Assembly With Rivets and Screws) TASK 23-61-00-400-805			227	LOM ALL
STATIC DISCHARGER - INSPECTION/CHECK	23-61-00		601	LOM ALL
Static Discharger Inspection TASK 23-61-00-210-801			601	LOM ALL

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Static Discharger Resistance Measurement TASK 23-61-00-760-801			607	LOM ALL
VOICE RECORDER SYSTEM - MAINTENANCE PRACTICES	23-71-00		201	LOM ALL
Voice Recorder System - Deactivation TASK 23-71-00-040-801			201	LOM ALL
Voice Recorder System - Activation TASK 23-71-00-440-801			205	LOM ALL
Make a Copy of the CVR Data with the HHMPI TASK 23-71-00-970-801			206	LOM ALL
Make a Copy of the CVR Data with the Extended HHDLU TASK 23-71-00-970-802			209	LOM 402, 404, 406, 407, 411, 412, 415, 416, 420, 422-426, 432-434, 437-442, 445-447, 453-460, 464
Make a Copy of the Cockpit Voice Recorder (CVR) Data with the Portable Interface (PI) Unit TASK 23-71-00-970-803			212	LOM ALL
Make a Copy of the Cockpit Voice Recorder (CVR) Data with the Data Acquisition Ruggedized Tool (DART) TASK 23-71-00-970-804			214	LOM ALL; AIRPLANES WITH CVR PART NUMBER 980-6020-001, 980-6022-001, 980-6032-00x, 2100-1010-00, 2100-1020-00, 2100-1025-22, 2100-1925-22, or 2100-1925-23
VOICE RECORDER SYSTEM - ADJUSTMENT/TEST	23-71-00		501	LOM ALL
Voice Recorder System - Operational Test TASK 23-71-00-710-801			501	LOM ALL
Voice Recorder System - Audio Fidelity Test TASK 23-71-00-730-801			503	LOM ALL
Voice Recorder System - System Test TASK 23-71-00-730-802			506	LOM ALL
VOICE RECORDER - REMOVAL/INSTALLATION	23-71-11		401	LOM ALL
Voice Recorder Removal TASK 23-71-11-000-801			401	LOM ALL
Voice Recorder Installation TASK 23-71-11-400-801			407	LOM ALL

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VOICE RECORDER CONTROL PANEL - REMOVAL/INSTALLATION	23-71-12		401	LOM ALL
Voice Recorder Control Panel Removal TASK 23-71-12-000-801			401	LOM ALL
Voice Recorder Control Panel Installation TASK 23-71-12-400-801			404	LOM ALL
UNDERWATER LOCATOR BEACON - MAINTENANCE PRACTICES	23-71-21		201	LOM ALL
Underwater Locator Beacon (ULB) Removal TASK 23-71-21-000-801			201	LOM ALL
Dukane Underwater Locator Beacon Battery - Replacement TASK 23-71-21-960-801			209	LOM ALL
Teledyne Benthos Underwater Locator Beacon Battery - Replacement TASK 23-71-21-960-802			215	LOM ALL
L-3 Underwater Locator Beacon Battery - Replacement TASK 23-71-21-960-804			218	LOM ALL
Underwater Locator Beacon Test with a 42A12 Test Set TASK 23-71-21-700-801			222	LOM ALL
Underwater Locator Beacon Test with a PL1 Test Set TASK 23-71-21-700-802			223	LOM ALL
Underwater Locator Beacon Test with a PL3 Test Set TASK 23-71-21-700-803			223	LOM ALL
Underwater Locator Beacon Test with an ATS-260 Test Set TASK 23-71-21-700-804			224	LOM ALL
Underwater Locator Beacon Test with a Seacom TS100 Test Set TASK 23-71-21-700-805			225	LOM ALL
Underwater Locator Beacon Test with a TS200 Test Set TASK 23-71-21-700-806			226	LOM ALL

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Underwater Locator Beacon Test with a TS500 Test Set TASK 23-71-21-700-807			227	LOM ALL
Underwater Locator Beacon (ULB) Installation TASK 23-71-21-400-801			228	LOM ALL
RECORDER INDEPENDENT POWER SUPPLY (RIPS) - MAINTENANCE PRACTICES	23-71-22		201	LOM 423, 424, 432, 437-439, 441, 443-447, 450-452, 455-999
Recorder Independent Power Supply (RIPS) Battery - Replacement TASK 23-71-22-960-801			201	LOM 423, 424, 432, 437-439, 441, 443-447, 450-452, 455-999; AIRPLANES WITH RIPS PART NUMBER 100-3020-400
Recorder Independent Power Supply (RIPS) Battery - Replacement TASK 23-71-22-960-802			205	LOM 423, 424, 432, 437-439, 441, 443-447, 450-452, 455-999; AIRPLANES WITH RIPS PART NUMBER 100-3010-401
RECORDER INDEPENDENT POWER SUPPLY (RIPS) - REMOVAL/INSTALLATION	23-71-22		401	LOM 423, 424, 432, 437-439, 441, 443-447, 450-452, 455-999
Recorder Independent Power Supply - Removal TASK 23-71-22-000-801			401	LOM 423, 424, 432, 437-439, 441, 443-447, 450-452, 455-999
Recorder Independent Power Supply - Installation TASK 23-71-22-400-801			407	LOM 423, 424, 432, 437-439, 441, 443-447, 450-452, 455-999
RECORDER INDEPENDENT POWER SUPPLY (RIPS) - ADJUSTMENT/TEST	23-71-22		501	LOM 423, 424, 432, 437-439, 441, 443-447, 450-452, 455-999
Recorder Independent Power Supply (RIPS) System Test TASK 23-71-22-730-801			501	LOM 423, 424, 432, 437-439, 441, 443-447, 450-452, 455-999
Recorder Independent Power Supply (RIPS) Functional Test TASK 23-71-22-720-801			504	LOM 423, 424, 432, 437-439, 441, 443-447, 450-452, 455-999
Recorder Independent Power Supply (RIPS) Maintenance Discrete Check TASK 23-71-22-760-801			507	LOM 423, 424, 432, 437-439, 441, 443-447, 450-452, 455-999; AIRPLANES WITH RIPS PART NUMBER 100-3020-400

ECCN 9E991 BOEING PROPRIETARY - See title page for details

SUBJECT	CHAPTER SECTION SUBJECT	CONF	PAGE	EFFECT
Recorder Independent Power Supply (RIPS) Maintenance Discrete Check TASK 23-71-22-760-802			509	LOM 423, 424, 432, 437-439, 441, 443-447, 450-452, 455-999; AIRPLANES WITH RIPS PART NUMBER 100-3010-401
FLIGHT DECK ENTRY VIDEO SURVEILLANCE SYSTEM - MAINTENANCE PRACTICES	23-75-00		201	LOM 412, 415, 416, 420, 423, 424, 427, 428, 437-439, 441, 443-445, 450, 458-460, 464-999
Video Surveillance System - Deactivation TASK 23-75-00-040-801			201	LOM 412, 415, 416, 420, 423, 424, 427, 428, 437-439, 441, 443-445, 450, 458-460, 464-999
Video Surveillance System - Activation TASK 23-75-00-440-801			204	LOM 412, 415, 416, 420, 423, 424, 427, 428, 437-439, 441, 443-445, 450, 458-460, 464-999
FLIGHT DECK ENTRY VIDEO SURVEILLANCE SYSTEM - ADJUSTMENT/TEST	23-75-00	1	501	LOM 412, 415, 416, 420, 423, 424, 427, 428, 437-439, 441, 443-445, 450, 458-460, 464-999
Flight Deck Entry Video Surveillance System - System Test TASK 23-75-00-730-804		1	501	LOM 412, 415, 416, 420, 423, 424, 427, 428, 437-439, 441, 443-445, 450, 458-460, 464-999
VIDEO CAMERAS - REMOVAL/INSTALLATION	23-75-02	1	401	LOM 412, 415, 416, 420, 423, 424, 427, 428, 437-439, 441, 443-445, 450, 458-460, 464-999
Video Camera - Removal TASK 23-75-02-000-804		1	401	LOM 412, 415, 416, 420, 423, 424, 427, 428, 437-439, 441, 443-445, 450, 458-460, 464-999
Video Camera - Installation TASK 23-75-02-400-804		1	409	LOM 412, 415, 416, 420, 423, 424, 427, 428, 437-439, 441, 443-445, 450, 458-460, 464-999
CAMERA CONTROL PANEL ASSEMBLY-REMOVAL/INSTALLATION	23-75-03		401	LOM 412, 415, 416, 420, 423, 424, 427, 428, 437-439, 441, 443-445, 450, 458-460, 464-999
Flight Deck Camera Select Panel - Removal TASK 23-75-03-000-802			401	LOM 412, 415, 416, 420, 423, 424, 437, 438, 443-445, 458-460, 465-999

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CHAPTER 23
COMMUNICATIONS

SUBJECT	CHAPTER SECTION SUBJECT	CONF	PAGE	EFFECT
Flight Deck Camera Select Panel - Installation TASK 23-75-03-400-802			403	LOM 412, 415, 416, 420, 423, 424, 437, 438, 443-445, 458-460, 465-999
Control Panel - Removal TASK 23-75-03-000-803			404	LOM 427, 428, 439, 441, 450, 464
Camera Control Panel - Installation TASK 23-75-03-400-803			407	LOM 427, 428, 439, 441, 450, 464
VIDEO SWITCH - REMOVAL/INSTALLATION	23-75-07		401	LOM 427, 428, 439, 441, 450, 464
Video Switch - Removal TASK 23-75-07-000-801			401	LOM 427, 428, 439, 441, 450, 464
Video Switch - Installation TASK 23-75-07-400-801			404	LOM 427, 428, 439, 441, 450, 464
VIDEO INTERFACE UNIT - REMOVAL/INSTALLATION	23-75-10		401	LOM 412, 415, 416, 420, 423, 424, 437, 438, 443-445, 458-460, 465-999
Video Interface Unit - Removal TASK 23-75-10-000-801			401	LOM 412, 415, 416, 420, 423, 424, 437, 438, 443-445, 458-460, 465-999
Video Interface Unit - Installation TASK 23-75-10-400-801			404	LOM 412, 415, 416, 420, 423, 424, 437, 438, 443-445, 458-460, 465-999
CAMERA CONTROL UNIT - REMOVAL/INSTALLATION	23-75-11		401	LOM 427, 428, 439, 441, 450, 464
Camera Control Unit - Removal TASK 23-75-11-000-801			401	LOM 427, 428, 439, 441, 450, 464
Camera Control Unit - Installation TASK 23-75-11-400-801			404	LOM 427, 428, 439, 441, 450, 464
ILLUMINATOR - REMOVAL/INSTALLATION	23-75-12		401	LOM 427, 428, 439, 441, 450, 464
Illuminator - Removal TASK 23-75-12-000-801			401	LOM 427, 428, 439, 441, 450, 464
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PC POWER SYSTEM - ADJUSTMENT/TEST	23-81-00		501	LOM 429-432, 437, 438, 445, 465
PC Power System - Operational Test TASK 23-81-00-710-803			501	LOM 429-432, 437, 438, 445, 465
PC Power System - System Test TASK 23-81-00-730-801			502	LOM 429-432, 437, 438, 445, 465
MASTER CONTROL UNIT - REMOVAL/INSTALLATION	23-81-01		401	LOM 429-432, 437, 438, 445, 465
Master Control Unit Removal TASK 23-81-01-000-801			401	LOM 429-432, 437, 438, 445, 465
Master Control Unit Installation TASK 23-81-01-400-801			404	LOM 429-432, 437, 438, 445, 465
OUTLET UNIT - REMOVAL/INSTALLATION	23-81-04		401	LOM 429-432, 437, 438, 445, 465
Outlet Unit Removal TASK 23-81-04-000-801			401	LOM 429-432, 437, 438, 445, 465
Outlet Unit Installation TASK 23-81-04-400-801			404	LOM 429-432, 437, 438, 445, 465
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In-Seat Power Supply - Removal TASK 23-81-05-000-801			401	LOM 429-432, 437, 438, 445, 465
In-Seat Power Supply - Installation TASK 23-81-05-400-801			405	LOM 429-432, 437, 438, 445, 465
CONFIGURATION MODULE - REMOVAL/INSTALLATION	23-81-07		401	LOM 429-432, 437, 438, 445, 465
Configuration Module Removal TASK 23-81-07-000-801			401	LOM 429-432, 437, 438, 445, 465
Configuration Module Installation TASK 23-81-07-400-801			403	LOM 429-432, 437, 438, 445, 465
FLIGHT COMPARTMENT PC POWER SYSTEM - ADJUSTMENT/TEST	23-82-00		501	LOM 427, 428, 443, 444, 450
Flight Compartment PC Power System - Operational Test TASK 23-82-00-710-801			501	LOM 427, 428, 443, 444, 450

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CHAPTER 23
COMMUNICATIONS

SUBJECT	CHAPTER SECTION SUBJECT	CONF	PAGE	EFFECT
OUTLET UNIT - REMOVAL/INSTALLATION	23-82-01		401	LOM 427, 428, 443, 444, 450
Outlet Unit Removal TASK 23-82-01-000-801			401	LOM 427, 428, 443, 444, 450
Outlet Unit Installation TASK 23-82-01-400-801			404	LOM 427, 428, 443, 444, 450
IN-SEAT POWER SUPPLY - REMOVAL/INSTALLATION	23-82-02		401	LOM 427, 428, 443, 444
In-Seat Power Supply Removal TASK 23-82-02-000-801			401	LOM 427, 428, 443, 444
In-Seat Power Supply Installation TASK 23-82-02-400-801			403	LOM 427, 428, 443, 444
IN-SEAT POWER CONVERTER - REMOVAL/INSTALLATION	23-82-03		401	LOM 450
In-Seat Power Converter Removal TASK 23-82-03-000-801			401	LOM 450
In-Seat Power Converter Installation TASK 23-82-03-400-801			403	LOM 450

ECCN 9E991 BOEING PROPRIETARY - See title page for details

COMMUNICATIONS - DDG MAINTENANCE PROCEDURES

1. **General**

A. This procedure has maintenance tasks for the Master Minimum Equipment List (MMEL) maintenance requirements as shown in the Dispatch Deviations Procedures Guide (DDPG). These tasks are used to prepare the airplane for flight with certain systems/components inoperative.

B. This procedure also has the tasks that put the airplane back to its usual condition.

C. These are the tasks for the components in the communication system:

LOM 423, 424, 432, 437-439, 441, 443-447, 450-452, 455-999

(1) MMEL 23-10-2 (DDPG) Preparation - Voice Recorder System Inoperative.

(2) MMEL 23-10-2 (DDPG) Restoration - Voice Recorder System Inoperative.

(3) MMEL 23-10-2-1 (DDPG) Preparation - Recorder Independent Power Supply (RIPS) Inoperative.

(4) MMEL 23-10-2-1 (DDPG) Restoration - Recorder Independent Power Supply (RIPS) Inoperative.

LOM 402, 404, 406, 407, 411, 416, 420, 422-434, 437-447, 450-999

(5) MMEL 23-12-2 (DDPG) Preparation - Fixed Type Emergency Locator Transmitter (ELT) System Inoperative.

(6) MMEL 23-12-2 (DDPG) Restoration - Fixed Type Emergency Locator Transmitter (ELT) System Inoperative.

(7) MMEL 23-12-02-1 (DDPG) Preparation - Emergency Locator Transmitter (ELT) Remote Switch Inoperative.

(8) MMEL 23-12-02-1 (DDPG) Restoration - Emergency Locator Transmitter (ELT) Remote Switch Inoperative.

LOM ALL

(9) MMEL 23-16-1 (DDPG) Preparation - Control Wheel Push-To-Talk (PTT) Switches Inoperative.

(10) MMEL 23-16-1 (DDPG) Restoration - Control Wheel PTT Switches Inoperative.

(11) MMEL 23-16-2 (DDPG) Preparation - Flight Crew Audio Control Panel Push-To-Talk (PTT) Switches Inoperative.

(12) MMEL 23-16-2 (DDPG) Restoration - Flight Crew Audio Control Panel Push-To-Talk (PTT) Switches Inoperative.

LOM 402, 404, 406, 407, 411, 412, 415, 416, 420, 422-434, 437-447, 450-460, 464-999

(13) MMEL 23-16-3 (DDPG) Preparation - Glareshield Panel Push-To-Talk (PTT) Switches Inoperative.

(14) MMEL 23-16-3 (DDPG) Restoration - Glareshield Panel Push-To-Talk (PTT) Switches Inoperative.

LOM 423, 424, 432, 437-439, 441, 443-447, 450-452, 455-999

TASK 23-00-00-040-805

2. **MMEL 23-10-2 (DDPG) Preparation - Voice Recorder System Inoperative**

A. **General**

(1) This task gives the maintenance steps which prepare the airplane for flight with the voice recorder system inoperative.

ECCN 9E991 BOEING PROPRIETARY - See title page for details

B. Location Zones

Zone	Area
210	Subzone - Control Compartment - Body Station 178.00 to Body Station 259.50

C. Voice Recorder Deactivation

SUBTASK 23-00-00-040-006

(1) Open this circuit breaker and install safety lock:

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
D	6	C01948	VOICE RCDR/RIPS

SUBTASK 23-00-00-910-001

(2) Install the INOP placards adjacent to these components:

- Voice recorder's control panel (Pilot's overhead panel, P5).
- VOICE RCDR/RIPS (C01948) circuit breaker (P18-2).

——— END OF TASK ———

TASK 23-00-00-440-804

3. MMEL 23-10-2 (DDPG) Restoration - Voice Recorder System Inoperative

A. General

(1) This task puts the airplane back to its usual condition after operation with a voice recorder system inoperative.

B. References

Reference	Title
23-71-00-730-802	Voice Recorder System - System Test (P/B 501)
23-71-22-720-801	Recorder Independent Power Supply (RIPS) Functional Test (P/B 501)

C. Location Zones

Zone	Area
210	Subzone - Control Compartment - Body Station 178.00 to Body Station 259.50

D. Voice Recorder Activation

SUBTASK 23-00-00-440-004

(1) Remove the safety lock and close this circuit breaker:

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
D	6	C01948	VOICE RCDR/RIPS

SUBTASK 23-00-00-730-001

(2) Do these tests after you repaired the voice recorder system:

(a) Do this task: Voice Recorder System - System Test, TASK 23-71-00-730-802.

(b) Do this task: Recorder Independent Power Supply (RIPS) Functional Test, TASK 23-71-22-720-801.

ECCN 9E991 BOEING PROPRIETARY - See title page for details

SUBTASK 23-00-00-910-002

(3) Remove the INOP placards from these components:

- Voice recorder's control panel (Pilot's overhead panel, P5).
- VOICE RCDR/RIPS (C01948) circuit breaker (P18-2).

END OF TASK

TASK 23-00-00-040-806

4. MMEL 23-10-2-1 (DDPG) Preparation - Recorder Independent Power Supply (RIPS) Inoperative

(Figure 901)

A. General

(1) This task gives the maintenance steps that prepare the airplane for flight with the Recorder Independent Power Supply (RIPS) inoperative.

(2) The RIPS battery pack is attached to the RIPS charger assembly.

(3) The RIPS (M02862) is in the aft passenger compartment (STA 940, WL 294, LBL 6). The unit is adjacent to the flight data recorder.

B. References

Reference	Title
20-40-12-000-802	ESDS Handling for Metal Encased Unit Removal (P/B 201)
20-40-12-400-804	Conductive Dust Cap and Connector Cover Installation (P/B 201)
23-71-22-960-801	Recorder Independent Power Supply (RIPS) Battery - Replacement (P/B 201)
WDM 23-71-01	Wiring Diagram Manual

C. Location Zones

Zone	Area
210	Subzone - Control Compartment - Body Station 178.00 to Body Station 259.50
240	Subzone - Passenger Compartment - Body Station 663.75 to Body Station 1016.00

D. Prepare for the Deactivation

SUBTASK 23-00-00-040-007

(1) Open this circuit breaker and install safety tag:

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
D	6	C01948	VOICE RCDR/RIPS

SUBTASK 23-00-00-860-013

(2) Wait for a minimum of 11 minutes after you remove power from the voice recorder.

SUBTASK 23-00-00-010-005

(3) Open the lowered ceiling panel in the aft passenger compartment to get access to the RIPS.

NOTE: The RIPS is next to the Flight Data Recorder (FDR).

ECCN 9E991 BOEING PROPRIETARY - See title page for details

LOM 423, 424, 432, 437-439, 441, 443-447, 450-452, 455-999 (Continued)

E. RIPS Deactivation

SUBTASK 23-00-00-020-009

> **CAUTION** DO NOT TOUCH THE CONNECTOR PINS, OR OTHER CONDUCTORS. IF YOU TOUCH THESE CONDUCTORS, ELECTROSTATIC DISCHARGE CAN CAUSE DAMAGE TO THE COMPONENTS.

(1) Disconnect the J1 connector from the RIPS.

SUBTASK 23-00-00-020-010

(2) Remove the battery pack from the RIPS (TASK 23-71-22-960-801):

(a) For the removal of the battery pack from the RIPS, do this task: ESDS Handling for Metal Encased Unit Removal, TASK 20-40-12-000-802 .

(b) Loosen the two captive screws from the RIPS battery pack.

(c) Pull the RIPS battery pack forward to disengage the rear electrical connector.

SUBTASK 23-00-00-910-003

(3) Do this task: Conductive Dust Cap and Connector Cover Installation, TASK 20-40-12-400-804.

SUBTASK 23-00-00-420-005

(4) Connect the J1 connector to the RIPS.

SUBTASK 23-00-00-440-005

(5) Remove the safety tag and close this circuit breaker:

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
D	6	C01948	VOICE RCDR/RIPS

LOM 466-999

SUBTASK 23-00-00-710-002

(6) Do these steps to make sure that the voice recorder is serviceable:

(a) Do a check for resistance at connector D10101 between pin 1 and pin 12 (WDM 23-71-01).

1) Make sure that the circuit resistance is less than 100 ohms.

NOTE: If you see an “OL” (out-of-limit) indication (i.e. open circuit) or more than 100 ohms, then it shows a CVR fault.

SUBTASK 23-00-00-710-004

(7) Do these steps to make sure that the flight data recorder (FDR) is serviceable:

(a) Put the NORMAL/TEST switch on the flight recorder panel, P5, to the TEST position.

1) Make sure that the flight recorder OFF light goes off.

2) Make sure that the DFDR FAIL light on the flight data acquisition unit (FDAU) is off.

(b) Put the NORMAL/TEST switch on the flight recorder panel, P5, to the NORMAL position.

1) Make sure that the flight recorder OFF light comes on.

NOTE: If the flight recorder OFF light, or DFDR FAIL light do not agree with the steps, then it shows an FDR fault.

LOM 423, 424, 432, 437-439, 441, 443-447, 450-452, 455-999

ECCN 9E991 BOEING PROPRIETARY - See title page for details

SUBTASK 23-00-00-910-004

(8) Install the INOP placard adjacent to the RIPS unit.

F. Put the Airplane Back to Its Usual Condition

SUBTASK 23-00-00-410-003

(1) Close the lowered ceiling panel in the aft passenger compartment for the RIPS.

END OF TASK

ECCN 9E991 BOEING PROPRIETARY - See title page for details

RECORDER INDEPENDENT POWER SUPPLY (RIPS)

1957265 S0000374172_V3

Recorder Independent Power Supply Battery - Replacement
Figure 901/23-00-00-990-801 (Sheet 1 of 2)

ECCN 9E991 BOEING PROPRIETARY - See title page for details

RECORDER INDEPENDENT POWER SUPPLY (RIPS)

2992841 S0000769559_V1

Recorder Independent Power Supply Battery - Replacement
Figure 901/23-00-00-990-801 (Sheet 2 of 2)

ECCN 9E991 BOEING PROPRIETARY - See title page for details

TASK 23-00-00-440-805

5. **MMEL 23-10-2-1 (DDPG) Restoration - Recorder Independent Power Supply (RIPS) Inoperative**
(Figure 901)

A. General

(1) This task puts the airplane back to its usual condition after operation with a Recorder Independent Power Supply (RIPS) inoperative.

(2) The RIPS battery pack is attached to the RIPS charger assembly.

(3) The RIPS (M02862) is in the aft passenger compartment (STA 940, WL 294, LBL 6). The unit is adjacent to the flight data recorder.

B. References

Reference	Title
20-40-12-000-804	Conductive Dust Cap and Connector Cover Removal (P/B 201)
23-71-22-960-801	Recorder Independent Power Supply (RIPS) Battery - Replacement (P/B 201)
FIM 23-71 TASK 806	RIPS Maintenance Status Check Failed - Fault Isolation

C. Location Zones

Zone	Area
210	Subzone - Control Compartment - Body Station 178.00 to Body Station 259.50
240	Subzone - Passenger Compartment - Body Station 663.75 to Body Station 1016.00

D. Prepare for the Activation

SUBTASK 23-00-00-040-008

(1) Open this circuit breaker and install safety tag:

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
D	6	C01948	VOICE RCDR/RIPS

SUBTASK 23-00-00-010-006

(2) Open the lowered ceiling panel in the aft passenger compartment to get access to the RIPS.

NOTE: The RIPS is next to the Flight Data Recorder (FDR).

E. RIPS Activation

SUBTASK 23-00-00-910-005

CAUTION

DO NOT TOUCH THE CONNECTOR PINS, OR OTHER CONDUCTORS. IF YOU TOUCH THESE CONDUCTORS, ELECTROSTATIC DISCHARGE CAN CAUSE DAMAGE TO THE COMPONENTS.

(1) Do this task: Conductive Dust Cap and Connector Cover Removal, TASK 20-40-12-000-804.

SUBTASK 23-00-00-420-006

(2) Install a new battery pack to the RIPS, do this task: Recorder Independent Power Supply (RIPS) Battery - Replacement, TASK 23-71-22-960-801.

ECCN 9E991 BOEING PROPRIETARY - See title page for details

LOM 423, 424, 432, 437-439, 441, 443-447, 450-452, 455-999 (Continued)

SUBTASK 23-00-00-440-006

(3) Remove the safety tag and close this circuit breaker:

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
D	6	C01948	VOICE RCDR/RIPS

SUBTASK 23-00-00-810-003

(4) Do this task: RIPS Maintenance Status Check Failed - Fault Isolation, FIM 23-71 TASK 806.

SUBTASK 23-00-00-910-006

(5) Remove the INOP placard from the RIPS unit.

F. Put the Airplane Back to Its Usual Condition

SUBTASK 23-00-00-410-004

(1) Close the lowered ceiling panel in the aft passenger compartment for the RIPS.

——— END OF TASK ———

LOM 402, 404, 406, 407, 411, 416, 420, 422-434, 437-447, 450-999

TASK 23-00-00-040-808

6. MMEL 23-12-2 (DDPG) Preparation - Fixed Type Emergency Locator Transmitter (ELT) System Inoperative

A. General

(1) This task gives the maintenance steps which prepare the airplane for flight with the Emergency Locator Transmitter (ELT) system inoperative.

B. References

Reference	Title
20-40-12 P/B 201	ELECTROSTATIC DISCHARGE SENSITIVE (ESDS) DEVICES - MAINTENANCE PRACTICES
23-24-00-000-801-001	Emergency Locator Transmitter Removal (P/B 201)
23-24-00-400-801-001	Emergency Locator Transmitter Installation (P/B 201)
25-21-45-000-801	Ceiling Panel - Removal (P/B 401)
25-21-45-000-803-001	Main Ceiling Panel - Removal (P/B 401)
25-21-45-400-801	Ceiling Panel - Installation (P/B 401)
25-21-45-400-803-001	Main Ceiling Panel - Installation (P/B 401)

C. Location Zones

Zone	Area
211	Flight Compartment - Left
212	Flight Compartment - Right
241	Aft Passenger Compartment - Station 663.75 to Aft Pressure Bulkhead - Left
242	Aft Passenger Compartment - Station 663.75 to Aft Pressure Bulkhead - Right

ECCN 9E991 BOEING PROPRIETARY - See title page for details

LOM 402, 404, 406, 407, 411, 416, 420, 422-434, 437-447, 450-999 (Continued)

D. ELT System Deactivation

LOM 411, 416, 423, 424, 427, 428, 439, 441

SUBTASK 23-00-00-860-009

(1) Open this circuit breaker and install safety lock:

F/O Electrical System Panel, P6-3

Row	Col	Number	Name
C	1	C01495	ELT INTERFACE UNIT

LOM 402, 404, 406, 407, 411, 416, 420, 422-434, 437-447, 450-999

SUBTASK 23-00-00-010-011

(2) Open the ceiling panel for access to the ELT assembly (STA (Station) 794), refer to: Ceiling Panel - Removal, TASK 25-21-45-000-801 or Main Ceiling Panel - Removal, TASK 25-21-45-000-803-001.

LOM 422, 425, 433, 434, 440, 442-447, 450-456, 458-464

SUBTASK 23-00-00-860-010

(3) Set the switch on the front panel of the ELT unit to the OFF position.

LOM 402, 404, 406, 407, 411, 416, 420, 423, 424, 426-432, 437-439, 441, 457, 465-999

SUBTASK 23-00-00-860-011

(4) Do the steps that follow for deactivation of the ELT system (Figure 902):

(a) Remove the ELT unit, refer to: Emergency Locator Transmitter Removal, TASK 23-24-00-000-801-001.

(b) Do these steps to disconnect the electrical connectors [9] that are connected between the ELT and the battery pack [8]:

> **CAUTION** IF THE PRECAUTIONS FOR THE PROTECTION OF AN ESDS ELECTRONIC ASSEMBLY ARE NOT OBEYED, DAMAGE TO THE ELECTRONIC ASSEMBLY CAN OCCUR.

1) Before you touch the ELT battery pack [8], follow the precautions for Electrostatic Discharge Sensitive (ESDS) devices. Refer to ELECTROSTATIC DISCHARGE SENSITIVE (ESDS) DEVICES - MAINTENANCE PRACTICES, PAGEBLOCK 20-40-12/201.

2) Remove the four screws [10] that attach the battery pack [8] to the ELT.

3) Carefully separate the battery pack [8] from the ELT.

4) Disconnect the two electrical connectors [9] that are connected to the ELT battery pack [8].

   NOTE: There are two electrical connectors [9] on the ELT that connect to the battery pack [8].

5) Cap and stow the electrical connectors to the ELT.

6) Install the battery pack [8] to the ELT with the electrical connectors disconnected.

   a) Put the battery pack [8] in its position on the ELT.

   b) Make sure that all the gaskets are aligned correctly.

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c) Make sure that the wires are not in between the edges of the ELT where they can be pinched.

d) Install the four screws [10] to attach the battery pack [8] to the ELT.

e) Install the unserviceable ELT unit back to its mounting tray assembly, refer to: Emergency Locator Transmitter Installation, TASK 23-24-00-400-801-001.

f) Install an INOP placard on the ELT front cover.

g) Install an "ELT is inoperative" placard in view of the pilot.

LOM 402, 404, 406, 407, 411, 416, 420, 422-434, 437-447, 450-999

SUBTASK 23-00-00-410-009

(5) Close the ceiling panel for access to the ELT unit, refer to: Ceiling Panel - Installation, TASK 25-21-45-400-801 or Main Ceiling Panel - Installation, TASK 25-21-45-400-803-001.

SUBTASK 23-00-00-860-012

(6) Install an INOP placard adjacent to the switch of the ELT control panel in the flight compartment.

END OF TASK

ECCN 9E991 BOEING PROPRIETARY - See title page for details

EMERGENCY LOCATOR TRANSMITTER (ELT)
(EXAMPLE)

A

EMERGENCY LOCATOR TRANSMITTER (ELT) ASSEMBLY
(EXAMPLE)

B

H04294 S0006565267_V6

Emergency Locator Transmitter
Figure 902/23-00-00-990-803 (Sheet 1 of 2)

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ELT BATTERY PACK ASSEMBLY

C

3014374 S0000787977_V2

Emergency Locator Transmitter
Figure 902/23-00-00-990-803 (Sheet 2 of 2)

ECCN 9E991 BOEING PROPRIETARY - See title page for details

LOM 402, 404, 406, 407, 411, 416, 420, 422-434, 437-447, 450-999

TASK 23-00-00-440-807

7. MMEL 23-12-2 (DDPG) Restoration - Fixed Type Emergency Locator Transmitter (ELT) System Inoperative

A. General

(1) This task puts the airplane back to its usual condition after operation with the Emergency Locator Transmitter (ELT) system inoperative.

B. References

Reference	Title
23-24-00-710-801-001	ELT System - Operational Test (P/B 501)
23-24-00-710-802-002	ELT System - Operational Test (P/B 501)
23-24-00-710-803-003	ELT System - Operational Test (P/B 501)
23-24-00-900-801-001	Emergency Locator Transmitter Battery Replacement (P/B 201)
25-21-45-000-801	Ceiling Panel - Removal (P/B 401)
25-21-45-000-803-001	Main Ceiling Panel - Removal (P/B 401)
25-21-45-400-801	Ceiling Panel - Installation (P/B 401)
25-21-45-400-803-001	Main Ceiling Panel - Installation (P/B 401)
FIM 23-24 TASK 801	Emergency Locator Transmitter (ELT) BITE Procedure

C. Location Zones

Zone	Area
211	Flight Compartment - Left
212	Flight Compartment - Right
241	Aft Passenger Compartment - Station 663.75 to Aft Pressure Bulkhead - Left
242	Aft Passenger Compartment - Station 663.75 to Aft Pressure Bulkhead - Right

D. ELT System Reactivation

SUBTASK 23-00-00-010-008

(1) Open the ceiling panel for access to the ELT unit (STA (Station) 794), refer to: Ceiling Panel - Removal, TASK 25-21-45-000-801 or Main Ceiling Panel - Removal, TASK 25-21-45-000-803-001.

LOM 422, 425, 433, 434, 440, 442, 445-447, 451-456, 461-463

SUBTASK 23-00-00-440-017

LOM (2) Set the switch on the front panel of the ELT unit to the ARM position.

LOM 443, 444, 450, 458-460, 464

SUBTASK 23-00-00-440-022

(3) Set the switch on the front panel of the ELT unit to the ARMED position.

LOM 402, 404, 406, 407, 411, 416, 420, 423, 424, 426-432, 437-439, 441, 457, 465-999

SUBTASK 23-00-00-440-009

(4) Reconnect the ELT battery pack to the ELT, refer to: Emergency Locator Transmitter Battery Replacement, TASK 23-24-00-900-801-001.

ECCN 9E991 BOEING PROPRIETARY - See title page for details

LOM 411, 416, 423, 424, 427, 428, 439, 441

SUBTASK 23-00-00-440-010

(5) Remove the safety tag and close this circuit breaker:

F/O Electrical System Panel, P6-3

Row	Col	Number	Name
C	1	C01495	ELT INTERFACE UNIT

LOM 402, 404, 406, 407, 411, 416, 420, 422-434, 437-447, 450-999

SUBTASK 23-00-00-740-002

(6) Do this task: FIM 23-24 TASK 801.

SUBTASK 23-00-00-810-004

(7) Do the steps in a Fault Isolation Manual (FIM) task that applies to the fault message.

(a) Repair the problems that you find.

SUBTASK 23-00-00-710-003

(8) Do this task: ELT System - Operational Test, TASK 23-24-00-710-801-001 or ELT System - Operational Test, TASK 23-24-00-710-802-002 or ELT System - Operational Test, TASK 23-24-00-710-803-003.

SUBTASK 23-00-00-410-006

(9) Close the ceiling panel for access to the ELT unit, refer to: Ceiling Panel - Installation, TASK 25-21-45-400-801 or Main Ceiling Panel - Installation, TASK 25-21-45-400-803-001.

SUBTASK 23-00-00-440-011

(10) Remove the INOP placards from the ELT control panel in the flight compartment.

END OF TASK

TASK 23-00-00-040-809

8. MMEL 23-12-02-1 (DDPG) Preparation - Emergency Locator Transmitter (ELT) Remote Switch Inoperative

A. General

(1) This task gives the maintenance steps to prepare the airplane for flight with the Emergency Locator Transmitter (ELT) remote switch inoperative.

B. Location Zones

Zone	Area
211	Flight Compartment - Left
212	Flight Compartment - Right
241	Aft Passenger Compartment - Station 663.75 to Aft Pressure Bulkhead - Left
242	Aft Passenger Compartment - Station 663.75 to Aft Pressure Bulkhead - Right

C. ELT Remote Switch Deactivation

SUBTASK 23-00-00-040-015

(1) If the ELT remote switch is failed and ELT system is activated, deactivate the ELT system (TASK 23-00-00-040-808).

SUBTASK 23-00-00-040-017

(2) If the ELT does not activate with the ELT remote switch set to the ON position, deactivate the ELT remote switch.

(a) Open the ceiling panel for access to the ELT (station 794).

ECCN 9E991 BOEING PROPRIETARY - See title page for details

LOM 402, 404, 406, 407, 411, 416, 420, 422-434, 437-447, 450-999 (Continued)

(b) On the front of the ELT, do the following step:

LOM 402, 404, 406, 407, 411, 416, 420, 423, 424, 426-432, 437-439, 441, 457, 465-999

1) Set the OFF/ON switch to the OFF position.

LOM 443, 444, 450, 458-460, 464

2) Set the ARMED/OFF/ON switch to the ARMED position.

LOM 422, 425, 433, 434, 440, 442, 446, 447, 451-456, 461-463

3) Set the ARM/OFF/TX switch to the ARM position.

LOM 445

LOM 4) Set the OFF/ARM switch to the ARM position.

LOM **LOM 402, 404, 406, 407, 411, 416, 420, 422-434, 437-447, 450-999**

(c) Close the ceiling panel for access to the ELT.

LOM 402, 404, 406, 407, 411, 416, 420, 422-434, 437-442, 445-447, 451-457, 461-463, 465-999

(d) On the ELT control panel, do the following steps:

1) Set the ARM/ON switch to the ARM position.
2) Install the INOP placards adjacent to the ARM/ON switch.

LOM 443, 444, 450, 458-460, 464

(e) One the ELT control panel, do the following steps:

1) Set the RESET/ARMED/ON switch to the ARMED position.
2) Install the INOP placards adjacent to the RESET/ARMED/ON switch.

——— END OF TASK ———

LOM 402, 404, 406, 407, 411, 416, 420, 422-434, 437-447, 450-999

TASK 23-00-00-440-809

9. MMEL 23-12-02-1 (DDPG) Restoration - Emergency Locator Transmitter (ELT) Remote Switch Inoperative

A. General

(1) This task puts the airplane back to its usual condition after operation with the ELT remote switch inoperative.

B. References

Reference	Title
23-24-00-710-801-001	ELT System - Operational Test (P/B 501)
23-24-00-710-802-002	ELT System - Operational Test (P/B 501)
23-24-00-710-803-003	ELT System - Operational Test (P/B 501)

C. Location Zones

Zone	Area
211	Flight Compartment - Left
212	Flight Compartment - Right
241	Aft Passenger Compartment - Station 663.75 to Aft Pressure Bulkhead - Left

ECCN 9E991 BOEING PROPRIETARY - See title page for details

LOM 402, 404, 406, 407, 411, 416, 420, 422-434, 437-447, 450-999 (Continued)

(Continued)

Zone	Area
242	Aft Passenger Compartment - Station 663.75 to Aft Pressure Bulkhead - Right

D. ELT Remote Switch Activation

SUBTASK 23-00-00-010-010

(1) Open the ceiling panel for access to the ELT (station 794).

SUBTASK 23-00-00-440-018

(2) On the front of the ELT:

LOM 402, 404, 406, 407, 411, 416, 420, 423, 424, 426-432, 437-439, 441, 457, 465-999

(a) Make sure that the OFF/ON switch is in the OFF position.

LOM 443, 444, 450, 458-460, 464

(b) Set the ARMED/OFF/ON switch to ARMED.

LOM 422, 425, 433, 434, 440, 442, 446, 447, 451-456, 461-463

(c) Set the ARM/OFF/TX switch to ARM.

LOM 445

LOM (d) Set the OFF/ARM switch to ARM.

LOM **LOM 402, 404, 406, 407, 411, 416, 420, 422-434, 437-447, 450-999**

SUBTASK 23-00-00-410-008

(3) Close the ceiling panel for access to the ELT.

LOM 402, 404, 406, 407, 411, 416, 420, 422-434, 437-442, 445-447, 451-457, 461-463, 465-999

SUBTASK 23-00-00-440-016

(4) On the ELT control panel:

(a) Remove the INOP placards from to the ARM/ON switch.

(b) Set the ARM/ON switch to ARM.

LOM 443, 444, 450, 458-460, 464

SUBTASK 23-00-00-440-020

(5) On the ELT control panel:

(a) Remove the INOP placards from the RESET/ARMED/ON switch.

(b) Set the RESET/ARMED/ON switch to ARMED.

LOM 411, 416, 423, 424, 427, 428, 439, 441

SUBTASK 23-00-00-700-004

(6) Close this circuit breaker:

F/O Electrical System Panel, P6-3

Row	Col	Number	Name
C	1	C01495	ELT INTERFACE UNIT

LOM 402, 404, 406, 407, 411, 416, 420, 422-434, 437-447, 450-999

ECCN 9E991 BOEING PROPRIETARY - See title page for details

LOM 402, 404, 406, 407, 411, 416, 420, 422-434, 437-447, 450-999 (Continued)

SUBTASK 23-00-00-710-005

(7) Do this task: ELT System - Operational Test, TASK 23-24-00-710-801-001 or ELT System - Operational Test, TASK 23-24-00-710-802-002 or ELT System - Operational Test, TASK 23-24-00-710-803-003.

LOM ALL

——— END OF TASK ———

TASK 23-00-00-040-801

10. MMEL 23-16-1 (DDPG) Preparation - Control Wheel Push-To-Talk (PTT) Switches Inoperative

A. General

(1) This task gives the maintenance steps which prepare the airplane for flight with the Control Wheel PTT switches inoperative.

(2) The Control Wheel PTT switches can be inoperative under these conditions:

(a) The associated Audio Control Panel PTT switch operates normally.

(b) The inoperative switch is deactivated open.

B. References

Reference	Title
23-51-04-000-801	Control Wheel PTT Switch Removal (P/B 401)

C. Location Zones

Zone	Area
211	Flight Compartment - Left
212	Flight Compartment - Right

D. Confirmation

SUBTASK 23-00-00-700-003

(1) Do the steps that follow to confirm that the inoperative control wheel PTT switch is inoperative open:

(a) Listen for a sound during a test transmission without pushing the associated PTT switch.

NOTE: If there is sound, the PTT switch is inoperative in the closed position.

(2) Use the audio selector panel PTT switch to verify R/T and/or I/C communications.

E. PTT Switches Deactivation

SUBTASK 23-00-00-860-001

(1) Open these circuit breakers and install safety tags:

F/O Electrical System Panel, P6-2

Row	Col	Number	Name
C	21	C00560	INTERPHONE POWER F/O DC 2
C	22	C00561	INTERPHONE POWER F/O BAT
C	23	C00239	INTERPHONE POWER CAPT DC 2
C	24	C00240	INTERPHONE POWER CAPT BAT
D	22	C00086	AUDIO F/O
D	23	C00083	AUDIO CAPT

ECCN 9E991 BOEING PROPRIETARY - See title page for details

SUBTASK 23-00-00-010-001

(2) Remove the PTT switch on the control wheel to get access to the wire (TASK 23-51-04-000-801).

SUBTASK 23-00-00-020-001

(3) Disconnect, cap and stow the GROUND (BLK/BRN) wire from the PTT switch.

SUBTASK 23-00-00-420-001

(4) Install the PTT switch.

SUBTASK 23-00-00-860-002

(5) Remove the safety tags and close these circuit breakers:

F/O Electrical System Panel, P6-2

Row	Col	Number	Name
C	21	C00560	INTERPHONE POWER F/O DC 2
C	22	C00561	INTERPHONE POWER F/O BAT
C	23	C00239	INTERPHONE POWER CAPT DC 2
C	24	C00240	INTERPHONE POWER CAPT BAT
D	22	C00086	AUDIO F/O
D	23	C00083	AUDIO CAPT

SUBTASK 23-00-00-930-001

(6) Put an INOP placard on the PTT switch.

END OF TASK

TASK 23-00-00-440-801

11. MMEL 23-16-1 (DDPG) Restoration - Control Wheel Push-To-Talk (PTT) Switches Inoperative

A. General

(1) This task puts the airplane back to its usual condition after operation with the PTT switches inoperative.

B. References

Reference	Title
23-51-04-000-801	Control Wheel PTT Switch Removal (P/B 401)
23-51-04-400-801	Control Wheel PTT Switch Installation (P/B 401)

C. Procedure

SUBTASK 23-00-00-860-003

(1) Open these circuit breakers and install safety tags:

F/O Electrical System Panel, P6-2

Row	Col	Number	Name
C	21	C00560	INTERPHONE POWER F/O DC 2
C	22	C00561	INTERPHONE POWER F/O BAT
C	23	C00239	INTERPHONE POWER CAPT DC 2
C	24	C00240	INTERPHONE POWER CAPT BAT
D	22	C00086	AUDIO F/O
D	23	C00083	AUDIO CAPT

SUBTASK 23-00-00-020-002

(2) Remove the INOP placard from the switch.

ECCN 9E991 BOEING PROPRIETARY - See title page for details

SUBTASK 23-00-00-020-003

(3) Remove the PTT switch on the control wheel (TASK 23-51-04-000-801).

SUBTASK 23-00-00-020-004

(4) Remove the cap from the GROUND (BLK/BRN) wire for the PTT switch.

SUBTASK 23-00-00-420-002

(5) Install the new PTT switch on the control wheel. To install it, do this task: Control Wheel PTT Switch Installation, TASK 23-51-04-400-801.

SUBTASK 23-00-00-860-004

(6) Make sure that these circuit breakers are closed:

F/O Electrical System Panel, P6-2

Row	Col	Number	Name
C	21	C00560	INTERPHONE POWER F/O DC 2
C	22	C00561	INTERPHONE POWER F/O BAT
C	23	C00239	INTERPHONE POWER CAPT DC 2
C	24	C00240	INTERPHONE POWER CAPT BAT
D	22	C00086	AUDIO F/O
D	23	C00083	AUDIO CAPT

——— END OF TASK ———

TASK 23-00-00-040-807

12. MMEL 23-16-2 (DDPG) Preparation - Flight Crew Audio Control Panel Push-To-Talk (PTT) Switches Inoperative

A. General

(1) This task gives the maintenance steps which prepare the airplane for flight with the PTT switches on the Flight Crew Audio Control Panel inoperative.

(2) The Audio Control Panel PTT switches can be inoperative under these conditions:

(a) The associated control wheel PTT switch operates normally

(b) The inoperative switch is deactivated open.

B. References

Reference	Title
24-22-00-860-811	Supply Electrical Power (P/B 201)

C. Location Zones

Zone	Area
211	Flight Compartment - Left
212	Flight Compartment - Right

D. Confirmation

SUBTASK 23-00-00-700-001

(1) Do the steps that follow to confirm that the inoperative Audio Control Panel PTT switch is inoperative open and the associated control wheel PTT switch operates normally:

(a) Do this task: Supply Electrical Power, TASK 24-22-00-860-811

(b) Push the PA microphone selector switch on the associated audio control panel.

(c) Make sure that the PA MIC light comes on.

(d) Speak into the associated microphone without pushing any PTT switch.

ECCN 9E991 BOEING PROPRIETARY - See title page for details

(e) Make sure you hear no voice on the PA system.

(f) Push the inoperative PTT switch and speak into the associated microphone.

(g) Make sure you hear no voice at the other pilot's headset.

(h) Push the associated pilot's control wheel PTT switch and speak into the associated microphone.

(i) Make sure you hear your voice clearly at the other pilot's headset.

END OF TASK

TASK 23-00-00-440-806

13. MMEL 23-16-2 (DDPG) Restoration - Flight Crew Audio Control Panel Push-To-Talk (PTT) Switches Inoperative

A. General

(1) This task puts the airplane back to its usual condition after operation with the Audio Control Panel PTT switches inoperative.

(2) To put the airplane to usual condition, replace the Audio Control Panel with the inoperative switch.

B. References

Reference	Title
23-51-02 P/B 401	AUDIO CONTROL PANEL - REMOVAL/INSTALLATION

C. Location Zones

Zone	Area
211	Flight Compartment - Left
212	Flight Compartment - Right

D. Procedure

SUBTASK 23-00-00-900-001

(1) Do the tasks: AUDIO CONTROL PANEL - REMOVAL/INSTALLATION, PAGEBLOCK 23-51-02/401

END OF TASK

LOM 402, 404, 406, 407, 411, 412, 415, 416, 420, 422-434, 437-447, 450-460, 464-999

TASK 23-00-00-040-803

14. MMEL 23-16-3 (DDPG) Preparation - Glareshield Panel Push-To-Talk (PTT) Switches Inoperative.

A. General

(1) This task gives the maintenance steps which prepare the airplane for flight with the glareshield PTT switches inoperative.

(2) The glareshield PTT switches can be inoperative under one of these conditions:

(a) The switch is inoperative open.

(b) The inoperative switch is deactivated

B. Confirmation

SUBTASK 23-00-00-700-002

(1) Do the steps that follow to confirm that the inoperative glareshield PTT switch is inoperative open:

ECCN 9E991 BOEING PROPRIETARY - See title page for details

(a) Listen for a sound during a test transmission without pushing the PTT switch.

NOTE: If there is sound, the PTT switch is inoperative in the closed position.

C. PTT Switches Deactivation

SUBTASK 23-00-00-860-005

(1) Open these circuit breakers and install safety tags:

F/O Electrical System Panel, P6-2

Row	Col	Number	Name
C	21	C00560	INTERPHONE POWER F/O DC 2
C	22	C00561	INTERPHONE POWER F/O BAT
C	23	C00239	INTERPHONE POWER CAPT DC 2
C	24	C00240	INTERPHONE POWER CAPT BAT
D	22	C00086	AUDIO F/O
D	23	C00083	AUDIO CAPT

SUBTASK 23-00-00-010-002

(2) Remove the PTT switch on the glareshield to get access to the wire.

SUBTASK 23-00-00-020-005

(3) Disconnect, cap and stow the GROUND wire from the PTT switch.

SUBTASK 23-00-00-420-003

(4) Install the PTT switch.

SUBTASK 23-00-00-860-006

(5) Remove the safety tags and close these circuit breakers:

F/O Electrical System Panel, P6-2

Row	Col	Number	Name
C	21	C00560	INTERPHONE POWER F/O DC 2
C	22	C00561	INTERPHONE POWER F/O BAT
C	23	C00239	INTERPHONE POWER CAPT DC 2
C	24	C00240	INTERPHONE POWER CAPT BAT
D	22	C00086	AUDIO F/O
D	23	C00083	AUDIO CAPT

SUBTASK 23-00-00-930-002

(6) Put an INOP placard on the PTT switch.

END OF TASK

TASK 23-00-00-440-802

15. MMEL 23-16-3 (DDPG) Restoration - Glareshield Panel Push-To-Talk (PTT) Switches Inoperative.

A. General

(1) This task puts the airplane back to its usual condition after operation with the glareshield PTT switches inoperative.

(2) To put the airplane to usual condition, replace the glareshield PTT switch.

ECCN 9E991 BOEING PROPRIETARY - See title page for details

B. References

Reference	Title
23-51-05 P/B 401	GLARESHIELD PTT SWITCH - REMOVAL/INSTALLATION

C. Procedure

SUBTASK 23-00-00-900-002

(1) Do the tasks: GLARESHIELD PTT SWITCH - REMOVAL/INSTALLATION, PAGEBLOCK 23-51-05/401

——— END OF TASK ———

ECCN 9E991 BOEING PROPRIETARY - See title page for details

HIGH FREQUENCY (HF) COMMUNICATION SYSTEM - MAINTENANCE PRACTICES

1. General

A. This procedure has two tasks:

(1) A deactivation of the High Frequency (HF) communication system

(2) An activation of the HF communication system.

TASK 23-11-00-040-801

2. High Frequency Communication System - Deactivation

(Figure 201)

A. General

(1) This procedure removes electrical power to the High Frequency (HF) communications system.

B. Location Zones

Zone	Area
117	Electrical and Electronics Compartment - Left
142	Aft Cargo Compartment - Right
211	Flight Compartment - Left
212	Flight Compartment - Right

C. Access Panels

Number	Name/Location
117A	Electronic Equipment Access Door
822	Aft Cargo Door

D. High Frequency Communication System Deactivation

NOTE: The airplane will have single or dual HF transceivers installed depending on customer requirements. Reference the airplane wire diagram manual.

SUBTASK 23-11-00-860-036

(1) Open these circuit breakers and install safety tags:

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
LOM 402, 404, 406, 407, 411, 412, 415, 416, 420, 422-431, 433, 434, 437-447, 450-999			
E	11	C00839	COMMUNICATIONS HF 1

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
LOM 404, 412, 415, 416, 422-426, 433, 434, 439-445, 451-454, 457, 464-999			
D	2	C00857	COMMUNICATIONS HF 2

LOM ALL

These circuit breakers are inoperative and should remain open:

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
LOM 432			
E	11	C00839	COMMUNICATIONS HF 1 (INOP)

ECCN 9E991 BOEING PROPRIETARY - See title page for details

LOM 432 (Continued)

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
LOM 402, 406, 407, 411, 420, 427-432, 437, 438, 446, 447, 450, 455, 456, 458-463			
D	2	C00857	COMMUNICATIONS HF 2 (INOP)

LOM ALL

E. High Frequency Communication - Tryout

NOTE: This tryout is to make sure that the HF communications system is in a zero energy state.

SUBTASK 23-11-00-860-037

(1) Make sure that these circuit breakers are open and have safety tags:

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
LOM 402, 404, 406, 407, 411, 412, 415, 416, 420, 422-431, 433, 434, 437-447, 450-999			
E	11	C00839	COMMUNICATIONS HF 1

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
LOM 404, 412, 415, 416, 422-426, 433, 434, 439-445, 451-454, 457, 464-999			
D	2	C00857	COMMUNICATIONS HF 2

LOM ALL

These circuit breakers are inoperative and should remain open:

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
LOM 432			
E	11	C00839	COMMUNICATIONS HF 1 (INOP)

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
LOM 402, 406, 407, 411, 420, 427-432, 437, 438, 446, 447, 450, 455, 456, 458-463			
D	2	C00857	COMMUNICATIONS HF 2 (INOP)

LOM 402, 404, 406, 407, 411, 412, 415, 416, 420, 422-434, 437-447, 450-464

SUBTASK 23-11-00-860-039

(2) Do the following steps at the HF-1 or HF-2 (if applicable) control panel on the aft electronic panel, P8:

(a) If installed, set the mode selector switch to the USB position.

(b) Push the applicable HF switch light (HF 1 or HF 2), on the No. 1 radio tuning panel (RTP-1).

LOM 422, 425, 426, 433, 434, 440, 442, 446, 447, 453-456

1) Make sure that the Radio Tuning Panel (RTP) frequency displays show INOP.

ECCN 9E991 BOEING PROPRIETARY - See title page for details

LOM 461-463

SUBTASK 23-11-00-010-007

(3) To gain access to the HF transceivers, do this step:

Open this access panel:

Number	Name/Location
117A	Electronic Equipment Access Door

LOM 402, 404, 406, 407, 411, 412, 415, 416, 420, 422-434, 437-447, 450-460, 464-999

SUBTASK 23-11-00-010-008

(4) To gain access to the HF transceivers, do this step:

Open this access panel:

Number	Name/Location
822	Aft Cargo Door

LOM ALL

SUBTASK 23-11-00-710-004

(5) Do the following steps at the HF-1 and HF-2 (if applicable) transceiver:

(a) Push and hold the TEST switch on the transceiver front panel.

1) Make sure none of the lights on the front panel come on.

END OF TASK

ECCN 9E991 BOEING PROPRIETARY - See title page for details

H16512 S0006564220_V2

HF Transceiver
Figure 201/23-11-00-990-801 (Sheet 1 of 3)

ECCN 9E991 BOEING PROPRIETARY - See title page for details

ELECTRONIC EQUIPMENT RACK, E6

A

H34631 S0006564222_V2

HF Transceiver
Figure 201/23-11-00-990-801 (Sheet 2 of 3)

ECCN 9E991 BOEING PROPRIETARY - See title page for details

ELECTRONIC EQUIPMENT RACK, E6

A

H34634 S0006564223_V2

HF Transceiver
Figure 201/23-11-00-990-801 (Sheet 3 of 3)

ECCN 9E991 BOEING PROPRIETARY - See title page for details

TASK 23-11-00-440-801

3. High Frequency Communication System - Activation

(Figure 201)

A. General

(1) This procedure adds electrical power to the High Frequency (HF) communication system.

B. Location Zones

Zone	Area
117	Electrical and Electronics Compartment - Left
142	Aft Cargo Compartment - Right
211	Flight Compartment - Left
212	Flight Compartment - Right

C. Access Panels

Number	Name/Location
117A	Electronic Equipment Access Door
822	Aft Cargo Door

D. High Frequency Communication System Activation

WARNING DO NOT OPERATE THE HF SYSTEM WHILE THE AIRPLANE IS REFUELED OR DEFUELED. AN EXPLOSION CAN CAUSE INJURIES TO PERSONNEL AND DAMAGE TO THE AIRPLANE.

WARNING MAKE SURE THAT PERSONNEL STAY A MINIMUM OF 10 FT (3 M) AWAY FROM THE VERTICAL STABILIZER WHEN THE HF SYSTEM TRANSMITS. RF ENERGY FROM THE HF ANTENNA CAN CAUSE INJURIES TO PERSONNEL.

NOTE: The airplane will have single or dual HF transceivers installed depending on customer requirements. Reference the airplane wire diagram manual.

SUBTASK 23-11-00-860-038

(1) Remove the safety tags and close these circuit breakers:

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
LOM 402, 404, 406, 407, 411, 412, 415, 416, 420, 422-431, 433, 434, 437-447, 450-999			
E	11	C00839	COMMUNICATIONS HF 1

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
LOM 404, 412, 415, 416, 422-426, 433, 434, 439-445, 451-454, 457, 464-999			
D	2	C00857	COMMUNICATIONS HF 2

LOM ALL

These circuit breakers are inoperative and should remain open:

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name

LOM 432

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LOM 432 (Continued)

(Continued)

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
E	11	C00839	COMMUNICATIONS HF 1 (INOP)

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
LOM 402, 406, 407, 411, 420, 427-432, 437, 438, 446, 447, 450, 455, 456, 458-463			
D	2	C00857	COMMUNICATIONS HF 2 (INOP)

LOM 402, 404, 406, 407, 411, 412, 415, 416, 420, 422-434, 437-447, 450-460, 464-999

SUBTASK 23-11-00-410-003

(2) Close this access panel:

Number	Name/Location
822	Aft Cargo Door

LOM 461-463

SUBTASK 23-11-00-410-004

(3) Close this access panel:

Number	Name/Location
117A	Electronic Equipment Access Door

END OF TASK

ECCN 9E991 BOEING PROPRIETARY - See title page for details

HIGH FREQUENCY (HF) COMMUNICATION SYSTEM - ADJUSTMENT/TEST

1. General

A. This procedure has these tasks:

(1) An Operational Test of the HF transceiver.

(2) A System Test of the HF communication system.

LOM 402, 406, 407, 411, 420, 427-431, 437, 438, 446, 447, 450, 455, 456, 458-464

B. There is one HF communication system installed on the airplane.

LOM 404, 412, 415, 416, 422-426, 432-434, 439-445, 451-454, 457, 465-999

C. There are two HF communication systems installed on the airplane. These are: HF-1 and HF-2.

LOM 402, 406, 407, 411, 420, 427-431, 437, 438, 446, 447, 450, 455, 456, 458-460, 464

D. The HF transceiver is located in the aft cargo compartment on the electronic equipment rack E6.

LOM 461-463

E. The HF transceiver is located in the main equipment center on the electronic equipment rack E8.

LOM 404, 412, 415, 416, 422-426, 432-434, 439-445, 451-454, 457, 465-999

F. The No. 1 and No. 2 HF transceivers are located in the aft cargo compartment on the electronic equipment rack E6.

LOM ALL

G. The No. 1, No. 2, and No. 3 radio tuning panels (RTPs) are located on the aft electronic panel, P8, in the flight compartment.

TASK 23-11-00-710-801

2. HF Communication System - Operational Test

A. General

LOM 402, 404, 406, 412, 415

(1) The operational test is a lamp test of the BITE fault lights on the HF transceiver.

LOM 407, 411, 416, 420, 422-434, 437-447, 450-999

(2) The operational test is a BITE test of the HF transceiver.

(a) The BITE test does a check of the internal functions of the HF transceiver. The BITE test also does a check of the ARINC 429/719 frequency tuning input data to the HF transceiver.

LOM 402, 404, 406, 412, 415

(3) The operational test for Collins HFS-700 and HFS-900 transceivers is a lamp check of the fault lights on the front panel of the HF transceiver. The operational test for all other types transceivers is a BITE test which does a check of the internal functions of the HF transceiver. The BITE test also does a check of the ARINC 429/719 frequency tuning input data to the HF transceiver. The BITE test does not include a check of the HF antenna couplers, coaxial cables, or the HF antenna. The HF communication system does not transmit during the BITE test.

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LOM 407, 411, 416, 420, 422-434, 437-447, 450-999

(4) The operational test for the HFS-900D transceivers is a BITE test which does a check of the internal functions of the HF transceiver. The BITE test also does a check of the ARINC 429/719 frequency tuning input data to the HF transceiver. The BITE test does not include a check of the HF antenna couplers, coaxial cables, or the HF antenna. The HF communication system does not transmit during the BITE test.

LOM 404, 412, 415, 416, 422-426, 432-434, 439-445, 451-454, 457, 465-999

(5) The same sequence of steps is used for the No. 1 or No. 2 HF communication system.

LOM ALL

(6) HF Antenna Coupler Tuning

(a) A tune tone is generated while the HF antenna coupler tunes to a new frequency. The tune tone can be continuous or pulsed (determined by the coupler/transceiver configuration). Some couplers save previously tuned frequencies in memory. If a coupler is set to a frequency in memory, then the tune time can be very short and the tune tone can not be heard. If the tune tone is heard for more than 7 seconds (15 seconds maximum), then it is an indication of a tuning failure.

(b) Rockwell Collins Analog HF Antenna Coupler (Model 490S-1, Part Number 792-6140-001):

1) The tune time is 2-4 seconds typical, 7 seconds maximum.

2) The tune tone is continuous.

(c) Rockwell Collins Digital HF Antenna Coupler (Model CPL-920D, Part Number 822-0987-XXX):

1) The tune time for a frequency not in memory is 2 to 4 seconds typical, 7 seconds maximum.

2) If HFS-700 or HFS-900 transceiver is installed:

a) The tune time for a frequency saved in memory is 1 second typical.

b) Up to 100 frequencies can be saved in memory.

c) The tune tone is pulsed. Basically, the tuning tone is audible, but if using a previously tuned channel, the tune tone may not be audible.

3) If HFS-900D transceiver is installed:

a) The tune time for a frequency saved in memory is 200 milliseconds typical.

b) The tune tone is continuous.

4) At the first tuning after a cold start, the tune tone is always audible regardless of whether this frequency is stored (average 2 to 4 seconds, 7 seconds maximum).

5) When either HF antenna or HF transceiver is replaced, the frequency memory is reset.

B. Location Zones

Zone	Area
LOM 461-463	
117	Electrical and Electronics Compartment - Left
118	Electrical and Electronics Compartment - Right
LOM 402, 404, 406, 407, 411, 412, 415, 416, 420, 422-434, 437-447, 450-460, 464-999	
142	Aft Cargo Compartment - Right

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(Continued)

Zone	Area
LOM ALL	
211	Flight Compartment - Left
212	Flight Compartment - Right

C. Access Panels

Number	Name/Location
117A	Electronic Equipment Access Door
822	Aft Cargo Door

D. HF Communication System Operational Test

SUBTASK 23-11-00-800-001

> **WARNING** DO NOT OPERATE THE HF SYSTEM WHILE THE AIRPLANE IS REFUELED OR DEFUELED. THIS CAN CAUSE INJURY TO PERSONNEL AND DAMAGE TO EQUIPMENT.

> **WARNING** MAKE SURE THAT PERSONNEL STAY A MINIMUM OF 10 FT (3 M) AWAY FROM THE VERTICAL STABILIZER WHEN THE HF SYSTEM TRANSMITS. RF ENERGY FROM THE HF ANTENNA CAN CAUSE INJURIES TO PERSONNEL.

(1) Do not operate the HF system while a fuel operation is done on the airplane.

SUBTASK 23-11-00-860-003

(2) Make sure that these circuit breakers are closed:

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
D	11	C00165	COMMUNICATIONS VHF 1
LOM 402, 404, 406, 407, 411, 412, 415, 420, 422-434, 437-447, 450-999			
D	12	C00471	COMMUNICATIONS VHF 3
LOM 402, 404, 406, 407, 411, 412, 415, 416, 420, 422-431, 433, 434, 437-447, 450-999			
E	11	C00839	COMMUNICATIONS HF 1

CAPT Electrical System Panel, P18-3

Row	Col	Number	Name
LOM 416			
B	18	C01513	COMMUNICATIONS RTP 3

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
LOM ALL			
C	3	C00166	COMMUNICATIONS VHF 2
LOM 404, 412, 415, 416, 422-426, 433, 434, 439-445, 451-454, 457, 464-999			
D	2	C00857	COMMUNICATIONS HF 2

ECCN 9E991 BOEING PROPRIETARY - See title page for details

LOM 404, 412, 415, 416, 422-426, 433, 434, 439-445, 451-454, 457, 464-999 (Continued)

(Continued)

F/O Electrical System Panel, P6-1

Row	Col	Number	Name

LOM ALL

These circuit breakers are inoperative and should remain open:

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
LOM 432			
E	11	C00839	COMMUNICATIONS HF 1 (INOP)

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
LOM 402, 406, 407, 411, 420, 427-432, 437, 438, 446, 447, 450, 455, 456, 458-463			
D	2	C00857	COMMUNICATIONS HF 2 (INOP)

LOM 402, 406, 407, 411, 420, 427-431, 437, 438, 446, 447, 450, 455, 456, 458-464

SUBTASK 23-11-00-860-029

(3) Push the HF 1 switch light, on the No. 1 radio tuning panel (RTP-1), on the P8 aft electronic panel.

(a) Make sure that the switch light comes on.

(b) If the AM lamp is on, push the AM switch once to select the USB mode.

LOM 404, 412, 415, 416, 422-426, 432-434, 439-445, 451-454, 457, 465-999

SUBTASK 23-11-00-860-030

(4) Push the applicable HF switch light (HF 1 or HF 2), on the No. 1 radio tuning panel (RTP-1), on the P8 aft electronic panel.

(a) Make sure that the switch light comes on.

(b) If the AM lamp is on, push the AM switch once to select the USB mode.

LOM 461-463

SUBTASK 23-11-00-010-003

(5) To gain access to the HF transceivers, do this step:

(a) Open this access panel:

Number	Name/Location
117A	Electronic Equipment Access Door

LOM 402, 404, 406, 407, 411, 412, 415, 416, 420, 422-434, 437-447, 450-460, 464-999

SUBTASK 23-11-00-010-006

(6) To gain access to the HF transceivers, do this step:

(a) Open this access panel:

Number	Name/Location
822	Aft Cargo Door

ECCN 9E991 BOEING PROPRIETARY - See title page for details

LOM ALL

SUBTASK 23-11-00-860-042

(7) Make sure that the internal blower fan on the HF transceiver operates.

LOM 402, 404, 406, 412, 415; AIRPLANES EQUIPPED WITH TRANSCEIVER P/N 622-5272-001, 822-0330-001 OR 622-5272-120

E. Lamp Test of the No. 1 HF or No. 2 (if Installed) HF Transceiver

SUBTASK 23-11-00-710-001

(1) To do a lamp test of the No. 1 HF or No. 2 (if it is installed) transceiver, do these steps:

LOM 404, 412, 415

(a) Push and hold the SQL/LAMP TEST switch on the applicable HF transceiver front panel (HF-1 or HF-2) to do the lamp test of the transceiver.

1) Make sure that the LRU FAIL, KEY INTERLOCK, and CONTROL INPUT FAIL lights come on and stay on.

LOM 402, 406

(b) Push and hold the SQL/LAMP TEST switch on the HF transceiver front panel to do the lamp test of the transceiver.

1) Make sure that the LRU FAIL, KEY INTERLOCK, and CONTROL INPUT FAIL lights come on and stay on.

LOM 402, 404, 406, 412, 415; AIRPLANES EQUIPPED WITH TRANSCEIVER P/N 622-5272-001, 822-0330-001 OR 622-5272-120

SUBTASK 23-11-00-710-002

(2) Release the SQL/LAMP TEST switch.

(a) Make sure that the LRU FAIL, KEY INTERLOCK, and CONTROL INPUT FAIL lights go off.

LOM 407, 411, 416, 420, 422-434, 437-447, 450-999; AIRPLANES WITH P/N 822-0990-001, -002, -003 OR -004

F. BITE Test of the No. 1 or No. 2 (if Installed) HF Transceiver

LOM 407, 411, 416, 420, 422-434, 437-447, 450-999; AIRPLANES WITH TRANSCEIVERS WITH ARINC 753 ANTENNA COUPLER INTERFACE

SUBTASK 23-11-00-740-003

(1) At the front panel of the transceiver for the applicable HF communication system (HF-1 or HF-2), push and release the TEST switch to do the BITE test of that system.

(a) Make sure that these conditions occur:

LOM 407, 411, 416, 420, 422-434, 437-447, 450-999; AIRPLANES WITH TRANSCEIVERS WITH ARINC 753 ANTENNA COUPLER INTERFACE

1) The LRU STATUS and CONTROL FAIL LEDs turn red for 1 to 3 seconds.

2) The KEY INTERLOCK LED flashes red for 45 milliseconds and then turns off for 2 seconds.

LOM 407, 411, 416, 420, 422-434, 437-447, 450-999; AIRPLANES WITH TRANSCEIVERS WITH ARINC 753 ANTENNA COUPLER INTERFACE

3) The LRU STATUS LED turns green and other LEDs turn red for 1 to 3 seconds.

4) All LEDs go off for 1 to 7 seconds.

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5) The LRU STATUS LED turns green and other LEDs stay off.

NOTE: Any of the three LEDs that come on red after the self-test is completed indicates a defective condition.

6) After 30 seconds, all LEDs are off.

LOM 407, 411, 416, 420, 422-434, 437-447, 450-999; AIRPLANES WITH TRANSCEIVERS WITH ARINC 719 ANTENNA COUPLER INTERFACE OR HF STAND-ALONE OPERATION

SUBTASK 23-11-00-740-005

(2) At the front panel of the transceiver for the applicable HF communication system (HF-1 or HF-2), push and release the TEST switch to do the BITE test of that system.

(a) Make sure that these conditions occur:

1) All three LEDs on the HF transceiver front panel come on red for one to three seconds.

2) The LRU STATUS LED changes to green and KEY INTERLOCK and CONTROL FAIL LEDs stay red for one to three seconds.

3) All three LEDs go off for one to seven seconds.

4) The LRU STATUS LED comes on green for about 30 seconds and KEY INTERLOCK and CONTROL FAIL LEDs stay off.

NOTE: Any of the three LEDs that come on red after the self-test is completed indicates a defective condition.

LOM ALL

G. Put the Airplane Back to Its Usual Condition

LOM 461-463

SUBTASK 23-11-00-010-004

(1) Close this access panel:

Number	Name/Location
117A	Electronic Equipment Access Door

LOM 402, 404, 406, 407, 411, 412, 415, 416, 420, 422-434, 437-447, 450-460, 464-999

SUBTASK 23-11-00-010-005

(2) Close this access panel:

Number	Name/Location
822	Aft Cargo Door

LOM ALL

——— END OF TASK ———

TASK 23-11-00-730-801

3. HF Communication System - System Test

A. General

(1) This task includes these tests:

(a) An Operational Test

ECCN 9E991 BOEING PROPRIETARY - See title page for details

(b) A High Frequency (HF) Communication Test.

(2) Make sure that the flight interphone system operates. The communication test uses these flight interphone system components: Audio Control Panel (ACP)s, headsets, microphones, and Push-To-Talk (PTT) switches.

(3) Make sure that the airplane is not in or near any large metal structures. While the airplane is on the ground, HF can decrease because of the airplane position. Ground equipment and structures can also cause a blockage because of Radio Frequency (RF) signal attenuation. If the quality of the voice signals are not satisfactory, move the airplane to a better position.

(4) Make sure that you use approved test frequencies when you speak with the radio tower operator.

B. References

Reference	Title
23-27-00-700-812-009	ACARS - System Test (P/B 501)
23-27-00-730-806-010	ACARS - System Test (P/B 501)

C. Location Zones

Zone	Area
LOM 461-463	
117	Electrical and Electronics Compartment - Left
118	Electrical and Electronics Compartment - Right
LOM 402, 404, 406, 407, 411, 412, 415, 416, 420, 422-434, 437-447, 450-460, 464-999	
142	Aft Cargo Compartment - Right
LOM ALL	
211	Flight Compartment - Left
212	Flight Compartment - Right

D. Prepare for the Test

SUBTASK 23-11-00-800-002

WARNING DO NOT OPERATE THE HF SYSTEM WHILE THE AIRPLANE IS REFUELED OR DEFUELED. AN EXPLOSION CAN CAUSE INJURIES TO PERSONNEL AND DAMAGE TO THE AIRPLANE.

WARNING MAKE SURE THAT PERSONNEL STAY A MINIMUM OF 10 FT (3 M) AWAY FROM THE VERTICAL STABILIZER WHEN THE HF SYSTEM TRANSMITS. RF ENERGY FROM THE HF ANTENNA CAN CAUSE INJURIES TO PERSONNEL.

(1) Do not operate the HF system while a fuel operation is done on the airplane.

LOM 402, 406, 407, 411, 420, 427-431, 437, 438, 446, 447, 450, 455, 456, 458-464

SUBTASK 23-11-00-860-019

(2) Make sure that these circuit breakers are closed:

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
D	11	C00165	COMMUNICATIONS VHF 1
D	12	C00471	COMMUNICATIONS VHF 3
E	11	C00839	COMMUNICATIONS HF 1

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F/O Electrical System Panel, P6-1

Row	Col	Number	Name
C	3	C00166	COMMUNICATIONS VHF 2

LOM 404, 412, 415, 416, 422-426, 432-434, 439-445, 451-454, 457, 465-999

SUBTASK 23-11-00-860-020

(3) Make sure that these circuit breakers are closed:

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
D	11	C00165	COMMUNICATIONS VHF 1
LOM 404, 412, 415, 422-426, 432-434, 439-445, 451-454, 457, 465-999			
D	12	C00471	COMMUNICATIONS VHF 3
LOM 404, 412, 415, 416, 422-426, 433, 434, 439-445, 451-454, 457, 465-999			
E	11	C00839	COMMUNICATIONS HF 1

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
LOM 404, 412, 415, 416, 422-426, 432-434, 439-445, 451-454, 457, 465-999			
C	3	C00166	COMMUNICATIONS VHF 2
LOM 404, 412, 415, 416, 422-426, 433, 434, 439-445, 451-454, 457, 465-999			
D	2	C00857	COMMUNICATIONS HF 2
LOM 404, 412, 415, 416, 422-426, 432-434, 439-445, 451-454, 457, 465-999			

These circuit breakers are inoperative and should remain open:

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
LOM 432			
E	11	C00839	COMMUNICATIONS HF 1 (INOP)

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
D	2	C00857	COMMUNICATIONS HF 2 (INOP)

LOM ALL

SUBTASK 23-11-00-860-032

(4) If it is necessary, do these steps to change from Data to Voice:

(a) Push the applicable HF key, on Radio Tuning Panel (RTP)-1 (or, on RTP-2).

(b) Tune the RTP to display “DATA” in the active window.

(c) Push the display transfer button, on the RTP.

(d) Make sure that “DATA” is in the standby window of the RTP.

SUBTASK 23-11-00-860-033

(5) If it is necessary, do these steps to change from Voice to Data:

(a) Push the display transfer button, on the RTP.

(b) Make sure that “DATA” toggles from the standby display to the active display, on the RTP.

ECCN 9E991 BOEING PROPRIETARY - See title page for details

SUBTASK 23-11-00-860-034

(6) If it is necessary, do these steps to change back from Data to Voice:

(a) Push the display transfer button, on the RTP.

(b) Make sure that “DATA” toggles from the active display to the standby display, on the RTP.

E. Operational Test

SUBTASK 23-11-00-710-003

(1) Do this task: HF Communication System - Operational Test, TASK 23-11-00-710-801.

F. HF Communication Test

SUBTASK 23-11-00-730-001

(1) Do a test of the HF-1 communication system:

(a) Connect a headset/boom microphone to the captain's jack panel.

(b) Do these steps to prepare the captain's ACP for HF-1 system operation:

1) Push and release the HF1 switch.

a) Make sure that the switch light comes on.

2) Push and release the HF1 volume control.

a) Make sure that the volume control indicator light comes on.

3) Set the volume control to the middle position.

4) If it is installed, set the MASK/BOOM switch to the BOOM position.

(c) Do these steps at the RTP-1:

1) Push the HF1 switch light.

a) Make sure that the switch light comes on.

2) Push the Amplitude Modulation (AM) switch light for AM or Upper Side Band (USB) mode of operation.

a) Make sure that the switch light is on for AM, or off for USB.

3) Turn the SENS control clockwise for maximum gain.

4) Set the STANDBY frequency window to an approved test frequency.

5) Push the display transfer switch.

a) Make sure that the STANDBY frequency moves to the ACTIVE frequency window.

(d) Push and release the captain's PTT switch.

1) Make sure that you hear a 1 kHz tune-in-progress tone in the headset.

NOTE: A continuous or pulsed tone indicates that the coupler is tuning to a new frequency. The coupler tune tone will sound no longer than 15 seconds. The average coupler tune time is approximately 1 to 7 seconds.

NOTE: Some coupler types are able to tune quickly when previously used frequencies are selected, in which case the tune tone may be only a momentary beep.

(e) Do these steps to do a voice communication test with a radio tower operator, or with another aircraft utilizing HF channel:

1) Push and hold the PTT switch while you speak.

a) Make sure that you hear the sidetone in the headset while you speak.

ECCN 9E991 BOEING PROPRIETARY - See title page for details

LOM 402, 404, 406, 412, 415

b) Make sure that the LRU FAIL, KEY INTERLOCK, and CONTROL INPUT FAIL lights on the front panel of the HF transceiver are not on.

LOM 407, 411, 416, 420, 422-434, 437-447, 450-999

c) Make sure that the LRU STATUS, KEY INTERLOCK, and CONTROL FAIL lights on the front panel of the HF transceiver are not on.

LOM ALL

2) Release the PTT switch while you listen.

a) Make sure that the quality of the transmitted and received voice is satisfactory.

b) Do a check of the received voice when you turn the RF SENS control, on the RTP:

<1> Make sure that the volume changes when you turn the RF SENS control counterclockwise and clockwise.

c) Do a check of the received voice when you turn the HF1 volume control on the captain's ACP:

<1> Turn the HF1 volume control and make sure that the volume changes and there is no change in voice quality.

(f) If more than one mode of operation (AM and USB) is available at your location, do this step:

1) Push the AM switch light to the other mode of operation and make a voice transmission.

LOM 404, 412, 415, 416, 422-426, 432-434, 439-445, 451-454, 457, 465-999

SUBTASK 23-11-00-730-002

(2) Do a test of the HF-2 communication system:

(a) Connect a headset/boom microphone to the first officer's jack panel.

(b) Do these steps to prepare the first officer's ACP for HF-2 system operation:

1) Push and release the HF2 switch.

a) Make sure that the switch light comes on.

2) Push and release the HF2 volume control.

a) Make sure that the volume control indicator light comes on.

3) Set the volume control to the middle position.

4) Set the MASK/BOOM switch (if installed) to the BOOM position.

(c) Do these steps at the RTP-2:

1) Push the HF2 switch light.

a) Make sure that the switch light comes on.

2) Push the AM switch light for AM or USB mode of operation.

a) Make sure that the switch light is on for AM, or off for USB.

3) Turn the SENS control clockwise for maximum gain.

4) Set the STANDBY frequency window to an approved test frequency.

5) Push the display transfer switch.

ECCN 9E991 BOEING PROPRIETARY - See title page for details

a) Make sure that the STANDBY frequency moves to the ACTIVE frequency window.

(d) Push and release the first officer's PTT switch.

1) Make sure that you hear a 1 kHz tune-in-progress tone in the headset.

NOTE: A continuous or pulsed tone indicates that the coupler is tuning to a new frequency. The coupler tune tone will sound no longer than 15 seconds. The average coupler tune time is approximately 1 to 7 seconds.

NOTE: Some coupler types are able to tune quickly when previously used frequencies are selected, in which case the tune tone may be only a momentary beep.

(e) Do these steps to do a voice communication test with a radio tower operator, or with another aircraft utilizing HF channel:

1) Push and hold the PTT switch while you speak.

a) Make sure that you hear the sidetone in the headset while you speak.

LOM 404, 412, 415

b) Make sure that the LRU FAIL, KEY INTERLOCK, and CONTROL INPUT FAIL lights on the front panel of the HF transceiver are not on.

LOM 416, 422-426, 432-434, 439-445, 451-454, 457, 465-999

c) Make sure that the LRU STATUS, KEY INTERLOCK, and CONTROL FAIL lights on the front panel of the HF transceiver are not on.

LOM 404, 412, 415, 416, 422-426, 432-434, 439-445, 451-454, 457, 465-999

2) Release the PTT switch while you listen.

a) Make sure that the quality of the transmitted and received voice is satisfactory.

b) Make sure that the sound of the received voice decreases and increases when you turn the SENS control counterclockwise and clockwise, on the RTP.

c) Make sure that the sound of the received voice changes when you turn the HF2 volume control, on the first officer's ACP, with no change in voice quality.

(f) If more than one mode of operation (AM and USB) is available at your location, do this step:

1) Push the AM switch light to the other mode of operation and make a voice transmission.

LOM ALL

G. Put the Airplane Back to Its Usual Condition

SUBTASK 23-11-00-860-015

(1) Do these steps at the P8 panel:

(a) Push and release a different transmitter selector switch that is not the HF1 switch, on the captain's ACP.

1) Make sure that the HF1 switch light goes off.

NOTE: When you push a different transmitter selector switch, on an ACP, the first transmitter mode is cancelled.

ECCN 9E991 BOEING PROPRIETARY - See title page for details

LOM 404, 412, 415, 416, 422-426, 432-434, 439-445, 451-454, 457, 465-999

(b) Push and release a different transmitter selector switch that is not the HF2 switch, on the first officer's ACP.

1) Make sure that the HF2 switch light goes off.

NOTE: When you push a different transmitter selector switch, on an ACP, the first transmitter mode is cancelled.

LOM ALL

(c) Push and release the HF1 volume control, on the captain's ACP.

1) Make sure that the HF1 volume control indicator light goes off.

LOM 404, 412, 415, 416, 422-426, 432-434, 439-445, 451-454, 457, 465-999

(d) Push and release the HF2 volume control, on the first officer's ACP.

1) Make sure that the HF2 volume control indicator light goes off.

LOM 422, 425, 433, 434, 437, 438, 440, 442-445, 450, 453, 454, 461-463

SUBTASK 23-11-00-730-003

(2) Do a test of HF Datalink, do this task: ACARS - System Test, TASK 23-27-00-730-806-010 or ACARS - System Test, TASK 23-27-00-700-812-009.

END OF TASK

ECCN 9E991 BOEING PROPRIETARY - See title page for details

HF TRANSCEIVER - REMOVAL/INSTALLATION

1. General

A. This procedure has these tasks:

(1) A removal of the HF transceiver.

(2) An installation of the HF transceiver.

LOM 402, 406, 407, 411, 420, 427-431, 437, 438, 446, 447, 450, 455, 456, 458-460, 464

B. The HF transceiver is located in the aft cargo compartment on the electronic equipment rack E6.

LOM 404, 412, 415, 416, 422-426, 432-434, 439-445, 451-454, 457, 465-999

C. The No. 1 and No. 2 HF transceivers are located in the aft cargo compartment on the electronic equipment rack E6.

LOM 461-463

D. The HF transceiver is located in the main equipment center on the electronic equipment rack E8.

LOM ALL

TASK 23-11-21-000-801

2. HF Transceiver - Removal

(Figure 401)

A. References

Reference	Title
20-10-07-000-801	E/E Box Removal (P/B 201)
20-40-12-000-802	ESDS Handling for Metal Encased Unit Removal (P/B 201)

B. Location Zones

Zone	Area
LOM 461-463	
117	Electrical and Electronics Compartment - Left
LOM 402, 404, 406, 407, 411, 412, 415, 416, 420, 422-434, 437-447, 450-460, 464-999	
142	Aft Cargo Compartment - Right
LOM ALL	
211	Flight Compartment - Left
212	Flight Compartment - Right

C. Access Panels

Number	Name/Location
117A	Electronic Equipment Access Door
822	Aft Cargo Door

D. Removal Procedure

SUBTASK 23-11-21-860-002

(1) Open these circuit breakers and install safety tags:

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
LOM 402, 404, 406, 407, 411, 412, 415, 416, 420, 422-431, 433, 434, 437-447, 450-999			
E	11	C00839	COMMUNICATIONS HF 1

ECCN 9E991 BOEING PROPRIETARY - See title page for details

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
LOM 404, 412, 415, 416, 422-426, 433, 434, 439-445, 451-454, 457, 464-999			
D	2	C00857	COMMUNICATIONS HF 2

LOM ALL

These circuit breakers are inoperative and should remain open:

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
LOM 432			
E	11	C00839	COMMUNICATIONS HF 1 (INOP)

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
LOM 402, 406, 407, 411, 420, 427-432, 437, 438, 446, 447, 450, 455, 456, 458-463			
D	2	C00857	COMMUNICATIONS HF 2 (INOP)

LOM 461-463

SUBTASK 23-11-21-010-001

(2) Open this access panel:

Number	Name/Location
117A	Electronic Equipment Access Door

LOM 402, 404, 406, 407, 411, 412, 415, 416, 420, 422-434, 437-447, 450-460, 464-999

SUBTASK 23-11-21-010-002

(3) Open this access panel:

Number	Name/Location
822	Aft Cargo Door

SUBTASK 23-11-21-010-004

(4) Remove the access panel for the electronic equipment rack (E6).

LOM ALL

SUBTASK 23-11-21-020-001

CAUTION

DO NOT TOUCH THE CONNECTOR PINS OR OTHER CONDUCTORS ON THE HF TRANSCEIVER. IF YOU TOUCH THESE CONDUCTORS, ELECTROSTATIC DISCHARGE CAN CAUSE DAMAGE TO THE HF TRANSCEIVER.

(5) Before you touch the HF TRANSCEIVER [1], do this task: ESDS Handling for Metal Encased Unit Removal, TASK 20-40-12-000-802.

SUBTASK 23-11-21-020-002

(6) To remove the HF TRANSCEIVER [1], do this task: E/E Box Removal, TASK 20-10-07-000-801.

END OF TASK

ECCN 9E991 BOEING PROPRIETARY - See title page for details

H16512 S0006564220_V2

HF Transceiver Installation
Figure 401/23-11-21-990-801 (Sheet 1 of 3)

ECCN 9E991 BOEING PROPRIETARY - See title page for details

ELECTRONIC EQUIPMENT RACK, E6

A

H34631 S0006564222_V2

HF Transceiver Installation
Figure 401/23-11-21-990-801 (Sheet 2 of 3)

ECCN 9E991 BOEING PROPRIETARY - See title page for details

ELECTRONIC EQUIPMENT RACK, E6

A

H34634 S0006564223_V2

HF Transceiver Installation
Figure 401/23-11-21-990-801 (Sheet 3 of 3)

ECCN 9E991 BOEING PROPRIETARY - See title page for details

TASK 23-11-21-400-801

3. HF Transceiver - Installation

(Figure 401)

A. References

Reference	Title
20-10-07-400-801	E/E Box Installation (P/B 201)
20-40-12-400-802	ESDS Handling for Metal Encased Unit Installation (P/B 201)

B. Expendables/Parts

AMM Item	Description	AIPC Reference	AIPC Effectivity
1	HF TRANSCEIVER	23-11-21-03-005	LOM 402, 406
		23-11-21-10-005	LOM 404, 412, 415
		23-11-21-10-010	LOM 407, 411, 420, 427-431, 437, 438, 446, 447, 450, 455, 456, 458-460, 464
		23-11-21-10-012	LOM 416, 422-426, 432-434, 438-445, 451-454, 457, 465-999
		23-11-21-12-005	LOM 461-463

C. Location Zones

Zone	Area
LOM 461-463	
117	Electrical and Electronics Compartment - Left
LOM 402, 404, 406, 407, 411, 412, 415, 416, 420, 422-434, 437-447, 450-460, 464-999	
142	Aft Cargo Compartment - Right
LOM ALL	
211	Flight Compartment - Left
212	Flight Compartment - Right

D. Access Panels

Number	Name/Location
117A	Electronic Equipment Access Door
822	Aft Cargo Door

E. HF Transceiver Installation

SUBTASK 23-11-21-860-006

(1) Make sure that these circuit breakers are open:

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
LOM 402, 404, 406, 407, 411, 412, 415, 416, 420, 422-431, 433, 434, 437-447, 450-999			
E	11	C00839	COMMUNICATIONS HF 1

ECCN 9E991 BOEING PROPRIETARY - See title page for details

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
LOM 404, 412, 415, 416, 422-426, 433, 434, 439-445, 451-454, 457, 464-999			
D	2	C00857	COMMUNICATIONS HF 2

LOM ALL

These circuit breakers are inoperative and should remain open:

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
LOM 432			
E	11	C00839	COMMUNICATIONS HF 1 (INOP)

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
LOM 402, 406, 407, 411, 420, 427-432, 437, 438, 446, 447, 450, 455, 456, 458-463			
D	2	C00857	COMMUNICATIONS HF 2 (INOP)

LOM ALL

SUBTASK 23-11-21-420-001

CAUTION DO NOT TOUCH THE CONNECTOR PINS OR OTHER CONDUCTORS ON THE HF TRANSCEIVER. IF YOU TOUCH THESE CONDUCTORS, ELECTROSTATIC DISCHARGE CAN CAUSE DAMAGE TO THE HF TRANSCEIVER.

(2) Before the HF TRANSCEIVER [1] is touched, do this task: ESDS Handling for Metal Encased Unit Installation, TASK 20-40-12-400-802.

SUBTASK 23-11-21-420-002

(3) To install the HF TRANSCEIVER [1], do this task: E/E Box Installation, TASK 20-10-07-400-801.

SUBTASK 23-11-21-860-010

(4) Remove the safety tags and close these circuit breakers:

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
LOM 402, 404, 406, 407, 411, 412, 415, 416, 420, 422-431, 433, 434, 437-447, 450-999			
E	11	C00839	COMMUNICATIONS HF 1

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
LOM 404, 412, 415, 416, 422-426, 433, 434, 439-445, 451-454, 457, 464-999			
D	2	C00857	COMMUNICATIONS HF 2

ECCN 9E991 BOEING PROPRIETARY - See title page for details

LOM 404, 412, 415, 416, 422-426, 433, 434, 439-445, 451-454, 457, 464-999 (Continued)

(Continued)

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
LOM ALL			

These circuit breakers are inoperative and should remain open:

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
LOM 432			
E	11	C00839	COMMUNICATIONS HF 1 (INOP)

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
LOM 402, 406, 407, 411, 420, 427-432, 437, 438, 446, 447, 450, 455, 456, 458-463			
D	2	C00857	COMMUNICATIONS HF 2 (INOP)

LOM ALL

F. Installation Test

SUBTASK 23-11-21-800-001

> **WARNING** DO NOT OPERATE THE HF SYSTEM WHILE THE AIRPLANE IS REFUELED OR DEFUELED. THIS CAN CAUSE INJURY TO PERSONNEL AND DAMAGE TO EQUIPMENT.

> **WARNING** MAKE SURE THAT PERSONNEL STAY A MINIMUM OF 6 FEET AWAY FROM THE VERTICAL STABILIZER WHEN THE HF SYSTEM TRANSMITS. RF ENERGY FROM THE HF ANTENNA CAN CAUSE INJURIES TO PERSONNEL.

(1) Do not operate the HF system while a fuel operation is done on the airplane.

SUBTASK 23-11-21-860-018

(2) Make sure that these circuit breakers are closed:

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
D	11	C00165	COMMUNICATIONS VHF 1
LOM 402, 404, 406, 407, 411, 412, 415, 420, 422-434, 437-447, 450-999			
D	12	C00471	COMMUNICATIONS VHF 3

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
LOM ALL			
C	3	C00166	COMMUNICATIONS VHF 2

LOM 402, 406, 407, 411, 420, 427-431, 437, 438, 446, 447, 450, 455, 456, 458-464

SUBTASK 23-11-21-810-002

(3) Push the HF 1 switch light, on the No. 1 radio tuning panel (RTP-1), on the P8 aft electronic panel.

ECCN 9E991 BOEING PROPRIETARY - See title page for details

(a) Make sure that the switch light comes on.

LOM 404, 412, 415, 416, 422-426, 432-434, 439-445, 451-454, 457, 465-999

SUBTASK 23-11-21-810-003

(4) Push the applicable HF switch light (HF 1 or HF 2), on the No. 1 radio tuning panel (RTP-1), on the P8 aft electronic panel.

(a) Make sure that the switch light comes on.

LOM 402, 406; AIRPLANES WITH P/N 622-5272-001 or P/N 822-0330-001

SUBTASK 23-11-21-740-009

(5) At the front panel of the HF transceiver, do a lamp test:

NOTE: This test is for HF transceiver, P/N 622-5272-001 or P/N 822-0330-001.

(a) Push and hold the SQL/LAMP TEST switch.

(b) Make sure that the LRU FAIL, KEY INTERLOCK, and CONTROL INPUT FAIL lights come on and stay on.

(c) Release the SQL/LAMP TEST switch.

(d) Make sure that the LRU FAIL, KEY INTERLOCK, and CONTROL INPUT FAIL lights go off

LOM 404, 412, 415; AIRPLANES WITH P/N 622-5272-001 or P/N 822-0330-001

SUBTASK 23-11-21-740-006

(6) At the front panel of transceiver for the applicable HF communication system (HF-1 or HF-2), do a lamp test:

NOTE: This test is for HF transceiver, P/N 622-5272-001 or P/N 822-0330-001.

(a) Push and hold the SQL/LAMP TEST switch.

(b) Make sure that the LRU FAIL, KEY INTERLOCK, and CONTROL INPUT FAIL lights come on and stay on.

(c) Release the SQL/LAMP TEST switch.

(d) Make sure that the LRU FAIL, KEY INTERLOCK, and CONTROL INPUT FAIL lights go off.

LOM 407, 411, 416, 420, 422-434, 437-447, 450-999; AIRPLANES WITH P/N 822-0990-001, -002, -003 OR -004

SUBTASK 23-11-21-740-012

(7) At the front panel of the transceiver for the applicable HF communication system (HF-1 or HF-2), push and release the TEST switch to do the BITE test of that system.

LOM 407, 411, 416, 420, 422-434, 437-447, 450-999; AIRPLANES WITH TRANSCEIVERS WITH ARINC 719 ANTENNA COUPLER INTERFACE OR HF STAND-ALONE OPERATION

(a) Make sure that these conditions occur:

1) All three LEDs on the HF transceiver front panel come on red for one to three seconds.

2) The LRU STATUS LED changes to green and the KEY INTERLOCK and CONTROL FAIL LEDs stay red for one to three seconds.

3) All three LEDs go off for one to seven seconds.

ECCN 9E991 BOEING PROPRIETARY - See title page for details

4) The LRU STATUS LED comes on green for about 30 seconds and the KEY INTERLOCK and CONTROL FAIL LEDs stay off.

NOTE: Any of the three LEDs that come on red after the self-test is completed indicates a defective condition.

LOM 407, 411, 416, 420, 422-434, 437-447, 450-999; AIRPLANES WITH TRANSCEIVERS WITH ARINC 753 ANTENNA COUPLER INTERFACE

(b) Make sure that these conditions occur:

1) The LRU STATUS and CONTROL FAIL LEDs turn red for one to three seconds.
2) The KEY INTERLOCK LED flashes red for 45 milliseconds and then turns off for 2 seconds.
3) The LRU STATUS LED turns green and the other LEDs turn red for 1 to 3 seconds.
4) All LEDs go off for 1 to 7 seconds.
5) The LRU STATUS LED turns green and the other LEDs stay off.

NOTE: Any of the three LEDs that come on red after the self-test is completed indicates a defective condition.

6) After 30 seconds, all LEDs are off.

LOM ALL

G. Put the Airplane Back to Its Usual Condition

LOM 461-463

SUBTASK 23-11-21-410-001

(1) Close this access panel:

Number	Name/Location
117A	Electronic Equipment Access Door

LOM 402, 404, 406, 407, 411, 412, 415, 416, 420, 422-434, 437-447, 450-460, 464-999

SUBTASK 23-11-21-410-004

(2) Install the access panel for the electronic equipment rack (E6).

SUBTASK 23-11-21-410-002

(3) Close this access panel:

Number	Name/Location
822	Aft Cargo Door

END OF TASK

ECCN 9E991 BOEING PROPRIETARY - See title page for details

HF COMMUNICATION ANTENNA - REMOVAL/INSTALLATION

1. General

A. This procedure has these tasks:

(1) Removal of the HF communication antenna.

(2) Installation of the HF communication antenna.

B. The HF communication antenna is part of the leading edge of the vertical stabilizer.

TASK 23-11-51-000-801

2. HF Communication Antenna Removal

A. References

Reference	Title
55-33-11-000-801	Vertical Stabilizer (Fin) Leading Edge Removal (P/B 401)

B. Location Zones

Zone	Area
211	Flight Compartment - Left
212	Flight Compartment - Right
322	Vertical Fin - Removable Fin Leading Edge

C. Procedure

SUBTASK 23-11-51-860-001

> **WARNING** REMOVE THE ELECTRICAL POWER FOR THE HF COMMUNICATION SYSTEM BEFORE YOU REMOVE THE HF COMMUNICATION ANTENNA. HF SIGNALS CAN CAUSE ELECTRICAL SHOCKS AND INJURIES TO PERSONS.

(1) Open these circuit breakers and install safety tags:

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
LOM 402, 404, 406, 407, 411, 412, 415, 416, 420, 422-431, 433, 434, 437-447, 450-999			
E	11	C00839	COMMUNICATIONS HF 1

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
LOM 404, 412, 415, 416, 422-426, 433, 434, 439-445, 451-454, 457, 464-999			
D	2	C00857	COMMUNICATIONS HF 2
LOM ALL			

These circuit breakers are inoperative and should remain open:

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
LOM 432			
E	11	C00839	COMMUNICATIONS HF 1 (INOP)

ECCN 9E991 BOEING PROPRIETARY - See title page for details

LOM 432 (Continued)

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
LOM 402, 406, 407, 411, 420, 427-432, 437, 438, 446, 447, 450, 455, 456, 458-463			
D	2	C00857	COMMUNICATIONS HF 2 (INOP)

LOM ALL

SUBTASK 23-11-51-020-001

(2) Remove the part of the leading edge of the vertical stabilizer that contains the HF communication antenna:

(a) Do this task: Vertical Stabilizer (Fin) Leading Edge Removal, TASK 55-33-11-000-801.

——— END OF TASK ———

TASK 23-11-51-400-801

3. HF Communication Antenna Installation

A. References

Reference	Title
23-11-00-730-801	HF Communication System - System Test (P/B 501)
55-33-11-400-801	Vertical Stabilizer (Fin) Leading Edge Installation (P/B 401)

B. Location Zones

Zone	Area
211	Flight Compartment - Left
212	Flight Compartment - Right
322	Vertical Fin - Removable Fin Leading Edge

C. Procedure

SUBTASK 23-11-51-860-002

WARNING REMOVE THE ELECTRICAL POWER FOR THE HF COMMUNICATION SYSTEM BEFORE YOU INSTALL THE HF COMMUNICATION ANTENNA. HF SIGNALS CAN CAUSE ELECTRICAL SHOCKS AND INJURIES TO PERSONS.

(1) Make sure that these circuit breakers are open and have safety tags:

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
LOM 402, 404, 406, 407, 411, 412, 415, 416, 420, 422-431, 433, 434, 437-447, 450-999			
E	11	C00839	COMMUNICATIONS HF 1

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
LOM 404, 412, 415, 416, 422-426, 433, 434, 439-445, 451-454, 457, 464-999			
D	2	C00857	COMMUNICATIONS HF 2

ECCN 9E991 BOEING PROPRIETARY - See title page for details

LOM 404, 412, 415, 416, 422-426, 433, 434, 439-445, 451-454, 457, 464-999 (Continued)

(Continued)

F/O Electrical System Panel, P6-1

Row	Col	Number	Name

LOM ALL

These circuit breakers are inoperative and should remain open:

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name

LOM 432

E	11	C00839	COMMUNICATIONS HF 1 (INOP)

F/O Electrical System Panel, P6-1

Row	Col	Number	Name

LOM 402, 406, 407, 411, 420, 427-432, 437, 438, 446, 447, 450, 455, 456, 458-463

D	2	C00857	COMMUNICATIONS HF 2 (INOP)

LOM ALL

SUBTASK 23-11-51-420-001

(2) Install the part of the leading edge of the vertical stabilizer that contains the HF communication antenna:

(a) Do this task: Vertical Stabilizer (Fin) Leading Edge Installation, TASK 55-33-11-400-801.

SUBTASK 23-11-51-860-003

(3) Remove the safety tags and close these circuit breakers:

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name

LOM 402, 404, 406, 407, 411, 412, 415, 416, 420, 422-431, 433, 434, 437-447, 450-999

E	11	C00839	COMMUNICATIONS HF 1

F/O Electrical System Panel, P6-1

Row	Col	Number	Name

LOM 404, 412, 415, 416, 422-426, 433, 434, 439-445, 451-454, 457, 464-999

D	2	C00857	COMMUNICATIONS HF 2

LOM ALL

These circuit breakers are inoperative and should remain open:

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name

LOM 432

E	11	C00839	COMMUNICATIONS HF 1 (INOP)

F/O Electrical System Panel, P6-1

Row	Col	Number	Name

LOM 402, 406, 407, 411, 420, 427-432, 437, 438, 446, 447, 450, 455, 456, 458-463

D	2	C00857	COMMUNICATIONS HF 2 (INOP)

LOM ALL

ECCN 9E991 BOEING PROPRIETARY - See title page for details

D. Installation Test

SUBTASK 23-11-51-730-001

(1) Do this task: HF Communication System - System Test, TASK 23-11-00-730-801.

END OF TASK

ECCN 9E991 BOEING PROPRIETARY - See title page for details

HF ANTENNA - INSPECTION/CHECK

1. General

A. This procedure has this task:

(1) An electrical bond check for the HF antenna.

B. The HF antenna is part of the leading edge of the vertical stabilizer.

C. You must remove the HF antenna coupler(s) before you do the electrical bond check. The HF antenna coupler(s) are installed adjacent to the HF antenna in the vertical stabilizer.

TASK 23-11-51-760-801

2. HF Antenna - Electrical Bond Check

(Figure 601)

A. References

Reference	Title
23-11-61-000-801	HF Antenna Coupler - Removal (P/B 401)
23-11-61-400-801	HF Antenna Coupler - Installation (P/B 401)
SWPM 20-20-00	Standard Wiring Practices Manual

B. Tools/Equipment

NOTE: When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

Reference	Description
COM-1550	Bonding Meter - Approved, Intrinsically Safe (Approved for use in Class I, Divisions I & II hazardous (classified) locations. Outside these hazardous locations, COM-614 can be used in lieu of COM-1550). Part #: 620LK Supplier: 1CRL2 Part #: M1 Supplier: 3AD17 Part #: M1B Supplier: 3AD17 Part #: T477W (C15292) Supplier: 06659

C. Location Zones

Zone	Area
211	Flight Compartment - Left
212	Flight Compartment - Right
322	Vertical Fin - Removable Fin Leading Edge

D. Procedure

SUBTASK 23-11-51-010-001

> **CAUTION**
> YOU MUST PREPARE EACH HF ANTENNA COUPLER FOR THE REMOVAL. IF YOU DO NOT PREPARE FOR THE REMOVAL, YOU CAN EASILY CAUSE DAMAGE TO INTERNAL PARTS OF THE HF ANTENNA COUPLER.

(1) Remove the HF antenna coupler(s). To remove the HF antenna coupler(s), do this task: HF Antenna Coupler - Removal, TASK 23-11-61-000-801.

ECCN 9E991 BOEING PROPRIETARY - See title page for details

SUBTASK 23-11-51-760-001

(2) Use an intrinsically safe approved bonding meter, COM-1550 to measure the resistances that follow at each HF antenna coupler mount (SWPM 20-20-00):

(a) From the electrical contact to the mount.

1) Make sure the resistance is 10 milliohms or less.

(b) From the electrical contact to the airplane structure.

1) Make sure the resistance is 10 milliohms or less.

SUBTASK 23-11-51-410-001

(3) To install the HF antenna coupler(s), do this task: HF Antenna Coupler - Installation, TASK 23-11-61-400-801.

END OF TASK

ECCN 9E991 BOEING PROPRIETARY - See title page for details

HF ANTENNA COUPLER MOUNT

A

H45706 S0006564245_V2

HF Antenna - Electrical Bond Check
Figure 601/23-11-51-990-801

ECCN 9E991 BOEING PROPRIETARY - See title page for details

HF ANTENNA COUPLER - REMOVAL/INSTALLATION

1. General

A. This procedure has these tasks:

(1) A removal of the HF antenna coupler.

(2) An installation of the HF antenna coupler.

LOM 402, 406, 407, 411, 420, 427-431, 437, 438, 446, 447, 450, 455, 456, 458-464

B. The HF antenna coupler is located in the antenna coupler mount in the lower leading edge of the vertical stabilizer.

LOM 404, 412, 415, 416, 422-426, 432-434, 439-445, 451-454, 457, 465-999

C. The No. 1 and No. 2 HF antenna couplers are located in the antenna coupler mount in the lower leading edge of the vertical stabilizer.

LOM ALL

TASK 23-11-61-000-801

2. HF Antenna Coupler - Removal

(Figure 401)

A. References

Reference	Title
20-10-44-000-801	Lockwire, Cotter Pins, and Lockrings - Removal (P/B 401)
20-10-44-400-801	Lockwire, Cotter Pins, and Lockrings - Installation (P/B 401)
20-40-12-000-802	ESDS Handling for Metal Encased Unit Removal (P/B 201)
20-40-12-400-804	Conductive Dust Cap and Connector Cover Installation (P/B 201)
55-33-11-000-801	Vertical Stabilizer (Fin) Leading Edge Removal (P/B 401)

B. Consumable Materials

Reference	Description	Specification
G01048	Lockwire - MS20995C32, Corrosion Resistant Steel - 0.032 Inch (0.8128 mm) Diameter	NASM20995

C. Location Zones

Zone	Area
211	Flight Compartment - Left
212	Flight Compartment - Right
322	Vertical Fin - Removable Fin Leading Edge

D. Access Panels

Number	Name/Location
322AL	Vertical Fin, Fixed Leading Edge
322AR	Vertical Fin, Fixed Leading Edge

ECCN 9E991 BOEING PROPRIETARY - See title page for details

E. Prepare for the Removal

LOM 402, 406, 407, 411, 420, 427-431, 437, 438, 446, 447, 450, 455, 456, 458-464

SUBTASK 23-11-61-860-027

(1) Make sure that these circuit breakers are closed:

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
D	11	C00165	COMMUNICATIONS VHF 1
D	12	C00471	COMMUNICATIONS VHF 3
E	11	C00839	COMMUNICATIONS HF 1

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
C	3	C00166	COMMUNICATIONS VHF 2

LOM 404, 412, 415, 416, 422-426, 432-434, 439-445, 451-454, 457, 465-999

SUBTASK 23-11-61-860-019

(2) Make sure that these circuit breakers are closed:

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
D	11	C00165	COMMUNICATIONS VHF 1
LOM 404, 412, 415, 422-426, 432-434, 439-445, 451-454, 457, 465-999			
D	12	C00471	COMMUNICATIONS VHF 3
LOM 404, 412, 415, 416, 422-426, 433, 434, 439-445, 451-454, 457, 465-999			
E	11	C00839	COMMUNICATIONS HF 1

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
LOM 404, 412, 415, 416, 422-426, 432-434, 439-445, 451-454, 457, 465-999			
C	3	C00166	COMMUNICATIONS VHF 2
LOM 404, 412, 415, 416, 422-426, 433, 434, 439-445, 451-454, 457, 465-999			
D	2	C00857	COMMUNICATIONS HF 2
LOM 404, 412, 415, 416, 422-426, 432-434, 439-445, 451-454, 457, 465-999			

These circuit breakers are inoperative and should remain open:

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
LOM 432			
E	11	C00839	COMMUNICATIONS HF 1 (INOP)

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
D	2	C00857	COMMUNICATIONS HF 2 (INOP)

LOM ALL

ECCN 9E991 BOEING PROPRIETARY - See title page for details

F. HF Antenna Coupler Removal

SUBTASK 23-11-61-040-002

> **WARNING** BEFORE YOU OPEN THE COUPLER ACCESS PANEL, REMOVE ELECTRICAL POWER FROM EACH HF COMMUNICATION SYSTEM. HF SIGNALS CAN CAUSE ELECTRICAL SHOCK, BURNS, AND INJURIES TO PERSONNEL.

(1) Open these circuit breakers and install safety tags:

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
LOM 402, 404, 406, 407, 411, 412, 415, 416, 420, 422-431, 433, 434, 437-447, 450-999			
E	11	C00839	COMMUNICATIONS HF 1

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
LOM 404, 412, 415, 416, 422-426, 433, 434, 439-445, 451-454, 457, 464-999			
D	2	C00857	COMMUNICATIONS HF 2
LOM ALL			

These circuit breakers are inoperative and should remain open:

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
LOM 432			
E	11	C00839	COMMUNICATIONS HF 1 (INOP)

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
LOM 402, 406, 407, 411, 420, 427-432, 437, 438, 446, 447, 450, 455, 456, 458-463			
D	2	C00857	COMMUNICATIONS HF 2 (INOP)

LOM 402, 406, 407, 411, 420, 427-431, 437, 438, 446, 447, 450, 455, 456, 458-464

SUBTASK 23-11-61-010-001

(2) Remove this access panel:

Number	Name/Location
322AL	Vertical Fin, Fixed Leading Edge

NOTE: The HF-1 antenna coupler is installed on the left side of the vertical stabilizer.

LOM 404, 412, 415, 416, 422-426, 432-434, 439-445, 451-454, 457, 465-999

SUBTASK 23-11-61-010-002

(3) Remove the applicable access panels:

(TASK 55-33-11-000-801)

Number	Name/Location
322AL	Vertical Fin, Fixed Leading Edge
322AR	Vertical Fin, Fixed Leading Edge

ECCN 9E991 BOEING PROPRIETARY - See title page for details

NOTE: The HF-1 antenna coupler is installed on the left side of the vertical stabilizer. The HF-2 antenna coupler is installed on the right side of the vertical stabilizer.

LOM ALL

SUBTASK 23-11-61-020-007

> **CAUTION** DO NOT TOUCH THE CONNECTOR PINS OR OTHER CONDUCTORS ON THE UNIT. IF YOU TOUCH THESE CONDUCTORS, ELECTROSTATIC DISCHARGE CAN CAUSE DAMAGE TO THE UNIT.

(4) Before you touch the HF antenna coupler [2], coaxial connector [4], or electrical connector [5], do this task: ESDS Handling for Metal Encased Unit Removal, TASK 20-40-12-000-802.

SUBTASK 23-11-61-020-001

(5) Remove the lockwire [3] from the coaxial connector [4], do this task: Lockwire, Cotter Pins, and Lockrings - Removal, TASK 20-10-44-000-801.

SUBTASK 23-11-61-020-002

(6) Disconnect the coaxial connector [4] and electrical connector [5] from the HF antenna coupler [2].

SUBTASK 23-11-61-020-008

(7) Loosen and disengage the hold-down nuts.

SUBTASK 23-11-61-020-003

> **CAUTION** OBEY THESE STEPS WHEN YOU REMOVE THE HF ANTENNA COUPLER. IF YOU IGNORE THESE STEPS, DAMAGE TO THE HF ANTENNA COUPLER CAN OCCUR.

(8) Remove the HF antenna coupler [2].

(a) Always keep the bottom side of the coupler in the down position.

(b) Do not set the coupler on its end (with the handle up).

(c) If you rotate or invert the coupler, this can cause damage to the internal parts.

SUBTASK 23-11-61-020-009

(9) Install protective dust caps on the HF antenna coupler [2], coaxial connector [4], and electrical connector [5] (TASK 20-40-12-400-804).

SUBTASK 23-11-61-420-007

(10) If the airplane will return-to-service with one or more HF trays empty, install MS20995C32 lockwire, G01048, on each unused hold-down fitting as follows:

NOTE: The HF tray is located in a high vibration area.

(a) Rotate the hold-down fitting upward, and hold in place.

(b) Tighten down the wing nut until it contacts with the HF tray.

(c) Install MS20995C32 lockwire, G01048, using the pre-drilled holes in the hold-down fitting, and holes in the HF tray (TASK 20-10-44-400-801).

END OF TASK

ECCN 9E991 BOEING PROPRIETARY - See title page for details

HF ANTENNA COUPLER MOUNT

A

W07824 S0006564253_V2

HF Antenna Coupler Installation
Figure 401/23-11-61-990-801 (Sheet 1 of 2)

ECCN 9E991 BOEING PROPRIETARY - See title page for details

HF ANTENNA COUPLER MOUNT

A

W07988 S0006564254_V3

HF Antenna Coupler Installation
Figure 401/23-11-61-990-801 (Sheet 2 of 2)

ECCN 9E991 BOEING PROPRIETARY - See title page for details

TASK 23-11-61-400-801

3. HF Antenna Coupler - Installation

(Figure 401)

A. General

(1) This task gives the steps to install an HF antenna coupler.

B. References

Reference	Title
20-10-44-400-801	Lockwire, Cotter Pins, and Lockrings - Installation (P/B 401)
20-40-12-400-802	ESDS Handling for Metal Encased Unit Installation (P/B 201)
55-33-11-400-801	Vertical Stabilizer (Fin) Leading Edge Installation (P/B 401)

C. Consumable Materials

Reference	Description	Specification
A02315	Sealant - Low Density, Synthetic Rubber. 2 Part	BMS5-142 Type II
B00184	Solvent - Presealing, Cleaning Solvent	BMS11-7
B00666	Solvent - Methyl Propyl Ketone	BMS11-9
B50135	Solvent - 1,1,1 Trichloroethane	
G00034	Cotton Wiper - Process Cleaning Absorbent Wiper (Cheesecloth, Gauze)	AMS3819 Class 1 Grade A or B Form 1 (Supersede BMS15-5 CL A)
G01048	Lockwire - MS20995C32, Corrosion Resistant Steel - 0.032 Inch (0.8128 mm) Diameter	NASM20995

D. Expendables/Parts

AMM Item	Description	AIPC Reference	AIPC Effectivity
2	HF antenna coupler	23-11-61-01-050	LOM 402, 406, 407, 411, 416, 420, 422-434, 437-447, 450-999
		23-11-61-02-050	LOM 404, 412, 415

E. Location Zones

Zone	Area
211	Flight Compartment - Left
212	Flight Compartment - Right
322	Vertical Fin - Removable Fin Leading Edge

F. Access Panels

Number	Name/Location
322AL	Vertical Fin, Fixed Leading Edge
322AR	Vertical Fin, Fixed Leading Edge

ECCN 9E991 BOEING PROPRIETARY - See title page for details

G. Prepare for the Installation

SUBTASK 23-11-61-860-010

> **WARNING** BEFORE YOU OPEN THE COUPLER ACCESS PANEL, REMOVE ELECTRICAL POWER FROM EACH HF COMMUNICATION SYSTEM. HF SIGNALS CAN CAUSE ELECTRICAL SHOCK, BURNS, AND INJURIES TO PERSONNEL.

(1) Make sure that these circuit breakers are open:

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
LOM 402, 404, 406, 407, 411, 412, 415, 416, 420, 422-431, 433, 434, 437-447, 450-999			
E	11	C00839	COMMUNICATIONS HF 1

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
LOM 404, 412, 415, 416, 422-426, 433, 434, 439-445, 451-454, 457, 464-999			
D	2	C00857	COMMUNICATIONS HF 2

LOM ALL

These circuit breakers are inoperative and should remain open:

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
LOM 432			
E	11	C00839	COMMUNICATIONS HF 1 (INOP)

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
LOM 402, 406, 407, 411, 420, 427-432, 437, 438, 446, 447, 450, 455, 456, 458-463			
D	2	C00857	COMMUNICATIONS HF 2 (INOP)

LOM ALL

H. HF Antenna Coupler Installation

SUBTASK 23-11-61-420-004

> **CAUTION** DO NOT TOUCH THE CONNECTOR PINS OR OTHER CONDUCTORS ON THE UNIT. IF YOU TOUCH THESE CONDUCTORS, ELECTROSTATIC DISCHARGE CAN CAUSE DAMAGE TO THE UNIT.

(1) Before you touch the mount, HF antenna coupler [2], coaxial connector [4], or electrical connector [5], do this task: ESDS Handling for Metal Encased Unit Installation, TASK 20-40-12-400-802.

SUBTASK 23-11-61-710-001

(2) Examine the coupler mount.

(a) Make sure that there is no corrosion, or damage from electrical arcing at the rear connection.

SUBTASK 23-11-61-420-001

(3) Install the HF antenna coupler [2].

ECCN 9E991 BOEING PROPRIETARY - See title page for details

(a) Engage and hand tighten the hold down nuts.

SUBTASK 23-11-61-420-005

(4) Examine the connectors for bent or broken pins, and for dirt or foreign objects.

(a) If you find a problem, do the repair of the damage you found.

SUBTASK 23-11-61-420-002

(5) Connect the coaxial connector [4] and electrical connector [5] to the HF antenna coupler [2].

SUBTASK 23-11-61-420-003

(6) Install lockwire [3] on the coaxial connector [4] (TASK 20-10-44-400-801).

SUBTASK 23-11-61-420-006

(7) If the airplane will return-to-service with one or more HF trays empty, install MS20995C32 lockwire, G01048, on each unused hold-down fitting as follows:

NOTE: The HF tray is located in a high vibration area.

(a) Rotate the hold-down fitting upward, and hold in place.

(b) Tighten down the wing nut until it contacts with the HF tray.

(c) Install MS20995C32 lockwire, G01048, using the pre-drilled holes in the hold-down fittings, and holes in the HF tray (TASK 20-10-44-400-801).

SUBTASK 23-11-61-100-001

(8) Remove remaining sealant from access panels and mating surfaces before installing.

(a) Use plastic or hardwood tools that do not scratch surfaces and that do not prevent paint or sealant bond.

(b) If it is necessary, sharpen the scrapers with 220-grit or finer aluminum oxide paper.

(c) Rub the scrapers with cotton wiper, G00034, to remove loose sanding particles.

SUBTASK 23-11-61-100-002

(9) Clean and prepare surfaces to be sealed with solvent, B50135, solvent, B00184, or solvent, B00666.

LOM 402, 406, 407, 411, 420, 427-431, 437, 438, 446, 447, 450, 455, 456, 458-464

SUBTASK 23-11-61-410-001

(10) Install this access panel:

Number	Name/Location
322AL	Vertical Fin, Fixed Leading Edge

LOM 404, 412, 415, 416, 422-426, 432-434, 439-445, 451-454, 457, 465-999

SUBTASK 23-11-61-410-002

(11) Install the applicable access panels:

(TASK 55-33-11-400-801)

Number	Name/Location
322AL	Vertical Fin, Fixed Leading Edge
322AR	Vertical Fin, Fixed Leading Edge

LOM ALL

SUBTASK 23-11-61-390-002

(12) Apply aerodynamic sealant, A02315, at the panel joints.

ECCN 9E991 BOEING PROPRIETARY - See title page for details

(a) Make sure that the cured sealant is aligned within the tolerance of 0.000 in. (0.000 mm) at the surface to 0.010 in. (0.254 mm) below the surface.

(b) Do not cover fasteners with aerodynamic sealant.

SUBTASK 23-11-61-440-002

(13) Remove the safety tags and close these circuit breakers:

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
LOM 402, 404, 406, 407, 411, 412, 415, 416, 420, 422-431, 433, 434, 437-447, 450-999			
E	11	C00839	COMMUNICATIONS HF 1

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
LOM 404, 412, 415, 416, 422-426, 433, 434, 439-445, 451-454, 457, 464-999			
D	2	C00857	COMMUNICATIONS HF 2

LOM ALL

These circuit breakers are inoperative and should remain open:

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
LOM 432			
E	11	C00839	COMMUNICATIONS HF 1 (INOP)

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
LOM 402, 406, 407, 411, 420, 427-432, 437, 438, 446, 447, 450, 455, 456, 458-463			
D	2	C00857	COMMUNICATIONS HF 2 (INOP)

LOM ALL

I. HF Antenna Coupler Installation Test

SUBTASK 23-11-61-800-001

WARNING DO NOT OPERATE THE HF SYSTEM WHILE THE AIRPLANE IS REFUELED OR DEFUELED. AN EXPLOSION CAN CAUSE INJURIES TO PERSONNEL AND DAMAGE TO THE AIRPLANE.

WARNING MAKE SURE THAT PERSONNEL STAY A MINIMUM OF 10 FT (3 M) AWAY FROM THE VERTICAL STABILIZER WHEN THE HF SYSTEM TRANSMITS. RF ENERGY FROM THE HF ANTENNA CAN CAUSE INJURIES TO PERSONNEL.

(1) Do not operate the HF system while a fuel operation is done on the airplane.

SUBTASK 23-11-61-860-016

(2) Make sure that these circuit breakers are closed:

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
D	11	C00165	COMMUNICATIONS VHF 1

ECCN 9E991 BOEING PROPRIETARY - See title page for details

(Continued)

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
LOM 402, 404, 406, 407, 411, 412, 415, 420, 422-434, 437-447, 450-999			
D	12	C00471	COMMUNICATIONS VHF 3

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
LOM ALL			
C	3	C00166	COMMUNICATIONS VHF 2

SUBTASK 23-11-61-720-001

(3) Do these steps at the P8 panel to do the installation test:

(a) Connect a headset/boom microphone to the captain's jack panel.

(b) Do these steps to prepare the captain's Audio Control Panel (ACP) for HF system operation:

LOM 402, 406, 407, 411, 420, 427-431, 437, 438, 446, 447, 450, 455, 456, 458-464

1) Push and release the HF-1 switch.

a) Make sure that the switch light comes on.

LOM 404, 412, 415, 416, 422-426, 432-434, 439-445, 451-454, 457, 465-999

2) Push and release the applicable HF-1 or HF-2 switch.

a) Make sure that the switch light comes on.

LOM 402, 406, 407, 411, 420, 427-431, 437, 438, 446, 447, 450, 455, 456, 458-464

3) Push and release the HF-1 volume control.

a) Make sure the volume control indicator light comes on.

LOM 404, 412, 415, 416, 422-426, 432-434, 439-445, 451-454, 457, 465-999

4) Push and release the applicable HF-1 or HF-2 volume control.

a) Make sure that the volume control indicator light comes on.

LOM ALL

5) Set the volume control, to the middle position.

6) If it is installed, set the MASK/BOOM switch, to the BOOM position.

(c) Do these steps at the No. 1 radio tuning panel (RTP-1):

LOM 402, 406, 407, 411, 420, 427-431, 437, 438, 446, 447, 450, 455, 456, 458-464

1) Push the HF 1 switch light.

a) Make sure that the switch light comes on.

LOM 404, 412, 415, 416, 422-426, 432-434, 439-445, 451-454, 457, 465-999

2) Push the applicable HF switch light (HF 1 or HF 2).

a) Make sure that the switch light comes on.

LOM ALL

3) Push the AM switch light for AM or USB mode of operation.

ECCN 9E991 BOEING PROPRIETARY - See title page for details

a) Make sure that the switch light is on for AM, or off for USB.

4) Turn the SENS control fully clockwise.

5) Set the STANDBY frequency window to an approved test frequency.

6) Push the display transfer switch.

a) Make sure that the STANDBY frequency moves to the ACTIVE frequency window.

(d) Push and release the captain's Push-to-Talk (PTT) switch.

1) Make sure that you hear a 1 kHz tune-in-progress tone in the headset.

NOTE: A continuous or pulsed tone indicates that the coupler is tuning to a new frequency. The coupler tune tone will sound no longer than 15 seconds. The average coupler tune time is approximately 1 to 7 seconds.

NOTE: Some coupler types are able to tune quickly when previously used frequencies are selected, in which case the tune tone may be only a momentary beep.

(e) Do these steps to do a voice communication test with a radio tower operator:

1) Push and hold the PTT switch while you speak.

a) Make sure that you hear the sidetone in the headset while you speak.

2) Release the PTT switch while you listen.

a) Make sure that the quality of the transmitted and received voice is satisfactory.

LOM 402, 406, 407, 411, 420, 427-431, 437, 438, 446, 447, 450, 455, 456, 458-464

b) Make sure that the sound of the received voice changes when you turn the HF-1 volume control on the captain's ACP with no change in voice quality.

LOM 404, 412, 415, 416, 422-426, 432-434, 439-445, 451-454, 457, 465-999

c) Make sure that the sound of the received voice changes when you turn the applicable HF-1 or HF-2 volume control, on the captain's ACP with no change in voice quality.

LOM ALL

J. Put the Airplane Back to Its Usual Condition

SUBTASK 23-11-61-860-014

(1) Do these steps at the P8 panel:

LOM 402, 406, 407, 411, 420, 427-431, 437, 438, 446, 447, 450, 455, 456, 458-464

(a) Push and release the HF-1 switch, on the captain's ACP.

1) Make sure that the switch light goes off.

LOM 404, 412, 415, 416, 422-426, 432-434, 439-445, 451-454, 457, 465-999

(b) Push and release the applicable HF-1 or HF-2 switch, on the captain's ACP.

1) Make sure that the switch light goes off.

LOM 402, 406, 407, 411, 420, 427-431, 437, 438, 446, 447, 450, 455, 456, 458-464

(c) Push and release the HF-1 volume control, on the captain's ACP.

LOM 404, 412, 415, 416, 422-426, 432-434, 439-445, 451-454, 457, 465-999

(d) Push and release the applicable HF-1 or HF-2 volume control, on the captain's ACP.

ECCN 9E991 BOEING PROPRIETARY - See title page for details

1) Make sure that the volume control indicator light goes off.

END OF TASK

ECCN 9E991 BOEING PROPRIETARY - See title page for details

VERY HIGH FRENQUENCY (VHF) COMMUNICATION SYSTEM - MAINTENANCE PRACTICES

1. General

A. This procedure has two tasks:

(1) Very High Frequency (VHF) Communication Deactivation.

(2) Very High Frequency (VHF) Communication Activation.

TASK 23-12-00-040-801

2. Very High Frequency Communication - Deactivation

(Figure 201)

A. General

(1) This procedure removes electrical power to the VHF Communications system.

B. Location Zones

Zone	Area
117	Electrical and Electronics Compartment - Left
118	Electrical and Electronics Compartment - Right
211	Flight Compartment - Left
212	Flight Compartment - Right

C. Access Panels

Number	Name/Location
117A	Electronic Equipment Access Door

D. Procedure

NOTE: The airplane will have dual or triple VHF transceivers installed. Reference the airplane wire diagram manual.

SUBTASK 23-12-00-860-027

(1) Open these circuit breakers and install safety tags:

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
D	11	C00165	COMMUNICATIONS VHF 1
LOM 402, 404, 406, 407, 411, 412, 415, 420, 422-434, 437-447, 450-999			
D	12	C00471	COMMUNICATIONS VHF 3

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
LOM ALL			
C	3	C00166	COMMUNICATIONS VHF 2

SUBTASK 23-12-00-010-002

(2) Open this access panel:

Number	Name/Location
117A	Electronic Equipment Access Door

SUBTASK 23-12-00-710-010

(3) Push and release the TEST switch on the applicable VHF communication transceiver front panel to do the BITE test for each VHF communication system (VHF-1, VHF-2, or VHF-3).

ECCN 9E991 BOEING PROPRIETARY - See title page for details

(a) Make sure none of the lights on the front panel come on.

E. Very High Frequency Communication - Tryout

NOTE: This tryout is to make sure the VHF communications system is in a zero energy state.

SUBTASK 23-12-00-860-028

(1) Make sure that these circuit breakers are open and have safety tags:

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
D	11	C00165	COMMUNICATIONS VHF 1
LOM 402, 404, 406, 407, 411, 412, 415, 420, 422-434, 437-447, 450-999			
D	12	C00471	COMMUNICATIONS VHF 3

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
LOM ALL			
C	3	C00166	COMMUNICATIONS VHF 2

END OF TASK

ECCN 9E991 BOEING PROPRIETARY - See title page for details

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VHF Communication Transceiver
Figure 201/23-12-00-990-801 (Sheet 1 of 3)

ECCN 9E991 BOEING PROPRIETARY - See title page for details

VHF Communication Transceiver
Figure 201/23-12-00-990-801 (Sheet 2 of 3)

ECCN 9E991 BOEING PROPRIETARY - See title page for details

ELECTRONIC EQUIPMENT RACK, E3

B

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VHF Communication Transceiver
Figure 201/23-12-00-990-801 (Sheet 3 of 3)

ECCN 9E991 BOEING PROPRIETARY - See title page for details

TASK 23-12-00-440-801

3. Very High Frequency Communication - Activation

(Figure 201)

A. General

(1) This procedure adds electrical power to the VHF system.

B. Location Zones

Zone	Area
117	Electrical and Electronics Compartment - Left
118	Electrical and Electronics Compartment - Right
211	Flight Compartment - Left
212	Flight Compartment - Right

C. Access Panels

Number	Name/Location
117A	Electronic Equipment Access Door

D. Procedure

WARNING

KEEP ALL PERSONNEL AT A SAFE DISTANCE FROM THE ANTENNA. RF ENERGY CAN CAUSE INJURIES TO PERSONNEL.

SUBTASK 23-12-00-860-030

NOTE: The airplane will have dual or triple VHF transceivers installed. Reference the airplane wire diagram manual.

(1) Remove the safety tags and close these circuit breakers:

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
D	11	C00165	COMMUNICATIONS VHF 1
LOM 402, 404, 406, 407, 411, 412, 415, 420, 422-434, 437-447, 450-999			
D	12	C00471	COMMUNICATIONS VHF 3

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
LOM ALL			
C	3	C00166	COMMUNICATIONS VHF 2

SUBTASK 23-12-00-860-031

(2) Close this access panel:

Number	Name/Location
117A	Electronic Equipment Access Door

END OF TASK

ECCN 9E991 BOEING PROPRIETARY - See title page for details

VERY HIGH FREQUENCY (VHF) COMMUNICATION SYSTEM - ADJUSTMENT/TEST

1. General

A. This procedure has these tasks:

(1) An Operational Test of the VHF communication transceiver.

(2) A System Test of the VHF communication system.

LOM 404, 416; LOM 426 PRE SB 737-23-1535

B. There are two VHF communication systems installed on the airplane. These are: VHF-1 and VHF-2.

LOM 402, 406, 407, 411, 412, 415, 420, 422-425, 427-434, 437-447, 450-999; LOM 404 POST SB 737-23-1484; LOM 426 POST SB 737-23-1535

C. There are three VHF communication systems installed on the airplane. These are: VHF-1, VHF-2, and VHF-3.

LOM ALL

D. The No. 1, No. 2, and No. 3 radio tuning panels (RTPs) are located on the aft electronic panel, P8, in the flight compartment.

TASK 23-12-00-710-801

2. VHF Communication System - Operational Test

A. General

(1) The operational test is a BITE test of the VHF communication transceiver.

(a) The BITE test does a check of the internal functions of the VHF communication transceiver. The BITE test also does a check of the ARINC 429 frequency tuning input data to the VHF communication transceiver.

LOM 404, 416; LOM 426 PRE SB 737-23-1535

(b) The same sequence of steps is used for the No. 1 or No. 2 VHF communication system.

LOM 402, 406, 407, 411, 412, 415, 420, 422-425, 427-434, 437-447, 450-999; LOM 404 POST SB 737-23-1484; LOM 426 POST SB 737-23-1535

(c) The same sequence of steps is used for the No. 1, No. 2, or No. 3 VHF communication system.

LOM ALL

(d) The operational test is a quick test that makes sure the VHF transceiver is functional.

B. Location Zones

Zone	Area
117	Electrical and Electronics Compartment - Left
118	Electrical and Electronics Compartment - Right
211	Flight Compartment - Left
212	Flight Compartment - Right

C. Access Panels

Number	Name/Location
117A	Electronic Equipment Access Door

ECCN 9E991 BOEING PROPRIETARY - See title page for details

D. VHF Communication System Operational Test

SUBTASK 23-12-00-860-003

(1) Make sure that these circuit breakers are closed:

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
D	11	C00165	COMMUNICATIONS VHF 1

LOM 402, 404, 406, 407, 411, 412, 415, 420, 422-434, 437-447, 450-999

D	12	C00471	COMMUNICATIONS VHF 3

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
LOM ALL			
C	3	C00166	COMMUNICATIONS VHF 2

F/O Electrical System Panel, P6-3

Row	Col	Number	Name
C	10	C00284	PANEL & INSTR ELEX PANEL

SUBTASK 23-12-00-010-001

(2) Open this access panel:

Number	Name/Location
117A	Electronic Equipment Access Door

LOM ALL; AIRPLANES WITH VHF TRANSCEIVER P/N 064-50000-XXXX

SUBTASK 23-12-00-710-005

(3) Push and release one of the two TEST switches on the applicable VHF communication transceiver front panel to do the BITE test for each VHF communication system (VHF-1, VHF-2, or VHF-3).

(a) Make sure that the LCD screen shows VHF DATA RADIO TEST IN PROGRESS.

(b) If the LCD screen shows VHF DATA RADIO TEST COMPLETE - NO FAILURES, then the BITE test passed.

LOM 402, 406, 407, 458-460

NOTE: TUNING PORT B MISSING INPUT P:#MP -7A/7B is a nuisance message and can be ignored.

LOM ALL; AIRPLANES WITH VHF TRANSCEIVER P/N 822-0693-XXX

SUBTASK 23-12-00-740-002

(4) Do these steps on the applicable VHF communication transceiver front panel to do the BITE test for each VHF communication system (VHF-1, VHF-2, or VHF-3).

(a) Push and hold the SQL/LAMP TEST switch.

1) Make sure that the red CONTROL INPUT FAIL light comes on.

2) Make sure that the green LRU PASS light comes on.

(b) Release the SQL/LAMP TEST switch.

(c) Push the TEST switch.

1) Make sure that the LRU PASS light comes on.

ECCN 9E991 BOEING PROPRIETARY - See title page for details

LOM ALL; AIRPLANES WITH VHF TRANSCEIVER P/N 822-0693-XXX (Continued)

2) Make sure that the VSWR/power display shows less than 3.0.

(d) Turn and hold the RFL/OFF/FWD switch in the FWD position.

1) Make sure that the VSWR/power display shows 25 or more for forward power.

(e) Turn and hold the RFL/OFF/FWD switch in the RFL position.

1) Make sure that the VSWR/power display shows a RFL power which is less than one quarter of the forward power.

LOM ALL; AIRPLANES WITH VHF TRANSCEIVER P/N 822-1047-XXX OR 822-0323-XXX OR 822-1287-XXX"

SUBTASK 23-12-00-710-002

(5) Push and release the TEST switch on the applicable VHF communication transceiver front panel to do the BITE test for each VHF communication system (VHF-1, VHF-2, or VHF-3).

(a) Make sure that these conditions occur:

1) All three LEDs on the VHF transceiver front panel turn red for about two seconds.

2) The LRU STATUS LED turns green and the CONTROL FAIL and ANTENNA FAIL LEDs remain red for about two seconds.

3) All three LEDs go off for about two seconds.

4) The LRU STATUS LED comes on green for about 30 seconds and the CONTROL FAIL and ANTENNA FAIL LEDs remain off.

NOTE: Any of the three LEDs that come on red after the self-test is completed indicates a defective condition.

LOM ALL; AIRPLANES WITH VHF TRANSCEIVER P/N 965-1696-021

SUBTASK 23-12-00-710-014

(6) Push and release the TEST switch on the applicable VHF communication transceiver front panel to do the BITE test for each VHF communication system (VHF-1, VHF-2, or VHF-3).

(a) The VDR STATUS LED will turn on green and the CONTROL FAULT and ANTENNA FAULT LEDs remain off.

NOTE: Any of the three LEDs that come on red or amber after the self-test is completed indicates a defective condition.

LOM ALL; AIRPLANES WITH VHF TRANSCEIVER P/N 822-1250-XXX

SUBTASK 23-12-00-710-007

NOTE: Before you do the BITE test, make sure that VHF-3 is in the voice mode (a voice frequency shows in the active (left) display of the RTP).

(7) Push and release the TEST switch on the applicable VHF communication transceiver front panel to do the BITE test for each VHF communication system (VHF-1, VHF-2, or VHF-3).

(a) Make sure that these conditions occur:

1) All three LEDs on the VHF transceiver front panel turn red for about two seconds.

2) The LRU STATUS LED turns green and the CONTROL FAIL and ANTENNA FAIL LEDs remain red for about two seconds.

3) All three LEDs go off for about five seconds.

ECCN 9E991 BOEING PROPRIETARY - See title page for details

4) The LRU STATUS LED comes on green for about 30 seconds and the CONTROL FAIL and ANTENNA FAIL LEDs remain off.

NOTE: Any of the three LEDs that come on red after the self-test is completed indicates a defective condition.

LOM ALL

E. Put the Airplane Back to Its Initial Condition

SUBTASK 23-12-00-410-001

(1) Close this access panel:

Number	Name/Location
117A	Electronic Equipment Access Door

END OF TASK

TASK 23-12-00-730-801

3. VHF Communication System - System Test

A. General

(1) This task includes these tests:

(a) A Built-In-Test Equipment (BITE) Test

(b) An Radio Tuning Panel (RTP) to RTP Interface Test

(c) A Very High Frequency (VHF) Communication Test.

(2) Make sure that the flight interphone system operates. The communication test uses these flight interphone system components: Audio Control Panel (ACP)s, headsets, microphones, and Push-To-Talk (PTT) switches.

(3) Make sure that the airplane is not in or near any large metal structures. The position of the airplane on the ground can decrease the quality of VHF communication. Ground equipment and structures can also cause blocked Radio Frequency (RF) signal attenuation. If the quality of transmitted and received voice signals is not satisfactory, move the airplane to a better position.

(4) Make sure that you use approved test frequencies when you speak with the radio tower operator.

B. References

Reference	Title
23-27-00-700-812-009	ACARS - System Test (P/B 501)
23-27-00-700-815-001	ACARS - System Test (P/B 501)
23-27-00-730-806-010	ACARS - System Test (P/B 501)

C. Location Zones

Zone	Area
117	Electrical and Electronics Compartment - Left
118	Electrical and Electronics Compartment - Right
211	Flight Compartment - Left
212	Flight Compartment - Right

ECCN 9E991 BOEING PROPRIETARY - See title page for details

D. Prepare for the Test

SUBTASK 23-12-00-860-009

(1) Make sure that these circuit breakers are closed:

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
D	11	C00165	COMMUNICATIONS VHF 1
LOM 402, 404, 406, 407, 411, 412, 415, 420, 422-434, 437-447, 450-999			
D	12	C00471	COMMUNICATIONS VHF 3

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
LOM ALL			
C	3	C00166	COMMUNICATIONS VHF 2

F/O Electrical System Panel, P6-3

Row	Col	Number	Name
C	10	C00284	PANEL & INSTR ELEX PANEL

SUBTASK 23-12-00-860-023

(2) If it is necessary, do these steps to change from Data to Voice:

(a) Push the applicable VHF key on RTP-1 (or, on RTP-2) on the P8 panel.

(b) Tune the applicable RTP to display “DATA” in the active window.

(c) Push the display transfer button on the RTP.

(d) Make sure that “DATA” is in the standby window of the RTP.

SUBTASK 23-12-00-860-024

(3) If it is necessary, do these steps to change from Voice to Data:

(a) Push the display transfer button on the RTP.

(b) Make sure that “DATA” toggles from the standby display to the active display on the RTP.

SUBTASK 23-12-00-860-025

(4) If it is necessary, do these steps to change back from Data to Voice:

(a) Push the display transfer button on the RTP.

(b) Make sure that “DATA” toggles from the active display to the standby display on the RTP.

E. BITE Test

SUBTASK 23-12-00-710-003

(1) Do this task: VHF Communication System - Operational Test, TASK 23-12-00-710-801.

F. RTP to RTP Interface Test

SUBTASK 23-12-00-730-003

(1) Do these steps at the RTPs:

(a) Push the VHF3 switch on each RTP-1.

(b) Push the VHF3 switch on each RTP-2.

1) Make sure that RTP-1, and RTP-2 show the same ACTIVE and STANDBY frequencies.

(c) Set RTP-2 to a new frequency.

ECCN 9E991 BOEING PROPRIETARY - See title page for details

1) Make sure that RTP-1 shows the new frequency.

(d) Make sure that the cross tuning lights are on, on RTP-1 and RTP-2.

NOTE: The cross tuning light is above the display transfer switch, between the frequency displays.

(e) Push the VHF2 switch on RTP-2.

1) Make sure that the cross tuning lights are off, on RTP-2.

2) Make sure that the cross tuning lights are on, on RTP-1.

(f) Push the VHF1 switch on RTP-1.

1) Make sure that the cross tuning lights are off, on RTP-1.

(g) Push the HF1 switch on RTP-2.

1) Make sure that the cross tuning lights are on, on RTP-1 and RTP-2.

NOTE: The cross tuning light is above the display transfer switch, between the frequency displays.

(h) Push the HF2 switch on RTP-2.

(i) Make sure that the cross tuning lights are off, on RTP-1 and RTP-2.

(j) Push the HF2 switch on RTP-1.

(k) Make sure that the cross tuning lights are on, on RTP-1 and RTP-2.

NOTE: The cross tuning light is above the display transfer switch, between the frequency displays.

(l) Push the HF1 switch on RTP-1.

(m) Make sure that the cross tuning lights are off, on RTP-1 and RTP-2.

G. VHF Communication Test

SUBTASK 23-12-00-730-004

(1) Do a test of the VHF-1 communication system:

(a) Connect a headset/boom microphone to the captain's jack panel.

(b) Do these steps to prepare the captain's ACP for VHF-1 system operation:

1) Push and release the VHF1 switch.

a) Make sure that the switch light comes on.

2) Push and release the VHF-1 volume control.

a) Make sure that the volume control indicator light comes on.

3) Set the volume control to the middle position.

4) Set the MASK/BOOM switch (if installed) to the BOOM position.

(c) Set the RTP-1 to an approved test frequency for VHF-1.

(d) Do these steps to do a voice communication test with a radio tower operator:

1) Push and hold a PTT switch while you speak.

a) Make sure that you hear the sidetone in the headset while you speak.

2) Release the PTT switch while you listen.

a) Make sure that the quality of the transmitted and received voice is satisfactory.

ECCN 9E991 BOEING PROPRIETARY - See title page for details

b) Do this step to make sure that the volume of the received voice will change: turn the VHF1 volume control on the captain's ACP with no change in voice quality.

<1> Turn the VHF1 volume control on the captain's ACP.

LOM 458-460

(e) Do these steps to do a 35 second keyline timer test:

1) Make sure that you have clearance from the tower operator to transmit for 40 seconds.

2) Push and hold the PTT switch for a minimum of 40 seconds.

a) Make sure that after about 35 seconds, the sidetone is not present in the headset.

3) Release the PTT switch.

LOM ALL

SUBTASK 23-12-00-730-005

(2) Do a test of the VHF-2 communication system:

(a) Connect a headset/boom microphone to the first officer's jack panel.

(b) Do these steps to prepare the first officer's ACP for VHF-2 system operation:

1) Push and release the VHF2 switch.

a) Make sure that the switch light comes on.

2) Push and release the VHF2 volume control.

a) Make sure that the volume control indicator light comes on.

3) Set the volume control to the middle position.

4) Set the MASK/BOOM switch (if installed) to the BOOM position.

(c) Set the RTP-2 to an approved test frequency for VHF-2.

(d) Do these steps to do a voice communication test with a radio tower operator:

1) Push and hold a PTT switch while you speak.

a) Make sure that you hear the sidetone in the headset while you speak.

2) Release the PTT switch while you listen.

a) Make sure that the quality of the transmitted and received voice is satisfactory.

b) Do this step to make sure that the volume of the received voice will change:

<1> Turn the VHF2 volume control on the first officer's ACP.

LOM 458-460

(e) Do these steps to do a 35 second keyline timer test:

1) Make sure that you have clearance from the tower operator to transmit for 40 seconds.

2) Push and hold the PTT switch for a minimum of 40 seconds.

a) Make sure that after about 35 seconds, the sidetone is not present in the headset.

3) Release the PTT switch.

ECCN 9E991 BOEING PROPRIETARY - See title page for details

LOM 437, 438

SUBTASK 23-12-00-860-032

(3) You can refer to the data that follows to find the Channel Name, when you know the specified radio frequency.

FREQUENCY-CHANNEL PAIRING PLAN for 8.33 kHz and 25 kHz Spacing

Frequency (Mhz)	Channel Spacing (kHz)	Channel Name
118.0000	25	118.000
118.0000	8.33	118.005
118.0083	8.33	118.010
118.0167	8.33	118.015
118.0250	25	118.025
118.0250	8.33	118.030
118.0333	8.33	118.035
118.0417	8.33	118.040
118.0500	25	118.050
118.0500	8.33	118.055
118.0583	8.33	118.060
118.0667	8.33	118.065
118.0750	25	118.075
118.0750	8.33	118.080
118.0833	8.33	118.085
118.0917	8.33	118.090
118.1000	25	118.100
136.9750	25	136.975
136.9750	8.33	136.980
136.9833	8.33	136.985
136.9917	8.33	136.990

NOTE: Information contained in above table is provided for the reader's convenience. Amendment 72 to ICAO Annex 10, Volume V, Table 4.1 (bis) to the convention of International Civil Aviation “International Standards and Recommended Practices, Aeronautical Telecommunications” has precedence.

LOM 402, 406, 407, 411, 412, 415, 420, 422-425, 427-434, 437-447, 450-999; LOM 404 POST SB 737-23-1484; LOM 426 POST SB 737-23-1535

SUBTASK 23-12-00-730-006

(4) Do a test of the VHF-3 communication system:

(a) Connect a headset/boom microphone to the captain's jack panel.

(b) Do these steps to prepare the captain's ACP for VHF-3 system operation:

1) Push and release the VHF3 switch.

a) Make sure that the switch light comes on.

ECCN 9E991 BOEING PROPRIETARY - See title page for details

2) Push and release the VHF3 volume control.
   a) Make sure that the volume control indicator light comes on.
3) Set the volume control to the middle position.
4) Set the MASK/BOOM switch (if installed) to the BOOM position.

(c) Set the RTP-3 to an approved test frequency for VHF-3.

(d) Do these steps to do a voice communication test with a radio tower operator:
1) Push and hold a PTT switch while you speak.
   a) Make sure that you hear the sidetone in the headset while you speak.
2) Release the PTTswitch while you listen.
   a) Make sure that the quality of the transmitted and received voice is satisfactory.
   b) Do this step to make sure that the volume of the received voice will change:
      <1> Turn the VHF3 volume control on the captain's ACP.

LOM 458-460

(e) Do these steps to do a 35 second keyline timer test:
1) Make sure that you have clearance from the tower operator to transmit for 40 seconds.
2) Push and hold the PTT switch for a minimum of 40 seconds.
   a) Make sure that after about 35 seconds, the sidetone is not present in the headset.
3) Release the PTT switch.

LOM 402, 406, 407, 412, 415, 420, 422-425, 427-434, 437-447, 450-999; LOM 404 POST SB 737-23-1484 OR POST SB 737-23-1483

SUBTASK 23-12-00-730-007

(5) To do a test of the VHF-3 communication system, do this task: ACARS - System Test, TASK 23-27-00-730-806-010 or ACARS - System Test, TASK 23-27-00-700-815-001 or ACARS - System Test, TASK 23-27-00-700-812-009

NOTE: If the VHF Link Test passes, the VHF-3 communication system is operational.

LOM ALL

H. Put the Airplane Back to Its Usual Condition

SUBTASK 23-12-00-860-015

(1) At each ACP, push and release a different transmitter selector switch that is not the applicable VHF switch.
   (a) Make sure that the related VHF switch light goes off.

   NOTE: When you push a different transmitter selector switch, on an ACP, the first transmitter switch mode is cancelled.

SUBTASK 23-12-00-860-017

(2) At each ACP, push and release the applicable VHF volume controls.
   (a) Make sure that all the volume control indicator lights go off.

END OF TASK

ECCN 9E991 BOEING PROPRIETARY - See title page for details

VHF COMMUNICATION ANTENNA - REMOVAL/INSTALLATION

1. General

A. This procedure has these tasks:

(1) A removal of the VHF communication antenna.

LOM 402, 404, 406, 407, 411, 412, 415, 416, 420, 422-431, 433, 434, 437-447, 450-999

LOM (2) A removal of the VHF communication antenna with gasket per 737-SL-20-045.

LOM **LOM ALL**

(3) An installation of the VHF communication antenna.

LOM 402, 404, 406, 407, 411, 412, 415, 416, 420, 422-431, 433, 434, 437-447, 450-999

LOM (4) An installation of the VHF communication antenna with gasket per 737-SL-20-045.

LOM **LOM ALL**

B. The VHF communications antennas are installed at centerline on top and bottom of the fuselage (Figure 401 or Figure 402). See WDM 23-12-XX for antenna installation station numbers.

TASK 23-12-11-000-801

2. VHF Communication Antenna - Removal

(Figure 401 or Figure 402)

A. Tools/Equipment

NOTE: When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

ECCN 9E991 BOEING PROPRIETARY - See title page for details

Reference	Description
COM-2481	Sealant Removal Tool (Meets BSS7384 Requirements) Part #: 1-6390-A Supplier: 63318 Part #: 10810 Supplier: $0855 Part #: 10811 Supplier: $0855 Part #: 10812 Supplier: $0855 Part #: 234350 Supplier: 5HCF1 Part #: 235072 Supplier: 5HCF1 Part #: 235073 Supplier: 5HCF1 Part #: 235074 Supplier: 5HCF1 Part #: 235075 Supplier: 5HCF1 Part #: 235076 Supplier: 5HCF1 Part #: 311/03 Supplier: F6892 Part #: 311/14 Supplier: F6892 Part #: 311/25 Supplier: F6892 Part #: 311/37 Supplier: F6892 Part #: AS1 Supplier: $1351 Part #: AS2 Supplier: $1351 Part #: AS3 Supplier: $1351 Part #: DAD5013 Supplier: 7RKH2 Part #: DFD5019 Supplier: 7RKH2 Part #: JNT411B60 Supplier: 3DN12 Part #: JNT411B90 Supplier: 3DN12 Part #: PT6529-S Supplier: 81205 Part #: SCD5019 Supplier: 7RKH2 Part #: ST982LF-9 Supplier: 81205 Part #: TS1275-4 Supplier: 22975

I

B. Location Zones

Zone	Area
LOM 402, 404, 406, 407, 411, 412, 415, 420, 422-434, 437-447, 450-999	
123	Forward Cargo Compartment - Left
LOM ALL	
143	Area Below Aft Cargo Compartment - Left
211	Flight Compartment - Left
212	Flight Compartment - Right
231	Forward Passenger Compartment - Forward Entry Door to Sta 663.75 - Left

C. Removal Procedure

SUBTASK 23-12-11-860-008

(1) Open these circuit breakers and install safety tags:

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
D	11	C00165	COMMUNICATIONS VHF 1
LOM 402, 404, 406, 407, 411, 412, 415, 420, 422-434, 437-447, 450-999			
D	12	C00471	COMMUNICATIONS VHF 3

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
LOM ALL			
C	3	C00166	COMMUNICATIONS VHF 2

ECCN 9E991 BOEING PROPRIETARY - See title page for details

SUBTASK 23-12-11-020-001

(2) Do these steps to remove the VHF communication antenna [1]:

(a) Remove the ten bolts [2] that attach the VHF communication antenna [1] to the airplane.

> **CAUTION** REMOVE THE AERODYNAMIC FILLET SEAL CAREFULLY WITH THE SEALANT REMOVAL TOOL. DAMAGE TO THE AIRPLANE SKIN OR THE COAXIAL CABLE CAN OCCUR.

(b) While you hold the VHF communication antenna [1], use a sealant removal tool, COM-2481 to break the fillet seal around the base of the antenna.

> **CAUTION** DO NOT PULL ON THE COAXIAL CABLE. CAREFULLY MOVE THE ANTENNA. DISCONNECT THE COAXIAL CONNECTOR. THIS WILL PREVENT DAMAGE TO THE COAXIAL CABLE.

(c) Move the VHF communication antenna [1] away from the airplane to get access to the coaxial connector [4] on the coaxial cable.

(d) Disconnect the coaxial connector [4] from the VHF communication antenna [1] and remove the antenna.

NOTE: For the top VHF communication antenna [1], make sure the coaxial connector [4] does not go back through the hole in the fuselage. Make sure you attach the coaxial connector [4] to something to prevent this.

END OF TASK

ECCN 9E991 BOEING PROPRIETARY - See title page for details

VHF COMMUNICATION ANTENNA
(EXAMPLE)

A

L27877 S0006564284_V2

VHF Communication Antenna Installation
Figure 401/23-12-11-990-801 (Sheet 1 of 2)

ECCN 9E991 BOEING PROPRIETARY - See title page for details

VHF COMMUNICATION ANTENNA
(EXAMPLE)

A

L27882 S0006564285_V2

VHF Communication Antenna Installation
Figure 401/23-12-11-990-801 (Sheet 2 of 2)

ECCN 9E991 BOEING PROPRIETARY - See title page for details

BOTTOM VHF ANTENNA MARKING
(PAINT STRIPES, EXAMPLE)

B

1307404 S0000224038_V2

VHF Communication Antenna Installation
Figure 402/23-12-11-990-803

ECCN 9E991 BOEING PROPRIETARY - See title page for details

LOM **TASK 23-12-11-000-802**

LOM **3. VHF Communication Antenna With Gasket - Removal**

LOM Figure 403

LOM **A. General**

LOM (1) This procedure is used for the removal of antennas that use HI-TEK or Aerobond gaskets per
LOM 737-6789 SL-20-045.

LOM (2) As full certification tests of the gaskets was not done, it is recommended to do the steps that
LOM follow:

LOM (a) Do a visual inspection of the gasket and the mating surface each D check.

LOM (b) Do a check for deterioration and corrosion on the antenna and gasket after their removal.

LOM (c) Do a check of the airplane skin for corrosion and fretting caused by the antenna gasket.

LOM 1) Remove any corrosion and fretting on the airplane skin.

LOM **B. Location Zones**

Zone	Area
LOM 402, 404, 406, 407, 411, 412, 415, 420, 422-431, 433, 434, 437-447, 450-999	
123	Forward Cargo Compartment - Left
LOM 402, 404, 406, 407, 411, 412, 415, 416, 420, 422-431, 433, 434, 437-447, 450-999	
143	Area Below Aft Cargo Compartment - Left
211	Flight Compartment - Left
212	Flight Compartment - Right
231	Forward Passenger Compartment - Forward Entry Door to Sta 663.75 - Left

LOM **C. Removal Procedure**

LOM SUBTASK 23-12-11-860-012

LOM (1) Open these circuit breakers and install safety tags:

LOM **CAPT Electrical System Panel, P18-2**

LOM

Row	Col	Number	Name
D	11	C00165	COMMUNICATIONS VHF 1
LOM 402, 404, 406, 407, 411, 412, 415, 420, 422-431, 433, 434, 437-447, 450-999			
D	12	C00471	COMMUNICATIONS VHF 3

LOM **F/O Electrical System Panel, P6-1**

LOM

Row	Col	Number	Name
LOM 402, 404, 406, 407, 411, 412, 415, 416, 420, 422-431, 433, 434, 437-447, 450-999			
C	3	C00166	COMMUNICATIONS VHF 2

LOM SUBTASK 23-12-11-020-002

LOM (2) Do these steps to remove the VHF communication antenna [1] :

LOM (a) Remove the ten bolts [2] that attach the VHF communication antenna [1] to the airplane.

LOM (b) Move the VHF communication antenna [1] away from the airplane to get access to the
LOM coaxial connector [4] on the coaxial cable.

ECCN 9E991 BOEING PROPRIETARY - See title page for details

LOM LOM 402, 404, 406, 407, 411, 412, 415, 416, 420, 422-431, 433, 434, 437-447, 450-999 (Continued)
LOM

LOM
LOM
LOM

CAUTION

DO NOT PULL ON THE ANTENNA COAXIAL CABLE. CAREFULLY MOVE THE VHF COMMUNICATION ANTENNA. DISCONNECT THE COAXIAL CONNECTOR. THIS WILL PREVENT DAMAGE TO THE COAXIAL CABLE.

LOM
LOM
(c) Disconnect the coaxial connector [4] from the VHF communication antenna [1] and remove the antenna.

LOM
LOM
LOM
NOTE: For the top VHF communication antenna [1], make sure the coaxial connector does not go back through the hole in the fuselage. Make sure you attach the coaxial connector to something to prevent this.

LOM
(d) Remove and discard the gasket [5].

LOM
END OF TASK

ECCN 9E991 BOEING PROPRIETARY - See title page for details

D98465 S0000169137_V2

LOM
LOM

VHF COMMUNICATION ANTENNA WITH GASKET - INSTALLATION
Figure 403/23-12-11-990-802 (Sheet 1 of 3)

ECCN 9E991 BOEING PROPRIETARY - See title page for details

U67577 S0000213376_V2

LOM
LOM

VHF COMMUNICATION ANTENNA WITH GASKET - INSTALLATION
Figure 403/23-12-11-990-802 (Sheet 2 of 3)

ECCN 9E991 BOEING PROPRIETARY - See title page for details

BOTTOM VHF ANTENNA MARKING
(PAINT STRIPES, EXAMPLE)

B

1307404 S0000224038_V2

LOM
LOM

VHF COMMUNICATION ANTENNA WITH GASKET - INSTALLATION
Figure 403/23-12-11-990-802 (Sheet 3 of 3)

ECCN 9E991 BOEING PROPRIETARY - See title page for details

LOM **LOM ALL**

TASK 23-12-11-400-801

4. VHF Communication Antenna - Installation

(Figure 401 or Figure 402)

A. References

Reference	Title
20-10-17-400-801	O-Rings Installation (P/B 401)
23-12-00-730-801	VHF Communication System - System Test (P/B 501)
51-21-31-350-801	Removal and Control of Corrosion for Aluminum and Aluminum Alloys (P/B 701)
51-21-41-370-802	Bonderite M-CR 600 Aero, Bonderite M-CR Alcrm 1200 Aero or Bonderite M-CR 1200S Aero Application Process (P/B 701)
51-31-00-390-804	Fillet Seal Application (P/B 201)
SL 20-043	Deferred Application of Aero-Sealant in Antenna Installations
SWPM 20-20-00	ELECTRICAL BONDING PROCESSES

B. Tools/Equipment

NOTE: When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

Reference	Description
COM-1550	Bonding Meter - Approved, Intrinsically Safe (Approved for use in Class I, Divisions I & II hazardous (classified) locations. Outside these hazardous locations, COM-614 can be used in lieu of COM-1550). Part #: 620LK Supplier: 1CRL2 Part #: M1 Supplier: 3AD17 Part #: M1B Supplier: 3AD17 Part #: T477W (C15292) Supplier: 06659

ECCN 9E991 BOEING PROPRIETARY - See title page for details

(Continued)

Reference	Description
COM-2481	Sealant Removal Tool (Meets BSS7384 Requirements) Part #: 1-6390-A Supplier: 63318 Part #: 10810 Supplier: $0855 Part #: 10811 Supplier: $0855 Part #: 10812 Supplier: $0855 Part #: 234350 Supplier: 5HCF1 Part #: 235072 Supplier: 5HCF1 Part #: 235073 Supplier: 5HCF1 Part #: 235074 Supplier: 5HCF1 Part #: 235075 Supplier: 5HCF1 Part #: 235076 Supplier: 5HCF1 Part #: 311/03 Supplier: F6892 Part #: 311/14 Supplier: F6892 Part #: 311/25 Supplier: F6892 Part #: 311/37 Supplier: F6892 Part #: AS1 Supplier: $1351 Part #: AS2 Supplier: $1351 Part #: AS3 Supplier: $1351 Part #: DAD5013 Supplier: 7RKH2 Part #: DFD5019 Supplier: 7RKH2 Part #: JNT411B60 Supplier: 3DN12 Part #: JNT411B90 Supplier: 3DN12 Part #: PT6529-S Supplier: 81205 Part #: SCD5019 Supplier: 7RKH2 Part #: ST982LF-9 Supplier: 81205 Part #: TS1275-4 Supplier: 22975

C. **Consumable Materials**

Reference	Description	Specification
A00247	Sealant - Pressure And Environmental - Chromate Type	BMS5-95
A50250	Sealant - P/S 870 Class B-1/2 Corrosion Inhibitive Sealant	BMS5-95 Class B-1/2
A50479	Sealant - P/S 870 Class B-2 Corrosion Inhibitive Sealant	BMS5-95 Class B-2
B00148	Solvent - Methyl Ethyl Ketone (MEK)	ASTM D740
B00184	Solvent - Presealing, Cleaning Solvent	BMS11-7
B00666	Solvent - Methyl Propyl Ketone	BMS11-9
B01026	Solvent - FCC-55	
B01054	Solvent - Methyl Ethyl Ketone and sec-Butyl Alcohol Blend - (MEK:secButyl Alcohol - 42:58 Percent)	BAC5750, ASTM D740/ASTM D1007
C00033	Coating - Protective Enamel, Flexibility Use	BMS10-60 Type II
C50005	Coating - Chemical Conversion - Bonderite M-CR 1200S Aero (Formerly Alodine 1200S)	BAC5719 Class A, C or D, MIL-DTL-81706 Type I Class 1A or 3
G00009	Compound - Organic Corrosion Inhibiting	BMS3-23

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(Continued)

Reference	Description	Specification
G00034	Cotton Wiper - Process Cleaning Absorbent Wiper (Cheesecloth, Gauze)	AMS3819 Class 1 Grade A or B Form 1 (Supersede BMS15-5 CL A)
G50316	Cloth - Clean, Dry, Lint-free, White, Cotton	

D. Expendables/Parts

AMM Item	Description	AIPC Reference	AIPC Effectivity
1	VHF communication antenna	23-12-11-01-010	LOM 402, 404, 406, 407, 411, 412, 415, 416, 420, 422-426, 429-434, 437-447, 450-999
		23-12-11-01-035	LOM 402, 404, 406, 407, 411, 412, 415, 420, 422-434, 437-447, 450-999
		23-12-11-01-165	LOM ALL
		23-12-11-02-010	LOM 427, 428
3	O-ring	23-12-11-01-015	LOM 404, 411, 416, 420, 422, 425, 429-434, 437, 438, 440, 442-447, 450-463, 465-999
		23-12-11-01-040	LOM 404, 411, 420, 422, 425, 427-434, 437, 438, 440, 442-447, 450-463, 465-999
		23-12-11-01-170	LOM 404, 411, 416, 420, 422, 425, 427-434, 437, 438, 440, 442-447, 450-463, 465-999

E. Location Zones

Zone	Area
LOM 402, 404, 406, 407, 411, 412, 415, 420, 422-434, 437-447, 450-999	
123	Forward Cargo Compartment - Left

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(Continued)

Zone	Area
LOM ALL	
143	Area Below Aft Cargo Compartment - Left
211	Flight Compartment - Left
212	Flight Compartment - Right
231	Forward Passenger Compartment - Forward Entry Door to Sta 663.75 - Left

F. Prepare for the Installation

SUBTASK 23-12-11-860-006

(1) Make sure that these circuit breakers are open and have safety tags:

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
D	11	C00165	COMMUNICATIONS VHF 1
LOM 402, 404, 406, 407, 411, 412, 415, 420, 422-434, 437-447, 450-999			
D	12	C00471	COMMUNICATIONS VHF 3

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
LOM ALL			
C	3	C00166	COMMUNICATIONS VHF 2

SUBTASK 23-12-11-100-002

(2) Clean the airplane mating surface.

(a) Remove sealant with a sealant removal tool, COM-2481.

WARNING

DO NOT GET SOLVENTS IN YOUR MOUTH, YOUR EYES, OR ON YOUR SKIN. DO NOT BREATHE THE FUMES FROM SOLVENTS. SOLVENTS ARE DANGEROUS MATERIALS. SOLVENTS CAN BE FLAMMABLE. OBEY THE MATERIAL SAFETY DATA SHEETS (MSDS) FOR SOLVENTS. OBEY LOCAL REGULATIONS FOR THE CORRECT PROCEDURES TO USE OR DISCARD SOLVENTS. SOLVENTS CAN CAUSE INJURIES TO PERSONNEL AND DAMAGE TO EQUIPMENT.

(b) Clean the airplane mating surface with a cotton wiper, G00034, that is moist with solvent, B00148, solvent, B00666, solvent, B00184, FCC-55 solvent, B01026, or solvent, B01054.

(c) Use a clean cotton wiper, G00034, to clean the airplane mating surface.

(d) Make sure that the airplane mating surface is dry.

SUBTASK 23-12-11-100-003

(3) If the mating surface has corrosion or other damage, or if the airplane mating surface has no chemical conversion coating, then do these steps to prepare the airplane mating surface:

NOTE: An alternative installation procedure is to apply corrosion inhibiting compound, G00009, on an airplane mating surface that has no chemical conversion coating.

(a) If there is corrosion, do this task: Removal and Control of Corrosion for Aluminum and Aluminum Alloys, TASK 51-21-31-350-801.

ECCN 9E991 BOEING PROPRIETARY - See title page for details

(b) Apply a layer of Bonderite M-CR 1200S Aero coating, C50005, to the airplane mating surface (TASK 51-21-41-370-802).

NOTE: Alternative chemical conversion coatings specified in TASK 51-21-41-370-802 may also be used.

SUBTASK 23-12-11-420-001

(4) Install a new o-ring [3] (TASK 20-10-17-400-801).

(a) Align the o-ring [3] in the groove.

G. VHF Communication Antenna Installation

SUBTASK 23-12-11-420-002

(1) Keep one of the 10 bolts [2] out to do an electrical bond check.

SUBTASK 23-12-11-420-006

(2) Install the VHF communication antenna [1].

(a) Connect the coaxial connector [4] to the VHF communication antenna [1].

(b) Apply a layer of sealant, A00247, to the shank and threads of 9 of the 10 bolts [2].

(c) Put the VHF communication antenna [1] in its position and install 9 of the bolts [2].

1) Tighten the bolts [2] to 80 ±2 in-lb (9.0 ±0.2 N·m).

SUBTASK 23-12-11-700-001

(3) Measure the resistance between the VHF communication antenna [1] base and the airplane skin with a intrinsically safe approved bonding meter, COM-1550 (SWPM 20-20-00).

NOTE: Use the empty bolt hole to get access to the VHF communication antenna [1] base.

(a) Make sure that the resistance is 0.001 ohm or less.

SUBTASK 23-12-11-420-003

(4) Apply a layer of sealant, A00247, to the shank and threads of the last bolt [2].

(a) Install the last bolt [2].

1) Tighten the bolt [2] to 80 ±2 in-lb (9 ±0 N·m).

SUBTASK 23-12-11-390-001

(5) Apply a fillet seal with P/S 870 Class B-1/2 sealant, A50250, or P/S 870 Class B-2 sealant, A50479, around the base of the VHF communication antenna [1] to make a corrosion fillet seal (TASK 51-31-00-390-804).

NOTE: Operators can defer the application of the aero-sealant in the antenna installation until next “A” check or overnight maintenance stop to prevent a flight delay. The deferral of the application of sealant must not exceed a maximum of eight weeks (SL 20-043).

(a) Let the sealant dry for the correct cure time.

NOTE: The cure time of the P/S 870 Class B-1/2 sealant, A50250, is 20 hours.

NOTE: The cure time of the P/S 870 Class B-2 sealant, A50479, is 48 hours.

SUBTASK 23-12-11-390-002

(6) Fill the extra holes on the antenna base with P/S 870 Class B-1/2 sealant, A50250, or P/S 870 Class B-2 sealant, A50479.

NOTE: Additional holes on the antenna base were once intended to be used for jack screws to help with the removal of the antenna. This is no longer recommended. Jack screws could damage the airplane skin.

ECCN 9E991 BOEING PROPRIETARY - See title page for details

SUBTASK 23-12-11-860-007

(7) Remove the safety tags and close these circuit breakers:

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
D	11	C00165	COMMUNICATIONS VHF 1
LOM 402, 404, 406, 407, 411, 412, 415, 420, 422-434, 437-447, 450-999			
D	12	C00471	COMMUNICATIONS VHF 3

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
LOM ALL			
C	3	C00166	COMMUNICATIONS VHF 2

H. VHF Communication Antenna Markings (Optional)

NOTE: Figure 401 or Figure 402 shows an example of caution markings for the bottom VHF antenna. Caution markings for the upper VHF antenna are the same. Follow airline requirements for VHF antenna marking. Color and pattern can be different.

SUBTASK 23-12-11-100-006

(1) Clean the surface of the VHF antenna with solvent, B00148, and a clean, dry cotton cloth, G50316.

SUBTASK 23-12-11-370-001

CAUTION

DO NOT USE METAL-BASED PAINT, OR METALLIC TAPE ON THE VHF ANTENNA. A HIGH VSWR WILL OCCUR. THIS CAN CAUSE DAMAGE TO THE VHF COMM TRANSCEIVER.

(2) If applicable, apply paint stripes on the bottom or top VHF antenna:

(a) Use the coating, C00033, Enamel or equivalent to apply paint stripes as shown in Figure 401 or Figure 402.

NOTE: You can repaint the VHF antenna, if there are no indications of delamination, wear, or cracking in the antenna or antenna base. Paint erosion due to wind and rain is considered normal. If you find any indications of cracking or delamination, replace the VHF antenna.

NOTE: Paint erosion on the leading edge is permitted up to 1 in. (25.40 mm) back. Erosion down to the primer will not affect form, fit or function however must be re-painted as soon as discovered.

I. Installation Test

SUBTASK 23-12-11-730-001

(1) Do this task: VHF Communication System - System Test, TASK 23-12-00-730-801.

END OF TASK

ECCN 9E991 BOEING PROPRIETARY - See title page for details

LOM **TASK 23-12-11-400-802**

LOM **5. VHF Communication Antenna With Gasket - Installation**

LOM (Figure 403)

LOM **A. General**

LOM (1) This procedure is used for the installation of antennas that use HI-TEK or Aerobond gaskets per 737-6789 SL 20-045.

LOM (2) As full certification tests of these gaskets was not done, it is recommended to do the steps that follow:

LOM (a) Do a visual inspection of the gasket and the mating surface each D check.

LOM (b) Do a check for deterioration and corrosion on the antenna and gasket after their removal.

LOM (c) Do a check of the airplane skin for corrosion and fretting caused by the antenna gasket.

LOM 1) Remove any corrosion and fretting on the airplane skin.

LOM **B. References**

Reference	Title
23-12-00-730-801	VHF Communication System - System Test (P/B 501)
51-21-31-350-801	Removal and Control of Corrosion for Aluminum and Aluminum Alloys (P/B 701)
51-21-41-370-802	Bonderite M-CR 600 Aero, Bonderite M-CR Alcrm 1200 Aero or Bonderite M-CR 1200S Aero Application Process (P/B 701)
SL 20-045	Use of Gasket in Lieu of Sealant for the Antenna Installation

LOM **C. Tools/Equipment**

LOM NOTE: When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

Reference	Description
COM-1550	Bonding Meter - Approved, Intrinsically Safe (Approved for use in Class I, Divisions I & II hazardous (classified) locations. Outside these hazardous locations, COM-614 can be used in lieu of COM-1550). Part #: 620LK Supplier: 1CRL2 Part #: M1 Supplier: 3AD17 Part #: M1B Supplier: 3AD17 Part #: T477W (C15292) Supplier: 06659

LOM **D. Consumable Materials**

Reference	Description	Specification
A00247	Sealant - Pressure And Environmental - Chromate Type	BMS5-95
B00148	Solvent - Methyl Ethyl Ketone (MEK)	ASTM D740
B00184	Solvent - Presealing, Cleaning Solvent	BMS11-7
B00666	Solvent - Methyl Propyl Ketone	BMS11-9
B01026	Solvent - FCC-55	

ECCN 9E991 BOEING PROPRIETARY - See title page for details

LOM 402, 404, 406, 407, 411, 412, 415, 416, 420, 422-431, 433, 434, 437-447, 450-999 (Continued)

(Continued)

Reference	Description	Specification
B01054	Solvent - Methyl Ethyl Ketone and sec-Butyl Alcohol Blend - (MEK:secButyl Alcohol - 42:58 Percent)	BAC5750, ASTM D740/ASTM D1007
C00033	Coating - Protective Enamel, Flexibility Use	BMS10-60 Type II
C50005	Coating - Chemical Conversion - Bonderite M-CR 1200S Aero (Formerly Alodine 1200S)	BAC5719 Class A, C or D, MIL-DTL-81706 Type I Class 1A or 3
G00009	Compound - Organic Corrosion Inhibiting	BMS3-23
G00034	Cotton Wiper - Process Cleaning Absorbent Wiper (Cheesecloth, Gauze)	AMS3819 Class 1 Grade A or B Form 1 (Supersede BMS15-5 CL A)
G50316	Cloth - Clean, Dry, Lint-free, White, Cotton	

E. Expendables/Parts

AMM Item	Description	AIPC Reference	AIPC Effectivity
1	VHF communication antenna	23-12-11-01-010	LOM 402, 404, 406, 407, 411, 412, 415, 416, 420, 422-426, 429-431, 433, 434, 437-447, 450-999
		23-12-11-01-035	LOM 402, 404, 406, 407, 411, 412, 415, 420, 422-431, 433, 434, 437-447, 450-999
		23-12-11-01-165	LOM 402, 404, 406, 407, 411, 412, 415, 416, 420, 422-431, 433, 434, 437-447, 450-999
		23-12-11-02-010	LOM 427, 428
5	Gasket	23-12-11-01-013	LOM 402, 406, 407, 412, 415, 420, 423, 424, 426, 437-439, 441, 443, 444, 458-460, 464
		23-12-11-01-038	LOM 402, 406, 407, 412, 415, 420, 423, 424, 426-428, 437-439, 441, 443, 444, 464
		23-12-11-01-168	LOM 402, 406, 407, 412, 415, 420, 423, 424, 426-428, 437-439, 441, 443, 444, 458-460, 464

F. Location Zones

Zone	Area
LOM 402, 404, 406, 407, 411, 412, 415, 420, 422-431, 433, 434, 437-447, 450-999	
123	Forward Cargo Compartment - Left

ECCN 9E991 BOEING PROPRIETARY - See title page for details

LOM **LOM 402, 404, 406, 407, 411, 412, 415, 420, 422-431, 433, 434, 437-447, 450-999 (Continued)**

(Continued)

Zone	Area
LOM 402, 404, 406, 407, 411, 412, 415, 416, 420, 422-431, 433, 434, 437-447, 450-999	
143	Area Below Aft Cargo Compartment - Left
211	Flight Compartment - Left
212	Flight Compartment - Right
231	Forward Passenger Compartment - Forward Entry Door to Sta 663.75 - Left

G. Prepare for the Installation

SUBTASK 23-12-11-860-013

(1) Make sure that these circuit breakers are open and have safety tags:

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
D	11	C00165	COMMUNICATIONS VHF 1
LOM 402, 404, 406, 407, 411, 412, 415, 420, 422-431, 433, 434, 437-447, 450-999			
D	12	C00471	COMMUNICATIONS VHF 3

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
LOM 402, 404, 406, 407, 411, 412, 415, 416, 420, 422-431, 433, 434, 437-447, 450-999			
C	3	C00166	COMMUNICATIONS VHF 2

SUBTASK 23-12-11-100-004

(2) Clean the airplane mating surface:

WARNING

DO NOT GET SOLVENTS IN YOUR MOUTH, YOUR EYES, OR ON YOUR SKIN. DO NOT BREATHE THE FUMES FROM SOLVENTS. SOLVENTS ARE DANGEROUS MATERIALS. SOLVENTS CAN BE FLAMMABLE. OBEY THE MATERIAL SAFETY DATA SHEETS (MSDS) FOR SOLVENTS. OBEY LOCAL REGULATIONS FOR THE CORRECT PROCEDURES TO USE OR DISCARD SOLVENTS. SOLVENTS CAN CAUSE INJURIES TO PERSONNEL AND DAMAGE TO EQUIPMENT.

(a) Clean the airplane mating surface with a cotton wiper, G00034, that is moist with solvent, B00148, solvent, B00666, solvent, B00184, FCC-55 solvent, B01026, or solvent, B01054.

(b) Use a clean cotton wiper, G00034, and clean the airplane mating surface again.

(c) Do these two steps above until the airplane mating surface is clean and dry.

SUBTASK 23-12-11-100-005

(3) If the mating surface has corrosion or other damage, or if the airplane mating surface has no chemical conversion coating, then do these steps to prepare the airplane mating surface:

NOTE: An alternative installation procedure is to apply corrosion inhibiting compound, G00009, on an airplane mating surface that has no chemical conversion coating.

(a) If there is corrosion, then, do this task: Removal and Control of Corrosion for Aluminum and Aluminum Alloys, TASK 51-21-31-350-801.

ECCN 9E991 BOEING PROPRIETARY - See title page for details

LOM 402, 404, 406, 407, 411, 412, 415, 416, 420, 422-431, 433, 434, 437-447, 450-999 (Continued)

(b) Apply a layer of Bonderite M-CR 1200S Aero coating, C50005, to the airplane mating surface (TASK 51-21-41-370-802).

NOTE: Alternative chemical conversion coatings specified in TASK 51-21-41-370-802 may also be used.

H. VHF Communication Antenna With Gasket Installation

SUBTASK 23-12-11-420-004

(1) Do these steps to install the VHF communication antenna [1]:

(a) Remove and discard the O-ring (if installed) from the VHF communication antenna [1].

(b) Remove the protective film from each side of the new gasket [5].

(c) Put the gasket [5] on the VHF communication antenna [1].

(d) Connect the coaxial connector [4] to the VHF communication antenna [1].

(e) Apply a layer of sealant, A00247, to the shank and threads of the 10 bolts [2].

CAUTION DO NOT APPLY SEALANT TO THE EDGES OF THE ANTENNA. THE GASKET RELEASES THE MOISTURE. IF YOU SEAL THE EDGES, THE MOISTURE WILL STAY. THIS CAN CAUSE CORROSION DAMAGE TO THE AIRPLANE, AND ANTENNA MATING SURFACES.

(f) Put the VHF communication antenna [1] in its position and install 9 of the 10 bolts [2].

1) If the bolts [2] are installed in domed nut plates, remove the elastomer from the mounting holes in the gasket.

2) Tighten the bolts [2] to 80 ±2 in-lb (9 ±0 N·m).

NOTE: The gel material of the gasket is compressible, the bolts need to be re-torqued 15 minutes of the installation.

(g) Fill extra holes on the antenna base with sealant, A00247.

NOTE: Extra holes on the antenna base were once intended to be used for jack screws to help remove the antenna. This is no longer recommended. Jack screws could damage the airplane skin.

SUBTASK 23-12-11-700-002

(2) Measure the resistance between the VHF communication antenna [1] base and the airplane skin with a intrinsically safe approved bonding meter, COM-1550.

(a) Make sure that the resistance is 0.001 ohm or less.

SUBTASK 23-12-11-420-005

(3) Install the last bolt [2] to 80 ±2 in-lb (9 ±0 N·m).

(a) Tighten the bolt [2] to 80 ±2 in-lb (9 ±0 N·m).

NOTE: The gel material of the gasket is compressible, the bolts need to be re-torqued 15 minutes of the installation.

SUBTASK 23-12-11-860-014

(4) Remove the safety tags and close these circuit breakers:

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
D	11	C00165	COMMUNICATIONS VHF 1

ECCN 9E991 BOEING PROPRIETARY - See title page for details

LOM **LOM 402, 404, 406, 407, 411, 412, 415, 416, 420, 422-431, 433, 434, 437-447, 450-999 (Continued)**

(Continued)

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
LOM 402, 404, 406, 407, 411, 412, 415, 420, 422-431, 433, 434, 437-447, 450-999			
D	12	C00471	COMMUNICATIONS VHF 3

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
LOM 402, 404, 406, 407, 411, 412, 415, 416, 420, 422-431, 433, 434, 437-447, 450-999			
C	3	C00166	COMMUNICATIONS VHF 2

I. VHF Communication Antenna Markings (Optional)

NOTE: Figure 403 shows an example of caution markings for the bottom VHF antenna. Caution markings for the top VHF antenna are the same. Follow airline requirements for VHF antenna marking. Color and pattern can be different.

SUBTASK 23-12-11-100-007

(1) Clean the surface of the VHF antenna with solvent, B00148, and a clean, dry cotton cloth, G50316.

SUBTASK 23-12-11-370-002

CAUTION: DO NOT USE METAL-BASED PAINT, OR METALLIC TAPE ON THE VHF ANTENNA. A HIGH VSWR WILL OCCUR. THIS CAN CAUSE DAMAGE TO THE VHF COMM TRANSCEIVER.

(2) If applicable, apply paint stripes on the bottom or top VHF antenna:

(a) Use the coating, C00033, Enamel or equivalent to apply paint stripes.

NOTE: You can repaint the VHF antenna, if there are no indications of delamination, wear, or cracking in the antenna or antenna base. Paint erosion due to wind and rain is considered normal. If you find any indications of cracking or delamination, replace the VHF antenna.

NOTE: Paint erosion on the leading edge is permitted up to 1 in. (25.40 mm) back. Erosion down to the primer will not affect form, fit or function however must be re-painted as soon as discovered.

J. Installation Test

SUBTASK 23-12-11-730-002

(1) Do this task: VHF Communication System - System Test, TASK 23-12-00-730-801.

END OF TASK

ECCN 9E991 BOEING PROPRIETARY - See title page for details

VHF COMMUNICATION TRANSCEIVER - REMOVAL/INSTALLATION

1. General

A. This procedure has these tasks:

(1) A removal of the VHF communication transceiver.

(2) An installation of the VHF communication transceiver.

LOM 404, 416; LOM 426 PRE SB 737-23-1535

B. The No. 1 and No. 2 VHF communication transceivers are located in the main equipment center on the electronic equipment rack E1.

LOM 402, 406, 407, 411, 412, 415, 420, 422-425, 427-434, 437-447, 450-999; LOM 404 POST SB 737-23-1484; LOM 426 POST SB 737-23-1535

C. The No. 1, No. 2, and No. 3 VHF communication transceivers are located in the main equipment center. The No. 1 and No. 2 VHF communication transceivers are installed on the electronic equipment rack E1. The No. 3 VHF communication transceiver is installed on the electronic equipment rack E3.

LOM ALL

TASK 23-12-21-020-801

2. VHF Communication Transceiver - Removal

(Figure 401)

A. References

Reference	Title
20-10-07-000-801	E/E Box Removal (P/B 201)
20-40-12-000-802	ESDS Handling for Metal Encased Unit Removal (P/B 201)

B. Location Zones

Zone	Area
117	Electrical and Electronics Compartment - Left
118	Electrical and Electronics Compartment - Right
211	Flight Compartment - Left
212	Flight Compartment - Right

C. Access Panels

Number	Name/Location
117A	Electronic Equipment Access Door

D. Removal Procedure

SUBTASK 23-12-21-860-001

(1) Open these circuit breakers and install safety tags:

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
D	11	C00165	COMMUNICATIONS VHF 1
LOM 402, 404, 406, 407, 411, 412, 415, 420, 422-434, 437-447, 450-999			
D	12	C00471	COMMUNICATIONS VHF 3

ECCN 9E991 BOEING PROPRIETARY - See title page for details

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
LOM ALL			
C	3	C00166	COMMUNICATIONS VHF 2

SUBTASK 23-12-21-010-001

(2) Open this access panel:

Number	Name/Location
117A	Electronic Equipment Access Door

SUBTASK 23-12-21-020-001

CAUTION

DO NOT TOUCH THE CONNECTOR PINS OR OTHER CONDUCTORS ON THE VHF COMM TRANSCEIVER. IF YOU TOUCH THESE CONDUCTORS, ELECTROSTATIC DISCHARGE CAN CAUSE DAMAGE TO THE VHF COMM TRANSCEIVER.

(3) Before you touch the VHF COMM TRANSCEIVER [1], do this task: ESDS Handling for Metal Encased Unit Removal, TASK 20-40-12-000-802.

SUBTASK 23-12-21-020-002

(4) To remove the VHF COMM TRANSCEIVER [1], do this task: E/E Box Removal, TASK 20-10-07-000-801.

END OF TASK

ECCN 9E991 BOEING PROPRIETARY - See title page for details

F53571 S0006564291_V2

VHF Communication Transceiver Installation
Figure 401/23-12-21-990-801 (Sheet 1 of 3)

ECCN 9E991 BOEING PROPRIETARY - See title page for details

G89126 S0006564292_V3

VHF Communication Transceiver Installation
Figure 401/23-12-21-990-801 (Sheet 2 of 3)

ECCN 9E991 BOEING PROPRIETARY - See title page for details

ELECTRONIC EQUIPMENT RACK, E3

B

G89318 S0006564293_V3

VHF Communication Transceiver Installation
Figure 401/23-12-21-990-801 (Sheet 3 of 3)

ECCN 9E991 BOEING PROPRIETARY - See title page for details

TASK 23-12-21-420-801

3. VHF Communication Transceiver - Installation

(Figure 401)

A. References

Reference	Title
20-10-07-400-801	E/E Box Installation (P/B 201)
20-40-12-400-802	ESDS Handling for Metal Encased Unit Installation (P/B 201)
23-12-00-710-801	VHF Communication System - Operational Test (P/B 501)

B. Expendables/Parts

AMM Item	Description	AIPC Reference	AIPC Effectivity
1	VHF COMM TRANSCEIVER	23-12-21-04-005	LOM 402, 406, 411, 432, 445, 464
		23-12-21-04-031	LOM 404, 407, 412, 415, 423, 424
		23-12-21-05-005	LOM 402, 404, 406, 411, 426, 432, 445, 464
		23-12-21-05-010	LOM 407, 412, 415, 416, 423, 424
		23-12-21-05-021	LOM 407, 412, 415, 416, 423, 424
		23-12-21-06-005	LOM 420, 422, 425, 427-431, 433, 434, 437-444, 446, 447, 450-463, 465-999
		23-12-21-06-016	LOM 420, 422, 425, 427-431, 433, 434, 437-444, 446, 447, 450-463, 465-999
		23-12-21-07-005	LOM 420, 422, 425-431, 433, 434, 437-444, 446, 447, 450-463, 465-999
		23-12-21-07-016	LOM 420, 422, 425-431, 433, 434, 437-444, 446, 447, 450-463, 465-999

C. Location Zones

Zone	Area
117	Electrical and Electronics Compartment - Left
118	Electrical and Electronics Compartment - Right
211	Flight Compartment - Left
212	Flight Compartment - Right

D. Access Panels

Number	Name/Location
117A	Electronic Equipment Access Door

ECCN 9E991 BOEING PROPRIETARY - See title page for details

E. Installation Procedure

SUBTASK 23-12-21-860-002

(1) Make sure that these circuit breakers are open and have safety tags:

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
D	11	C00165	COMMUNICATIONS VHF 1
LOM 402, 404, 406, 407, 411, 412, 415, 420, 422-434, 437-447, 450-999			
D	12	C00471	COMMUNICATIONS VHF 3

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
LOM ALL			
C	3	C00166	COMMUNICATIONS VHF 2

SUBTASK 23-12-21-420-001

> **CAUTION** DO NOT TOUCH THE CONNECTOR PINS, OR OTHER CONDUCTORS. IF YOU TOUCH THESE CONDUCTORS, ELECTROSTATIC DISCHARGE CAN CAUSE DAMAGE TO THE COMPONENTS.

(2) Before you touch the VHF COMM TRANSCEIVER [1], do this task: ESDS Handling for Metal Encased Unit Installation, TASK 20-40-12-400-802.

SUBTASK 23-12-21-420-002

(3) Install the VHF COMM TRANSCEIVER [1] (E/E Box Installation, TASK 20-10-07-400-801).

SUBTASK 23-12-21-860-003

(4) Remove the safety tags and close these circuit breakers:

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
D	11	C00165	COMMUNICATIONS VHF 1
LOM 402, 404, 406, 407, 411, 412, 415, 420, 422-434, 437-447, 450-999			
D	12	C00471	COMMUNICATIONS VHF 3

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
LOM ALL			
C	3	C00166	COMMUNICATIONS VHF 2

F. Installation Test

SUBTASK 23-12-21-860-004

(1) Do this task: VHF Communication System - Operational Test, TASK 23-12-00-710-801.

G. Put the Airplane Back to Its Initial Condition

SUBTASK 23-12-21-410-002

(1) Close this access panel:

Number	Name/Location
117A	Electronic Equipment Access Door

END OF TASK

ECCN 9E991 BOEING PROPRIETARY - See title page for details

RADIO TUNING PANEL - REMOVAL/INSTALLATION

1. General

A. This procedure has these tasks:

(1) A removal of the radio tuning panel.

(2) An installation of the radio tuning panel.

(3) Radio Tuning Panel - INOP Display Toggle.

B. The No. 1, No. 2, and No. 3 radio tuning panels (RTPs) are located on the aft electronic panel, P8, in the flight compartment.

TASK 23-12-41-000-801

2. Radio Tuning Panel (RTP) - Removal

(Figure 401)

A. References

Reference	Title
20-40-12-000-802	ESDS Handling for Metal Encased Unit Removal (P/B 201)
20-40-12-400-804	Conductive Dust Cap and Connector Cover Installation (P/B 201)

B. Location Zones

Zone	Area
211	Flight Compartment - Left
212	Flight Compartment - Right

C. Removal Procedure

SUBTASK 23-12-41-860-001

(1) Open these circuit breakers and install safety tags:

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
D	11	C00165	COMMUNICATIONS VHF 1
LOM 402, 404, 406, 407, 411, 412, 415, 420, 422-434, 437-447, 450-999			
D	12	C00471	COMMUNICATIONS VHF 3
LOM 402, 404, 406, 407, 411, 412, 415, 416, 420, 422-431, 433, 434, 437-447, 450-999			
E	11	C00839	COMMUNICATIONS HF 1

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
LOM ALL			
C	3	C00166	COMMUNICATIONS VHF 2
LOM 404, 412, 415, 416, 422-426, 433, 434, 439-445, 451-454, 457, 464-999			
D	2	C00857	COMMUNICATIONS HF 2
LOM ALL			

These circuit breakers are inoperative and should remain open:

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
LOM 432			

ECCN 9E991 BOEING PROPRIETARY - See title page for details

LOM 432 (Continued)

(Continued)

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
E	11	C00839	COMMUNICATIONS HF 1 (INOP)

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
LOM 402, 406, 407, 411, 420, 427-432, 437, 438, 446, 447, 450, 455, 456, 458-463			
D	2	C00857	COMMUNICATIONS HF 2 (INOP)

LOM ALL

SUBTASK 23-12-41-860-002

(2) Rotate the PANEL BRIGHT control on the aft electronic panel, P8, to the OFF position.

SUBTASK 23-12-41-020-001

CAUTION CLEARLY IDENTIFY THE CONNECTOR FOR THE RTP POSITION (NO. 1, NO. 2 OR NO. 3) DURING THE REPLACEMENT. IF NOT CAREFUL, A CROSS CONNECTION CAN OCCUR DURING INSTALLATION. IF YOU DO NOT OBEY, DAMAGE TO EQUIPMENT CAN OCCUR.

CAUTION DO NOT TOUCH THE CONNECTOR PINS OR OTHER CONDUCTORS ON THE RTP. IF YOU TOUCH THESE CONDUCTORS, ELECTROSTATIC DISCHARGE CAN CAUSE DAMAGE TO THE RTP.

(3) Before you touch the RTP [1], do this task: ESDS Handling for Metal Encased Unit Removal, TASK 20-40-12-000-802.

SUBTASK 23-12-41-020-002

(4) Do these steps to remove the RTP [1]:

(a) Loosen the four quarter-turn fasteners [2].

(b) Carefully lift the RTP [1] from the P8 panel to get access to the two electrical connectors [3].

NOTE: Some RTP units are installed with only one connector.

(c) Disconnect the two electrical connectors [3].

(d) To install protective covers on the two electrical connectors [3], do this task: Conductive Dust Cap and Connector Cover Installation, TASK 20-40-12-400-804.

END OF TASK

ECCN 9E991 BOEING PROPRIETARY - See title page for details

FLIGHT COMPARTMENT

AISLE STAND

NOTE:

1 SOME RTP UNITS ARE INSTALLED WITH ONLY ONE CONNECTOR.

G89424 S0006564303_V4

Radio Tuning Panel (RTP) Installation
Figure 401/23-12-41-990-801

ECCN 9E991 BOEING PROPRIETARY - See title page for details

TASK 23-12-41-400-801

3. Radio Tuning Panel (RTP) - Installation

(Figure 401)

A. References

Reference	Title
20-40-12-000-804	Conductive Dust Cap and Connector Cover Removal (P/B 201)
20-40-12-400-802	ESDS Handling for Metal Encased Unit Installation (P/B 201)

B. Expendables/Parts

AMM Item	Description	AIPC Reference	AIPC Effectivity
1	RTP	23-12-41-06-025	LOM 402, 404, 406, 407, 416, 420, 443, 444, 458-460
		23-12-41-06B-010	LOM 461-463
		23-12-41-06C-010	LOM 446, 447, 455, 456
		23-12-41-06D-010	LOM 422, 425, 433, 434, 440, 442, 453, 454
		23-12-41-06E-010	LOM 451, 452, 464
		23-12-41-06F-010	LOM 426, 450
		23-12-41-06J-005	LOM 429-431
		23-12-41-06K-010	LOM 445
		23-12-41-06R-010	LOM 411, 437, 438, 457
		23-12-41-06S-010	LOM 427, 428
		23-12-41-06W-010	LOM 465-999
		23-12-41-06Z-010	LOM 412, 415, 423, 424, 439, 441
		23-12-41-07-005	LOM 432
		31-11-91-79-155	LOM 426
		31-11-91-81E-255	LOM 404
		31-11-91-81G-255	LOM 402, 406, 407
		31-11-91-82Q-255	LOM 411
		31-11-91-82R-255	LOM 412, 415, 423, 424
		31-11-91-83H-255	LOM 416
		31-11-91-83M-255	LOM 420
		31-11-91-85T-255	LOM 422, 425

C. Location Zones

Zone	Area
211	Flight Compartment - Left
212	Flight Compartment - Right

ECCN 9E991 BOEING PROPRIETARY - See title page for details

D. Radio Tuning Panel (RTP) - Installation

SUBTASK 23-12-41-860-003

(1) Make sure that these circuit breakers are open and have safety tags:

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
D	11	C00165	COMMUNICATIONS VHF 1
LOM 402, 404, 406, 407, 411, 412, 415, 420, 422-434, 437-447, 450-999			
D	12	C00471	COMMUNICATIONS VHF 3
LOM 402, 404, 406, 407, 411, 412, 415, 416, 420, 422-431, 433, 434, 437-447, 450-999			
E	11	C00839	COMMUNICATIONS HF 1

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
LOM ALL			
C	3	C00166	COMMUNICATIONS VHF 2
LOM 404, 412, 415, 416, 422-426, 433, 434, 439-445, 451-454, 457, 464-999			
D	2	C00857	COMMUNICATIONS HF 2
LOM ALL			

These circuit breakers are inoperative and should remain open:

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
LOM 432			
E	11	C00839	COMMUNICATIONS HF 1 (INOP)

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
LOM 402, 406, 407, 411, 420, 427-432, 437, 438, 446, 447, 450, 455, 456, 458-463			
D	2	C00857	COMMUNICATIONS HF 2 (INOP)

LOM ALL

SUBTASK 23-12-41-860-038

(2) Make sure that the PANEL BRIGHT control, on the P8-50 control stand lighting control panel, is in the OFF position.

SUBTASK 23-12-41-420-001

CAUTION

CLEARLY IDENTIFY THE CONNECTOR FOR THE RTP POSITION (NO. 1, NO. 2 OR NO. 3) DURING THE REPLACEMENT. IF NOT CAREFUL, A CROSS CONNECTION CAN OCCUR DURING INSTALLATION. IF YOU DO NOT OBEY, DAMAGE TO EQUIPMENT CAN OCCUR.

CAUTION

DO NOT TOUCH THE CONNECTOR PINS OR OTHER CONDUCTORS ON THE RTP. IF YOU TOUCH THESE CONDUCTORS, ELECTROSTATIC DISCHARGE CAN CAUSE DAMAGE TO THE RTP.

(3) Before you touch the RTP [1], do this task: ESDS Handling for Metal Encased Unit Installation, TASK 20-40-12-400-802.

ECCN 9E991 BOEING PROPRIETARY - See title page for details

SUBTASK 23-12-41-420-002

(4) Do these steps to install the RTP [1]:

(a) To remove the protective covers from the two electrical conncectors [3], do this task: Conductive Dust Cap and Connector Cover Removal, TASK 20-40-12-000-804.

NOTE: Some Radio Tuning Panel (RTP) units are installed with only one connector.

(b) Examine the two electrical conncectors [3] for bent or broken pins, dirt, and damage.

(c) Connect the two electrical conncectors [3].

(d) Put the RTP [1] in its position on the P8 panel.

(e) Tighten the four qurater-turn fasteners [2].

SUBTASK 23-12-41-860-013

(5) For the installed RTP, remove the safety tags and close these circuit breakers:

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
D	11	C00165	COMMUNICATIONS VHF 1
LOM 402, 404, 406, 407, 411, 412, 415, 420, 422-434, 437-447, 450-999			
D	12	C00471	COMMUNICATIONS VHF 3
LOM 402, 404, 406, 407, 411, 412, 415, 416, 420, 422-431, 433, 434, 437-447, 450-999			
E	11	C00839	COMMUNICATIONS HF 1

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
LOM ALL			
C	3	C00166	COMMUNICATIONS VHF 2
LOM 404, 412, 415, 416, 422-426, 433, 434, 439-445, 451-454, 457, 464-999			
D	2	C00857	COMMUNICATIONS HF 2
LOM ALL			

These circuit breakers are inoperative and should remain open:

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
LOM 432			
E	11	C00839	COMMUNICATIONS HF 1 (INOP)

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
LOM 402, 406, 407, 411, 420, 427-432, 437, 438, 446, 447, 450, 455, 456, 458-463			
D	2	C00857	COMMUNICATIONS HF 2 (INOP)

LOM ALL

SUBTASK 23-12-41-860-016

(6) Make sure that the two circuit breakers for the other RTPs are open.

NOTE: You will close one circuit breaker at a time to do a check for a cross connection.

E. Installation Test

SUBTASK 23-12-41-860-006

(1) Rotate the PANEL BRIGHT control, on the P8 panel, to the midrange position.

ECCN 9E991 BOEING PROPRIETARY - See title page for details

(a) Make sure that the back-lighting intensity of the RTP [1] changes.

SUBTASK 23-12-41-860-018

WARNING DO NOT OPERATE THE HF COMMUNICATION SYSTEM WHILE YOU REFUEL OR DEFUEL THE AIRPLANE. AN EXPLOSION CAN CAUSE INJURIES TO PERSONNEL, AND DAMAGE TO THE AIRPLANE.

WARNING MAKE SURE THAT PERSONNEL STAY A MINIMUM OF 10 FT (3 M) AWAY FROM THE VERTICAL STABILIZER WHEN THE HF SYSTEM TRANSMITS. RF ENERGY FROM THE HF ANTENNA CAN CAUSE INJURIES TO PERSONNEL.

(2) Use the new RTP to set a Very High Frequency (VHF) communication system or High Frequency (HF) communication system to a test frequency.

SUBTASK 23-12-41-860-019

(3) Make sure that the VHF or HF communication operates satisfactorily.

SUBTASK 23-12-41-860-020

(4) For one of the other RTPs, remove the safety tags and close these circuit breakers:

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
D	11	C00165	COMMUNICATIONS VHF 1
LOM 402, 404, 406, 407, 411, 412, 415, 420, 422-434, 437-447, 450-999			
D	12	C00471	COMMUNICATIONS VHF 3
LOM 402, 404, 406, 407, 411, 412, 415, 416, 420, 422-431, 433, 434, 437-447, 450-999			
E	11	C00839	COMMUNICATIONS HF 1

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
LOM ALL			
C	3	C00166	COMMUNICATIONS VHF 2
LOM 404, 412, 415, 416, 422-426, 433, 434, 439-445, 451-454, 457, 464-999			
D	2	C00857	COMMUNICATIONS HF 2
LOM ALL			

These circuit breakers are inoperative and should remain open:

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
LOM 432			
E	11	C00839	COMMUNICATIONS HF 1 (INOP)

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
LOM 402, 406, 407, 411, 420, 427-432, 437, 438, 446, 447, 450, 455, 456, 458-463			
D	2	C00857	COMMUNICATIONS HF 2 (INOP)

LOM ALL

SUBTASK 23-12-41-860-021

(5) Use the applicable RTP to set a VHF or HF communication system to a test frequency.

ECCN 9E991 BOEING PROPRIETARY - See title page for details

SUBTASK 23-12-41-700-001

(6) Make sure that the VHF or HF communication system operates satisfactorily.

SUBTASK 23-12-41-860-022

(7) Remove the DO-NOT-CLOSE tag and close the last circuit breaker.

——— END OF TASK ———

LOM 402, 404, 406, 407, 411, 412, 415, 416, 420, 422-434, 437-447, 450-464

TASK 23-12-41-800-802

4. Radio Tuning Panel - INOP Display Toggle

A. General

(1) You can use this procedure to set or remove INOP from RTP ACTIVE/STANDBY frequency displays. If the RTP frequency displays are normal, this procedure will change the displays to show INOP. If the RTP frequency displays show INOP, this procedure will change the frequency displays to normal.

NOTE: For airplanes with the Gables G7404-04 RTP installed, there is a known software problem that causes INOP to show, even though the INOP pin option is not enabled. This procedure can be used to remove the INOP indication for those airplanes. Boeing recommends that the G7404-04 be replaced by the G7404-24 or G7404-124 panel at the airlines convenience.

(2) If a communication system is not installed, you can use this procedure to set the RTP to INOP for the applicable communication system.

(a) For Gables P/N G7404-0X, the RTP can be set to show INOP for VHF1, VHF2, VHF3, HF1 or HF2.

(b) For Gables P/N G7404-2X or G7404-12X, the RTP can be set to show INOP only for VHF3, HF1 or HF2.

(c) When the display for a communication system is changed in one RTP, the display of all RTP's will be changed for that communication system.

(d) If this procedure is used to set frequency displays from INOP to normal, a communication system failure will change (toggle) the applicable communication system to FAIL or back to INOP.

(e) When RTP frequency displays show INOP, the set communication system is not on or not installed.

(f) When RTP frequency displays show FAIL, the set communication system has failed.

(g) When RTP frequency displays show PANEL FAIL, there is a problem in the RTP, not in a communication system. The RTP self test failed.

B. Location Zones

Zone	Area
211	Flight Compartment - Left
212	Flight Compartment - Right

C. Radio Tuning Panel - Display Toggle Procedure

SUBTASK 23-12-41-860-023

(1) Do these steps:

ECCN 9E991 BOEING PROPRIETARY - See title page for details

(a) Make sure that these circuit breakers are closed:

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
D	11	C00165	COMMUNICATIONS VHF 1
LOM 402, 404, 406, 407, 411, 412, 415, 420, 422-434, 437-447, 450-464			
D	12	C00471	COMMUNICATIONS VHF 3

CAPT Electrical System Panel, P18-3

Row	Col	Number	Name
LOM 416			
B	18	C01513	COMMUNICATIONS RTP 3

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
LOM 402, 404, 406, 407, 411, 412, 415, 416, 420, 422-434, 437-447, 450-464			
C	3	C00166	COMMUNICATIONS VHF 2

(b) Push the RTP-1 Radio Tuning switch (VHF1, VHF2, VHF3, HF1 or HF2) for the communication system displays to be changed.

(c) Push the same Radio Tuning switch on RTP-2 (VHF1, VHF2, VHF3, HF1 or HF2).

(d) Push the same Radio Tuning switch on RTP-3 (if installed) (VHF1, VHF2, VHF3, HF1 or HF2).

(e) Open this circuit breaker:

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
D	11	C00165	COMMUNICATIONS VHF 1

(f) Wait a minimum of 5 seconds.

(g) Push and hold down the RTP-1 Frequency Transfer switch.

(h) Push and hold down the RTP-1 Radio Tuning switch (VHF1, VHF2, VHF3, HF1 or HF2) for the communication system displays to be changed.

(i) While still holding the Frequency Transfer switch and Radio Tuning system switch on RTP-1,

Close this circuit breaker:

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
D	11	C00165	COMMUNICATIONS VHF 1

(j) Make sure RTP-1, RTP-2, and RTP-3 (if installed) displays have changed (toggled).

(k) Release the RTP-1 Frequency Transfer switch.

(l) Release the Radio Tuning switch (VHF1, VHF2, VHF3, HF1 or HF2).

END OF TASK

ECCN 9E991 BOEING PROPRIETARY - See title page for details

1. General

A. This procedure has these tasks:

(1) Satcom System Deactivation

(2) Satcom System Activation

TASK 23-15-00-040-801

2. Satcom System - Deactivation

A. General

(1) This procedure removes electrical power to the SATCOM system.

B. Location Zones

Zone	Area
117	Electrical and Electronics Compartment - Left
211	Flight Compartment - Left
212	Flight Compartment - Right

C. Procedure

NOTE: The airplane will have no SATCOM or a single SATCOM system installed.

SUBTASK 23-15-00-860-072

(1) Open these circuit breakers and install safety tags:

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
E	13	C01420	SATCOM SDU
E	14	C01421	SATCOM HIGH
E	15	C01422	SATCOM AURAL WARN

D. Satcom System - Tryout

NOTE: This tryout is to make sure the Satcom System is in a zero energy state.

SUBTASK 23-15-00-860-073

(1) Make sure that these circuit breakers are open and have safety tags:

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
E	13	C01420	SATCOM SDU
E	14	C01421	SATCOM HIGH
E	15	C01422	SATCOM AURAL WARN

SUBTASK 23-15-00-710-039

(2) Do these steps at a control display unit (CDU) (P9):

(a) Push the MENU key.

(b) Push the line select key (LSK) adjacent to <SAT.

1) Make sure the SATCOM MAIN MENU does not show.

END OF TASK

ECCN 9E991 BOEING PROPRIETARY - See title page for details

TASK 23-15-00-440-801

3. Satcom System - Activation

A. General

(1) This procedure adds electrical power to the Satcom System.

B. Location Zones

Zone	Area
117	Electrical and Electronics Compartment - Left
211	Flight Compartment - Left
212	Flight Compartment - Right

C. Procedure

WARNING

MAKE SURE THAT PERSONNEL STAY A MINIMUM OF 10 FEET (3M) FROM THE SATCOM ANTENNA DURING THE TEST. RF ENERGY CAN CAUSE INJURIES TO PERSONNEL.

SUBTASK 23-15-00-860-074

NOTE: The airplane will have no SATCOM or a single SATCOM system installed.

(1) Remove the safety tags and close these circuit breakers:

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
E	13	C01420	SATCOM SDU
E	14	C01421	SATCOM HIGH
E	15	C01422	SATCOM AURAL WARN

END OF TASK

ECCN 9E991 BOEING PROPRIETARY - See title page for details

SATELLITE COMMUNICATIONS (SATCOM) SYSTEM - ADJUSTMENT/TEST

1. General

A. This procedure has these tasks for the satellite communications (SATCOM) system:

(1) A BITE test at the flight management computer control display unit.

(2) A BITE test at the satellite data unit.

(3) An operational test.

(4) A system test.

TASK 23-15-00-740-801

2. Satellite Communications (SATCOM) System - BITE Test at the Flight Management Control Display Unit

A. General

(1) The BITE test does a check of these components and functions:

(a) Satellite data unit (SDU)

(b) SDU Configuration Module (SCM)

(c) Low noise amplifier/diplexer (LNA/Dip)

(d) High gain antenna

B. References

Reference	Title
24-22-00-860-811	Supply Electrical Power (P/B 201)
24-22-00-860-812	Remove Electrical Power (P/B 201)
34-21-00-820-801	Air Data Inertial Reference System - Alignment from the FMC CDU (P/B 201)
34-21-00-820-802	Air Data Inertial Reference System - Alignment from the ISDU (P/B 201)

C. Location Zones

Zone	Area
211	Flight Compartment - Left
212	Flight Compartment - Right

D. Prepare Procedure

SUBTASK 23-15-00-860-001

(1) Make sure that the airplane has electrical power.

(a) If it is necessary, supply the electrical power to the airplane ((TASK 24-22-00-860-811).

SUBTASK 23-15-00-860-036

(2) Align the inertial reference system (IRS) (TASK 34-21-00-820-802 or TASK 34-21-00-820-801).

E. Procedure

SUBTASK 23-15-00-860-071

(1) Do these steps to examine the BITE status at the CDU:

(a) Push the MENU function key.

(b) Push the LSK adjacent to <SAT to go into the SAT-PHONE page.

(c) Push the NEXT PAGE function key to see the SAT-PHONE page 2/2.

ECCN 9E991 BOEING PROPRIETARY - See title page for details

1) Make sure that the BITE status shows BITE OK>.

NOTE: The SDU uses the logic that follow to calculate the BITE status. If all the items in the SATCOM BITE page showed OK, then the BITE status the SAT-PHONE page 2/2 shows BITE OK. To see the SATCOM BITE page, push the LSK adjacent to BITE OK>:

- SDU = OK
- SUBSY HLTH = OK
- OVERTEMP = OK
- SCM = OK
- SYS BUS = OK
- SUBSY BUS = OK
- Channel X = Channel Y (Channels displayed as X/Y)
- RF PATH = OK
- USIM W = USIM Z (USIM displayed as W/Z)
- DATA U = DATA V (DATA displayed as U/V)

F. Put the Airplane Back to Its Usual Condition

SUBTASK 23-15-00-860-003

(1) If the air data inertial reference system is not necessary, set the mode select switches on the mode select unit (P5) to the OFF position.

SUBTASK 23-15-00-040-001

(2) Remove electrical power from the airplane, if it is not necessary for other tasks (TASK 24-22-00-860-812).

——— END OF TASK ———

TASK 23-15-00-740-802

3. Satellite Communications (SATCOM) System - BITE Test at the Satellite Data Unit

A. General

(1) The BITE test at the satellite data unit (SDU) does the same test as the BITE test at the flight management computer control display unit (CDU).

(2) The BITE test does a check of these components and functions:

(a) Satellite data unit (SDU)

(b) SDU configuration module (SCM)

(c) Low noise amplifier/diplexer (LNA/Dip)

(d) High gain antenna

(3) The SATCOM system does a power-up sequence during the BITE test. If the SATCOM system is logged-on, it will log-off. When the BITE test is complete, the SATCOM system will log-on again (automatic mode).

B. References

Reference	Title
24-22-00-860-811	Supply Electrical Power (P/B 201)
24-22-00-860-812	Remove Electrical Power (P/B 201)

ECCN 9E991 BOEING PROPRIETARY - See title page for details

(Continued)

Reference	Title
34-21-00-820-801	Air Data Inertial Reference System - Alignment from the FMC CDU (P/B 201)
34-21-00-820-802	Air Data Inertial Reference System - Alignment from the ISDU (P/B 201)

C. Location Zones

Zone	Area
211	Flight Compartment - Left
212	Flight Compartment - Right

D. Prepare Procedure

SUBTASK 23-15-00-860-005

(1) Make sure that the airplane has electrical power.

(a) If it is necessary, supply the electrical power to the airplane ((TASK 24-22-00-860-811).

SUBTASK 23-15-00-860-037

(2) Align the inertial reference system (IRS) (TASK 34-21-00-820-802 or TASK 34-21-00-820-801).

SUBTASK 23-15-00-010-001

(3) Remove the access panel for the electronic (E6) rack in the aft cargo compartment (right side).

E. Procedure

SUBTASK 23-15-00-740-014

(1) Do a BITE test at the front panel of the SDU:

NOTE: All SATCOM communications stop during this test. If SATCOM communications are in progress, they are disconnected when you do this test.

(a) Push and release the TEST switch on the front panel of the SDU.

1) Make sure that the POWER and FAULT LEDs are flashing (On/Off) alternately while the self-test in progress.

2) At the end of the test:

a) Make sure that the POWER LED (Green) comes ON constantly for approximately 60 seconds, then goes OFF.

b) Make sure that the FAULT LED (Red) goes OFF.

NOTE: If there is no fault found during the self-test, both POWER and FAULT LEDs will go OFF. If there is a LRU fault, the FAULT LED (Red) comes ON constantly. If there is an external interface bus fault, the FAULT LED (Red) flashes.

F. Put the Airplane Back to Its Usual Condition

SUBTASK 23-15-00-410-001

(1) Install the access panel for the SATCOM (E6) rack.

SUBTASK 23-15-00-860-007

(2) If the air data inertial reference system is not necessary, set the mode select switches on the mode select unit (P5) to the OFF position.

ECCN 9E991 BOEING PROPRIETARY - See title page for details

SUBTASK 23-15-00-040-004

(3) Remove electrical power from the airplane, if it is not necessary for other tasks (TASK 24-22-00-860-812).

——— END OF TASK ———

TASK 23-15-00-710-801

4. Satellite Communications (SATCOM) System - Operational Test

A. General

(1) The operational test includes these tests:

(a) A Built-In-Test Equipment (BITE) test.

(b) A Radio Frequency (RF) link test.

(c) A Voice Communication Test

(2) When you do this test, make sure the airplane is not in or near a large metal structure. The Satellite Communications System (SATCOM) antenna must have a clear view to the applicable satellite. Buildings and other large objects can prevent a clear view.

(3) This voice communication test uses the captain's audio control panel, headset, and push-to-talk switch, but you can do the test with equipment at one of the other flight crew positions.

B. References

Reference	Title
34-21-00-820-801	Air Data Inertial Reference System - Alignment from the FMC CDU (P/B 201)
34-21-00-820-802	Air Data Inertial Reference System - Alignment from the ISDU (P/B 201)

C. Location Zones

Zone	Area
211	Flight Compartment - Left
212	Flight Compartment - Right

D. Prepare Procedure

SUBTASK 23-15-00-860-010

(1) Align the Inertial Reference System (IRS) (TASK 34-21-00-820-802 or TASK 34-21-00-820-801).

SUBTASK 23-15-00-860-045

(2) Connect a headset with built in microphone to the Captain's mic/audio jack panel.

SUBTASK 23-15-00-860-046

(3) Push all the volume control switches to the OFF position on all the Audio Control Panel (ACP)s.

(a) Make sure that the related Light Emitting Diode (LED) for the volume controls are OFF.

SUBTASK 23-15-00-860-047

(4) Make sure that the SAT-1 and SAT-2 volume controls of the Captain’s ACP are at the approximate midrange position.

ECCN 9E991 BOEING PROPRIETARY - See title page for details

E. BITE Test

SUBTASK 23-15-00-740-001

(1) Do this task: Satellite Communications (SATCOM) System - BITE Test at the Flight Management Control Display Unit, TASK 23-15-00-740-801.

F. RF Link Test

SUBTASK 23-15-00-710-037

> **WARNING** MAKE SURE THAT PERSONNEL STAY A MINIMUM OF 10 FEET AWAY FROM THE TOP-MOUNTED HIGH-GAIN ANTENNA DURING THE TEST. RF ENERGY CAN CAUSE INJURIES TO PERSONNEL.

(1) Do the steps that follow to make sure the SAT-PHONE page shows on both Control Display Unit (CDU)s:

(a) Push the MENU key on the Left and Right CDU.

1) Make sure that <SAT shows on both CDUs.

(b) Push the Line Select Key (LSK) adjacent to <SAT on the Left and the Right CDUs.

1) Make sure that the SAT-PHONE page shows on both CDUs.

(2) Do the steps that follow with one of the CDUs to make sure the SATCOM system Logged-On to the Ground Earth Station (GES):

NOTE: Use the same CDU for the subsequent steps.

(a) From the SAT-PHONE page, push the NEXT PAGE function key to find the SAT-PHONE page 2/2.

(b) Push the LSK adjacent to <LOG to show the SATCOM LOG page.

(c) Wait for the log-on status to show LOGGED ON.

NOTE: It can take up to 10 minutes for the SATCOM system to log-on automatically to the GES.

(d) Make sure that you see LOGGED ON for the log-on status.

NOTE: This step makes sure that the SATCOM system is logged-on to the GES.

G. Voice Communication Test

SUBTASK 23-15-00-710-011

(1) Do these steps to enter the approved test telephone numbers to the CLSSC (SAT-1) and SBB (SAT-2) channels:

(a) Push the MENU function key.

(b) Push the LSK adjacent to <SAT to go into the SAT-PHONE page 1/2 .

(c) Push the LSK adjacent to DIRECTORY> to go into the SAT DIRECTORY INDEX page.

(d) Push the LSK adjacent to an applicable category.

(e) Find the name for an approved test telephone number.

(f) Push the LSK adjacent to that telephone number (left LSK for CLSSC and right LSK for SBB).

NOTE: Depends on the selected priority of the phone number. You can only enter PUB priority numbers on the SBB channel.

1) Make sure that a name or a telephone number shows below the <MAKE CALL of CLSSC and SBB (SAT-PHONE page 1/2).

ECCN 9E991 BOEING PROPRIETARY - See title page for details

SUBTASK 23-15-00-710-012

(2) If you can not find an approved test telephone number from the SAT DIRECTORY pages, do these steps:

(a) Make sure that the CDU shows SAT-PHONE page 1/2.

(b) Enter a short code or use the prefix 001 followed by an approved test telephone number to the scratchpad.

NOTE: If you do not know a short code or an approved test telephone number for this test, speak with your engineering department.

(c) To transfer a short code or a telephone number from the scratchpad to the CLSSC (SAT-1) or SBB (SAT-2) channel:

1) Push the LSK 1L for CLSSC channel or LSK 4L for SBB channel.

2) Make sure that the short code or telephone number shows below the <MAKE CALL of CLSSC or SBB channel.

SUBTASK 23-15-00-710-013

(3) Set the SATCOM call priority for CLSSC (SAT-1) and SBB (SAT-2) channels (SAT-PHONE page 1/2).

NOTE: For Classic channel, the values for priority are PUB (public), LOW (low), HGH (high), and EMG (emergency). Do not use priority EMG (emergency) for test, because the priority EMG is reserved for emergency and distress calls only, it will set the alarms to the GES and notifies the airline operators that an airplane is in an emergency or distress condition.

NOTE: For SBB channel, the value for priority is SBB PUB. You cannot change the priority of calls on SBB channel. SBB calls are always public (PUB) priority.

SUBTASK 23-15-00-710-014

(4) Make a call on the CLSSC (SAT-1) channel:

(a) Make sure that a telephone number shows for CLSSC (SAT-1) (SAT-PHONE page 1/2).

(b) Push the LSK 1L adjacent to <MAKE CALL to make a call on the CLSSC (SAT-1) channel.

(c) When CLSSC (SAT-1) call is connected:

1) Make sure that the channel status shows ANSWERED for the CLSSC channel (SAT-PHONE page 1/2).

2) Make sure that the CALL lights for SAT-1 come on at all the ACP.

SUBTASK 23-15-00-710-015

(5) Do these steps at the captain's ACP for SAT-1 call:

(a) Push the SAT-1 MIC switch to the ON position.

(b) Push the SAT-1 receiver volume control switch to the ON position.

(c) Adjust the receiver volume control switch for the SAT-1.

SUBTASK 23-15-00-710-016

(6) Use the captain's headset to speak with the person on the other end of the call for the SAT-1 channel.

(7) Push and hold a Push-To-Talk (PTT) switch for microphone operation.

SUBTASK 23-15-00-710-021

(8) Tell the person at the other end to hold this line while you do an operational test for the SAT-2 channel.

ECCN 9E991 BOEING PROPRIETARY - See title page for details

SUBTASK 23-15-00-710-022

(9) Make a SATCOM call on the SBB (SAT-2) channel while the CLSSC (SAT-1) call is connected:

NOTE: SBB calls are only available on the I-4 satellites. If logged onto an I-3 satellite, channel 2 (SBB) will show as NOT READY status.

(a) Make sure that a telephone number shows for SBB (SAT-2) (SAT-PHONE page 1/2).

(b) Push the LSK 4L adjacent to <MAKE CALL to make a call on the SBB (SAT-2) channel.

(c) When SBB (SAT-2) call is connected:

1) Make sure that the channel status shows ANSWERED for the SBB channel (SAT-PHONE page 1/2).

2) Make sure that the CALL lights for SAT-2 come on at all the ACP.

SUBTASK 23-15-00-710-023

(10) Do these steps at the captain's ACP for the SAT-2 call:

(a) Push the SAT-2 MIC switch.

(b) Push the SAT-2 receiver volume control switch to the ON position.

(c) Adjust the receiver volume control switch for the SAT-2.

SUBTASK 23-15-00-710-024

(11) Use the captain's headset to speak with the person at the other end of the call for the SAT-2 channel.

(a) Push and hold a PTT switch for microphone operation.

SUBTASK 23-15-00-710-025

(12) Make sure that the two SATCOM channels (SAT-1 and SAT-2) stay connected at the same time.

SUBTASK 23-15-00-710-017

(13) Do a voice quality check on both CLSSC (SAT-1) and SBB (SAT-2) channels:

(a) Make sure that transmitted voice and received voice qualities are good (loud and clear).

(b) While you listen to the received voice. Slowly turn the applicable receiver volume control on the captain's ACP.

(c) Make sure that the sound level changes smoothly without a voice quality change.

SUBTASK 23-15-00-710-036

(14) Release the PTT switch.

SUBTASK 23-15-00-710-018

(15) To complete the SATCOM calls:

(a) Push the LSK 1L adjacent to <END CALL for the CLSSC (SAT-1) channel.

(b) Push the LSK 4L adjacent to <END CALL for the SBB (SAT-2) channel.

H. Put the Airplane Back to Its Usual Condition

SUBTASK 23-15-00-860-011

(1) Push the MENU key on the CDUs.

SUBTASK 23-15-00-860-012

(2) If the Air Data Inertial Reference System (ADIRS) is not necessary, set the mode select switches on the mode select unit (P5) to the OFF position.

END OF TASK

ECCN 9E991 BOEING PROPRIETARY - See title page for details

TASK 23-15-00-710-802

5. Satellite Communications (SATCOM) System - System Test

A. General

(1) The system test includes these tests:

(a) A software configuration check.

(b) An operational test

(2) The software configuration check makes sure the satellite data unit has correct software.

(3) When you do the system test, make sure the airplane is not in or near a large metal structure. The SATCOM antenna must have a clear view to the applicable satellite. Buildings and other large objects can prevent a clear view.

(4) This system test uses the captain's Audio Control Panel (ACP), headset, and Push-To-Talk (PTT) switch, but you can do the test with equipment at one of the other flight crew positions.

B. References

Reference	Title
23-15-10-470-801	Satellite Data Unit (SDU) Software Installation with a Portable Data Loader (P/B 201)
23-15-10-470-804	Satellite Data Unit Software Installation with an Enhanced Airborne Data Loader (eADL) (P/B 201)
24-22-00-860-811	Supply Electrical Power (P/B 201)
24-22-00-860-812	Remove Electrical Power (P/B 201)

C. Location Zones

Zone	Area
211	Flight Compartment - Left
212	Flight Compartment - Right

D. Prepare Procedure

SUBTASK 23-15-00-860-014

(1) Make sure that the airplane has electrical power.

(a) If it is necessary, supply the electrical power to the airplane (TASK 24-22-00-860-811).

E. Software Configuration Check

SUBTASK 23-15-00-740-013

(1) Do these steps at a Control Display Unit (CDU) to do a configuration check of the software parts (Secure ORT and User ORT) for the Satellite Data Unit (SDU):

NOTE: You must know the correct software part numbers for the SDU. For the SDU to be an approved installation, the correct software part numbers must be installed.

(a) Push the MENU key.

(b) Push the Line Select Key (LSK) adjacent to <SAT to go into the SAT-PHONE page.

(c) Push the NEXT PAGE function key to see the SAT-PHONE page 2/2.

(d) Push the LSK adjacent to CONFIG> to go into the SATCOM CONFIG page.

(e) Push the NEXT PAGE function key until you see the SATCOM CONFIG page 2/4.

(f) Examine the software part numbers for SDU SORT and SDU UORT.

NOTE: SORT = Secure ORT, UORT = User ORT. Secure ORT and User ORT are the software parts that are loadable for the SDU.

ECCN 9E991 BOEING PROPRIETARY - See title page for details

1) Make sure the software part numbers for the SDU SORT and SDU UORT are correct.

a) If the software part numbers are not correct, do this task: Satellite Data Unit (SDU) Software Installation with a Portable Data Loader, TASK 23-15-10-470-801 or Satellite Data Unit Software Installation with an Enhanced Airborne Data Loader (eADL), TASK 23-15-10-470-804.

(g) Push the MENU key.

F. Operational Test

SUBTASK 23-15-00-710-007

(1) Do this task: Satellite Communications (SATCOM) System - Operational Test, TASK 23-15-00-710-801

G. Put the Airplane Back to Its Usual Condition

SUBTASK 23-15-00-860-016

(1) Push the MENU key on the CDUs.

SUBTASK 23-15-00-860-017

(2) If the air data inertial reference system is not necessary, set the mode select switches on the mode select unit (P5) to the OFF position.

SUBTASK 23-15-00-040-003

(3) Remove electrical power from the airplane, if it is not necessary for other tasks (TASK 24-22-00-860-812).

END OF TASK

ECCN 9E991 BOEING PROPRIETARY - See title page for details

SATELLITE DATA UNIT (SDU) - MAINTENANCE PRACTICES

1. General

A. This procedure has this task:

(1) An installation of the satellite data unit (SDU) software with the use of an enhanced airborne data loader (eADL).

LOM 464, 465

(2) An installation of the satellite data unit (SDU) software with the use of a portable data loader (PDL).

LOM 429-431, 464, 465

B. For general information for software installation times and data loaders, do this task: On-Airplane Software - Installation, TASK 20-15-11-400-801.

TASK 23-15-10-470-804

2. Satellite Data Unit Software Installation with an Enhanced Airborne Data Loader (eADL)

A. General

(1) This procedure tells you how to install software into the satellite data unit (SDU).

(a) The SDU must contain these pieces of software:

LOM 429-431, 464

NOTE: Make sure you install the secured ORT before you install the user ORT.

LOM 465

NOTE: Install the OPS first. Install the secure ORT second and then the user ORT.

LOM 429-431, 464

1) Secured owner requirements table (ORT) software.
2) User owner requirements table (ORT) software.

LOM 465

3) Operational Program Software (OPS).
4) Secured Owner Requirements Table (ORT) software.
5) User Owner Requirements Table (ORT) software.

LOM 429-431, 464

(b) Use this procedure for an approved installation of software for the SDU, which includes the secured ORT and the user ORT software.

LOM 465

(c) Use this procedure for an approved installation of software for the SDU, which includes the OPS software, the secured ORT, and user ORT.

LOM 429-431, 464

(2) When the ORT software parts are installed to the SDU, the SDU automatically does the following steps:

(a) Store a local copy of ORT software parts in the SDU .

(b) Install the ORT software parts into the SCM.

ECCN 9E991 BOEING PROPRIETARY - See title page for details

LOM 429-431, 464 (Continued)

(c) Overwrite the old ORTs held in the SCM and the SDU local copy.

(3) You can first do the software configuration check to make sure that the SDU needs new software. It will save time if you only install software when the software is missing or the part number is incorrect. The software configuration check is in this task: Satellite Communications (SATCOM) System - System Test, TASK 23-15-00-710-802.

LOM 429-431, 464, 465

(4) The eADL has two procedures for software installation:

(a) Floppy Disk Software Installation

(b) USB Flash Drive Software Installation

1) This procedure uses the USB port on the front panel of the eADL to install software from a valid USB flash drive to the Mass Storage Device (MSD). Once the software is installed on the MSD, the software is loaded to the SDU LRU.

2) The USB flash drive must be configured correctly using the USB stick creator tool defined in the eADL Operations Guide.

(5) An enhanced airborne data loader (eADL) and a control display unit (CDU) are necessary for this procedure. A data loader control panel is also necessary for this procedure. The data loader control panel is installed above the eADL on the P61 panel.

(6) The airplane must be on the ground with the engines shutdown before you can install software.

(7) Some airlines keep the circuit breaker for the data loader open when the data loader is not necessary. This increases the length of time that the data loader is serviceable.

B. References

Reference	Title
20-15-11-400-801	On-Airplane Software - Installation (P/B 201)
23-15-00-710-802	Satellite Communications (SATCOM) System - System Test (P/B 501)
34-21-00-820-801	Air Data Inertial Reference System - Alignment from the FMC CDU (P/B 201)
34-21-00-820-802	Air Data Inertial Reference System - Alignment from the ISDU (P/B 201)

C. Location Zones

Zone	Area
212	Flight Compartment - Right

D. Prepare Procedure

SUBTASK 23-15-10-860-055

(1) Make sure that the airplane parking brake is set or on.

SUBTASK 23-15-10-860-056

(2) Make sure that these circuit breakers are closed:

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
A	9	C00923	DATA LOADER
LOM 429-431, 464			
E	13	C01420	SATCOM SDU

ECCN 9E991 BOEING PROPRIETARY - See title page for details

LOM 429-431, 464 (Continued)

(Continued)

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
LOM 465			
E	13	C04060	SATCOM SDU
LOM 429-431, 464			
E	14	C01421	SATCOM HIGH
E	15	C01422	SATCOM AURAL WARN

SUBTASK 23-15-10-860-057

(3) Do this task: Air Data Inertial Reference System - Alignment from the ISDU, TASK 34-21-00-820-802 or Air Data Inertial Reference System - Alignment from the FMC CDU, TASK 34-21-00-820-801.

LOM 429-431, 464, 465

SUBTASK 23-15-10-860-058

(4) Make sure the system select switch on the data loader control panel (P61) is set to NORM or NORMAL.

SUBTASK 23-15-10-860-059

(5) Make sure that you know the correct software part numbers for the SDU.

NOTE: For the SDU to be an approved installation, software with the correct part numbers must be installed.

E. Procedure

SUBTASK 23-15-10-470-010

(1) Do these steps at the data loader control panel:

(a) Set the upper switch to the L CAPT UPR position.

(b) Set the system select switch to the SATCOM position.

SUBTASK 23-15-10-470-011

(2) Open the eADL front cover by releasing the two screws and lifting up on the cover.

F. Software Installation - (Preferred)

SUBTASK 23-15-10-470-029

(1) Follow the generic Airborne Data Loader (ADL) procedure to load software part (TASK 20-15-11-400-801).

G. Floppy Disk Software Installation - (Non-Preferred)

SUBTASK 23-15-10-470-012

(1) Do these steps to install software from a floppy disk to the SDU LRU:

(a) Make sure that the “eADL Main Menu” is shown.

NOTE: To navigate UP or DOWN and make a selection on the eADL screen, use the appropriate buttons on the eADL front panel.

NOTE: If the eADL Main Menu does not show, select MAIN or GO BACK until the eADL shows the Main Menu.

(b) Select “Target Page”.

1) Make sure that the “Select Target System” screen shows.

ECCN 9E991 BOEING PROPRIETARY - See title page for details

(c) Select “Floppy Drive”.

1) Make sure that the “Load Confirmation” screen shows.

(d) Put a floppy disk (in sequence) of the disk set into the eADL disk drive.

NOTE: It may take one to two minutes for the installation to start.

(e) Select “CONFIRM”.

1) Make sure that the eADL shows a “Transfer In Progress” screen.

(f) On the “Transfer In Progress” screen, make sure that “LOADING” shows on the bottom of the screen.

(g) Follow the prompts on the data loader to complete the installation.

1) If there is more than one disk to install, wait for 10 seconds after each disk is completed before you remove it and install the subsequent disk.

NOTE: CHNG, CHANGE DISK, DISK CHANGE and INSERT DISK are examples of data loader prompts for a subsequent disk.

(h) On the “Transfer In Progress” screen, wait for the eADL to show “Load Complete” or “COMPLETE”.

(i) Remove the floppy disk from the disk drive when the software installation is complete.

(j) Select “GO BACK” two times to go back to the eADL Main Menu screen.

LOM 429-431, 464

SUBTASK 23-15-10-470-013

(2) Wait until the <SAT prompt shows on the CDU before you continue the procedure.

NOTE: The SDU will reset each time a software installation is completed.

LOM 429-431, 464, 465

H. USB Flash Drive Software Installation - (Non-Preferred)

SUBTASK 23-15-10-470-014

(1) Do these steps to install software from a USB flash drive to the eADL MSD:

(a) Put the USB flash drive into the eADL USB port.

NOTE: The USB flash drive must be configured correctly by the USB stick creator tool as specified in the eADL Operations Guide.

(b) Make sure that the “eADL Main Menu” is shown.

NOTE: To navigate UP or DOWN and make a selection on the eADL screen, use the appropriate buttons on the eADL front panel.

NOTE: If the eADL Main Menu does not show, select MAIN or GO BACK until the eADL shows the Main Menu.

(c) Select “Maintenance Page”.

1) This will show the “Maintenance Menu” screen.

(d) Select “Transfer Parts From USB”.

NOTE: If the error message “USB Is Not Mounted Or Is Not A Valid USB” is shown, select “GO BACK” and do the steps again.

NOTE: Make sure the USB flash drive is configured correctly by the USB stick creator tool as specified in the eADL Operations Guide.

1) The eADL screen will show “CONFIRM TO BEGIN TRANSFERRING”.

ECCN 9E991 BOEING PROPRIETARY - See title page for details

2) Select “CONFIRM”.

NOTE: The USB and MSD annunciators will turn yellow during the transfer procedure.

NOTE: If the software is already on the eADL MSD, this message will show: “Skipping, the software part number already exists.”

(e) When the software transfer is complete, the USB and MSD annunciators will turn green and this message will show:

“Part Transfer Complete”

NOTE: The annunciators will turn red if the transfer procedure is aborted or if there is a failure.

(f) Select “GO BACK” two times to go back to the main menu.

SUBTASK 23-15-10-470-015

(2) Do these steps to install the software from the eADL MSD to the SDU LRU:

(a) Make sure that the “eADL Main Menu” is shown.

NOTE: To navigate UP or DOWN and make a selection on the eADL screen, use the appropriate buttons on the eADL front panel.

NOTE: If the eADL Main Menu does not show, select MAIN or GO BACK until the eADL shows the Main Menu.

(b) Select “Target Page”.

1) Make sure that the “Select Target System” screen shows.

(c) Select the LRU to receive the software.

1) Make sure that the “Select Software Part” screen shows.

(d) Push the “SELECT” button for the necessary software part number.

NOTE: The listed software will appear as it was originally configured in the USB stick creator tool.

(e) Make sure that the “Load Confirmation” screen shows.

(f) Select “CONFIRM”.

1) Make sure that the “Transfer In Progress” screen shows.

(g) Wait for the data transfer to finish.

(h) Make sure that “Load Complete” or “COMPLETE” shows on the eADL.

(i) Select “MAIN” to go back to the eADL Main Menu screen.

LOM 429-431, 464

SUBTASK 23-15-10-470-016

(3) Wait until the <SAT prompt shows on the CDU before you continue the procedure.

NOTE: The SDU will reset each time a software installation is completed.

LOM 429-431, 464, 465

ECCN 9E991 BOEING PROPRIETARY - See title page for details

I. Software Installation Configuration Check

LOM 429-431, 464

SUBTASK 23-15-10-470-019

(1) Do these steps at a control display unit (CDU) to do a configuration check of the owner requirements table (ORT) software for the satellite data unit:

NOTE: You must know the correct software part numbers for the satellite data unit. For the satellite data unit (SDU) to be an approved installation, the correct software part numbers must be installed.

(a) Push the MENU key.

(b) Push the LSK adjacent to <SAT or <SATCOM to go into the SAT-PHONE page.

(c) Push the NEXT PAGE function key to see the SAT-PHONE page 2/2.

(d) Push the LSK adjacent to CONFIG> to go into the SATCOM CONFIG page.

(e) Push the NEXT PAGE function key until you see the SATCOM CONFIG page 2/4.

(f) Examine the software part numbers for SDU SORT and SDU UORT.

NOTE: SORT = Secure ORT, UORT = User ORT. Secure ORT and User ORT are the software parts that are loadable for the SDU.

1) Make sure the software part numbers for the SDU SORT and SDU UORT are correct.

(g) Push the MENU key.

LOM 465

SUBTASK 23-15-10-470-021

(2) Do these steps at a control display unit (CDU) to do a configuration check of the owner requirements table (ORT) software for the satellite data unit:

NOTE: You must know the correct software part numbers for the satellite data unit. For the satellite data unit (SDU) to be an approved installation, the correct software part numbers must be installed.

(a) Push the MENU key.

(b) Push the LSK adjacent to <SAT to go into the SAT-PHONE page.

(c) Push the NEXT PAGE function key to see the SAT-PHONE page 2/2.

(d) Push the LSK adjacent to PART NUM>.

(e) Push the NEXT PAGE function key until you see page 3/7.

(f) Examine the software part numbers for SDU SORT and SDU UORT.

NOTE: SORT = Secure ORT, UORT = User ORT. Secure ORT and User ORT are the software parts that are loadable for the SDU.

1) Make sure the software part numbers for the SDU SORT and SDU UORT are correct.

(g) Push the MENU key.

LOM 429-431, 464, 465

J. Put the Airplane Back to Its Usual Condition

SUBTASK 23-15-10-410-007

(1) Close the eADL front cover and tighten screws.

ECCN 9E991 BOEING PROPRIETARY - See title page for details

SUBTASK 23-15-10-860-060

(2) Set the system select switch on the data loader control panel to NORM or NORMAL.

LOM 429-431, 464

SUBTASK 23-15-10-860-061

(3) If the air data inertial reference system is not necessary, set the mode select switches on the mode select unit (P5) to the OFF position.

END OF TASK

LOM 464, 465

TASK 23-15-10-470-801

3. Satellite Data Unit (SDU) Software Installation with a Portable Data Loader

A. General

(1) This procedure tells you how to install software in the satellite data unit.

(a) The SDU must contain these pieces of software:

LOM 465

NOTE: Install the OPS first. Install the secure ORT second and then the user ORT.

LOM 464

1) user owner requirements table (ORT) software
2) secured owner requirements table (ORT) software

LOM 465

3) Operational Program Software (OPS).
4) User Owner Requirements Table (ORT) software.
5) Secured Owner Requirements Table (ORT) software.

LOM 464

(b) Use this procedure for an approved installation of software for the SDU, which includes the user ORT and the secured ORT software.

LOM 464, 465

(2) A Portable Data Loader (PDL) and a control display unit (CDU) are necessary for this procedure.

(3) A PDL is not a Boeing supplied part. Refer to the PDL supplier for instructions for operation. PDLs have a disk drive for software installation from disks. Some PDLs have an internal mass storage device. If the software is stored in the PDL, then disks are not necessary.

(4) The airplane must be on the ground with the engines shutdown before you can install software.

(5) Modern software loaders that meet the security requirements defined in ARINC 645-1 or newer are recommended to use. The procedures for modern software loaders will be marked as preferred for now and will be the only procedures available after removing floppy disk loaders procedures in the future. Please check with your Software Loader Supplier for current capabilities since this is still maturing across current and future software loaders.

B. References

Reference	Title
20-15-11-400-801	On-Airplane Software - Installation (P/B 201)

ECCN 9E991 BOEING PROPRIETARY - See title page for details

LOM 464, 465 (Continued)

(Continued)

Reference	Title
24-22-00-860-811	Supply Electrical Power (P/B 201)
24-22-00-860-812	Remove Electrical Power (P/B 201)
34-21-00-820-801	Air Data Inertial Reference System - Alignment from the FMC CDU (P/B 201)
34-21-00-820-802	Air Data Inertial Reference System - Alignment from the ISDU (P/B 201)

C. Tools/Equipment

NOTE: When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

Reference	Description
COM-1915	Data Loader - ARINC 615 (without ARINC 645-1 Compliant) Part #: 11615-50 Supplier: 0D4J3 Part #: 2231560-1-B Supplier: 98571 Part #: 465130-01-01 Supplier: 30782 Part #: 800-0631 Supplier: 1JSZ6 Part #: CEI-715-DL-2 Supplier: 0BPH5 Part #: PXS-LDS-10 Supplier: 98571 Part #: YV68A110 Supplier: FAQ15 Opt Part #: 11615-02 Supplier: 0D4J3 Opt Part #: 11615-20 Supplier: 0D4J3 Opt Part #: 18000-02 Supplier: 0D4J3 Opt Part #: 30100 Supplier: 0BAW0 Opt Part #: 80000-03-01010203 Supplier: 0BAW0 Opt Part #: 80000-04-01020301 Supplier: 0BAW0 Opt Part #: 80000-05 Supplier: 0BAW0 Opt Part #: 964-0400-020 Supplier: 97896 Opt Part #: 964-0400-024 Supplier: 97896 Opt Part #: 964-0400-025 Supplier: 97896 Opt Part #: 964-0400-030 Supplier: 97896 Opt Part #: 964-0400-044 Supplier: 97896 Opt Part #: 964-0400-045 Supplier: 97896 Opt Part #: 964-0400-055 Supplier: 97896 Opt Part #: P2K-615A-06 Supplier: 0BAW0
COM-21223	Data Loader - ARINC 615 (with ARINC 645-1 Compliant) Part #: 403474 Supplier: CG603 Part #: 403562 Supplier: CG603 Part #: AE-615-MPDL Supplier: CD624 Part #: PDL-615-XT Supplier: 89Q20

D. Location Zones

Zone	Area
212	Flight Compartment - Right

E. Procedure

SUBTASK 23-15-10-860-008

(1) Do this task: Supply Electrical Power, TASK 24-22-00-860-811.

ECCN 9E991 BOEING PROPRIETARY - See title page for details

LOM 464

SUBTASK 23-15-10-860-018

(2) Do this task: Air Data Inertial Reference System - Alignment from the ISDU, TASK 34-21-00-820-802 or Air Data Inertial Reference System - Alignment from the FMC CDU, TASK 34-21-00-820-801.

LOM 464, 465

SUBTASK 23-15-10-410-001

(3) Do these steps to prepare for the software installation:

(a) Make sure you know the correct software part numbers for the SDU. For the SDU to be an approved installation, the correct software part number must be installed.

(b) Make sure the system select switch on the data loader control panel (P61) is set to NORMAL.

CAUTION	MAKE SURE THAT THE DATA LOADER CIRCUIT-BREAKER IS OPEN BEFORE YOU CONNECT OR REMOVE THE DATA LOADER CABLE. IF THE CIRCUIT BREAKER IS NOT OPEN, DAMAGE TO EQUIPMENT CAN OCCUR.

(c) Open this circuit breaker and install safety tag:

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
A	9	C00923	DATA LOADER

CAUTION	MAKE SURE THE POWER SWITCH FOR THE PORTABLE DATA LOADER IS SET TO OFF BEFORE YOU CONNECT OR REMOVE THE INTERFACE CABLE. IF THE POWER SWITCH IS NOT OFF, DAMAGE TO THE PORTABLE DATA LOADER CAN OCCUR.

(d) Connect the interface cable of the ARINC 615 data loader, COM-1915, or ARINC 645-1 compliant portable data loader, COM-21223, to the DATA TRANSFER UNIT RECEPTACLE on the P61 panel.

NOTE: This loader is going obsolete due use of floppy disks and ARINC 645 security requirements.

(e) Remove the safety tag and close this circuit breaker:

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
A	9	C00923	DATA LOADER

(f) Do these steps at the data loader control panel:

1) Set the upper switch to L.

2) Set the system select switch to the SATCOM position.

SUBTASK 23-15-10-470-031

(4) SOFTWARE INSTALLATION WITH A PDL - (Preferred)

(a) Follow the generic PDL procedure to load software part (TASK 20-15-11-400-801).

SUBTASK 23-15-10-020-001

(5) SOFTWARE INSTALLATION WITH A PDL DISK DRIVE - (Non-Preferred)

ECCN 9E991 BOEING PROPRIETARY - See title page for details

LOM 464, 465 (Continued)

Do these steps to install the software:

NOTE: For more information on how to use the data loader, refer to the supplier's instructions for the data loader.

(a) Set the power switch on the data loader to the on position.

(b) Put the correct disk in the disk drive.

(c) Follow the prompts on the data loader to complete the installation.

1) If there is more than one disk to install, wait 10 seconds after each disk is completed before you remove and install the next disk.

(d) Remove the disk from the disk drive when the software installation is completed.

SUBTASK 23-15-10-470-004

(6) SOFTWARE INSTALLATION WITH A PDL MASS STORAGE DEVICE - (Non-Preferred)

Follow the PDL supplier instructions to install the software.

SUBTASK 23-15-10-860-009

(7) Set the system select switch on the data loader control panel to NORM or NORMAL.

(a) Set the power switch on the PDL to the off position.

LOM 464

SUBTASK 23-15-10-860-052

(8) Do these steps at a control display unit (CDU) to do a configuration check of the owner requirements table (ORT) software for the satellite data unit:

NOTE: You must know the correct software part numbers for the satellite data unit. For the satellite data unit (SDU) to be an approved installation, the correct software part numbers must be installed.

(a) Push the MENU key.

(b) Push the LSK adjacent to <SAT to go into the SAT-PHONE page.

(c) Push the NEXT PAGE function key to see the SAT-PHONE page 2/2.

(d) Push the LSK adjacent to CONFIG> to go into the SATCOM CONFIG page.

(e) Push the NEXT PAGE function key until you see the SATCOM CONFIG page 2/4.

(f) Examine the software part numbers for SDU SORT and SDU UORT.

NOTE: SORT = Secure ORT, UORT = User ORT. Secure ORT and User ORT are the software parts that are loadable for the SDU.

1) Make sure the software part numbers for the SDU SORT and SDU UORT are correct.

(g) Push the MENU key.

LOM 465

SUBTASK 23-15-10-860-065

(9) Do these steps at a control display unit (CDU) to do a configuration check of the owner requirements table (ORT) software for the satellite data unit:

NOTE: You must know the correct software part numbers for the satellite data unit. For the satellite data unit (SDU) to be an approved installation, the correct software part numbers must be installed.

(a) Push the MENU key.

ECCN 9E991 BOEING PROPRIETARY - See title page for details

LOM 465 (Continued)

(b) Push the LSK adjacent to <SAT to go into the SAT-PHONE page.

(c) Push the NEXT PAGE function key to see the SAT-PHONE page 2/2.

(d) Push the LSK adjacent to PART NUM>.

(e) Push the NEXT PAGE function key until you see page 3/7.

(f) Examine the software part numbers for SDU SORT and SDU UORT.

NOTE: SORT = Secure ORT, UORT = User ORT. Secure ORT and User ORT are the software parts that are loadable for the SDU.

1) Make sure the software part numbers for the SDU SORT and SDU UORT are correct.

(g) Push the MENU key.

LOM 464

SUBTASK 23-15-10-860-019

(10) If the air data inertial reference system is not necessary, set the mode select switches on the mode select unit (P5) to the OFF position.

LOM 464, 465

SUBTASK 23-15-10-020-002

(11) Do these steps to put the airplane back to its usual condition:

CAUTION MAKE SURE THAT THE DATA LOADER CIRCUIT-BREAKER IS OPEN BEFORE YOU CONNECT OR REMOVE THE DATA LOADER CABLE. IF THE CIRCUIT BREAKER IS NOT OPEN, DAMAGE TO EQUIPMENT CAN OCCUR.

(a) Open this circuit breaker and install safety tag:

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
A	9	C00923	DATA LOADER

(b) Remove the interface cable from the DATA TRANSFER UNIT RECEPTACLE.

(c) Remove the safety tag and close this circuit breaker:

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
A	9	C00923	DATA LOADER

(d) Do this task: Remove Electrical Power, TASK 24-22-00-860-812.

END OF TASK

ECCN 9E991 BOEING PROPRIETARY - See title page for details

SATELLITE DATA UNIT - REMOVAL/INSTALLATION

1. General

A. This procedure has these tasks:

(1) A removal of the satellite data unit.

(2) An installation of the satellite data unit.

B. The satellite data unit, M2761, is installed in the E6 electronic equipment rack. The E6 rack is in the aft cargo compartment on the right side.

C. The satellite data unit, M****, is installed in the E5-1 electronic equipment rack. The E5-1 rack is in the main equipment center

TASK 23-15-10-000-801

2. Satellite Data Unit Removal

(Figure 401)

A. References

Reference	Title
20-10-07-000-801	E/E Box Removal (P/B 201)
20-40-12-000-802	ESDS Handling for Metal Encased Unit Removal (P/B 201)

B. Location Zones

Zone	Area
146	Aft Cargo Compartment Equipment Bay - Right

C. Access Panels

Number	Name/Location
822	Aft Cargo Door

D. Removal Procedure

SUBTASK 23-15-10-860-010

(1) Open these circuit breakers and install safety tags:

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
E	13	C01420	SATCOM SDU
E	14	C01421	SATCOM HIGH
E	15	C01422	SATCOM AURAL WARN

SUBTASK 23-15-10-010-001

(2) Open this access panel:

Number	Name/Location
822	Aft Cargo Door

SUBTASK 23-15-10-010-003

(3) Remove the access panel for the electronic equipment rack (E6).

ECCN 9E991 BOEING PROPRIETARY - See title page for details

SUBTASK 23-15-10-020-003

CAUTION	DO NOT TOUCH THE CONNECTOR PINS OR OTHER CONDUCTORS ON THE SATELLITE DATA UNIT [1]. IF YOU TOUCH THESE CONDUCTORS, ELECTROSTATIC DISCHARGE CAN CAUSE DAMAGE TO THE SATELLITE DATA UNIT [1].

(4) Before you touch the Satellite Data Unit [1], do this task: ESDS Handling for Metal Encased Unit Removal, TASK 20-40-12-000-802.

SUBTASK 23-15-10-020-005

(5) To remove the Satellite Data Unit [1], do this task: E/E Box Removal, TASK 20-10-07-000-801.

END OF TASK

ECCN 9E991 BOEING PROPRIETARY - See title page for details

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Satellite Data Unit Installation
Figure 401/23-15-10-990-803

ECCN 9E991 BOEING PROPRIETARY - See title page for details

TASK 23-15-10-400-803

3. Satellite Data Unit Installation

(Figure 401)

A. References

Reference	Title
20-10-07-400-801	E/E Box Installation (P/B 201)
20-40-12-400-802	ESDS Handling for Metal Encased Unit Installation (P/B 201)
23-15-00-710-802	Satellite Communications (SATCOM) System - System Test (P/B 501)
23-15-10-470-801	Satellite Data Unit (SDU) Software Installation with a Portable Data Loader (P/B 201)
23-15-10-470-804	Satellite Data Unit Software Installation with an Enhanced Airborne Data Loader (eADL) (P/B 201)
24-22-00-860-811	Supply Electrical Power (P/B 201)
24-22-00-860-812	Remove Electrical Power (P/B 201)
34-21-00-820-801	Air Data Inertial Reference System - Alignment from the FMC CDU (P/B 201)
34-21-00-820-802	Air Data Inertial Reference System - Alignment from the ISDU (P/B 201)

B. Location Zones

Zone	Area
146	Aft Cargo Compartment Equipment Bay - Right
212	Flight Compartment - Right

C. Access Panels

Number	Name/Location
822	Aft Cargo Door

D. Installation Procedure

SUBTASK 23-15-10-860-011

(1) Make sure that these circuit breakers are open and have safety tags:

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
E	13	C01420	SATCOM SDU
E	14	C01421	SATCOM HIGH
E	15	C01422	SATCOM AURAL WARN

SUBTASK 23-15-10-020-004

> **CAUTION**
> DO NOT TOUCH THE CONNECTOR PINS OR OTHER CONDUCTORS ON THE SATELLITE DATA UNIT [1]. IF YOU TOUCH THESE CONDUCTORS, ELECTROSTATIC DISCHARGE CAN CAUSE DAMAGE TO THE SATELLITE DATA UNIT [1].

(2) Before you touch the Satellite Data Unit [1], do this task: ESDS Handling for Metal Encased Unit Installation, TASK 20-40-12-400-802.

SUBTASK 23-15-10-420-002

(3) To install the Satellite Data Unit [1], do this task: E/E Box Installation, TASK 20-10-07-400-801.

ECCN 9E991 BOEING PROPRIETARY - See title page for details

SUBTASK 23-15-10-860-012

(4) Remove the safety tags and close these circuit breakers:

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
E	13	C01420	SATCOM SDU
E	14	C01421	SATCOM HIGH
E	15	C01422	SATCOM AURAL WARN

SUBTASK 23-15-10-410-003

(5) Install the access panel for the electronic equipment rack (E6).

SUBTASK 23-15-10-410-004

(6) Close this access panel:

Number	Name/Location
822	Aft Cargo Door

E. Installation Test

SUBTASK 23-15-10-860-013

(1) Supply the electrical power to the airplane (Supply Electrical Power, TASK 24-22-00-860-811).

SUBTASK 23-15-10-860-014

(2) Align the inertial reference system (IRS) (Air Data Inertial Reference System - Alignment from the ISDU, TASK 34-21-00-820-802 or Air Data Inertial Reference System - Alignment from the FMC CDU, TASK 34-21-00-820-801).

SUBTASK 23-15-10-730-002

(3) Do this task: Satellite Data Unit (SDU) Software Installation with a Portable Data Loader, TASK 23-15-10-470-801 or Satellite Data Unit Software Installation with an Enhanced Airborne Data Loader (eADL), TASK 23-15-10-470-804.

SUBTASK 23-15-10-730-001

(4) Do this task: Satellite Communications (SATCOM) System - System Test, TASK 23-15-00-710-802.

F. Put the Airplane Back to Its Usual Condition

SUBTASK 23-15-10-860-016

(1) If the air data inertial reference unit (ADIRU) is not necessary, set the ADIRU switch on the overhead panel, P5, to the OFF position.

SUBTASK 23-15-10-040-001

(2) Remove electrical power from the airplane, if it is not necessary for other tasks (TASK 24-22-00-860-812).

END OF TASK

ECCN 9E991 BOEING PROPRIETARY - See title page for details

SDU CONFIGURATION MODULE - REMOVAL/INSTALLATION

1. General

A. This procedure has these tasks:

(1) A removal of SDU Configuration Module (SCM).

(2) An installation of SDU Configuration Module.

LOM 429-431, 464

B. The SCM (M2762) is installed behind the SDU on the electronic equipment rack (E6-1). The E6 rack is in the aft cargo compartment on the right side.

LOM 465

C. The Iridium SCM (M3194) is installed in the E5-1 equipment rack. The E5-1 rack is in the main equipment center.

LOM 429-431, 464

TASK 23-15-13-000-801

2. SDU Configuration Module Removal

(Figure 401)

A. Location Zones

Zone	Area
146	Aft Cargo Compartment Equipment Bay - Right

B. Access Panels

Number	Name/Location
822	Aft Cargo Door

C. Removal Procedure

SUBTASK 23-15-13-040-001

(1) Open this circuit breaker and install safety tag:

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
E	13	C01420	SATCOM SDU

SUBTASK 23-15-13-020-001

(2) Open this access panel:

Number	Name/Location
822	Aft Cargo Door

SUBTASK 23-15-13-020-002

(3) Remove the access panel to get access the SCM on the rear side of the electronic equipment rack (E6).

SUBTASK 23-15-13-020-003

(4) Do these steps to remove the SDU Configuration Module [1] (SCM):

(a) Loosen the two screws [2] that attach the electrical connector [3] to the SCM.

(b) Disconnect the electrical connector [3] from the SCM.

(c) Remove the four mounting bolts [5] and washers [4].

(d) Remove the SCM [1] from its mounting bracket.

ECCN 9E991 BOEING PROPRIETARY - See title page for details

LOM 429-431, 464 (Continued)

SUBTASK 23-15-13-910-001

(5) Put the ESDS protective covers on the connectors.

SUBTASK 23-15-13-040-002

(6) If applicable, contact your designated SATCOM Service Provider to deactivate the SwiftBroadband (SBB) service for the removed SCM.

END OF TASK

ECCN 9E991 BOEING PROPRIETARY - See title page for details

ELECTRONIC EQUIPMENT RACK, E6 (ACCESS PANEL REMOVED)

A

SDU CONFIGURATION MODULE

B

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SDU Configuration Module Installation
Figure 401/23-15-13-990-801

ECCN 9E991 BOEING PROPRIETARY - See title page for details

TASK 23-15-13-400-801

3. **SDU Configuration Module Installation**
(Figure 401)

A. **General**

(1) The SDU Configuration Module (SCM) contains these pieces of software for the Owner Requirements Table (ORT):

(a) Secure ORT.

(b) User ORT.

(2) It is necessary to do the software installation for the SDU after installation of the new SCM. After the SDU software installation, the SDU automatically installs a copy of the Secure ORT and the User ORT software parts to the SCM.

(3) It is the responsibility of the airlines to contact their SATCOM Service Provider to activate the SwiftBroadband (SBB) service for the new SCM prior to install it on the aircraft.

B. **References**

Reference	Title
23-15-00-710-801	Satellite Communications (SATCOM) System - Operational Test (P/B 501)
23-15-10-470-801	Satellite Data Unit (SDU) Software Installation with a Portable Data Loader (P/B 201)
23-15-10-470-804	Satellite Data Unit Software Installation with an Enhanced Airborne Data Loader (eADL) (P/B 201)
24-22-00-860-811	Supply Electrical Power (P/B 201)
24-22-00-860-812	Remove Electrical Power (P/B 201)

C. **Location Zones**

Zone	Area
146	Aft Cargo Compartment Equipment Bay - Right
211	Flight Compartment - Left
212	Flight Compartment - Right

D. **Access Panels**

Number	Name/Location
822	Aft Cargo Door

E. **Installation Procedure**

SUBTASK 23-15-13-440-002

(1) Contact your designated SATCOM Service Provider to activate the SwiftBroadband (SBB) service for the new SCM.

SUBTASK 23-15-13-860-001

(2) Make sure that this circuit breaker is open and has safety tag:

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
E	13	C01420	SATCOM SDU

ECCN 9E991 BOEING PROPRIETARY - See title page for details

LOM 429-431, 464 (Continued)

SUBTASK 23-15-13-420-001

(3) Install the SDU Configuration Module [1] (SCM) as follows:

(a) Remove the ESDS protective covers from the electrical connectors.

(b) Examine the electrical connectors for broken or bent pins, dirt and damage.

(c) Put the SCM in its position to the mounting bracket on the E6 rack.

(d) Align the four SCM mounting holes to the mounting bracket.

(e) Install and tighten the four mounting bolts [5] and washers [4] to attach the SCM.

(f) Connect the electrical connector [3] to the SCM.

(g) Tighten the two screws [2] to attach the electrical connector.

SUBTASK 23-15-13-440-001

(4) Remove the safety tag and close this circuit breaker:

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
E	13	C01420	SATCOM SDU

F. Installation test

SUBTASK 23-15-13-760-001

(1) Do this task: Supply Electrical Power, TASK 24-22-00-860-811.

SUBTASK 23-15-13-470-001

(2) Do this task: Satellite Data Unit (SDU) Software Installation with a Portable Data Loader, TASK 23-15-10-470-801 or Satellite Data Unit Software Installation with an Enhanced Airborne Data Loader (eADL), TASK 23-15-10-470-804.

NOTE: After the SDU software installation, the SDU automatically installs the software to the SCM.

SUBTASK 23-15-13-710-001

(3) Do this task: Satellite Communications (SATCOM) System - Operational Test, TASK 23-15-00-710-801.

G. Put the Airplane Back to Its Usual Condition

SUBTASK 23-15-13-410-001

(1) Install the access panel for the electronic equipment rack (E6).

SUBTASK 23-15-13-410-002

(2) Close this access panel:

Number	Name/Location
822	Aft Cargo Door

SUBTASK 23-15-13-860-002

(3) Set the ADIRU switch on the overhead panel, P5, to the OFF position (if not necessary).

SUBTASK 23-15-13-860-003

(4) Do this task: Remove Electrical Power, TASK 24-22-00-860-812 (if not necessary).

END OF TASK

ECCN 9E991 BOEING PROPRIETARY - See title page for details

TASK 23-15-13-000-802

4. **SDU Configuration Module (Iridium) - Removal**
(Figure 402)

A. **Location Zones**

Zone	Area
118	Electrical and Electronics Compartment - Right

B. **Access Panels**

Number	Name/Location
117A	Electronic Equipment Access Door

C. **Removal Procedure**

SUBTASK 23-15-13-040-003

(1) Open this circuit breaker and install safety tag:

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
E	13	C04060	SATCOM SDU

SUBTASK 23-15-13-020-004

(2) Open this access panel:

Number	Name/Location
117A	Electronic Equipment Access Door

SUBTASK 23-15-13-020-005

(3) Do these steps to remove the SDU Configuration Module [11] (SCM):

(a) Loosen the two screws [12] that attach the electrical connector [13] to the SCM.

(b) Disconnect the electrical connector [13] from the SCM.

(c) Remove the four mounting bolts [15] and washers [14].

(d) Remove the SDU Configuration Module [11] from its mounting bracket.

SUBTASK 23-15-13-910-002

(4) Put the ESDS protective covers on the connectors.

SUBTASK 23-15-13-040-004

(5) If applicable, contact your designated SATCOM Service Provider to deactivate for the removed SCM.

——— END OF TASK ———

ECCN 9E991 BOEING PROPRIETARY - See title page for details

SDU Configuration Module
Figure 402/23-15-13-990-802

ECCN 9E991 BOEING PROPRIETARY - See title page for details

LOM 465 (Continued)

TASK 23-15-13-400-802

5. SDU Configuration Module (Iridium) - Installation

(Figure 402)

A. General

(1) The SDU Configuration Module (SCM) contains these pieces of software for the Owner Requirements Table (ORT):

(a) Secure ORT.

(b) User ORT.

(2) It is the responsibility of the airlines to contact their SATCOM Service Provider to activate the service for the new SCM prior to install it on the aircraft.

B. References

Reference	Title
23-15-10-470-801	Satellite Data Unit (SDU) Software Installation with a Portable Data Loader (P/B 201)
23-15-10-470-804	Satellite Data Unit Software Installation with an Enhanced Airborne Data Loader (eADL) (P/B 201)
23-15-40-710-801	Iridium SATCOM System - Operational Test (P/B 501)
24-22-00-860-811	Supply Electrical Power (P/B 201)
24-22-00-860-812	Remove Electrical Power (P/B 201)

C. Location Zones

Zone	Area
118	Electrical and Electronics Compartment - Right

D. Access Panels

Number	Name/Location
117A	Electronic Equipment Access Door

E. Prepare for Installation

SUBTASK 23-15-13-860-004

(1) Make sure that this circuit breaker is open and has safety tag:

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
E	13	C04060	SATCOM SDU

SUBTASK 23-15-13-020-006

(2) Open this access panel:

Number	Name/Location
117A	Electronic Equipment Access Door

F. Installation Procedure

SUBTASK 23-15-13-420-002

(1) Install the SDU Configuration Module [11] (SCM) as follows:

(a) Remove the ESDS protective covers from the electrical connectors.

(b) Examine the electrical connectors for broken or bent pins, dirt and damage.

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LOM 465 (Continued)

(c) Put the SCM in its position to the mounting bracket on the E5 rack.

(d) Align the four SCM mounting holes to the mounting bracket.

(e) Install and tighten the four mounting bolt [15] and washers [14] to attach the SCM.

(f) Connect the electrical connector [13] to the SCM.

(g) Tighten the two screws [12] to attach the electrical connector [13].

SUBTASK 23-15-13-440-003

(2) Remove the safety tag and close this circuit breaker:

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
E	13	C04060	SATCOM SDU

G. Installation Test

SUBTASK 23-15-13-860-007

(1) Supply the electrical power to the airplane (Supply Electrical Power, TASK 24-22-00-860-811).

SUBTASK 23-15-13-470-002

(2) Do this task: Satellite Data Unit (SDU) Software Installation with a Portable Data Loader, TASK 23-15-10-470-801 or Satellite Data Unit Software Installation with an Enhanced Airborne Data Loader (eADL), TASK 23-15-10-470-804.

NOTE: After the SDU software installation, the SDU automatically installs the software to the SCM.

SUBTASK 23-15-13-710-002

(3) Do this task: Iridium SATCOM System - Operational Test, TASK 23-15-40-710-801.

H. Put the Airplane Back to Its Usual Condition

SUBTASK 23-15-13-410-004

(1) Close this access panel:

Number	Name/Location
117A	Electronic Equipment Access Door

SUBTASK 23-15-13-860-006

(2) Do this task: Remove Electrical Power, TASK 24-22-00-860-812 (if not necessary).

END OF TASK

ECCN 9E991 BOEING PROPRIETARY - See title page for details

LOW NOISE AMPLIFIER/DIPLEXER - REMOVAL/INSTALLATION

1. General

A. This procedure has these tasks:

(1) A removal of the Low Noise Amplifier/Diplexer (LNA/Diplexer).

(2) An installation of the LNA/Diplexer.

B. The LNA/Diplexer, M2257, is above the passenger compartment ceiling at approximately STA 760, WL 295, LBL 10.

TASK 23-15-27-000-801

2. Low Noise Amplifier/Diplexer Removal

(Figure 401)

A. References

Reference	Title
20-40-12-000-802	ESDS Handling for Metal Encased Unit Removal (P/B 201)
25-21-45-000-803-001	Main Ceiling Panel - Removal (P/B 401)

B. Tools/Equipment

NOTE: When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

Reference	Description
COM-2481	Sealant Removal Tool (Meets BSS7384 Requirements) Part #: 1-6390-A Supplier: 63318 Part #: 10810 Supplier: $0855 Part #: 10811 Supplier: $0855 Part #: 10812 Supplier: $0855 Part #: 234350 Supplier: 5HCF1 Part #: 235072 Supplier: 5HCF1 Part #: 235073 Supplier: 5HCF1 Part #: 235074 Supplier: 5HCF1 Part #: 235075 Supplier: 5HCF1 Part #: 235076 Supplier: 5HCF1 Part #: 311/03 Supplier: F6892 Part #: 311/14 Supplier: F6892 Part #: 311/25 Supplier: F6892 Part #: 311/37 Supplier: F6892 Part #: AS1 Supplier: $1351 Part #: AS2 Supplier: $1351 Part #: AS3 Supplier: $1351 Part #: DAD5013 Supplier: 7RKH2 Part #: DFD5019 Supplier: 7RKH2 Part #: JNT411B60 Supplier: 3DN12 Part #: JNT411B90 Supplier: 3DN12 Part #: PT6529-S Supplier: 81205 Part #: SCD5019 Supplier: 7RKH2 Part #: ST982LF-9 Supplier: 81205 Part #: TS1275-4 Supplier: 22975
STD-1048	Stepladder - 6 foot (1.83m)

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C. Location Zones

Zone	Area
211	Flight Compartment - Left
241	Aft Passenger Compartment - Station 663.75 to Aft Pressure Bulkhead - Left

D. Low Noise Amplifier/Diplexer Removal

SUBTASK 23-15-27-860-001

(1) Open these circuit breakers and install safety tags:

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
E	13	C01420	SATCOM SDU
E	14	C01421	SATCOM HIGH

SUBTASK 23-15-27-010-001

(2) Remove the main ceiling panel, do this task: Main Ceiling Panel - Removal, TASK 25-21-45-000-803-001.

SUBTASK 23-15-27-860-002

(3) Use a 6 foot (1.83m) stepladder, STD-1048, to get access to the LNA/Diplexer [1].

NOTE: The Low Noise Amplifier/Diplexer is referred to as the LNA/Diplexer.

SUBTASK 23-15-27-020-001

CAUTION DO NOT TOUCH THE CONNECTOR PINS OR OTHER CONDUCTORS ON THE LNA/DIPLEXER. IF YOU TOUCH THESE CONDUCTORS, ELECTROSTATIC DISCHARGE CAN CAUSE DAMAGE TO THE LNA/DIPLEXER.

(4) Before you touch the LNA/Diplexer [1], do this task: ESDS Handling for Metal Encased Unit Removal, TASK 20-40-12-000-802.

SUBTASK 23-15-27-020-002

(5) Remove the LNA/Diplexer [1].

(a) Disconnect the electrical connectors:

- electrical connector D12661 [4]
- electrical connector D12665 [5]
- electrical connector D12663 [6]
- electrical connector D12667 [7].

(b) Remove the bolts [2] and washers [3].

CAUTION BE CAREFUL WHEN YOU REMOVE THE FILLET SEAL WITH THE SEALANT REMOVAL TOOL. DAMAGE TO THE AIRPLANE STRUCTURE CAN OCCUR.

(c) Use a sealant removal tool, COM-2481, to break the fillet seal around the mounting surfaces of the LNA/Diplexer [1].

(d) Put protective covers on all electrical connectors.

END OF TASK

ECCN 9E991 BOEING PROPRIETARY - See title page for details

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Low Noise Amplifier/Diplexer Installation
Figure 401/23-15-27-990-801

ECCN 9E991 BOEING PROPRIETARY - See title page for details

TASK 23-15-27-400-801

3. Low Noise Amplifier/Diplexer Installation

(Figure 401)

A. References

Reference	Title
20-40-12-400-802	ESDS Handling for Metal Encased Unit Installation (P/B 201)
23-15-00-710-801	Satellite Communications (SATCOM) System - Operational Test (P/B 501)
25-21-45-400-803-001	Main Ceiling Panel - Installation (P/B 401)
34-21-00-820-801	Air Data Inertial Reference System - Alignment from the FMC CDU (P/B 201)
34-21-00-820-802	Air Data Inertial Reference System - Alignment from the ISDU (P/B 201)
51-21-41-370-802	Bonderite M-CR 600 Aero, Bonderite M-CR Alcrm 1200 Aero or Bonderite M-CR 1200S Aero Application Process (P/B 701)
51-31-00-390-804	Fillet Seal Application (P/B 201)
SWPM 20-20-00	ELECTRICAL BONDING PROCESSES
SWPM 20-51-15	Standard Wiring Practices Manual

B. Tools/Equipment

NOTE: When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

Reference	Description
COM-1550	Bonding Meter - Approved, Intrinsically Safe (Approved for use in Class I, Divisions I & II hazardous (classified) locations. Outside these hazardous locations, COM-614 can be used in lieu of COM-1550). Part #: 620LK Supplier: 1CRL2 Part #: M1 Supplier: 3AD17 Part #: M1B Supplier: 3AD17 Part #: T477W (C15292) Supplier: 06659
COM-2584	Pliers - Electrical Connector Part #: TG69 Supplier: 06324
STD-1048	Stepladder - 6 foot (1.83m)

C. Consumable Materials

Reference	Description	Specification
A02315	Sealant - Low Density, Synthetic Rubber. 2 Part	BMS5-142 Type II
C50315	Coating - Chemical Conversion - Bonderite M-CR 600 Aero (Formerly Alodine 600)	BAC5719 Class A, C or D, MIL-DTL-81706 Type I Class 1A or 3

D. Location Zones

Zone	Area
211	Flight Compartment - Left
241	Aft Passenger Compartment - Station 663.75 to Aft Pressure Bulkhead - Left

ECCN 9E991 BOEING PROPRIETARY - See title page for details

E. Low Noise Amplifier/Diplexer Installation

SUBTASK 23-15-27-860-005

(1) Make sure that these circuit breakers are open and have safety tags:

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
E	13	C01420	SATCOM SDU
E	14	C01421	SATCOM HIGH

SUBTASK 23-15-27-860-003

(2) Use a 6 foot (1.83m) stepladder, STD-1048, for access to install the LNA/Diplexer [1].

NOTE: The Low Noise Amplifier/Diplexer is referred to as the LNA/Diplexer.

SUBTASK 23-15-27-420-001

CAUTION DO NOT TOUCH THE CONNECTOR PINS OR OTHER CONDUCTORS ON THE LNA/DIPLEXER. IF YOU TOUCH THESE CONDUCTORS, ELECTROSTATIC DISCHARGE CAN CAUSE DAMAGE TO THE LNA/DIPLEXER.

(3) Before you touch the LNA/Diplexer [1], do this task: ESDS Handling for Metal Encased Unit Installation, TASK 20-40-12-400-802.

SUBTASK 23-15-27-160-001

(4) Remove the finish in a 0.75 in. (19.05 mm) diameter circle at the mounting surface holes on the LNA/Diplexer.

(a) Apply Bonderite M-CR 600 Aero coating, C50315, to the bared areas of the mounting surfaces (TASK 51-21-41-370-802).

NOTE: Alternative chemical conversion coatings specified in TASK 51-21-41-370-802 may also be used.

SUBTASK 23-15-27-160-002

(5) Make sure that the airplane mounting surfaces for the LNA/Diplexer [1] are clean and have no corrosion.

SUBTASK 23-15-27-420-002

(6) Install the LNA/Diplexer [1].

(a) Remove the protective covers from the electrical connectors.

(b) Examine the electrical connectors for bent or broken pins, dirt, and damage.

(c) Put the LNA/Diplexer [1] in position.

(d) Install the washers [3] and bolts [2] at four locations.

SUBTASK 23-15-27-760-001

(7) Use a intrinsically safe approved bonding meter, COM-1550, to do an electrical bond check (SWPM 20-20-00).

(a) Measure the resistance from structure to the LNA/Diplexer [1].

1) Make sure that the resistance is 0.001 ohm (1 milliohm) or less.

SUBTASK 23-15-27-390-001

(8) Apply sealant, A02315, to make a fillet seal around the four mounting flanges, do this task: Fillet Seal Application, TASK 51-31-00-390-804.

NOTE: It is not necessary to apply the black, textured paint again after installation.

ECCN 9E991 BOEING PROPRIETARY - See title page for details

SUBTASK 23-15-27-420-003

(9) Connect the electrical connectors.

(a) Tighten the electrical connector D12665 [5] to 8.4 in-lb (0.9 N·m).

NOTE: Use the electrical connector pliers, COM-2584, to tighten the electrical connectors. The plastic sleeves on the jaws to prevent damage to the electrical connectors.

(b) Tighten the electrical connector D12663 [6] and electrical connector D12667 [7] (SWPM 20-51-15).

(c) Install the electrical connector D12661 [4].

SUBTASK 23-15-27-410-001

(10) Install the main ceiling panel, do this task Main Ceiling Panel - Installation, TASK 25-21-45-400-803-001.

SUBTASK 23-15-27-860-004

(11) Remove the safety tags and close these circuit breakers:

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
E	13	C01420	SATCOM SDU
E	14	C01421	SATCOM HIGH

F. Low Noise Amplifier/Diplexer Installation Test

SUBTASK 23-15-27-860-009

(1) Align the Air Data Inertial Reference Unit (ADIRU), do one of these tasks: Air Data Inertial Reference System - Alignment from the ISDU, TASK 34-21-00-820-802 or Air Data Inertial Reference System - Alignment from the FMC CDU, TASK 34-21-00-820-801.

SUBTASK 23-15-27-710-001

(2) Do this task: Satellite Communications (SATCOM) System - Operational Test, TASK 23-15-00-710-801.

G. Put the Airplane Back to Its Usual Condition

SUBTASK 23-15-27-860-007

(1) If the ADIRU is not necessary, set the ADIRU switch on the Pilot's Overhead Panel, P5, to the OFF position.

——— END OF TASK ———

ECCN 9E991 BOEING PROPRIETARY - See title page for details

HIGH GAIN ANTENNA (TOP) - REMOVAL/INSTALLATION

1. General

A. This procedure has these tasks:

(1) A removal of the high gain antenna

(2) An installation of the high gain antenna.

B. The high gain antennas, M2691, is installed on top of the fuselage at approximately station 747.

TASK 23-15-30-000-801

2. High Gain Antenna Removal

(Figure 401)

A. Tools/Equipment

NOTE: When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

Reference	Description
COM-2584	Pliers - Electrical Connector Part #: TG69 Supplier: 06324
COM-14430	Wrench, Mini-Strap Part #: TG70 Supplier: 06324

B. Location Zones

Zone	Area
241	Aft Passenger Compartment - Station 663.75 to Aft Pressure Bulkhead - Left
242	Aft Passenger Compartment - Station 663.75 to Aft Pressure Bulkhead - Right

C. High Gain Antenna Removal

SUBTASK 23-15-30-860-001

(1) Open these circuit breakers and install safety tags:

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
E	13	C01420	SATCOM SDU
E	14	C01421	SATCOM HIGH

SUBTASK 23-15-30-020-007

(2) Do these steps to disconnect the electrical connector [3] and electrical connector [12] from the high gain antenna [1]:

(a) Remove the fasteners [5] that hold the tail cap [2].

(b) Remove the sealant with a hard plastic stripper.

(c) Move the tail cap [2] to the aft direction to disengage the tail cap retainers [4].

(d) Remove the tail cap [2].

(e) Disconnect the electrical connector [3] and electrical connector [12].

1) Use the electrical connector pliers, COM-2584, or mini-strap wrench, COM-14430, to loosen the electrical connectors.

NOTE: The plastic sleeves on the jaws to prevent damage to the electrical connectors.

ECCN 9E991 BOEING PROPRIETARY - See title page for details

(f) Put the ESDS protective covers on the electrical connectors.

SUBTASK 23-15-30-020-008

(3) Remove the mounting hole sealing caps [6] and O-rings [7] from the mounting bolt locations.

SUBTASK 23-15-30-020-009

(4) Remove the foam plugs [8] from the mounting bolt locations.

SUBTASK 23-15-30-020-010

(5) Remove the mounting bolts [9] that attach the high gain antenna [1].

SUBTASK 23-15-30-020-011

CAUTION

DO NOT PUT OBJECTS INTO THE MOUNTING HOLES TO LIFT OR MOVE THE ANTENNA. DAMAGE TO THE RADOME MOUNTING TUBES CAN OCCUR.

(6) Remove the high gain antenna [1] from the adapter plate [11].

NOTE: There are slots supplied between the high gain antenna and the adapter plate. You can use these slots to lift the antenna.

END OF TASK

ECCN 9E991 BOEING PROPRIETARY - See title page for details

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HIGH GAIN ANTENNA INSTALLATION
Figure 401/23-15-30-990-803 (Sheet 1 of 2)

ECCN 9E991 BOEING PROPRIETARY - See title page for details

A-A

ADAPTER PLATE

B

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HIGH GAIN ANTENNA INSTALLATION
Figure 401/23-15-30-990-803 (Sheet 2 of 2)

ECCN 9E991 BOEING PROPRIETARY - See title page for details

TASK 23-15-30-400-801

3. High Gain Antenna Installation

(Figure 401)

A. References

Reference	Title
23-15-00-710-801	Satellite Communications (SATCOM) System - Operational Test (P/B 501)
SWPM 20-20-00	ELECTRICAL BONDING PROCESSES
SWPM 20-60-06	Standard Wiring Practices Manual

B. Tools/Equipment

NOTE: When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

Reference	Description
COM-1550	Bonding Meter - Approved, Intrinsically Safe (Approved for use in Class I, Divisions I & II hazardous (classified) locations. Outside these hazardous locations, COM-614 can be used in lieu of COM-1550). Part #: 620LK Supplier: 1CRL2 Part #: M1 Supplier: 3AD17 Part #: M1B Supplier: 3AD17 Part #: T477W (C15292) Supplier: 06659
COM-2584	Pliers - Electrical Connector Part #: TG69 Supplier: 06324
COM-14430	Wrench, Mini-Strap Part #: TG70 Supplier: 06324

C. Consumable Materials

Reference	Description	Specification
A00363	Adhesive - Silicone - RTV 162	MIL-A-46146B

D. Location Zones

Zone	Area
241	Aft Passenger Compartment - Station 663.75 to Aft Pressure Bulkhead - Left
242	Aft Passenger Compartment - Station 663.75 to Aft Pressure Bulkhead - Right

E. High Gain Antenna Installation

SUBTASK 23-15-30-860-002

(1) Open these circuit breakers and install safety tags:

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
E	13	C01420	SATCOM SDU
E	14	C01421	SATCOM HIGH

SUBTASK 23-15-30-420-007

(2) Make sure that the mounting surfaces on both the adapter plate [11] and high gain antenna [1] are clean.

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(a) Make sure that the mounting surfaces around the fasteners on both the adapter plate [11] and high gain antenna [1] are clean.

SUBTASK 23-15-30-420-008

(3) Remove the tail cap [2] from the new high gain antenna [1].

SUBTASK 23-15-30-420-009

> **CAUTION**
> DO NOT MOVE THE ANTENNA ALONG THE MOUNTING PLATE. DAMAGE TO THE BOTTOM O-RINGS AND PAINT SURFACES CAN OCCUR.

(4) Do these steps to install the high gain antenna [1] on the adapter plate [11]:

(a) Make sure that the base plate O-rings [7] attached to the bottom surface of high gain antenna [1].

(b) Examine the base plate O-rings [7] for damage and replace them if it is necessary.

(c) Carefully put the high gain antenna [1] on the adapter plate [11].

(d) Align the mounting holes on the high gain antenna [1] to the adapter plate [11].

> **CAUTION**
> DO NOT USE THE BOLT THAT IS LONGER THAN THE CORRECT LENGTH. IF THE MOUNTING BOLT IS TOO LONG, DAMAGE TO THE PRESSURE SEAL CAN OCCUR.

(e) Loosely install the mounting bolts [9] into the mounting holes of the high gain antenna [1].

1) Tighten the mounting bolts [9] to 31.2 in-lb (3.5 N·m) - 44.4 in-lb (5.0 N·m).

a) Tighten in the sequence from the center outwards.

SUBTASK 23-15-30-760-002

(5) Use a intrinsically safe approved bonding meter, COM-1550, to measure the resistance between the high gain antenna [1] and the airplane structure (SWPM 20-20-00).

NOTE: Measurement can be taken between antenna and airplane structure prior to installation of tail cap.

(a) Make sure that the resistance is 0.0025 ohms or less.

1) If the resistance is not in tolerance, repair the bonding surfaces (SWPM 20-20-00).

SUBTASK 23-15-30-420-010

(6) Do these steps to install the electrical connector [3] and electrical connector [12] to the high gain antenna [1]:

(a) Remove the ESDS protective covers from the electrical connector [3] and electrical connector [12].

(b) Examine the electrical connector [3] and electrical connector [12] for bent or broken pins, dirt, and damage.

(c) Install the electrical connector [3].

1) Tighten the electrical connector [3] to 8.4 in-lb (0.9 N·m).

a) Use the electrical connector pliers, COM-2584, or mini-strap wrench, COM-14430, to tighten the electrical connector [3].

NOTE: The plastic sleeves on the jaws to prevent damage to the electrical connectors.

(d) Install the electrical connector [12] (SWPM 20-60-06).

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SUBTASK 23-15-30-420-011

(7) Do these steps to install the tail cap [2]:

(a) Make sure that both mating surfaces of the antenna radome and tail cap [2] are clean.

(b) Install the tail cap [2] by sliding it forward until it engages the tail cap retainers [4].

(c) Install the fasteners [5] to attach the tail cap [2].

1) Torque the fasteners [5] to 19 in-lb (2.15 N·m).

(d) Apply a smooth layer of RTV 162 adhesive, A00363, to the gap between the high gain antenna [1] and tail cap [2].

NOTE: Smoothing down the sealant bead will contaminate the surrounding painted surfaces which may be cosmetically unpleasing. Masking both surfaces prior to sealant application to prevent this, is optional.

SUBTASK 23-15-30-420-012

(8) Do these steps to install the mounting hole sealing caps [6]:

(a) Remove any traces of sealant [10] before installing.

(b) Examine the O-rings [7] and the mounting hole sealing caps [6] for damages.

1) If it is necessary, replace them.

(c) Put the O-rings [7] on the mounting hole sealing caps [6].

(d) Put the foam plugs [8] into the mounting hole sealing caps [6].

(e) Apply a smooth layer of RTV 162 adhesive, A00363, to the threads of the mounting hole sealing caps [6].

NOTE: Avoid applying sealant to the O-rings and the foam plugs.

(f) Install the mounting hole sealing caps [6] on the mounting holes.

1) Tighten the mounting hole sealing caps [6] to flush by hand torque.

SUBTASK 23-15-30-860-003

(9) Remove the safety tags and close these circuit breakers:

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
E	13	C01420	SATCOM SDU
E	14	C01421	SATCOM HIGH

F. High Gain Antenna Installation Test

SUBTASK 23-15-30-710-001

(1) Do this task: Satellite Communications (SATCOM) System - Operational Test, TASK 23-15-00-710-801.

G. Put the Airplane Back to Its Usual Condition

SUBTASK 23-15-30-860-007

(1) If the Air Data Inertial Reference Unit (ADIRU) is not necessary, set the ADIRU switch, on the P5 overhead panel, to the OFF position.

END OF TASK

ECCN 9E991 BOEING PROPRIETARY - See title page for details

IRIDIUM SATCOM SYSTEM - ADJUSTMENT/TEST

1. General

A. This procedure includes this task

(1) Operational test of the Iridium SATCOM system.

TASK 23-15-40-710-801

2. Iridium SATCOM System - Operational Test

A. General

(1) This task gives the instructions to do an operational test of the Iridium Satellite Communications System (SATCOM) system.

(2) This test includes these tests:

(a) SATCOM BITE Test

(b) Satellite Link Test

(c) SATCOM Voice Communication Test

(d) SATCOM Link Test

(3) The airplane must be outside of the hangar and away from any structures that may block the view of the Iridium satellites from the antenna.

B. Location Zones

Zone	Area
117	Electrical and Electronics Compartment - Left
118	Electrical and Electronics Compartment - Right
211	Flight Compartment - Left
212	Flight Compartment - Right

C. Access Panels

Number	Name/Location
117A	Electronic Equipment Access Door

D. Prepare Procedure

SUBTASK 23-15-40-010-001

(1) Open this access panel:

Number	Name/Location
117A	Electronic Equipment Access Door

E. SATCOM BITE Test

SUBTASK 23-15-40-710-001

(1) Open these circuit breakers:

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
E	13	C04060	SATCOM SDU

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F/O Electrical System Panel, P6-1

Row	Col	Number	Name
LOM 465			
D	2	C00857	COMMUNICATIONS HF 2

LOM 437, 438, 465

This circuit breaker is inoperative and should remain open:

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
LOM 437, 438			
D	2	C00857	COMMUNICATIONS HF 2 (INOP)

LOM 437, 438, 465

(2) Make sure that the SAT prompt does not show on the Control Display Unit (CDU).

NOTE: It may take approximately one minute to display the message.

(3) Remove the safety tags and close these circuit breakers:

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
E	13	C04060	SATCOM SDU

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
LOM 465			
D	2	C00857	COMMUNICATIONS HF 2

LOM 437, 438, 465

This circuit breaker is inoperative and should remain open:

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
LOM 437, 438			
D	2	C00857	COMMUNICATIONS HF 2 (INOP)

LOM 437, 438, 465

(4) Make sure that the SAT prompt shows on the CDU.

(5) Wait for the Satellite Data Unit (SDU) to power-up.

NOTE: It can take approximately up to 90 seconds for the SDU to power up.

(6) After the SDU powered up, do these steps to examine the SATCOM BITE status:

LOM 437, 438

(a) Make sure that the LEDs on the front panel of the SDU show status as follows:

1) POWER: Green
2) LBT-1: Green (steady/flashing)
3) LBT-2: Amber (steady/flashing)
4) SBD: Green (steady/flashing)
5) ARINC: Green (steady/flashing)

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LOM 465

(b) Make sure that the LEDs on the front panel of the SDU show status as follows:

1) POWER: Green
2) FAULT: Green (comes on for five seconds)

(c) Make sure that the LEDs on the front panel of the Satellite Data Unit Configuration Module (SCM) show status as follows:

1) STATUS: Green (steady/flashing)
2) SIM 1: Green (steady/flashing)
3) SIM 2: Green (steady/flashing)
4) SIM 3: Green (steady/flashing)

LOM 437, 438, 465

(d) Do these steps on all CDUs:

1) Push the MENU key on all CDUs keypads to show the CDUs “MENU” page.
2) Make sure that the <SAT prompt shows on the MENU page on all the CDUs.
3) Select the Line Select Key (LSK) adjacent to <SAT on all CDUs to show the SAT-PHONE 1/2 page.
4) Push the NEXT PAGE key on all CDUs keypads to show the SAT-PHONE 2/2 page.
5) On the SAT-PHONE 2/2 page of all CDUs, make sure that BITE OK> shows at LSK-2R.
6) Push the MENU key on all CDUs keypads to show the CDU “MENU” page.

F. Satellite Link Test

SUBTASK 23-15-40-710-002

(1) Do the steps that follow to do a satellite link test:

NOTE: This procedure verifies the connection between the antenna, the SDU and the satellite link.

(a) On one of the CDUs, push the MENU key on the CDU keypad to show the CDU “MENU” page.

(b) Select the LSK adjacent to <SAT to show the SAT-PHONE 1/2 page.

(c) Push the NEXT PAGE key on the CDU keypad to show the SAT-PHONE 2/2 page.

(d) Select the LSK adjacent to <LOG to show the SAT LOG page.

LOM 437, 438

(e) Examine the MODEM Status on the SAT LOG page.

1) Make sure that the MODEM status shows as follows:

a) LBT-1 (VOICE) READY
b) LBT-2 (VOICE) DISABLED
c) SBD (DATA) READY
d) Make sure that the SIGNAL level of LBT-1, LBT-2 and SBD stays above 3.

LOM 465

(f) Examine the LBT Status on the SAT LOGON page.

1) Make sure that the LBT status shows as follows:

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LOM 465 (Continued)

a) LBT-1 (DATA) AVAILABLE

b) LBT-2 (VOICE) AVAILABLE

c) LBT-3 (VOICE) AVAILABLE

d) Make sure that the SIGNAL level of LBT-1, LBT-2 and LBT-3 stays above 3.

LOM 437, 438, 465

(g) Select the LSK adjacent to <RETURN to show the SAT-PHONE 2/2 page.

G. SATCOM Voice Communication Test

SUBTASK 23-15-40-710-003

(1) Do the steps that follow to do a SATCOM voice communication test for Air-to-Ground call from the captain's station:

NOTE: This test verifies the interface between the SDU and the audio system, and also verifies the SIM card activation status.

(a) Do a telephone number entry at the CDU-L:

1) Push the NEXT PAGE key on the CDU keypad to show the SAT-PHONE 1/2 page.

2) Select the LSK adjacent to DIRECTORY> to show the SAT DIRECTORY INDEX page.

LOM 437, 438

3) Select the LSK adjacent to COMPANY> to show the AOC DIR DETAILS for COMPANY page.

LOM 437, 438, 465

4) Select the LSK-L adjacent to the telephone number that is authorized to do this test.

5) Make sure that the selected telephone number's name/ID is entered below the SAT-1 “<MAKE CALL”

(b) Do these steps at the captain's Audio Control Panel (ACP):

1) Push the applicable audio volume controls to make all the receive lights go off.

2) Push the SAT-1 microphone selector switch.

3) Turn on the SAT-1 volume control and set it to approximately the middle position.

(c) Do these steps at the First Officer (F/O)s ACP:

1) Turn off the SAT-1 volume control.

(d) Set the volume knob on the captain's cockpit speaker to the middle level or normal comfortable listening setting.

(e) On CDU-L, select the LSK adjacent to <MAKE CALL for SAT-1.

LOM 437, 438

NOTE: The status of SAT-1 changes from READY - DIALING - RINGING - ANSWERED.

LOM 465

NOTE: The status of SAT-1 changes from READY - DIALING - ANSWERED.

(f) When the call is connected, make sure that the CALL light for SAT-1 comes on at each ACP.

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LOM 437, 438

(g) When the call is connected, make sure that the CALL light for SAT-1 on the SELCAL (Selective Calling)/SAT call panel comes on.

LOM 437, 438, 465

(h) Make voice communication from captain's station with a handheld microphone and cockpit speakers.

NOTE: You must push the Push-to-Talk (PTT) when you talk or transmit your voice.

(i) Make sure that the audio quality from both sides (cockpit and other end) is good.

NOTE: A delay may exist and it is not considered a problem. Any unacceptable level of noise may be caused by the audio wire installation. In this condition, end the call by selecting <END CALL on the CDU, and repeat this procedure with a different telephone number, and verify the audio quality. If the audio quality improves with the new telephone number, then this is not a problem.

(j) Tell the ground operator that the call will be completed.

(k) To end the call, select the LSK adjacent to <END CALL for SAT-1 on the CDU-L.

LOM 465

1) Make sure that the CALL light for SAT-1 goes off at each ACP.

LOM 437, 438

2) Make sure that the CALL light for SAT-1 goes off on the SELCAL/SAT call panel.

LOM 437, 438, 465

(l) On captain's ACP, push the SAT-1 microphone selector switch to make the MIC light go off.

SUBTASK 23-15-40-710-004

(2) Do the steps that follow to do a SATCOM voice communication test for Ground-to-Air call from the F/Os station:

(a) Do these steps at the F/Os ACP:

1) Push the SAT-1 microphone selector switch.

2) Turn on the SAT-1 volume control and set it to approximately the middle position.

(b) Do these steps at the Captain's ACP:

1) Turn off the SAT-1 volume control.

2) Push the VHF-1 microphone selector switch.

3) Turn on the VHF-1 volume control and set it to approximately the middle position.

(c) Set the volume knob on the F/Os cockpit speaker to the middle level or normal comfortable listening setting.

(d) Use VHF-1 radio to tell the ground operator to initiate a SATCOM call.

(e) Make sure that a single tone chime is heard when the Ground-to-Air call is received.

LOM 465

(f) Make sure that the CALL light for SAT-1 comes on at each ACP.

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LOM 437, 438

(g) Make sure that the CALL light for SAT-1 on the Selective Call System (SELCAL)/SAT call panel comes on.

LOM 437, 438, 465

(h) On CDU-L, make sure that the status of SAT-1 shows ANSWERED.

(i) Make voice communication from F/Os station with a handheld microphone and cockpit speakers.

NOTE: You must push the PTT when you talk or transmit your voice.

(j) Make sure that the audio quality from both sides (cockpit and other end) is good.

NOTE: A delay may exist and it is not considered a problem. Any unacceptable level of noise may be caused by the audio wire installation. In this condition, end the call by selecting <END CALL on the CDU, and repeat this procedure with a different telephone number, and verify the audio quality. If the audio quality improves with the new telephone number, then this is not a problem.

(k) Tell the ground operator that the call will be completed.

(l) To end the call, select the LSK adjacent to <END CALL for SAT-1 on the CDU-L.

LOM 465

1) Make sure that the CALL light for SAT-1 goes off at each ACP.

LOM 437, 438

2) Make sure that the CALL light for SAT-1 goes off on the SELCAL/SAT call panel.

LOM 437, 438, 465

(m) On F/Os ACP, push the SAT-1 microphone selector switch to make the MIC light go off.

H. SATCOM Link Test

SUBTASK 23-15-40-710-006

(1) Use the Aircraft Communications Addressing And Reporting System (ACARS) to do a SATCOM Link Test:

NOTE: This test verifies the interface between the SDU and ACARS Communications Management Unit (CMU).

(a) Push the MENU key on one of the CDUs to show the CDU “MENU” page.

1) Make sure that the <ACARS prompt shows.

NOTE: It may take approximately up to 1 minute to display the <ACARS” prompt after the CMU is powered on.

(b) Select the LSK adjacent to <ACARS to show the ACARS APPLICATION MENU page.

NOTE: If the CDU displays a page other than the ACARS APPLICATION MENU page, select the LSK adjacent to the <RETURN" prompt until the ACARS APPLICATION MENU page is displayed.

(c) Select the LSK adjacent to the TECHNICAL> to show the TECHNICAL MENU page.

(d) Select the LSK adjacent to the <LINK STATUS to show the LINK STATUS page.

(e) Make sure that the POA COMM is displayed next to *SAT prompt.

(f) Select the LSK adjacent to the *SAT to initiate the SATCOM link test.

(g) Make sure that the SATCOM status changes from SATCOM IN PROG to LINK TEST SUCCESSFUL and then clears (no text displayed).

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(h) Select the LSK adjacent to the <RETURN prompt until the ACARS APPLICATION MENU page is displayed.

(i) Push the MENU key on the CDU keypad to show the CDU “MENU” page.

I. Put the Airplane in Its Usual Condition

SUBTASK 23-15-40-410-001

(1) Close this access panel:

Number	Name/Location
117A	Electronic Equipment Access Door

——— END OF TASK ———

ECCN 9E991 BOEING PROPRIETARY - See title page for details

IRIDIUM SATCOM SYSTEM - MAINTENANCE PRACTICES

1. **General**

A. This procedure has these tasks:

(1) Iridium Satcom System Deactivation

(2) Iridium Satcom System Activation

TASK 23-15-41-040-801

2. **Satcom Iridium System - Deactivation**

A. General

(1) This task includes the steps to remove electrical power to the Satcom Iridium System.

B. Location Zones

Zone	Area
117	Electrical and Electronics Compartment - Left
118	Electrical and Electronics Compartment - Right

C. Satcom Iridium System Deactivation

SUBTASK 23-15-41-860-009

(1) Open this circuit breaker and install safety tag:

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
E	13	C04060	SATCOM SDU

D. Satcom Iridium System - Tryout

NOTE: This tryout is to make sure that the Satcom Iridium System is in zero energy state.

SUBTASK 23-15-41-860-008

(1) Make sure that this circuit breaker is open:

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
E	13	C04060	SATCOM SDU

SUBTASK 23-15-41-710-002

(2) Do these steps at a Control Display Unit (CDU) (P9):

(a) Push the MENU key.

1) Make sure that the <SAT prompt is not shown.

END OF TASK

TASK 23-15-41-440-801

3. **Satcom Iridium System - Activation**

A. General

(1) This task includes the steps to add electrical power to the Satcom Iridium System

B. Location Zones

Zone	Area
117	Electrical and Electronics Compartment - Left
118	Electrical and Electronics Compartment - Right

ECCN 9E991 BOEING PROPRIETARY - See title page for details

C. Satcom Iridium System Activation

WARNING MAKE SURE THAT PERSONNEL STAY A MINIMUM OF 10 FEET (3M) FROM THE SATCOM ANTENNA DURING THE TEST. RF ENERGY CAN CAUSE INJURIES TO PERSONNEL.

SUBTASK 23-15-41-860-010

(1) Remove the safety tag and close this circuit breaker:

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
E	13	C04060	SATCOM SDU

SUBTASK 23-15-41-200-002

(2) Make sure that the <SAT prompt shows on the Control Display Unit (CDU).

NOTE: It may take approximately one minute to display the message.

SUBTASK 23-15-41-700-001

(3) Wait for the Satellite Data Unit (SDU) to power-up.

NOTE: It can take approximately up to 90 seconds for the SDU to power up.

SUBTASK 23-15-41-200-001

(4) After the SDU powered up, do these steps to examine the SATCOM BITE status:

(a) Make sure that the two LEDs on the front panel of the SDU show status as follows:

1) POWER: Green

2) FAULT: Green

(b) Do these steps on all CDUs:

1) Push the MENU key on all CDUs keypads to show the CDU “MENU” page.

2) Make sure that the <SAT prompt shows on the MENU page on all the CDUs.

3) Select the LSK adjacent to <SAT on all CDUs to show the SAT-PHONE 1/2 page.

4) Push the NEXT PAGE key on all CDUs keypads to show the SAT-PHONE 2/2 page.

5) On the SAT-PHONE 2/2 page of all CDUs, make sure that the BITE PASS> shows at LSK-2R.

6) Push the MENU key on all CDUs keypads to show the CDU “MENU” page.

END OF TASK

ECCN 9E991 BOEING PROPRIETARY - See title page for details

SATELLITE DATA UNIT (IRIDIUM) - REMOVAL/INSTALLATION

1. General

A. This procedure has the following tasks:

(1) A removal of the SDU.

(2) An installation of the SDU.

LOM 437, 438

B. The Iridium SDU is installed in the E4-1 equipment rack. The E4-1 rack is in the main equipment center.

LOM 465

C. The Iridium SDU (M3193) is installed in the E5-1 equipment rack. The E5-1 rack is in the main equipment center.

LOM 437, 438, 465

TASK 23-15-41-000-801

2. Satellite Data Unit - Removal

(Figure 401)

A. References

Reference	Title
20-10-07-000-801	E/E Box Removal (P/B 201)
20-40-12-000-802	ESDS Handling for Metal Encased Unit Removal (P/B 201)

B. Location Zones

Zone	Area
118	Electrical and Electronics Compartment - Right

C. Access Panels

Number	Name/Location
117A	Electronic Equipment Access Door

D. Prepare for Removal

SUBTASK 23-15-41-860-001

(1) Open these circuit breakers and install safety tags:

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
E	13	C04060	SATCOM SDU
LOM 437, 438			
E	15	C01422	SATCOM AURAL WARN

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
LOM 465			
D	2	C00857	COMMUNICATIONS HF 2

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LOM 465 (Continued)

(Continued)

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
LOM 437, 438, 465			

This circuit breaker is inoperative and should remain open:

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
LOM 437, 438			
D	2	C00857	COMMUNICATIONS HF 2 (INOP)

LOM 437, 438, 465

SUBTASK 23-15-41-010-001

(2) Open this access panel:

Number	Name/Location
117A	Electronic Equipment Access Door

E. SDU Removal

SUBTASK 23-15-41-910-001

CAUTION

DO NOT TOUCH THE CONNECTOR PINS, OR OTHER CONDUCTORS. IF YOU TOUCH THESE CONDUCTORS, ELECTROSTATIC DISCHARGE CAN CAUSE DAMAGE TO THE COMPONENTS.

(1) Before you touch the satellite data unit [1], do this task: ESDS Handling for Metal Encased Unit Removal, TASK 20-40-12-000-802.

SUBTASK 23-15-41-020-001

(2) To remove the satellite data unit [1], do this task: E/E Box Removal, TASK 20-10-07-000-801.

(a) Put the Electrostatic Discharge Sensitive (ESDS) protective cover on the electrical connector of the removed Satellite Data Unit (SDU).

END OF TASK

ECCN 9E991 BOEING PROPRIETARY - See title page for details

ELECTRONIC EQUIPMENT RACK, E4

A

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Satellite Data Unit Installation
Figure 401/23-15-41-990-801 (Sheet 1 of 2)

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ELECTRONIC EQUIPMENT RACK, E5

A

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Satellite Data Unit Installation
Figure 401/23-15-41-990-801 (Sheet 2 of 2)

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TASK 23-15-41-400-801

3. Satellite Data Unit Installation

(Figure 401)

A. References

Reference	Title
20-10-07-400-801	E/E Box Installation (P/B 201)
20-40-12-400-802	ESDS Handling for Metal Encased Unit Installation (P/B 201)
23-15-10-470-801	Satellite Data Unit (SDU) Software Installation with a Portable Data Loader (P/B 201)
23-15-10-470-804	Satellite Data Unit Software Installation with an Enhanced Airborne Data Loader (eADL) (P/B 201)
23-15-40-710-801	Iridium SATCOM System - Operational Test (P/B 501)
24-22-00-860-811	Supply Electrical Power (P/B 201)
24-22-00-860-812	Remove Electrical Power (P/B 201)

B. Location Zones

Zone	Area
118	Electrical and Electronics Compartment - Right
212	Flight Compartment - Right

C. Access Panels

Number	Name/Location
117A	Electronic Equipment Access Door

D. Prepare for Installation

SUBTASK 23-15-41-860-002

(1) Make sure that these circuit breakers are open and have safety tags:

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
E	13	C04060	SATCOM SDU

LOM 437, 438

E	15	C01422	SATCOM AURAL WARN

F/O Electrical System Panel, P6-1

Row	Col	Number	Name

LOM 465

D	2	C00857	COMMUNICATIONS HF 2

LOM 437, 438, 465

This circuit breaker is inoperative and should remain open:

F/O Electrical System Panel, P6-1

Row	Col	Number	Name

LOM 437, 438

D	2	C00857	COMMUNICATIONS HF 2 (INOP)

LOM 437, 438, 465

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SUBTASK 23-15-41-010-003

(2) Open this access panel:

Number	Name/Location
117A	Electronic Equipment Access Door

E. SDU Installation

SUBTASK 23-15-41-910-002

> **CAUTION** DO NOT TOUCH THE CONNECTOR PINS, OR OTHER CONDUCTORS. IF YOU TOUCH THESE CONDUCTORS, ELECTROSTATIC DISCHARGE CAN CAUSE DAMAGE TO THE COMPONENTS.

(1) Before you touch the Satellite Data Unit (SDU), do this task: ESDS Handling for Metal Encased Unit Installation, TASK 20-40-12-400-802.

SUBTASK 23-15-41-420-001

(2) To install the satellite data unit [1], do this task: E/E Box Installation, TASK 20-10-07-400-801.

SUBTASK 23-15-41-860-003

(3) Remove the safety tags and close these circuit breakers:

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
E	13	C04060	SATCOM SDU
LOM 437, 438			
E	15	C01422	SATCOM AURAL WARN

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
LOM 465			
D	2	C00857	COMMUNICATIONS HF 2
LOM 437, 438, 465			

This circuit breaker is inoperative and should remain open:

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
LOM 437, 438			
D	2	C00857	COMMUNICATIONS HF 2 (INOP)

LOM 437, 438, 465

F. Installation Test

SUBTASK 23-15-41-860-006

(1) Supply the electrical power to the airplane (TASK 24-22-00-860-811).

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LOM 465

SUBTASK 23-15-41-470-001

(2) Check the satellite data unit [1] software (TASK 23-15-10-470-801 or TASK 23-15-10-470-804).

NOTE: The Satellite Data Unit Configuration Module (SCM) must be present if software loading is needed.

LOM 437, 438, 465

SUBTASK 23-15-41-710-001

(3) Do this task: Iridium SATCOM System - Operational Test, TASK 23-15-40-710-801.

G. Put the Airplane Back to Its Usual Condition

SUBTASK 23-15-41-410-002

(1) Close this access panel:

Number	Name/Location
117A	Electronic Equipment Access Door

SUBTASK 23-15-41-860-005

(2) Remove electrical power from the airplane, if it is not necessary for other tasks (TASK 24-22-00-860-812).

END OF TASK

ECCN 9E991 BOEING PROPRIETARY - See title page for details

CONFIGURATION IDENTITY MODULE - MAINTENANCE PRACTICES

1. General

A. This procedure includes these tasks:

(1) Iridium SATCOM System - SIM Card Replacement

(2) Iridium SATCOM System - User Configuration Verifications and Changes

B. The Configuration Identity Module (CIM) is installed in the E4-1 equipment rack. The E4-1 rack is in the main equipment center.

TASK 23-15-42-900-801

2. Iridium SATCOM System - SIM Card Replacement

(Figure 201)

A. General

(1) This task includes the steps to replace the SIM cards in the CIM.

B. References

Reference	Title
23-15-40-710-801	Iridium SATCOM System - Operational Test (P/B 501)

C. Location Zones

Zone	Area
117	Electrical and Electronics Compartment - Left
118	Electrical and Electronics Compartment - Right
211	Flight Compartment - Left
212	Flight Compartment - Right

D. Access Panels

Number	Name/Location
117A	Electronic Equipment Access Door

E. Prepare Procedure

SUBTASK 23-15-42-860-002

(1) Open this circuit breaker and install safety tag:

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
E	13	C04060	SATCOM SDU

This circuit breaker is inoperative and should remain open:

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
D	2	C00857	COMMUNICATIONS HF 2 (INOP)

SUBTASK 23-15-42-010-003

(2) Open this access panel:

Number	Name/Location
117A	Electronic Equipment Access Door

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F. SIM Card Removal

SUBTASK 23-15-42-010-004

(1) Open the coverplate from the CIM to prepare for the removal of SIM cards.

SUBTASK 23-15-42-020-002

(2) Do these steps to remove the SIM card [1] out of the SIM CARD SLOT-1 and SIM CARD SLOT-2:

(a) Slide the SIM card lock [2] on each SIM card holder [3] up to the unlocked position.

NOTE: This will unlock the SIM card holder and let it be hinged upward.

(b) Lift up the two SIM card holder [3].

(c) Remove the SIM card [1] from the SIM card holder [3].

(d) If no other task is necessary, do these steps:

1) Push the SIM card holders down.

2) Slide the SIM card lock [2] on each SIM card holder down until the holder clicks to the locked position.

3) Close the CIM coverplate.

G. SIM Card Installation

SUBTASK 23-15-42-420-001

(1) To install the SIM card [1] into the CIM, do the steps that follow:

(a) Open the coverplate from the CIM (if closed).

(b) Do these steps to install the SIM card [1] into the SIM CARD SLOT-1 and SIM CARD SLOT-2:

1) Slide the SIM card lock [2] on each SIM card holder [3] up to the unlocked position.

NOTE: This will unlock the SIM card holder and let it be hinged upward.

2) Lift up the two SIM card holder [3].

3) Make sure that the clipped corner of each SIM card [1] is in the correct position, as shown in the Figure 201.

4) Install the SIM card [1] into the SIM card holder [3].

5) Push the SIM card holder [3] down.

6) Slide the SIM card lock [2] on each SIM card holder [3] down until the holder clicks to the locked position.

SUBTASK 23-15-42-860-003

(2) Remove the safety tag and close this circuit breaker:

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
E	13	C04060	SATCOM SDU

This circuit breaker is inoperative and should remain open:

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
D	2	C00857	COMMUNICATIONS HF 2 (INOP)

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SUBTASK 23-15-42-210-001

(3) Make sure the three LEDs in between the SIM cards come on Green.

NOTE: The CIM Module contains three LEDs. These LEDs are power indicators for the Configuration Board, SIM slot 1, and SIM slot 2. The LEDs have two states, ON (green) or OFF (no color), to indicate power supplied to the unit.

SUBTASK 23-15-42-410-001

(4) Close the CIM coverplate.

SUBTASK 23-15-42-410-002

(5) Close this access panel:

Number	Name/Location
117A	Electronic Equipment Access Door

H. Installation Test

SUBTASK 23-15-42-730-001

(1) Use the center CDU to do the SIM card installation test:

NOTE: The airplane must be outside of the hangar and away from any structures that may block the view of the Iridium satellites from the antenna.

(a) Push the MENU key on the CDU keypad to show the CDU “MENU” page.

(b) Select the LSK adjacent to <SAT to show the SAT-PHONE 1/2 page.

(c) Push the NEXT PAGE key on the CDU keypad to show the SAT-PHONE 2/2 page.

(d) Select the LSK adjacent to <LOG to show the SAT LOG page.

(e) Examine the MODEM Status on the SAT LOG page.

1) Make sure that these conditions show:

a) LBT-1 (VOICE) “READY”

b) LBT-2 (VOICE) “READY”

c) SBD (DATA) “READY”

d) Make sure that the SIGNAL level of LBT-1, LBT-2 and SBD stays above 3.

(f) Select the LSK adjacent to <RETURN to show the SAT-PHONE 2/2 page.

(g) Select the LSK adjacent to CONFIG> to show the SAT CONFIG 1/2 page.

(h) Push the NEXT PAGE key on the CDU keypad to show the SAT CONFIG 2/2 page.

(i) Make sure that the SIM and IMEI numbers for LBT-1 (for SIM 1) and LBT-2 (for SIM 2) agree with the record from the Iridium service application.

(j) Select the LSK adjacent to <RETURN to show the SAT-PHONE 2/2 page.

(k) Push the MENU key on the CDU keypad to return back to the CDU “MENU” page.

SUBTASK 23-15-42-730-002

(2) Do the SATCOM voice communication test in AMM Iridium SATCOM System - Operational Test, TASK 23-15-40-710-801.

END OF TASK

ECCN 9E991 BOEING PROPRIETARY - See title page for details

2519867 S0000592989_V1

SIM Card Replacement
Figure 201/23-15-42-990-802

ECCN 9E991 BOEING PROPRIETARY - See title page for details

TASK 23-15-42-860-801

3. Iridium SATCOM System - User Configuration Verifications and Changes

(Figure 202, Figure 203)

A. General

(1) This task includes the steps to check the customer specific SATCOM configuration.

B. References

Reference	Title
32-09-00 P/B 201	AIR/GROUND SYSTEM - MAINTENANCE PRACTICES

C. Location Zones

Zone	Area
117	Electrical and Electronics Compartment - Left
118	Electrical and Electronics Compartment - Right
211	Flight Compartment - Left
212	Flight Compartment - Right

D. Prepare for the Configuration Verification and Changes

SUBTASK 23-15-42-860-009

(1) Make sure that these circuit breakers are closed:

F/O Electrical System Panel, P6-3

Row	Col	Number	Name
C	16	C01356	LANDING GEAR AIR/GND SYS 1
D	1	C01399	PSEU PRI
D	2	C01400	PSEU ALTN

SUBTASK 23-15-42-980-001

(2) Make sure that the airplane is in the ground mode (PAGEBLOCK 32-09-00/201).

SUBTASK 23-15-42-580-001

(3) Set the parking brakes.

E. User Configuration Verifications and Changes

SUBTASK 23-15-42-860-007

(1) Read the procedure carefully before you make changes in the SAT USER ORT and SAT CONFIG DB PN pages.

NOTE: You can cause a malfunction of the SATCOM system if you install the incorrect configuration.

SUBTASK 23-15-42-860-008

(2) Use the center Control Display Unit (CDU) to get access to the SAT USER ORT page.

(a) Push the MENU key on the CDU keypad to show the CDU “MENU” page.

(b) Select the LSK adjacent to <SAT to show the SAT-PHONE 1/2 page.

(c) Push the NEXT PAGE key on the CDU keypad to show the SAT-PHONE 2/2 page.

(d) Select the LSK adjacent to CONFIG> to show the SAT CONFIG 1/2 page.

(e) Enter the USER ORT password “ICG220A2” into the CDU scratch-pad.

NOTE: This is a password protected page. It is the operator's responsibility to record and to keep the password if it is revised. The SATCOM supplier may charge a fee for recovery of a lost password.

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(f) Select the LSK adjacent to USER ORT> to show SAT USER ORT page.

1) Make sure that the CDU scratch-pad does not show one of these messages:

a) NOT ALLOWED

<1> If "NOT ALLOWED" message shows in the CDU scratch-pad, check the connection between the CDU and SYS 1 AIR/GND relay.

b) INVALID PASSWORD

<1> If "INVALID PASSWORD" message shows in the CDU scratch-pad, make sure that the password is correct.

<2> If the problem continues, contact the SATCOM supplier.

SUBTASK 23-15-42-210-003

(3) Examine the SAT USER ORT page.

(a) Make sure that the settings are the same as the settings that show in the SAT USER ORT page (Figure 202).

NOTE: If the SAT USER ORT setting(s) in the airplane are different from the graphic, revert to the default settings.

SUBTASK 23-15-42-730-003

(4) Clear faults.

(a) Press the CLEAR FAULTS> LSK to remove any fault indicators (Figure 203).

SUBTASK 23-15-42-730-004

(5) Change the USER ORT Password via the CDU.

(a) If it is necessary to change the default USER ORT password, do these steps:

NOTE: This page allows the user to modify the default USER ORT password to a customized password. A customized password must be pre-approved by the airlines engineering with a valid airplane engineering order.

1) Type the current password into the CDU scratch-pad.

2) Select USER ORT>LSK.

3) Enter the new password (up to 8 digits with 0-9 and A-Z) into the CDU scratch-pad.

4) Select USER ORT>LSK.

NOTE: The CDU will display SAVE IN PROG while saving on the left side of the scratch-pad. The CDU will display SAVE COMPLETE when the save is done.

5) Press SAVE>LSK to save changes.

6) Press <RESTART then <CONFIRM to reboot the CDU with the changed configuration.

NOTE: It is operator's responsibility to record and to keep the password if it is changed. The SATCOM supplier may charge a fee for recovery of a lost password.

SUBTASK 23-15-42-730-005

(6) Change the Aircraft Communications Addressing And Reporting System (ACARS) service provider via the CDU.

(a) Enter the SAT USER ORT password in the CDU scratch-pad.

(b) Select USER ORT>LSK to access the SAT UORT CONFIG page.

(c) Press the <ACARS SRV LSK to toggle through the five available options (Figure 203):

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1) GLOBALINK
2) ARINC DIRECT
3) HONEYWELL GDC
4) SITA
5) OTHER.

(d) Press SAVE> LSK to save changes.

NOTE: The CDU will display SAVE IN PROG while saving on the left side of the scratch-pad. The CDU will display SAVE COMPLETE when the save is done.

(e) Press <RESTART then <CONFIRM to reboot the CDU with the changed configuration.

SUBTASK 23-15-42-730-006

(7) Change the CALL DISPLAY via the CDU.

NOTE: The CALL DISPLAY type shows either the name or number of the caller. When the <CALL DISPLAY is set BY NAME, the CDU will display the call recipient name if located in the directory for ATG calls. The caller user ID is displayed for GTA calls.

NOTE: When the <CALL DISPLAY is set BY NUMBER, the CDU displays the number, which may be a phone number or short code. Speed dial numbers are not displayed on the CDU.

(a) The default settings is the dataloaded value. To change the display settings, do these steps:

1) Enter the SAT USER ORT password in the CDU scratch-pad.
2) Select USER ORT>LSK to access the SAT UORT CONFIG page.
3) On the SAT UORT CONFIG page, press the <CALL DISPLAY LSK to toggle between the BY NUMBER and BY NAME options.
4) Press SAVE> LSK to save changes.

NOTE: The CDU will display SAVE IN PROG while saving on the left side of the scratch-pad. The CDU will display SAVE COMPLETE when the save is done.

5) Press <RESTART then <CONFIRM to reboot the CDU with the changed configuration.

SUBTASK 23-15-42-730-007

(8) Change Entry Control via the CDU.

NOTE: The scratch-pad number entry control type has two possible configurations. ALL NUMBERS and SHORT CODES. When <ENTRY CONTROL is set to ALL NUMBERS, the CDU scratch-pad will accept long numbers, short codes, speed dial numbers and station extensions.

NOTE: Selecting SHORT CODES does not permit any long numbers to be dialed. Speed dial numbers will be accepted in the scratch-pad. Station-to-station calling is enabled with both parameter settings.

(a) The default settings is the dataloaded value. To change the display settings, do these steps:

1) Enter the SAT USER ORT password in the CDU scratch-pad.
2) Select USER ORT>LSK to access the SAT UORT CONFIG page.
3) On the SAT UORT CONFIG page, press the <ENTRY CONTROL LSK to toggle between the ALL NUMBERS and SHORT CODE options.

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4) Press SAVE> LSK to save changes.

NOTE: The CDU will display SAVE IN PROG while saving on the left side of the scratch-pad. The CDU will display SAVE COMPLETE when the save is done.

5) Press <RESTART then <CONFIRM to reboot the CDU with the changed configuration.

SUBTASK 23-15-42-730-008

(9) If the SAT UORT CONFIG page is correct and no change needed, do these steps:

(a) Press <RESTART then <CONFIRM to reboot the CDU and return to the SAT UORT CONFIG page.

(b) This procedure is completed.

F. Put the Airplane Back to Its Usual Condition

SUBTASK 23-15-42-580-002

(1) Release the parking brakes.

——— END OF TASK ———

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SAT USER ORT PAGE

2983626 S0000759843_V1

SAT User ORT Page
Figure 202/23-15-42-990-808

ECCN 9E991 BOEING PROPRIETARY - See title page for details

SAT UORT CONFIGURATION PAGE

2883298 S0000684249_V1

SAT UORT Configuration Page
Figure 203/23-15-42-990-809

ECCN 9E991 BOEING PROPRIETARY - See title page for details

CONFIGURATION IDENTITY MODULE - REMOVAL/INSTALLATION

1. General

A. This procedure has these tasks:

(1) A removal of the Configuration Identity Module (CIM).

(2) An installation of the CIM.

B. The CIM is installed in the E4-1 equipment rack. The E4-1 rack is in the main equipment center.

TASK 23-15-42-000-801

2. Configuration Identity Module Removal

(Figure 401)

A. References

Reference	Title
23-15-42-900-801	Iridium SATCOM System - SIM Card Replacement (P/B 201)

B. Location Zones

Zone	Area
118	Electrical and Electronics Compartment - Right

C. Access Panels

Number	Name/Location
117A	Electronic Equipment Access Door

D. Prepare for the Removal

SUBTASK 23-15-42-860-001

(1) Open these circuit breakers and install safety tags:

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
E	13	C04060	SATCOM SDU
E	15	C01422	SATCOM AURAL WARN

This circuit breaker is inoperative and should remain open:

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
D	2	C00857	COMMUNICATIONS HF 2 (INOP)

SUBTASK 23-15-42-010-001

(2) Open this access panel:

Number	Name/Location
117A	Electronic Equipment Access Door

E. CIM Removal

SUBTASK 23-15-42-020-001

> **CAUTION** DO NOT TOUCH THE CONNECTOR PINS, OR OTHER CONDUCTORS. IF YOU TOUCH THESE CONDUCTORS, ELECTROSTATIC DISCHARGE CAN CAUSE DAMAGE TO THE COMPONENTS.

(1) Do these steps to remove the configuration identity module [1]:

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(a) Loosen the screws [2] that attach the electrical connector [3] to the configuration identity module [1].

(b) Disconnect the electrical connector [3] from the configuration identity module [1].

(c) Remove the four mounting bolts [5] and washers [4].

(d) Remove the configuration identity module [1] from its mounting bracket.

(e) Put the ESDS protective cover on the connector of the removed CIM.

SUBTASK 23-15-42-020-003

(2) Remove and keep the SIM cards from the CIM for installation on the new/serviceable CIM Iridium SATCOM System - SIM Card Replacement, TASK 23-15-42-900-801.

NOTE: The SIM cards stay with the aircraft and will be installed on the new/serviceable CIM. The SIM cards carry the aircraft phone ID number, the company phone list and other important data.

——— END OF TASK ———

ECCN 9E991 BOEING PROPRIETARY - See title page for details

2517400 S0000591468_V2

Configuration Identity Module Installation
Figure 401/23-15-42-990-801

ECCN 9E991 BOEING PROPRIETARY - See title page for details

TASK 23-15-42-400-801

3. Configuration Identity Module Installation

Figure 401

A. General

(1) This task includes the steps to install the CIM.

B. References

Reference	Title
23-15-40-710-801	Iridium SATCOM System - Operational Test (P/B 501)
23-15-42-860-801	Iridium SATCOM System - User Configuration Verifications and Changes (P/B 201)
23-15-42-900-801	Iridium SATCOM System - SIM Card Replacement (P/B 201)

C. Location Zones

Zone	Area
118	Electrical and Electronics Compartment - Right
211	Flight Compartment - Left
212	Flight Compartment - Right

D. Access Panels

Number	Name/Location
117A	Electronic Equipment Access Door

E. Prepare for the Installation

SUBTASK 23-15-42-860-004

(1) Make sure that these circuit breakers are open and have safety tags:

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
E	13	C04060	SATCOM SDU
E	15	C01422	SATCOM AURAL WARN

This circuit breaker is inoperative and should remain open:

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
D	2	C00857	COMMUNICATIONS HF 2 (INOP)

SUBTASK 23-15-42-010-005

(2) Open this access panel:

Number	Name/Location
117A	Electronic Equipment Access Door

F. CIM Installation

SUBTASK 23-15-42-420-002

(1) Install the configuration identity module [1] as follows:

(a) Remove the ESDS protective covers from the electrical connectors.

(b) Examine the electrical connectors for broken or bent pins, dirt and damage.

(c) Put the CIM in the mounting bracket on the E4-1 rack.

(d) Align the four configuration identity module [1] mounting holes to the mounting bracket.

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(e) Install and tighten the four mounting bolts [5] and washers [4] to attach the configuration identity module [1].

(f) Connect the electrical connector [3] to the configuration identity module [1].

SUBTASK 23-15-42-470-001

(2) Install the SIM cards into the CIM (Iridium SATCOM System - SIM Card Replacement, TASK 23-15-42-900-801).

NOTE: Use the SIM cards that you kept from the CIM removal procedure.

SUBTASK 23-15-42-860-005

(3) Remove the safety tags and close these circuit breakers:

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
E	13	C04060	SATCOM SDU
E	15	C01422	SATCOM AURAL WARN

This circuit breaker is inoperative and should remain open:

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
D	2	C00857	COMMUNICATIONS HF 2 (INOP)

G. Installation test

SUBTASK 23-15-42-700-001

(1) Do this task: Iridium SATCOM System - User Configuration Verifications and Changes, TASK 23-15-42-860-801.

SUBTASK 23-15-42-710-001

(2) Do this task: Iridium SATCOM System - Operational Test, TASK 23-15-40-710-801.

H. Put the Airplane Back to Its Usual Condition

SUBTASK 23-15-42-410-004

(1) Close this access panel:

Number	Name/Location
117A	Electronic Equipment Access Door

END OF TASK

ECCN 9E991 BOEING PROPRIETARY - See title page for details

SATCOM ANTENNA - REMOVAL/INSTALLATION

1. General

A. This procedure includes these tasks:

(1) Removal of the Iridium SATCOM antenna

(2) Installation of the Iridium SATCOM antenna

B. The Iridium SATCOM antenna is installed on the top of the aircraft. Installed at STA 450, STA 465 or STA 467 for a given aircraft configuration.

C. There are two coaxial connectors on the Iridium SATCOM antenna.

TASK 23-15-43-000-801

2. Iridium SATCOM Antenna - Removal

(Figure 401)

A. General

(1) This task includes the steps to remove the Iridium SATCOM antenna.

B. Tools/Equipment

NOTE: When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

Reference	Description
SPL-768	Sealant Removal Tool, Non-Metallic Part #: ST982L-9 Supplier: 81205 Part #: ST982LF-9 Supplier: 81205 Part #: ST982LH-A-1 Supplier: 81205

C. Location Zones

Zone	Area
200	Upper Half of Fuselage
211	Flight Compartment - Left
212	Flight Compartment - Right

D. Prepare for the Removal

SUBTASK 23-15-43-860-001

(1) Open these circuit breakers and install safety tags:

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
E	13	C04060	SATCOM SDU
LOM 437, 438			
E	15	C01422	SATCOM AURAL WARN

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
LOM 465			
D	2	C00857	COMMUNICATIONS HF 2

ECCN 9E991 BOEING PROPRIETARY - See title page for details

LOM 465 (Continued)

(Continued)

F/O Electrical System Panel, P6-1

Row	Col	Number	Name

LOM 437, 438, 465

This circuit breaker is inoperative and should remain open:

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
LOM 437, 438			
D	2	C00857	COMMUNICATIONS HF 2 (INOP)

LOM 437, 438, 465

E. Iridium SATCOM Antenna Removal

SUBTASK 23-15-43-000-001

(1) Remove the four mounting bolts [2] that attach the antenna [1] to the airplane.

SUBTASK 23-15-43-000-002

CAUTION REMOVE THE AERODYNAMIC FILLET SEAL CAREFULLY WITH THE SEALANT REMOVAL TOOL. DAMAGE TO THE AIRPLANE SKIN OR THE COAXIAL CABLE CAN OCCUR.

(2) Remove the weather/aerodynamic fillet seal around the bottom of the antenna and aircraft's surface.

SUBTASK 23-15-43-390-001

(3) Use the sealant removal tool, SPL-768 as a wedge between the antenna and aircraft's surface.

(4) Lift the antenna up until you can get access to the two coaxial cable connectors [3].

SUBTASK 23-15-43-020-001

(5) Disconnect the two coaxial cable connector [3] from the antenna [1].

NOTE: Make sure that the coaxial connectors do not fall back through the hole. Attach the coaxial connectors to the airplane structure temporarily with tape to keep them from falling.

SUBTASK 23-15-43-000-003

LOM 465

(6) Remove the antenna [1] and antenna gasket [4] from the airplane.

LOM 437, 438

(7) Remove the antenna [1] and O-ring [5] from the airplane.

LOM 437, 438, 465

END OF TASK

ECCN 9E991 BOEING PROPRIETARY - See title page for details

SATCOM ANTENNA
(EXAMPLE)

1 INSTALLED AT STA 450, STA 465 OR STA 467 FOR A GIVEN AIRCRAFT CONFIGURATION.

A

2517818 S0000591482_V2

SATCOM Antenna Installation
Figure 401/23-15-43-990-801 (Sheet 1 of 2)

ECCN 9E991 BOEING PROPRIETARY - See title page for details

SATCOM ANTENNA (EXAMPLE)

A

1 INSTALLED AT STA 450, STA 465 OR STA 467 FOR A GIVEN AIRCRAFT CONFIGURATION.

3032409 S0000803033_V1

SATCOM Antenna Installation
Figure 401/23-15-43-990-801 (Sheet 2 of 2)

ECCN 9E991 BOEING PROPRIETARY - See title page for details

TASK 23-15-43-400-801

3. Iridium SATCOM Antenna - Installation

(Figure 401)

A. General

(1) This task includes the steps to install the Iridium SATCOM antenna.

B. References

Reference	Title
20-10-34 P/B 701	METAL SURFACES - CLEANING/PAINTING
20-30-11-910-801	Adhesives, Cements, and Sealants (P/B 201)
23-15-40-710-801	Iridium SATCOM System - Operational Test (P/B 501)
SL 20-043	Deferred Application of Aero-Sealant in Antenna Installations
SOPM 20-43-03	Chemical Conversion Coatings for Aluminum
SWPM 20-20-00	ELECTRICAL BONDING PROCESSES

C. Tools/Equipment

NOTE: When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

Reference	Description
COM-1550	Bonding Meter - Approved, Intrinsically Safe (Approved for use in Class I, Divisions I & II hazardous (classified) locations. Outside these hazardous locations, COM-614 can be used in lieu of COM-1550). Part #: 620LK Supplier: 1CRL2 Part #: M1 Supplier: 3AD17 Part #: M1B Supplier: 3AD17 Part #: T477W (C15292) Supplier: 06659
STD-810	Spatula - Fillet Smoothing, Hardwood or Plastic
STD-1014	Wrench - Torque, 0 to 150 in-lbs (0 to 16.9 N-m)

D. Consumable Materials

Reference	Description	Specification
A00247	Sealant - Pressure And Environmental - Chromate Type	BMS5-95
C00064	Coating - Aluminum Chemical Conversion	BAC5719 Type II Class A (MIL-DTL-5541 Class 1A)
D50180	Grease - Aircraft General Purpose (AeroShell Grease 33)	BMS3-33, MIL-PRF-23827
D50306	Grease - Synthetic Aircraft Grease (Mobilgrease 33)	BMS3-33 Type 1, MIL-PRF-23827 Type 1
G50237	Compound - Corrosion Inhibiting, Non-drying - Cor-Ban 27L	BMS3-38
G50262	Wiper - Cleaning	BMS15-5

E. Expendables/Parts

AMM Item	Description	AIPC Reference	AIPC Effectivity
1	Antenna	23-19-34-01-020	LOM 465

ECCN 9E991 BOEING PROPRIETARY - See title page for details

(Continued)

AMM Item	Description	AIPC Reference	AIPC Effectivity
1 (cont.)		23-19-34-02-030	LOM 437, 438
4	Antenna gasket	23-19-34-01-015	LOM 465
5	O-ring	23-19-34-02-040	LOM 437, 438

F. Location Zones

Zone	Area
200	Upper Half of Fuselage
211	Flight Compartment - Left
212	Flight Compartment - Right
230	Subzone - Passenger Compartment - Body Station 360.00 to 663.75

G. Prepare for the Installation

SUBTASK 23-15-43-860-002

(1) Make sure that these circuit breakers are open and have safety tags:

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
E	13	C04060	SATCOM SDU
LOM 437, 438			
E	15	C01422	SATCOM AURAL WARN

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
LOM 465			
D	2	C00857	COMMUNICATIONS HF 2
LOM 437, 438, 465			

This circuit breaker is inoperative and should remain open:

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
LOM 437, 438			
D	2	C00857	COMMUNICATIONS HF 2 (INOP)

LOM 465

SUBTASK 23-15-43-020-002

(2) Discard the O-ring seal supplied with antenna [1].

LOM 437, 438, 465

SUBTASK 23-15-43-100-001

(3) Do this step to prepare the antenna [1] for installation:

(a) To remove the sealant from the airplane skin surface, do this task: METAL SURFACES - CLEANING/PAINTING, PAGEBLOCK 20-10-34/701.

(4) Prepare aluminum antenna [1] and skin surface (SWPM 20-20-00).

(a) Use cleaning procedure 5 to manually remove any contamination with cleaning solvent.

SUBTASK 23-15-43-100-003

(5) Apply coating, C00064, to any bare aluminum structure with a brush (SOPM 20-43-03).

ECCN 9E991 BOEING PROPRIETARY - See title page for details

H. Iridium SATCOM Antenna Installation

LOM 465

SUBTASK 23-15-43-160-001

(1) If it is required, do these steps to install antenna gasket [4]:

(a) Remove protective film from the side of the gasket that will be applied to the antenna [1] base.

(b) Align gasket holes to antenna [1] holes and press gasket firmly onto antenna [1] base.

(c) Remove protective film from the side of the gasket that will be applied to the fuselage.

LOM 437, 438

SUBTASK 23-15-43-160-002

(2) Do these steps to install the O-ring [5]:

(a) Apply a thin layer of AeroShell Grease 33, D50180, or Mobilgrease 33, D50306, to the O-ring [5] and O-ring groove.

(b) Put the O-ring [5] in the antenna [1] groove.

LOM 437, 438, 465

SUBTASK 23-15-43-100-002

(3) Do these steps to connect the coaxial cables to the antenna:

(a) Remove the protective caps from the connectors.

(b) If it is required, remove the temporary tape used in the antenna removal task to prevent the coax cables from falling.

(c) Connect the two coaxial cable connectors [3] to the antenna [1].

SUBTASK 23-15-43-860-003

(4) Put the antenna [1] in its installed position.

(a) Make sure that the forward orientation label points to the front of the airplane.

(b) Make sure that the four bolt holes on the antenna align with the four bolt holes on the airplane structure.

NOTE: Fasteners may be used to help align the gasket onto antenna and antenna onto fuselage.

SUBTASK 23-15-43-860-004

(5) Do these steps to install three of the four mounting bolts [2] to attach the antenna [1] on the airplane:

NOTE: Leave the last bolt (#4 bolt) out for the electrical bond check.

LOM 465

(a) Apply a thin layer of sealant, A00247, on the threads and shank to the three mounting bolts [2].

LOM 437, 438

(b) Apply a thin layer of Cor-Ban 27L Compound, G50237, on the threads and shank to the three mounting bolts [2].

LOM 437, 438, 465

(c) Loosely install the three mounting bolts [2] to attach the antenna [1] on the airplane.

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LOM 437, 438

(d) Tighten the three bolts [2] to 30.0 in-lb (3.4 N·m) with the torque wrench, STD-1014.

LOM 465

(e) Tighten the three bolts [2] to 25.0 in-lb (2.8 N·m) with the torque wrench, STD-1014.

LOM 437, 438, 465

SUBTASK 23-15-43-760-001

(6) Use an intrinsically safe approved bonding meter, COM-1550, to measure the bond resistance between the antenna base and airplane structure (SWPM 20-20-00).

(a) Make sure that the resistance is 0.001 ohm (1.0 milliohm) or less.

NOTE: Use the empty mounting bolt hole to get access to the antenna base.

SUBTASK 23-15-43-860-005

(7) Do these steps to install the last mounting bolt [2] to attach the antenna on the airplane:

LOM 465

(a) Apply a thin layer of sealant, A00247, on the threads and shank to the mounting bolt [2].

LOM 437, 438

(b) Apply a thin layer of Cor-Ban 27L Compound, G50237, on the threads and shank to the mounting bolt [2].

(c) Tighten the bolt [2] to 30.0 in-lb (3.4 N·m) with the torque wrench, STD-1014.

LOM 465

(d) Tighten the bolt [2] to25.0 in-lb (2.8 N·m) with the torque wrench, STD-1014.

(e) Wait a minimum of 15 minutes then re-tighten all four bolts [2] to 30.0 in-lb (3.4 N·m) with the torque wrench, STD-1014.

LOM 437, 438, 465

SUBTASK 23-15-43-860-006

(8) Remove the safety tags and close these circuit breakers:

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
E	13	C04060	SATCOM SDU
LOM 437, 438			
E	15	C01422	SATCOM AURAL WARN

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
LOM 465			
D	2	C00857	COMMUNICATIONS HF 2
LOM 437, 438, 465			

This circuit breaker is inoperative and should remain open:

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
LOM 437, 438			
D	2	C00857	COMMUNICATIONS HF 2 (INOP)

ECCN 9E991 BOEING PROPRIETARY - See title page for details

LOM 437, 438, 465

SUBTASK 23-15-43-390-002

(9) Do these steps to apply the weather/aerodynamic fillet seal in these areas:

NOTE: Use of cotton plugs to cover all fastener heads is allowed.

NOTE: Operators can defer the application of the aero-sealant in the antenna installation to avoid a flight delay (SL 20-043).

(a) Apply an aerodynamic fillet seal with sealant, A00247, to all the fastener holes (TASK 20-30-11-910-801).

(b) Apply an aerodynamic fillet seal with sealant, A00247, around the base of the antenna (TASK 20-30-11-910-801).

(c) Let sealant dry for the correct cure time.

(d) If it is necessary, use the hardwood or plastic fillet smoothing spatula, STD-810, to make the surface smooth and remove unwanted material.

(e) If it is necessary, use wiper, G50262, wet with isopropyl alcohol to make the surface smooth and remove unwanted material.

I. Installation Test

SUBTASK 23-15-43-860-007

(1) Do this task: Iridium SATCOM System - Operational Test, TASK 23-15-40-710-801.

END OF TASK

ECCN 9E991 BOEING PROPRIETARY - See title page for details

IRIDIUM ANTENNA - REMOVAL/INSTALLATION

1. General

A. This procedure has these tasks:

(1) A removal of the iridium antenna.

(2) An installation of the iridium antenna.

B. The Iridium antenna is installed on the surface of the airplane at STA 450.

TASK 23-19-34-000-801

2. Iridium Antenna Removal

(Figure 401)

A. Tools/Equipment

NOTE: When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

Reference	Description
COM-2481	Sealant Removal Tool (Meets BSS7384 Requirements) Part #: 1-6390-A Supplier: 63318 Part #: 10810 Supplier: $0855 Part #: 10811 Supplier: $0855 Part #: 10812 Supplier: $0855 Part #: 234350 Supplier: 5HCF1 Part #: 235072 Supplier: 5HCF1 Part #: 235073 Supplier: 5HCF1 Part #: 235074 Supplier: 5HCF1 Part #: 235075 Supplier: 5HCF1 Part #: 235076 Supplier: 5HCF1 Part #: 311/03 Supplier: F6892 Part #: 311/14 Supplier: F6892 Part #: 311/25 Supplier: F6892 Part #: 311/37 Supplier: F6892 Part #: AS1 Supplier: $1351 Part #: AS2 Supplier: $1351 Part #: AS3 Supplier: $1351 Part #: DAD5013 Supplier: 7RKH2 Part #: DFD5019 Supplier: 7RKH2 Part #: JNT411B60 Supplier: 3DN12 Part #: JNT411B90 Supplier: 3DN12 Part #: PT6529-S Supplier: 81205 Part #: SCD5019 Supplier: 7RKH2 Part #: ST982LF-9 Supplier: 81205 Part #: TS1275-4 Supplier: 22975

B. Location Zones

Zone	Area
241	Aft Passenger Compartment - Station 663.75 to Aft Pressure Bulkhead - Left
242	Aft Passenger Compartment - Station 663.75 to Aft Pressure Bulkhead - Right

ECCN 9E991 BOEING PROPRIETARY - See title page for details

C. Removal

SUBTASK 23-19-34-020-001

> **CAUTION**
> USE HARDWOOD OR PLASTIC CUTTING TOOLS. DO NOT USE METAL CUTTING TOOLS. METAL CUTTING TOOLS CAN CAUSE DAMAGE TO THE STRUCTURAL SURFACE.

(1) Remove the sealant around the edge of the iridium antenna [1] with a sealant removal tool, COM-2481.

SUBTASK 23-19-34-020-002

(2) Remove the bolts [3] from the iridium antenna [1].

SUBTASK 23-19-34-020-003

(3) Carefully lift the iridium antenna [1] to gain access to the coaxial connectors.

SUBTASK 23-19-34-020-004

(4) Disconnect the coaxial connectors from the iridium antenna [1].

NOTE: Make sure the cable ends do not fall through the mounting bracket into the body cavity of the airplane.

SUBTASK 23-19-34-020-005

(5) Remove the iridium antenna [1].

END OF TASK

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Iridium Antenna - Installation
Figure 401/23-19-34-990-801

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TASK 23-19-34-400-801

3. Iridium Antenna Installation

(Figure 401)

A. References

Reference	Title
20-30-11-910-801	Adhesives, Cements, and Sealants (P/B 201)
20-30-80-910-801	General Cleaning of Metal (Series 80) (P/B 201)
20-50-11-910-801	Standard Torque Values (P/B 201)
51-21-31-350-801	Removal and Control of Corrosion for Aluminum and Aluminum Alloys (P/B 701)
51-21-41-370-802	Bonderite M-CR 600 Aero, Bonderite M-CR Alcrm 1200 Aero or Bonderite M-CR 1200S Aero Application Process (P/B 701)
51-31-00-390-804	Fillet Seal Application (P/B 201)
51-31-00-390-805	Fastener Seal Application (P/B 201)
SL 20-043	Deferred Application of Aero-Sealant in Antenna Installations
SWPM 20-20-00	ELECTRICAL BONDING PROCESSES

B. Tools/Equipment

NOTE: When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

Reference	Description
COM-1550	Bonding Meter - Approved, Intrinsically Safe (Approved for use in Class I, Divisions I & II hazardous (classified) locations. Outside these hazardous locations, COM-614 can be used in lieu of COM-1550). Part #: 620LK Supplier: 1CRL2 Part #: M1 Supplier: 3AD17 Part #: M1B Supplier: 3AD17 Part #: T477W (C15292) Supplier: 06659

C. Consumable Materials

Reference	Description	Specification
A00247	Sealant - Pressure And Environmental - Chromate Type	BMS5-95
B01000	Solvent - General Cleaning Of Metal (AMM 20-30-80) - Series 80	
G00034	Cotton Wiper - Process Cleaning Absorbent Wiper (Cheesecloth, Gauze)	AMS3819 Class 1 Grade A or B Form 1 (Supersede BMS15-5 CL A)

D. Expendables/Parts

AMM Item	Description	AIPC Reference	AIPC Effectivity
1	Antenna	23-19-34-01-020	LOM 465
2	Gasket	23-19-34-01-015	LOM 465

ECCN 9E991 BOEING PROPRIETARY - See title page for details

E. Location Zones

Zone	Area
241	Aft Passenger Compartment - Station 663.75 to Aft Pressure Bulkhead - Left
242	Aft Passenger Compartment - Station 663.75 to Aft Pressure Bulkhead - Right

F. Prepare for the Installation

SUBTASK 23-19-34-110-001

> **WARNING**
> DO NOT GET SOLVENTS IN YOUR MOUTH, YOUR EYES, OR ON YOUR SKIN. DO NOT BREATHE THE FUMES FROM SOLVENTS. SOLVENTS ARE DANGEROUS MATERIALS. SOLVENTS CAN BE FLAMMABLE OR CAUSE DAMAGE TO THE ENVIRONMENT. REFER TO THE MATERIAL SAFETY DATA SHEETS (MSDS) AND THE LOCAL SAFETY PRECAUTIONS.

(1) Clean the airplane mating surface with Series 80 solvent, B01000 (TASK 20-30-80-910-801).

(a) Make clean cotton wiper, G00034, moist (not soaked) with solvent.

(b) Rub the airplane mating surface with cotton wiper, G00034, until the surface is clean.

SUBTASK 23-19-34-370-001

(2) If the mating surface has corrosion or other damage, prepare the airplane surface, do these steps:

(a) Do this task: Removal and Control of Corrosion for Aluminum and Aluminum Alloys, TASK 51-21-31-350-801.

(b) Do this task: Bonderite M-CR 600 Aero, Bonderite M-CR Alcrm 1200 Aero or Bonderite M-CR 1200S Aero Application Process, TASK 51-21-41-370-802.

G. Iridium Antenna Installation

SUBTASK 23-19-34-390-002

(1) If it is necessary, install a new gasket [2] into the antenna [1].

(a) Remove the protective layer from the side of the gasket [2] that will connect with the base of antenna [1].

(b) Align the gasket holes with the antenna holes and push the gasket [2] tightly onto the base of antenna [1].

SUBTASK 23-19-34-420-001

> **CAUTION**
> ASSEMBLY SEQUENCE FOR COAXIAL CABLES MUST BE FOLLOWED TO PREVENT TWISTING OR STRETCHING OF CABLES.

(2) Connect the coaxial cables to the antenna connectors.

SUBTASK 23-19-34-420-002

(3) Position the iridium antenna to the surface of the airplane.

SUBTASK 23-19-34-420-003

(4) Apply sealant, A00247, on the threads and shank of four bolts [3] (TASK 51-31-00-390-805 and TASK 20-30-11-910-801).

NOTE: Operators can defer the application of the aero-sealant in the antenna installation to avoid a flight delay (SL 20-043).

(a) Let sealant dry for the correct cure time.

ECCN 9E991 BOEING PROPRIETARY - See title page for details

SUBTASK 23-19-34-420-004

(5) Tighten the bolts [3] (TASK 20-50-11-910-801).

SUBTASK 23-19-34-760-001

(6) Use a intrinsically safe approved bonding meter, COM-1550, to do an electrical bond check (SWPM 20-20-00).

(a) Measure resistance between the antenna base and airplane surface.

1) Make sure that resistance is 0.001 ohm (1.0 milliohm) or less.

H. Sealant Installation

SUBTASK 23-19-34-390-001

(1) Fill counterbore holes with sealant, A00247, and make aerodynamic smooth (TASK 51-31-00-390-804).

(2) Apply sealant, A00247, around the edge of the iridium antenna and make aerodynamic smooth (TASK 51-31-00-390-804).

——— END OF TASK ———

ECCN 9E991 BOEING PROPRIETARY - See title page for details

LOM **EMERGENCY LOCATOR TRANSMITTER SYSTEM - MAINTENANCE PRACTICES**

LOM **1. General**

LOM A. This procedure has this task:

LOM (1) ELT Programming

LOM **TASK 23-24-00-860-801**

LOM **2. ELT Programming**

LOM **A. General**

LOM (1) This procedure is for re-programming of the Emergency Locator Transmitter (ELT) with Aircraft
LOM 24-bit ID version of Standard Location Protocol. Use this procedure if the aircraft ID (or 24-bit
LOM International Civil Aviation Organization (ICAO) aircraft address code) has changed as due to a
LOM change of aircraft registry or ownership.

LOM (2) This procedure includes the steps to set the Dual In-line Package (DIP) switches on the ELT
LOM system's Programmable Switch Module (PSM), M2115. The PSM is located at approximate
LOM STA 794, on the side of the ELT mounting tray.

LOM (3) The 24-bit ICAO aircraft address transmitted by the ELT is set by the DIP switches on PSM,
LOM M2115. The first bit of the address corresponds to Switch 1 and so on sequentially through bit
LOM 24.

LOM **LOM 446, 447, 451, 452, 455, 456, 461-463**

LOM (4) The ELT unit is programmed by the DIP switch module through the Aircraft Identification
LOM Module (AIM) only with an AIM NULL protocol.

LOM **LOM 411, 416, 423, 424, 427, 428, 439, 441, 446, 447, 451, 452, 455, 456, 461-463**

LOM (5) If the ELT is going to be moved to an aircraft which is registered in a country other than the
LOM country for which the ELT was originally programmed, the ELT must be re-registered and the
LOM product label remarked to reflect the new country of registry. Contact your ELT supplier for
LOM details of marking and reprogramming.

LOM (6) If the ELT remote control panel switch guard is in the lifted position, accidental small
LOM movements of the switch can cause unwanted manual ELT transmission.

LOM **B. References**

	Reference	Title
LOM	23-24-00-730-802-002	ELT System - System Test (P/B 501)
LOM	23-24-00-730-804-001	ELT System - System Test (P/B 501)
LOM	FIM 23-24 TASK 801	Emergency Locator Transmitter (ELT) BITE Procedure
LOM	WDM 23-24-11	Wiring Diagram Manual

LOM **C. Tools/Equipment**

LOM NOTE: When more than one tool part number is listed under the same "Reference" number, the
LOM tools shown are alternates to each other within the same airplane series. Tool part numbers
LOM that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

	Reference	Description
LOM	COM-14302	Cable - ELT test (TNC to TPS)
LOM		Part #: 611-6052 Supplier: 0Z3C6
LOM	COM-14303	Adapter - Coax (TNC to BNC)
LOM		Part #: RFT-1230 Supplier: 0Z3C6

ECCN 9E991 BOEING PROPRIETARY - See title page for details

(Continued)

Reference	Description
COM-14421	Test Set - ELT Ramp Part #: 90000136 Supplier: 92606 Part #: ARTS-7000 Supplier: 0RDZ5 Part #: AVX-10K Supplier: 51190 Opt Part #: IFR 4000 Supplier: 51190

D. Location Zones

Zone	Area
241	Aft Passenger Compartment - Station 663.75 to Aft Pressure Bulkhead - Left
242	Aft Passenger Compartment - Station 663.75 to Aft Pressure Bulkhead - Right

E. ELT Programming

LOM 411, 416, 423, 424, 427, 428, 439, 441

SUBTASK 23-24-00-860-022

(1) Open this circuit breaker:

F/O Electrical System Panel, P6-3

Row	Col	Number	Name
C	1	C01495	ELT INTERFACE UNIT

LOM 411, 416, 423, 424, 427, 428, 439, 441, 446, 447, 451, 452, 455, 456, 461-463

SUBTASK 23-24-00-010-010

(2) Do these steps to get access to the DIP switches [6] on the Programmable Switch Module (PSM) [1]:

(a) Open the applicable access panel to get access to the Programmable Switch Module (PSM) [1] for the ELT system.

(b) Loosen the two captive screws [4] and washers [5] to remove the security cover [3] from the Programmable Switch Module (PSM) [1].

(c) Remove the switch seals [2] to get access to the DIP switches [6].

SUBTASK 23-24-00-860-023

(3) Examine the 24-bit DIP switches [6] setting on the Programmable Switch Module (PSM) [1].

(a) Make sure that the DIP switches [6] are set correctly with the 24-bit ICAO aircraft ID.

NOTE: The PSM for the ELT system which is configured to match the PSM connected to the aircraft's Mode S transponder system.

SUBTASK 23-24-00-860-020

(4) If the DIP switches [6] are not set correctly, then do these steps to set the DIP switches [6] (1 to 24) on the PSM (M2115) for the ELT system as follows:

NOTE: See WDM 23-24-11 for specific airplane DIP switches settings.

(a) Look at the ELT coding table in WDM 23-24-11 and find the airplane you are performing this task on.

(b) Read across the columns (24 binary codes) to find all switch settings.

(c) If the aircraft registry or ownership has changed, make sure that you have the correct ICAO aircraft address (ICAO Hexadecimal or Octal address) for reprogramming the ELT.

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LOM 1) If necessary, use the code conversion tables below to convert the ICAO aircraft address from the Hexadecimal or Octal code to the binary code.

NOTE: See examples in Figure 201.

Hexadecimal to Binary Conversion table:

Hexadecimal	Binary
0	0000
1	0001
2	0010
3	0011
4	0100
5	0101
6	0110
7	0111
8	1000
9	1001
A	1010
B	1011
C	1100
D	1101
E	1110
F	1111

Octal to Binary Conversion Table:

Octal	Binary
0	000
1	001
2	010
3	011
4	100
5	101
6	110
7	111

(d) Move the DIP switches [6] to the ON/OFF position according to the binary codes show in the ELT coding table of WDM 23-24-11 or the 24-Bit ICAO aircraft address.

- For each switch where you find a “1”, set the switch to ON (red dot visible).
- For each switch where you find a “0”, set the switch to OFF (red dot not visible).

1) Make sure that all the DIP switches [6] are set correctly.

ECCN 9E991 BOEING PROPRIETARY - See title page for details

LOM **LOM 411, 416, 423, 424, 427, 428, 439, 441**

(e) Close this circuit breaker:

F/O Electrical System Panel, P6-3

Row	Col	Number	Name
C	1	C01495	ELT INTERFACE UNIT

NOTE: Closing the ELT Navigation Interface Unit (NIU) circuit breaker will initiate re-coding of the ELT by the NIU.

NOTE: Upon power-up, the ELT/NIU will overwrite the existing programming with the 24-bit address set on the PSM.

1) Monitor the Light Emitting Diode (LED) activity on the front panel of the ELT unit for a minimum of two minutes after you closed the circuit breaker.

a) Make sure that the LED comes on one time and goes off. This indicates the ELT re-coding is successful.

NOTE: If there is a problem with the programming, the LED will come on flashes. Rapid flashes of the ELT's LED indicates that the ELT is programmed with an incompatible protocol. In that case, the ELT/NIU will attempt to program the ELT with the aircraft's 24-bit address as set on the DIP switch module. The ELT will not accept this programming and after two minutes will indicate a programming failure by continuous rapid flashing of the ELT's LED.

<1> If the LED on the ELT flashes rapidly, then do the above steps again to make sure that the 24-bit aircraft address set correctly. Refer to the fault isolation procedure for the ELT system (FIM 23-24 TASK 801) if it is necessary.

LOM 446, 447, 451, 452, 455, 456, 461-463

(f) After setting DIP switches, do these steps at the ELT unit to initiate a self-test and reprogramming of the ELT:

1) Move the ELT switch from OFF to ARM (or ARM-OFF-ARM).

2) Make sure that the ELT LED flashes three times. This indicates the ELT re-coding is successful.

LOM 411, 416, 423, 424, 427, 428, 439, 441, 446, 447, 451, 452, 455, 456, 461-463

F. ELT Coding Verification

SUBTASK 23-24-00-480-001

(1) Do these steps to prepare the ELT ramp test set for the test:

(a) Do these steps to install the ELT Ramp Test Set, COM-14421:

NOTE: This procedure is for using IFR 4000 ELT Ramp Test Set, COM-14421. If you use an equivalent test set other than IFR 4000, please refer to the applicable operation manual of that test set for detailed user instructions.

LOM 411, 416, 423, 424, 427, 428, 439, 441

1) Disconnect the antenna coaxial cable connector D10583 from ELT.

LOM 411, 416, 423, 424, 427, 428, 439, 441, 446, 447, 451, 452, 455, 456, 461-463

2) Disconnect the antenna coaxial cable connector D02905 from ELT.

ECCN 9E991 BOEING PROPRIETARY - See title page for details

LOM **LOM 446, 447, 451, 452, 455, 456, 461-463**

LOM 3) Use a Threaded Neill-Concelman (TNC) to Bayonet Neill-Concelman (BNC) cable to connect the ELT test set to the ELT unit:

LOM a) If necessary to make the cable (TNC Male to BNC Male), do these steps:

LOM <1> Find a test cable (TNC Male to TNC Male) that come with the test set.

LOM <2> Use a coax adapter, COM-14303 (TNC Female to BNC Male) to connect with the TNC to TNC cable.

LOM b) Connect the TNC connector of the TNC to BNC cable to the “RF I/O” connector on the ELT Ramp Test Set, COM-14421.

LOM c) Connect the BNC connector of the TNC to BNC cable to the Radio Frequency (RF) output on the ELT unit.

LOM **LOM 411, 416, 423, 424, 427, 428, 439, 441**

LOM 4) Use a ELT test cable, COM-14302 (TNC to TPS) to connect the ELT test set to the ELT unit:

LOM a) Connect the TNC connector of the TNC to TPS cable to the “RF I/O” connector on the ELT Ramp Test Set, COM-14421.

LOM b) Connect the TPS connector of the TNC to TPS cable to the RF output common to D10583 on the ELT unit.

LOM **LOM 411, 416, 423, 424, 427, 428, 439, 441, 446, 447, 451, 452, 455, 456, 461-463**

LOM (b) Prepare the test set to verify the 406 MHz (Megahertz) message or Beacon ID:

LOM 1) Press the POWER button on the test set to turn it on.

LOM NOTE: The test set will start in VHF Omnidirectional Range (VOR) Mode.

LOM 2) Press the SETUP key on the test set.

LOM 3) Press the UP arrow key on the test set to select PORT: RF I/O.

LOM 4) Press the MODE key on the test set.

LOM NOTE: VOR mode will be displayed.

LOM 5) Press the UP arrow key on the test set until the 406 BCN mode page is displayed.

LOM **LOM 411, 416, 423, 424, 427, 428, 439, 441**

LOM **SUBTASK 23-24-00-720-001**

LOM (2) Use an ELT Ramp Test Set, COM-14421 to verify the ELT coding (or BEACON ID):

LOM (a) On the front panel of the ELT unit, move the toggle switch from "OFF" to "ON" for approximately 2 seconds and then back to "OFF".

LOM (b) Make sure that the 406 BCN screen displays message.

LOM (c) Make sure that the "BEACON ID" displayed on test set matches the "Hex ID" shown on WDM 23-24-11.

LOM NOTE: The Beacon ID is always 15 hexadecimal characters. Valid characters are 0-9, A-F.

LOM NOTE: This step requires that the ELT be coded with 24-bit address version of Standard Location Protocol. ELTs programmed with 24-bit address protocol will have the following fields on the ELT's product identification label blank:

LOM • 15 DIGIT HEX ID

LOM • COUNTRY

ECCN 9E991 BOEING PROPRIETARY - See title page for details

LOM 411, 416, 423, 424, 427, 428, 439, 441 (Continued)

- THREE DIGIT CODE

Non-blank fields indicate that the ELT is programmed with an incompatible protocol. In that case, the ELT/NIU will attempt to program the ELT with the aircraft's 24-bit address as set on the DIP switch module. The ELT will not accept this programming and after two minutes will indicate a programming failure by continuous rapid flashing of the ELT's LED.

(3) Record the following information from the test set:

- COUNTRY: _____ (Example: 316 CANADA)
- BEACON ID (15 digit Hex ID):
- BEACON ID: __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ (Example: 34670 008BE FFBFF)

NOTE: The Beacon ID is always 15 hexadecimal characters. Valid characters are 0-9, A-F.

NOTE: This code is used to register the ELT. The last five characters encode position data, FFBFF is default “null” location used for registration purpose.

NOTE: If necessary, the “Beacon Message Decode Program” at the COSPAS-SARSAT website (http://www.cospas-sarsat.org/index.php?lang=en) can be use to decode the Beacon ID.

LOM 446, 447, 451, 452, 455, 456, 461-463

SUBTASK 23-24-00-720-002

(4) Use an ELT Ramp Test Set, COM-14421 to verify the ELT coding (or BEACON ID):

(a) On the front panel of the ELT unit, move the toggle switch from “ARM” to "OFF".

(b) Make sure that the 406 BCN screen displays message data within approximately 1 minute of the ELT activation.

(c) Move the operating toggle switch on the ELT from "OFF" to "ARM".

(d) Make sure that the "BEACON ID" displayed on test set matches the "Hex ID" shown on WDM 23-24-11.

(5) Record the following information from the test set:

- COUNTRY: _____ (Example: 316 CANADA)
- BEACON ID (15 digit Hex ID):
- BEACON ID: __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ (Example: A78DF0AAAA802AD)

NOTE: The Beacon ID is always 15 hexadecimal characters. Valid characters are 0-9, A-F.

NOTE: If necessary, the “Beacon Message Decode Program” at the COSPAS-SARSAT website (http://www.cospas-sarsat.org/index.php?lang=en) can be use to decode the Beacon ID.

LOM 411, 416, 423, 424, 427, 428, 439, 441, 446, 447, 451, 452, 455, 456, 461-463

SUBTASK 23-24-00-720-003

(6) Record the BEACON ID on the HEX ID label installed adjacent to the ELT.

NOTE: Preferred method: Use a label-maker to print an appropriately sized label to fit the HEX ID field.

ECCN 9E991 BOEING PROPRIETARY - See title page for details

LOM Alternate method: Write neatly using a Sharpie or other fine-point permanent marker. If needed, a replacement (BAC27WEX2107) label or equivalent can be installed over existing label.

NOTE: If the ELT was re-coded, the ELT may be required to re-register through your local authority.

SUBTASK 23-24-00-080-001

(7) Do these steps to remove the ELT Ramp Test Set, COM-14421:

(a) Press the POWER button on the test set to turn it off.

(b) Disconnect the test cables from the ELT unit and the test set.

LOM 411, 416, 423, 424, 427, 428, 439, 441

(c) Reconnect the antenna coaxial cable connector D10583 to the ELT unit.

LOM 411, 416, 423, 424, 427, 428, 439, 441, 446, 447, 451, 452, 455, 456, 461-463

(d) Reconnect the antenna coaxial cable connector D02905 to the ELT unit.

G. ELT System Test

SUBTASK 23-24-00-710-018

(1) Do this task: ELT System - System Test, TASK 23-24-00-730-802-002 or ELT System - System Test, TASK 23-24-00-730-804-001.

H. Put the Airplane Back to Its Usual Condition

SUBTASK 23-24-00-910-027

(1) Put the Programmable Switch Module (PSM) [1] back to its usual condition:

(a) Install the two switch seals [2] to cover the DIP switch [6] switches.

(b) Put the security cover [3] on the Programmable Switch Module (PSM) [1]. Tighten the two captive screws [4] and washers [5] to attach the security cover [3] on the Programmable Switch Module (PSM) [1].

SUBTASK 23-24-00-410-012

(2) Close the access panel that opened for access to the PSM.

END OF TASK

ECCN 9E991 BOEING PROPRIETARY - See title page for details

ICAO OCTAL ADDRESS TO 24 BIT BINARY																							
5			0			1			3			4			0			5			7		
1	0	1	0	0	0	0	0	1	0	1	1	1	0	0	0	0	0	1	0	1	1	1	1

MSB LSB

EXAMPLE NO. 1 CONVERTING ICAO ADDRESS
50134057 (OCTAL) TO BINARY 24-BIT ADDRESS

ICAO HEX ADDRESS TO 24 BIT BINARY																							
A				0				B				8				2				F			
1	0	1	0	0	0	0	0	1	0	1	1	1	0	0	0	0	0	1	0	1	1	1	1

MSB LSB

EXAMPLE NO. 2 CONVERTING ICAO ADDRESS
A0B82F (HEXADECIMAL) TO BINARY 24-BIT ADDRESS

2321743 S0000526660_V2

LOM
LOM

ELT System - 24-Bit Aircraft Address Settings
Figure 201/23-24-00-990-807

ECCN 9E991 BOEING PROPRIETARY - See title page for details

LOM **EMERGENCY LOCATOR TRANSMITTER - MAINTENANCE PRACTICES**

LOM **1. General**

LOM A. This procedure has these tasks:

LOM (1) A deactivation of the ELT

LOM (2) An activation of the ELT

LOM (3) A removal of the ELT

LOM (4) An installation of the ELT

LOM **LOM 411, 416, 423, 424, 427, 428, 439, 441**

LOM (5) A removal of the ELT/Navigation Interface unit

LOM (6) An installation of the ELT/Navigation Interface unit

LOM **LOM 402, 404, 406, 407, 411, 416, 420, 423, 424, 426-432, 437-439, 441, 457, 465-999**

LOM (7) A replacement of the ELT battery.

LOM B. If the ELT remote control panel switch guard is in the lifted position, accidental small movements of
LOM the switch can cause unwanted manual ELT transmission.

LOM **TASK 23-24-00-040-801-001**

LOM **2. Emergency Locator Transmitter - Deactivation**

LOM (Figure 201)

LOM **A. General**

LOM (1) This procedure removes electrical power to the Emergency Locator Transmitter (ELT).

LOM **B. Location Zones**

LOM

Zone	Area
211	Flight Compartment - Left
212	Flight Compartment - Right
241	Aft Passenger Compartment - Station 663.75 to Aft Pressure Bulkhead - Left
242	Aft Passenger Compartment - Station 663.75 to Aft Pressure Bulkhead - Right

LOM **C. Emergency Locator Transmitter Deactivation**

LOM NOTE: Circuit breakers C01278 and C01180 may remain closed, if Master Caution/Warning
LOM functionality is required for other systems such as Auxiliary Power Unit (APU), thrust
LOM reversers, etc.

LOM **SUBTASK 23-24-00-860-024-001**

LOM (1) Open these circuit breakers and install safety tags:

LOM **F/O Electrical System Panel, P6-3**

LOM

Row	Col	Number	Name
LOM 411, 416, 423, 424, 427, 428, 439, 441			
C	1	C01495	ELT INTERFACE UNIT
LOM 402, 404, 406, 407, 411, 416, 420, 423, 424, 426-432, 437-439, 441, 457, 465-999			
C	14	C01278	MASTER CAUTION ANNUNCIATOR CONT 4
F	14	C01180	INDICATOR MASTER DIM SECT 8

ECCN 9E991 BOEING PROPRIETARY - See title page for details

LOM This circuit breaker is inoperative and should remain open:

LOM **F/O Electrical System Panel, P6-3**

Row	Col	Number	Name
LOM 402, 404, 406, 407, 420, 432			
C	1	C01495	ELT INTERFACE UNIT (INOP)

LOM **LOM 402, 404, 406, 407, 411, 416, 420, 423, 424, 426-432, 437-439, 441, 457, 465-999**

LOM SUBTASK 23-24-00-040-002-001

LOM (2) Do these steps to deactivate the ELT [1]:

LOM (a) Make sure that the switch on the ELT computer front panel is set to OFF.

LOM (b) Loosen thumb screws [7] that attach the front cover [6] to the ELT [1].

LOM (c) Disconnect the electrical connector [2] from the ELT [1].

LOM **D. Emergency Locator Transmitter - Tryout**

LOM NOTE: This tryout is to make sure that the ELT is in a zero energy state.

LOM SUBTASK 23-24-00-860-025-001

LOM (1) Make sure that these circuit breakers are open and have safety tags:

LOM **F/O Electrical System Panel, P6-3**

Row	Col	Number	Name
LOM 411, 416, 423, 424, 427, 428, 439, 441			
C	1	C01495	ELT INTERFACE UNIT
LOM 402, 404, 406, 407, 411, 416, 420, 423, 424, 426-432, 437-439, 441, 457, 465-999			
C	14	C01278	MASTER CAUTION ANNUNCIATOR CONT 4
F	14	C01180	INDICATOR MASTER DIM SECT 8

LOM This circuit breaker is inoperative and should remain open:

LOM **F/O Electrical System Panel, P6-3**

Row	Col	Number	Name
LOM 402, 404, 406, 407, 420, 432			
C	1	C01495	ELT INTERFACE UNIT (INOP)

LOM **LOM 402, 404, 406, 407, 411, 416, 420, 423, 424, 426-432, 437-439, 441, 457, 465-999**

LOM **——— END OF TASK ———**

ECCN 9E991 BOEING PROPRIETARY - See title page for details

EMERGENCY LOCATOR TRANSMITTER (ELT)
(EXAMPLE)

A

EMERGENCY LOCATOR TRANSMITTER (ELT) ASSEMBLY
(EXAMPLE)

B

H04294 S0006565267_V6

LOM
LOM

Emergency Locator Transmitter
Figure 201/23-24-00-990-808-001

ECCN 9E991 BOEING PROPRIETARY - See title page for details

LOM **TASK 23-24-00-440-801-001**

LOM **3. Emergency Locator Transmitter - Activation**

LOM (Figure 201)

LOM **A. General**

LOM (1) This procedure adds electrical power to the Emergency Locator Transmitter (ELT).

LOM **B. References**

Reference	Title
23-24-00-710-801-001	ELT System - Operational Test (P/B 501)

LOM **C. Location Zones**

Zone	Area
211	Flight Compartment - Left
212	Flight Compartment - Right
241	Aft Passenger Compartment - Station 663.75 to Aft Pressure Bulkhead - Left
242	Aft Passenger Compartment - Station 663.75 to Aft Pressure Bulkhead - Right

LOM **D. Emergency Locator Transmitter Activation**

LOM **SUBTASK 23-24-00-440-003-001**

LOM (1) Do these steps to activate the ELT [1].

LOM (a) Connect the electrical connector [2] to the ELT [1].

LOM (b) Position the front cover [6] to front of ELT [1] and tighten thumb screws [7].

LOM (c) Make sure that the switch on the ELT front cover is set to OFF.

LOM (d) Make sure that the ELT control panel switch, on the P5 aft overhead panel in the flight
LOM compartment, is set to ARM.

LOM **SUBTASK 23-24-00-860-026-001**

LOM (2) Close these circuit breakers:

LOM **F/O Electrical System Panel, P6-3**

LOM

Row	Col	Number	Name
LOM 411, 416, 423, 424, 427, 428, 439, 441			
C	1	C01495	ELT INTERFACE UNIT
LOM 402, 404, 406, 407, 411, 416, 420, 423, 424, 426-432, 437-439, 441, 457, 465-999			
C	14	C01278	MASTER CAUTION ANNUNCIATOR CONT 4
F	14	C01180	INDICATOR MASTER DIM SECT 8

LOM This circuit breaker is inoperative and should remain open:

LOM **F/O Electrical System Panel, P6-3**

LOM

Row	Col	Number	Name
LOM 402, 404, 406, 407, 420, 432			
C	1	C01495	ELT INTERFACE UNIT (INOP)

LOM **LOM 402, 404, 406, 407, 411, 416, 420, 423, 424, 426-432, 437-439, 441, 457, 465-999**

LOM **SUBTASK 23-24-00-710-019-001**

LOM (3) Do this task: ELT System - Operational Test, TASK 23-24-00-710-801-001.

LOM **——— END OF TASK ———**

ECCN 9E991 BOEING PROPRIETARY - See title page for details

LOM **TASK 23-24-00-000-801-001**

LOM **4. Emergency Locator Transmitter Removal**

LOM (Figure 202)

LOM **A. References**

LOM

Reference	Title
25-21-45-000-801	Ceiling Panel - Removal (P/B 401)
25-21-45-000-803-001	Main Ceiling Panel - Removal (P/B 401)

LOM **B. Location Zones**

LOM

Zone	Area
241	Aft Passenger Compartment - Station 663.75 to Aft Pressure Bulkhead - Left
242	Aft Passenger Compartment - Station 663.75 to Aft Pressure Bulkhead - Right

LOM **C. Emergency Locator Transmitter Removal**

LOM **LOM 411, 416, 423, 424, 427, 428, 439, 441**

LOM **SUBTASK 23-24-00-865-001**

LOM (1) Open this circuit breaker and install safety tag:

LOM **F/O Electrical System Panel, P6-3**

LOM

Row	Col	Number	Name
C	1	C01495	ELT INTERFACE UNIT

LOM **LOM 402, 404, 406, 407, 411, 416, 420, 423, 424, 426-432, 437-439, 441, 457, 465-999**

LOM **SUBTASK 23-24-00-010-001-001**

LOM (2) Do this task: Ceiling Panel - Removal, TASK 25-21-45-000-801 or Main Ceiling Panel - Removal, TASK 25-21-45-000-803-001.

LOM **SUBTASK 23-24-00-020-001-001**

LOM (3) Do these steps to remove the ELT [1]:

LOM (a) Make sure that the ELT switch is in the OFF position.

LOM (b) Loosen the thumb screws [7] that attach the front cover [6] to the ELT [1].

LOM (c) Move the front cover [6] away from the ELT [1].

LOM (d) Disconnect the electrical connector [2] and coaxial connector(s) [3] from the ELT [1].

LOM (e) Pull down and forward on the front of the Emergency Locator Transmitter (ELT) bottom cover [5] to release the interlocking slots and tabs at the rear of the ELT [1].

LOM (f) Remove the ELT [1].

LOM **END OF TASK**

ECCN 9E991 BOEING PROPRIETARY - See title page for details

3013880 S0000787508_V1

LOM
LOM

Emergency Locator Transmitter (ELT)
Figure 202/23-24-00-990-801-001 (Sheet 1 of 4)

EFFECTIVITY
LOM 402, 404, 406, 407, 420, 426, 429-432, 437, 438, 457, 465-999

ECCN 9E991 BOEING PROPRIETARY - See title page for details

EMERGENCY LOCATOR TRANSMITTER (ELT) ASSEMBLY

B

M55679 S0006565268_V3

LOM
LOM

Emergency Locator Transmitter (ELT)
Figure 202/23-24-00-990-801-001 (Sheet 2 of 4)

EFFECTIVITY
LOM 411, 416, 423, 424, 427, 428, 439, 441

ECCN 9E991 BOEING PROPRIETARY - See title page for details

ELT BATTERY PACK ASSEMBLY, M1523

C

H05394 S0006565270_V3

LOM
LOM

Emergency Locator Transmitter (ELT)
Figure 202/23-24-00-990-801-001 (Sheet 3 of 4)

ECCN 9E991 BOEING PROPRIETARY - See title page for details

ELT/NAVIGATION INTERFACE UNIT, M2114

C

ELT BATTERY PACK ASSEMBLY, M1523

D

M55727 S0006565271_V3

LOM
LOM

Emergency Locator Transmitter (ELT)
Figure 202/23-24-00-990-801-001 (Sheet 4 of 4)

ECCN 9E991 BOEING PROPRIETARY - See title page for details

LOM **TASK 23-24-00-400-801-001**

LOM **5. Emergency Locator Transmitter Installation**

LOM (Figure 202)

LOM **A. References**

LOM

Reference	Title
23-24-00-730-804-001	ELT System - System Test (P/B 501)
24-22-00-860-811	Supply Electrical Power (P/B 201)
FIM 23-24 TASK 801	Emergency Locator Transmitter (ELT) BITE Procedure

LOM **B. Expendables/Parts**

LOM

AMM Item	Description	AIPC Reference	AIPC Effectivity
1	ELT	23-24-00-05-090	LOM 402, 404, 406, 407, 411, 416, 420, 423, 424, 426-432, 437-439, 441, 457, 465-999

LOM **C. Location Zones**

LOM

Zone	Area
241	Aft Passenger Compartment - Station 663.75 to Aft Pressure Bulkhead - Left
242	Aft Passenger Compartment - Station 663.75 to Aft Pressure Bulkhead - Right

LOM **D. Emergency Locator Transmitter Installation**

LOM **LOM 411, 416, 423, 424, 427, 428, 439, 441**

LOM SUBTASK 23-24-00-865-002

(1) Make sure that this circuit breaker is open:

LOM **F/O Electrical System Panel, P6-3**

LOM

Row	Col	Number	Name
C	1	C01495	ELT INTERFACE UNIT

LOM **LOM 402, 404, 406, 407, 411, 416, 420, 423, 424, 426-432, 437-439, 441, 457, 465-999**

LOM SUBTASK 23-24-00-420-001-001

(2) Do these steps to install the ELT [1]:

LOM NOTE: For all airplanes with an operational Emergency Locator Transmitter (ELT)/Navigation Interface Unit (NIU) and Programmable Switch Module, the ELT 406 MHz message protocol must be Standard Location Protocol (long message) encoded with Aircraft 24-bit address to be compatible with the 24-bit ICAO code. The unique airplane's 24-bit ICAO address (Mode S Code) will automatically be encoded by the ELT/NIU into the ELT during its installation.

LOM (a) Make sure that the ELT [1] switch is in the OFF position.

LOM (b) Put the ELT [1] in its position.

LOM (c) Put the ELT bottom cover [5] in its position.

LOM (d) Connect the electrical connector [2] and coaxial connectors [3] to the ELT [1].

LOM (e) Attach the ELT front cover [6] to the tray with the two thumb screw [7].

LOM **E. ELT Installation Test**

LOM SUBTASK 23-24-00-861-001

LOM (1) Make sure that the airplane has electrical power.

ECCN 9E991 BOEING PROPRIETARY - See title page for details

LOM (a) If it is necessary, do this task: Supply Electrical Power, TASK 24-22-00-860-811.

LOM **LOM 411, 416, 423, 424, 427, 428, 439, 441**

LOM SUBTASK 23-24-00-740-001

LOM (2) Do these steps to make sure that the ELT/NIU does an automatic programming to the ELT [1] LOM correctly:

LOM NOTE: You must monitor the Light Emitting Diode (LED) activity on the front panel of the ELT LOM for a minimum of two minutes after the circuit breaker closed in the step follow.

LOM (a) Remove the safety tag and close this circuit breaker:

LOM **F/O Electrical System Panel, P6-3**

LOM

Row	Col	Number	Name
C	1	C01495	ELT INTERFACE UNIT

LOM (b) Monitor the LED activity on the front panel of the ELT [1] for a minimum two minutes.

LOM (c) Make sure that the LED on the ELT [1] does not flash rapidly.

LOM NOTE: This is an indication that the ELT is programmed correctly.

LOM 1) If the LED on the ELT [1] flashes rapidly two minutes after power applied to the LOM ELT/NIU, do the fault isolation for the ELT [1] system (FIM 23-24 TASK 801).

LOM NOTE: For airplane's configuration with an operational ELT/NIU, no other message LOM protocols are compatible, including Standard Location Protocol (long LOM message) encoded with ELT serial identification. If an improperly LOM programmed ELT is installed in an airplane configured with an operational LOM ELT/NIU, two minutes after power is applied, an error condition will be LOM annunciated with the LED on the ELT flashing rapidly. This indicates by one LOM of the following error conditions: 1) The ELT is programed for a protocol LOM other than Aircraft 24-bit address and the ELT/NIU has been strapped for a LOM 24-bit address. Or 2) The RS-232 TX line from the ELT (pin 12) to the LOM ELT/NIU (pin 10) is not connected.

LOM **LOM 402, 404, 406, 407, 411, 416, 420, 423, 424, 426-432, 437-439, 441, 457, 465-999**

LOM SUBTASK 23-24-00-710-002-001

LOM (3) Do this task: ELT System - System Test, TASK 23-24-00-730-804-001.

LOM NOTE: It is the responsibility of the airlines to report any change in the registered ELT LOM information to their designated registration authority.

LOM **——— END OF TASK ———**

LOM **LOM 411, 416, 423, 424, 427, 428, 439, 441**

LOM **TASK 23-24-00-020-801-001**

LOM **6. ELT/Navigation Interface Unit Removal**

LOM **A. References**

LOM

Reference	Title
25-21-45-000-801	Ceiling Panel - Removal (P/B 401)
25-21-45-000-803-001	Main Ceiling Panel - Removal (P/B 401)

LOM **B. Location Zones**

LOM

Zone	Area
241	Aft Passenger Compartment - Station 663.75 to Aft Pressure Bulkhead - Left

ECCN 9E991 BOEING PROPRIETARY - See title page for details

LOM **LOM 411, 416, 423, 424, 427, 428, 439, 441 (Continued)**

(Continued)

Zone	Area
242	Aft Passenger Compartment - Station 663.75 to Aft Pressure Bulkhead - Right

C. Removal Procedure

SUBTASK 23-24-00-010-006-001

(1) Do this task: Ceiling Panel - Removal, TASK 25-21-45-000-801 or Main Ceiling Panel - Removal, TASK 25-21-45-000-803-001.

SUBTASK 23-24-00-040-001

(2) Open this circuit breaker and install safety tag:

F/O Electrical System Panel, P6-3

Row	Col	Number	Name
C	1	C01495	ELT INTERFACE UNIT

SUBTASK 23-24-00-020-006-001

(3) Do these steps to remove the ELT/Nav Interface Unit [9]:

(a) Disconnect the electrical connectors [12] from the ELT/Nav Interface Unit [9].

(b) Remove the six bolts [11] and six washers [10] that attach the ELT/Nav Interface Unit [9] to the airplane structure.

(c) Remove the ELT/Nav Interface Unit [9].

——— END OF TASK ———

TASK 23-24-00-420-801-001

7. ELT/Navigation Interface Unit Installation

A. References

Reference	Title
23-24-00-730-804-001	ELT System - System Test (P/B 501)

B. Expendables/Parts

AMM Item	Description	AIPC Reference	AIPC Effectivity
9	ELT/Nav Interface Unit	23-24-51-10-010	LOM 411, 416, 423, 424, 427, 428, 439, 441

C. Location Zones

Zone	Area
241	Aft Passenger Compartment - Station 663.75 to Aft Pressure Bulkhead - Left
242	Aft Passenger Compartment - Station 663.75 to Aft Pressure Bulkhead - Right

D. Installation Procedure

SUBTASK 23-24-00-860-016

(1) Make sure that this circuit breaker is open and has safety tag:

F/O Electrical System Panel, P6-3

Row	Col	Number	Name
C	1	C01495	ELT INTERFACE UNIT

SUBTASK 23-24-00-420-006-001

(2) Do these steps to install the ELT/Nav Interface Unit [9]:

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LOM **LOM 411, 416, 423, 424, 427, 428, 439, 441 (Continued)**

(a) Put the ELT/Nav Interface Unit [9] in its position.

(b) Install the six bolts [11] and six washers [10] to attach the ELT/Nav Interface Unit [9] to the airplane structure.

(c) Connect the electrical connectors [12] to the ELT/Nav Interface Unit [9].

SUBTASK 23-24-00-440-001

(3) Remove the safety tag and close this circuit breaker:

F/O Electrical System Panel, P6-3

Row	Col	Number	Name
C	1	C01495	ELT INTERFACE UNIT

E. ELT Installation Test

SUBTASK 23-24-00-710-005-001

(1) Do this task: ELT System - System Test, TASK 23-24-00-730-804-001.

NOTE: It is the responsibility of the airlines to report any change in the registered Emergency Locator Transmitter (ELT) information to their designated registration authority.

LOM 402, 404, 406, 407, 411, 416, 420, 423, 424, 426-432, 437-439, 441, 457, 465-999

——— END OF TASK ———

TASK 23-24-00-900-801-001

8. Emergency Locator Transmitter Battery Replacement

(Figure 202)

NOTE: This procedure is a scheduled maintenance task.

A. Location Zones

Zone	Area
241	Aft Passenger Compartment - Station 663.75 to Aft Pressure Bulkhead - Left
242	Aft Passenger Compartment - Station 663.75 to Aft Pressure Bulkhead - Right

B. Emergency Locator Transmitter Battery Replacement

SUBTASK 23-24-00-010-002-001

(1) Do this task: Emergency Locator Transmitter Removal, TASK 23-24-00-000-801-001.

SUBTASK 23-24-00-020-002-001

(2) Do these steps to remove the battery pack assembly:

(a) Remove the four screws [13] that attach the battery pack assembly to the ELT [1].

(b) Disconnect the electrical connectors [8].

1) Disconnect the large harness from the 8-pin header on the small circuit board mounted in the battery pack.

2) Disconnect the battery pack 2-wire harness from the connector recessed in the Emergency Locator Transmitter (ELT) body.

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LOM SUBTASK 23-24-00-420-002-001

LOM LOM LOM LOM

> **WARNING**
> MAKE SURE THAT THE BATTERY WIRES ARE INSTALLED CORRECTLY. MAKE SURE THAT THE BATTERY PACK IS NOT DAMAGED. IF YOU IGNORE THESE CONDITIONS, SMOKE OR A FIRE CAN OCCUR. DAMAGE TO EQUIPMENT AND INJURIES TO PERSONNEL CAN OCCUR.

LOM (3) Do these steps to install the new battery pack assembly:

LOM (a) Connect the electrical connectors [8].

LOM LOM 1) Connect the ELT lead 8-pin connector to the header on the battery pack circuit board.

LOM LOM 2) Connect the power harness 2-pin connector to the recessed connector inside the ELT body.

LOM (b) If the ELT activates, then immediately reset the ELT.

LOM LOM LOM LOM LOM LOM LOM

> **CAUTION**
> DO NOT OPERATE THE ELT FOR MORE THAN 50 SECONDS. IF YOU OPERATE THE ELT CONTINUOUSLY FOR MORE THAN 50 SECONDS, IT WILL TRANSMIT A 406-MHZ EMERGENCY SIGNAL. THE SIGNAL TELLS EMERGENCY PERSONNEL TO DO A SEARCH FOR A MISSING AIRCRAFT. IF THE EMERGENCY SIGNAL OCCURS DURING THIS TEST, IMMEDIATELY TELL THE APPLICABLE EMERGENCY PERSONNEL.

LOM 1) Set the ON/OFF switch to the ON position then back to the OFF position.

LOM LOM NOTE: The ELT will possibly operate when power is connect to it. If this does not occur, then this step is not necessary.

LOM LOM NOTE: This step is necessary because the ELT will occasionally activate when power is connected to it in the previous step.

LOM (c) Put the battery pack in its installed position on the ELT [1].

LOM 1) Make sure that all gaskets are aligned correctly.

LOM 2) Make sure that wires are not between these areas where they can be pinched:

LOM a) The areas between the standoffs and battery pack.

LOM b) The edges between the ELT and battery pack.

LOM 3) Hold the ELT and battery pack together tightly.

LOM (d) Loosely install the four screws [13] that attach the battery pack to the ELT [1].

LOM LOM LOM

> **CAUTION**
> DO NOT APPLY MORE THAN THE MAXIMUM SPECIFIED TORQUE WHEN YOU TIGHTEN THE PARTS. DAMAGE TO THE PARTS CAN OCCUR IF YOU APPLY TOO MUCH TORQUE.

LOM (e) Tighten the four screws [13] in a diagonal pattern to 7 ±1 in-lb (1 ±0 N·m).

LOM SUBTASK 23-24-00-900-002-001

LOM LOM (4) Replace the expiration date label for the ELT battery with the expiration date label supplied with the new ELT battery pack:

LOM LOM NOTE: The expiration date label for the ELT battery is located on the external side of the ELT (i.e. on the external side of the end cap or other visible location).

LOM LOM (a) Make sure that the new expiration date label is installed on the external side of the ELT where persons can see it.

ECCN 9E991 BOEING PROPRIETARY - See title page for details

LOM (b) Make sure that the expiration date on the new label shows that the new ELT battery pack
LOM is serviceable.

LOM SUBTASK 23-24-00-410-002-001

LOM (5) Do this task: Emergency Locator Transmitter Installation, TASK 23-24-00-400-801-001.

LOM **END OF TASK**

ECCN 9E991 BOEING PROPRIETARY - See title page for details

LOM **EMERGENCY LOCATOR TRANSMITTER - MAINTENANCE PRACTICES**

LOM **1. General**

LOM A. This procedure has these tasks:

LOM (1) A deactivation of the ELT

LOM (2) An activation of the ELT

LOM (3) A removal of the ELT

LOM (4) An installation of the ELT

LOM **LOM 445**

LOM (5) A replacement of the ELT battery

LOM **LOM 422, 425, 433, 434, 440, 442, 445-447, 451-456, 461-463**

LOM (6) A removal of the Aircraft Identification Module (AIM)

LOM (7) An installation of the AIM.

LOM B. If the ELT remote control panel switch guard is in the lifted position, accidental small movements of
LOM the switch can cause unwanted manual ELT transmission.

LOM **TASK 23-24-00-040-802-002**

LOM **2. Emergency Locator Transmitter - Deactivation**

LOM (Figure 201 or Figure 202)

LOM **A. General**

LOM (1) This task removes electrical power to the Emergency Locator Transmitter (ELT).

LOM **B. Location Zones**

LOM

Zone	Area
211	Flight Compartment - Left
212	Flight Compartment - Right
241	Aft Passenger Compartment - Station 663.75 to Aft Pressure Bulkhead - Left
242	Aft Passenger Compartment - Station 663.75 to Aft Pressure Bulkhead - Right

LOM **C. Emergency Locator Transmitter Deactivation**

LOM NOTE: Circuit breaker C01278 can stay closed, if Master Caution Warning functionality is
LOM necessary for other systems such as Auxiliary Power Unit (APU) or thrust reversers.

LOM **SUBTASK 23-24-00-860-027-002**

LOM (1) Open this circuit breaker and install safety tag:

LOM **F/O Electrical System Panel, P6-3**

LOM

Row	Col	Number	Name
C	14	C01278	MASTER CAUTION ANNUNCIATOR CONT 4

LOM **SUBTASK 23-24-00-040-003-002**

LOM (2) Set switch in front of ELT to the OFF position.

LOM **D. Emergency Locator Transmitter - Tryout**

LOM NOTE: This tryout is to make sure that the ELT is in a zero energy state.

ECCN 9E991 BOEING PROPRIETARY - See title page for details

LOM SUBTASK 23-24-00-860-028-002

LOM (1) Make sure that this circuit breaker is open and has safety tag:

LOM **F/O Electrical System Panel, P6-3**

LOM

Row	Col	Number	Name
C	14	C01278	MASTER CAUTION ANNUNCIATOR CONT 4

LOM SUBTASK 23-24-00-700-002-002

LOM (2) Make sure that none of the Light Emitting Diode (LED) lights in front of ELT come on.

LOM **——— END OF TASK ———**

ECCN 9E991 BOEING PROPRIETARY - See title page for details

EMERGENCY LOCATOR TRANSMITTER (ELT) ASSEMBLY

A

2381122 S0000543755_V1

LOM
LOM

Emergency Locator Transmitter
Figure 201/23-24-00-990-809-002

EFFECTIVITY
LOM 422, 425, 433, 434, 440, 442, 446, 447, 451-456, 461-463

ECCN 9E991 BOEING PROPRIETARY - See title page for details

EMERGENCY LOCATOR TRANSMITTER (ELT) ASSEMBLY

A

3018272 S0000790726_V1

LOM
LOM

Emergency Locator Transmitter
Figure 202/23-24-00-990-814-002

ECCN 9E991 BOEING PROPRIETARY - See title page for details

LOM **TASK 23-24-00-440-802-002**

LOM **3. Emergency Locator Transmitter - Activation**

LOM (Figure 201 or Figure 202)

LOM **A. General**

LOM (1) This task adds electrical power to the Emergency Locator Transmitter (ELT).

LOM **B. References**

Reference	Title
23-24-00-730-802-002	ELT System - System Test (P/B 501)

LOM **C. Location Zones**

Zone	Area
211	Flight Compartment - Left
212	Flight Compartment - Right
241	Aft Passenger Compartment - Station 663.75 to Aft Pressure Bulkhead - Left
242	Aft Passenger Compartment - Station 663.75 to Aft Pressure Bulkhead - Right

LOM **D. Emergency Locator Transmitter Activation**

LOM SUBTASK 23-24-00-440-004-002

LOM (1) Set switch in front of ELT to the ARM position.

LOM SUBTASK 23-24-00-860-029-002

LOM (2) Remove the safety tag and close this circuit breaker:

LOM **F/O Electrical System Panel, P6-3**

Row	Col	Number	Name
C	14	C01278	MASTER CAUTION ANNUNCIATOR CONT 4

LOM SUBTASK 23-24-00-700-004-002

LOM (3) Do this task: ELT System - System Test, TASK 23-24-00-730-802-002.

LOM **——— END OF TASK ———**

LOM **TASK 23-24-00-000-802-002**

LOM **4. Emergency Locator Transmitter - Removal**

LOM (Figure 203 or Figure 204)

LOM NOTE: This procedure is a scheduled maintenance task.

LOM **A. References**

Reference	Title
25-21-45-000-801	Ceiling Panel - Removal (P/B 401)
25-21-45-000-803-001	Main Ceiling Panel - Removal (P/B 401)

LOM **B. Location Zones**

Zone	Area
241	Aft Passenger Compartment - Station 663.75 to Aft Pressure Bulkhead - Left
242	Aft Passenger Compartment - Station 663.75 to Aft Pressure Bulkhead - Right

LOM **C. Removal Procedure**

LOM SUBTASK 23-24-00-010-003-002

LOM (1) Do this task: Ceiling Panel - Removal, TASK 25-21-45-000-801 or Main Ceiling Panel -
LOM Removal, TASK 25-21-45-000-803-001.

ECCN 9E991 BOEING PROPRIETARY - See title page for details

LOM **LOM 422, 425, 433, 434, 440, 442, 446, 447, 451-456, 461-463**

LOM SUBTASK 23-24-00-020-003-002

LOM (2) Do these steps to remove the ELT [5]:

LOM (a) Make sure the ELT switch is in the OFF position.

LOM (b) Disconnect the electrical connectors [4] from the Emergency Locator Transmitter (ELT)
LOM front panel.

LOM (c) Remove the four bolts [3] that attach the ELT [5] to the airplane structure.

LOM (d) Move the ELT [5] forward until it disconnects from the AIM [1].

LOM (e) Remove the ELT [5].

LOM **LOM 445**

LOM SUBTASK 23-24-00-020-009-002

LOM (3) Do these steps to remove the ELT [5]:

LOM (a) Make sure the ELT switch is in the OFF position.

LOM (b) Disconnect the electrical connectors [4] from the ELT front and rear panel.

LOM (c) Disconnect the AIM [1] from the ELT front panel.

LOM (d) Remove the four bolts [3] and four washers [6] that attach the ELT [5] to the airplane
LOM structure.

LOM (e) Remove the ELT [5].

LOM **END OF TASK**

ECCN 9E991 BOEING PROPRIETARY - See title page for details

EMERGENCY LOCATOR TRANSMITTER (ELT) ASSEMBLY

A

AIRCRAFT IDENTIFICATION MODULE (AIM)

B

M44470 S0006565279_V2

LOM
LOM

Emergency Locator Transmitter (ELT)
Figure 203/23-24-00-990-802-002

ECCN 9E991 BOEING PROPRIETARY - See title page for details

EMERGENCY LOCATOR TRANSMITTER (ELT) ASSEMBLY

A

NOTE:

THIRD CONNECTOR NOT SHOWN, LOCATED ON REAR OF ELT

2534368 S0000598905_V1

LOM
LOM

Emergency Locator Transmitter (ELT)
Figure 204/23-24-00-990-811-002

ECCN 9E991 BOEING PROPRIETARY - See title page for details

LOM **TASK 23-24-00-400-802-002**

LOM **5. Emergency Locator Transmitter - Installation**

LOM (Figure 203 or Figure 204)

LOM NOTE: This procedure is a scheduled maintenance task.

LOM **A. References**

Reference	Title
23-24-00-730-802-002	ELT System - System Test (P/B 501)

LOM **B. Location Zones**

Zone	Area
241	Aft Passenger Compartment - Station 663.75 to Aft Pressure Bulkhead - Left
242	Aft Passenger Compartment - Station 663.75 to Aft Pressure Bulkhead - Right

LOM **C. Emergency Locator Transmitter Installation**

LOM **LOM 422, 425, 433, 434, 440, 442, 446, 447, 451-456, 461-463**

LOM **SUBTASK 23-24-00-420-003-002**

LOM (1) Do these steps to install the ELT [5]:

LOM (a) Make sure that the Emergency Locator Transmitter (ELT) switch is in the OFF position.

LOM (b) Put the ELT [5] in its position, just forward of the AIM [1] connector.

LOM (c) Move the ELT [5] aft until it connects to the AIM [1].

LOM (d) Install the bolts [3] through the mounting slots of the ELT [5] to attach it to the airplane structure.

LOM (e) Connect the electrical connectors [4] to the ELT [5].

LOM **CAUTION**

LOM MAKE SURE THAT YOU DO THE ELT LIVE TRANSMISSION TEST IN THE FIRST FIVE MINUTES OF THE HOURS (UTC). COORDINATE WITH THE APPLICABLE LOCAL EMERGENCY AUTHORITY (AIR TRAFFIC CONTROL TOWER OR FLIGHT SERVICE STATION) FOR THE APPROVAL OF THIS TEST IF YOU DO THIS TEST OUTSIDE OF THE FIRST FIVE MINUTES OF THE HOURS (UTC).

LOM (f) Set the ELT switch to the ARM position.

LOM **LOM 445**

LOM **SUBTASK 23-24-00-420-009-002**

LOM (2) Do these steps to install the ELT [5]:

LOM (a) Make sure that the ELT switch is in the OFF position.

LOM (b) Put the ELT [5] in its position.

LOM (c) Install the bolts [3] and washers [6] through the mounting slots of the ELT [5] to attach it to the airplane structure.

LOM (d) Do these steps to connect the AIM [1] to the front panel of the ELT [5]:

LOM 1) Put the AIM [1] in its position.

LOM 2) Hand tighten the AIM [1] connector to the ELT [5]:

LOM a) Turn connector (approximately 4-5 turns) until it stops.

LOM b) Then apply an additional 1/4 turn.

LOM 3) Make sure that the AIM [1] lanyard is secured to the airplane structure.

ECCN 9E991 BOEING PROPRIETARY - See title page for details

LOM **LOM 445 (Continued)**

(e) Connect the electrical connectors [4] to the ELT [5].

> **CAUTION**
> MAKE SURE THAT YOU DO THE ELT LIVE TRANSMISSION TEST IN THE FIRST FIVE MINUTES OF THE HOURS (UTC). COORDINATE WITH THE APPLICABLE LOCAL EMERGENCY AUTHORITY (AIR TRAFFIC CONTROL TOWER OR FLIGHT SERVICE STATION) FOR THE APPROVAL OF THIS TEST IF YOU DO THIS TEST OUTSIDE OF THE FIRST FIVE MINUTES OF THE HOURS (UTC).

(f) Set the ELT switch to the ARM position.

LOM 422, 425, 433, 434, 440, 442, 445-447, 451-456, 461-463

D. Emergency Locator Transmitter Installation Test

SUBTASK 23-24-00-710-003-002

(1) Do this task: ELT System - System Test, TASK 23-24-00-730-802-002.

NOTE: It is the responsibility of the airlines to report any change in the registered ELT information to their designated registration authority.

——— END OF TASK ———

LOM 445

TASK 23-24-00-900-804-002

6. Emergency Locator Transmitter Battery - Replacement

(Figure 205)

A. General

(1) This procedure has steps to replace the battery for an Emergency Locator Transmitter (ELT).

B. Consumable Materials

Reference	Description	Specification
A00648	Compound - Retaining - Loctite 242	ASTM D5363 Grp 3 Cl 2 Gd 1 (SUPERSEDES MIL-S-46163)

C. Location Zones

Zone	Area
241	Aft Passenger Compartment - Station 663.75 to Aft Pressure Bulkhead - Left
242	Aft Passenger Compartment - Station 663.75 to Aft Pressure Bulkhead - Right

D. Emergency Locator Transmitter Battery Replacement

SUBTASK 23-24-00-010-012-002

(1) Do this task: Emergency Locator Transmitter - Removal, TASK 23-24-00-000-802-002.

SUBTASK 23-24-00-020-010-002

(2) Remove the battery pack assembly:

(a) Remove the nuts [12] and washers [13] that attach the transmitter unit [10] to the adapter plate [11].

(b) Disconnect the adapter harness assembly [15] from the J3 connector [14].

(c) Remove the transmitter unit [10] from the adapter plate [11].

(d) Remove the screws [23] from the back cover [16].

ECCN 9E991 BOEING PROPRIETARY - See title page for details

LOM **LOM 445 (Continued)**

(e) Carefully remove the back cover [16] and gasket [24].

1) Do not bend or apply force to the flexible circuit when you remove the back cover [16].

2) If it is necessary, discard the gasket [24].

(f) Mark the slot where the chassis [18] is installed.

(g) Pull the battery pack [19] with the chassis [18] out from the housing [22].

(h) Disconnect the battery pack connector [21].

(i) Remove the screws [20] that attach the battery pack [19] to the chassis [18].

(j) Remove the battery pack [19].

SUBTASK 23-24-00-420-011-002

WARNING

MAKE SURE THAT THE BATTERY WIRES ARE INSTALLED CORRECTLY. MAKE SURE THAT THE BATTERY PACK IS NOT DAMAGED. IF YOU IGNORE THESE CONDITIONS, SMOKE OR A FIRE CAN OCCUR. DAMAGE TO EQUIPMENT AND INJURIES TO PERSONNEL CAN OCCUR.

(3) Install the new battery pack [19].

(a) Record the battery expiration date and battery part number on the label [25].

(b) Put the label [25] on the transmitter unit [10].

1) Make sure that the expiry date and part number are equal on the label [25] and on the battery pack [19].

(c) Apply a small drop of Loctite 242 compound, A00648, to the threads of the standoffs [17].

(d) Install the battery pack [19] to the chassis [18] with screws [20].

1) Torque the screws [20] to 13 in-lb (1.47 N·m).

(e) Connect the battery pack connector [21] to the battery pack [19].

(f) Put the chassis [18] with the battery pack [19] into the marked slot in the transmitter unit [10].

1) Make sure that you fully push the chassis [18] in the transmitter unit [10].

2) Make sure that the power wires and flex circuit are not bent.

(g) Put the back cover [16] and gasket [24] on the housing [22].

(h) Apply a small drop of Loctite 242 compound, A00648, to the threads of the screws [23].

(i) Install the screws [23].

1) Torque the screws [23] to 45 in-lb (5.08 N·m).

(j) Put the transmitter unit [10] on the adapter plate [11].

(k) Connect the adapter harness assembly [15] to the J3 connector [14].

(l) Install the nuts [12] and washers [13] to attach the transmitter unit [10] to the adapter plate [11].

1) Torque the nuts [12] to 30 in-lb (3.39 N·m).

SUBTASK 23-24-00-410-013-002

(4) Do this task: Emergency Locator Transmitter - Installation, TASK 23-24-00-400-802-002.

END OF TASK

ECCN 9E991 BOEING PROPRIETARY - See title page for details

LOM
LOM

Emergency Locator Transmitter (ELT) Battery Replacement
Figure 205/23-24-00-990-815-002

ECCN 9E991 BOEING PROPRIETARY - See title page for details

LOM **LOM 422, 425, 433, 434, 440, 442, 445-447, 451-456, 461-463**

LOM **TASK 23-24-00-000-803-002**

LOM **7. Aircraft Identification Module (AIM) - Removal**

LOM (Figure 203 or Figure 204)

LOM **A. References**

LOM

Reference	Title
25-21-45-000-801	Ceiling Panel - Removal (P/B 401)
25-21-45-000-803-001	Main Ceiling Panel - Removal (P/B 401)

LOM **B. Location Zones**

LOM

Zone	Area
241	Aft Passenger Compartment - Station 663.75 to Aft Pressure Bulkhead - Left
242	Aft Passenger Compartment - Station 663.75 to Aft Pressure Bulkhead - Right

LOM **C. Removal Procedure**

LOM SUBTASK 23-24-00-010-004-002

LOM (1) Do this task: Ceiling Panel - Removal, TASK 25-21-45-000-801 or Main Ceiling Panel -
LOM Removal, TASK 25-21-45-000-803-001.

LOM **LOM 422, 425, 433, 434, 440, 442, 446, 447, 451-456, 461-463**

LOM SUBTASK 23-24-00-020-004-002

LOM (2) Do these steps to remove the AIM [1]:

LOM (a) Remove the two bolts [2] that attach the AIM [1] to the airplane structure.

LOM (b) Move the Aircraft Identification Module (AIM) aft until it disconnects from the ELT [5].

LOM (c) Remove the AIM [1].

LOM **LOM 445**

LOM SUBTASK 23-24-00-020-008-002

LOM (3) Do these steps to remove the AIM [1]:

LOM (a) Remove the screw [7] and washer [8] that attach the AIM [1] lanyard to the airplane
LOM structure.

LOM (b) Turn the AIM counterclockwise until it disconnects from the ELT [5].

LOM (c) Remove the AIM [1].

LOM **LOM 422, 425, 433, 434, 440, 442, 445-447, 451-456, 461-463**

LOM **END OF TASK**

ECCN 9E991 BOEING PROPRIETARY - See title page for details

LOM **TASK 23-24-00-400-803-002**

LOM **8. Aircraft Identification Module (AIM) - Installation**

LOM (Figure 203 or Figure 204)

LOM **A. General**

LOM (1) The Aircraft Identification Module (AIM) loads the aircraft address to the Emergency Locator
LOM Transmitter (ELT).

LOM (2) For airplanes programmed with 24-bit Aircraft Address Protocol (AIM coding label “NULL-M1”),
LOM the AIM will read the aircraft address from the Program Switch Module (PSM). For airplanes
LOM not programmed with 24-bit Aircraft Address Protocol, the AIM must be pre-programmed before
LOM installation.

LOM NOTE: Refer to WD's 23-24 for airplane configuration

LOM **B. References**

LOM

Reference	Title
23-24-00-710-802-002	ELT System - Operational Test (P/B 501)
25-21-45-400-801	Ceiling Panel - Installation (P/B 401)
25-21-45-400-803-001	Main Ceiling Panel - Installation (P/B 401)

LOM **C. Location Zones**

LOM

Zone	Area
241	Aft Passenger Compartment - Station 663.75 to Aft Pressure Bulkhead - Left
242	Aft Passenger Compartment - Station 663.75 to Aft Pressure Bulkhead - Right

LOM **D. Installation Procedure**

LOM **LOM 422, 425, 433, 434, 440, 442, 446, 447, 451-456, 461-463**

LOM **SUBTASK 23-24-00-420-004-002**

LOM (1) Do these steps to install the AIM [1]:

LOM (a) Put the AIM [1] in its position.

LOM (b) Move the AIM forward until it connects to the ELT [5].

LOM (c) Install the two bolts [2] through the mounting slots of the AIM to attach it to the airplane
LOM structure.

LOM **LOM 445**

LOM **SUBTASK 23-24-00-420-010-002**

LOM (2) Do these steps to install the AIM [1]:

LOM (a) Put the AIM [1] in its position.

LOM (b) Hand tighten the AIM [1] connector to the ELT [5]:

LOM 1) Turn connector (approximately 4-5 turns) until it stops.

LOM 2) Then apply an additional 1/4 turn.

LOM (c) Install the screw [7] and washer [8] through the AIM [1] lanyard to attach it to the airplane
LOM structure.

LOM 1) Coil and stow the excess lanyard into a 1.000 ±0.250 in. (2.540 ±0.635 cm)
LOM diameter loop and secure with a zip tie.

LOM **LOM 422, 425, 433, 434, 440, 442, 445-447, 451-456, 461-463**

ECCN 9E991 BOEING PROPRIETARY - See title page for details

LOM SUBTASK 23-24-00-410-004-002

LOM (3) Do this task: Ceiling Panel - Installation, TASK 25-21-45-400-801 or Main Ceiling Panel -
LOM Installation, TASK 25-21-45-400-803-001.

LOM **E. Installation Test**

LOM SUBTASK 23-24-00-710-004-002

LOM (1) Do this task: ELT System - Operational Test, TASK 23-24-00-710-802-002.

LOM NOTE: It is the responsibility of the airlines to report any change in the registered ELT
LOM information to their designated registration authority.

LOM **END OF TASK**

ECCN 9E991 BOEING PROPRIETARY - See title page for details

LOM **EMERGENCY LOCATOR TRANSMITTER - MAINTENANCE PRACTICES**

LOM **1. General**

LOM A. This procedure has these tasks:

LOM NOTE: This section of the AMM is for the Automatic Fixed ELT P/N 01N65900. If you are looking for
LOM the Portable ELT P/N 01N65920, refer to vendor data.

LOM (1) ELT Deactivation

LOM (2) ELT Activation

LOM (3) A removal of the ELT

LOM (4) An installation of the ELT

LOM (5) A replacement of the ELT battery.

LOM B. If the ELT remote control panel switch guard is in the lifted position, accidental small movements of
LOM the switch can cause unwanted manual ELT transmission.

LOM **TASK 23-24-00-040-803-003**

LOM **2. Emergency Locator Transmitter - Deactivation**

LOM (Figure 201)

LOM **A. General**

LOM (1) This task removes electrical power from the Emergency Locator Transmitter (ELT).

LOM **B. Location Zones**

LOM

Zone	Area
211	Flight Compartment - Left
212	Flight Compartment - Right
241	Aft Passenger Compartment - Station 663.75 to Aft Pressure Bulkhead - Left
242	Aft Passenger Compartment - Station 663.75 to Aft Pressure Bulkhead - Right

LOM **C. Emergency Locator Transmitter Deactivation**

LOM NOTE: Circuit breakers C01278 and C01180 may remain closed, if Master Caution/Warning
LOM functionality is required for other systems such as Auxiliary Power Unit (APU), thrust
LOM reversers, etc.

LOM **SUBTASK 23-24-00-860-030-003**

LOM (1) If it is necessary, open these circuit breakers and install safety tags:

LOM **F/O Electrical System Panel, P6-3**

LOM

Row	Col	Number	Name
C	14	C01278	MASTER CAUTION ANNUNCIATOR CONT 4
F	14	C01180	INDICATOR MASTER DIM SECT 8

LOM **SUBTASK 23-24-00-040-004-003**

LOM (2) Set switch in front of the ELT to the OFF position.

LOM **D. Emergency Locator Transmitter - Tryout**

LOM NOTE: This tryout is to make sure that the ELT is in a zero energy state.

ECCN 9E991 BOEING PROPRIETARY - See title page for details

LOM SUBTASK 23-24-00-860-031-003

LOM (1) If applicable, make sure that these circuit breakers are open and have safety tags:

LOM **F/O Electrical System Panel, P6-3**

LOM

Row	Col	Number	Name
C	14	C01278	MASTER CAUTION ANNUNCIATOR CONT 4
F	14	C01180	INDICATOR MASTER DIM SECT 8

LOM SUBTASK 23-24-00-700-003-003

LOM (2) Make sure that none of the Light Emitting Diode (LED) lights in front of the ELT come on.

LOM **END OF TASK**

ECCN 9E991 BOEING PROPRIETARY - See title page for details

EMERGENCY LOCATOR TRANSMITTER (ELT) ASSEMBLY

A

2381508 S0000543763_V1

LOM
LOM

Emergency Locator Transmitter
Figure 201/23-24-00-990-810-003

EFFECTIVITY
LOM 443, 444, 450, 458-460, 464

ECCN 9E991 BOEING PROPRIETARY - See title page for details

LOM **TASK 23-24-00-440-803-003**

LOM **3. Emergency Locator Transmitter - Activation**

LOM (Figure 201)

LOM **A. General**

LOM (1) This task supplies electrical power to the Emergency Locator Transmitter (ELT).

LOM **B. Location Zones**

LOM

Zone	Area
211	Flight Compartment - Left
212	Flight Compartment - Right
241	Aft Passenger Compartment - Station 663.75 to Aft Pressure Bulkhead - Left
242	Aft Passenger Compartment - Station 663.75 to Aft Pressure Bulkhead - Right

LOM **C. Emergency Locator Transmitter Activation**

LOM SUBTASK 23-24-00-860-032-003

LOM (1) If opened, remove the safety tags and close these circuit breakers:

LOM **F/O Electrical System Panel, P6-3**

LOM

Row	Col	Number	Name
C	14	C01278	MASTER CAUTION ANNUNCIATOR CONT 4
F	14	C01180	INDICATOR MASTER DIM SECT 8

LOM SUBTASK 23-24-00-440-002-003

LOM (2) Set switch in front of the ELT to the ARMED position.

LOM **——— END OF TASK ———**

LOM **TASK 23-24-00-000-804-001**

LOM **4. Emergency Locator Transmitter Removal**

LOM (Figure 202)

LOM **A. References**

LOM

Reference	Title
20-40-12-400-804	Conductive Dust Cap and Connector Cover Installation (P/B 201)
25-21-45-000-803-001	Main Ceiling Panel - Removal (P/B 401)

LOM **B. Location Zones**

LOM

Zone	Area
241	Aft Passenger Compartment - Station 663.75 to Aft Pressure Bulkhead - Left
242	Aft Passenger Compartment - Station 663.75 to Aft Pressure Bulkhead - Right

LOM **C. Emergency Locator Transmitter Removal**

LOM SUBTASK 23-24-00-010-007

LOM (1) Do this task: Main Ceiling Panel - Removal, TASK 25-21-45-000-803-001.

LOM SUBTASK 23-24-00-000-001

LOM (2) Set the switch on the front panel of the ELT [1] to the OFF position.

ECCN 9E991 BOEING PROPRIETARY - See title page for details

LOM SUBTASK 23-24-00-000-003-003

LOM (3) Loosen and remove the backup antenna [5] and retain for installation on the replacement ELT [1].

LOM NOTE: It is not necessary to remove the backup antenna [5] if the replacement ELT [1] is supplied with a backup antenna [5].

LOM SUBTASK 23-24-00-020-007

LOM (4) Do these steps to remove the ELT [1]:

LOM (a) Set the switch on the front panel of the ELT [1] to the OFF position.

LOM (b) Disconnect the external antenna connector [2].

LOM (c) Disconnect the remote control connector [3].

LOM (d) Put protective covers [6] on the external antenna connector [2] and remote control connector [3] (TASK 20-40-12-400-804).

LOM (e) Remove the bolts [4] that attach the ELT [1] to airplane structure.

LOM (f) Save the four bolts [4] and washers.

LOM (g) Remove the ELT [1].

LOM NOTE: The next step is necessary ONLY if the activation/identification module on the Emergency Locator Transmitter (ELT) is programmed with airplane registry (tail ID) or the airplane 24 BIT address ID. If this is correct, the activation/identification module stays with the airplane. However, on some configurations, the activation/identification module is programmed with ELT identification (not airplane identification) so that it stays with the removed ELT. If you don't know the activation/identification module programmed configuration, ask your engineering department.

LOM (h) Remove the activation/identification module from the ELT [1] and keep it to install on the new ELT [1].

LOM **END OF TASK**

ECCN 9E991 BOEING PROPRIETARY - See title page for details

EMERGENCY LOCATOR TRANSMITTER (ELT) ASSEMBLY

A

1305893 S0000216564_V2

LOM
LOM

Emergency Locator Transmitter Assembly
Figure 202/23-24-00-990-804

ECCN 9E991 BOEING PROPRIETARY - See title page for details

LOM TASK 23-24-00-400-804-001

LOM 5. **Emergency Locator Transmitter Installation**

LOM (Figure 202)

LOM A. **References**

LOM

Reference	Title
20-40-12-000-804	Conductive Dust Cap and Connector Cover Removal (P/B 201)
23-24-00-730-803-003	ELT System - System Test (P/B 501)

LOM B. **Consumable Materials**

LOM

Reference	Description	Specification
G50411	Torque Stripe - EC-1252 [pink or yellow (as required per BAC5001-10)]	BMS8-45 Type I

LOM C. **Location Zones**

LOM

Zone	Area
241	Aft Passenger Compartment - Station 663.75 to Aft Pressure Bulkhead - Left
242	Aft Passenger Compartment - Station 663.75 to Aft Pressure Bulkhead - Right

LOM D. **Emergency Locator Transmitter Installation**

LOM SUBTASK 23-24-00-400-001

LOM (1) If necessary, do these steps to install the backup antenna [5] to the ELT [1]:

LOM NOTE: It is not necessary to install the backup antenna [5] if the replacement ELT [1] is supplied with an installed backup antenna [5].

LOM (a) Make sure that the switch on the front panel of the ELT [1] is in the OFF position.

LOM (b) Install the backup antenna [5] to the ELT [1].

LOM (c) Tighten the connector with your fingers, plus 1/8 turn.

LOM (d) Apply the torque stripe, G50411 at the connection between the backup antenna [5] and the ELT [1] after torque is complete.

LOM NOTE: Installation of the torque stripe is necessary. It shows the antenna is securely attached after the Emergency Locator Transmitter (ELT) is installed. There is a procedure to examine the torque stripe after the ELT installation procedure.

LOM SUBTASK 23-24-00-420-007

LOM (2) Do these steps to install the ELT [1]:

LOM (a) Make sure that the switch on the front panel of the ELT [1] is in the OFF position.

LOM (b) Put the ELT [1] in its position.

LOM NOTE: The front panel of the ELT [1] must be in the forward position to operate correctly.

LOM (c) Install the bolts [4] and washers to attach the ELT [1] to the airplane structure.

LOM (d) Remove the protective covers from the external antenna connector [2] and remote control connector [3] (TASK 20-40-12-000-804).

LOM (e) Examine the external antenna connector [2] and remote control connector [3] for bent or broken pins, dirt, and damage.

LOM (f) Connect the remote control connector [3].

ECCN 9E991 BOEING PROPRIETARY - See title page for details

LOM (g) Connect the external antenna connector [2].

LOM NOTE: The next step is necessary ONLY if the activation/identification module is programmed with airplane registry (tail ID) or airplane 24 BIT address ID. If you don't know the airplane activation/identification module programmed configuration, ask your engineering department.

LOM (h) Install on the new ELT the Activation / Identification Module (AIM) that you kept from the ELT [1] removal task:

LOM 1) Make sure that the DIRECTION OF FLIGHT airplane symbol on the AIM Identification Label points to the front of the airplane.

LOM NOTE: The DIRECTION OF FLIGHT airplane symbol must pointed to the front of the airplane to ensure correct acceleration sensor (G. switch) operation.

LOM 2) Install the Activation/Identification module to the ELT [1].

LOM (i) Set the switch on the front panel of the ELT [1] to the ARMED position.

LOM SUBTASK 23-24-00-420-008-003

LOM (3) Do an inspection of the torque stripe after the ELT [1] is installed.

LOM (a) Make sure that the torque stripe on the backup antenna [5]connector is not broken or damaged.

LOM (b) If the torque stripe is broken or damaged, then you must do the backup antenna [5] installation procedure again from the beginning of the installation procedure (TASK 23-24-00-400-804-001).

LOM **E. ELT Installation Test**

LOM SUBTASK 23-24-00-710-011

LOM (1) Do this task: ELT System - System Test, TASK 23-24-00-730-803-003.

LOM NOTE: It is the responsibility of the airlines to report any change in the registered ELT information to their designated registration authority.

LOM **——— END OF TASK ———**

LOM **TASK 23-24-00-900-803-001**

LOM **6. Emergency Locator Transmitter Battery - Replacement**

LOM NOTE: Battery replacement for the ELTA P/N 01N65900 Emergency Locator Transmitter should be performed by ELTA or an approved repair facility. The internal timer of Emergency Locator Transmitter (ELT) activation time needs to be reset. An ELTA ELT test bench is used to reset ELT activation time.

LOM NOTE: Transmitter disassembly is required to access the batteries.

LOM Reassembly includes vendor recommended inspections and replacement of parts in addition to new batteries.

LOM **——— END OF TASK ———**

ECCN 9E991 BOEING PROPRIETARY - See title page for details

LOM

EMERGENCY LOCATOR TRANSMITTER - ADJUSTMENT/TEST

LOM 1. General

LOM A. This procedure contains scheduled maintenance task data.

LOM B. This procedure contains these tasks:

LOM (1) An operational test of the Emergency Locator Transmitter (ELT) system.

LOM (2) A system test of the ELT system.

LOM **TASK 23-24-00-710-801-001**

LOM 2. ELT System - Operational Test

LOM **A. General**

LOM (1) This task provides a procedure to do an operational test of the Emergency Locator Transmitter
LOM (ELT) system from the ELT control panel in the flight deck.

LOM **B. References**

LOM

Reference	Title
23-12-00-730-801	VHF Communication System - System Test (P/B 501)
24-22-00-860-811	Supply Electrical Power (P/B 201)
24-22-00-860-812	Remove Electrical Power (P/B 201)

LOM **C. Location Zones**

LOM

Zone	Area
211	Flight Compartment - Left
212	Flight Compartment - Right
241	Aft Passenger Compartment - Station 663.75 to Aft Pressure Bulkhead - Left
242	Aft Passenger Compartment - Station 663.75 to Aft Pressure Bulkhead - Right

LOM **D. Prepare Procedure**

LOM SUBTASK 23-24-00-860-001-001

LOM (1) Make sure that the airplane has electrical power.

LOM (a) If it is necessary, do this task: Supply Electrical Power, TASK 24-22-00-860-811.

LOM SUBTASK 23-24-00-860-013

LOM (2) Set the No. 2 VHF communication system (VHF COMM 2) to a frequency of 121.5 MHz (VHF
LOM Communication System - System Test, TASK 23-12-00-730-801).

LOM NOTE: Any Very High Frequency (VHF) COMM System with a bottom mounted antenna can
LOM be used for this test. If the VHF antenna is on the top, it is possible to hear the ELT
LOM signal even though the ELT antenna has failed.

LOM SUBTASK 23-24-00-860-015

LOM (3) Prepare one of the Audio Control Panel (ACP) in the flight compartment to listen for No. 2 VHF
LOM communication system:

LOM (a) Push all audio monitor switches to OFF.

LOM (b) Push the volume control for the VHF-2 selector switch.

LOM 1) Make sure its light comes ON.

LOM (c) Turn the volume control for the VHF-2 selector switch clockwise to the middle position.

LOM (d) Push the SPKR volume control switch to ON.

LOM 1) Make sure its light comes ON.

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LOM (e) Turn the SPKR volume control switch clockwise to the middle position.

LOM SUBTASK 23-24-00-910-006

LOM (4) Make sure that you do the ELT test in the first five minutes of the hour (UTC).

LOM NOTE: Free Space Transmission Tests from the aircraft on 121.5/243 MHz are generally allowed any time within five minutes after each hour. Check your local regulations. THERE IS NO ALLOWANCE FOR TRANSMITTING A VALID 406 MHZ MESSAGE AT ANY TIME.

LOM The ELT will begin transmitting on 121.5/243 MHz immediately following activation and 406 MHz distress signals approximately 50 seconds after activation. If the ELT is inadvertently kept in the ON position for longer than approximately 50 seconds, you will hear a brief interruption of the 121.5 MHz signal while the 406 MHz message is transmitted. If this occurs, then you must reset the ELT immediately and tell the local emergency authorities. This will prevent emergency search and rescue operations that are not necessary.

LOM (a) If you do the ELT test outside of the first five minutes of the hour (UTC), do this step:

LOM 1) Speak with the local emergency authority (Air Traffic Control Tower or Flight Service Station) to let them know there will be an ELT Test Transmission on the Emergency Frequencies 121.5/243 MHz.

LOM SUBTASK 23-24-00-910-022-001

LOM **WARNING** MAKE SURE THAT YOU FOLLOW THE LOCAL ELT OPERATION REGULATIONS. IF YOU MAKE AN ACCIDENTAL TRANSMISSION, TELL THE AUTHORITIES. THIS WILL PREVENT EMERGENCY SEARCH OPERATIONS THAT ARE NOT NECESSARY.

LOM (5) Follow the local ELT operation requirements.

LOM **E. ELT Operational Test at the ELT Control Panel (Pilots' overhead panel, P5)**

LOM SUBTASK 23-24-00-710-001-001

LOM (1) Do these steps for the ELT test at the ELT remote control panel in the flight compartment:

LOM NOTE: If the ELT is activated accidentally, you will need to reset it. If the switch is already in the ON position, move it to the ARM position. To reset the ELT, move the switch on the ELT's remote control panel to the ON position for approximately 1 second, and then move it back to the ARM position.

LOM **CAUTION** READ ALL THE STEPS THAT FOLLOW BEFORE YOU START THE ELT TEST PROCEDURE. YOU MUST BECOME FAMILIAR WITH THE INSTRUCTIONS. MAKE SURE THAT YOU USE A TIMING DEVICE TO MONITOR THE TIME DURING THE ELT TEST. YOU MUST COMPLETE THE ELT TEST PROCEDURE IN LESS THAN 50 SECONDS. THIS WILL HELP PREVENT ACCIDENTAL ACTIVATION OF THE ELT.

LOM (a) Read all of the instructions below before you do the subsequent steps.

LOM (b) Push and hold the ELT annunciator.

LOM 1) Make sure that the ELT annunciator comes ON.

LOM (c) Release the ELT annunciator.

LOM 1) Make sure that the ELT annunciator goes OFF.

LOM (d) Push and release the MASTER CAUTION reset button on the glareshield panel, P7.

LOM 1) Make sure that the MASTER CAUTION and OVERHEAD annunciators are OFF.

ECCN 9E991 BOEING PROPRIETARY - See title page for details

LOM LOM LOM LOM LOM LOM

CAUTION

MAKE SURE THAT YOU DO THE ELT LIVE TRANSMISSION TEST IN THE FIRST FIVE MINUTES OF THE HOURS (UTC). COORDINATE WITH THE APPLICABLE LOCAL EMERGENCY AUTHORITY (AIR TRAFFIC CONTROL TOWER OR FLIGHT SERVICE STATION) FOR THE APPROVAL OF THIS TEST IF YOU DO THIS TEST OUTSIDE OF THE FIRST FIVE MINUTES OF THE HOURS (UTC).

LOM LOM LOM LOM LOM LOM

CAUTION

DO NOT OPERATE THE ELT FOR MORE THAN 50 SECONDS. IF YOU OPERATE THE ELT CONTINUOUSLY FOR MORE THAN 50 SECONDS, IT WILL TRANSMIT A 406-MHZ EMERGENCY SIGNAL. THE SIGNAL TELLS EMERGENCY PERSONNEL TO DO A SEARCH FOR A MISSING AIRCRAFT. IF THE EMERGENCY SIGNAL OCCURS DURING THIS TEST, IMMEDIATELY TELL THE APPLICABLE EMERGENCY PERSONNEL.

LOM LOM (e) On the ELT remote control panel at the pilot overhead panel, P5, open the guard on the ELT ARM/ON switch.

LOM (f) Set the ELT ARM/ON switch to the ON position for less than 5 seconds.

LOM 1) Make sure that you hear three sweeps of the ELT signal on the VHF COMM system.

LOM 2) Make sure that the ELT annunciator comes ON.

LOM LOM 3) Make sure that the MASTER CAUTION and OVERHEAD annunciators, on the glareshield panel P7, come ON.

LOM (g) Set the ELT ARM/ON switch to the ARM position.

LOM 1) Make sure that you do not hear the ELT signal on the VHF COMM system.

LOM 2) Make sure that the ELT annunciator goes OFF.

LOM (h) Close the guard on the ELT ARM/ON switch on the ELT remote control panel.

LOM (i) Push and release the MASTER CAUTION annunciator on the P7 glareshield.

LOM LOM 1) Make sure that the MASTER CAUTION and OVERHEAD annunciators on the P7 glareshield are OFF.

LOM **F. Put the Airplanes Back to Its Usual Condition**

LOM SUBTASK 23-24-00-910-008

LOM (1) Tell the local emergency authority that the ELT test is completed, if applicable.

LOM SUBTASK 23-24-00-860-004-001

LOM LOM (2) Remove the electrical power from the airplane, if it is not necessary for other tasks (TASK 24-22-00-860-812).

LOM **END OF TASK**

LOM **TASK 23-24-00-730-804-001**

LOM **3. ELT System - System Test**

LOM NOTE: This procedure is a scheduled maintenance task.

LOM **A. General**

LOM LOM LOM (1) This task provides a procedure to do a system test of the Emergency Locator Transmitter (ELT) system. The system test includes the ELT operational test at the ELT control panel in the flight deck and the ELT self-test at the ELT front panel.

ECCN 9E991 BOEING PROPRIETARY - See title page for details

LOM **B. References**

Reference	Title
23-24-00 P/B 201 Config 1	EMERGENCY LOCATOR TRANSMITTER - MAINTENANCE PRACTICES
25-21-45-000-801	Ceiling Panel - Removal (P/B 401)
25-21-45-000-803-001	Main Ceiling Panel - Removal (P/B 401)
25-21-45-400-801	Ceiling Panel - Installation (P/B 401)
25-21-45-400-803-001	Main Ceiling Panel - Installation (P/B 401)
34-21-00-820-801	Air Data Inertial Reference System - Alignment from the FMC CDU (P/B 201)
34-21-00-820-802	Air Data Inertial Reference System - Alignment from the ISDU (P/B 201)
FIM 23-24 TASK 801	Emergency Locator Transmitter (ELT) BITE Procedure
WDM 23-24-11	Wiring Diagram Manual

LOM **C. Location Zones**

Zone	Area
211	Flight Compartment - Left
212	Flight Compartment - Right
241	Aft Passenger Compartment - Station 663.75 to Aft Pressure Bulkhead - Left
242	Aft Passenger Compartment - Station 663.75 to Aft Pressure Bulkhead - Right

LOM **D. Prepare for the Test**

LOM SUBTASK 23-24-00-860-033-001

(1) Make sure that the Air Data Inertial Reference Unit (ADIRU) is aligned, do this task: Air Data Inertial Reference System - Alignment from the ISDU, TASK 34-21-00-820-802 or Air Data Inertial Reference System - Alignment from the FMC CDU, TASK 34-21-00-820-801.

NOTE: This step only applies to airplanes with navigation Flight Management System (FMS) ADIRU that send position data to the ELT via FMS.

LOM SUBTASK 23-24-00-910-023-001

(2) Make sure that you do the ELT test in the first five minutes of the hour (Universal Time Coordinated (UTC)).

NOTE: Free Space Transmission Tests from the aircraft on 121.5/243 MHz are generally allowed any time within five minutes after each hour. Check your local regulations. There is no allowance for transmitting a valid 406 MHz message at any time.

The ELT will begin transmitting on 121.5/243 MHz immediately following activation and 406 MHz distress signals approximately 50 seconds after activation. If the ELT is inadvertently kept in the ON position for longer than approximately 50 seconds, you will hear a brief interruption of the 121.5 MHz signal while the 406 MHz message is transmitted. If this occurs, then you must reset the ELT immediately and tell the local emergency authorities. This will prevent emergency search and rescue operations that are not necessary.

(a) If you do the ELT test outside of the first five minutes of the hour (UTC), do this step:

1) Speak with the local emergency authority (Air Traffic Control Tower or Flight Service Station) to let them know there will be an ELT Test Transmission on the Emergency Frequencies 121.5/243 MHz.

ECCN 9E991 BOEING PROPRIETARY - See title page for details

LOM SUBTASK 23-24-00-910-024-001

LOM LOM LOM LOM

> **WARNING** MAKE SURE THAT YOU FOLLOW THE LOCAL ELT OPERATION REGULATIONS. IF YOU MAKE AN ACCIDENTAL TRANSMISSION, TELL THE AUTHORITIES. THIS WILL PREVENT EMERGENCY SEARCH OPERATIONS THAT ARE NOT NECESSARY.

LOM (3) Follow the local ELT operation requirements.

LOM **E. ELT Operational Test at the ELT Control Panel**

LOM SUBTASK 23-24-00-710-017-001

LOM (1) Do this task: ELT System - Operational Test, TASK 23-24-00-710-801-001.

LOM **F. ELT Self-Test at the Front Panel of the ELT Unit**

LOM SUBTASK 23-24-00-010-009-001

LOM LOM (1) Remove the ceiling panel to get access to the ELT, do this task: Ceiling Panel - Removal, TASK 25-21-45-000-801 or Main Ceiling Panel - Removal, TASK 25-21-45-000-803-001.

LOM LOM NOTE: For the location of the ELT, refer to the ELT - Maintenance Practices procedure (PAGEBLOCK 23-24-00/201 Config 1).

LOM SUBTASK 23-24-00-730-007-001

LOM (2) Do the steps that follow to do the self-test at the ELT front panel:

LOM (a) If the ELT is activated accidentally, reset it:

LOM LOM 1) To reset the ELT, move the switch on the on the front panel of the ELT to the ON position for approximately 1 second.

LOM a) If the switch is already in the ON position, move it to the OFF position.

LOM 2) Move the switch back to the OFF position.

LOM LOM LOM LOM LOM LOM

> **CAUTION** READ ALL THE STEPS THAT FOLLOW BEFORE YOU START THE ELT TEST PROCEDURE. YOU MUST BECOME FAMILIAR WITH THE INSTRUCTIONS. MAKE SURE THAT YOU USE A TIMING DEVICE TO MONITOR THE TIME DURING THE ELT TEST. YOU MUST COMPLETE THE ELT TEST PROCEDURE IN LESS THAN 50 SECONDS. THIS WILL HELP PREVENT ACCIDENTAL ACTIVATION OF THE ELT.

LOM (b) Read all of the instructions below before you do the subsequent steps.

LOM LOM LOM LOM LOM LOM

> **CAUTION** MAKE SURE THAT YOU DO THE ELT LIVE TRANSMISSION TEST IN THE FIRST FIVE MINUTES OF THE HOURS (UTC). COORDINATE WITH THE APPLICABLE LOCAL EMERGENCY AUTHORITY (AIR TRAFFIC CONTROL TOWER OR FLIGHT SERVICE STATION) FOR THE APPROVAL OF THIS TEST IF YOU DO THIS TEST OUTSIDE OF THE FIRST FIVE MINUTES OF THE HOURS (UTC).

ECCN 9E991 BOEING PROPRIETARY - See title page for details

LOM **(CAUTION PRECEDES)**

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CAUTION	DO NOT OPERATE THE ELT FOR MORE THAN 50 SECONDS. IF YOU OPERATE THE ELT CONTINUOUSLY FOR MORE THAN 50 SECONDS, IT WILL TRANSMIT A 406-MHZ EMERGENCY SIGNAL. THE SIGNAL TELLS EMERGENCY PERSONNEL TO DO A SEARCH FOR A MISSING AIRCRAFT. IF THE EMERGENCY SIGNAL OCCURS DURING THIS TEST, IMMEDIATELY TELL THE APPLICABLE EMERGENCY PERSONNEL.

LOM (c) Move the switch on the front panel of the ELT unit from the OFF position to the ON
LOM position for approximately 1 second, and then back to the OFF position.

LOM NOTE: The ELT self-test includes a 406 MHz test transmission. This test transmission
LOM does not cause a search operation.

LOM **LOM 402, 404, 406, 407, 420, 426, 429-432, 437, 438, 457, 465-999**

LOM 1) Make sure that the Light Emitting Diode (LED) on the ELT comes on for
LOM approximately one second pulse and then goes off after the switch is moved to OFF.

LOM NOTE: If the self-test detects a fault, the LED gives a coded signal after the initial
LOM one second pulse. The LED will flash in order of importance with
LOM approximately one-half second to one second pause between error codes.
LOM The coded signal and related problems are as follows:

LOM
- If the LED flashes one time, this indicates a G-switch loop open failure.

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- If the LED flashes three times or four times (depends on ELT part number), this indicates a transmitter problem (bad or unconnected coax, antenna problem, low power output or programming error).

LOM
LOM
- If the LED flashes five times, ignore this indication (this is not a fault because the ELT/NAV Interface unit is not installed).

LOM
- If the LED flashes seven times, this indicates a battery problem.

LOM **LOM 411, 416, 423, 424, 427, 428, 439, 441**

LOM 2) Make sure that the LED on the ELT comes on for approximately 1 second pulse and
LOM then goes off after the switch is moved to OFF.

LOM NOTE: If the self-test detects a fault, the LED gives a coded signal after the initial
LOM one second pulse. The LED will flash in order of importance with
LOM approximately one-half second to one second pause between error codes.
LOM The coded signal and related problems are as follows:

LOM
- If the LED flashes one time, this indicates a G-switch loop open failure.

LOM
LOM
LOM
- If the LED flashes three times or four times (depends on ELT part number), this indicates a transmitter problem (bad or unconnected coax, antenna problem, low power output or programming error).

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- If the LED flashes five times, this indicates a problem with the navigation system connection. When the ELT/NAV Interface unit (or Programming and Position Interface Unit (PPIU)) is installed but is not connected to the navigation system to provide current latitude/longitude position updates, this is not a fault. Refer to WDM 23-24-11 to determine the correct airplane configuration.

LOM
- If the LED flashes seven times, this indicates a battery problem.

LOM **LOM 402, 404, 406, 407, 411, 416, 420, 423, 424, 426-432, 437-439, 441, 457, 465-999**

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LOM 3) If there was a self-test failure, do this task: FIM 23-24 TASK 801.

LOM **G. Put the Airplanes Back to Its Usual Condition**

LOM SUBTASK 23-24-00-910-025-001

LOM (1) Tell the local emergency authority that the ELT test is completed, if applicable.

LOM SUBTASK 23-24-00-410-011-001

LOM (2) Install the ceiling panel that gets access to the ELT, do this task: Ceiling Panel - Installation,
LOM TASK 25-21-45-400-801 or Main Ceiling Panel - Installation, TASK 25-21-45-400-803-001.

LOM SUBTASK 23-24-00-860-034-001

LOM (3) If the ADIRU is not necessary, set the applicable mode select switch on the Inertial Reference
LOM System (IRS) Mode Select Unit (MSU) to the OFF position.

LOM **END OF TASK**

ECCN 9E991 BOEING PROPRIETARY - See title page for details

LOM

EMERGENCY LOCATOR TRANSMITTER - ADJUSTMENT/TEST

LOM

1. General

LOM A. This procedure contains scheduled maintenance task data.

LOM B. This procedure contains these tasks:

LOM (1) An operational test of the Emergency Locator Transmitter (ELT) system.

LOM (2) A system test of the ELT system.

LOM **TASK 23-24-00-710-802-002**

LOM

2. ELT System - Operational Test

LOM

A. General

LOM (1) This task provides a procedure to do an operational test of the Emergency Locator Transmitter (ELT) system from the ELT Remote Control Panel in the flight deck.

LOM

B. References

LOM

Reference	Title
23-12-00-730-801	VHF Communication System - System Test (P/B 501)
24-22-00-860-811	Supply Electrical Power (P/B 201)
24-22-00-860-812	Remove Electrical Power (P/B 201)

LOM

C. Location Zones

LOM

Zone	Area
211	Flight Compartment - Left
212	Flight Compartment - Right
241	Aft Passenger Compartment - Station 663.75 to Aft Pressure Bulkhead - Left
242	Aft Passenger Compartment - Station 663.75 to Aft Pressure Bulkhead - Right

LOM

D. Prepare Procedure

LOM **SUBTASK 23-24-00-860-005-002**

LOM (1) Supply electrical power to the airplane (TASK 24-22-00-860-811).

LOM **SUBTASK 23-24-00-860-006-002**

LOM (2) Set the No. 2 VHF communication system (VHF COMM 2) to a frequency of 121.5 MHz (TASK 23-12-00-730-801).

LOM NOTE: Any Very High Frequency (VHF) COMM System with a bottom mounted antenna can be used for this test. If the VHF antenna is on the top, it is possible to hear the ELT signal even though the ELT antenna has failed.

LOM **SUBTASK 23-24-00-910-011**

LOM (3) Make sure that you do the ELT test in the first five minutes of the hour (UTC).

LOM NOTE: Free Space Transmission Tests from the aircraft on 121.5/243 MHz are generally allowed any time within five minutes after each hour. Check your local regulations. THERE IS NO ALLOWANCE FOR TRANSMITTING A VALID 406 MHZ MESSAGE AT ANY TIME.

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LOM **LOM 422, 425, 433, 434, 440, 442, 446, 447, 451-456, 461-463**

LOM The ELT will begin transmitting on 121.5/243 MHz immediately following activation and 406 MHz distress signals approximately 50 seconds after activation. If the ELT is inadvertently kept in the ON position for longer than approximately 50 seconds, you will hear a brief interruption of the 121.5 MHz signal while the 406 MHz message is transmitted. If this occurs, then you must reset the ELT immediately and tell the local emergency authorities. This will prevent emergency search and rescue operations that are not necessary.

LOM **LOM 445**

LOM The ELT will begin transmitting on 121.5 MHz immediately following activation and 406 MHz distress signals approximately 50 seconds after activation. If the ELT is inadvertently kept in the ON position for longer than approximately 50 seconds, you will hear a brief interruption of the 121.5 MHz signal while the 406 MHz message is transmitted. If this occurs, then you must reset the ELT immediately and tell the local emergency authorities. This will prevent emergency search and rescue operations that are not necessary.

LOM **LOM 422, 425, 433, 434, 440, 442, 445-447, 451-456, 461-463**

LOM (a) If you do the ELT test outside of the first five minutes of the hour (UTC), do this step:

LOM **LOM 422, 425, 433, 434, 440, 442, 446, 447, 451-456, 461-463**

LOM 1) Speak with the local emergency authority (Air Traffic Control Tower or Flight Service Station) to let them know there will be an ELT Test Transmission on the Emergency Frequencies 121.5/243 MHz.

LOM **LOM 445**

LOM 2) Speak with the local emergency authority (Air Traffic Control Tower or Flight Service Station) to let them know there will be an ELT Test Transmission on the Emergency Frequencies 121.5 MHz.

LOM **LOM 422, 425, 433, 434, 440, 442, 445-447, 451-456, 461-463**

LOM **SUBTASK 23-24-00-910-026-002**

LOM **WARNING**

LOM MAKE SURE THAT YOU FOLLOW THE LOCAL ELT OPERATION REGULATIONS. IF YOU MAKE AN ACCIDENTAL TRANSMISSION, TELL THE AUTHORITIES. THIS WILL PREVENT EMERGENCY SEARCH OPERATIONS THAT ARE NOT NECESSARY.

LOM (4) Follow the local ELT operation requirements.

LOM **E. ELT Operational Test at the ELT Control Panel (Pilots' overhead panel, P5)**

LOM **SUBTASK 23-24-00-710-006-002**

LOM (1) Do these steps for the ELT test at the ELT Remote Control Panel in the flight compartment:

LOM NOTE: If the ELT is activated accidentally, you will need to reset it. To reset the ELT, move the switch on the ELT's Remote Control Panel to the ON position for approximately 1 second, and then move it back to the ARM position. If the switch is already in the ON position, move it to the ARM position.

ECCN 9E991 BOEING PROPRIETARY - See title page for details

LOM LOM LOM LOM LOM LOM

CAUTION

READ ALL THE STEPS THAT FOLLOW BEFORE YOU START THE ELT TEST PROCEDURE. YOU MUST BECOME FAMILIAR WITH THE INSTRUCTIONS. MAKE SURE THAT YOU USE A TIMING DEVICE TO MONITOR THE TIME DURING THE ELT TEST. YOU MUST COMPLETE THE ELT TEST PROCEDURE IN LESS THAN 50 SECONDS. THIS WILL HELP PREVENT ACCIDENTAL ACTIVATION OF THE ELT.

LOM (a) Read all of the instructions below before you do the subsequent steps.

LOM (b) Push and hold the ELT light switch on the ELT Remote Control Panel, P5.

LOM 1) Make sure that the ELT light comes ON.

LOM (c) Release the ELT light switch.

LOM 1) Make sure that the ELT light goes OFF.

LOM (d) Push and release the MASTER CAUTION reset button on the glareshield panel, P7.

LOM 1) Make sure that the MASTER CAUTION and OVERHEAD lights are OFF.

LOM LOM LOM LOM LOM LOM

CAUTION

MAKE SURE THAT YOU DO THE ELT LIVE TRANSMISSION TEST IN THE FIRST FIVE MINUTES OF THE HOURS (UTC). COORDINATE WITH THE APPLICABLE LOCAL EMERGENCY AUTHORITY (AIR TRAFFIC CONTROL TOWER OR FLIGHT SERVICE STATION) FOR THE APPROVAL OF THIS TEST IF YOU DO THIS TEST OUTSIDE OF THE FIRST FIVE MINUTES OF THE HOURS (UTC).

LOM LOM LOM LOM LOM LOM

CAUTION

DO NOT OPERATE THE ELT FOR MORE THAN 50 SECONDS. IF YOU OPERATE THE ELT CONTINUOUSLY FOR MORE THAN 50 SECONDS, IT WILL TRANSMIT A 406-MHZ EMERGENCY SIGNAL. THE SIGNAL TELLS EMERGENCY PERSONNEL TO DO A SEARCH FOR A MISSING AIRCRAFT. IF THE EMERGENCY SIGNAL OCCURS DURING THIS TEST, IMMEDIATELY TELL THE APPLICABLE EMERGENCY PERSONNEL.

LOM LOM (e) On the ELT Remote Control Panel at the pilot overhead panel, P5, OPEN the guard on the ELT ARM/ON switch.

LOM (f) Set the ELT ARM/ON switch to the ON position.

LOM **LOM 422, 425, 433, 434, 440, 442, 446, 447, 451-456, 461-463**

LOM 1) Make sure that you hear three sweeps of the ELT signal on the VHF COMM system.

LOM **LOM 445**

LOM 2) Make sure that you hear two sweeps of the ELT signal on the VHF COMM system.

LOM **LOM 422, 425, 433, 434, 440, 442, 445-447, 451-456, 461-463**

LOM 3) Make sure that the ELT light comes ON.

LOM LOM 4) Make sure that the MASTER CAUTION and OVERHEAD lights, on the glareshield panel P7, come ON.

LOM (g) Push and release the MASTER CAUTION reset switch on the glareshield panel P7.

LOM LOM NOTE: This step is only necessary when there are other active inputs to the Master Caution system.

LOM (h) Set the ELT ARM/ON switch to the ARM position.

LOM 1) Make sure that you do not hear the ELT signal on VHF COMM system.

ECCN 9E991 BOEING PROPRIETARY - See title page for details

LOM 2) Make sure that the ELT light goes OFF.

LOM 3) Make sure that the MASTER CAUTION and OVERHEAD lights, on the glareshield
LOM panel P7, are OFF.

LOM (i) CLOSE the guard on the ELT ARM/ON switch on the ELT Remote Control Panel.

LOM **F. Put the Airplanes Back to Its Usual Condition**

LOM SUBTASK 23-24-00-910-012

LOM (1) Tell the local emergency authority that the ELT test is completed (if applicable).

LOM SUBTASK 23-24-00-860-009-002

LOM (2) Remove the electrical power if it is not necessary for other tasks (TASK 24-22-00-860-812).

LOM **——— END OF TASK ———**

LOM **TASK 23-24-00-730-802-002**

LOM **3. ELT System - System Test**

LOM NOTE: This procedure is a scheduled maintenance task.

LOM **A. General**

LOM (1) This task provides a procedure to do a system test of the Emergency Locator Transmitter
LOM (ELT) system. The system test includes the ELT operational test at the ELT control panel in the
LOM flight deck and the ELT self-test at the ELT front panel.

LOM **B. References**

LOM	Reference	Title
LOM	23-24-00 P/B 201 Config 2	EMERGENCY LOCATOR TRANSMITTER - MAINTENANCE PRACTICES
LOM	24-22-00-860-812	Remove Electrical Power (P/B 201)
LOM	25-21-45-000-801	Ceiling Panel - Removal (P/B 401)
LOM	25-21-45-000-803-001	Main Ceiling Panel - Removal (P/B 401)
LOM	25-21-45-400-801	Ceiling Panel - Installation (P/B 401)
LOM	25-21-45-400-803-001	Main Ceiling Panel - Installation (P/B 401)

LOM **C. Location Zones**

LOM	Zone	Area
LOM	211	Flight Compartment - Left
LOM	212	Flight Compartment - Right
LOM	241	Aft Passenger Compartment - Station 663.75 to Aft Pressure Bulkhead - Left
LOM	242	Aft Passenger Compartment - Station 663.75 to Aft Pressure Bulkhead - Right

LOM **D. Prepare Procedure**

LOM SUBTASK 23-24-00-910-015-002

LOM (1) Make sure that you do the ELT test in the first five minutes of the hour (UTC).

LOM NOTE: Free Space Transmission Tests from the aircraft on 121.5/243 MHz are generally
LOM allowed any time within five minutes after each hour. Check your local regulations.
LOM THERE IS NO ALLOWANCE FOR TRANSMITTING A VALID 406 MHZ MESSAGE AT
LOM ANY TIME.

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LOM **LOM 422, 425, 433, 434, 440, 442, 446, 447, 451-456, 461-463**

LOM The ELT will begin transmitting on 121.5/243 MHz immediately following activation and 406 MHz distress signals approximately 50 seconds after activation. If the ELT is inadvertently kept in the ON position for longer than approximately 50 seconds, you will hear a brief interruption of the 121.5 MHz signal while the 406 MHz message is transmitted. If this occurs, then you must reset the ELT immediately and tell the local emergency authorities. This will prevent emergency search and rescue operations that are not necessary.

LOM **LOM 445**

LOM The ELT will begin transmitting on 121.5 MHz immediately following activation and 406 MHz distress signals approximately 50 seconds after activation. If the ELT is inadvertently kept in the ON position for longer than approximately 50 seconds, you will hear a brief interruption of the 121.5 MHz signal while the 406 MHz message is transmitted. If this occurs, then you must reset the ELT immediately and tell the local emergency authorities. This will prevent emergency search and rescue operations that are not necessary.

LOM **LOM 422, 425, 433, 434, 440, 442, 445-447, 451-456, 461-463**

LOM (a) If you do the ELT test outside of the first five minutes of the hour (UTC), do this step:

LOM **LOM 422, 425, 433, 434, 440, 442, 446, 447, 451-456, 461-463**

LOM 1) Speak with the local emergency authority (Air Traffic Control Tower or Flight Service Station) to let them know there will be an ELT Test Transmission on the Emergency Frequencies 121.5/243 MHz.

LOM **LOM 445**

LOM 2) Speak with the local emergency authority (Air Traffic Control Tower or Flight Service Station) to let them know there will be an ELT Test Transmission on the Emergency Frequency 121.5 MHz.

LOM **LOM 422, 425, 433, 434, 440, 442, 445-447, 451-456, 461-463**

LOM **SUBTASK 23-24-00-910-016-002**

LOM **WARNING**: MAKE SURE THAT YOU FOLLOW THE LOCAL ELT OPERATION REGULATIONS. IF YOU MAKE AN ACCIDENTAL TRANSMISSION, TELL THE AUTHORITIES. THIS WILL PREVENT EMERGENCY SEARCH OPERATIONS THAT ARE NOT NECESSARY.

LOM (2) Follow the local ELT operation requirements.

LOM **E. ELT Operational Test at the ELT Control Panel (Pilots' overhead panel, P5)**

LOM **SUBTASK 23-24-00-710-015-002**

LOM (1) Do this task: ELT System - Operational Test, TASK 23-24-00-710-802-002.

LOM **F. ELT Self-Test at the Front Panel of the ELT Unit**

LOM **SUBTASK 23-24-00-730-004-002**

LOM (1) Remove the ceiling panel to get access to the ELT (TASK 25-21-45-000-801 or TASK 25-21-45-000-803-001).

LOM NOTE: For the location of the ELT, refer to the ELT - Maintenance Practices procedure (PAGEBLOCK 23-24-00/201 Config 2).

LOM **SUBTASK 23-24-00-730-005-002**

LOM (2) Do the steps that follow to do the self-test at the ELT front panel:

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LOM LOM LOM LOM LOM LOM

CAUTION

READ ALL THE STEPS THAT FOLLOW BEFORE YOU START THE ELT TEST PROCEDURE. YOU MUST BECOME FAMILIAR WITH THE INSTRUCTIONS. MAKE SURE THAT YOU USE A TIMING DEVICE TO MONITOR THE TIME DURING THE ELT TEST. YOU MUST COMPLETE THE ELT TEST PROCEDURE IN LESS THAN 50 SECONDS. THIS WILL HELP PREVENT ACCIDENTAL ACTIVATION OF THE ELT.

LOM (a) Read all of the instructions below before you do the subsequent steps.

LOM LOM LOM LOM LOM LOM

CAUTION

MAKE SURE THAT YOU DO THE ELT LIVE TRANSMISSION TEST IN THE FIRST FIVE MINUTES OF THE HOURS (UTC). COORDINATE WITH THE APPLICABLE LOCAL EMERGENCY AUTHORITY (AIR TRAFFIC CONTROL TOWER OR FLIGHT SERVICE STATION) FOR THE APPROVAL OF THIS TEST IF YOU DO THIS TEST OUTSIDE OF THE FIRST FIVE MINUTES OF THE HOURS (UTC).

LOM LOM (b) Move the ELT switch on the front panel of the ELT from the ARM position to the OFF position.

LOM LOM (c) Move the ELT switch on the front panel of the ELT from the OFF position to the ARM position.

LOM **LOM 446, 447, 451, 452, 455, 456, 461-463**

LOM LOM 1) Make sure the Light Emitting Diode (LED) on the ELT comes ON and then goes OFF three times.

LOM LOM LOM NOTE: The first flash indicates ELT self-test pass. The second flash indicates a Transmitter Unit (TU) and Aircraft Identification Module (AIM) self-test pass. The third flash indicates a TU, AIM and a 24-bit switch panel self-test pass.

LOM **LOM 422, 425, 433, 434, 440, 442, 453, 454**

LOM 2) Make sure the LED on the ELT comes ON and then goes OFF two times.

LOM LOM NOTE: The first flash indicates ELT self-test pass. The second flash indicates a TU and AIM self-test pass.

LOM **LOM 445**

LOM 3) Make sure the LED on the ELT comes ON and then goes OFF five times.

LOM LOM LOM LOM LOM NOTE: The first and last LED flashes will be long, 1-2 seconds. The first flash indicates self-test started. The second flash indicates ELT battery self-test pass. The third flash indicates a TU circuits self-test pass. The fourth flash indicates an AIM self-test pass. The fifth flash indicates the self-test is completed.

LOM **LOM 422, 425, 433, 434, 440, 442, 445-447, 451-456, 461-463**

LOM NOTE: If the LED flashes one time, this indicates a G-switch loop open failure.

LOM **G. Put the Airplanes Back to Its Usual Condition**

LOM **SUBTASK 23-24-00-910-017-002**

LOM (1) Tell the local emergency authority that the ELT test is completed (if applicable).

LOM **SUBTASK 23-24-00-410-009-002**

LOM LOM (2) Install the ceiling panel that gets access to the ELT (TASK 25-21-45-400-801 or TASK 25-21-45-400-803-001).

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LOM SUBTASK 23-24-00-860-017-002

LOM (3) Remove the electrical power from the airplane, if it is not necessary for other tasks
LOM (TASK 24-22-00-860-812).

LOM

——— END OF TASK ———

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LOM **EMERGENCY LOCATOR TRANSMITTER - ADJUSTMENT/TEST**

LOM **1. General**

LOM A. This procedure contains scheduled maintenance task data.

LOM B. This procedure contains these tasks:

LOM (1) An operational test of the Emergency Locator Transmitter (ELT) system.

LOM (2) A system test of the ELT system.

LOM **TASK 23-24-00-710-803-003**

LOM **2. ELT System - Operational Test**

LOM **A. General**

LOM (1) This task provides a procedure to do an operational test of the Emergency Locator Transmitter
LOM (ELT) system from the ELT control panel in the flight deck.

LOM **B. References**

LOM

Reference	Title
23-12-00-730-801	VHF Communication System - System Test (P/B 501)

LOM **C. Location Zones**

LOM

Zone	Area
211	Flight Compartment - Left
212	Flight Compartment - Right
241	Aft Passenger Compartment - Station 663.75 to Aft Pressure Bulkhead - Left
242	Aft Passenger Compartment - Station 663.75 to Aft Pressure Bulkhead - Right

LOM **D. Prepare Procedure**

LOM **SUBTASK 23-24-00-860-011**

LOM (1) Set the No. 2 VHF communication system (VHF COMM 2) to a frequency of 121.5 MHz (VHF
LOM Communication System - System Test, TASK 23-12-00-730-801).

LOM NOTE: Any Very High Frequency (VHF) COMM System with a bottom mounted antenna can
LOM be used for this test. If the VHF antenna is on the top, it is possible to hear the ELT
LOM signal even though the ELT antenna has failed.

LOM **SUBTASK 23-24-00-860-012**

LOM (2) Prepare one of the Audio Control Panel (ACP) in the flight compartment to listen for No. 2 VHF
LOM communication system:

LOM (a) Push all audio monitor switches to OFF.

LOM (b) Push the volume control for the VHF-2 selector switch.

LOM 1) Make sure its light comes ON.

LOM (c) Turn the volume control for the VHF-2 selector switch clockwise to the middle position.

LOM (d) Push the SPKR volume control switch to ON.

LOM 1) Make sure its light comes ON.

LOM (e) Turn the SPKR volume control switch clockwise to the middle position.

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LOM SUBTASK 23-24-00-910-003

LOM (3) Make sure that you do the ELT test in the first five minutes of the hour (UTC).

LOM NOTE: Free Space Transmission Tests from the aircraft on 121.5/243 MHz are generally allowed any time within five minutes after each hour. Check your local regulations. THERE IS NO ALLOWANCE FOR TRANSMITTING A VALID 406 MHZ MESSAGE AT ANY TIME.

LOM The ELT will begin transmitting on 121.5/243 MHz immediately following activation and 406 MHz distress signals approximately 50 seconds after activation. If the ELT is inadvertently kept in the ON position for longer than approximately 50 seconds, you will hear a brief interruption of the 121.5 MHz signal while the 406 MHz message is transmitted. If this occurs, then you must reset the ELT immediately and tell the local emergency authorities. This will prevent emergency search and rescue operations that are not necessary.

LOM (a) If you do the ELT test outside of the first five minutes of the hour (UTC), do this step:

LOM 1) Speak with the local emergency authority (Air Traffic Control Tower or Flight Service Station) to let them know there will be an ELT Test Transmission on the Emergency Frequencies 121.5/243 MHz.

LOM SUBTASK 23-24-00-910-021-003

LOM **WARNING** MAKE SURE THAT YOU FOLLOW THE LOCAL ELT OPERATION REGULATIONS. IF YOU MAKE AN ACCIDENTAL TRANSMISSION, TELL THE AUTHORITIES. THIS WILL PREVENT EMERGENCY SEARCH OPERATIONS THAT ARE NOT NECESSARY.

LOM (4) Follow the local ELT operation requirements.

LOM **E. ELT Operational Test (at the ELT control panel)**

LOM SUBTASK 23-24-00-710-009

LOM **CAUTION** READ ALL THE STEPS THAT FOLLOW BEFORE YOU START THE ELT TEST PROCEDURE. YOU MUST BECOME FAMILIAR WITH THE INSTRUCTIONS. MAKE SURE THAT YOU USE A TIMING DEVICE TO MONITOR THE TIME DURING THE ELT TEST. YOU MUST COMPLETE THE ELT TEST PROCEDURE IN LESS THAN 50 SECONDS. THIS WILL HELP PREVENT ACCIDENTAL ACTIVATION OF THE ELT.

LOM (1) Read all the steps that follow before you continue to do the subsequent steps.

LOM (2) Do these steps for the ELT operational test on the ELT control panel:

LOM (a) Push and hold the ELT annunciator.

LOM 1) Make sure that the ELT annunciator comes ON.

LOM (b) Release the ELT annunciator.

LOM 1) Make sure that the ELT annunciator goes OFF.

LOM (c) Push and release the MASTER CAUTION Reset Button on the P7 glareshield.

LOM 1) Make sure that the MASTER CAUTION and OVERHEAD annunciators on the P7 glareshield are OFF.

LOM (d) Make sure that the ARMED/OFF/ON switch on the front panel of the ELT unit is in the ARMED position.

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LOM LOM LOM LOM LOM LOM

CAUTION

MAKE SURE THAT YOU DO THE ELT LIVE TRANSMISSION TEST IN THE FIRST FIVE MINUTES OF THE HOURS (UTC). COORDINATE WITH THE APPLICABLE LOCAL EMERGENCY AUTHORITY (AIR TRAFFIC CONTROL TOWER OR FLIGHT SERVICE STATION) FOR THE APPROVAL OF THIS TEST IF YOU DO THIS TEST OUTSIDE OF THE FIRST FIVE MINUTES OF THE HOURS (UTC).

LOM LOM LOM LOM LOM LOM

CAUTION

DO NOT OPERATE THE ELT FOR MORE THAN 50 SECONDS. IF YOU OPERATE THE ELT CONTINUOUSLY FOR MORE THAN 50 SECONDS, IT WILL TRANSMIT A 406-MHZ EMERGENCY SIGNAL. THE SIGNAL TELLS EMERGENCY PERSONNEL TO DO A SEARCH FOR A MISSING AIRCRAFT. IF THE EMERGENCY SIGNAL OCCURS DURING THIS TEST, IMMEDIATELY TELL THE APPLICABLE EMERGENCY PERSONNEL.

LOM LOM (e) On the ELT control panel at the pilot overhead panel, P5, open the guard on the RESET/ARMED/ON switch.

LOM LOM LOM LOM NOTE: It is necessary to reset the ELT if the ELT is activated accidentally. The ELT is in a self-test for 10 seconds and then the ELT control panel annunicates the test results for 10 seconds. After the self-test sequence is complete, the ELT must be reset within 30 seconds to prevent the ELT from activation.

LOM LOM LOM LOM LOM NOTE: To reset the ELT, push and hold the RESET/ARMED/ON switch on the ELT control panel to the RESET position until the ELT annunciator goes OFF, then release the RESET/ARMED/ON switch to the ARMED position. If the RESET/ARMED/ON switch is in the RESET position for more than 3 seconds, the ELT will re-activate.

LOM (f) Set the RESET/ARMED/ON switch to the ON position for less than 50 seconds.

LOM 1) Do a check of the ELT test sequence as follows:

LOM NOTE: All times are approximate.

LOM a) In 0-10 seconds:

LOM NOTE: The ELT is in a self-test sequence for 10 seconds.

LOM LOM <1> Make sure that the ELT annunciator flashes three times and then the Light Emitting Diode (LED) stays OFF for approximately six seconds.

LOM LOM <2> Make sure that the 121.5 MHz ELT test transmission can be heard on the VHF communication system.

LOM LOM NOTE: The duration transmission of 121.5 MHz during the self-test depends on the revision index that shows on the ELT:

LOM
- ELT with REV (H) and before is approximately five seconds.

LOM
- ELT with REV (J) and after is approximately one second.

LOM LOM <3> Make sure that the MASTER CAUTION and OVERHEAD annunciators on the P7 glareshield come ON.

LOM b) In 10-20 seconds:

LOM NOTE: The ELT control panel annunicates the test results for 10 seconds.

LOM LOM <1> Make sure that the ELT annunciator comes ON continuously for 10 seconds.

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LOM <a> If the ELT annunciator stays OFF or flashes for 10 seconds, record the flashing rates of the ELT annunciator.

NOTE: The flashing rate of the ELT annunciator shows the maintenance message of the fault as follows:

- 125 ms ON, 125 ms OFF (4 Hz) is an ELT Check Sum failure (software problem).
- 250 ms ON, 250 ms OFF (2 Hz) is an ELT power failure (Ultra High Frequency (UHF) and/or VHF).
- 500 ms ON, 500 ms OFF (1 Hz) is an external antenna connection failure or a signal identification missing failure.

c) In 20-50 seconds:

NOTE: After the self-test and annunciation are complete, the ELT must be reset within 30 seconds to prevent the ELT from activation.

<1> Push and hold the RESET/ARMED/ON switch to the RESET position until the ELT annunciator goes OFF, then release the RESET/ARMED/ON switch to the ARMED position.

NOTE: If the RESET/ARMED/ON switch is in the RESET position for more than 3 seconds, the ELT will re-activate.

<a> Make sure that the ELT annunciator on the ELT control panel goes OFF.

<b> Make sure that the ELT test signal is not heard on the VHF communication system.

<c> Make sure that the RESET/ARMED/ON switch is in the ARMED position.

<2> Close the guard on the RESET/ARMED/ON switch.

<3> Push and release the MASTER CAUTION annunciator on the P7 glareshield.

<a> Make sure that the MASTER CAUTION and OVERHEAD annunciators on the P7 glareshield are OFF.

F. Put the Airplane Back to Its Usual Condition

SUBTASK 23-24-00-910-002

(1) If applicable, tell the local emergency authority that the ELT test is completed.

——— END OF TASK ———

TASK 23-24-00-730-803-003

3. ELT System - System Test

NOTE: This procedure is a scheduled maintenance task.

A. General

(1) This task provides a procedure to do a system test of the Emergency Locator Transmitter (ELT) system. The system test includes the ELT operational test at the ELT control panel in the flight deck and the ELT self-test at the ELT front panel.

ECCN 9E991 BOEING PROPRIETARY - See title page for details

LOM **B. References**

Reference	Title
23-24-00 P/B 201 Config 3	EMERGENCY LOCATOR TRANSMITTER - MAINTENANCE PRACTICES
25-21-45-000-803-001	Main Ceiling Panel - Removal (P/B 401)
25-21-45-400-803-001	Main Ceiling Panel - Installation (P/B 401)

LOM **C. Location Zones**

Zone	Area
211	Flight Compartment - Left
212	Flight Compartment - Right
241	Aft Passenger Compartment - Station 663.75 to Aft Pressure Bulkhead - Left
242	Aft Passenger Compartment - Station 663.75 to Aft Pressure Bulkhead - Right

LOM **D. Prepare Procedure**

LOM SUBTASK 23-24-00-910-018-003

LOM (1) Make sure that you do the ELT test in the first five minutes of the hour (UTC).

LOM NOTE: Free Space Transmission Tests from the aircraft on 121.5/243 MHz are generally allowed any time within five minutes after each hour. Check your local regulations. THERE IS NO ALLOWANCE FOR TRANSMITTING A VALID 406 MHZ MESSAGE AT ANY TIME.

LOM The ELT will begin transmitting on 121.5/243 MHz immediately following activation and 406 MHz distress signals approximately 50 seconds after activation. If the ELT is inadvertently kept in the ON position for longer than approximately 50 seconds, you will hear a brief interruption of the 121.5 MHz signal while the 406 MHz message is transmitted. If this occurs, then you must reset the ELTimmediately and tell the local emergency authorities. This will prevent emergency search and rescue operations that are not necessary.

LOM (a) If you do the ELT test outside of the first five minutes of the hour (UTC), do this step:

LOM 1) Speak with the applicable local emergency authority (Air Traffic Control Tower or Flight Service Station) to let them know there will be an ELT Test Transmission on the Emergency Frequencies 121.5/243 MHz.

LOM SUBTASK 23-24-00-910-019-003

LOM **WARNING** MAKE SURE THAT YOU FOLLOW THE LOCAL ELT OPERATION REGULATIONS. IF YOU MAKE AN ACCIDENTAL TRANSMISSION, TELL THE AUTHORITIES. THIS WILL PREVENT EMERGENCY SEARCH OPERATIONS THAT ARE NOT NECESSARY.

LOM (2) Follow the local ELT operation requirements.

LOM **E. ELT Operational Test at the ELT Control Panel (Pilots overhead panel, P5)**

LOM SUBTASK 23-24-00-710-016-003

LOM (1) Do this task: ELT System - Operational Test, TASK 23-24-00-710-803-003.

LOM **F. ELT Self-Test at the Front Panel of the ELT Unit**

LOM SUBTASK 23-24-00-010-008-003

LOM (1) Remove the ceiling panel to get access to the ELT (TASK 25-21-45-000-803-001).

LOM NOTE: For the location of the ELT, refer to the ELT - Maintenance Practices procedure (PAGEBLOCK 23-24-00/201 Config 3).

ECCN 9E991 BOEING PROPRIETARY - See title page for details

LOM SUBTASK 23-24-00-730-006-003

LOM (2) Do these steps to do the self-test at the ELT front panel:

LOM NOTE: The self-test includes a 406 MHz test transmission. This test transmission does not
LOM cause a search operation.

LOM **CAUTION**
LOM READ ALL THE STEPS THAT FOLLOW BEFORE YOU START THE ELT
LOM TEST PROCEDURE. YOU MUST BECOME FAMILIAR WITH THE
LOM INSTRUCTIONS. MAKE SURE THAT YOU USE A TIMING DEVICE TO
LOM MONITOR THE TIME DURING THE ELT TEST. YOU MUST COMPLETE
LOM THE ELT TEST PROCEDURE IN LESS THAN 50 SECONDS. THIS WILL
LOM HELP PREVENT ACCIDENTAL ACTIVATION OF THE ELT.

LOM (a) Read all of the instructions below before you do the next step.

LOM **CAUTION**
LOM MAKE SURE THAT YOU DO THE ELT LIVE TRANSMISSION TEST IN THE
LOM FIRST FIVE MINUTES OF THE HOURS (UTC). COORDINATE WITH THE
LOM APPLICABLE LOCAL EMERGENCY AUTHORITY (AIR TRAFFIC
LOM CONTROL TOWER OR FLIGHT SERVICE STATION) FOR THE
LOM APPROVAL OF THIS TEST IF YOU DO THIS TEST OUTSIDE OF THE
LOM FIRST FIVE MINUTES OF THE HOURS (UTC).

LOM **CAUTION**
LOM IF THE EMERGENCY SIGNAL OCCURS DURING THIS TEST,
LOM IMMEDIATELY TELL THE APPLICABLE EMERGENCY PERSONNEL. THE
LOM SIGNAL TELLS EMERGENCY PERSONNEL TO DO A SEARCH FOR A
LOM MISSING AIRCRAFT.

LOM **CAUTION**
LOM DO NOT SET THE ELT ARMED/OFF/ON SWITCH TO THE ON POSITION
LOM FOR MORE THAN 50 SECONDS. BEFORE 50 SECONDS OCCURS, SET
LOM THE ELT ARMED/OFF/ON SWITCH TO THE ARMED POSITION TO SET
LOM THE TIME TO ZERO. IF THE ARMED/OFF/ON SWITCH STAYS ON FOR
LOM MORE THAN 50 SECONDS, EMERGENCY PERSONNEL WILL GET A
LOM SIGNAL. THIS WILL CAUSE THEM TO DO AN EMERGENCY SEARCH
LOM OPERATION.

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LOM **(CAUTION PRECEDES)**

LOM LOM LOM

> **CAUTION**
> PULL THE SWITCH BEFORE YOU MOVE IT TO A DIFFERENT POSITION. IF YOU MOVE THE SWITCH BEFORE YOU PULL IT, YOU WILL CAUSE DAMAGE TO THE SWITCH.

LOM LOM (b) Pull and move the ARMED/OFF/ON switch on the front panel of the ELT unit to the ON position.

LOM LOM LOM LOM NOTE: The lever lock toggle switch on the ELT front panel is locked into the position in which it is placed. Pull out on the toggle to allow movement before attempting to move switch to another position. The toggle will lock into the new position when released.

LOM LOM LOM LOM NOTE: It is necessary to reset the ELT if the ELT is activated accidentally. The ELT is in a self-test for 10 seconds and then annunicates the test results for 10 seconds. After the self-test sequence is complete, the ELT must be reset within 30 seconds to prevent the ELT from activation.

LOM LOM LOM NOTE: To reset the ELT, set the ARMED/OFF/ON switch on the front panel of the ELT unit to the OFF position. Then set the ARMED/OFF/ON switch to the ARMED position.

LOM LOM 1) Make sure that the red TX light flashes twice and then after approximately 3 seconds the red TX light turns ON and stays ON for approximately 6 seconds.

LOM LOM 2) Make sure that the ELT buzzer sounds for approximately 6 seconds during the TX light indication.

LOM LOM 3) After the 6 seconds, make sure that the red TX light flashes and then stays ON steady for 10 seconds.

LOM LOM a) If the Light Emitting Diode (LED) flashes one time, this indicates a G-switch loop open failure.

LOM LOM b) If the red TX light stays OFF or flashes for 10 seconds, this shows that the Built-In-Test Equipment (BITE) test did not pass.

LOM LOM NOTE: The flashing rate of the TX light shows the maintenance message of the fault as follows:

LOM LOM
- 125 ms ON, 125 ms OFF (4 Hz) is an ELT Check Sum failure (software problem).

LOM LOM
- 250 ms ON, 250 ms OFF (2 Hz) is an ELT power failure (Ultra High Frequency (UHF) and/or Very High Frequency (VHF)).

LOM LOM
- 500 ms ON, 500 ms OFF (1 Hz) is an external antenna connection failure or a signal identification missing failure.

LOM LOM 4) When the 10 second test is complete, the red TX light will change from steady ON to flashing slowly for 30 seconds (1.75 s ON, 0.25 s OFF) (0.5 Hz).

LOM LOM (c) When the red TX light flashes slowly, pull and move the ARMED/OFF/ON switch to the OFF position within 30 seconds.

LOM LOM (d) Wait until all sounds and indications stop, then pull and move the ARMED/OFF/ON switch to the ARMED position.

LOM **G. Put the Airplane Back to Its Usual Condition**

LOM **SUBTASK 23-24-00-910-020-003**

LOM (1) If applicable, tell the local emergency authority that the ELT test is completed.

ECCN 9E991 BOEING PROPRIETARY - See title page for details

LOM SUBTASK 23-24-00-410-010-003

LOM (2) Install the ceiling panel that get access to the ELT. (TASK 25-21-45-400-803-001).

LOM

——— END OF TASK ———

ECCN 9E991 BOEING PROPRIETARY - See title page for details

LOM **EMERGENCY LOCATOR TRANSMITTER ANTENNA - REMOVAL/INSTALLATION**

LOM **1. General**

LOM A. This procedure has these tasks:

LOM (1) A removal of the ELT antenna

LOM (2) An installation of the ELT antenna.

LOM **TASK 23-24-01-000-802**

LOM **2. ELT Antenna - Removal**

LOM (Figure 401)

LOM **A. References**

LOM

Reference	Title
20-40-12-400-804	Conductive Dust Cap and Connector Cover Installation (P/B 201)

LOM **B. Tools/Equipment**

LOM NOTE: When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

LOM

Reference	Description
COM-2481	Sealant Removal Tool (Meets BSS7384 Requirements) Part #: 1-6390-A Supplier: 63318 Part #: 10810 Supplier: $0855 Part #: 10811 Supplier: $0855 Part #: 10812 Supplier: $0855 Part #: 234350 Supplier: 5HCF1 Part #: 235072 Supplier: 5HCF1 Part #: 235073 Supplier: 5HCF1 Part #: 235074 Supplier: 5HCF1 Part #: 235075 Supplier: 5HCF1 Part #: 235076 Supplier: 5HCF1 Part #: 311/03 Supplier: F6892 Part #: 311/14 Supplier: F6892 Part #: 311/25 Supplier: F6892 Part #: 311/37 Supplier: F6892 Part #: AS1 Supplier: $1351 Part #: AS2 Supplier: $1351 Part #: AS3 Supplier: $1351 Part #: DAD5013 Supplier: 7RKH2 Part #: DFD5019 Supplier: 7RKH2 Part #: JNT411B60 Supplier: 3DN12 Part #: JNT411B90 Supplier: 3DN12 Part #: PT6529-S Supplier: 81205 Part #: SCD5019 Supplier: 7RKH2 Part #: ST982LF-9 Supplier: 81205 Part #: TS1275-4 Supplier: 22975

LOM **C. Location Zones**

LOM

Zone	Area
241	Aft Passenger Compartment - Station 663.75 to Aft Pressure Bulkhead - Left
242	Aft Passenger Compartment - Station 663.75 to Aft Pressure Bulkhead - Right

ECCN 9E991 BOEING PROPRIETARY - See title page for details

LOM **D. Removal Procedure**

LOM **SUBTASK 23-24-01-020-001**

LOM (1) Do these steps to remove the ELT ELT antenna [1]:

LOM (a) Remove the six bolts [2] that attach the ELT antenna [1] to the airplane.

LOM **CAUTION** BE CAREFUL WHEN YOU REMOVE THE FILLET SEAL WITH THE SEALANT REMOVAL TOOL. DAMAGE TO THE AIRPLANE SKIN CAN OCCUR.

LOM (b) While you hold the ELT antenna [1], use a sealant removal tool, COM-2481 to break the fillet seal around the base of the antenna.

LOM **LOM 402, 404, 406, 407, 411, 416, 420, 423, 424, 426-432, 437-439, 441, 457, 465-999**

LOM **CAUTION** DO NOT PULL ON THE COAXIAL CABLE. CAREFULLY MOVE THE ANTENNA. DISCONNECT THE COAXIAL CONNECTOR. THIS WILL PREVENT DAMAGE TO THE COAXIAL CABLE.

LOM (c) Move the ELT antenna [1] away from the airplane to get access to the coaxial connectors [3] on the coaxial cables.

LOM **LOM 422, 425, 433, 434, 440, 442-447, 450-456, 458-464**

LOM **CAUTION** DO NOT PULL ON THE COAXIAL CABLE. CAREFULLY MOVE THE ANTENNA. DISCONNECT THE COAXIAL CONNECTOR. THIS WILL PREVENT DAMAGE TO THE COAXIAL CABLE.

LOM (d) Move the ELT antenna [1] away from the airplane to get access to the coaxial connector [3] on the coaxial cable.

LOM **LOM 402, 404, 406, 407, 411, 416, 420, 423, 424, 426-432, 437-439, 441, 457, 465-999**

LOM (e) Disconnect the coaxial connectors [3] from the ELT antenna [1] and remove the ELT antenna [1].

LOM 1) Make sure that coaxial connectors [3] do not fall down through the opening.

LOM (f) Install protective covers on the coaxial connectors [3] (Conductive Dust Cap and Connector Cover Installation, TASK 20-40-12-400-804).

LOM **LOM 422, 425, 433, 434, 440, 442-447, 450-456, 458-464**

LOM (g) Disconnect the coaxial connector [3] from the ELT antenna [1] and remove the ELT antenna [1].

LOM 1) Make sure that coaxial connector [3] does not fall down through the opening.

LOM (h) Install protective covers on the coaxial connector [3] (Conductive Dust Cap and Connector Cover Installation, TASK 20-40-12-400-804).

LOM **LOM 402, 404, 406, 407, 411, 416, 420, 422-434, 437-447, 450-999**

LOM **——— END OF TASK ———**

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LOM
LOM

Emergency Locator Transmitter (ELT) Antenna Installation
Figure 401/23-24-01-990-801 (Sheet 1 of 2)

ECCN 9E991 BOEING PROPRIETARY - See title page for details

ELT ANTENNA

A

1305988 S0000216748_V2

LOM
LOM

Emergency Locator Transmitter (ELT) Antenna Installation
Figure 401/23-24-01-990-801 (Sheet 2 of 2)

EFFECTIVITY
LOM 422, 425, 433, 434, 440, 442-447, 450-456, 458-464

ECCN 9E991 BOEING PROPRIETARY - See title page for details

LOM **TASK 23-24-01-400-802**

LOM **3. ELT Antenna - Installation**

LOM (Figure 401)

LOM **A. References**

Reference	Title
20-30-11-910-801	Adhesives, Cements, and Sealants (P/B 201)
20-40-12-000-804	Conductive Dust Cap and Connector Cover Removal (P/B 201)
23-24-00-710-801-001	ELT System - Operational Test (P/B 501)
23-24-00-710-802-002	ELT System - Operational Test (P/B 501)
23-24-00-710-803-003	ELT System - Operational Test (P/B 501)
51-21-31-350-801	Removal and Control of Corrosion for Aluminum and Aluminum Alloys (P/B 701)
51-21-41-370-802	Bonderite M-CR 600 Aero, Bonderite M-CR Alcrm 1200 Aero or Bonderite M-CR 1200S Aero Application Process (P/B 701)
51-31-00-390-804	Fillet Seal Application (P/B 201)
SL 20-043	Deferred Application of Aero-Sealant in Antenna Installations

LOM **B. Tools/Equipment**

NOTE: When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

Reference	Description
COM-1550	Bonding Meter - Approved, Intrinsically Safe (Approved for use in Class I, Divisions I & II hazardous (classified) locations. Outside these hazardous locations, COM-614 can be used in lieu of COM-1550). Part #: 620LK Supplier: 1CRL2 Part #: M1 Supplier: 3AD17 Part #: M1B Supplier: 3AD17 Part #: T477W (C15292) Supplier: 06659

ECCN 9E991 BOEING PROPRIETARY - See title page for details

(Continued)

Reference	Description
COM-2481	Sealant Removal Tool (Meets BSS7384 Requirements)
	Part #: 1-6390-A Supplier: 63318
	Part #: 10810 Supplier: $0855
	Part #: 10811 Supplier: $0855
	Part #: 10812 Supplier: $0855
	Part #: 234350 Supplier: 5HCF1
	Part #: 235072 Supplier: 5HCF1
	Part #: 235073 Supplier: 5HCF1
	Part #: 235074 Supplier: 5HCF1
	Part #: 235075 Supplier: 5HCF1
	Part #: 235076 Supplier: 5HCF1
	Part #: 311/03 Supplier: F6892
	Part #: 311/14 Supplier: F6892
	Part #: 311/25 Supplier: F6892
	Part #: 311/37 Supplier: F6892
	Part #: AS1 Supplier: $1351
	Part #: AS2 Supplier: $1351
	Part #: AS3 Supplier: $1351
	Part #: DAD5013 Supplier: 7RKH2
	Part #: DFD5019 Supplier: 7RKH2
	Part #: JNT411B60 Supplier: 3DN12
	Part #: JNT411B90 Supplier: 3DN12
	Part #: PT6529-S Supplier: 81205
	Part #: SCD5019 Supplier: 7RKH2
	Part #: ST982LF-9 Supplier: 81205
	Part #: TS1275-4 Supplier: 22975

C. Consumable Materials

Reference	Description	Specification
A00247	Sealant - Pressure And Environmental - Chromate Type	BMS5-95
B00148	Solvent - Methyl Ethyl Ketone (MEK)	ASTM D740
B00184	Solvent - Presealing, Cleaning Solvent	BMS11-7
B00666	Solvent - Methyl Propyl Ketone	BMS11-9
B01026	Solvent - FCC-55	
B01054	Solvent - Methyl Ethyl Ketone and sec-Butyl Alcohol Blend - (MEK:secButyl Alcohol - 42:58 Percent)	BAC5750, ASTM D740/ASTM D1007
C50005	Coating - Chemical Conversion - Bonderite M-CR 1200S Aero (Formerly Alodine 1200S)	BAC5719 Class A, C or D, MIL-DTL-81706 Type I Class 1A or 3
G00009	Compound - Organic Corrosion Inhibiting	BMS3-23
G00034	Cotton Wiper - Process Cleaning Absorbent Wiper (Cheesecloth, Gauze)	AMS3819 Class 1 Grade A or B Form 1 (Supersede BMS15-5 CL A)

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LOM **D. Expendables/Parts**

AMM Item	Description	AIPC Reference	AIPC Effectivity
1	ELT antenna	23-24-02-04-010	LOM 402, 404, 406, 407, 411, 416, 420, 423, 424, 426-432, 437-439, 441, 465-999
		23-24-02-04-012	LOM 457
		23-24-02-06-010	LOM 422, 425, 433, 434, 440, 442-447, 450-456, 458-464

LOM **E. Location Zones**

Zone	Area
241	Aft Passenger Compartment - Station 663.75 to Aft Pressure Bulkhead - Left
242	Aft Passenger Compartment - Station 663.75 to Aft Pressure Bulkhead - Right

LOM **F. ELT Antenna Installation**

LOM SUBTASK 23-24-01-100-001

LOM (1) Clean the airplane mating surface.

LOM (a) Remove sealant with a sealant removal tool, COM-2481.

LOM **WARNING** DO NOT GET SOLVENTS IN YOUR MOUTH OR EYES, OR ON YOUR SKIN. DO NOT BREATHE THE FUMES FROM SOLVENTS. PUT ON A RESPIRATOR, PROTECTIVE SPLASH GOGGLES, AND GLOVES WHEN YOU USE SOLVENTS. KEEP THE SOLVENTS AWAY FROM SPARKS, FLAME, AND HEAT. SOLVENTS ARE POISONOUS AND FLAMMABLE. SOLVENTS CAN CAUSE INJURIES TO PERSONNEL, AND DAMAGE TO EQUIPMENT.

LOM (b) Clean the airplane mating surface with a cotton wiper, G00034, that is moist with one of the solvents that follow:

LOM 1) solvent, B00148

LOM 2) solvent, B00666

LOM 3) solvent, B00184

LOM 4) FCC-55 solvent, B01026

LOM 5) solvent, B01054.

LOM (c) Use a clean cotton wiper, G00034, and clean the airplane mating surface again.

LOM (d) Do these two steps above until the airplane mating surface is clean and dry.

LOM SUBTASK 23-24-01-100-002

LOM (2) If the mating surface has corrosion or other damage, or if the airplane mating surface has no chemical conversion coating, do these steps to prepare the airplane mating surface:

LOM NOTE: An alternative installation procedure is to apply corrosion inhibiting compound, G00009, on an airplane mating surface that has no chemical conversion coating.

LOM (a) If there is corrosion, do this task: Removal and Control of Corrosion for Aluminum and Aluminum Alloys, TASK 51-21-31-350-801.

ECCN 9E991 BOEING PROPRIETARY - See title page for details

LOM (b) Apply a layer of Bonderite M-CR 1200S Aero coating, C50005, to the airplane mating surface (TASK 51-21-41-370-802).

NOTE: Alternative chemical conversion coatings specified in TASK 51-21-41-370-802 may also be used.

SUBTASK 23-24-01-420-001

(3) Do these steps to install the ELT ELT antenna [1]:

LOM 402, 404, 406, 407, 411, 416, 420, 423, 424, 426-432, 437-439, 441, 457, 465-999

(a) Remove the protective cover from the coaxial connectors [3] (TASK 20-40-12-000-804).

(b) Examine the coaxial connectors [3] for dirt and damage.

LOM 422, 425, 433, 434, 440, 442-447, 450-456, 458-464

(c) Remove the protective cover from the coaxial connector [3] (TASK 20-40-12-000-804).

(d) Examine the coaxial connector [3] for dirt and damage.

LOM 402, 404, 406, 407, 411, 416, 420, 423, 424, 426-432, 437-439, 441, 457, 465-999

(e) Connect the coaxial connectors [3] to the ELT antenna [1].

LOM 422, 425, 433, 434, 440, 442-447, 450-456, 458-464

(f) Connect the coaxial connector [3] to the ELT antenna [1].

LOM 402, 404, 406, 407, 411, 416, 420, 422-434, 437-447, 450-999

(g) Apply a layer of sealant, A00247, to the shank and threads of 5 of the 6 bolts [2].

(h) Put the ELT ELT antenna [1] in its position and install the 5 bolts [2].

NOTE: Leave one of the 6 bolts [2] out to do an electrical bond check.

(i) Use intrinsically safe approved bonding meter, COM-1550, to measure the resistance between the antenna base and the airplane skin.

NOTE: Use the empty bolt hole to get access to the ELT antenna [1] base.

1) Make sure that the resistance is less than or equal to 0.005 ohm (5 milliohm).

(j) Apply a layer of sealant, A00247, to the shank and threads of the last bolt [2].

(k) Install the last bolt [2].

G. ELT antenna Sealing

SUBTASK 23-24-01-390-001

(1) Apply sealant, A00247, around the base of the ELT antenna [1] to make a corrosion fillet seal (TASK 51-31-00-390-804 and TASK 20-30-11-910-801).

NOTE: Operators can defer the application of the aero-sealant in the antenna installation to avoid a flight delay (SL 20-043).

(a) Let sealant, A00247, dry for the correct cure time.

H. ELT Antenna Installation Test

SUBTASK 23-24-01-710-001

(1) Do this task: ELT System - Operational Test, TASK 23-24-00-710-801-001 or ELT System - Operational Test, TASK 23-24-00-710-802-002 or ELT System - Operational Test, TASK 23-24-00-710-803-003.

END OF TASK

ECCN 9E991 BOEING PROPRIETARY - See title page for details

LOM **EMERGENCY LOCATOR TRANSMITTER CONTROL PANEL - REMOVAL/INSTALLATION**

LOM **1. General**

LOM A. This procedure has these tasks:

LOM (1) A removal of the emergency locator transmitter (ELT) control panel.

LOM (2) An installation of the ELT control panel.

LOM B. The ELT control panel is installed on the forward overhead panel, P5, in the flight compartment.

LOM **TASK 23-24-02-000-801**

LOM **2. Emergency Locator Transmitter (ELT) Control Panel Removal**

LOM (Figure 401)

LOM **A. References**

LOM

Reference	Title
20-40-12-000-802	ESDS Handling for Metal Encased Unit Removal (P/B 201)
20-40-12-400-804	Conductive Dust Cap and Connector Cover Installation (P/B 201)
23-24-00-000-801-001	Emergency Locator Transmitter Removal (P/B 201)
23-24-00-000-802-002	Emergency Locator Transmitter - Removal (P/B 201)
23-24-00-000-804-001	Emergency Locator Transmitter Removal (P/B 201)

LOM **B. Expendables/Parts**

LOM

AMM Item	Description	AIPC Reference	AIPC Effectivity
1	ELT Control Panel	23-24-00-03-015	LOM 450
		31-11-95-05A-130	LOM 432, 437-439, 441, 451, 452, 465
		31-11-95-05B-125	LOM 444, 458-460, 464
		31-11-95-05C-125	LOM 433, 434, 440, 442, 453, 454, 461-463
		31-11-95-05E-125	LOM 429-431, 445, 457
		31-11-95-05G-125	LOM 427, 428
		31-11-95-05K-125	LOM 446, 447, 455, 456
		31-11-95-07B-225	LOM 423, 424
		31-11-95-07N-230	LOM 420
		31-11-95-07P-225	LOM 407
		31-11-95-08E-125	LOM 411, 426
		31-11-95-13L-125	LOM 450
		31-11-95-13V-130	LOM 466-999
		31-11-95-14-105	LOM 402, 404, 406, 416
		31-11-95-23-125	LOM 422, 425

LOM **C. Location Zones**

LOM

Zone	Area
211	Flight Compartment - Left
212	Flight Compartment - Right

ECCN 9E991 BOEING PROPRIETARY - See title page for details

LOM **D. Removal of the Emergency Locator Transmitter (ELT) Control Panel**

LOM SUBTASK 23-24-02-860-001

LOM (1) Open these circuit breakers and install safety tags:

LOM **F/O Electrical System Panel, P6-3**

LOM

Row	Col	Number	Name
C	14	C01278	MASTER CAUTION ANNUNCIATOR CONT 4
F	14	C01180	INDICATOR MASTER DIM SECT 8

LOM SUBTASK 23-24-02-940-001

LOM (2) Get access to the Emergency Locator Transmitter (ELT) (TASK 23-24-00-000-801-001 or TASK 23-24-00-000-802-002 or TASK 23-24-00-000-804-001).

LOM SUBTASK 23-24-02-020-001

LOM (3) On the ELT front panel, do the steps that follow:

LOM NOTE: These steps will prevent accidental activation of the ELT when the ELT control panel is removed.

LOM **LOM 402, 404, 406, 407, 411, 416, 420, 423, 424, 426-432, 437-439, 441, 457, 465-999**

LOM NOTE: If the ELT is accidentally started, you can reset by moving the toggle switch on the front of the ELT to the ON position for approximately one second and then back to the OFF position.

LOM **LOM 422, 425, 433, 434, 440, 442, 445-447, 451-456, 461-463**

LOM NOTE: If the ELT is accidentally started, you can reset by moving the toggle switch on the front of the ELT to the ARM position, to OFF and back to the ARM position.

LOM **LOM 443, 444, 450, 458-460, 464**

LOM NOTE: If the ELT is accidentally started, you can reset by moving the ARMED/OFF/ON toggle switch to OFF.

LOM **LOM 402, 404, 406, 407, 411, 416, 420, 422-434, 437-447, 450-999**

LOM (a) Set the toggle switch to the OFF position.

LOM (b) Disconnect the electrical connector.

LOM SUBTASK 23-24-02-020-002

LOM **CAUTION**

LOM DO NOT TOUCH THE CONNECTOR PINS OR OTHER CONDUCTORS ON THE ELT CONTROL PANEL. IF YOU TOUCH THESE CONDUCTORS, ELECTROSTATIC DISCHARGE CAN CAUSE DAMAGE TO THE ELT CONTROL PANEL.

LOM (4) Before you touch the ELT Control Panel [1], do this task: ESDS Handling for Metal Encased Unit Removal, TASK 20-40-12-000-802.

LOM SUBTASK 23-24-02-020-003

LOM (5) Do these steps to remove the ELT Control Panel [1]:

LOM (a) Loosen the four Quarter turn fasteners [2].

LOM (b) Remove the ELT Control Panel [1] from the P5 overhead panel to get access to the Electrical Connector [3].

LOM (c) Disconnect the Electrical Connector [3] from the rear of the ELT Control Panel [1].

ECCN 9E991 BOEING PROPRIETARY - See title page for details

LOM (d) To install a protective cover on the Electrical Connector [3], do this task: Conductive Dust
LOM Cap and Connector Cover Installation, TASK 20-40-12-400-804.

LOM **END OF TASK**

ECCN 9E991 BOEING PROPRIETARY - See title page for details

FLIGHT COMPARTMENT

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LOM
LOM

Emergency Locator Transmitter (ELT) Control Panel Installation
Figure 401/23-24-02-990-801

ECCN 9E991 BOEING PROPRIETARY - See title page for details

LOM **TASK 23-24-02-400-801**

LOM **3. Emergency Locator Transmitter (ELT) Control Panel Installation**

LOM (Figure 401)

LOM **A. References**

LOM

Reference	Title
20-40-12-000-804	Conductive Dust Cap and Connector Cover Removal (P/B 201)
20-40-12-400-802	ESDS Handling for Metal Encased Unit Installation (P/B 201)
23-24-00-000-801-001	Emergency Locator Transmitter Removal (P/B 201)
23-24-00-000-802-002	Emergency Locator Transmitter - Removal (P/B 201)
23-24-00-000-804-001	Emergency Locator Transmitter Removal (P/B 201)
23-24-00-710-801-001	ELT System - Operational Test (P/B 501)
23-24-00-710-802-002	ELT System - Operational Test (P/B 501)
23-24-00-710-803-003	ELT System - Operational Test (P/B 501)

LOM **B. Expendables/Parts**

LOM

AMM Item	Description	AIPC Reference	AIPC Effectivity
1	ELT Control Panel	23-24-00-03-015	LOM 450
		31-11-95-05A-130	LOM 432, 437-439, 441, 451, 452, 465
		31-11-95-05B-125	LOM 444, 458-460, 464
		31-11-95-05C-125	LOM 433, 434, 440, 442, 453, 454, 461-463
		31-11-95-05E-125	LOM 429-431, 445, 457
		31-11-95-05G-125	LOM 427, 428
		31-11-95-05K-125	LOM 446, 447, 455, 456
		31-11-95-07B-225	LOM 423, 424
		31-11-95-07N-230	LOM 420
		31-11-95-07P-225	LOM 407
		31-11-95-08E-125	LOM 411, 426
		31-11-95-13L-125	LOM 450
		31-11-95-13V-130	LOM 466-999
		31-11-95-14-105	LOM 402, 404, 406, 416
		31-11-95-23-125	LOM 422, 425

LOM **C. Location Zones**

LOM

Zone	Area
211	Flight Compartment - Left
212	Flight Compartment - Right

LOM **D. Installation of the Emergency Locator Transmitter (ELT) Control Panel**

LOM **SUBTASK 23-24-02-860-002**

LOM (1) Make sure that these circuit breakers are open:

LOM **F/O Electrical System Panel, P6-3**

LOM

Row	Col	Number	Name
C	14	C01278	MASTER CAUTION ANNUNCIATOR CONT 4

ECCN 9E991 BOEING PROPRIETARY - See title page for details

(Continued)

LOM **F/O Electrical System Panel, P6-3**

Row	Col	Number	Name
F	14	C01180	INDICATOR MASTER DIM SECT 8

LOM SUBTASK 23-24-02-420-001

LOM **CAUTION**: DO NOT TOUCH THE CONNECTOR PINS OR OTHER CONDUCTORS ON THE ELT CONTROL PANEL. IF YOU TOUCH THESE CONDUCTORS, ELECTROSTATIC DISCHARGE CAN CAUSE DAMAGE TO THE ELT CONTROL PANEL.

(2) Before you touch the ELT Control Panel [1], do this task: ESDS Handling for Metal Encased Unit Installation, TASK 20-40-12-400-802.

LOM SUBTASK 23-24-02-420-002

(3) Do these steps to install the ELT Control Panel [1]:

(a) To remove the protective cover from the Electrical Connector [3], do this task: Conductive Dust Cap and Connector Cover Removal, TASK 20-40-12-000-804.

(b) Examine the Electrical Connector [3] for bent or broken pins, dirt, and damage.

(c) Connect the Electrical Connector [3].

(d) Install the ELT Control Panel [1] in its position on the P5 panel.

(e) Tighten the four Quarter turn fasteners [2].

LOM SUBTASK 23-24-02-940-002

(4) Get access to the Emergency Locator Transmitter (ELT) (TASK 23-24-00-000-801-001 or TASK 23-24-00-000-802-002 or TASK 23-24-00-000-804-001).

LOM SUBTASK 23-24-02-420-003

(5) On the ELT front panel, do these steps:

(a) Connect the electrical connector.

LOM **LOM 422, 425, 433, 434, 440, 442-447, 450-456, 458-464**

(b) Set the toggle switch to the ARM position.

LOM **LOM 402, 404, 406, 407, 411, 416, 420, 422-434, 437-447, 450-999**

LOM SUBTASK 23-24-02-860-003

(6) Remove the safety tags and close these circuit breakers:

LOM **F/O Electrical System Panel, P6-3**

Row	Col	Number	Name
C	14	C01278	MASTER CAUTION ANNUNCIATOR CONT 4
F	14	C01180	INDICATOR MASTER DIM SECT 8

LOM **E. Installation Test**

LOM SUBTASK 23-24-02-860-004

(1) Do this task: ELT System - Operational Test, TASK 23-24-00-710-801-001 or ELT System - Operational Test, TASK 23-24-00-710-802-002 or ELT System - Operational Test, TASK 23-24-00-710-803-003.

END OF TASK

ECCN 9E991 BOEING PROPRIETARY - See title page for details

LOW FREQUENCY UNDERWATER LOCATING DEVICE (LF-ULD) - MAINTENANCE PRACTICES

1. General

A. This procedure has this task:

(1) Low frequency Underwater Locating Device (ULD) battery replacement.

TASK 23-25-03-300-801

2. Low Frequency Underwater Locating Device (LF-ULD) - Battery Replacement

(Figure 201)

A. General

(1) This task includes the steps to replace the low frequency Underwater Locating Device (ULD) battery.

B. References

Reference	Title
23-25-03 P/B 401	LOW FREQUENCY UNDERWATER LOCATING DEVICE (LF-ULD) - REMOVAL/INSTALLATION
53-52-00-010-802	Nose Radome - Open (P/B 201)
53-52-00-410-802	Nose Radome - Close (P/B 201)

C. Location Zones

Zone	Area
111	Radome

D. Prepare for the Battery Replacement

SUBTASK 23-25-03-010-004

WARNING	USE CAUTION WHEN YOU OPEN THE NOSE RADOME COMPARTMENT. IF THERE IS A BATTERY FAILURE, A DANGEROUS GAS CAN EMIT. DO THE CORRECT EMERGENCY PROCEDURES IF YOU SMELL AN UNUSUAL ODOR AT THE RADOME AREA.

WARNING	DO NOT OPEN THE NOSE RADOME IF THE WIND IS MORE THAN 15 KNOTS. IF YOU OPEN THE NOSE RADOME IN A WIND, THE RADOME CAN MOVE QUICKLY. THIS CAN CAUSE INJURY TO PERSONS OR DAMAGE TO EQUIPMENT.

CAUTION	DO NOT LET THE WORKSTANDS OR EQUIPMENT HIT OR TOUCH THE WEATHER RADAR ANTENNA. THIS CAN CAUSE DAMAGE TO THE WEATHER RADAR ANTENNA.

CAUTION	DO NOT OPEN THE RADOME IN THE RAINY CONDITION. THE WATER ON THE FLAT PLATE MAY CAUSE A NEGATIVE AFFECT TO THE RADAR PERFORMANCE. WIPE OFF THE WATER COMPLETELY BEFORE RADOME IS CLOSED.

(1) Open the nose radome (TASK 53-52-00-010-802).

E. Battery Replacement

SUBTASK 23-25-03-210-001

(1) Check the expiration date of the battery on the ULD label.

ECCN 9E991 BOEING PROPRIETARY - See title page for details

(a) If the battery life reaches or exceeds the date of expiration, replace the ULD (PAGEBLOCK 23-25-03/401).

SUBTASK 23-25-03-410-004

CAUTION	DO NOT LET THE WORKSTANDS OR EQUIPMENT HIT OR TOUCH THE WEATHER RADAR ANTENNA. THIS CAN CAUSE DAMAGE TO THE WEATHER RADAR ANTENNA.

(2) Close the nose radome (TASK 53-52-00-410-802).

——— END OF TASK ———

ECCN 9E991 BOEING PROPRIETARY - See title page for details

LEGEND:

SER = SERIAL NUMBER SID88
DMF = DATE OF INSPECTION AFTER COMPLETION OF MANUFACTURE

UNDERWATER LOCATOR DEVICE PRODUCT LABEL

2794006 S0000630522_V1

Low Frequency Underwater Locating Device - Battery Replacement
Figure 201/23-25-03-990-804

ECCN 9E991 BOEING PROPRIETARY - See title page for details

LOW FREQUENCY UNDERWATER LOCATING DEVICE (LF-ULD) - REMOVAL/INSTALLATION

1. General

A. This procedure has these tasks:

(1) Removal of the Low-Frequency Underwater Locator Device (LF-ULD).

(2) Installation of the LF-ULD.

TASK 23-25-03-000-801

2. Low Frequency Underwater Locator Device (LF-ULD) Removal

(Figure 401)

NOTE: This procedure is a scheduled maintenance task.

A. General

(1) This task includes the steps to remove the Low-Frequency Underwater Locator Device (LF-ULD).

(2) The LF-ULD is located behind the radome below the glidescope antenna.

B. References

Reference	Title
53-52-00-010-802	Nose Radome - Open (P/B 201)

C. Location Zones

Zone	Area
111	Radome

D. Low Frequency Underwater Locator Device (LF-ULD) Removal

SUBTASK 23-25-03-010-001

WARNING USE CAUTION WHEN YOU OPEN THE NOSE RADOME COMPARTMENT. IF THERE IS A BATTERY FAILURE, A DANGEROUS GAS CAN EMIT. DO THE CORRECT EMERGENCY PROCEDURES IF YOU SMELL AN UNUSUAL ODOR AT THE RADOME AREA.

(1) Do this task: Nose Radome - Open, TASK 53-52-00-010-802.

SUBTASK 23-25-03-020-001

(2) Do these steps to remove the LF-ULD [1] from the aircraft.

(a) Support the LF-ULD [1].

(b) Remove the screws [2] and washers [3] from the LF-ULD [1].

(c) Remove the LF-ULD [1] and ULD arrestor extension [4] from the bracket [5].

END OF TASK

ECCN 9E991 BOEING PROPRIETARY - See title page for details

2793850 S0000628067_V2

Low Frequency Underwater Locator Device (LF-ULD) Installation
Figure 401/23-25-03-990-801 (Sheet 1 of 5)

ECCN 9E991 BOEING PROPRIETARY - See title page for details

2900102 S0000692516_V2

Low Frequency Underwater Locator Device (LF-ULD) Installation
Figure 401/23-25-03-990-801 (Sheet 2 of 5)

ECCN 9E991 BOEING PROPRIETARY - See title page for details

2900104 S0000692523_V1

Low Frequency Underwater Locator Device (LF-ULD) Installation
Figure 401/23-25-03-990-801 (Sheet 3 of 5)

ECCN 9E991 BOEING PROPRIETARY - See title page for details

LOW FREQUENCY UNDERWATER LOCATOR DEVICE (LF-ULD)
(EXAMPLE)

B

2794004 S0000630521_V3

Low Frequency Underwater Locator Device (LF-ULD) Installation
Figure 401/23-25-03-990-801 (Sheet 4 of 5)

ECCN 9E991 BOEING PROPRIETARY - See title page for details

LEGEND:

SER = SERIAL NUMBER SID88
DMF = DATE OF INSPECTION AFTER COMPLETION OF MANUFACTURE

UNDERWATER LOCATOR DEVICE PRODUCT LABEL

2794006 S0000630522_V1

Low Frequency Underwater Locator Device (LF-ULD) Installation
Figure 401/23-25-03-990-801 (Sheet 5 of 5)

ECCN 9E991 BOEING PROPRIETARY - See title page for details

TASK 23-25-03-400-801

3. Low Frequency Underwater Locating Device (LF-ULD) Installation

(Figure 401)

NOTE: This procedure is a scheduled maintenance task.

A. General

(1) This task includes the steps to install the Low-Frequency Underwater Locator Device (LF-ULD).

(2) The LF-ULD is in the radome below the glidescope antenna.

B. References

Reference	Title
23-25-03-700-801	Low Frequency Underwater Locating Device (LF-ULD) - Functional and Battery Test Using ULD Tester (P/B 501)
23-25-03-700-802	Low Frequency Underwater Locating Device (LF-ULD) - Functional and Battery Test Using Multimeter (P/B 501)
53-52-00-410-802	Nose Radome - Close (P/B 201)

C. Consumable Materials

Reference	Description	Specification
G50136	Compound - Corrosion Inhibiting, Non-drying Paste	BMS3-38

D. Location Zones

Zone	Area
111	Radome

E. Low Frequency Underwater Locating Device (LF-ULD) Installation

SUBTASK 23-25-03-860-001

(1) Make sure that the expiration date of the battery on the LF-ULD [1] label has not been exceeded.

SUBTASK 23-25-03-700-001

(2) Do an operational check of the LF-ULD. To do this, do one of these tasks: Low Frequency Underwater Locating Device (LF-ULD) - Functional and Battery Test Using ULD Tester, TASK 23-25-03-700-801 or Low Frequency Underwater Locating Device (LF-ULD) - Functional and Battery Test Using Multimeter, TASK 23-25-03-700-802.

SUBTASK 23-25-03-420-001

(3) Do these steps to install the LF-ULD [1].

(a) Apply corrosion inhibiting material, G50136 to the ULD arrestor extension [4] mounting holes and on the faying surfaces between ULD arrestor extension [4] and bracket [5].

(b) Place the ULD arrestor extension [4] on the bracket [5].

(c) Install the LF-ULD [1] on the bracket [5].

(d) Install screws [2] and washers [3] and torque to 35 in-lb (4.0 N·m).

(e) Remove the unwanted corrosion inhibiting material, G50136.

F. Put the Airplane Back to Its Usual Condition

SUBTASK 23-25-03-410-001

(1) Do this task: Nose Radome - Close, TASK 53-52-00-410-802.

END OF TASK

ECCN 9E991 BOEING PROPRIETARY - See title page for details

LOW FREQUENCY UNDERWATER LOCATING DEVICE (LF-ULD) - ADJUSTMENT/TEST

1. General

A. This procedure has these tasks:

(1) Low frequency Underwater Locating Device (ULD) functional and battery test using ULD tester.

(2) Low frequency ULD functional and battery test using multimeter.

TASK 23-25-03-700-801

2. Low Frequency Underwater Locating Device (LF-ULD) - Functional and Battery Test Using ULD Tester

(Figure 501)

NOTE: This procedure is a scheduled maintenance task.

A. General

(1) This task includes the procedure to do a function test of the low frequency Underwater Locating Device (ULD) and battery using ultrasonic test set, COM-15616.

B. References

Reference	Title
23-25-03 P/B 401	LOW FREQUENCY UNDERWATER LOCATING DEVICE (LF-ULD) - REMOVAL/INSTALLATION
53-52-00-010-802	Nose Radome - Open (P/B 201)
53-52-00-410-802	Nose Radome - Close (P/B 201)

C. Tools/Equipment

NOTE: When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

Reference	Description
COM-15616	Test Set - Ultrasonic Part #: 20538-00 Supplier: CG871

D. Consumable Materials

Reference	Description	Specification
B50117	Detergent - General	
G50256	Water, Regular	

E. Location Zones

Zone	Area
111	Radome

F. Prepare for the Functional Test

SUBTASK 23-25-03-010-002

> **WARNING** USE CAUTION WHEN YOU OPEN THE NOSE RADOME COMPARTMENT. IF THERE IS A BATTERY FAILURE, A DANGEROUS GAS CAN EMIT. DO THE CORRECT EMERGENCY PROCEDURES IF YOU SMELL AN UNUSUAL ODOR AT THE RADOME AREA.

(1) Do this task: Nose Radome - Open, TASK 53-52-00-010-802.

ECCN 9E991 BOEING PROPRIETARY - See title page for details

G. Underwater Locating Device (LF-ULD) Functional Test Using ULD Tester

SUBTASK 23-25-03-720-001

(1) Turn on the ultrasonic test set, COM-15616.

(2) Connect the activation cord to the Universal Serial Bus (USB) receptacle of the ultrasonic test set, COM-15616.

(3) Select the measurement button (triangle with a circle) on the ultrasonic test set, COM-15616 screen.

(a) The connecting screen will appear on the ultrasonic test set, COM-15616 screen.

NOTE: " Reading incomplete retry in 66 sec." error is displayed on the ULD tester screen if contact is lost during the measurement.

"Check polarity retry in 66 sec." error is displayed on the ULD tester screen if activation cord plug is not touching the proper polarity of the ULD.

SUBTASK 23-25-03-720-002

(4) Touch the activation cord plug to the correct poles of the ULD and wait 3 minutes.

(a) Make sure that the acoustic signal confirms successful completion and the data is displayed on ultrasonic test set, COM-15616 screen.

(b) Make sure that on the right top of ultrasonic test set, COM-15616 screen that the Pulse symbol blinks simultaneously to transmitted pulse.

(c) Make sure the battery voltage is not below 3.2 VDC.

1) If the voltage falls below 3.2 VDC, do this task: LOW FREQUENCY UNDERWATER LOCATING DEVICE (LF-ULD) - REMOVAL/INSTALLATION, PAGEBLOCK 23-25-03/401.

SUBTASK 23-25-03-100-001

(5) Make sure that the water switch pins on the ULD has no grease or dirt.

(a) If necessary, clean the switch pins with water, G50256 and general detergent, B50117.

H. Put the Airplane Back to Its Usual Condition

SUBTASK 23-25-03-410-002

(1) Do this task: Nose Radome - Close, TASK 53-52-00-410-802.

END OF TASK

ECCN 9E991 BOEING PROPRIETARY - See title page for details

2803574 S0000643302_V1

Low Frequency Underwater Locating Device (LF-ULD) - Functional Test
Figure 501/23-25-03-990-802

ECCN 9E991 BOEING PROPRIETARY - See title page for details

TASK 23-25-03-700-802

3. Low Frequency Underwater Locating Device (LF-ULD) - Functional and Battery Test Using Multimeter

NOTE: This procedure is a scheduled maintenance task.

A. General

(1) This task includes the procedure to do an function test of the low frequency Underwater Locating Device (ULD) and battery.

B. References

Reference	Title
53-52-00-010-802	Nose Radome - Open (P/B 201)
53-52-00-410-802	Nose Radome - Close (P/B 201)

C. Tools/Equipment

NOTE: When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

Reference	Description
COM-1793	Multimeter - Digital/Analog (or equivalent meter meets task requirements) Part #: 117 Supplier: 89536 Part #: 260-8XPI Supplier: 55026 Part #: 287 Supplier: 89536 Part #: 289 Supplier: 89536 Part #: 87V Supplier: 89536 Part #: FLUKE 27 II Supplier: 89536 Part #: FLUKE-77-4 Supplier: 89536 Opt Part #: 187 Supplier: 89536 Opt Part #: 189 Supplier: 89536 Opt Part #: 21 Supplier: 89536 Opt Part #: 27 Supplier: 89536 Opt Part #: 77 SERIES III Supplier: 89536 Opt Part #: 87 Supplier: 89536 Opt Part #: FLUKE 27 Supplier: 89536 Opt Part #: MODEL 27 Supplier: 89536
STD-4931	Jumper - Electrical

D. Consumable Materials

Reference	Description	Specification
B50117	Detergent - General	
G50256	Water, Regular	

E. Location Zones

Zone	Area
111	Radome

ECCN 9E991 BOEING PROPRIETARY - See title page for details

F. Prepare for the Functional Test

SUBTASK 23-25-03-010-003

> **WARNING** USE CAUTION WHEN YOU OPEN THE NOSE RADOME COMPARTMENT. IF THERE IS A BATTERY FAILURE, A DANGEROUS GAS CAN EMIT. DO THE CORRECT EMERGENCY PROCEDURES IF YOU SMELL AN UNUSUAL ODOR AT THE RADOME AREA.

(1) Do this task: Nose Radome - Open, TASK 53-52-00-010-802.

G. Low Frequency Underwater Locating Device (LF-ULD) Functional and Battery Test Using Multimeter

SUBTASK 23-25-03-710-001

(1) Do an operational check of the ULD.

(a) Do these steps to test the ULD in operation mode:

1) Connect the electrical jumper, STD-4931, wire ends to the ULD water switch pins for approximately three seconds.

NOTE: The ULD contains an intelligent activation feature which avoids unintentional activation, whereby the durability of the battery could be impaired.

2) After three seconds, listen for the acoustic signal.

3) Remove the electrical jumper, STD-4931, and the acoustic signal will continue to pulse every ten seconds for 60 seconds.

NOTE: The ULD is in the service operation mode for 60 seconds. The battery voltage is circulating to the water switch pins and the ULD is pulsating the ultrasonic signal. After 60 seconds, the ULD drops back into the sleep mode.

SUBTASK 23-25-03-710-002

(2) Do these steps to check the ULD battery:

(a) Adjust a digital/analog multimeter, COM-1793, to the 20 VDC range and resistance of 10 MOhm.

(b) Within 60 seconds, connect the probes of the digital/analog multimeter, COM-1793, to the ULD water switch pins.

(c) Make sure that the digital/analog multimeter, COM-1793, displays a minimum of 3.2 VDC.

NOTE: It is normal for the voltage fluctuate in the decimal range. The pulsing of the ultrasonic signal from the ULD causes a minor drop in voltage. The minimum value must not fall below 3.2 VDC.

1) If the voltage falls below 3.2 VDC, replace the ULD.

(d) Remove the digital/analog multimeter, COM-1793.

(e) Make sure that the water switch pins on the ULD has no grease or dirt.

1) If necessary, clean the switch pins with water, G50256, and general detergent, B50117.

H. Put the Airplane Back to Its Usual Condition

SUBTASK 23-25-03-410-003

(1) Do this task: Nose Radome - Close, TASK 53-52-00-410-802.

END OF TASK

ECCN 9E991 BOEING PROPRIETARY - See title page for details

1 SHORT THE WATER SWITCH PINS FOR 3 SECONDS
2 MEASURE WITHIN 60 SECONDS
3 MUST BE A MINIMUM OF 3.2 VDC

2794010 S0000630519_V1

Low Frequency Underwater Locating Device (LF-ULD) Functional and Battery Test
Figure 502/23-25-03-990-803

ECCN 9E991 BOEING PROPRIETARY - See title page for details

AIRCRAFT COMMUNICATION AND REPORTING SYSTEM (ACARS) - MAINTENANCE PRACTICES

1. General

A. This procedure has these tasks:

(1) Aircraft Communication and Reporting System (ACARS) Deactivation

(2) Aircraft Communication and Reporting System (ACARS) Activation

TASK 23-27-00-040-801-001

2. Aircraft Communication and Reporting System - Deactivation

Figure 201

A. General

(1) This procedure removes electrical power to the ACARS system.

B. Location Zones

Zone	Area
117	Electrical and Electronics Compartment - Left
118	Electrical and Electronics Compartment - Right
211	Flight Compartment - Left
212	Flight Compartment - Right

C. Access Panels

Number	Name/Location
117A	Electronic Equipment Access Door

D. Procedure

NOTE: The aircraft will have either a CMU or AMU installed. Reference the aircraft wire diagram to determine the system installed.

SUBTASK 23-27-00-860-195-001

(1) Open these circuit breakers and install safety tags:

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
LOM 402, 406, 432			
E	7	C00744	ACARS MU AC
LOM 407, 412, 415, 420, 422-425, 427-431, 433, 434, 437-447, 450-999; LOM 404 POST SB 737-23-1484			
E	8	C01483	CMU-1 AC
LOM 422, 425			
E	9	C01500	ACARS CMU DC
LOM 402, 406, 407, 412, 415, 420, 423, 424, 427, 428, 432-434, 437-447, 453-456, 458-464; LOM 404 POST SB 737-23-1484; LOM 457 POST SB 737-31-2184			
E	9	C01500	CMU/ACARS DC
LOM 402, 406, 407, 412, 415, 420, 422-425, 427-434, 437-447, 450-999; LOM 404 POST SB 737-23-1484 OR POST SB 737-23-1483			

These circuit breakers are inoperative and should remain open:

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
LOM 404 POST SB 737-23-1484 OR POST SB 737-23-1483			

ECCN 9E991 BOEING PROPRIETARY - See title page for details

LOM 404 POST SB 737-23-1484 OR POST SB 737-23-1483 (Continued)

(Continued)

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
E	8	C01483	CMU-1 AC (INOP)

LOM 429-431, 450-452, 465-999; LOM 404 POST SB 737-23-1484 OR POST SB 737-23-1483; LOM 457 PRE SB 737-31-2184

E	9	C01500	CMU/ACARS DC (INOP)

LOM 402, 406, 407, 412, 415, 420, 422-425, 427-434, 437-447, 450-999; LOM 404 POST SB 737-23-1484 OR POST SB 737-23-1483

E. ACARS - Tryout

NOTE: This tryout is to make sure the ACARS system is in a zero energy state.

SUBTASK 23-27-00-860-198-001

(1) Make sure that these circuit breakers are open and have safety tags:

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
LOM 402, 406, 432			
E	7	C00744	ACARS MU AC
LOM 407, 412, 415, 420, 422-425, 427-431, 433, 434, 437-447, 450-999; LOM 404 POST SB 737-23-1484			
E	8	C01483	CMU-1 AC
LOM 422, 425			
E	9	C01500	ACARS CMU DC
LOM 402, 406, 407, 412, 415, 420, 423, 424, 427, 428, 432-434, 437-447, 453-456, 458-464; LOM 404 POST SB 737-23-1484; LOM 457 POST SB 737-31-2184			
E	9	C01500	CMU/ACARS DC
LOM 402, 406, 407, 412, 415, 420, 422-425, 427-434, 437-447, 450-999; LOM 404 POST SB 737-23-1484 OR POST SB 737-23-1483			

These circuit breakers are inoperative and should remain open:

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
LOM 404 POST SB 737-23-1484 OR POST SB 737-23-1483			
E	8	C01483	CMU-1 AC (INOP)
LOM 429-431, 450-452, 465-999; LOM 404 POST SB 737-23-1484 OR POST SB 737-23-1483; LOM 457 PRE SB 737-31-2184			
E	9	C01500	CMU/ACARS DC (INOP)

LOM 402, 406, 407, 412, 415, 420, 422-425, 427-434, 437-447, 450-999; LOM 404 POST SB 737-23-1484 OR POST SB 737-23-1483

SUBTASK 23-27-00-010-002-001

(2) Open this access panel:

Number	Name/Location
117A	Electronic Equipment Access Door

SUBTASK 23-27-00-710-030-001

(3) Do the following steps at the ACARS CMU:

(a) Push and hold the TEST switch on the front panel.

ECCN 9E991 BOEING PROPRIETARY - See title page for details

1) Make sure that all the lights on the front of the CMU do not come on.

(b) Release the switch and wait at least one minute.

1) Make sure that none of the lights momentarily come on.

END OF TASK

ECCN 9E991 BOEING PROPRIETARY - See title page for details

ELECTRONIC EQUIPMENT RACK, E3

A

G98139 S0006565426_V2

Aircraft Communications Addressing and Reporting System (ACARS)
Figure 201/23-27-00-990-809-001 (Sheet 1 of 3)

ECCN 9E991 BOEING PROPRIETARY - See title page for details

ELECTRONIC EQUIPMENT RACK, E3

A

K24222 S0006565435_V2

Aircraft Communications Addressing and Reporting System (ACARS)
Figure 201/23-27-00-990-809-001 (Sheet 2 of 3)

ECCN 9E991 BOEING PROPRIETARY - See title page for details

ELECTRONIC EQUIPMENT RACK, E4

A

1330325 S0000234139_V2

Aircraft Communications Addressing and Reporting System (ACARS)
Figure 201/23-27-00-990-809-001 (Sheet 3 of 3)

ECCN 9E991 BOEING PROPRIETARY - See title page for details

TASK 23-27-00-440-801-001

3. Aircraft Communication and Reporting System - Activation

(Figure 201)

A. General

(1) This procedure adds electrical power to the ACARS system.

B. Location Zones

Zone	Area
117	Electrical and Electronics Compartment - Left
118	Electrical and Electronics Compartment - Right
211	Flight Compartment - Left
212	Flight Compartment - Right

C. Access Panels

Number	Name/Location
117A	Electronic Equipment Access Door

D. Procedure

SUBTASK 23-27-00-860-197-001

(1) Remove the safety tags and close these circuit breakers:

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
LOM 402, 406, 432			
E	7	C00744	ACARS MU AC
LOM 407, 412, 415, 420, 422-425, 427-431, 433, 434, 437-447, 450-999; LOM 404 POST SB 737-23-1484			
E	8	C01483	CMU-1 AC
LOM 422, 425			
E	9	C01500	ACARS CMU DC
LOM 402, 406, 407, 412, 415, 420, 423, 424, 427, 428, 432-434, 437-447, 453-456, 458-464; LOM 404 POST SB 737-23-1484; LOM 457 POST SB 737-31-2184			
E	9	C01500	CMU/ACARS DC
LOM 402, 406, 407, 412, 415, 420, 422-425, 427-434, 437-447, 450-999; LOM 404 POST SB 737-23-1484 OR POST SB 737-23-1483			

These circuit breakers are inoperative and should remain open:

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
LOM 404 POST SB 737-23-1484 OR POST SB 737-23-1483			
E	8	C01483	CMU-1 AC (INOP)
LOM 429-431, 450-452, 465-999; LOM 404 POST SB 737-23-1484 OR POST SB 737-23-1483; LOM 457 PRE SB 737-31-2184			
E	9	C01500	CMU/ACARS DC (INOP)

LOM 402, 406, 407, 412, 415, 420, 422-425, 427-434, 437-447, 450-999; LOM 404 POST SB 737-23-1484 OR POST SB 737-23-1483

ECCN 9E991 BOEING PROPRIETARY - See title page for details

SUBTASK 23-27-00-410-001-001

(2) Close this access panel:

Number	Name/Location
117A	Electronic Equipment Access Door

END OF TASK

ECCN 9E991 BOEING PROPRIETARY - See title page for details

ACARS SYSTEM - ADJUSTMENT/TEST

1. General

A. This procedure has these tasks:

(1) An operational test of the ARINC Communications Addressing and Reporting System (ACARS).

(2) An ACARS Initialization, FMC and VHF link test.

(3) An ACARS Interface Out-Off-On-In Discrete test.

(4) An ACARS system test.

TASK 23-27-00-740-815-001

2. ACARS - Operational Test

A. References

Reference	Title
23-27-32-000-801	ACARS Software Installation with an Airborne Data Loader (ADL) (P/B 201)
23-27-32-700-801	ACARS Software Configuration Check (P/B 201)
24-22-00-860-811	Supply Electrical Power (P/B 201)
24-22-00-860-812	Remove Electrical Power (P/B 201)

B. Location Zones

Zone	Area
117	Electrical and Electronics Compartment - Left
118	Electrical and Electronics Compartment - Right

C. Procedure

SUBTASK 23-27-00-860-011-001

(1) Do this task: Supply Electrical Power, TASK 24-22-00-860-811.

SUBTASK 23-27-00-860-012-001

(2) Make sure that these circuit breakers are closed:

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
E	7	C00744	ACARS MU AC
E	9	C01500	CMU/ACARS DC

SUBTASK 23-27-00-710-003-001

(3) Do the ACARS MU Bite Test:

(a) Push and hold the TEST switch on the front of the ACARS MU.

(b) Make sure that all the lights on the front of the MU are on.

(c) Release the switch and wait at least one minute.

(d) If the green XFER COMP light is on, make sure the system select switch on the data loader control panel (P61) is set to NORM or NORMAL.

(e) If the HW FAIL, LOAD SW, XFER BUSY or XFER FAIL light is on, reload the correct ACARS software. To reload the software, do this task: ACARS Software Installation with an Airborne Data Loader (ADL), TASK 23-27-32-000-801.

NOTE: Incorrect or incomplete ACARS MU software can cause these lights to be on.

ECCN 9E991 BOEING PROPRIETARY - See title page for details

(f) Make sure that only the Green MU PASS light is on.

SUBTASK 23-27-00-700-018-001

(4) Do this task: ACARS Software Configuration Check, TASK 23-27-32-700-801.

SUBTASK 23-27-00-860-113-001

(5) Do this task: Remove Electrical Power, TASK 24-22-00-860-812.

——— END OF TASK ———

TASK 23-27-00-700-813-001

3. ACARS Initialization, FMC and VHF Link Test

A. General

(1) This task does an Aircraft Communications Addressing And Reporting System (ACARS) Very High Frequency (VHF) Link test. ACARS uses a VHF communication transceiver to transmit to an ACARS ground station and to receive a reply (acknowledgement) from the ground station. When the reply is received, the VHF link is complete.

(2) For the ACARS system to operate correctly, it must be linked to a remote ground station.

(3) For ACARS to link to the ground station through the VHF communication system, the airplane must be within range of the ground station. Also, the VHF antenna must have a clear view to the station tower.

B. References

Reference	Title
23-12-00-730-801	VHF Communication System - System Test (P/B 501)
34-61-00-730-801	Flight Management Computer System - System Test (P/B 501)

C. Location Zones

Zone	Area
211	Flight Compartment - Left
212	Flight Compartment - Right

D. Procedure

SUBTASK 23-27-00-860-115-001

(1) Set the Captain's clock to the current Greenwich Mean Time (GMT).

(a) Make sure the correct GMT shows on the Captain's clock.

SUBTASK 23-27-00-860-116-001

(2) Make sure that these circuit breakers are closed:

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
E	5	C01216	PRINTER
E	7	C00744	ACARS MU AC
E	9	C01500	CMU/ACARS DC

SUBTASK 23-27-00-860-117-001

(3) Make sure these systems are serviceable:

(a) The VHF communication system (TASK 23-12-00-730-801).

(b) The Flight Management Computer System (FMCS) (TASK 34-61-00-730-801).

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SUBTASK 23-27-00-730-073-001

(4) Do these steps on the left Control Display Unit (CDU) (CDU-1) to do the Initialization and Printer test:

(a) Push the MENU key.

(b) Make sure the MENU page shows on the display.

(c) Push the Line Select Key (LSK) 2L adjacent to <ACARS.

(d) Make sure the ACARS PREFLT MENU page shows on the display.

(e) Push the LSK 6L adjacent to <MISC.

(f) Push the LSK 6R adjacent to MAINT>.

(g) Write SERGE into the scratchpad.

(h) Push the LSK 1R.

NOTE: This field is empty if the password is correct.

(i) Make sure the ACARS INIT page shows on the display.

(j) Push the LSK 1L adjacent to <AIRLINE ID.

(k) Make sure the AIRLINE ID is correct under MANUAL or DATABASE.

1) If AIRLINE ID is missing or incorrect then manually enter a two character AIRLINE ID in the scratchpad and select LSK 2L.

(l) If a manual AIRLINE ID was entered then push the LSK 4L until the prompt is adjacent to LSK 2L.

(m) Push the LSK 6L twice to return to ACARS MAINTENANCE page.

(n) Push the LSK 1L adjacent to <PART NUMBERS.

(o) Make sure the ACARS PART NUMBERS page shows on the display.

(p) Make sure the disk software and ACARS Management Unit part numbers show on the display.

(q) Push the LSK 6R adjacent to <PRINT.

(r) Make sure the printer prints the information that shows on the display.

NOTE: The print format is not the same as the display format.

(s) Push the LSK 6L adjacent to <RETURN TO MAINT MENU.

(t) Push the LSK 6L adjacent to <RETURN TO ACARS MENU.

(u) Push the LSK 6L adjacent to <MISC.

(v) Push the LSK 1L adjacent to <DATA FREQUENCY.

(w) Make sure the frequency that shows on the display below the page title (2nd line) is the data frequency for the geographic area where the airplane is located.

NOTE: It may take several seconds for the frequency to show on the display.

(x) Push the LSK 6L adjacent to <RETURN TO ACARS MENU.

SUBTASK 23-27-00-730-074-001

(5) Do these steps on the right CDU (CDU-2) to do the Flight Management Computer (FMC) and Registry Code test:

(a) Push the RTE function key.

(b) Type the ORIGIN for the airplane in the scratchpad.

(c) Push the LSK 1L adjacent to the ORIGIN prompt.

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(d) Type the DESTINATION for the airplane in the scratchpad.

(e) Push the LSK 1R adjacent to the DEST prompt.

(f) Type the FLIGHT number in the scratchpad.

(g) Push the LSK 2R adjacent to the FLT NO prompt.

SUBTASK 23-27-00-730-075-001

(6) Do these steps on the left CDU (CDU-1):

(a) Push the LSK 1L adjacent to <PREFLIGHT.

(b) Make sure ORIGIN, DESTINATION and FLIGHT number show on the display.

(c) Push the LSK 6L adjacent to <ACARS MENU.

(d) Push the LSK 6L adjacent to <MISC.

(e) Push the LSK 6R adjacent to MAINT>.

(f) Push the LSK 2L adjacent to <STATUS.

(g) Make sure the ACARS STATUS page shows on the display.

(h) Push the LSK 2L adjacent to <RCV 429 DATA.

(i) Make sure the ACARS RCV 429 DATA menu shows on the display.

(j) Make sure the Airline Registration that shows on the display is the same as the registration number on the Captain's or First Officer's main instrument panel placard.

SUBTASK 23-27-00-730-076-001

(7) Do these steps on the left CDU to do the VHF link and FMC Comm test:

(a) At the ACARS MAINTENANCE page, ACARS NO COMM can show in the scratchpad.

(b) Push the LSK 6L adjacent to <RETURN TO STATUS MENU.

(c) Push the LSK 6L adjacent to <RETURN TO MAINT MENU.

(d) Push the LSK 3L adjacent to <TEST.

(e) Push the LSK 1L adjacent to <VHF LINK.

(f) Make sure INITIATE changes to TEST, then to PASS, and then again to INITIATE.

NOTE: INITIATE can change to TEST then to INITIATE, if the test was completed quickly. If the FAIL or NO COMM messages do not show after INITIATE, the result of the test is satisfactory.

(g) Push the NEXT PAGE function key.

(h) Push the LSK 1L adjacent to <FMC.

(i) Make sure INITIATE changes to TEST, then to PASS, then again to INITIATE.

——— END OF TASK ———

TASK 23-27-00-700-814-001

4. ACARS Interface Out-Off-On-In Discrete Test

A. References

Reference	Title
24-22-00-860-811	Supply Electrical Power (P/B 201)
24-22-00-860-812	Remove Electrical Power (P/B 201)
32-09-00-860-801	Put the Airplane in the Air Mode (P/B 201)
32-09-00-860-802	Return the Airplane to the Ground Mode (P/B 201)

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(Continued)

Reference	Title
32-44-00-710-801	Parking Brake System - Operational Test (P/B 501)
34-61-00-730-801	Flight Management Computer System - System Test (P/B 501)
52-11-00-700-804	Forward Entry Door System Test (P/B 501)
52-13-00-700-805	Aft Entry Door System Test (P/B 501)
52-31-00-700-801	Cargo Door System Test (P/B 501)

B. Location Zones

Zone	Area
211	Flight Compartment - Left
212	Flight Compartment - Right

C. Procedure

SUBTASK 23-27-00-860-119-001

(1) Do this task: Supply Electrical Power, TASK 24-22-00-860-811.

SUBTASK 23-27-00-860-120-001

(2) Make sure that these circuit breakers are closed:

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
E	7	C00744	ACARS MU AC
E	9	C01500	CMU/ACARS DC

SUBTASK 23-27-00-860-121-001

(3) Make sure these systems are serviceable:

(a) The parking brake system (TASK 32-44-00-710-801).

(b) The flight management computer (FMC) system (TASK 34-61-00-730-801).

(c) The passenger doors system (TASK 52-11-00-700-804).

(d) The aft entry door system (TASK 52-13-00-700-805).

(e) The cargo door system (TASK 52-31-00-700-801).

SUBTASK 23-27-00-730-077-001

(4) Do these steps on the left control display unit (CDU-1) to do the Out-Off-On-In (OOOI) sensor test:

(a) Push the LSK 6L adjacent to <MAIN MENU.

(b) Push the LSK 6L adjacent to <ACARS MENU.

(c) Push the LSK 6L adjacent to <MISC.

(d) Push the LSK 3L adjacent to <OOOI STATUS.

(e) Make sure an ACARS OOOI STATUS page shows on the display.

(f) Push the NEXT PAGE function key.

(g) Make sure the ACARS OOOI STATUS next page shows on the display.

(h) Close all the cabin doors, cargo doors and EE bay doors.

(i) Open the left forward door.

(j) Make sure the OPEN shows at FWD CAB on the display.

(k) Close the left forward door.

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(l) Make sure the FWD CAB shows CLOSED.

(m) Open the right forward door.

(n) Make sure the SERVICE shows OPEN.

(o) Close the right forward door.

(p) Make sure the SERVICE shows CLOSED.

(q) Open the left AFT door.

(r) Make sure the AFT CAB shows OPEN.

(s) Close the left AFT door.

(t) Make sure the AFT CAB shows CLOSED.

(u) Open the right AFT door.

(v) Make sure the SERVICE shows OPEN.

(w) Close the right AFT door.

(x) Make sure the SERVICE shows CLOSED.

(y) Push the PREVIOUS PAGE function key.

(z) Make sure the PARK BRAKE state is SET.

CAUTION

DO NOT RELEASE THE PARKING BRAKE UNLESS IT IS SAFE. DAMAGE TO EQUIPMENT CAN OCCUR.

(aa) Release the parking brake.

(ab) Make sure the PRK BRAKE state changes from SET to REL.

(ac) Set the PARK BRAKE.

(ad) Make sure the PRK BRAKE state changes from REL to SET.

(ae) Put the airplane in the air mode (TASK 32-09-00-860-801).

(af) Make sure the STRUT state changes from GND to AIR.

(ag) Return the airplane to the ground mode (TASK 32-09-00-860-802).

(ah) Make sure the STRUT state changes form AIR to GND.

(ai) Push the NEXT PAGE function key.

(aj) Open the left AFT door.

(ak) Make sure the AFT CAB shows OPEN.

(al) Push the LSK 6L until the ACARS MENU page shows on the display.

SUBTASK 23-27-00-860-122-001

(5) Do this task: Remove Electrical Power, TASK 24-22-00-860-812.

END OF TASK

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TASK 23-27-00-700-815-001

5. ACARS - System Test

A. General

(1) The system test includes three tests:

(a) An operational test of the ARINC Communications Addressing and Reporting System (ACARS).

(b) An ACARS Initialization, FMC and VHF link test.

(c) An ACARS Interface Out-Off-On-In Discrete test.

(2) When all three tests are satisfactory, the system test is complete.

B. References

Reference	Title
24-22-00-860-811	Supply Electrical Power (P/B 201)
24-22-00-860-812	Remove Electrical Power (P/B 201)

C. Location Zones

Zone	Area
211	Flight Compartment - Left
212	Flight Compartment - Right

D. Procedure

SUBTASK 23-27-00-860-014-001

(1) Do this task: Supply Electrical Power, TASK 24-22-00-860-811.

SUBTASK 23-27-00-860-016-001

(2) Make sure that these circuit breakers are closed:

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
E	5	C01216	PRINTER
E	7	C00744	ACARS MU AC
E	9	C01500	CMU/ACARS DC

SUBTASK 23-27-00-700-019-001

(3) Do this task: ACARS - Operational Test, TASK 23-27-00-740-815-001.

SUBTASK 23-27-00-700-020-001

(4) Do this task: ACARS Initialization, FMC and VHF Link Test, TASK 23-27-00-700-813-001.

SUBTASK 23-27-00-700-021-001

(5) Do this task: ACARS Interface Out-Off-On-In Discrete Test, TASK 23-27-00-700-814-001.

SUBTASK 23-27-00-860-017-001

(6) Do this task: Remove Electrical Power, TASK 24-22-00-860-812.

——— END OF TASK ———

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ACARS SYSTEM - ADJUSTMENT/TEST

1. General

A. This procedure has these tasks:

(1) An operational test of the Aircraft Communications Addressing and Reporting System (ACARS).

(2) A system test of the ACARS.

TASK 23-27-00-740-814-009

2. ACARS - Operational Test

A. References

Reference	Title
23-27-33-470-801	ACARS Software Installation with a Portable Data Loader (PDL) (P/B 201)
23-27-33-470-802	ACARS Communications Management Unit Software Installation with an Airborne Data Loader (ADL) (P/B 201)
23-27-33-470-805	ACARS Communications Management Unit Software Installation with an Enhanced Airborne Data Loader (eADL) (P/B 201)
23-27-33-700-802	ACARS Communications Management Unit (CMU) Software Configuration Check (P/B 201)
24-22-00-860-811	Supply Electrical Power (P/B 201)
24-22-00-860-812	Remove Electrical Power (P/B 201)

B. Location Zones

Zone	Area
117	Electrical and Electronics Compartment - Left
118	Electrical and Electronics Compartment - Right

C. Procedure

SUBTASK 23-27-00-860-123-009

(1) Do this task: Supply Electrical Power, TASK 24-22-00-860-811.

SUBTASK 23-27-00-860-124-009

(2) Make sure that these circuit breakers are closed:

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
LOM 407, 412, 415, 420, 423, 424, 437, 438, 443-445, 457-460, 464; LOM 404 POST SB 737-23-1484			
E	8	C01483	CMU-1 AC
LOM 407, 412, 415, 420, 423, 424, 437, 438, 443-445, 458-460, 464; LOM 404 POST SB 737-23-1484; LOM 457 POST SB 737-31-2184			
E	9	C01500	CMU/ACARS DC
LOM 407, 412, 415, 420, 423, 424, 437, 438, 443-445, 457-460, 464; LOM 404 POST SB 737-23-1484 OR POST SB 737-23-1483			

These circuit breakers are inoperative and should remain open:

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
LOM 404 POST SB 737-23-1484 OR POST SB 737-23-1483			

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LOM 404 POST SB 737-23-1484 OR POST SB 737-23-1483 (Continued)

(Continued)

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
E	8	C01483	CMU-1 AC (INOP)
LOM 404 POST SB 737-23-1484 OR POST SB 737-23-1483; LOM 457 PRE SB 737-31-2184			
E	9	C01500	CMU/ACARS DC (INOP)

LOM 407, 412, 415, 420, 423, 424, 437, 438, 443-445, 457-460, 464; LOM 404 POST SB 737-23-1484 OR POST SB 737-23-1483

SUBTASK 23-27-00-710-017-009

(3) Do these steps to do a test of ACARS:

(a) Push and hold the TEST switch on the front of the ACARS Communications Management Unit (CMU).

(b) Make sure that all the lights on the front of the CMU are on.

(c) Release the switch and wait at least one minute.

(d) Make sure that the green MU PASS LED is on steady.

(e) If the LOAD SW light is on, set the ADL switch (P61) back to usual or install the necessary software. Do this task if necessary: ACARS Software Installation with a Portable Data Loader (PDL), TASK 23-27-33-470-801 or ACARS Communications Management Unit Software Installation with an Airborne Data Loader (ADL), TASK 23-27-33-470-802 or ACARS Communications Management Unit Software Installation with an Enhanced Airborne Data Loader (eADL), TASK 23-27-33-470-805.

SUBTASK 23-27-00-750-002-009

(4) Do this task: ACARS Communications Management Unit (CMU) Software Configuration Check, TASK 23-27-33-700-802.

SUBTASK 23-27-00-760-002-009

(5) Do this task: Remove Electrical Power, TASK 24-22-00-860-812.

——— END OF TASK ———

TASK 23-27-00-700-812-009

3. ACARS - System Test

A. General

(1) For the Aircraft Communications Addressing And Reporting System (ACARS) system to operate correctly, it must be linked to a remote ground station.

(2) For ACARS to link to the ground station through the Very High Frequency (VHF) communication system, the airplane must be within range of the ground station. Also, the VHF antenna must have a clear view to the station tower.

(3) The ACARS ground station and network must also be operational.

LOM 437, 438, 443-445

(4) Make sure that the airplane is not in or near any large metal structures. High Frequency (HF) communication while the airplane is on the ground can be degraded by airplane position or blocked by Radio Frequency (RF) signal attenuation due to ground equipment and structures.

LOM 407, 412, 415, 420, 423, 424, 437, 438, 443-445, 457-460, 464; LOM 404 POST SB 737-23-1484 OR POST SB 737-23-1483

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(5) The system test is based on the default Boeing Airline Operational Communications (AOC) software and 737 data base. If airline customized AOC software or the 737 data base are installed, there can be differences in Control Display Unit (CDU) screen formats and screen prompts.

B. References

Reference	Title
23-11-00-710-801	HF Communication System - Operational Test (P/B 501)
23-11-00-730-801	HF Communication System - System Test (P/B 501)
23-12-00-730-801	VHF Communication System - System Test (P/B 501)
23-27-33-470-801	ACARS Software Installation with a Portable Data Loader (PDL) (P/B 201)
23-27-33-470-802	ACARS Communications Management Unit Software Installation with an Airborne Data Loader (ADL) (P/B 201)
23-27-33-470-805	ACARS Communications Management Unit Software Installation with an Enhanced Airborne Data Loader (eADL) (P/B 201)
23-27-35-700-801	ACARS Airplane Personality Module (APM) Data Verification Check (P/B 201)
31-31-00-730-801	Flight Data Recorder System - System Test (P/B 501)
32-09-00-840-801	Prepare to Put the Airplane in the Air Mode (P/B 201)
32-09-00-840-802	Return the Airplane Systems Back to Their Normal On Ground Condition (P/B 201)
32-09-00-860-801	Put the Airplane in the Air Mode (P/B 201)
32-09-00-860-802	Return the Airplane to the Ground Mode (P/B 201)
32-44-00-710-801	Parking Brake System - Operational Test (P/B 501)
34-21-00-820-801	Air Data Inertial Reference System - Alignment from the FMC CDU (P/B 201)
34-21-00-820-802	Air Data Inertial Reference System - Alignment from the ISDU (P/B 201)
34-61-00-730-801	Flight Management Computer System - System Test (P/B 501)
52-11-00-700-804	Forward Entry Door System Test (P/B 501)
52-13-00-700-805	Aft Entry Door System Test (P/B 501)
52-31-00-700-801	Cargo Door System Test (P/B 501)

C. Location Zones

Zone	Area
211	Flight Compartment - Left
212	Flight Compartment - Right

D. ACARS System Test

SUBTASK 23-27-00-860-126-009

(1) Set the captain's clock to the current Greenwich Mean Time (GMT).

SUBTASK 23-27-00-860-127-009

(2) Make sure that the IRS is aligned to the current position (latitude, longitude) (TASK 34-21-00-820-802 or TASK 34-21-00-820-801).

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SUBTASK 23-27-00-860-128-009

(3) Make sure that these circuit breakers are closed:

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
LOM 407, 412, 415, 420, 423, 424, 437, 438, 443-445, 457-460, 464; LOM 404 POST SB 737-23-1484			
E	8	C01483	CMU-1 AC
LOM 407, 412, 415, 420, 423, 424, 437, 438, 443-445, 458-460, 464; LOM 404 POST SB 737-23-1484; LOM 457 POST SB 737-31-2184			
E	9	C01500	CMU/ACARS DC
LOM 407, 412, 415, 420, 423, 424, 437, 438, 443-445, 457-460, 464; LOM 404 POST SB 737-23-1484 OR POST SB 737-23-1483			

These circuit breakers are inoperative and should remain open:

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
LOM 404 POST SB 737-23-1484 OR POST SB 737-23-1483			
E	8	C01483	CMU-1 AC (INOP)
LOM 404 POST SB 737-23-1484 OR POST SB 737-23-1483; LOM 457 PRE SB 737-31-2184			
E	9	C01500	CMU/ACARS DC (INOP)

LOM 407, 412, 415, 420, 423, 424, 437, 438, 443-445, 457-460, 464; LOM 404 POST SB 737-23-1484 OR POST SB 737-23-1483

SUBTASK 23-27-00-860-129-009

(4) Make sure that these systems are serviceable:

LOM 437, 438, 443-445

WARNING DO NOT OPERATE THE HF SYSTEM WHILE THE AIRPLANE IS REFUELED OR DEFUELED. AN EXPLOSION CAN CAUSE INJURIES TO PERSONNEL AND DAMAGE TO THE AIRPLANE.

WARNING MAKE SURE THAT PERSONNEL STAY A MINIMUM OF 10 FT (3 M) AWAY FROM THE VERTICAL STABILIZER WHEN THE HF SYSTEM TRANSMITS. RF ENERGY FROM THE HF ANTENNA CAN CAUSE INJURIES TO PERSONNEL.

WARNING DO NOT KEEP THE HF SYSTEM IN THE DATA MODE AFTER YOU DO THE HF LINK TEST. WHEN THE HF SYSTEM IS IN THE DATA MODE THEN IT CAN TRANSMIT INDEPENDENTLY OF PERSONNEL CONTROL (PUSH-TO-TALK SWITCH). THIS CAN CAUSE INJURIES TO PERSONNEL.

(a) The HF communication system (TASK 23-11-00-730-801

LOM 407, 412, 415, 420, 423, 424, 437, 438, 443-445, 457-460, 464; LOM 404 POST SB 737-23-1484 OR POST SB 737-23-1483

(b) The VHF communication system (TASK 23-12-00-730-801).

(c) The Flight Data Recorder (FDR) system (TASK 31-31-00-730-801).

(d) The parking brake system (TASK 32-44-00-710-801).

(e) The Flight Management Computer (FMC) system (TASK 34-61-00-730-801).

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(f) The passenger doors system (TASK 52-11-00-700-804).

(g) The aft entry door system (TASK 52-13-00-700-805).

(h) The cargo door system (TASK 52-31-00-700-801).

SUBTASK 23-27-00-710-025-009

(5) Do this task: ACARS - Operational Test, TASK 23-27-00-740-814-009.

SUBTASK 23-27-00-700-060-009

(6) Do this task: ACARS Airplane Personality Module (APM) Data Verification Check, TASK 23-27-35-700-801.

SUBTASK 23-27-00-730-081-009

(7) Do these steps to do the initialization, registry and printer test:

(a) Push the MENU function key on both CDUs.

LOM 407, 412, 415, 423, 424, 437, 438; LOM 420 PRE SB 737-23-1483

1) Make sure that the MENU page shows, with the <ACARS in the left position on line 2 of both displays.

LOM 443-445, 457-460, 464; LOM 404 POST SB 737-23-1484 OR POST SB 737-23-1483; LOM 420 POST SB 737-23-1483

2) Make sure that that the MENU page shows with the <DLK in the left position on line 2 of the two displays.

LOM 407, 412, 415, 423, 424, 437, 438; LOM 420 PRE SB 737-23-1483

(b) Push the Line Select Key (LSK) adjacent to the <ACARS prompt on CDU-1.

1) Make sure that the ACARS PREFLT MENU page shows on the display.

NOTE: Unless otherwise specified, all CDU key selections are done on CDU-1 and all pages and messages show on CDU-1.

2) If the message "ENTER AIRLINE ID" does not show on the CDU, or if the 2 letter airline code does not need to be changed, continue with step (c).

3) If the message "ENTER AIRLINE ID" shows on the CDU, or if the 2 letter airline code needs to be changed, do these steps:

a) Push the LSK adjacent to the <MISC prompt.

<1> Make sure that the ACARS MISC page shows on the display.

b) Push the LSK adjacent to the MAINT> prompt.

<1> Make sure that the ACARS MAINTENANCE page shows on the display.

c) Use the CDU keypad to enter SERGE into the CDU scratchpad.

d) Push the top right LSK.

<1> Make sure that the ACARS INIT page shows on the display.

e) Push the LSK adjacent to the <AIRLINE ID prompt.

<1> Make sure that the ACARS AIRLINE ID INIT page shows on the display.

f) Use the CDU keypad to enter the two character airline ID code into the CDU scratchpad. Set the LSK adjacent to MANUAL.

g) Push the LSK adjacent to the <SELECT prompt until the <SEL> prompt is adjacent to the boxes on the line under the MANUAL prompt.

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LOM 407, 412, 415, 423, 424, 437, 438; LOM 420 PRE SB 737-23-1483 (Continued)

h) Push the LSK adjacent to the boxes on the line under the MANUAL prompt to store the airline ID code.

i) Push the LSK adjacent to the <INIT MENU prompt to go back to the ACARS INIT menu page.

j) Push the LSK adjacent to the <MAINT MENU prompt to go back to the ACARS MAINTENANCE page.

k) Push the LSK adjacent to the <ACARS MENU prompt to go back to the ACARS PREFLT MENU page.

LOM 443-445, 457-460, 464; LOM 404 POST SB 737-23-1484 OR POST SB 737-23-1483; LOM 420 POST SB 737-23-1483

(c) Push the LSK adjacent to the <DLK prompt on CDU-1.

1) Make sure that the DATALINK (DLK) MENU page shows on the display.

NOTE: Unless otherwise specified, all CDU key selections are done on CDU-1 and all pages and messages show on CDU-1.

LOM 443-445, 458-460, 464; LOM 404 POST SB 737-23-1484 OR POST SB 737-23-1483; LOM 420 POST SB 737-23-1483

2) If the message “ENTER AIRLINE ID” does not show on the CDU, or if the 2 letter airline code does not need to be changed, continue with step (c).

LOM 457

3) If the message ‘‘ENTER AIRLINE ID’’ does not show on the CDU, or if the 2 letter airline ID/3 letter airline ICAO code does not need to be changed, continue with step (c).

LOM 443-445, 458-460, 464; LOM 404 POST SB 737-23-1484 OR POST SB 737-23-1483; LOM 420 POST SB 737-23-1483

4) If the message “ENTER AIRLINE ID” shows on the CDU, or if the 2 letter airline code needs to be changed, do these steps:

a) Push the LSK adjacent to the MAINT> prompt.

<1> Make sure that the CMU MAINTENANCE page shows on the display.

b) Use the CDU keypad to enter SERGE into the CDU scratchpad.

c) Push the top right LSK.

<1> Make sure that the CMU INIT page shows on the display.

d) Push the LSK adjacent to the <AIRLINE ID prompt.

<1> Make sure that the CMU AIRLINE ID INIT page shows on the display.

e) Use the CDU keypad to enter the two character airline ID code into the CDU scratchpad. Select the LSK adjacent to MANUAL.

f) Push the LSK adjacent to the <SELECT prompt until the <SEL> prompt is adjacent to the dashes on the line below the MANUAL prompt.

g) Push the LSK adjacent to the boxes on the line below the MANUAL prompt to store the airline ID code.

h) Push the LSK adjacent to the <INIT MENU prompt to go back to the CMU INIT menu page.

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LOM 443-445, 458-460, 464; LOM 404 POST SB 737-23-1484 OR POST SB 737-23-1483; LOM 420 POST SB 737-23-1483 (Continued)

i) Push the LSK adjacent to the <MAINT MENU prompt to go back to the CMU MAINTENANCE page.

j) Push the LSK adjacent to the <DLK MENU prompt to go back to the DATALINK (DLK) MENU page.

LOM 457

5) If the message “ENTER AIRLINE ID” shows on the CDU, or if the 2 letter airline ID/3 letter airline ICAO code needs to be changed, do these steps:

a) Push the LSK adjacent to the MAINT> prompt.

<1> Make sure that the CMU MAINTENANCE page shows on the display.

b) Use the CDU keypad to enter SERGE into the CDU scratchpad.

c) Push the top right LSK.

<1> Make sure that the CMU INIT page shows on the display.

d) Push the LSK adjacent to the <AIRLINE ID prompt.

<1> Make sure that the CMU AIRLINE ID INIT page shows on the display.

e) Use the CDU keypad to enter the two letter airline ID, a forward slash "/", followed by the three letter airline ICAO code into the CDU scratchpad. Set the LSK adjacent to MANUAL.

f) Push the LSK adjacent to the <SELECT prompt until the <SEL> prompt is adjacent to the dashes on the line below the MANUAL prompt.

g) Push the LSK adjacent to the boxes on the line below the MANUAL prompt to keep the two letter airline ID/three letter airline ICAO code.

h) Push the LSK adjacent to the <INIT MENU prompt to go back to the CMU INIT menu page.

i) Push the LSK adjacent to the <MAINT MENU prompt to go back to the CMU MAINTENANCE page.

j) Push the LSK adjacent to the <DLK MENU prompt to go back to the DATALINK (DLK) MENU page.

LOM 407, 412, 415, 423, 424, 437, 438; LOM 420 PRE SB 737-23-1483

(d) Push the LSK adjacent to the <MISC prompt.

1) Make sure that the ACARS MISC page shows on the display.

LOM 407, 412, 415, 420, 423, 424, 437, 438, 443-445, 457-460, 464; LOM 404 POST SB 737-23-1484 OR POST SB 737-23-1483

(e) Push the LSK adjacent to the MAINT> prompt.

LOM 407, 412, 415, 423, 424, 437, 438; LOM 420 PRE SB 737-23-1483

1) Make sure that the ACARS MAINTENANCE pages shows on the display.

LOM 443-445, 457-460, 464; LOM 404 POST SB 737-23-1484 OR POST SB 737-23-1483; LOM 420 POST SB 737-23-1483

2) Make sure that the CMU MAINTENANCE pages show on the display.

LOM 407, 412, 415, 420, 423, 424, 437, 438, 443-445, 457-460, 464; LOM 404 POST SB 737-23-1484 OR POST SB 737-23-1483

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(f) Push the LSK adjacent to the <PART NUMBERS prompt.

LOM 407, 412, 415, 423, 424, 437, 438; LOM 420 PRE SB 737-23-1483

1) Make sure that the ACARS PART NUMBERS page shows on the display.

LOM 443-445, 457-460, 464; LOM 404 POST SB 737-23-1484 OR POST SB 737-23-1483; LOM 420 POST SB 737-23-1483

2) Make sure that the CMU PART NUMBERS page shows on the display.

LOM 407, 412, 415, 423, 424, 437, 438; LOM 420 PRE SB 737-23-1483

3) Make sure that the ACARS CORE S/W, APP S/W and DB part numbers are correct.

LOM 443-445, 457-460, 464; LOM 404 POST SB 737-23-1484 OR POST SB 737-23-1483; LOM 420 POST SB 737-23-1483

4) Make sure that the CMU CORE S/W, APP S/W and DB part numbers are correct.

LOM 407, 412, 415, 420, 423, 424, 437, 438, 443-445, 457-460, 464; LOM 404 POST SB 737-23-1484 OR POST SB 737-23-1483

5) If any software part numbers are not correct, do this task: ACARS Software Installation with a Portable Data Loader (PDL), TASK 23-27-33-470-801 or ACARS Communications Management Unit Software Installation with an Airborne Data Loader (ADL), TASK 23-27-33-470-802 or ACARS Communications Management Unit Software Installation with an Enhanced Airborne Data Loader (eADL), TASK 23-27-33-470-805.

LOM 407, 412, 415, 420, 423, 424, 437, 438, 443-445, 457-460, 464

(g) Push the LSK adjacent to the PRINT> prompt.

1) Make sure that the printer prints the information that shows on the display.

NOTE: The print format is not the same as the display format.

2) Make sure that the printed aircraft registration number matches the registration number of the airplane as shown on the captain's or first officer's main instrument panel placard.

LOM 407, 412, 415, 423, 424, 437, 438; LOM 420 PRE SB 737-23-1483

(h) Push the LSK adjacent to the <MAINT MENU prompt to go back to the ACARS MAINTENANCE page.

LOM 443-445, 457-460, 464; LOM 404 POST SB 737-23-1484 OR POST SB 737-23-1483; LOM 420 POST SB 737-23-1483

(i) Push the LSK adjacent to the <MAINT MENU prompt to go back to the CMU MAINTENANCE page.

LOM 407, 412, 415, 423, 424, 437, 438; LOM 420 PRE SB 737-23-1483

(j) Push the LSK adjacent to the <ACARS MENU prompt to go back to the ACARS PREFLT MENU page.

LOM 443-445, 457-460, 464; LOM 404 POST SB 737-23-1484 OR POST SB 737-23-1483; LOM 420 POST SB 737-23-1483

(k) Push the LSK adjacent to the <DLK MENU prompt to go back to the DATALINK (DLK) MENU page.

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LOM 443-445, 457-460, 464; LOM 404 POST SB 737-23-1484 OR POST SB 737-23-1483; LOM 420 POST SB 737-23-1483 (Continued)

(l) Push the LSK adjacent to the ACARS> prompt. This selection is on the CMU menu page.

LOM 407, 412, 415, 420, 423, 424, 437, 438, 443-445, 457-460, 464; LOM 404 POST SB 737-23-1484 OR POST SB 737-23-1483

(m) From the ACARS PREFLT MENU page, push the LSK adjacent to the <MISC prompt.

(n) From the ACARS MISC page, push the LSK adjacent to the <FREQUENCY prompt.

LOM 407, 412, 415, 423, 424, 437, 438; LOM 420 PRE SB 737-23-1483

1) Make sure that the ACARS DATA FREQ page shows on the display.

LOM 443-445, 457-460, 464; LOM 404 POST SB 737-23-1484 OR POST SB 737-23-1483; LOM 420 POST SB 737-23-1483

2) Make sure that the CMU DATA FREQ page shows on the display.

LOM 407, 412, 415, 423, 424, 437, 438; LOM 420 PRE SB 737-23-1483

3) Make sure that the data frequency shows below the ACARS DATA FREQ prompt.

LOM 443-445, 457-460, 464; LOM 404 POST SB 737-23-1484 OR POST SB 737-23-1483; LOM 420 POST SB 737-23-1483

4) Make sure that the data frequency shows below the CMU DATA FREQ prompt.

LOM 407, 412, 415, 423, 424, 437, 438; LOM 420 PRE SB 737-23-1483

5) Make sure that the OPERATING IN VDL M2 shows centered on line 5 of the CDU display.

LOM 443-445, 457-460, 464; LOM 404 POST SB 737-23-1484; LOM 420 POST SB 737-23-1483

6) Make sure that the YES> is shown in LSK 5R below ALLOW MODE 2.

LOM 407, 412, 415, 423, 424, 437, 438; LOM 420 PRE SB 737-23-1483

(o) Push the LSK adjacent to the <ACARS MENU prompt to go back to the ACARS PREFLT MENU page.

LOM 443-445, 457-460, 464; LOM 404 POST SB 737-23-1484 OR POST SB 737-23-1483; LOM 420 POST SB 737-23-1483

(p) Push the LSK adjacent to the <RETURN prompt two times to go back to the ACARS PREFLT MENU page.

LOM 407, 412, 415, 420, 423, 424, 437, 438, 443-445, 457-460, 464; LOM 404 POST SB 737-23-1484 OR POST SB 737-23-1483

SUBTASK 23-27-00-730-082-009

(8) Do these steps to do the VHF link test:

(a) From the ACARS PREFLT MENU page, push the LSK adjacent to the <MISC prompt.

(b) From the ACARS MISC page, push the LSK adjacent to the MAINT> prompt.

LOM 407, 412, 415, 423, 424, 437, 438; LOM 420 PRE SB 737-23-1483

(c) From the ACARS MAINTENANCE page, push the LSK adjacent to the <TEST prompt.

1) Make sure that the ACARS TEST page 1 shows on the display.

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LOM 443-445, 457-460, 464; LOM 404 POST SB 737-23-1484 OR POST SB 737-23-1483; LOM 420 POST SB 737-23-1483

(d) From the CMU MAINTENANCE page, push the LSK adjacent to the <TEST prompt.

1) Make sure that the CMU TEST page shows on the display.

LOM 407, 412, 415, 420, 423, 424, 437, 438, 443-445, 457-460, 464; LOM 404 POST SB 737-23-1484 OR POST SB 737-23-1483

(e) Push the LSK adjacent to the <INITIATE prompt under the VHF LINK prompt.

1) Make sure that the word INITIATE, then the word TEST, then the word PASS, then the word INITIATE shows on the display.

NOTE: The word TEST could show momentarily.

LOM 437, 438, 443-445

SUBTASK 23-27-00-730-083-009

(9) Do these steps to do the HF-1 data link test:

WARNING DO NOT OPERATE THE HF SYSTEM WHILE THE AIRPLANE IS REFUELED OR DEFUELED. AN EXPLOSION CAN CAUSE INJURIES TO PERSONNEL AND DAMAGE TO THE AIRPLANE.

WARNING MAKE SURE THAT PERSONNEL STAY A MINIMUM OF 10 FT (3 M) AWAY FROM THE VERTICAL STABILIZER WHEN THE HF SYSTEM TRANSMITS. RF ENERGY FROM THE HF ANTENNA CAN CAUSE INJURIES TO PERSONNEL.

(a) Make sure that the HF communication system is serviceable (TASK 23-11-00-710-801).

NOTE: HF ACARS data link transmission is inhibited until the airplane is in the AIR mode.

(b) On CDU-2, push the MENU function key.

(c) On CDU-2, push the LSK adjacent to the <ACARS prompt.

(d) From the ACARS PREFLT MENU page on CDU-2, push the LSK adjacent to the <MISC prompt.

(e) From the ACARS MISC page on CDU-2, push the LSK adjacent to the <STATUS prompt.

1) Make sure that the ACARS OOOI STATUS page 1 shows on CDU-2.

(f) On CDU-2, push the NEXT PAGE function key

1) Make sure that the ACARS OOOI STATUS page 2 shows on CDU-2.

2) Make sure that the GND shows adjacent to the STRUT prompt.

(g) Push HF-1 on Radio Tuning Panel (RTP)-1.

1) Make sure that the DATA shows in the ACTIVE display of RTP-1.

2) If DATA shows in the STANDBY display, push the transfer switch to move DATA to the ACTIVE display.

3) If DATA does not show in the ACTIVE or STANDBY display, select a standby frequency less than 2.

a) When DATA shows in the STANDBY display, push the transfer switch to move DATA to the ACTIVE display.

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LOM 437, 438, 443-445 (Continued)

> **WARNING** DO NOT OPERATE THE HF SYSTEM WHILE THE AIRPLANE IS REFUELED OR DEFUELED. AN EXPLOSION CAN CAUSE INJURIES TO PERSONNEL AND DAMAGE TO THE AIRPLANE.

> **WARNING** MAKE SURE THAT PERSONNEL STAY A MINIMUM OF 10 FT (3 M) AWAY FROM THE VERTICAL STABILIZER WHEN THE HF SYSTEM TRANSMITS. RF ENERGY FROM THE HF ANTENNA CAN CAUSE INJURIES TO PERSONNEL.

(h) Do these steps to put the airplane in AIR mode:

1) Do this task: Prepare to Put the Airplane in the Air Mode, TASK 32-09-00-840-801.

2) Do this task: Put the Airplane in the Air Mode, TASK 32-09-00-860-801.

NOTE: HF transmission will start as soon as the airplane is in the AIR mode.

3) Make sure that the AIR shows adjacent to the STRUT prompt on CDU-2.

(i) On CDU-1, push the LSK adjacent to the INITIATE> prompt under the HF-LINK line.

1) Make sure that the word INITIATE, then the word TEST, then the word PASS, then the word INITIATE shows on the display.

NOTE: TEST will show for approximately 5 minutes or more. PASS or FAIL will show for only seconds, then INITIATE will show.

> **WARNING** DO NOT KEEP THE HF SYSTEM IN THE DATA MODE AFTER YOU DO THE HF LINK TEST. WHEN THE HF SYSTEM IS IN THE DATA MODE THEN IT CAN TRANSMIT INDEPENDENTLY OF PERSONNEL CONTROL (PUSH-TO-TALK SWITCH). THIS CAN CAUSE INJURIES TO PERSONNEL.

(j) Push the RTP-1 transfer switch to move DATA to the STANDBY window.

SUBTASK 23-27-00-730-084-009

(10) Do these steps to do the HF-2 data link test:

(a) Push HF-2 on RTP-1.

1) Make sure that the DATA shows in the ACTIVE display of RTP-1.

2) If DATA shows in the STANDBY display, push the transfer switch to move DATA to the ACTIVE display.

3) If DATA does not show in the ACTIVE or STANDBY display, select a standby frequency less than 2.

a) When DATA shows in the STANDBY display, push the transfer switch to move DATA to the ACTIVE display.

(b) On CDU-1, push the LSK adjacent to the INITIATE> prompt under the HF-LINK line.

1) Make sure that the word INITIATE, then the word TEST, then the word PASS, then the word INITIATE shows on the display.

NOTE: TEST will show for approximately 5 minutes or more. PASS or FAIL will show for only seconds, then INITIATE will show.

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LOM 437, 438, 443-445 (Continued)

> **WARNING** DO NOT KEEP THE HF SYSTEM IN THE DATA MODE AFTER YOU DO THE HF LINK TEST. WHEN THE HF SYSTEM IS IN THE DATA MODE THEN IT CAN TRANSMIT INDEPENDENTLY OF PERSONNEL CONTROL (PUSH-TO-TALK SWITCH). THIS CAN CAUSE INJURIES TO PERSONNEL.

(c) Push the RTP-1 transfer switch to move DATA to the STANDBY window.

SUBTASK 23-27-00-840-003-009

(11) Do these steps to return the airplane to GROUND mode.

(a) Do this task: Return the Airplane to the Ground Mode, TASK 32-09-00-860-802.

(b) Do this task: Return the Airplane Systems Back to Their Normal On Ground Condition, TASK 32-09-00-840-802.

1) Make sure that the GND shows adjacent to the STRUT prompt on CDU-2.

NOTE: HF data link tests are complete.

(c) On CDU-2, push the MENU function key.

(d) From the ACARS TEST page on CDU-1, push the LSK adjacent to the <MAINT MENU prompt.

NOTE: Unless otherwise specified, all CDU key selections are done on CDU-1 and all pages and messages show on CDU-1.

(e) From the ACARS MAINTENANCE page, push the LSK adjacent to the <ACARS MENU prompt./

LOM 407, 412, 415, 420, 423, 424, 437, 438, 443-445, 457-460, 464; LOM 404 POST SB 737-23-1484 OR POST SB 737-23-1483

SUBTASK 23-27-00-730-086-009

(12) Do these steps to do the FMC broadcast bus and registry test:

(a) From the ACARS PREFLT MENU page, push the LSK adjacent to the <FLIGHT prompt.

1) Make sure that the ACARS PREFLIGHT INIT page shows on the display.

(b) On CDU-2, push the RTE function key.

(c) On CDU-2, type a valid flight number in the scratchpad.

(d) On CDU-2, push the LSK adjacent to the FLT NO. prompt.

1) Make sure that the FLIGHT number data that shows on the CDU-2 ROUTE page also shows on the ACARS PREFLIGHT INIT page on CDU-1.

(e) On CDU-2, push the MENU function key.

(f) On CDU-1, push the LSK adjacent to the <ACARS MENU prompt.

NOTE: Unless otherwise specified, all CDU key selections are done on CDU-1 and all pages and messages show on CDU-1.

SUBTASK 23-27-00-730-118

(13) Do these steps to do the digital interface test.

LOM 407, 412, 415, 423, 424, 437, 438; LOM 420 PRE SB 737-23-1483

(a) From the ACARS STATUS page, push the LSK adjacent to the <LRU prompt.

1) Make sure that the ACARS LRU STATUS page 1 shows.

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LOM 407, 412, 415, 423, 424, 437, 438; LOM 420 PRE SB 737-23-1483 (Continued)

2) Make sure that the installed LRUs listed on page 1 show ACTIVE adjacent to the LRU prompt.

NOTE: If an LRU is not installed to the ACARS CMU, “NOT INSTALL” shows adjacent to the LRU prompt.

LOM 443-445, 457-460, 464; LOM 404 POST SB 737-23-1484 OR POST SB 737-23-1483; LOM 420 POST SB 737-23-1483

(b) From the CMU STATUS page, push the LSK adjacent to the <LRU prompt.

1) Make sure that the CMU LRU STATUS page 1 shows.

2) Make sure that the installed LRUs listed on page 1 show ACTIVE adjacent to the LRU prompt.

NOTE: If an LRU is not installed to the ACARS CMU, “NOT INSTALL” shows adjacent to the LRU prompt.

LOM 407, 412, 415, 420, 423, 424, 437, 438, 443-445, 457-460, 464; LOM 404 POST SB 737-23-1484 OR POST SB 737-23-1483

(c) Push the NEXT PAGE function key

LOM 407, 412, 415, 423, 424, 437, 438; LOM 420 PRE SB 737-23-1483

1) Make sure that the ACARS LRU STATUS page 2 shows.

LOM 443-445, 457-460, 464; LOM 404 POST SB 737-23-1484 OR POST SB 737-23-1483; LOM 420 POST SB 737-23-1483

2) Make sure that the CMU LRU STATUS page 2 shows.

LOM 407, 412, 415, 420, 423, 424, 437, 438, 443-445, 457-460, 464; LOM 404 POST SB 737-23-1484 OR POST SB 737-23-1483

3) Make sure that the installed LRUs listed on page 2 show ACTIVE adjacent to the LRU prompt.

NOTE: If an LRU is not installed to the ACARS CMU, “NOT INSTALL” shows adjacent to the LRU prompt.

(d) Push the NEXT PAGE function key

LOM 407, 412, 415, 423, 424, 437, 438; LOM 420 PRE SB 737-23-1483

1) Make sure that the ACARS LRU STATUS page 3 shows.

LOM 443-445, 457-460, 464; LOM 404 POST SB 737-23-1484 OR POST SB 737-23-1483; LOM 420 POST SB 737-23-1483

2) Make sure that the CMU LRU STATUS page 3 shows.

LOM 407, 412, 415, 420, 423, 424, 437, 438, 443-445, 457-460, 464; LOM 404 POST SB 737-23-1484 OR POST SB 737-23-1483

3) Make sure that the installed LRUs listed on page 3 show ACTIVE adjacent to the LRU prompt.

NOTE: If an LRU is not installed to the ACARS CMU, “NOT INSTALL” shows adjacent to the LRU prompt.

(e) Push the NEXT PAGE function key

LOM 407, 412, 415, 423, 424, 437, 438; LOM 420 PRE SB 737-23-1483

1) Make sure that the ACARS LRU STATUS page 4 shows.

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LOM 443-445, 457-460, 464; LOM 404 POST SB 737-23-1484 OR POST SB 737-23-1483; LOM 420 POST SB 737-23-1483

2) Make sure that the CMU LRU STATUS page 4 shows.

LOM 407, 412, 415, 420, 423, 424, 437, 438, 443-445, 457-460, 464; LOM 404 POST SB 737-23-1484 OR POST SB 737-23-1483

3) Make sure that the installed LRUs listed on page 4 show ACTIVE adjacent to the LRU prompt.

NOTE: If an LRU is not installed to the ACARS CMU, “NOT INSTALL” shows adjacent to the LRU prompt.

(f) Push the NEXT PAGE function key

LOM 407, 412, 415, 423, 424, 437, 438; LOM 420 PRE SB 737-23-1483

1) Make sure that the ACARS LRU STATUS page 5 shows.

LOM 443-445, 457-460, 464; LOM 404 POST SB 737-23-1484 OR POST SB 737-23-1483; LOM 420 POST SB 737-23-1483

2) Make sure that the CMU LRU STATUS page 5 shows.

LOM 407, 412, 415, 420, 423, 424, 437, 438, 443-445, 457-460, 464; LOM 404 POST SB 737-23-1484 OR POST SB 737-23-1483

3) Make sure that the installed LRUs listed on page 5 show ACTIVE adjacent to the LRU prompt.

NOTE: If an LRU is not installed to the ACARS CMU, “NOT INSTALL” shows adjacent to the LRU prompt.

(g) Push the NEXT PAGE function key

LOM 407, 412, 415, 423, 424, 437, 438; LOM 420 PRE SB 737-23-1483

1) Make sure that the ACARS LRU STATUS page 6 shows.

LOM 443-445, 457-460, 464; LOM 404 POST SB 737-23-1484 OR POST SB 737-23-1483; LOM 420 POST SB 737-23-1483

2) Make sure that the CMU LRU STATUS page 6 shows.

LOM 407, 412, 415, 420, 423, 424, 437, 438, 443-445, 457-460, 464; LOM 404 POST SB 737-23-1484 OR POST SB 737-23-1483

3) Make sure that the installed LRUs listed on page 6 show ACTIVE adjacent to the LRU prompt.

NOTE: If an LRU is not installed to the ACARS CMU, “NOT INSTALL” shows adjacent to the LRU prompt.

LOM 407, 412, 415, 423, 424, 437, 438; LOM 420 PRE SB 737-23-1483

(h) Push the LSK adjacent to the <STATUS MENU prompt to go back to the ACARS STATUS page.

LOM 443-445, 457-460, 464; LOM 404 POST SB 737-23-1484 OR POST SB 737-23-1483; LOM 420 POST SB 737-23-1483

(i) Push the LSK adjacent to the <STATUS MENU prompt to go back to the CMU STATUS page.

LOM 407, 412, 415, 423, 424, 437, 438; LOM 420 PRE SB 737-23-1483

(j) From the ACARS STATUS menu, push the LSK adjacent to the <MAINT MENU prompt to go back to the ACARS MAINTENANCE MENU.

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LOM 443-445, 457-460, 464; LOM 404 POST SB 737-23-1484 OR POST SB 737-23-1483; LOM 420 POST SB 737-23-1483

(k) From the CMU STATUS menu, push the LSK adjacent to the <MAINT MENU prompt to go back to the CMU MAINTENANCE.

LOM 407, 412, 415, 423, 424, 437, 438; LOM 420 PRE SB 737-23-1483

(l) From the ACARS MAINTENANCE menu, push the LSK adjacent to the <ACARS MENU prompt to go back to the ACARS PREFLT MENU.

LOM 443-445, 457-460, 464; LOM 404 POST SB 737-23-1484 OR POST SB 737-23-1483; LOM 420 POST SB 737-23-1483

(m) From the CMU MAINTENANCE menu, push the LSK adjacent to the <DLK MENU prompt to go back to the DATALINK (DLK) MENU.

LOM 407, 412, 415, 420, 423, 424, 437, 438, 443-445, 457-460, 464; LOM 404 POST SB 737-23-1484 OR POST SB 737-23-1483

SUBTASK 23-27-00-730-087-009

(14) Do these steps to do the OUT, OFF, ON, IN (OOOI) sensor test:

(a) From the ACARS PREFLT MENU page, push the LSK adjacent to the <MISC prompt.

(b) From the ACARS MISC page, push the LSK adjacent to the <STATUS prompt.

(c) From page 1 of the ACARS OOOI STATUS page, push the NEXT PAGE function key two times.

1) Make sure that the ACARS OOOI STATUS page 3 shows on the display.

NOTE: The following steps test each OOOI parameter. If the OOOI parameters have been working correctly and the ACARS Communications Management Unit (CMU) was not removed or replaced, these steps are optional.

(d) Open the left forward entry door.

1) Make sure that the OPEN shows adjacent to the FWD MAIN prompt.

(e) Close the left forward entry door.

1) Make sure that the CLOSED shows adjacent to the FWD MAIN prompt.

(f) Open the left aft entry door.

1) Make sure that the OPEN shows adjacent to the AFT MAIN prompt.

(g) Close the left aft entry door.

1) Make sure that the CLOSED shows adjacent to the AFT MAIN prompt.

(h) Open the right forward door.

1) Make sure that the OPEN shows adjacent to the SERVICE prompt.

(i) Close the right forward door.

1) Make sure that the CLOSED shows adjacent to the SERVICE prompt.

(j) Open the right aft door.

1) Make sure that the OPEN shows adjacent to the SERVICE prompt.

(k) Close the right aft door.

1) Make sure that the CLOSED shows adjacent to the SERVICE prompt.

(l) Open the forward cargo compartment door.

1) Make sure that the OPEN shows adjacent to the CARGO/AV prompt.

(m) Close the forward cargo compartment door.

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1) Make sure that the CLOSED shows adjacent to the CARGO/AV prompt.

(n) Push the PREV PAGE function key.

1) Make sure that the ACARS OOOI STATUS page 2 shows on the display.

2) Make sure that the SET shows adjacent to the PRK BRAKE prompt.

WARNING MAKE SURE THAT THE AIRPLANE WILL NOT MOVE BEFORE YOU RELEASE THE PARKING BRAKE. IF THE AIRPLANE MOVES, IT CAN CAUSE INJURIES TO PERSONNEL AND DAMAGE TO EQUIPMENT.

(o) Release the parking brake.

1) Make sure that the REL shows adjacent to the PRK BRAKE prompt.

(p) Set the parking brake.

1) Make sure that the SET shows adjacent to the PRK BRAKE prompt.

(q) Make sure that the GND shows adjacent to the STRUT prompt.

LOM 437, 438, 443-445

(r) Do these steps to test the STRUT AIR/GND switch.

WARNING DO NOT OPERATE HF COMMUNICATIONS SYSTEM OR WEATHER RADAR DURING THE DEFUELING OPERATIONS. THE HF COMMUNICATION SYSTEM OR WEATHER RADAR COULD CAUSE AN EXPLOSION TO OCCUR.

WARNING MAKE SURE THAT PERSONNEL STAY A MINIMUM OF 10 FT (3 M) AWAY FROM THE VERTICAL STABILIZER WHEN THE HF SYSTEM TRANSMITS. RF ENERGY FROM THE HF ANTENNA CAN CAUSE INJURIES TO PERSONNEL.

WARNING DO NOT LEAVE THE HF SYSTEM IN THE DATA MODE, EXCEPT DURING THE HF LINK TEST. IF THE HF SYSTEM IS IN THE DATA MODE, THEN IT CAN TRANSMIT INDEPENDENTLY OF PERSONNEL CONTROL (PUSH-TO-TALK SWITCH).

1) Make sure that the DATA does not show in the ACTIVE display of the RTP for HF-1 or HF-2.

NOTE: If an HF data link test was completed, this STRUT AIR/GND test is optional.

2) Do this task: Prepare to Put the Airplane in the Air Mode, TASK 32-09-00-840-801.

3) Do this task: Put the Airplane in the Air Mode, TASK 32-09-00-860-801.

a) Make sure that the AIR shows adjacent to the STRUT prompt.

4) Do this task: Return the Airplane to the Ground Mode, TASK 32-09-00-860-802.

5) Do this task: Return the Airplane Systems Back to Their Normal On Ground Condition, TASK 32-09-00-840-802.

a) Make sure that the GND shows adjacent to the STRUT prompt.

LOM 407, 412, 415, 420, 423, 424, 457-460, 464; LOM 404 POST SB 737-23-1484 OR POST SB 737-23-1483

(s) Do these steps to test the STRUT AIR/GND switch.

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LOM 407, 412, 415, 420, 423, 424, 457-460, 464; LOM 404 POST SB 737-23-1484 OR POST SB 737-23-1483 (Continued)

1) Do this task: Prepare to Put the Airplane in the Air Mode, TASK 32-09-00-840-801.
2) Do this task: Put the Airplane in the Air Mode, TASK 32-09-00-860-801.
   a) Make sure that the AIR shows adjacent to the STRUT prompt.
3) Do this task: Return the Airplane to the Ground Mode, TASK 32-09-00-860-802.
4) Do this task: Return the Airplane Systems Back to Their Normal On Ground Condition, TASK 32-09-00-840-802.
   a) Make sure that the GND shows adjacent to the STRUT prompt.

LOM 407, 412, 415, 420, 423, 424, 437, 438, 443-445, 457-460, 464; LOM 404 POST SB 737-23-1484 OR POST SB 737-23-1483

(t) Push the LSK adjacent to the <ACARS MENU prompt.

END OF TASK

ECCN 9E991 BOEING PROPRIETARY - See title page for details

ACARS SYSTEM - ADJUSTMENT/TEST

1. General

A. This procedure has these tasks:

(1) An operation test of the ARINC Communications Addressing and Reporting System (ACARS).

(2) A system test of the ACARS.

TASK 23-27-00-740-816-010

2. ACARS - Operational Test

A. References

Reference	Title
23-27-33-700-802	ACARS Communications Management Unit (CMU) Software Configuration Check (P/B 201)

B. Location Zones

Zone	Area
117	Electrical and Electronics Compartment - Left
118	Electrical and Electronics Compartment - Right

C. ACARS Operational Test

SUBTASK 23-27-00-700-027-010

(1) Do this task: ACARS Communications Management Unit (CMU) Software Configuration Check, TASK 23-27-33-700-802.

SUBTASK 23-27-00-710-019-010

(2) Do these steps to do the ACARS Operational test:

(a) Push and release the TEST switch on the ACARS Communications Management Unit (CMU) on shelf E4-1 in the E/E compartment.

(b) Make sure that the SYSTEM FAIL indicator stays off.

(c) Make sure that the LRU PASS/FAIL indicator is red for 2 seconds, then is green for 2 seconds, then is off for at least 2 seconds and no more than 5 seconds.

(d) If the test passes, the LRU PASS/FAIL indicator is green for 30 seconds, then is off.

(e) If the test fails, the LRU PASS/FAIL indicator is red for 30 seconds, then is off.

——— END OF TASK ———

TASK 23-27-00-730-806-010

3. ACARS - System Test

A. General

(1) The system test contains checks of all of the primary Aircraft Communications Addressing And Reporting System (ACARS) functions. The checks in the operational test are also in the system test.

(2) For the ACARS system to operate correctly, it must be linked to a remote ground station.

(3) For ACARS to link to the ground station through the Very High Frequency (VHF) communication system, the airplane must be within range of the ground station. Also, the VHF antenna must have a clear view to the station tower.

(4) The ACARS ground station and network must also be operational.

ECCN 9E991 BOEING PROPRIETARY - See title page for details

LOM 422, 425, 433, 434, 440, 442, 450, 453, 454, 461-463

(5) Make sure the airplane is not in or near any large metal structures. High Frequency (HF) communication while the airplane is on the ground can be degraded by airplane position or blocked by Radio Frequency (RF) signal attenuation due to ground equipment and structures.

LOM 422, 425, 427-431, 433, 434, 439-442, 446, 447, 450-456, 461-463, 465-999

(6) The system test is based on the default Boeing Airline Operational Communications (AOC) software. If airline customized AOC software is loaded, there may be differences in Control Display Unit (CDU) screen formats and screen prompts.

B. References

Reference	Title
23-11-00-730-801	HF Communication System - System Test (P/B 501)
23-12-00-730-801	VHF Communication System - System Test (P/B 501)
23-27-33-020-801	ACARS Communications Management Unit (CMU) Removal (P/B 401)
23-27-33-470-801	ACARS Software Installation with a Portable Data Loader (PDL) (P/B 201)
23-27-33-470-802	ACARS Communications Management Unit Software Installation with an Airborne Data Loader (ADL) (P/B 201)
23-27-33-470-805	ACARS Communications Management Unit Software Installation with an Enhanced Airborne Data Loader (eADL) (P/B 201)
23-27-35-700-801	ACARS Airplane Personality Module (APM) Data Verification Check (P/B 201)
31-31-00-730-801	Flight Data Recorder System - System Test (P/B 501)
32-09-00-840-801	Prepare to Put the Airplane in the Air Mode (P/B 201)
32-09-00-840-802	Return the Airplane Systems Back to Their Normal On Ground Condition (P/B 201)
32-09-00-860-801	Put the Airplane in the Air Mode (P/B 201)
32-09-00-860-802	Return the Airplane to the Ground Mode (P/B 201)
32-44-00-710-801	Parking Brake System - Operational Test (P/B 501)
34-61-00-730-801	Flight Management Computer System - System Test (P/B 501)
52-11-00-700-804	Forward Entry Door System Test (P/B 501)
52-13-00-700-805	Aft Entry Door System Test (P/B 501)
52-31-00-700-801	Cargo Door System Test (P/B 501)

C. Location Zones

Zone	Area
211	Flight Compartment - Left
212	Flight Compartment - Right

D. ACARS System Test

SUBTASK 23-27-00-860-151-010

(1) Set the captain's clock to the current Greenwich Mean Time (GMT).

SUBTASK 23-27-00-860-152-010

(2) Make sure that these systems are serviceable:

ECCN 9E991 BOEING PROPRIETARY - See title page for details

LOM 422, 425, 433, 434, 440, 442, 450, 453, 454, 461-463

> **WARNING** DO NOT OPERATE THE HF SYSTEM WHILE THE AIRPLANE IS REFUELED OR DEFUELED. AN EXPLOSION CAN CAUSE INJURIES TO PERSONNEL AND DAMAGE TO THE AIRPLANE.

> **WARNING** MAKE SURE THAT PERSONNEL STAY A MINIMUM OF 10 FT (3 M) AWAY FROM THE VERTICAL STABILIZER WHEN THE HF SYSTEM TRANSMITS. RF ENERGY FROM THE HF ANTENNA CAN CAUSE INJURIES TO PERSONNEL.

> **WARNING** DO NOT LEAVE THE HF SYSTEM IN THE DATA MODE, EXCEPT DURING THE HF LINK TEST. IF THE HF SYSTEM IS IN THE DATA MODE, THEN IT CAN TRANSMIT INDEPENDENTLY OF PERSONNEL CONTROL (PUSH-TO-TALK SWITCH).

(a) The HF communication system (TASK 23-11-00-730-801).

LOM 422, 425, 427-431, 433, 434, 439-442, 446, 447, 450-456, 461-463, 465-999

(b) The VHF communication system (TASK 23-12-00-730-801).

(c) The Flight Data Recorder (FDR) system (TASK 31-31-00-730-801).

(d) The parking brake system (TASK 32-44-00-710-801).

(e) The Flight Management Computer (FMC) system (TASK 34-61-00-730-801).

(f) The passenger doors system (TASK 52-11-00-700-804).

(g) The aft entry door system (TASK 52-13-00-700-805).

(h) The cargo door system (TASK 52-31-00-700-801).

SUBTASK 23-27-00-710-024

(3) Do this task: ACARS - Operational Test, TASK 23-27-00-740-816-010.

SUBTASK 23-27-00-700-028-010

(4) Do this task: ACARS Airplane Personality Module (APM) Data Verification Check, TASK 23-27-35-700-801.

SUBTASK 23-27-00-730-093-010

(5) Do the initialization and print test:

(a) Push the MENU function key on both CDUs.

LOM 422, 425, 429-431, 433, 434, 439-442, 446, 447, 450, 453-456, 461-463, 465-999

(b) Push the Line Select Key (LSK) adjacent to the <ACARS prompt on both CDUs.

1) Make sure that the ACARS-APPLICATION MENU shows on both displays.

NOTE: Use CDU-1 when it is necessary to use the ACARS menu functions during the system test. You can use CDU-2 when it is necessary to use the FMC functions.

LOM 427, 428, 451, 452

(c) Push the LSK adjacent to the <DLNK prompt on both CDUs.

1) Make sure that the DLNK-APPLICATION MENU shows on both displays.

NOTE: Use CDU-1 for the steps that follow.

LOM 422, 425, 427-431, 433, 434, 439-442, 446, 447, 450-456, 461-463, 465-999

ECCN 9E991 BOEING PROPRIETARY - See title page for details

(d) Push the LSK adjacent to the TECHNICAL> prompt.

1) Make sure that the ACARS-TECHNICAL MENU shows on the display.

(e) Push the LSK adjacent to the <SYSTEM CONFIG prompt.

1) Make sure that the ACARS-SYSTEM CONFIG page 1 shows on the display.

2) Make sure that the correct ACARS hardware and software part numbers show on the display.

3) If the correct software part numbers do not show on the display, do this task: ACARS Software Installation with a Portable Data Loader (PDL), TASK 23-27-33-470-801 or ACARS Communications Management Unit Software Installation with an Airborne Data Loader (ADL), TASK 23-27-33-470-802 or ACARS Communications Management Unit Software Installation with an Enhanced Airborne Data Loader (eADL), TASK 23-27-33-470-805 or replace the Communications Management Unit (CMU) with a unit that has the correct software loaded (TASK 23-27-33-020-801).

LOM 422, 425, 427-431, 433, 434, 439-442, 446, 447, 450, 453-456, 461-463, 465-999

(f) Push the LSK adjacent to the *PRINT prompt.

1) Make sure that the printer prints the information that shows on the display.

NOTE: The print format is not the same as the display format.

LOM 422, 425, 427-431, 433, 434, 439-442, 446, 447, 450-456, 461-463, 465-999

(g) Push the LSK adjacent to the <RETURN prompt to go back to the ACARS-TECHNICAL MENU page.

SUBTASK 23-27-00-730-119

(6) Do the VHF link test.

(a) Push the VHF-3 key on Radio Tuning Panel (RTP)-1, RTP-2, and RTP-3

1) Make sure that the “ACARS” or “DATA” shows in the RTP-1 ACTIVE display.

a) If “ACARS” or “DATA” does not show in the ACTIVE display, do these steps:

<1> Turn the RTP-1 frequency select knob until "ACARS" or "DATA" shows in the STANDBY display.

<2> Push the transfer switch on RTP-1 to move "ACARS" or "DATA" to the ACTIVE window of RTP-1.

(b) Push the LSK adjacent to the <LINK STATUS prompt.

1) Make sure that the ACARS-LINK STATUS page shows on the display.

2) Make sure that the FREQ shown adjacent to the VHF prompt under the MEDIA line is correct for the geographic area where the airplane is currently located.

LOM 422, 425, 429-431, 433, 434, 439-442, 446, 447, 450, 453-456, 461-463, 465-999

3) Make sure that AOA COMM shows adjacent to the *VHF prompt on the display

NOTE: If the airplane is located in an area where AOA VDL Mode 2 is not available, POA COMM shows instead of AOA COMM.

a) If SCAN or NO-COMM shows, wait approximately 2 minutes before you do the next step.

ECCN 9E991 BOEING PROPRIETARY - See title page for details

LOM 427, 428, 451, 452

4) Make sure that the AOA COMM shows in the ACARS column adjacent to the *VHF prompt on the display.

NOTE: If the airplane is located in an area where AOA VDL Mode 2 is not available, POA COMM shows instead of AOA COMM.

a) If SCAN or NO-COMM shows, wait approximately 2 minutes before you do the next step.

LOM 422, 425, 427-431, 433, 434, 439-442, 446, 447, 450-456, 461-463, 465-999

(c) Push the LSK adjacent to the *VHF prompt on the line under the TEST prompt.

1) Make sure that the "*" adjacent to the VHF prompt goes away, then shows again after the link test is successful.

2) Make sure that the “VHF IN PROG” shows on the line above the <RETURN prompt.

3) Make sure that the “LINK TEST SUCCESSFUL” shows on the line above the <RETURN prompt.

(d) Push the transfer switch on RTP-1 to move ACARS or DATA to the STANDBY display and a voice frequency to the ACTIVE display.

1) Make sure that the VOICE shows adjacent to the *VHF prompt on the display.

(e) Push the transfer switch on RTP-2 to move ACARS or DATA to the ACTIVE display and a voice frequency to the STANDBY display.

NOTE: The displays should change in approximately 2 minutes.

LOM 422, 425, 429-431, 433, 434, 439-442, 446, 447, 450, 453-456, 461-463, 465-999

1) Make sure that the AOA COMM shows adjacent to the *VHF prompt on the display.

NOTE: If the airplane is located in an area where AOA VDL Mode 2 is not available, POA COMM shows instead of AOA COMM.

LOM 427, 428, 451, 452

2) Make sure that the AOA COMM shows in the ACARS column adjacent to the *VHF prompt on the display.

NOTE: If the airplane is located in an area where AOA VDL Mode 2 is not available, POA COMM shows instead of AOA COMM.

3) Make sure that the ATN COMM shows in the ATN column adjacent to the *VHF prompt on the display.

LOM 427-431, 439, 441, 446, 447, 451, 452, 455, 456, 465-999

(f) Push the LSK adjacent to the <RETURN prompt to go back to the ACARS-TECHNICAL MENU page.

LOM 422, 425, 433, 434, 440, 442, 450, 453, 454, 461-463

SUBTASK 23-27-00-730-120

(7) Do the HF link test (optional):

WARNING

DO NOT OPERATE THE HF SYSTEM WHILE THE AIRPLANE IS REFUELED OR DEFUELED. AN EXPLOSION CAN CAUSE INJURIES TO PERSONNEL AND DAMAGE TO THE AIRPLANE.

ECCN 9E991 BOEING PROPRIETARY - See title page for details

LOM 422, 425, 433, 434, 440, 442, 450, 453, 454, 461-463 (Continued)

(WARNING PRECEDES)

> **WARNING** MAKE SURE THAT PERSONNEL STAY A MINIMUM OF 10 FT (3 M) AWAY FROM THE VERTICAL STABILIZER WHEN THE HF SYSTEM TRANSMITS. RF ENERGY FROM THE HF ANTENNA CAN CAUSE INJURIES TO PERSONNEL.

> **WARNING** DO NOT LEAVE THE HF SYSTEM IN THE DATA MODE, EXCEPT DURING THE HF LINK TEST. IF THE HF SYSTEM IS IN THE DATA MODE, THEN IT CAN TRANSMIT INDEPENDENTLY OF PERSONNEL CONTROL (PUSH-TO-TALK SWITCH).

(a) Do this task: Prepare to Put the Airplane in the Air Mode, TASK 32-09-00-840-801.

(b) Close these circuit breakers (if opened):

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
E	8	C01483	CMU-1 AC
LOM 422, 425			
E	9	C01500	ACARS CMU DC
LOM 433, 434, 440, 442, 453, 454, 461-463			
E	9	C01500	CMU/ACARS DC

LOM 422, 425, 433, 434, 440, 442, 450, 453, 454, 461-463

(c) Do this task: Put the Airplane in the Air Mode, TASK 32-09-00-860-801.

(d) Set the RTPs as follows:

1) On the captain's RTP, push the HF-1 switch.

a) If the active display on RTP-1 shows DATA, continues with step 2).

b) If the active display shows a HF voice frequency, do these steps:

<1> Turn the standby frequency knob on RTP-1 clockwise or counterclockwise until DATA shows in the standby (right) display.

<2> Push the transfer button to transfer DATA to the active display.

NOTE: It may take several minutes for the selected HF transceiver to establish a link to an ACARS HF ground station. Wait until the *HF prompt appears on the line under the TEST prompt before continuing with the next step.

2) On the first officers RTP, select one of the VHF radios.

(e) Push the LSK adjacent to the *HF prompt on the line under the TEST prompt..

1) Make sure that the "*" adjacent to the HF prompt goes away, then shows again after the link test is successful.

2) Make sure that the “HF IN PROG” shows on the line above the <RETURN prompt.

3) Make sure that the “LINK TEST SUCCESSFUL” shows on the line above the <RETURN prompt.

NOTE: This step may take several minutes to several hours to complete. The distance to an ACARS ground station, atmospheric conditions, or sunspots can cause the HF link test to fail.

ECCN 9E991 BOEING PROPRIETARY - See title page for details

LOM 422, 425, 433, 434, 440, 442, 450, 453, 454, 461-463 (Continued)

(f) Set the RTPs as follows:

1) On the captain's RTP, do these steps:

a) Turn the standby frequency knob on RTP-1 clockwise or counterclockwise until a valid voice frequency shows in the standby (right) display.

b) Push the transfer button.

2) On the first officer's RTP, push the HF-2 switch

a) If the active display on RTP-2 shows DATA, continue with step (f).

b) If the active display shows a HF voice frequency, do these steps:

<1> Turn the standby frequency knob on RTP-2 clockwise or counterclockwise until DATA shows in the standby (right) display.

<2> Push the transfer button to transfer DATA to the active display.

NOTE: It may take several minutes for the selected HF transceiver to establish a link to an ACARS HF ground station. Wait until the *HF prompt appears on the line under the TEST prompt before continuing with the next step.

(g) Push the LSK adjacent to the *HF prompt on the line under the TEST prompt.

1) Make sure that the "*" adjacent to the HF prompt goes away, then shows again after the link test is successful.

2) Make sure that the “HF IN PROG” shows on the line above the >RETURN prompt.

3) Make sure that the “LINK TEST SUCCESSFUL” shows on the line above the >RETURN prompt.

NOTE: This step may take several minutes to several hours to complete. The distance to an ACARS ground station, atmospheric conditions, or sunspots can cause the HF link test to fail.

4) On the first officer's RTP, do these steps:

a) Turn the standby frequency knob clockwise or counterclockwise until a valid voice frequency shows in the standby (right) display.

b) Push the transfer button.

(h) Do this task: Return the Airplane to the Ground Mode, TASK 32-09-00-860-802.

(i) Do this task: Return the Airplane Systems Back to Their Normal On Ground Condition, TASK 32-09-00-840-802.

(j) On CDU-1, push the LSK adjacent to the <RETURN prompt to go back to the ACARS-TECHNICAL MENU page.

LOM 422, 425, 427-431, 433, 434, 439-442, 446, 447, 450-456, 461-463, 465-999

SUBTASK 23-27-00-730-121

(8) Do the peripherals test:

(a) Push the LSK adjacent to the <PERIPHERALS prompt.

1) Make sure that the ACARS-PERIPHERALS page 1 shows on the display.

2) Make sure that the CDU L, CDU R, FMC, FMC BCST, ACMS, and PRINTER show PRESENT under the CONNECT line and OK under the STAT line.

(b) Push the NEXT PAGE function key.

ECCN 9E991 BOEING PROPRIETARY - See title page for details

1) Make sure that the ACARS-PERIPHERALS page 2 shows on the display.

2) If the system is installed (and ACARS communication is enabled), make sure that the CABIN 1, CABIN 2, SDU 1, SDU 2, HFDR 1, or HFDR 2 shows PRESENT under the CONNECT line and OK under the STAT line.

NOTE: If a system is not installed, or if ACARS communication with that system is not enabled, ABSENT shows under the CONNECT line.

(c) Push the NEXT PAGE function key.

1) Make sure that the ACARS-PERIPHERALS page 3 shows on the display.

2) Make sure that the XPDR 1, XPDR 2, and VDR 3 show PRESENT under the CONNECT line and OK under the STAT line.

3) Make sure that the VDR 1 and VDR 2 show ABSENT under the CONNECT line.

(d) Push the LSK adjacent to the <RETURN prompt to go back to the ACARS-TECHNICAL MENU page.

LOM 422, 425, 429-431, 433, 434, 439-442, 446, 447, 450, 453-456, 461-463, 465-999

(e) Push the LSK adjacent to the <RETURN prompt to go back to the ACARS-APPLICATION MENU page.

LOM 427, 428, 451, 452

(f) Push the LSK adjacent to the <RETURN prompt to go back to the DLNK-APPLICATION MENU page.

LOM 422, 425, 427-431, 433, 434, 439-442, 446, 447, 450-456, 461-463, 465-999

SUBTASK 23-27-00-730-096-010

(9) Do these steps to do the OUT, OFF, ON, IN (OOOI) sensor test:

LOM 422, 425, 429-431, 433, 434, 439-442, 446, 447, 450, 453-456, 461-463, 465-999

(a) Make sure that the ACARS-AOC MENU page shows on the display.

LOM 427, 428, 451, 452

(b) Make sure that the DLNK-AOC MENU page shows on the display.

LOM 422, 425, 427-431, 433, 434, 439-442, 446, 447, 450-456, 461-463, 465-999

(c) Push the LSK adjacent to the FLT LOG> prompt.

LOM 422, 425, 429-431, 433, 434, 439-442, 446, 447, 450, 453-456, 461-463, 465-999

1) Make sure that the ACARS-FLG LOG-CURR page 1 shows on the display.

LOM 427, 428, 451, 452

2) Make sure that the DLNK-FLG LOG-CURR page 1 shows on the display.

LOM 422, 425, 427-431, 433, 434, 439-442, 446, 447, 450-456, 461-463, 465-999

(d) Push the LSK adjacent to the SENSORS> prompt.

LOM 422, 425, 429-431, 433, 434, 439-442, 446, 447, 450, 453-456, 461-463, 465-999

1) Make sure that the ACARS-SENSORS page shows on the display.

LOM 427, 428, 451, 452

2) Make sure that the DLNK-SENSORS page shows on the display.

LOM 422, 425, 427-431, 433, 434, 439-442, 446, 447, 450-456, 461-463, 465-999

ECCN 9E991 BOEING PROPRIETARY - See title page for details

(e) Close all the cabin doors, cargo doors, Electronic Equipment (EE), and Section 41 bay doors.

1) Make sure that the FWD DOOR, AFT DOOR, CARGO/EE DOORS, and SERVICE DOORS show CLOSED on the display.

NOTE: The following steps test each OOOI parameter. If the OOOI parameters have been working correctly and the ACARS CMU was not removed or replaced, these steps are optional.

(f) Open the left forward door.

1) Make sure that the FWD DOOR shows OPEN.

(g) Close the left forward door.

1) Make sure that the FWD DOOR shows CLOSED.

(h) Open the right forward door.

1) Make sure that the SERVICE DOORS show OPEN.

(i) Close the right forward door.

1) Make sure that the SERVICE DOORS show CLOSED.

(j) Open the left aft door.

1) Make sure that the AFT DOOR shows OPEN.

(k) Close the left aft door.

1) Make sure that the AFT DOOR shows CLOSED.

(l) Open the right aft door.

1) Make sure that the SERVICE DOORS show OPEN.

(m) Close the right aft door.

1) Make sure that the SERVICE DOORS show CLOSED.

(n) Open the forward cargo compartment door.

1) Make sure that the CARGO/EE DOORS shows OPEN.

(o) Close the forward cargo compartment door.

1) Make sure that the CARGO/EE DOORS shows CLOSED.

(p) Make sure that the PARK BRAKE state is SET.

WARNING

MAKE SURE THAT THE AIRPLANE WILL NOT MOVE BEFORE YOU RELEASE THE PARKING BRAKE. IF THE AIRPLANE MOVES, IT CAN CAUSE INJURIES TO PERSONNEL AND DAMAGE TO EQUIPMENT.

(q) Release the parking brake.

1) Make sure that the PARK BRAKE state changes from SET to RELEASED.

(r) Set the parking brake.

1) Make sure that the PARK BRAKE state changes from RELEASED to SET.

(s) Do this task: Prepare to Put the Airplane in the Air Mode, TASK 32-09-00-840-801.

(t) Do this task: Put the Airplane in the Air Mode, TASK 32-09-00-860-801.

1) Make sure that the STRUT state changes from ON GND to AIRBORNE.

(u) Do this task: Return the Airplane to the Ground Mode, TASK 32-09-00-860-802.

1) Make sure that the STRUT state changes from AIRBORNE to ON GND.

ECCN 9E991 BOEING PROPRIETARY - See title page for details

(v) Do this task: Return the Airplane Systems Back to Their Normal On Ground Condition, TASK 32-09-00-840-802.

LOM 422, 425, 429-431, 433, 434, 439-442, 446, 447, 450, 453-456, 461-463, 465-999

(w) Push the LSK adjacent to the <RETURN prompt to go back to the FLT LOG page.

LOM 427, 428, 451, 452

(x) Push the LSK adjacent to the <RETURN prompt to go back to the ACARS-FLT LOG-CURR page.

LOM 422, 425, 429-431, 433, 434, 439-442, 446, 447, 450, 453-456, 461-463, 465-999

(y) Push the LSK adjacent to the <RETURN prompt to go back to the ACARS-AOC MENU page.

LOM 427, 428, 451, 452

(z) Push the LSK adjacent to the <RETURN prompt to go back to the DLNK-AOC MENU page.

SUBTASK 23-27-00-730-135-010

(10) Do these steps to change the ACARS fuel units of weight from pounds (LBS) to kilograms (KGS):

(a) Push LSK 6L on the CDU until the DLNK-APPLICATION MENU page shows.

(b) Set LSK 2R (AOC STD) on the CDU.

(c) Set LSK 5R (MISC MENU) on the CDU.

(d) Set LSK 4L (PASSWORD) on the CDU.

(e) Put the time that shows on the bottom of the CDU into the scratchpad of the CDU.

(f) Set LSK 1L (*PASSWORD) on the CDU to show on the ACARS-PARAMETERS page.

1) If "INVALID" shows at LSK 1L, then do the last two steps again.

(g) Set LSK 1L (FUEL UNITS) on the CDU until “KGS” shows (the button toggles between LBS and KGS).

(h) Set LSK 6L until the DLNK-APPLICATION MENU shows.

(i) Set LSK 4R (TECHNICAL) to go back to the ACARS TECHNICAL MENU.

LOM 422, 425, 429-431, 433, 434, 439-442, 446, 447, 450, 453-456, 461-463, 465-999

SUBTASK 23-27-00-730-136-010

(11) Do these steps to change the ACARS fuel units of weight from pounds (LBS) to kilograms (KGS):

(a) Push LSK 6L on the CDU until the ACARS-APPLICATION MENU page shows.

(b) Set LSK 2R (AOC STD) on the CDU.

(c) Set LSK 5R (MISC MENU) on the CDU.

(d) Set LSK 4L (PASSWORD) on the CDU.

(e) Put the time that shows on the bottom of the CDU into the scratchpad of the CDU.

(f) Set LSK 1L (*PASSWORD) on the CDU to show on the ACARS-PARAMETERS page.

1) If "INVALID" shows at LSK 1L, then do the last two steps again.

(g) Set LSK 1L (FUEL UNITS) on the CDU until “KGS” shows (the button toggles between LBS and KGS).

ECCN 9E991 BOEING PROPRIETARY - See title page for details

(h) Set LSK 6L until the ACARS-APPLICATION MENU shows.

(i) Set LSK 4R (TECHNICAL) to go back to the ACARS TECHNICAL MENU.

END OF TASK

ECCN 9E991 BOEING PROPRIETARY - See title page for details

ACARS MANAGEMENT UNIT (MU) - MAINTENANCE PRACTICES

1. General

A. This procedure has these tasks:

(1) A software configuration check for the ACARS Management Unit.

(2) An installation of the ACARS software with an airborne data loader.

B. For general information for software installation times and data loaders, do this task: On-Airplane Software - Installation, TASK 20-15-11-400-801.

TASK 23-27-32-700-801

2. ACARS Software Configuration Check

A. General

(1) This software configuration check makes sure that ACARS has the correct software loaded.

(2) A Flight Management Control and Display Unit (CDU) is necessary for this procedure.

B. References

Reference	Title
23-27-32-020-801	ACARS Management Unit Removal (P/B 401)

C. Location Zones

Zone	Area
211	Flight Compartment - Left
212	Flight Compartment - Right

D. Procedure

SUBTASK 23-27-32-700-001

(1) Do these steps to verify the software installation for Allied Signal Management Units:

NOTE: Make sure that you know the correct software part numbers for the ACARS Management Unit (MU). For ACARS to be an approved installation, the correct software part numbers must be installed.

(a) Push the MENU function key on the CDU.

1) Make sure that the CDU MENU page shows on the CDU.

(b) Push the line-select-key (LSK) adjacent to the <ACARS prompt.

(c) Push the LSK adjacent to the <MISC prompt.

(d) Push the LSK adjacent to the MAINT> prompt.

(e) Push the LSK adjacent to the <PART NUMBERS prompt.

1) Make sure that the ACARS PART NUMBERS page shows on the CDU.

2) Make sure that the correct ACARS software part numbers show on the CDU.

a) If the ACARS software part numbers are not correct, do this task: ACARS Software Installation with an Airborne Data Loader (ADL), TASK 23-27-32-000-801

or replace the ACARS MU with one that has the correct software (TASK 23-27-32-020-801).

(f) Push the MENU function key on the CDU.

END OF TASK

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TASK 23-27-32-000-801

3. ACARS Software Installation with an Airborne Data Loader (ADL)

A. General

(1) This procedure tells you how to install software into the ACARS management unit with an airborne data loader (ADL).

(a) The ACARS management unit must contain these pieces of software:

1) Core and Application software.

2) Airplane Database software.

(b) The Core and Application software must be installed before the Airplane Database software.

(2) An airborne data loader (ADL) and a control display unit (CDU) are necessary for this procedure. A data loader control panel is also necessary. The data loader control panel is installed above the airborne data loader on the P61 panel.

(3) Make sure the airplane is on the ground with the engines shutdown before you install the software.

(4) Some airlines keep the circuit breaker for the data loader open when the data loader is not necessary. This increases the length of time that the data loader is serviceable.

B. References

Reference	Title
20-15-11-400-801	On-Airplane Software - Installation (P/B 201)

C. Location Zones

Zone	Area
211	Flight Compartment - Left
212	Flight Compartment - Right

D. ACARS Software Installation with an Airborne Data Loader (ADL)

SUBTASK 23-27-32-860-011

(1) Make sure that this circuit breaker is closed:

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
A	9	C00923	DATA LOADER

SUBTASK 23-27-32-860-012

(2) Use an ADL to install software in the ACARS Management Unit.

NOTE: Make sure that you know the correct software part numbers for the ACARS Management Unit (MU). For ACARS to be an approved installation, the correct software must be installed.

NOTE: Modern software loaders that meet the security requirements defined in ARINC 645-1 or newer are recommended to use. The procedures for modern software loaders will be marked as preferred for now and will be the only procedures available after removing floppy disk loaders procedures in the future. Please check with your Software Loader Supplier for current capabilities since this is still maturing across current and future software loaders.

SUBTASK 23-27-32-860-013

(3) Do these steps to prepare for the software installation:

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(a) Make sure the system select switch on the data loader control panel (P61) is set to NORM or NORMAL.

(b) Do these steps at the data loader control panel:

1) Set the upper switch to L.

2) Set the system select switch to the ACARS/CMU position.

SUBTASK 23-27-32-470-005

(4) Do this step to install the software - (Preferred):

(a) Follow the generic Airborne Data Loader (ADL) procedure to load software part (TASK 20-15-11-400-801).

SUBTASK 23-27-32-020-003

(5) Do these steps to install the software - (Non-Preferred):

(a) Put the correct software disk in the disk drive.

NOTE: It may take one to two minutes for the installation to start.

(b) Push the MENU function key on the CDU.

1) If the <ACARS prompt shows on the CDU, then push the line-select-key (LSK) adjacent to <ACARS.

NOTE: If the ACARS CDU page is available, it will show the condition of the software installation.

(c) Follow the prompts on the data loader to complete the installation.

1) If there is more than one disk to install, wait 10 seconds after each disk is completed before you remove and install the subsequent disk.

NOTE: CHNG, CHANGE DISK, DISK CHANGE and INSERT DISK are examples of data loader prompts for a subsequent disk.

(d) Remove the disk from the disk drive when the software installation is completed.

NOTE: COMP, LOAD COMPLETE and TRANSF COMPLETE are examples of data loader prompts for a completed installation.

(e) Set the system select switch on the data loader control panel (P61) to NORM or NORMAL.

(f) Make sure the <ACARS prompt shows on the CDU.

NOTE: It can take up to 3 minutes for the prompt to show on the CDU.

SUBTASK 23-27-32-470-001

(6) Do this task: ACARS Software Configuration Check, TASK 23-27-32-700-801.

END OF TASK

ECCN 9E991 BOEING PROPRIETARY - See title page for details

ACARS MANAGEMENT UNIT (MU) - REMOVAL/INSTALLATION

1. General

A. This procedure has these tasks:

(1) A removal of the Aircraft Communications Addressing And Reporting System (ACARS) Management Unit (MU).

(2) An installation of the ACARS MU.

B. The ACARS MU is located on the E3-3 shelf in the main equipment center.

TASK 23-27-32-020-801

2. ACARS Management Unit Removal

(Figure 401)

A. References

Reference	Title
20-10-07-000-801	E/E Box Removal (P/B 201)
20-40-12-000-802	ESDS Handling for Metal Encased Unit Removal (P/B 201)

B. Location Zones

Zone	Area
117	Electrical and Electronics Compartment - Left
118	Electrical and Electronics Compartment - Right

C. Access Panels

Number	Name/Location
117A	Electronic Equipment Access Door

D. Removal Procedure

SUBTASK 23-27-32-860-001

(1) Open these circuit breakers and install safety tags:

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
E	7	C00744	ACARS MU AC
E	9	C01500	CMU/ACARS DC

SUBTASK 23-27-32-010-001

(2) Open this access panel:

Number	Name/Location
117A	Electronic Equipment Access Door

SUBTASK 23-27-32-020-001

CAUTION

DO NOT TOUCH THE CONNECTOR PINS OR OTHER CONDUCTORS ON THE ACARS MANAGEMENT UNIT. IF YOU TOUCH THESE CONDUCTORS, ELECTROSTATIC DISCHARGE CAN CAUSE DAMAGE TO THE ACARS MANAGEMENT UNIT.

(3) Before you touch the ACARS MU [1], do this task: ESDS Handling for Metal Encased Unit Removal, TASK 20-40-12-000-802.

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SUBTASK 23-27-32-020-002

(4) Remove the ACARS MU [1] from the shelf. To remove it, do this task: E/E Box Removal, TASK 20-10-07-000-801.

——— END OF TASK ———

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ELECTRONIC EQUIPMENT RACK, E3

A

G98139 S0006565426_V2

Aircraft Communications Addressing and Reporting System (ACARS) Management Unit (MU) Installation
Figure 401/23-27-32-990-801

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TASK 23-27-32-420-801

3. ACARS Management Unit Installation

(Figure 401)

A. References

Reference	Title
20-10-07-400-801	E/E Box Installation (P/B 201)
20-40-12-400-802	ESDS Handling for Metal Encased Unit Installation (P/B 201)
23-27-00-740-815-001	ACARS - Operational Test (P/B 501)

B. Expendables/Parts

AMM Item	Description	AIPC Reference	AIPC Effectivity
1	ACARS MU	23-27-32-02-005	LOM 402, 406, 432

C. Location Zones

Zone	Area
117	Electrical and Electronics Compartment - Left
118	Electrical and Electronics Compartment - Right

D. Access Panels

Number	Name/Location
117A	Electronic Equipment Access Door

E. ACARS Management Unit Installation

SUBTASK 23-27-32-860-004

(1) Make sure that these circuit breakers are open and have safety tags:

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
E	7	C00744	ACARS MU AC
E	9	C01500	CMU/ACARS DC

SUBTASK 23-27-32-420-001

CAUTION DO NOT TOUCH THE CONNECTOR PINS OR OTHER CONDUCTORS ON THE ACARS MANAGEMENT UNIT. IF YOU TOUCH THESE CONDUCTORS, ELECTROSTATIC DISCHARGE CAN CAUSE DAMAGE TO THE ACARS MANAGEMENT UNIT.

(2) Before you touch the ACARS MU [1], do this task: ESDS Handling for Metal Encased Unit Installation, TASK 20-40-12-400-802.

SUBTASK 23-27-32-410-001

(3) Install the ACARS MU [1] (TASK 20-10-07-400-801).

SUBTASK 23-27-32-860-006

(4) Close these circuit breakers:

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
E	7	C00744	ACARS MU AC
E	9	C01500	CMU/ACARS DC

ECCN 9E991 BOEING PROPRIETARY - See title page for details

F. Installation Test

SUBTASK 23-27-32-740-001

(1) Do this task: ACARS - Operational Test, TASK 23-27-00-740-815-001.

G. Put the Airplane Back to Its Usual Condition

SUBTASK 23-27-32-410-002

(1) Close this access panel:

Number	Name/Location
117A	Electronic Equipment Access Door

END OF TASK

ECCN 9E991 BOEING PROPRIETARY - See title page for details

ACARS COMMUNICATIONS MANAGEMENT UNIT (CMU) - MAINTENANCE PRACTICES

1. General

A. This procedure has these tasks:

(1) A software configuration check for the ACARS Communications Management Unit (CMU).

LOM 407, 420, 422, 425, 433, 434, 437, 438; LOM 404 POST SB 737-23-1484 OR POST SB 737-23-1483

(2) An installation of the ACARS Communications Management Unit (CMU) software with an airborne data loader.

LOM 429-431, 440, 442-447, 450-460, 464, 465

(3) An installation of the ACARS Communications Management Unit (CMU) software with an Enhanced Airborne Data Loader.

LOM 412, 415, 423, 424, 427, 428, 437-447, 450-999

(4) An installation of the ACARS Communications Management Unit (CMU) software with a portable data loader.

LOM 407, 412, 415, 420, 422-425, 427-431, 433, 434, 437-447, 450-999; LOM 404 POST SB 737-23-1484 OR POST SB 737-23-1483

B. For general information for software installation times and data loaders, do this task: On-Airplane Software - Installation, TASK 20-15-11-400-801.

TASK 23-27-33-700-802

2. ACARS Communications Management Unit (CMU) Software Configuration Check

A. General

(1) This software configuration check makes sure that ACARS has the correct software loaded.

(2) A Flight Management Control and Display Unit (CDU) is necessary for this procedure.

B. References

Reference	Title
23-27-33-020-801	ACARS Communications Management Unit (CMU) Removal (P/B 401)
34-61-00-730-801	Flight Management Computer System - System Test (P/B 501)

C. Location Zones

Zone	Area
211	Flight Compartment - Left
212	Flight Compartment - Right

D. Procedure

SUBTASK 23-27-33-840-001

(1) Make sure that the Flight Management Computer System is serviceable (TASK 34-61-00-730-801).

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LOM 407, 412, 415, 420, 423, 424, 437, 438, 443-445, 457-460, 464; LOM 404 POST SB 737-23-1484 OR POST SB 737-23-1483

SUBTASK 23-27-33-700-001

(2) Do these steps to verify the software installation for Honeywell Mark II Communications Management Units:

NOTE: Make sure that you know the correct software part numbers for the ACARS Communications Management Unit (CMU). For ACARS to be an approved installation, the correct software part numbers must be installed.

(a) Push the MENU function key on the CDU.

1) Make sure that the CDU MENU page shows on the CDU.

LOM 407, 412, 415, 423, 424, 437, 438; LOM 420 PRE SB 737-23-1483

(b) Push the line-select-key (LSK) adjacent to the <ACARS prompt.

1) Make sure that the ACARS PREFLT MENU page shows on the CDU.

LOM 443-445, 457-460, 464; LOM 404 POST SB 737-23-1484 OR POST SB 737-23-1483; LOM 420 POST SB 737-23-1483

(c) Push the line-select-key (LSK) adjacent to the <DLK prompt.

1) Make sure that the DATALINK (DLK) MENU page shows on the CDU.

LOM 407, 412, 415, 423, 424, 437, 438; LOM 420 PRE SB 737-23-1483

(d) Push the LSK adjacent to the <MISC prompt.

1) Make sure that the ACARS MISC page shows on the display.

LOM 407, 412, 415, 420, 423, 424, 437, 438, 443-445, 457-460, 464; LOM 404 POST SB 737-23-1484 OR POST SB 737-23-1483

(e) Push the LSK adjacent to the MAINT> prompt.

LOM 407, 412, 415, 423, 424, 437, 438; LOM 420 PRE SB 737-23-1483

1) Make sure that the ACARS MAINTENANCE page shows on the display.

LOM 443-445, 457-460, 464; LOM 404 POST SB 737-23-1484 OR POST SB 737-23-1483; LOM 420 POST SB 737-23-1483

2) Make sure that the CMU MAINTENANCE page shows on the display.

LOM 407, 412, 415, 420, 423, 424, 437, 438, 443-445, 457-460, 464; LOM 404 POST SB 737-23-1484 OR POST SB 737-23-1483

(f) Push the LSK adjacent to the <PART NUMBERS prompt.

LOM 407, 412, 415, 423, 424, 437, 438; LOM 420 PRE SB 737-23-1483

1) Make sure that the ACARS PART NUMBERS page shows on the CDU.

LOM 443-445, 457-460, 464; LOM 404 POST SB 737-23-1484 OR POST SB 737-23-1483; LOM 420 POST SB 737-23-1483

2) Make sure that the CMU PART NUMBERS page shows on the CDU.

LOM 407, 412, 415, 423, 424, 437, 438; LOM 420 PRE SB 737-23-1483

3) Make sure that the correct ACARS software part numbers show on the CDU.

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LOM 407, 412, 415, 423, 424, 437, 438; LOM 420 PRE SB 737-23-1483 (Continued)

a) If the ACARS software part numbers are not correct, do this task: ACARS Software Installation with a Portable Data Loader (PDL), TASK 23-27-33-470-801 or ACARS Communications Management Unit Software Installation with an Airborne Data Loader (ADL), TASK 23-27-33-470-802

or replace the ACARS CMU with one that has the correct software loaded (TASK 23-27-33-020-801).

LOM 443-445, 457-460, 464; LOM 404 POST SB 737-23-1484 OR POST SB 737-23-1483; LOM 420 POST SB 737-23-1483

4) Make sure that the correct CMU software part numbers show on the CDU.

a) If the CMU software part numbers are not correct, do this task: ACARS Software Installation with a Portable Data Loader (PDL), TASK 23-27-33-470-801 or ACARS Communications Management Unit Software Installation with an Airborne Data Loader (ADL), TASK 23-27-33-470-802 or ACARS Communications Management Unit Software Installation with an Enhanced Airborne Data Loader (eADL), TASK 23-27-33-470-805

or replace the ACARS CMU with one that has the correct software loaded (ACARS Communications Management Unit (CMU) Removal, TASK 23-27-33-020-801)

LOM 422, 425, 427-431, 433, 434, 439-442, 446, 447, 450-456, 461-463, 465-999

SUBTASK 23-27-33-700-004

(3) Do these steps to verify the software installation for the ACARS Communications Management Unit:

NOTE: Make sure that you know the correct software part numbers for the ACARS Communications Management Unit (CMU). For the ACARS to be an approved installation, the correct software part numbers must be installed.

(a) Push the MENU function key on the CDU.

1) Make sure that the MENU page shows on the CDU.

LOM 422, 425, 429-431, 433, 434, 439-442, 446, 447, 450, 453-456, 461-463, 465-999

(b) Push the line-select-key (LSK) adjacent to the <ACARS prompt.

1) Make sure that the ACARS-APPLICATION MENU page shows on the CDU.

LOM 427, 428, 451, 452

(c) Push the line-select-key (LSK) adjacent to the <DLNK prompt.

1) Make sure that the DLNK-APPLICATION MENU page shows on the CDU.

LOM 422, 425, 427-431, 433, 434, 439-442, 446, 447, 450-456, 461-463, 465-999

(d) Push the LSK adjacent to the TECHNICAL> prompt.

1) Make sure that the ACARS-TECHNICAL MENU page shows on the CDU.

(e) Push the LSK adjacent to the <SYSTEM CONFIG prompt.

1) Make sure the ACARS-SYSTEM CONFIG page 1 of 2 shows on the CDU.

2) Make sure that the ACARS CMU hardware and software part numbers are correct.

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LOM 422, 425, 427-431, 433, 434, 439-442, 446, 447, 450-456, 461-463, 465-999 (Continued)

a) If the ACARS software part numbers are not correct, do this task: ACARS Software Installation with a Portable Data Loader (PDL), TASK 23-27-33-470-801 or ACARS Communications Management Unit Software Installation with an Airborne Data Loader (ADL), TASK 23-27-33-470-802 or ACARS Communications Management Unit Software Installation with an Enhanced Airborne Data Loader (eADL), TASK 23-27-33-470-805

or replace the ACARS CMU with one that has the correct software loaded (TASK 23-27-33-020-801).

(f) Push the LSK adjacent to the <RETURN prompt to go back to the ACARS-TECHNICAL MENU page.

LOM 422, 425, 429-431, 433, 434, 439-442, 446, 447, 450, 453-456, 461-463, 465-999

(g) Push the LSK adjacent to the <RETURN prompt to go back to the ACARS-APPLICATION MENU page.

LOM 427, 428, 451, 452

(h) Push the LSK adjacent to the <RETURN prompt to go back to the DLNK-APPLICATION MENU page.

LOM 407, 412, 415, 420, 422-425, 427-431, 433, 434, 437-447, 450-999; LOM 404 POST SB 737-23-1484 OR POST SB 737-23-1483

E. Return The Airplane To Its Usual Condition

SUBTASK 23-27-33-860-015

(1) Push the MENU key on the CDU.

——— END OF TASK ———

LOM 407, 420, 422, 425, 433, 434, 437, 438; LOM 404 POST SB 737-23-1484 OR POST SB 737-23-1483

TASK 23-27-33-470-802

3. ACARS Communications Management Unit Software Installation with an Airborne Data Loader (ADL)

A. General

(1) This procedure tells you how to install software into the ACARS communications management unit (CMU) with an airborne data loader (ADL).

LOM 422, 425, 433, 434

(a) The ACARS CMU must contain these pieces of software:

1) Core software

2) Airplane operational control (AOC) software

3) VM Data software

(b) If the Core software is reloaded, airline customized AOC software must also be reloaded.

LOM 407, 420, 437, 438; LOM 404 POST SB 737-23-1484 OR POST SB 737-23-1483

(c) The ACARS CMU must contain these pieces of software:

1) Core software

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2) Operational software.

3) Customer Unique Database software.

(d) The ACARS Operational software must be installed before the Customer Unique Database software. If the Operational software is already installed, then you can install only the Customer Unique Database software.

LOM 407, 420, 422, 425, 433, 434, 437, 438; LOM 404 POST SB 737-23-1484 OR POST SB 737-23-1483

(2) An airborne data loader (ADL) and a control display unit (CDU) are necessary for this procedure. A data loader control panel is also necessary. The data loader control panel is installed above the airborne data loader on the P61 panel.

(3) The airplane must be on the ground with the engines shutdown before you can install software.

B. References

Reference	Title
20-15-11-400-801	On-Airplane Software - Installation (P/B 201)
23-27-35-700-801	ACARS Airplane Personality Module (APM) Data Verification Check (P/B 201)

C. Location Zones

Zone	Area
211	Flight Compartment - Left
212	Flight Compartment - Right

D. ACARS Communications Management Unit Software Installation with an Airborne Data Loader (ADL)

SUBTASK 23-27-33-860-008

(1) Make sure that this circuit breaker is closed:

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
A	9	C00923	DATA LOADER

SUBTASK 23-27-33-860-009

(2) Use an ADL to install software in the ACARS Communications Management Unit.

NOTE: Make sure that you know the correct software part numbers for the ACARS CMU. For ACARS to be an approved installation, the correct software must be installed.

NOTE: Modern software loaders that meet the security requirements defined in ARINC 645-1 or newer are recommended to use. The procedures for modern software loaders will be marked as preferred for now and will be the only procedures available after removing floppy disk loaders procedures in the future. Please check with your Software Loader Supplier for current capabilities since this is still maturing across current and future software loaders.

SUBTASK 23-27-33-860-021

(3) Do these steps to prepare for the software installation:

(a) Make sure the system select switch on the data loader control panel (P61) is set to NORM or NORMAL.

(b) Set the system select switch on the data loader control panel to the ACARS/CMU position.

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LOM 407, 420, 422, 425, 433, 434, 437, 438; LOM 404 POST SB 737-23-1484

(c) Do these steps at the data loader control panel:

1) Set the upper switch to L.

LOM 407, 420, 422, 425, 433, 434, 437, 438; LOM 404 POST SB 737-23-1484 OR POST SB 737-23-1483

SUBTASK 23-27-33-470-038

(4) Do this step to install the software - (Preferred):

(a) Follow the generic Airborne Data Loader (ADL) procedure to load software part (TASK 20-15-11-400-801).

LOM 407, 420, 437, 438; LOM 404 POST SB 737-23-1484 OR POST SB 737-23-1483

SUBTASK 23-27-33-020-001

(5) Do these steps to install the software - (Non-Preferred):

(a) Put the Operational software or Customer Unique Database disk in the disk drive.

NOTE: If the Operational software has not been installed, it must be installed before the Customer Unique Database disk. It may take one to two minutes for the installation to start.

(b) Follow the prompts on the data loader to complete the installation.

1) If there is more than one disk to install, wait 10 seconds after each disk is completed before you remove and install the subsequent disk.

NOTE: CHNG, CHANGE DISK, DISK CHANGE and INSERT DISK are examples of data loader prompts for a subsequent disk.

(c) Remove the disk from the disk drive when the software installation is completed.

NOTE: COMP, LOAD COMPLETE and TRANSF COMPLETE are examples of data loader prompts for a completed installation.

(d) Set the system select switch on the data loader control panel to NORM or NORMAL.

(e) Make sure the <ACARS prompt shows on the CDU.

NOTE: It can take up to 3 minutes for the prompt to show on the CDU.

LOM 404 POST SB 737-23-1484 OR POST SB 737-23-1483; LOM 420 POST SB 737-23-1483

SUBTASK 23-27-33-860-025

(6) Do these steps to make sure that the CMU starts correctly:

NOTE: After the software/database is loaded, additional steps are necessary. This is to make sure that the correct part number shows for the Air Traffic Control software/database after a data load.

(a) Wait until the CMU is ready and the CDU displays <DLK.

(b) Push <DLK and then push MAINT>.

(c) Enter the password SAM into the scratch pad of the CDU and push LINE SELECT KEY (LSK) 6R.

(d) Push NEXT PAGE until the CDU screen shows CMU DEBUG 2/4.

(e) Enter the password RESET MU in the scratchpad of the CDU and push LSK 6R. The CDU will show CMU RESET DEBUG.

(f) Push LSK 2L and then <RESET MU.

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(g) After a few seconds, the CDU display will clear and the CMU will reset. The CMU is ready for operation.

SUBTASK 23-27-33-860-026

(7) Do these steps to show the CMU part number page on the CDU. Start from the MENU page on the CDU:

(a) If the display does not show the DLK screen, push <DLK.

(b) Push MAINT>.

(c) Push LSK 1L.

(d) Push <PART NUMBERS.

1) The part numbers are shown on two pages. Push NEXT PAGE to show the second page.

LOM 422, 425, 433, 434

SUBTASK 23-27-33-470-015

(8) Do these steps to install the software - (Non-Preferred):

(a) Put the software disk in the disk drive.

NOTE: It may take one to two minutes for the installation to start.

1) Push the MENU function key on the CDU.

2) If the <ACARS prompt shows on the CDU, then do these steps at the CDU:

a) Push the line select key (LSK) adjacent to the <ACARS prompt.

b) Wait for the DATALOAD* prompt to show on the CDU.

NOTE: If the DATALOAD* prompt does not show, it is because a higher priority prompt is present. This must be selected and cleared using the 6R key in order to see the DATALOAD* prompt.

c) Push the LSK adjacent to the DATALOAD* prompt.

d) Push the LSK adjacent to the *PROCEED WITH DATALOAD prompt.

(b) Remove the software disk from the disk drive when the software installation is completed.

NOTE: COMP, LOAD COMPLETE and TRANSF COMPLETE are examples of data loader prompts for a completed installation.

(c) Set the system select switch on the data loader control panel (P61) to NORM or NORMAL.

(d) Make sure the <ACARS prompt shows on the CDU.

NOTE: It can take up to 3 minutes for the prompt to show on the CDU.

LOM 407, 420, 422, 425, 433, 434, 437, 438; LOM 404 POST SB 737-23-1484 OR POST SB 737-23-1483

SUBTASK 23-27-33-470-001

(9) Do this task: ACARS Communications Management Unit (CMU) Software Configuration Check, TASK 23-27-33-700-802.

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LOM 422, 425, 433, 434

(10) Do this task: ACARS Airplane Personality Module (APM) Data Verification Check, TASK 23-27-35-700-801

——— **END OF TASK** ———

LOM 429-431, 440, 442-447, 450-460, 464-999

TASK 23-27-33-470-805

4. ACARS Communications Management Unit Software Installation with an Enhanced Airborne Data Loader (eADL)

A. General

(1) This task provides the instructions on how to install software into the ACARS Communications Management Unit (CMU) with an Enhanced Airborne Data Loader (eADL).

LOM 429-431, 440, 442, 446, 447, 450-456, 465-999

(a) The ACARS CMU must contain these pieces of software:

1) Core software.

2) Airplane operational control (AOC) software.

3) VM Data software.

(b) If the Core software is reloaded, airline customized AOC software must also be reloaded.

LOM 443-445, 457-460, 464

(c) The ACARS CMU must contain these pieces of software:

1) Core software.

2) Operational software.

3) Customer Unique Database software.

(d) The ACARS Operational software must be installed before the Customer Unique Database software. If the Operational software is already installed, then you can install only the Customer Unique Database software.

LOM 429-431, 440, 442-447, 450-460, 464-999

(2) The eADL software installation:

LOM 429-431, 440, 442-447, 450-460, 464, 465

(a) Floppy Disk Software Installation

LOM 429-431, 440, 442-447, 450-460, 464-999

(b) USB Flash Drive Software Installation

1) This procedure uses the USB port on the front panel of the eADL to install software from a valid USB flash drive to the Mass Storage Device (MSD). Once the software is installed on the MSD, the software is loaded to the CMU LRU.

2) The USB flash drive must be configured correctly using the USB tool defined in the eADL Operations Guide.

(3) An Enhanced Airborne Data Loader (eADL) and a Control Display Unit (CDU) are necessary for this procedure. A data loader control panel is also necessary. The data loader control panel is installed above the airborne data loader on the P61 panel.

(4) The airplane must be on the ground with the engines shutdown before you can install software.

ECCN 9E991 BOEING PROPRIETARY - See title page for details

LOM 429-431, 440, 442-447, 450-460, 464-999 (Continued)

B. References

Reference	Title
20-15-11-400-801	On-Airplane Software - Installation (P/B 201)
23-27-35-700-801	ACARS Airplane Personality Module (APM) Data Verification Check (P/B 201)
24-22-00-860-811	Supply Electrical Power (P/B 201)
24-22-00-860-812	Remove Electrical Power (P/B 201)

C. Location Zones

Zone	Area
211	Flight Compartment - Left
212	Flight Compartment - Right

D. Prepare for the Installation

SUBTASK 23-27-33-860-016

(1) Do this task: Supply Electrical Power, TASK 24-22-00-860-811.

SUBTASK 23-27-33-860-017

(2) Make sure that this circuit breaker is closed:

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
A	9	C00923	DATA LOADER

SUBTASK 23-27-33-860-018

(3) Make sure that you know the correct software part numbers for the ACARS CMU.

NOTE: For ACARS to be an approved installation, the correct software must be installed.

SUBTASK 23-27-33-860-019

(4) Do these steps to prepare for the software installation:

(a) Make sure the system select switch on the data loader control panel (P61) is set to NORM or NORMAL.

(b) Do these steps at the data loader control panel:

1) Set the upper switch to L.

2) Set the system select switch to the ACARS/CMU position.

SUBTASK 23-27-33-860-022

(5) Open the eADL front cover by releasing the two screws and lifting up on the cover.

E. Software Installation - (Preferred)

SUBTASK 23-27-33-470-037

(1) Follow the generic Airborne Data Loader (ADL) procedure to load software part (TASK 20-15-11-400-801).

LOM 429-431, 440, 442-447, 450-460, 464, 465

F. Floppy Disk Software Installation - (Non-Preferred)

LOM 443-445, 457-460, 464

SUBTASK 23-27-33-470-027

(1) Do these steps to install the CMU software from a floppy disk to the eADL:

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LOM 443-445, 457-460, 464 (Continued)

(a) Put the Operational software or Customer Unique Database disk in the disk drive.

NOTE: If the Operational software has not been installed, it must be installed before the Customer Unique Database disk. It may take one to two minutes for the installation to start.

(b) Make sure that the eADL Main Menu is shown.

(c) Make your selection: Target Page.

1) This will show the Select Target System screen.

(d) Make your selection: Floppy Drive.

1) The eADL will show a Load Confirmation screen for the Floppy Drive.

(e) Make your selection: CONFIRM.

1) The eADL will show a Transfer In Progress screen with ‘‘LOADING’’.

2) The “TRANSFER” annunciator will change to “LOADING” and turn yellow during the installation procedure.

3) The “LOADING” annunciator will change to “COMPLETE” and turn green when the installation procedure is completed.

(f) Follow the prompts on the data loader to complete the installation.

1) If there is more than one disk to install, wait 10 seconds after each disk is completed before you remove and install the subsequent disk.

NOTE: CHNG, CHANGE DISK, DISK CHANGE and INSERT DISK are examples of data loader prompts for a subsequent disk.

(g) Remove the disk from the disk drive when the software installation is completed.

NOTE: COMP, LOAD COMPLETE and TRANSF COMPLETE are examples of data loader prompts for a completed installation.

(h) Set the system select switch on the data loader control panel to NORM or NORMAL.

(i) Make sure that the <ACARS prompt shows on the CDU.

NOTE: It can take up to 3 minutes for the prompt to show on the CDU.

SUBTASK 23-27-33-860-027

(2) Do these steps to make sure that the CMU starts correctly:

NOTE: After the software/database is loaded, additional steps are necessary. This is to make sure that the correct part number shows for the Air Traffic Control software/database after a data load.

(a) Wait until the CMU is ready and the CDU displays <DLK.

(b) Push <DLK and then push MAINT>.

(c) Enter the password SAM into the scratch pad of the CDU and push LINE SELECT KEY (LSK) 6R.

(d) Push NEXT PAGE until the CDU screen shows CMU DEBUG 2/4.

(e) Enter the password RESET MU in the scratchpad of the CDU and push LSK 6R. The CDU will show CMU RESET DEBUG.

(f) Push LSK 2L and then <RESET MU.

(g) After a few seconds, the CDU display will clear and the CMU will reset. The CMU is ready for operation.

ECCN 9E991 BOEING PROPRIETARY - See title page for details

LOM 443-445, 457-460, 464 (Continued)

SUBTASK 23-27-33-860-028

(3) Do these steps to show the CMU part number page on the CDU. Start from the MENU page on the CDU:

(a) If the display does not show the DLK screen, push <DLK.

(b) Push MAINT>.

(c) Push LSK 1L.

(d) Push <PART NUMBERS.

1) The part numbers are shown on two pages. Push NEXT PAGE to show the second page.

LOM 451, 452

SUBTASK 23-27-33-470-028

(4) Do these steps to install the CMU software from a floppy disk to the eADL:

(a) Put software disk 1 of 2 in the disk drive.

NOTE: It may take one to two minutes for the installation to start.

1) Make sure that the eADL Main Menu is shown.

2) Make your selection: Target Page.

a) This will show the Select Target System screen.

3) Make your selection: Floppy Drive.

a) The eADL will show a Load Confirmation screen for the Floppy Drive.

4) Make your selection: CONFIRM.

a) The eADL will show a Transfer In Progress screen with ‘‘LOADING’’.

5) Do these steps on the CDU:

a) Push the MENU function key on the CDU.

b) Push the line select key (LSK) adjacent to the <DLNK prompt.

c) Push the LSK adjacent to the DATALOAD* prompt.

NOTE: If the DATALOAD* prompt does not show, it is because a higher priority prompt is present. This must be selected and cleared using the 6R key in order to see the DATALOAD* prompt.

d) Push the LSK adjacent to the *PROCEED WITH DATALOAD prompt.

e) Make sure the message “SCREEN WILL BLANK WHILE DATALOAD IS IN PROGRESS” appears on the CDU.

(b) When the data loader shows that it is ready for the subsequent disk, wait approximately 10 seconds and then remove software disk 1 of 2.

NOTE: CHNG, CHANGE DISK, DISK CHANGE and INSERT DISK are examples of data loader prompts for a subsequent disk.

(c) Put software disk 2 of 2 in the disk drive.

(d) In the Transfer In Progress screen, wait for the eADL to show:

1) The “TRANSFER” annunciator will change to “LOADING” and turn yellow during the installation procedure.

ECCN 9E991 BOEING PROPRIETARY - See title page for details

LOM 451, 452 (Continued)

2) The “LOADING” annunciator will change to “COMPLETE” and turn green when the installation procedure is completed.

(e) Remove the disk from the disk drive when the software installation is completed.

NOTE: COMP, LOAD COMPLETE and TRANSF COMPLETE are examples of data loader prompts for a completed installation.

(f) Set the system select switch on the data loader control panel (P61) to NORM or NORMAL.

(g) Make sure the <DLNK prompt shows on the CDU.

NOTE: It can take up to 3 minutes for the prompt to show on the CDU.

LOM 429-431, 440, 442, 446, 447, 453-456, 465; LOM 457 POST SB 737-31-2184

SUBTASK 23-27-33-470-029

(5) Do these steps to install the CMU software from a floppy disk to the eADL:

(a) Put the software disk in the disk drive.

NOTE: It may take one to two minutes for the installation to start.

1) Make sure that the eADL Main Menu is shown.

2) Make your selection: Target Page.

a) This will show the Select Target System screen.

3) Make your selection: Floppy Drive.

a) The eADL will show a Load Confirmation screen for the Floppy Drive.

4) Make your selection: CONFIRM.

a) The eADL will show a Transfer In Progress screen with ‘‘LOADING’’.

5) Do these steps on the CDU:

a) Push the MENU function key on the CDU.

b) Push the line select key (LSK) adjacent to the <ACARS prompt.

c) Push the LSK adjacent to the DATALOAD* prompt.

NOTE: If the DATALOAD* prompt does not show, it is because a higher priority prompt is present. This must be selected and cleared using the 6R key in order to see the DATALOAD* prompt.

d) Push the LSK adjacent to the *PROCEED WITH DATALOAD prompt.

e) Make sure the message “SCREEN WILL BLANK WHILE DATALOAD IS IN PROGRESS” appears on the CDU.

(b) In the Transfer In Progress screen, wait for the eADL to show:

1) The “TRANSFER” annunciator will change to “LOADING” and turn yellow during the installation procedure.

2) The “LOADING” annunciator will change to “COMPLETE” and turn green when the installation procedure is completed.

(c) Remove the software disk from the disk drive when the software installation is completed.

(d) Set the system select switch on the data loader control panel (P61) to NORM or NORMAL.

ECCN 9E991 BOEING PROPRIETARY - See title page for details

(e) Make sure that the <ACARS prompt shows on the CDU.

NOTE: It can take up to 3 minutes for the prompt to show on the CDU.

LOM 429-431, 440, 442-447, 450-460, 464-999

G. USB Flash Drive Software Installation - (Non-Preferred)

SUBTASK 23-27-33-470-030

(1) Do these steps to install software from a USB flash drive to the eADL MSD:

(a) Put the USB flash drive into the eADL USB port.

NOTE: The USB flash drive must be configured correctly as specified in the eADL Operations Guide.

(b) Make sure that the “eADL Main Menu” is shown.

NOTE: To navigate UP or DOWN and make a selection on the eADL screen, use the appropriate buttons on the eADL front panel.

1) If the eADL Main Menu does not show, select MAIN or GO BACK until the eADL shows the Main Menu.

(c) Select “Maintenance Page.”

1) This will show the “Maintenance Menu” screen.

(d) Select “Transfer Parts From USB.”

1) If the error message “USB Is Not Mounted Or Is Not A Valid USB” is shown, select “GO BACK” and do the steps again.

2) Make sure that the USB flash drive is configured correctly by the USB tool as specified in the eADL Operations Guide.

3) The eADL screen will show “CONFIRM TO BEGIN TRANSFERRING.”

4) Select “CONFIRM.”

NOTE: The USB and MSD annunciators will turn yellow during the transfer procedure.

NOTE: If the software is already on the eADL MSD, this message will show: “This part name already exists.”

(e) Make sure that USB and MSB annunciators turn green and the message shows "Part Transfer Complete".

NOTE: This means that software transfer is complete.

NOTE: The annunciators will turn red if the transfer procedure is aborted or if there is a failure.

(f) Select “MAIN” or “GO BACK” to go back to the main menu.

(g) Remove the USB flash drive from the eADL USB port.

(h) Following the successful load of the software perform these steps to remove previous versions from the MSD:

NOTE: This procedure allows the operator to remove an LSP from the MSD. This will also delete any downloaded files associated with the LSP that may have been added to the LSP. This action cannot be undone.

NOTE: It is recommended to remove the older LSP on the MSD, but it is not required.

1) On the eADL use the Up and Down keys and select the following:

ECCN 9E991 BOEING PROPRIETARY - See title page for details

LOM 429-431, 440, 442-447, 450-460, 464-999 (Continued)

a) Select the Maintenance page.

b) Select delete Software part option.

NOTE: The listed LSP may or may not appear as a part number. It will appear as it was originally saved using eADL Part Builder.

c) Select the desired LSP.

d) The eADL screen will display, Part Selected for Deletion is <Desired LSP>.

e) Press the CONFIRM softkey to initiate the deletion process.

NOTE: If you want to cancel the operation, use the Go Back key.

2) The MSD annunciator will turn yellow while the delete operation is taking place.

3) The MSD annunciator will turn back to green and scree will display:

a) Part Deleted.

4) Press the GO BACK key to return to the Main Menu.

SUBTASK 23-27-33-470-026

(2) Do these steps to install the software from the eADL MSD to the CMU:

(a) Make sure that the “eADL Main Menu” is shown.

NOTE: To navigate UP or DOWN and make a selection on the eADL screen, use the appropriate buttons on the eADL front panel.

NOTE: If the eADL Main Menu does not show, select MAIN or GO BACK until the eADL shows the Main Menu.

(b) Select “Target Page.”

1) This will show the “Select Target System” screen.

(c) Select the LRU to receive the software.

1) This will show the “Select Software Part” screen.

(d) Push the “SELECT” button for the necessary software part number.

NOTE: The listed software will appear as it was originally configured in the USB tool, see the eADL Operations Guide.

(e) Make sure that the “Load Confirmation” screen shows.

(f) Select “CONFIRM.”

1) This will show the “Transfer In Progress” screen.

LOM 451, 452

(g) Do these steps on the CDU:

1) Push the MENU function key.

2) Push the line select key (LSK) adjacent to the <DLNK prompt.

3) Push the LSK adjacent to the DATALOAD* prompt.

NOTE: If the DATALOAD* prompt does not show, it is because a higher priority prompt is present. This must be selected and cleared using the 6R key in order to see the DATALOAD* prompt.

4) Push the LSK adjacent to the *PROCEED WITH DATALOAD prompt.

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LOM 451, 452 (Continued)

5) Make sure the message “SCREEN WILL BLANK WHILE DATALOAD IS IN PROGRESS” appears on the CDU.

LOM 429-431, 440, 442, 446, 447, 453-456, 465-999; LOM 457 POST SB 737-31-2184

(h) Do these steps on the CDU:

1) Push the MENU function key.

2) Push the line select key (LSK) adjacent to the <ACARS prompt.

3) Push the LSK adjacent to the DATALOAD* prompt.

NOTE: If the DATALOAD* prompt does not show, it is because a higher priority prompt is present. This must be selected and cleared using the 6R key in order to see the DATALOAD* prompt.

4) Push the LSK adjacent to the *PROCEED WITH DATALOAD prompt.

5) Make sure the message “SCREEN WILL BLANK WHILE DATALOAD IS IN PROGRESS” appears on the CDU.

LOM 429-431, 440, 442-447, 450-460, 464-999

(i) Make sure these messages show on the eADL:

1) The “TRANSFER” annunciator will change to “LOADING” and turn yellow during the installation procedure.

2) The “LOADING” annunciator will change to “COMPLETE” and turn green when the installation procedure is completed.

(j) Select “MAIN” to go back to the main menu.

LOM 429-431, 440, 442, 446, 447, 450, 453-456, 465-999

(k) Make sure that the <ACARS prompt shows on the CDU.

NOTE: After approximately 3 minutes the prompt will show on the CDU.

LOM 451, 452

(l) Make sure that the <DLNK prompt shows on the CDU.

NOTE: After approximately 3 minutes the prompt will show on the CDU.

LOM 443-445, 457-460, 464

SUBTASK 23-27-33-860-029

(3) Do these steps to make sure that the CMU starts correctly:

NOTE: After the software/database is loaded, additional steps are necessary. This is to make sure that the correct part number shows for the Air Traffic Control software/database after a data load.

(a) Wait until the CMU is ready and the CDU displays <DLK.

(b) Push <DLK and then push MAINT>.

(c) Enter the password SAM into the scratch pad of the CDU and push LINE SELECT KEY (LSK) 6R.

(d) Push NEXT PAGE until the CDU screen shows CMU DEBUG 2/4.

(e) Enter the password RESET MU in the scratchpad of the CDU and push LSK 6R. The CDU will show CMU RESET DEBUG.

ECCN 9E991 BOEING PROPRIETARY - See title page for details

LOM 443-445, 457-460, 464 (Continued)

(f) Push LSK 2L and then <RESET MU.

(g) After a few seconds, the CDU display will clear and the CMU will reset. The CMU is ready for operation.

SUBTASK 23-27-33-860-030

(4) Do these steps to show the CMU part number page on the CDU. Start from the MENU page on the CDU:

(a) If the display does not show the DLK screen, push <DLK.

(b) Push MAINT>.

(c) Push LSK 1L.

(d) Push <PART NUMBERS.

1) The part numbers are shown on two pages. Push NEXT PAGE to show the second page.

LOM 429-431, 440, 442-447, 450-460, 464-999

H. Software Installation Configuration Check

SUBTASK 23-27-33-470-023

(1) Do this task: ACARS Communications Management Unit (CMU) Software Configuration Check, TASK 23-27-33-700-802.

LOM 429-431, 440, 442, 446, 447, 450-456, 465-999

(2) Do this task: ACARS Airplane Personality Module (APM) Data Verification Check, TASK 23-27-35-700-801.

LOM 429-431, 440, 442-447, 450-460, 464-999

I. Put the Airplane Back to Its Usual Condition

SUBTASK 23-27-33-860-023

(1) Close the eADL cover and tighten screws.

SUBTASK 23-27-33-860-024

(2) Set the system select switch on the data loader control panel (P61) to NORM or NORMAL.

SUBTASK 23-27-33-860-020

(3) Do this task: Remove Electrical Power, TASK 24-22-00-860-812.

——— END OF TASK ———

LOM 412, 415, 423, 424, 427, 428, 437-447, 450-999

TASK 23-27-33-470-801

5. ACARS Software Installation with a Portable Data Loader (PDL)

A. General

(1) This procedure tells you how to install software in the Aircraft Communications Addressing And Reporting System (ACARS) with a Portable Data Loader (PDL).

LOM 427, 428, 439-442, 446, 447, 450-456, 461-463, 465-999

(a) The ACARS Communications Management Unit (CMU) must contain these pieces of software:

1) Core software

ECCN 9E991 BOEING PROPRIETARY - See title page for details

LOM 427, 428, 439-442, 446, 447, 450-456, 461-463, 465-999 (Continued)

2) Airplane operational control (AOC) software
3) VM Data software

LOM 412, 415, 423, 424, 437, 438, 443-445, 457-460, 464

(b) The ACARS CMU must contain these pieces of software:
1) Core software
2) Operational software
3) Customer Unique Database software

LOM 427, 428, 439-442, 446, 447, 450-456, 461-463, 465-999

(c) The ACARS Core Software must be installed before the Airline Operational Communications (AOC) software. You must install the ACARS Core software each time you install the AOC software.

(d) If the Core software is reloaded, airline customized AOC software must also be reloaded.

LOM 412, 415, 423, 424, 437, 438, 443-445, 457-460, 464

(e) The ACARS Operational software must be installed before the Customer Unique Database software. If the Operational software is already installed, then you can install only the Customer Unique Database software.

LOM 412, 415, 423, 424, 427, 428, 437-447, 450-999

(2) A PDL and a Control Display Unit (CDU) are necessary for this procedure. A data loader control panel and a PDL interface connector are also necessary. The data loader control panel is installed above the DATA TRANSFER UNIT RECEPTACLE connector on the P61 panel.

(3) A PDL is not a Boeing supplied part. Refer to the PDL supplier for instructions for operation. A PDL has a disk drive for software installation from disks. Some PDL have an internal mass storage device. If the software is stored in the PDL, then disks are not necessary.

(4) The airplane must be on the ground with the engines shutdown before you can install software.

(5) Modern software loaders that meet the security requirements defined in ARINC 645-1 or newer are recommended to use. The procedures for modern software loaders will be marked as preferred for now and will be the only procedures available after removing floppy disk loaders procedures in the future. Please check with your Software Loader Supplier for current capabilities since this is still maturing across current and future software loaders.

B. References

Reference	Title
20-15-11-400-801	On-Airplane Software - Installation (P/B 201)
23-27-35-700-801	ACARS Airplane Personality Module (APM) Data Verification Check (P/B 201)

C. Tools/Equipment

NOTE: When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

ECCN 9E991 BOEING PROPRIETARY - See title page for details

LOM 412, 415, 423, 424, 427, 428, 437-447, 450-999 (Continued)

Reference	Description
COM-1915	Data Loader - ARINC 615 (without ARINC 645-1 Compliant) Part #: 11615-50 Supplier: 0D4J3 Part #: 2231560-1-B Supplier: 98571 Part #: 465130-01-01 Supplier: 30782 Part #: 800-0631 Supplier: 1JSZ6 Part #: CEI-715-DL-2 Supplier: 0BPH5 Part #: PXS-LDS-10 Supplier: 98571 Part #: YV68A110 Supplier: FAQ15 Opt Part #: 11615-02 Supplier: 0D4J3 Opt Part #: 11615-20 Supplier: 0D4J3 Opt Part #: 18000-02 Supplier: 0D4J3 Opt Part #: 30100 Supplier: 0BAW0 Opt Part #: 80000-03-01010203 Supplier: 0BAW0 Opt Part #: 80000-04-01020301 Supplier: 0BAW0 Opt Part #: 80000-05 Supplier: 0BAW0 Opt Part #: 964-0400-020 Supplier: 97896 Opt Part #: 964-0400-024 Supplier: 97896 Opt Part #: 964-0400-025 Supplier: 97896 Opt Part #: 964-0400-030 Supplier: 97896 Opt Part #: 964-0400-044 Supplier: 97896 Opt Part #: 964-0400-045 Supplier: 97896 Opt Part #: 964-0400-055 Supplier: 97896 Opt Part #: P2K-615A-06 Supplier: 0BAW0
COM-21223	Data Loader - ARINC 615 (with ARINC 645-1 Compliant) Part #: 403474 Supplier: CG603 Part #: 403562 Supplier: CG603 Part #: AE-615-MPDL Supplier: CD624 Part #: PDL-615-XT Supplier: 89Q20

D. Location Zones

Zone	Area
211	Flight Compartment - Left
212	Flight Compartment - Right

E. ACARS Software Installation

SUBTASK 23-27-33-410-001

(1) Do these steps to prepare for the software installation:

NOTE: Make sure that you know the correct software part numbers for the ACARS CMU. For ACARS to be an approved installation, the correct software must be installed.

(a) Make sure that the system select switch on the data loader control panel, P61, is set to NORM or NORMAL.

ECCN 9E991 BOEING PROPRIETARY - See title page for details

LOM 412, 415, 423, 424, 427, 428, 437-447, 450-999 (Continued)

> **CAUTION** MAKE SURE THAT THE CIRCUIT BREAKER FOR THE DATA LOADER IS OPEN BEFORE YOU CONNECT OR REMOVE THE INTERFACE CABLE. IF THE CIRCUIT BREAKER IS NOT OPEN, DAMAGE TO EQUIPMENT CAN OCCUR.

(b) Open this circuit breaker and install safety tag:

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
A	9	C00923	DATA LOADER

> **CAUTION** MAKE SURE THAT THE CIRCUIT BREAKER FOR THE DATA LOADER IS OPEN BEFORE YOU CONNECT OR REMOVE THE INTERFACE CABLE. IF THE CIRCUIT BREAKER IS NOT OPEN, DAMAGE TO EQUIPMENT CAN OCCUR.

(c) Connect the interface cable of the ARINC 615 data loader, COM-1915, or ARINC 645-1 compliant portable data loader, COM-21223, to the DATA TRANSFER UNIT RECEPTACLE on the P61 panel.

NOTE: This loader is going obsolete due use of floppy disks and ARINC 645 security requirements.

(d) Remove the safety tag and close this circuit breaker:

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
A	9	C00923	DATA LOADER

(e) Do these steps at the data loader control panel:

1) Set the upper switch to L.

2) Set the system select switch to the ACARS/CMU position.

SUBTASK 23-27-33-470-039

(2) Do this step to install the software - (Preferred):

(a) Follow the generic PDL procedure to load software part (TASK 20-15-11-400-801).

LOM 412, 415, 423, 424, 437, 438, 443-445, 457-460, 464

SUBTASK 23-27-33-020-002

(3) SOFTWARE INSTALLATION WITH A PDL DISK DRIVE: Do these steps to install the software - (Non-Preferred):

NOTE: For more information on how to use the data loader, refer to the supplier's instructions for the data loader.

(a) Set the power switch on the data loader to the on position.

(b) Put the correct disk in the disk drive.

(c) Follow the prompts on the data loader to complete the installation.

1) If there is more than one disk to install, wait 10 seconds after each disk is completed before you remove and install the subsequent disk.

NOTE: CHNG, CHANGE DISK, DISK CHANGE and INSERT DISK are examples of data loader prompts for a subsequent disk.

ECCN 9E991 BOEING PROPRIETARY - See title page for details

LOM 412, 415, 423, 424, 437, 438, 443-445, 457-460, 464 (Continued)

(d) Remove the disk from the disk drive when the software installation is completed.

NOTE: COMP, LOAD COMPLETE and TRANSF COMPLETE are examples of data loader prompts for a completed installation.

LOM 439-442, 446, 447, 453-456, 461-463, 465-999; LOM 457 POST SB 737-31-2184

SUBTASK 23-27-33-470-017

(4) SOFTWARE INSTALLATION WITH A PDL DISK DRIVE: Do these steps to install the software - (Non-Preferred):

NOTE: For more information on how to use the data loader, refer to the supplier's instructions for the data loader.

(a) Set the power switch on the PDL to the on position.

(b) Put the software disk in the disk drive.

NOTE: It may take one to two minutes for the installation to start.

1) Push the MENU key on the CDU.

2) If the <ACARS prompt shows on the CDU, then do these steps at the CDU:

a) Push the Line Select Key (LSK) adjacent to the <ACARS prompt.

b) Wait for the DATALOAD* prompt to show on the CDU.

NOTE: If the DATALOAD* prompt does not show, it is because a higher priority prompt is present. This must be selected and cleared using the 6R key in order to see the DATALOAD* prompt.

c) Push the LSK adjacent to the DATALOAD* prompt.

d) Push the LSK adjacent to the *PROCEED WITH DATALOAD prompt.

(c) Remove the disk from the disk drive when the software installation is completed.

NOTE: COMP, LOAD COMPLETE and TRANSF COMPLETE are examples of data loader prompts for a completed installation.

(d) Make sure the <ACARS prompt shows on the CDU.

NOTE: It can take up to 3 minutes for the prompt to show on the CDU.

LOM 427, 428, 439-442, 446, 447, 450-456, 461-463, 465-999

SUBTASK 23-27-33-470-006

(5) SOFTWARE INSTALLATION WITH A PDL MASS STORAGE DEVICE: Follow the PDL supplier instructions to install the software - (Non-Preferred).

(a) After you have started the software installation with the PDL, push the MENU key on the CDU.

LOM 439-442, 446, 447, 450, 453-456, 461-463, 465-999

(b) If the <ACARS prompt shows on the CDU, then do these steps at the CDU:

1) Push the LSK adjacent to the <ACARS prompt.

2) Wait for the DATALOAD* prompt to show on the CDU.

NOTE: If the DATALOAD* prompt does not show, it is because a higher priority prompt is present. This must be selected and cleared using the 6R key in order to see the DATALOAD* prompt.

3) Push the LSK adjacent to the DATALOAD* prompt.

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LOM 439-442, 446, 447, 450, 453-456, 461-463, 465-999 (Continued)

4) Push the LSK adjacent to the *PROCEED WITH DATALOAD prompt.

(c) When the software installation is complete, make sure the <ACARS prompt shows on the CDU.

NOTE: It can take up to 3 minutes for the prompt to show on the CDU.

LOM 427, 428, 451, 452

(d) If the <DLK prompt shows on the CDU, then do these steps at the CDU:

1) Push the LSK adjacent to the <DLK prompt.

2) Wait for the DATALOAD* prompt to show on the CDU.

NOTE: If the DATALOAD* prompt does not show, it is because a higher priority prompt is present. This must be selected and cleared using the 6R key in order to see the DATALOAD* prompt.

3) Push the LSK adjacent to the DATALOAD* prompt.

4) Push the LSK adjacent to the *PROCEED WITH DATALOAD prompt.

(e) When the software installation is complete, make sure the <DLK prompt shows on the CDU.

NOTE: It can take up to 3 minutes for the prompt to show on the CDU.

LOM 412, 415, 423, 424, 427, 428, 437-447, 450-999

SUBTASK 23-27-33-470-007

(6) Set the system select switch on the data loader control panel, P61, to NORM or NORMAL.

(a) Make sure that the <ACARS or <DLK prompt is shown on the CDU.

NOTE: It can take up to 3 minutes for the prompt to show on the CDU.

SUBTASK 23-27-33-470-008

(7) Set the power switch on the PDL to the off position.

LOM 443-445, 457-460, 464

SUBTASK 23-27-33-860-031

(8) Do these steps to make sure that the CMU starts correctly:

NOTE: After the software/database is loaded, additional steps are necessary. This is to make sure that the correct part number shows for the Air Traffic Control software/database after a data load.

(a) Wait 10 seconds, then push and hold the black reset button on the CMU front panel until all the LED lights have come on.

NOTE: The LED lights are also on the CMU front panel.

(b) Release the reset button to start the CMU.

NOTE: The CMU is ready for the operation.

SUBTASK 23-27-33-860-032

(9) Do these steps to show the CMU part number page on the CDU:

(a) Start from the MENU page on the CDU.

(b) If the display does not show the DLK screen, push <DLK.

(c) Push MAINT>.

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LOM 443-445, 457-460, 464 (Continued)

(d) Push LSK 1L.

(e) Push <PART NUMBERS.

1) Push NEXT PAGE to show the second page.

NOTE: The part numbers are shown on two pages.

LOM 412, 415, 423, 424, 427, 428, 437-447, 450-999

SUBTASK 23-27-33-470-002

(10) Do this task: ACARS Communications Management Unit (CMU) Software Configuration Check, TASK 23-27-33-700-802.

LOM 427, 428, 439-442, 446, 447, 450-456, 461-463, 465-999

(11) Do this task: ACARS Airplane Personality Module (APM) Data Verification Check, TASK 23-27-35-700-801

LOM 412, 415, 423, 424, 427, 428, 437-447, 450-999

F. Put The Airplane to Its Usual Condition

SUBTASK 23-27-33-020-003

CAUTION

MAKE SURE THAT THE CIRCUIT BREAKER FOR THE DATA LOADER IS OPEN BEFORE YOU CONNECT OR REMOVE THE INTERFACE CABLE. IF THE CIRCUIT BREAKER IS NOT OPEN, DAMAGE TO EQUIPMENT CAN OCCUR.

(1) Open this circuit breaker and install safety tag:

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
A	9	C00923	DATA LOADER

(2) Remove the interface cable from the DATA TRANSFER UNIT RECEPTACLE.

Remove the safety tag and close this circuit breaker:

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
A	9	C00923	DATA LOADER

END OF TASK

ECCN 9E991 BOEING PROPRIETARY - See title page for details

ACARS COMMUNICATIONS MANAGEMENT UNIT - REMOVAL/INSTALLATION

1. General

A. This procedure has these tasks:

(1) A removal of the ARINC Communications Addressing and Reporting System (ACARS) communications management unit (CMU).

(2) An installation of the ACARS communications management unit (CMU).

LOM 404 POST SB 737-23-1484

B. The ACARS communications management unit (CMU) is located on the E3-3 shelf in the main equipment center.

LOM 407, 412, 415, 420, 422-425, 427-431, 433, 434, 437-447, 450-999

C. The ACARS communications management unit (CMU) is located on the E4-1 shelf in the main equipment center.

LOM 407, 412, 415, 420, 422-425, 427-431, 433, 434, 437-447, 450-999; LOM 404 POST SB 737-23-1484 OR POST SB 737-23-1483

TASK 23-27-33-020-801

2. ACARS Communications Management Unit (CMU) Removal

(Figure 401)

A. References

Reference	Title
20-10-07-000-801	E/E Box Removal (P/B 201)
20-40-12-000-802	ESDS Handling for Metal Encased Unit Removal (P/B 201)

B. Location Zones

Zone	Area
117	Electrical and Electronics Compartment - Left
118	Electrical and Electronics Compartment - Right
211	Flight Compartment - Left
212	Flight Compartment - Right

C. Access Panels

Number	Name/Location
117A	Electronic Equipment Access Door

D. Removal Procedure

SUBTASK 23-27-33-860-004

(1) Open these circuit breakers and install safety tags:

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
LOM 407, 412, 415, 420, 422-425, 427-431, 433, 434, 437-447, 450-999; LOM 404 POST SB 737-23-1484			
E	8	C01483	CMU-1 AC
LOM 422, 425			
E	9	C01500	ACARS CMU DC

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LOM 422, 425 (Continued)

(Continued)

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
LOM 407, 412, 415, 420, 423, 424, 427, 428, 433, 434, 437-447, 453-456, 458-464; LOM 404 POST SB 737-23-1484; LOM 457 POST SB 737-31-2184			
E	9	C01500	CMU/ACARS DC

LOM 407, 412, 415, 420, 422-425, 427-431, 433, 434, 437-447, 450-999; LOM 404 POST SB 737-23-1484 OR POST SB 737-23-1483

These circuit breakers are inoperative and should remain open:

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
LOM 404 POST SB 737-23-1484 OR POST SB 737-23-1483			
E	8	C01483	CMU-1 AC (INOP)
LOM 429-431, 450-452, 465-999; LOM 404 POST SB 737-23-1484 OR POST SB 737-23-1483; LOM 457 PRE SB 737-31-2184			
E	9	C01500	CMU/ACARS DC (INOP)

LOM 407, 412, 415, 420, 422-425, 427-431, 433, 434, 437-447, 450-999; LOM 404 POST SB 737-23-1484 OR POST SB 737-23-1483

SUBTASK 23-27-33-010-001

(2) Open this access panel:

Number	Name/Location
117A	Electronic Equipment Access Door

SUBTASK 23-27-33-020-004

CAUTION

DO NOT TOUCH THE CONNECTOR PINS OR OTHER CONDUCTORS ON THE CMU. IF YOU TOUCH THESE CONDUCTORS, ELECTROSTATIC DISCHARGE CAN CAUSE DAMAGE TO THE CMU.

(3) Before you touch the CMU [1], do this task: ESDS Handling for Metal Encased Unit Removal, TASK 20-40-12-000-802.

SUBTASK 23-27-33-020-005

(4) Remove the CMU [1] from the shelf. To remove it, do this task: E/E Box Removal, TASK 20-10-07-000-801.

——— END OF TASK ———

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K24222 S0006565435_V2

Aircraft Communications Addressing and Reporting System (ACARS) Communications Management Unit (CMU) Installation
Figure 401/23-27-33-990-801 (Sheet 1 of 2)

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ELECTRONIC EQUIPMENT RACK, E4

A

1330325 S0000234139_V2

Aircraft Communications Addressing and Reporting System (ACARS) Communications Management Unit (CMU) Installation
Figure 401/23-27-33-990-801 (Sheet 2 of 2)

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LOM 407, 412, 415, 420, 422-425, 427-431, 433, 434, 437-447, 450-999; LOM 404 POST SB 737-23-1484 OR POST SB 737-23-1483

TASK 23-27-33-420-801

3. ACARS Communications Management Unit (CMU) Installation

(Figure 401)

A. References

Reference	Title
20-10-07-400-801	E/E Box Installation (P/B 201)
20-40-12-400-802	ESDS Handling for Metal Encased Unit Installation (P/B 201)
23-27-00-740-814-009	ACARS - Operational Test (P/B 501)
23-27-00-740-816-010	ACARS - Operational Test (P/B 501)
23-27-33-700-802	ACARS Communications Management Unit (CMU) Software Configuration Check (P/B 201)
23-27-35-700-801	ACARS Airplane Personality Module (APM) Data Verification Check (P/B 201)
24-22-00-860-812	Remove Electrical Power (P/B 201)

B. Expendables/Parts

AMM Item	Description	AIPC Reference	AIPC Effectivity
1	CMU	23-27-33-02-100	LOM 404
		23-27-51-06-065	LOM 407, 412, 415, 420, 423, 424, 437, 438, 443-445, 457-460, 464
		23-27-51-06B-005	LOM 422, 425, 427-431, 433, 434, 439-442, 446, 447, 450-456, 461-463, 465-999

C. Location Zones

Zone	Area
117	Electrical and Electronics Compartment - Left
118	Electrical and Electronics Compartment - Right
211	Flight Compartment - Left
212	Flight Compartment - Right

D. Access Panels

Number	Name/Location
117A	Electronic Equipment Access Door

E. Installation Procedure

SUBTASK 23-27-33-860-005

(1) Make sure that these circuit breakers are open and have safety tags:

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
LOM 407, 412, 415, 420, 422-425, 427-431, 433, 434, 437-447, 450-999; LOM 404 POST SB 737-23-1484			
E	8	C01483	CMU-1 AC

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LOM 407, 412, 415, 420, 422-425, 427-431, 433, 434, 437-447, 450-999; LOM 404 POST SB 737-23-1484 (Continued)

(Continued)

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
LOM 422, 425			
E	9	C01500	ACARS CMU DC
LOM 407, 412, 415, 420, 423, 424, 427, 428, 433, 434, 437-447, 453-456, 458-464; LOM 404 POST SB 737-23-1484; LOM 457 POST SB 737-31-2184			
E	9	C01500	CMU/ACARS DC

LOM 407, 412, 415, 420, 422-425, 427-431, 433, 434, 437-447, 450-999; LOM 404 POST SB 737-23-1484 OR POST SB 737-23-1483

These circuit breakers are inoperative and should remain open:

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
LOM 404 POST SB 737-23-1484 OR POST SB 737-23-1483			
E	8	C01483	CMU-1 AC (INOP)
LOM 429-431, 450-452, 465-999; LOM 404 POST SB 737-23-1484 OR POST SB 737-23-1483; LOM 457 PRE SB 737-31-2184			
E	9	C01500	CMU/ACARS DC (INOP)

LOM 407, 412, 415, 420, 422-425, 427-431, 433, 434, 437-447, 450-999; LOM 404 POST SB 737-23-1484 OR POST SB 737-23-1483

SUBTASK 23-27-33-420-001

CAUTION

DO NOT TOUCH THE CONNECTOR PINS OR OTHER CONDUCTORS ON THE CMU. IF YOU TOUCH THESE CONDUCTORS, ELECTROSTATIC DISCHARGE CAN CAUSE DAMAGE TO THE CMU.

(2) Before you touch the CMU [1], do this task: ESDS Handling for Metal Encased Unit Installation, TASK 20-40-12-400-802.

SUBTASK 23-27-33-410-002

(3) Install the CMU [1]. To install it, do this task: E/E Box Installation, TASK 20-10-07-400-801.

SUBTASK 23-27-33-860-006

(4) Remove the safety tags and close these circuit breakers:

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
LOM 407, 412, 415, 420, 422-425, 427-431, 433, 434, 437-447, 450-999; LOM 404 POST SB 737-23-1484			
E	8	C01483	CMU-1 AC
LOM 422, 425			
E	9	C01500	ACARS CMU DC
LOM 407, 412, 415, 420, 423, 424, 427, 428, 433, 434, 437-447, 453-456, 458-464; LOM 404 POST SB 737-23-1484; LOM 457 POST SB 737-31-2184			
E	9	C01500	CMU/ACARS DC

ECCN 9E991 BOEING PROPRIETARY - See title page for details

LOM 407, 412, 415, 420, 423, 424, 427, 428, 433, 434, 437-447, 453-456, 458-464; LOM 404 POST SB 737-23-1484; LOM 457 POST SB 737-31-2184 (Continued)

(Continued)

F/O Electrical System Panel, P6-1

Row	Col	Number	Name

LOM 407, 412, 415, 420, 422-425, 427-431, 433, 434, 437-447, 450-999; LOM 404 POST SB 737-23-1484 OR POST SB 737-23-1483

These circuit breakers are inoperative and should remain open:

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
LOM 404 POST SB 737-23-1484 OR POST SB 737-23-1483			
E	8	C01483	CMU-1 AC (INOP)
LOM 429-431, 450-452, 465-999; LOM 404 POST SB 737-23-1484 OR POST SB 737-23-1483; LOM 457 PRE SB 737-31-2184			
E	9	C01500	CMU/ACARS DC (INOP)

LOM 407, 412, 415, 420, 422-425, 427-431, 433, 434, 437-447, 450-999; LOM 404 POST SB 737-23-1484 OR POST SB 737-23-1483

F. Installation Test

SUBTASK 23-27-33-860-033

(1) Do a check of the software part number. Do this task: ACARS Communications Management Unit (CMU) Software Configuration Check, TASK 23-27-33-700-802.

SUBTASK 23-27-33-740-001

(2) Do this task: ACARS - Operational Test, TASK 23-27-00-740-816-010 or ACARS - Operational Test, TASK 23-27-00-740-814-009.

NOTE: Allow sufficient time (approximately one minute) for the CMU to boot up.

LOM 422, 425, 427-431, 433, 434, 439-447, 450-999; LOM 404 POST SB 737-23-1484 OR POST SB 737-23-1483; LOM 420 POST SB 737-23-1483

SUBTASK 23-27-33-700-008

(3) Do this task: (ACARS Airplane Personality Module (APM) Data Verification Check, TASK 23-27-35-700-801).

LOM 407, 412, 415, 420, 422-425, 427-431, 433, 434, 437-447, 450-999; LOM 404 POST SB 737-23-1484 OR POST SB 737-23-1483

G. Put the Airplane Back to its Initial Condition.

SUBTASK 23-27-33-410-003

(1) Close this access panel:

Number	Name/Location
117A	Electronic Equipment Access Door

SUBTASK 23-27-33-860-007

(2) Do this task: Remove Electrical Power, TASK 24-22-00-860-812.

END OF TASK

ECCN 9E991 BOEING PROPRIETARY - See title page for details

AIRPLANE PERSONALITY MODULE (APM) - MAINTENANCE PRACTICES

1. General

A. This procedure has these tasks:

(1) ACARS APM software configuration check.

(2) ACARS APM software installation.

TASK 23-27-35-700-801

2. ACARS Airplane Personality Module (APM) Data Verification Check

A. General

(1) This data verification check makes sure the Airplane Personality Module (APM) contains the correct data values.

(2) A Flight Management Control Display Unit (CDU) is necessary for this procedure.

B. References

Reference	Title
23-27-35 P/B 401	ACARS AIRPLANE PERSONALITY MODULE - REMOVAL/INSTALLATION
23-27-35-020-801	ACARS Airplane Personality Module (APM) Removal (P/B 401)
34-61-00-710-801	Flight Management Computer System - Operational Test (P/B 501)
WDM 34-53-11	Wiring Diagram Manual

C. Location Zones

Zone	Area
211	Flight Compartment - Left
212	Flight Compartment - Right

D. ACARS Airplane Personality Module (APM) Data Verification Check

SUBTASK 23-27-35-840-001

(1) Make sure that the Flight Management Computer System (FMCS) is serviceable (TASK 34-61-00-710-801).

LOM 407, 412, 415, 420, 423, 424, 437, 438, 443-445, 457-460, 464; LOM 404 POST SB 737-23-1484

SUBTASK 23-27-35-730-005

(2) Do these steps on CDU-2 to do an APM software verification check:

(a) Push the MENU key on both CDUs.

1) Make sure that the MAIN menu shows on both CDUs.

LOM 407, 412, 415, 423, 424, 437, 438; LOM 420 PRE SB 737-23-1483

(b) Push the Line Select Key (LSK) adjacent to the <ACARS prompt on CDU-1 and CDU-2.

1) Make sure the ACARS PREFLT MENU shows on both CDU displays.

LOM 443-445, 457-460, 464; LOM 404 POST SB 737-23-1484; LOM 420 POST SB 737-23-1483

(c) Push the LSK adjacent to the <DLK prompt on CDU-1 and CDU-2.

1) Make sure that the DATALINK (DLK) MENU shows on the two CDU displays.

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LOM 407, 412, 415, 423, 424, 437, 438; LOM 420 PRE SB 737-23-1483

(d) Push the LSK adjacent to the <MISC prompt.

LOM 407, 412, 415, 420, 423, 424, 437, 438, 443-445, 457-460, 464; LOM 404 POST SB 737-23-1484

(e) Push the LSK adjacent to the MAINT> prompt.

(f) Push the LSK adjacent to the <APM prompt.

NOTE: Initial versions of the Communications Management Unit (CMU) software will not show the airline identification (ID) on the CDU APM menu pages.

1) Make sure that the International Civil Aviation Organization (ICAO) address (Mode S address) or code, airline ID and airplane registration number are correct.

2) If the ICAO address (Mode S address) or code, airline ID or airplane registration number are not correct, do this task: ACARS Airplane Personality Module (APM) Software Installation, TASK 23-27-35-700-802 or replace the Aircraft Communications Addressing And Reporting System (ACARS) APM (TASK 23-27-35-020-801).

LOM 407, 412, 415, 423, 424, 437, 438; LOM 420 PRE SB 737-23-1483

(g) Push the LSK 6L twice to get back to <ACARS PREFLT MENU.

LOM 443-445, 457-460, 464; LOM 404 POST SB 737-23-1484; LOM 420 POST SB 737-23-1483

(h) Push the LSK 6L twice to get back to DATALINK (DLK) MENU.

LOM 422, 425, 427-431, 433, 434, 439-442, 446, 447, 450-456, 461-463, 465-999

SUBTASK 23-27-35-730-007

(3) Do these steps to verify the data in the APM:

(a) Push the MENU key on both CDUs.

1) Make sure that the MAIN menu shows on both CDUs.

LOM 422, 425, 429-431, 433, 434, 439-442, 446, 447, 450, 453-456, 461-463, 465-999

(b) Push the line select key LSK adjacent to the <ACARS prompt on CDU-1 and CDU-2.

1) Make sure that the ACARS-AOC MENU or ACARS-APPLICATION MENU shows on both CDU displays.

(c) If the menu is ACARS-AOC, push the LSK adjacent to the <TECH MENU prompt on CDU-1.

LOM 427, 428, 451, 452

(d) Push the LSK adjacent to the <DLNK prompt on CDU-1 and CDU-2.

1) Make sure that the DLNK-AOC MENU or DLNK-APPLICATION MENU shows on both CDU displays.

(e) If the menu is DLNK-AOC, push the LSK adjacent to the <TECH MENU prompt on CDU-1.

LOM 422, 425, 427-431, 433, 434, 439-442, 446, 447, 450-456, 461-463, 465-999

(f) If the menu is ACARS-APPLICATION, push the LSK adjacent to the TECHNICAL> prompt on CDU-1.

NOTE: Unless otherwise specified, all CDU key selections are done on CDU-1 and all pages and messages show on CDU-1.

1) Make sure the ACARS-TECHNICAL MENU shows.

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LOM 422, 425, 427-431, 433, 434, 439-442, 446, 447, 450-456, 461-463, 465-999 (Continued)

(g) Push the LSK adjacent to the PASSWORD> prompt.

1) Make sure the ACARS-PASSWORD page shows.

(h) Use the numeric keys to type the Universal Time Coordinated (UTC) that shows at the bottom of the display into the scratchpad.

(i) Push the LSK adjacent to the *PASSWORD prompt.

NOTE: The UTC can change while typing it into the scratchpad and cause an INVALID message adjacent to *PASSWORD. If this happens, repeat the last two steps.

1) Make sure the ACARS-PROTECTED MENU shows.

(j) Push the LSK adjacent to the <APM MENU prompt.

1) Make sure that the ACARS-APM MENU shows.

(k) Push the LSK adjacent to the <IDENT BLK PGM prompt.

1) Make sure the ACARS-IDENT BLK PGM page 1 shows.

2) Make sure the aircraft type adjacent to the AC TYPE prompt is correct.

3) Make sure the airplane registration number adjacent to the REG NUM prompt is correct.

4) Make sure the two letter airline identification code adjacent to the AIRLINE ID prompt is correct.

(l) Push the NEXT PAGE key.

1) Make sure the ACARS-IDENT BLK PGM page 2 shows.

2) Make sure the ICAO address (Mode S address) adjacent to the ICAO ADDR prompt is correct, refer to: (WDM 34-53-11).

(m) Push the NEXT PAGE key.

1) Make sure the ACARS-IDENT BLK PGM page 3 shows.

LOM 427-431, 439, 441, 446, 447, 451, 452, 455, 456, 465-999

2) Make sure that NO shows adjacent to the HFDR 1 INSTALLED and HFDR 2 INSTALLED prompts.

LOM 422, 425, 433, 434, 440, 442, 450, 453, 454, 461-463

3) Make sure that YES shows adjacent to the HFDR 1 INSTALLED and HFDR 2 INSTALLED prompts.

LOM 422, 425, 427-431, 433, 434, 439-442, 446, 447, 450-456, 461-463, 465-999

4) Make sure that YES shows adjacent to the VDR INSTALLED prompt.

LOM 427, 428, 451, 452

(n) Push the NEXT PAGE key.

1) Make sure that the ACARS-IDENT BLK PGM page 4 shows.

2) Make sure that the Authority Format Identifier value adjacent to the AFI prompt is correct.

3) Make sure that the Initial Domain Identifier value adjacent to the IDI prompt is correct.

4) Make sure that the Version value adjacent to the VER prompt is correct.

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LOM 427, 428, 451, 452 (Continued)

5) Make sure that the Administration value adjacent to the ADM prompt is correct.

(o) Push the NEXT PAGE key.

1) Make sure that the ACARS-IDENT BLK PGM page 5 shows.

2) Make sure that the Routing Domain Format value adjacent to the RDF prompt is correct.

3) Make sure that the Administration Region Selector value adjacent to the ARS prompt is correct.

4) Make sure that the Location value adjacent to the LOC prompt is correct.

5) Make sure that the System Identifier value adjacent to the SYS prompt is correct.

LOM 422, 425, 427-431, 433, 434, 439-442, 446, 447, 450-456, 461-463, 465-999

(p) If one or more of the above parameters are not correct, do this task: ACARS Airplane Personality Module (APM) Software Installation, TASK 23-27-35-700-802 or replace the ACARS APM: (ACARS AIRPLANE PERSONALITY MODULE - REMOVAL/INSTALLATION, PAGEBLOCK 23-27-35/401).

(q) Push the LSK adjacent to the <RETURN prompt to go back to the ACARS-APM MENU.

(r) Push the LSK adjacent to the <RETURN prompt to go back to the ACARS-PROTECTED MENU.

(s) Push the LSK adjacent to the <RETURN prompt to go back to the ACARS-TECHNICAL MENU.

LOM 407, 412, 415, 420, 422-425, 427-431, 433, 434, 437-447, 450-999; LOM 404 POST SB 737-23-1484

——— END OF TASK ———

TASK 23-27-35-700-802

3. ACARS Airplane Personality Module (APM) Software Installation

A. General

(1) This software installation writes data values into the APM.

(2) A Flight Management Control and Display Unit (CDU) is necessary for this procedure.

B. References

Reference	Title
24-22-00-860-811	Supply Electrical Power (P/B 201)
24-22-00-860-812	Remove Electrical Power (P/B 201)
34-61-00-710-801	Flight Management Computer System - Operational Test (P/B 501)

C. Location Zones

Zone	Area
211	Flight Compartment - Left
212	Flight Compartment - Right

D. Procedure

SUBTASK 23-27-35-860-006

(1) Do this task: Supply Electrical Power, TASK 24-22-00-860-811.

ECCN 9E991 BOEING PROPRIETARY - See title page for details

SUBTASK 23-27-35-840-002

(2) Make sure that the Flight Management Computer System is serviceable (TASK 34-61-00-710-801).

LOM 407, 412, 415, 420, 423, 424, 437, 438, 443-445, 457-460, 464; LOM 404 POST SB 737-23-1484

SUBTASK 23-27-35-730-009

(3) Do these steps on the #1 control display unit (CDU-1) to write data into the APM:

(a) Push the MENU key on both CDUs.

1) Make sure the MAIN menu shows on both CDUs.

LOM 407, 412, 415, 423, 424, 437, 438; LOM 420 PRE SB 737-23-1483

(b) Push the line select key (LSK) adjacent to the <ACARS prompt on CDU-1.

1) Make sure the ACARS PREFLT MENU page shows on the CDU display.

LOM 443-445, 457-460, 464; LOM 404 POST SB 737-23-1484; LOM 420 POST SB 737-23-1483

(c) Push the line select key (LSK) adjacent to the <DLK prompt on CDU-1.

1) Make sure that the DATALINK (DLK) MENU page shows on the CDU display.

LOM 407, 412, 415, 423, 424, 437, 438; LOM 420 PRE SB 737-23-1483

(d) Push the LSK adjacent to the <MISC prompt.

1) Make sure the ACARS MISC page shows on the CDU display.

LOM 407, 412, 415, 420, 423, 424, 437, 438, 443-445, 457-460, 464; LOM 404 POST SB 737-23-1484

(e) Push the LSK adjacent to the MAINT> prompt.

LOM 407, 412, 415, 423, 424, 437, 438; LOM 420 PRE SB 737-23-1483

1) Make sure the ACARS MAINTENANCE page shows on the CDU display.

LOM 443-445, 457-460, 464; LOM 404 POST SB 737-23-1484; LOM 420 POST SB 737-23-1483

2) Make sure that the CMU MAINTENANCE page shows on the CDU display.

(f) Enter “SAM” in the CDU scratchpad.

(g) Push the LSK 6R (blank key).

1) Make sure that CMU DEBUG page is displayed.

(h) Push the LSK adjacent to VDRS.

1) Make sure that ACARS VDRS DEBUG menu is displayed.

(i) Record the Transponder/Broadcast ICAO code (BC ICAO), shown at LSK 5R, for later use.

- BC ICAO code: _____.

(j) Select the LSK adjacent to RETURN to go back to the DEBUG MENU page.

(k) Select the LSK adjacent to the MAINT MENU.

LOM 407, 412, 415, 420, 423, 424, 437, 438, 443-445, 457-460, 464; LOM 404 POST SB 737-23-1484

(l) Enter “SERGE” into the CDU scratchpad.

(m) Push the LSK 1R (blank key).

LOM 407, 412, 415, 423, 424, 437, 438; LOM 420 PRE SB 737-23-1483

1) Make sure that the ACARS INIT page is displayed.

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LOM 443-445, 457-460, 464; LOM 404 POST SB 737-23-1484; LOM 420 POST SB 737-23-1483

2) Make sure that the CMU INIT page is displayed.

LOM 407, 412, 415, 423, 424, 437, 438; LOM 420 PRE SB 737-23-1483

(n) Push the LSK adjacent to <A/C ICAO ADDR.

(o) Record the transponder/ICAO code, shown at LSK 4L, for later use.

- ICAO code: _____.

(p) Push the LSK adjacent to the RETURN to go back to the ACARS INIT page.

LOM 407, 412, 415, 420, 423, 424, 437, 438, 443-445, 457-460, 464; LOM 404 POST SB 737-23-1484

(q) Push the LSK adjacent to <AIRLINE ID.

LOM 407, 412, 415, 423, 424, 437, 438; LOM 420 PRE SB 737-23-1483

1) Make sure that ACARS AIRLINE ID INIT page is displayed.

LOM 443-445, 457-460, 464; LOM 404 POST SB 737-23-1484; LOM 420 POST SB 737-23-1483

2) Make sure that CMU AIRLINE ID INIT page is displayed.

LOM 407, 412, 415, 420, 423, 424, 437, 438, 443-445, 457-460, 464; LOM 404 POST SB 737-23-1484

(r) Enter into the CDU scratchpad the airline ID.

NOTE: Manual entry of Airline ID is required for the CMU.

(s) Select LSK 2L MANUAL.

(t) Push the LSK adjacent to <SELECT until the <SEL> indicator is adjacent to the LSK 2L.

(u) Record the two letter Airline ID entered on the AIRLINE ID INIT page.

- Airline ID: _____.

LOM 407, 412, 415, 423, 424, 437, 438; LOM 420 PRE SB 737-23-1483

(v) Push the LSK adjacent to the RETURN until the ACARS MAINTENANCE menu is displayed.

LOM 443-445, 457-460, 464; LOM 404 POST SB 737-23-1484; LOM 420 POST SB 737-23-1483

(w) Push the LSK adjacent to the RETURN until the CMU MAINTENANCE menu is displayed.

LOM 407, 412, 415, 420, 423, 424, 437, 438, 443-445, 457-460, 464; LOM 404 POST SB 737-23-1484

(x) Push the LSK adjacent to the <APM prompt.

LOM 407, 412, 415, 423, 424, 437, 438; LOM 420 PRE SB 737-23-1483

1) Make sure the ACARS APM MENU shows on the CDU display.

LOM 443-445, 457-460, 464; LOM 404 POST SB 737-23-1484; LOM 420 POST SB 737-23-1483

2) Make sure that the CMU APM MENU shows on the CDU display.

LOM 407, 412, 415, 420, 423, 424, 437, 438, 443-445, 457-460, 464; LOM 404 POST SB 737-23-1484

(y) Push the LSK adjacent to the EDIT> prompt.

LOM 407, 412, 415, 423, 424, 437, 438; LOM 420 PRE SB 737-23-1483

1) Make sure the ACARS APM EDIT page shows on the CDU display.

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LOM 443-445, 457-460, 464; LOM 404 POST SB 737-23-1484; LOM 420 POST SB 737-23-1483

2) Make sure that the CMU APM EDIT page shows on the CDU display.

LOM 407, 412, 415, 420, 423, 424, 437, 438, 443-445, 457-460, 464; LOM 404 POST SB 737-23-1484

(z) Use the CDU keypad to enter "THUYVAN" in the scratchpad.

(aa) Push the LSK adjacent to the boxes under the ENTER PASSWORD prompt.

(ab) Push the LSK adjacent to the CONTINUE> prompt.

LOM 407, 412, 415, 423, 424, 437, 438; LOM 420 PRE SB 737-23-1483

1) Make sure the ACARS APM EDIT page 1 of 3 (1/3) shows on the CDU display.

LOM 443-445, 457-460, 464; LOM 404 POST SB 737-23-1484; LOM 420 POST SB 737-23-1483

2) Make sure that the CMU APM EDIT page 1 of 4 (1/4) shows on the CDU display.

LOM 407, 412, 415, 423, 424, 437, 438; LOM 420 PRE SB 737-23-1483

(ac) Push the LSK adjacent to the line under the A/C TYPE prompt until B737 shows.

LOM 443-445, 457-460, 464; LOM 404 POST SB 737-23-1484; LOM 420 POST SB 737-23-1483

(ad) Push the LSK adjacent to the line below the A/C TYPE prompt.

1) Make sure that the CMU AIRCRAFT TYPE shows on the CDU display.

2) Push the LSK adjacent to the <B737NG.

3) Push the LSK adjacent to the <RETURN.

LOM 407, 412, 415, 420, 423, 424, 437, 438, 443-445, 457-460, 464; LOM 404 POST SB 737-23-1484

(ae) Use the CDU-2 keypad to enter the registration number of the airplane as shown on the captain's or first officer's main instrument panel placard in the scratchpad.

NOTE: Enter 7 characters. If the registration number is less than 7 characters, enter leading decimal points. Example: ..N1239 or .A-2345

Examples of aircraft registration number verses scratchpad entry:

DISPLAYED ON PLACARD	ENTER IN SCRATCHPAD
N1239	..N1239
A-2345	.A-2345
N123456	N123456

(af) Push the LSK adjacent to the line under the A/C REG prompt.

1) Make sure that the aircraft registration number displayed at the LSK adjacent to the A/C REG agrees with the registration number on the Captain's or First Officer's Main Instrument Panel placard.

(ag) Use the CDU keypad to enter the ICAO Address number of the airplane in the scratchpad.

NOTE: The transponder/ICAO code was recorded at an earlier step.

NOTE: The ICAO code must be converted to hexadecimal, which is 6 characters. Type the hexadecimal value of the ICAO number into the scratchpad. See W/D 34-53-11 or 34-53-21.

(ah) Push the LSK adjacent to the line under the ICAO ADDR prompt.

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LOM 437, 438, 443-445

(ai) Push the LSK adjacent to the HFDR1 DLK prompt until HFDR1 DLK shows.

LOM 407, 412, 415, 420, 423, 424, 457-460, 464; LOM 404 POST SB 737-23-1484

(aj) Push the LSK adjacent to the HFDR1 DLK prompt until NO HFDR1 DLK shows.

LOM 443-445

(ak) Push the LSK adjacent to the HFDR2 DLK prompt until HFDR2 DLK shows.

LOM 407, 412, 415, 420, 423, 424, 437, 438, 457-460, 464; LOM 404 POST SB 737-23-1484

(al) Push the LSK adjacent to the HFDR2 DLK prompt until NO HFDR2 DLK shows.

LOM 407, 412, 415, 420, 423, 424, 437, 438, 443-445, 457-460, 464; LOM 404 POST SB 737-23-1484

(am) Push the NEXT PAGE function key.

LOM 407, 412, 415, 423, 424, 437, 438; LOM 420 PRE SB 737-23-1483

1) Make sure the ACARS APM EDIT page 2 of 3 (2/3) shows on the CDU display.

LOM 443-445, 457-460, 464; LOM 404 POST SB 737-23-1484; LOM 420 POST SB 737-23-1483

2) Make sure that the CMU APM EDIT page 2 of 4 (2/4) shows on the CDU display.

LOM 407, 412, 415, 420, 423, 424, 437, 438, 443-445, 457-460, 464; LOM 404 POST SB 737-23-1484

(an) Push the LSK adjacent to the ARINC 750 line until CLASSIC 750 shows.

(ao) Push the LSK adjacent to VDR1 until VDR1 NOT INSTALLED shows.

(ap) Push the LSK adjacent to VDR2 until VDR2 NOT INSTALLED shows.

(aq) Push the LSK adjacent to VDR3 until VDR3 INSTALLED shows.

LOM 443-445, 457-460, 464; LOM 404 POST SB 737-23-1484; LOM 420 POST SB 737-23-1483

(ar) Make sure that the A/C type is displayed at LSK 5L PDC as follows:

1) If B738 is not displayed then enter B738 in the scratchpad and select LSK 5L.

LOM 407, 412, 415, 420, 423, 424, 437, 438, 443-445, 457-460, 464; LOM 404 POST SB 737-23-1484

(as) Push the NEXT PAGE function key.

LOM 407, 412, 415, 423, 424, 437, 438; LOM 420 PRE SB 737-23-1483

1) Make sure the ACARS APM EDIT page 3 of 3 (3/3) shows on the CDU display.

LOM 443-445, 457-460, 464; LOM 404 POST SB 737-23-1484; LOM 420 POST SB 737-23-1483

2) Make sure that the CMU APM EDIT page 3 of 4 (3/4) shows on the CDU display.

LOM 407, 412, 415, 420, 423, 424, 437, 438, 443-445, 457-460, 464; LOM 404 POST SB 737-23-1484

(at) Push the LSK adjacent to PRT until PRT INSTALLED shows.

LOM 443-445, 457-460, 464; LOM 404 POST SB 737-23-1484; LOM 420 POST SB 737-23-1483

(au) Push the NEXT PAGE function key on the CDU.

1) Make sure that the CMU APM EDIT page 4 of 4 (4/4) is displayed.

(av) Enter into the CDU scratchpad the airline ID, a forward slash “/” followed by the three character ICAO code.

(aw) Select ACARS AIRLINE ID LSK 4L.

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LOM 457

(ax) Push the LSK adjacent to the line below ATN CPDLC until the CMU shows.

(ay) Push the LSK adjacent to the line below ATN VER until the 41 shows.

(az) Use the CDU keypad to enter the 6 character hexadecimal value of the ADM code in the scratchpad.

NOTE: The 6 character hexadecimal value of the ADM code also known as the AIRLINE ICAO DESIGNATOR HEX code.

(ba) Push LSK adjacent to the boxes below ATN ADM.

LOM 407, 412, 415, 420, 423, 424, 437, 438, 443-445, 457-460, 464; LOM 404 POST SB 737-23-1484

(bb) Push the LSK adjacent to the STORE AND RESET> prompt.

NOTE: The CMU will reset. This may take up to two minutes.

LOM 407, 412, 415, 423, 424, 437, 438; LOM 420 PRE SB 737-23-1483

(bc) Make sure that the <ACARS prompt shows on the CDU MENU.

LOM 443-445, 457-460, 464; LOM 404 POST SB 737-23-1484; LOM 420 POST SB 737-23-1483

(bd) Make sure that the <DLK prompt shows on the CDU MENU.

LOM 407, 412, 415, 423, 424, 437, 438; LOM 420 PRE SB 737-23-1483

(be) When the <ACARS prompt shows on the CDU display, verify the changes you made were saved. To verify the APM data, do this task: ACARS Airplane Personality Module (APM) Data Verification Check, TASK 23-27-35-700-801

LOM 443-445, 457-460, 464; LOM 404 POST SB 737-23-1484; LOM 420 POST SB 737-23-1483

(bf) When the <DLK prompt shows on the CDU display, make sure that the changes you made were saved. To verify the APM data, do this task: ACARS Airplane Personality Module (APM) Data Verification Check, TASK 23-27-35-700-801.

LOM 422, 425, 427-431, 433, 434, 439-442, 446, 447, 450-456, 461-463, 465-999

SUBTASK 23-27-35-730-011

(4) Do these steps on the control display unit (CDU) to write data into the APM:

(a) Push the MENU key on both CDUs.

LOM 422, 425, 429-431, 433, 434, 439-442, 446, 447, 450, 453-456, 461-463, 465-999

(b) Push the line select key (LSK) adjacent to the <ACARS prompt on CDU-1 and CDU-2.

1) Make sure that the ACARS-AOC MENU or ACARS-APPLICATION MENU shows on both CDU displays.

LOM 427, 428, 451, 452

(c) Push the line select key (LSK) adjacent to the <DLNK prompt on CDU-1 and CDU-2.

1) Make sure that the DLNK-AOC MENU or DLNK-APPLICATION MENU shows on both CDU displays.

LOM 422, 425, 429-431, 433, 434, 439-442, 446, 447, 450, 453-456, 461-463, 465-999

(d) If the menu is ACARS-AOC, push the LSK adjacent to the <TECH MENU prompt on CDU-1.

(e) If the menu is ACARS-APPLICATION, push the LSK adjacent to the TECHNICAL> prompt on CDU-1.

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LOM 422, 425, 429-431, 433, 434, 439-442, 446, 447, 450, 453-456, 461-463, 465-999 (Continued)

1) Make sure the ACARS-TECHNICAL MENU pages shows.

NOTE: Unless otherwise specified, all CDU key selections are done on CDU-1 and all pages and messages show on CDU-1.

LOM 427, 428, 451, 452

(f) If the menu is DLNK-AOC, push the LSK adjacent to the <TECH MENU prompt on CDU-1.

(g) If the menu is DLNK-APPLICATION, push the LSK adjacent to the TECHNICAL> prompt on CDU-1.

1) Make sure the ACARS-TECHNICAL MENU pages shows.

NOTE: Unless otherwise specified, all CDU key selections are done on CDU-1 and all pages and messages show on CDU-1.

LOM 422, 425, 427-431, 433, 434, 439-442, 446, 447, 450-456, 461-463, 465-999

(h) Push the LSK adjacent to the PASSWORD> prompt.

(i) Use the numeric keys to type the UTC that shows at the bottom of the CDU-1 display into the CDU-1 scratchpad.

(j) Push the LSK adjacent to the *PASSWORD prompt.

NOTE: The UTC can change while typing it into the scratchpad and cause an INVALID message adjacent to *PASSWORD. If this happens, repeat the last two steps.

1) Make sure the ACARS-PROTECTED MENU shows.

(k) Push the LSK adjacent to the <APM MENU prompt.

1) Make sure the ACARS-APM MENU page shows.

(l) Push the LSK adjacent to the <IDENT BLK PGM prompt.

1) Make sure the ACARS-IDENT BLK PGM page 1 shows.

LOM 422, 425, 429-431, 433, 434, 439-442, 446, 447, 453-456, 461-463, 465-999

(m) Push the LSK adjacent to the <SELECT prompt.

1) Make sure the ACARS-AC TYPE MENU page shows.

(n) Push the LSK adjacent to the <BOEING prompt.

1) Make sure the ACARS-AC TYPE BOEING page shows.

(o) Push the LSK adjacent to the *B737 prompt.

1) Make sure the ACARS-IDENT BLK PGM page 1 now shows with B737 adjacent to AC TYPE.

NOTE: WRITE* now shows in the right position on line 5. This will be used later to write the data to the Airplane Personality Module.

LOM 422, 425, 427-431, 433, 434, 439-442, 446, 447, 450-456, 461-463, 465-999

(p) Enter the registration number of the airplane as shown on the captain's or first officer's main instrument panel placard in the scratchpad, then push the LSK adjacent to the brackets under the REG NUM line.

NOTE: Enter 7 characters. If the registration number is less than 7 characters, type leading decimal points. Example: ..N1239 or .A-2345

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LOM 422, 425, 427-431, 433, 434, 439-442, 446, 447, 450-456, 461-463, 465-999 (Continued)

1) Make sure the airplane registration number shows adjacent to the REG NUM prompt and is correct.

(q) Enter the two letter airline ID into the scratchpad and push the LSK adjacent to the brackets under the AIRLINE ID line.

1) Make sure the airline ID shows adjacent to the AIRLINE ID prompt and is correct.

(r) Enter the 3 character ICAO airline identification code in the scratchpad, then push the LSK adjacent to the brackets under the ICAO AIRLINE ID line.

1) Make sure the 3 character ICAO airline identification code now shows adjacent to the ICAO AIRLINE ID prompt.

(s) Push the NEXT PAGE function key.

1) Make sure ACARS-IDENT BLK PGM page 2 shows.

(t) On CDU-2, push the MENU function key.

LOM 422, 425, 429-431, 433, 434, 439-442, 446, 447, 450, 453-456, 461-463, 465-999

(u) On CDU-2, push the LSK adjacent to the <ACARS prompt.

1) Make sure the ACARS-AOC MENU or ACARS-APPLICATION MENU shows on CDU-2.

(v) On CDU-2, if the menu is ACARS-AOC, push the LSK adjacent to the <TECH MENU prompt.

(w) On CDU-2, if the menu is ACARS-APPLICATION, push the LSK adjacent to the TECHNICAL> prompt.

LOM 427, 428, 451, 452

(x) On CDU-2, push the LSK adjacent to the <DLNK prompt.

1) Make sure the DLNK-AOC MENU or DLNK-APPLICATION MENU shows on CDU-2.

(y) On CDU-2, if the menu is DLNK-AOC, push the LSK adjacent to the <TECH MENU prompt.

(z) On CDU-2, if the menu is DLNK-APPLICATION, push the LSK adjacent to the TECHNICAL> prompt.

LOM 422, 425, 427-431, 433, 434, 439-442, 446, 447, 450-456, 461-463, 465-999

(aa) On CDU-2, push the LSK adjacent to the PASSWORD> prompt.

(ab) Use the numeric keys to type the UTC that shows at the bottom of the CDU-2 display into the CDU-2 scratchpad.

(ac) Push the LSK adjacent to the *PASSWORD prompt.

NOTE: The UTC can change while typing it into the scratchpad and cause an INVALID message adjacent to *PASSWORD. If this happens, repeat the last two steps.

1) Make sure the ACARS-PROTECTED MENU shows.

(ad) On CDU-2, push the LSK adjacent to the PARAMETERS> prompt.

1) Make sure the ACARS-PARAMETERS page shows on CDU-2.

(ae) Enter the 6 character value that shows for XPDR ADDR on CDU-2 into the scratchpad of CDU-1 and push the LSK adjacent to the brackets under the ICAO ADDR line on CDU-1.

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1) Make sure the ICAO address now shows adjacent to the ICAO ADDR prompt.

(af) On CDU-2, push the MENU function key.

NOTE: Unless otherwise specified, all CDU key selections are done on CDU-1 and all pages and messages show on CDU-1.

(ag) On CDU-1, push the NEXT PAGE function key.

1) Make sure the ACARS-IDENT BLK PGM page 3 shows on CDU-1.

LOM 427-431, 439, 441, 446, 447, 451, 452, 455, 456, 465-999

(ah) Type NO into the scratchpad and push the LSK adjacent to the brackets under the HFDR 1 INSTALLED line

1) Make sure that NO shows under the HFDR 1 INSTALLED line.

(ai) Type NO into the scratchpad and push the LSK adjacent to the brackets under the HFDR 2 INSTALLED line

1) Make sure that NO shows under the HFDR 2 INSTALLED line.

LOM 422, 425, 433, 434, 440, 442, 450, 453, 454, 461-463

(aj) Type YES into the scratchpad and push the LSK adjacent to the brackets under the HFDR 1 INSTALLED line

1) Make sure that YES shows under the HFDR 1 INSTALLED line.

(ak) Type YES into the scratchpad and push the LSK adjacent to the brackets under the HFDR 2 INSTALLED line

1) Make sure that YES shows under the HFDR 2 INSTALLED line.

LOM 427, 428, 450-452

(al) Type YES into the scratchpad and push the LSK adjacent to the brackets under the VDR INSTALLED line.

1) Make sure that YES shows under the VDR INSTALLED line.

(am) Push the NEXT PAGE function key.

1) Make sure the ACARS-IDENT BLK PGM page 4 shows.

(an) Type the 2 digit hexadecimal Authority Format Identifier (AFI) value into the scratchpad and push the LSK adjacent to the brackets under the AFI prompt.

1) Make sure the AFI value shows adjacent to the AFI prompt.

(ao) Type the 4 digit hexadecimal Initial Domain Identifier (IDI) value into the scratchpad and push the LSK adjacent to the brackets under the IDI prompt.

1) Make sure the IDI value shows adjacent to the IDI prompt.

(ap) Type the 2 digit hexadecimal Version (VER) value into the scratchpad and push the LSK adjacent to the brackets under the VER prompt.

1) Make sure the VER value shows adjacent to the VER prompt.

(aq) Type the 6 digit hexadecimal Administration (ADM) value into the scratchpad and push the LSK adjacent to the brackets under the ADM prompt.

1) Make sure the ADM value shows adjacent to the ADM prompt.

(ar) Push the NEXT PAGE function key.

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LOM 427, 428, 450-452 (Continued)

1) Make sure the ACARS-IDENT BLK PGM page 5 shows.

(as) Type the 2 digit hexadecimal Routing Domain Format (RDF) value into the scratchpad and push the LSK adjacent to the brackets under the RDF prompt.

1) Make sure the RDF value shows adjacent to the RDF prompt.

(at) Type the 6 digit hexadecimal Administrative Region Selector (ARS) value into the scratchpad and push the LSK adjacent to the brackets under the ARS prompt.

1) Make sure the ARS value shows adjacent to the ARS prompt.

(au) Type the 4 digit hexadecimal Location (LOC) value into the scratchpad and push the LSK adjacent to the brackets under the LOC prompt.

1) Make sure the LOC value shows adjacent to the LOC prompt.

(av) Type the 12 digit hexadecimal System Identifier (SYS) value into the scratchpad and push the LSK adjacent to the brackets under the SYS prompt.

1) Make sure the SYS value shows adjacent to the SYS prompt.

LOM 422, 425, 427-431, 433, 434, 439-442, 446, 447, 450-456, 461-463, 465-999

(aw) Push the LSK adjacent to the WRITE* prompt.

(ax) Open this circuit breaker:

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
E	8	C01483	CMU-1 AC

(ay) Wait 5 seconds.

(az) Close this circuit breaker:

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
E	8	C01483	CMU-1 AC

LOM 422, 425, 429-431, 433, 434, 439-442, 446, 447, 450, 453-456, 461-463, 465-999

(ba) Wait for the <ACARS prompt to show on the CDU-2 main menu page.

(bb) Push the LSK adjacent to the <ACARS prompt.

NOTE: Unless otherwise specified, all CDU key selections are done on CDU-2 and all pages and messages show on CDU-2.

1) Make sure the ACARS-AOC MENU or ACARS-APPLICATION MENU shows.

(bc) If the menu is ACARS-AOC, push the LSK adjacent to the <TECH MENU prompt.

(bd) If the menu is ACARS-APPLICATION, push the LSK adjacent to the TECHNICAL> prompt.

LOM 427, 428, 451, 452

(be) Wait for the <DLNK prompt to show on the CDU-2 main menu page.

(bf) Push the LSK adjacent to the <DLNK prompt.

NOTE: Unless otherwise specified, all CDU key selections are done on CDU-2 and all pages and messages show on CDU-2.

1) Make sure the DLNK-AOC MENU or DLNK-APPLICATION MENU shows.

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LOM 427, 428, 451, 452 (Continued)

(bg) If the menu is DLNK-AOC, push the LSK adjacent to the <TECH MENU prompt.

(bh) If the menu is DLNK-APPLICATION, push the LSK adjacent to the TECHNICAL> prompt.

LOM 422, 425, 427-431, 433, 434, 439-442, 446, 447, 450-456, 461-463, 465-999

(bi) Push the LSK adjacent to PASSWORD> prompt.

(bj) Use the numeric keys to type the UTC that shows at the bottom of the display into the scratchpad.

(bk) Push the LSK adjacent to the *PASSWORD prompt.

NOTE: The UTC can change while typing it into the scratchpad and cause an INVALID message adjacent to *PASSWORD. If this happens, repeat the last two steps.

(bl) Push the LSK adjacent to the <APM MENU prompt.

(bm) Push the LSK adjacent to the <IDENT BLK PGM prompt.

1) Make sure the ACARS-IDENT BLK PGM page 1 shows.

2) Make sure the values on pages 1, 2 and 3 are correct.

LOM 427, 428, 450-452

3) Also, make sure the values on pages 4 and 5 are correct.

LOM 422, 425, 427-431, 433, 434, 439-442, 446, 447, 450-456, 461-463, 465-999

(bn) Push the LSK adjacent to the <RETURN prompt to go back to the ACARS-APM MENU page.

(bo) Push the LSK adjacent to the <RETURN prompt to go back to the ACARS-PROTECTED MENU page.

(bp) Push the LSK adjacent to the <RETURN prompt to go back to the ACARS-TECHNICAL MENU page.

LOM 422, 425, 429-431, 433, 434, 439-442, 446, 447, 450, 453-456, 461-463, 465-999

(bq) Push the LSK adjacent to the <RETURN prompt to go back to the ACARS-AOC MENU or ACARS-APPLICATION MENU page.

LOM 427, 428, 451, 452

(br) Push the LSK adjacent to the <RETURN prompt to go back to the DLNK-AOC MENU or DLNK-APPLICATION MENU page.

LOM 407, 412, 415, 420, 422-425, 427-431, 433, 434, 437-447, 450-999; LOM 404 POST SB 737-23-1484

SUBTASK 23-27-35-200-002

(5) Do this task: Remove Electrical Power, TASK 24-22-00-860-812.

END OF TASK

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ACARS AIRPLANE PERSONALITY MODULE - REMOVAL/INSTALLATION

1. General

A. This procedure has these tasks:

(1) A removal of the ARINC Communications Addressing and Reporting System (ACARS) airplane personality module (APM).

(2) An installation of the ACARS airplane personality module (APM).

LOM 404 POST SB 737-23-1484

B. The APM [1] is located behind the ACARS communications management unit (CMU), M02127, on the E3-3 shelf in the main equipment center.

LOM 407, 412, 415, 420, 422-425, 427-431, 433, 434, 437-447, 450-999

C. The APM [1] is located behind the ACARS communications management unit (CMU) , M02127, on the E4-1 shelf in the main equipment center.

LOM 407, 412, 415, 420, 422-425, 427-431, 433, 434, 437-447, 450-999; LOM 404 POST SB 737-23-1484

TASK 23-27-35-020-801

2. ACARS Airplane Personality Module (APM) Removal

(Figure 401 or Figure 402)

A. References

Reference	Title
20-40-12-000-801	ESDS Handling for Printed Circuit Board Removal (P/B 201)
23-27-33-020-801	ACARS Communications Management Unit (CMU) Removal (P/B 401)
25-52-16-000-801	Forward Cargo Compartment Forward Bulkhead Liner - Removal (P/B 401)
SWPM 20-71-14	Standard Wiring Practices Manual

B. Location Zones

Zone	Area
117	Electrical and Electronics Compartment - Left
118	Electrical and Electronics Compartment - Right
121	Forward Cargo Compartment - Left
122	Forward Cargo Compartment - Right
211	Flight Compartment - Left
212	Flight Compartment - Right

C. Access Panels

Number	Name/Location
117A	Electronic Equipment Access Door
821	Forward Cargo Door

ECCN 9E991 BOEING PROPRIETARY - See title page for details

D. Removal Procedure

SUBTASK 23-27-35-860-001

(1) Open these circuit breakers and install safety tags:

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
E	8	C01483	CMU-1 AC

LOM 422, 425

E	9	C01500	ACARS CMU DC

LOM 407, 412, 415, 420, 423, 424, 427, 428, 433, 434, 437-447, 453-456, 458-464; LOM 404 POST SB 737-23-1484; LOM 457 POST SB 737-31-2184

E	9	C01500	CMU/ACARS DC

LOM 407, 412, 415, 420, 422-425, 427-431, 433, 434, 437-447, 450-999; LOM 404 POST SB 737-23-1484

These circuit breakers are inoperative and should remain open:

F/O Electrical System Panel, P6-1

Row	Col	Number	Name

LOM 404 POST SB 737-23-1484

E	8	C01483	CMU-1 AC (INOP)

LOM 429-431, 450-452, 465-999; LOM 404 POST SB 737-23-1484; LOM 457 PRE SB 737-31-2184

E	9	C01500	CMU/ACARS DC (INOP)

LOM 407, 412, 415, 420, 422-425, 427-431, 433, 434, 437-447, 450-999; LOM 404 POST SB 737-23-1484

SUBTASK 23-27-35-010-001

(2) Open this access panel:

Number	Name/Location
117A	Electronic Equipment Access Door

SUBTASK 23-27-35-010-002

(3) Open this access panel:

Number	Name/Location
821	Forward Cargo Door

SUBTASK 23-27-35-020-001

CAUTION

DO NOT TOUCH THE CONNECTOR PINS OR OTHER CONDUCTORS ON THE APM. IF YOU TOUCH THESE CONDUCTORS, ELECTROSTATIC DISCHARGE CAN CAUSE DAMAGE TO THE APM.

(4) Before you touch the APM [1], do this task: ESDS Handling for Printed Circuit Board Removal, TASK 20-40-12-000-801.

LOM 404 POST SB 737-23-1484

SUBTASK 23-27-35-020-002

(5) For the E3-3 shelf, do these steps to remove the APM [1]:

NOTE: Access to the APM [1] is from the forward cargo area, through the pressure relief panel [5] and the wire bundle disconnect bracket [4] on the back of the E3-3 shelf.

(a) Remove the pressure relief panel [5] (TASK 25-52-16-000-801).

ECCN 9E991 BOEING PROPRIETARY - See title page for details

LOM 404 POST SB 737-23-1484 (Continued)

(b) From behind the E3-3 shelf, loosen the four fasteners that hold the E3-3 shelf wire bundle disconnect bracket [4].

(c) Lower the E3-3 shelf wire bundle disconnect bracket [4] for access to the APM [1].

(d) Remove the two screws [2] that hold the APM [1] to the APM support bracket [6].

(e) Loosen the two fasteners that hold the connector [3] to the APM [1].

(f) Disconnect the connector [3] and remove the APM [1].

LOM 407, 412, 415, 420, 422-425, 427-431, 433, 434, 437-447, 450-999

SUBTASK 23-27-35-020-005

(6) For the E4–1 shelf, remove the APM [1]:

NOTE: Preferred method for access to the APM is from the forward cargo area, through the right bulkhead panel on the rear of the E4-1 shelf.

NOTE: Alternate method for access to the APM is from the electronic equipment access door, from the front of the E4-1 shelf. This procedure is for when there is no access to the APM through the right bulkhead panel.

(a) Preferred method for the E4-1 shelf, do these steps to remove the APM [1]:

1) Remove the right bulkhead panel [5] (TASK 25-52-16-000-801).

2) From behind the E4-1 shelf, loosen the four fasteners that hold the E4-1 shelf wire bundle disconnect bracket [4].

3) Lower the E4-1 shelf wire bundle disconnect bracket [4] for access to the APM [1].

4) Remove the two screws [2] that hold the APM [1] to the APM support bracket [6].

5) Loosen the two fasteners that hold the connector [3] to the APM [1].

6) Disconnect the connector [3] and remove the APM [1].

(b) Alternate method for the E4-1 shelf, do these steps to remove the APM [1]:

NOTE: This procedure is for when there is no access to the APM through the right bulkhead panel.

1) Do this task: ACARS Communications Management Unit (CMU) Removal, TASK 23-27-33-020-801.

2) Remove the screws [9] from the D10727 plug [8], SWPM 20-71-14.

CAUTION

DO NOT APPLY TOO MUCH TENSION OR BEND THE WIRE HARNESS TOO MUCH. THIS CAN CAUSE DAMAGE TO THE WIRE HARNESS AND THE ELECTRICAL CONNECTOR.

3) Move the D10727 plug [8] out of the way.

4) Remove the two screws [2] that hold the APM [1] to the APM support bracket [6].

5) Loosen the two fasteners that hold the connector [3] to the APM [1].

6) Disconnect the connector [3] and remove the APM [1].

END OF TASK

ECCN 9E991 BOEING PROPRIETARY - See title page for details

M07806 S0006565455_V2

Aircraft Communications Addressing and Reporting System (ACARS) Airplane Personality Module (APM) E3-3
Figure 401/23-27-35-990-801 (Sheet 1 of 2)

ECCN 9E991 BOEING PROPRIETARY - See title page for details

PRESSURE RELIEF PANEL (SHOWN REMOVED)

B

M07801 S0006565456_V2

Aircraft Communications Addressing and Reporting System (ACARS) Airplane Personality Module (APM) E3-3
Figure 401/23-27-35-990-801 (Sheet 2 of 2)

ECCN 9E991 BOEING PROPRIETARY - See title page for details

2487283 S0000585416_V1

Aircraft Communications Addressing and Reporting System (ACARS) Airplane Personality Module (APM) E4-1
Figure 402/23-27-35-990-806 (Sheet 1 of 3)

ECCN 9E991 BOEING PROPRIETARY - See title page for details

Aircraft Communications Addressing and Reporting System (ACARS) Airplane Personality Module (APM) E4-1
Figure 402/23-27-35-990-806 (Sheet 2 of 3)

ECCN 9E991 BOEING PROPRIETARY - See title page for details

Aircraft Communications Addressing and Reporting System (ACARS) Airplane Personality Module (APM) E4-1
Figure 402/23-27-35-990-806 (Sheet 3 of 3)

ECCN 9E991 BOEING PROPRIETARY - See title page for details

TASK 23-27-35-420-801

3. ACARS Airplane Personality Module (APM) Installation

(Figure 401 or Figure 402)

A. References

Reference	Title
20-40-12-400-801	ESDS Handling for Printed Circuit Board Installation (P/B 201)
23-27-00-740-814-009	ACARS - Operational Test (P/B 501)
23-27-00-740-816-010	ACARS - Operational Test (P/B 501)
23-27-33-420-801	ACARS Communications Management Unit (CMU) Installation (P/B 401)
23-27-35-700-801	ACARS Airplane Personality Module (APM) Data Verification Check (P/B 201)
24-22-00-860-812	Remove Electrical Power (P/B 201)
25-52-16-400-801	Forward Cargo Compartment Forward Bulkhead Liner - Installation (P/B 401)
SWPM 20-71-14	Standard Wiring Practices Manual

B. Expendables/Parts

AMM Item	Description	AIPC Reference	AIPC Effectivity
1	APM	23-27-35-05-005	LOM 404, 407, 412, 415, 420, 422-425, 427-431, 433, 434, 437-447, 450-999

C. Location Zones

Zone	Area
117	Electrical and Electronics Compartment - Left
118	Electrical and Electronics Compartment - Right
121	Forward Cargo Compartment - Left
122	Forward Cargo Compartment - Right
211	Flight Compartment - Left
212	Flight Compartment - Right

D. Access Panels

Number	Name/Location
117A	Electronic Equipment Access Door
821	Forward Cargo Door

E. Installation Procedure

SUBTASK 23-27-35-860-002

(1) Make sure that these circuit breakers are open and have safety tags:

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
E	8	C01483	CMU-1 AC
LOM 422, 425			
E	9	C01500	ACARS CMU DC

ECCN 9E991 BOEING PROPRIETARY - See title page for details

LOM 422, 425 (Continued)

(Continued)

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
LOM 407, 412, 415, 420, 423, 424, 427, 428, 433, 434, 437-447, 453-456, 458-464; LOM 404 POST SB 737-23-1484; LOM 457 POST SB 737-31-2184			
E	9	C01500	CMU/ACARS DC
LOM 407, 412, 415, 420, 422-425, 427-431, 433, 434, 437-447, 450-999; LOM 404 POST SB 737-23-1484			

These circuit breakers are inoperative and should remain open:

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
LOM 404 POST SB 737-23-1484			
E	8	C01483	CMU-1 AC (INOP)
LOM 429-431, 450-452, 465-999; LOM 404 POST SB 737-23-1484; LOM 457 PRE SB 737-31-2184			
E	9	C01500	CMU/ACARS DC (INOP)

LOM 407, 412, 415, 420, 422-425, 427-431, 433, 434, 437-447, 450-999; LOM 404 POST SB 737-23-1484

SUBTASK 23-27-35-020-003

CAUTION DO NOT TOUCH THE CONNECTOR PINS OR OTHER CONDUCTORS ON THE APM. IF YOU TOUCH THESE CONDUCTORS, ELECTROSTATIC DISCHARGE CAN CAUSE DAMAGE TO THE APM.

(2) Before you touch the APM [1], do this task: ESDS Handling for Printed Circuit Board Installation, TASK 20-40-12-400-801.

LOM 404 POST SB 737-23-1484

SUBTASK 23-27-35-420-003

(3) For the E3-3 shelf, do these steps to install theAPM [1]:

NOTE: Access to the APM [1] is from the forward cargo area, through the pressure relief panel [5] and the wire bundle disconnect bracket [4] on the back of the E3-3 shelf.

(a) Connect the APM [1] to the connector [3].

(b) Tighten the two fasteners that hold the connector [3] to the APM [1].

(c) Install the two screws [2] that hold theAPM [1] to the APM support bracket [6].

(d) Install the E3-3 shelf wire bundle disconnect bracket [4].

1) Make sure the four fasteners that secure the wire bundle disconnect bracket [4] are tightened.

(e) Install the pressure relief panel [5] (TASK 25-52-16-400-801).

ECCN 9E991 BOEING PROPRIETARY - See title page for details

LOM 407, 412, 415, 420, 422-425, 427-431, 433, 434, 437-447, 450-999

SUBTASK 23-27-35-420-001

(4) For the E4–1 shelf, Install the APM [1]:

NOTE: Preferred method for access to the APM is from the forward cargo area, through the right bulkhead panel on the rear of the E4-1 shelf.

NOTE: Alternate method for access to the APM is from the electronic equipment access door, from the front of the E4-1 shelf. This procedure is for when there is no access to the APM through the right bulkhead panel.

(a) Preferred method for the E4-1 shelf, do these steps to install the APM [1].

1) Connect the APM [1] to the connector [3].
2) Tighten the two fasteners that hold the connector [3] to the APM [1].
3) Install the two screws [2] that hold the APM [1] to the APM support bracket [6].
4) Install the E4-1 shelf wire bundle disconnect bracket [4].
   a) Make sure the four fasteners that secure the wire bundle disconnect bracket [4] are tightened.
5) Install the right bulkhead panel [5] (TASK 25-52-16-400-801).

(b) Alternate method for the E4-1 shelf, do these steps to install the APM [1]:

NOTE: This procedure is for when there is no access to the APM through the right bulkhead panel.

1) Connect the connector [3] and install the APM [1].
2) Tighten the two fasteners that hold the connector [3] to the APM [1].
3) Install the two screws [2] that hold the APM [1] to the APM support bracket [6].

CAUTION

DO NOT APPLY TOO MUCH TENSION OR BEND THE WIRE HARNESS TOO MUCH. THIS CAN CAUSE DAMAGE TO THE WIRE HARNESS AND THE ELECTRICAL CONNECTOR.

4) Move the D10727 plug [8] into its position on the rack.
5) Install the screws [9] to secure the D10727 plug [8], SWPM 20-71-14.
6) Do this task: ACARS Communications Management Unit (CMU) Installation, TASK 23-27-33-420-801.

LOM 407, 412, 415, 420, 422-425, 427-431, 433, 434, 437-447, 450-999; LOM 404 POST SB 737-23-1484

SUBTASK 23-27-35-860-003

(5) Remove the safety tags and close these circuit breakers:

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
E	8	C01483	CMU-1 AC

LOM 422, 425

E	9	C01500	ACARS CMU DC

LOM 407, 412, 415, 420, 423, 424, 427, 428, 433, 434, 437-447, 453-456, 458-464; LOM 404 POST SB 737-23-1484; LOM 457 POST SB 737-31-2184

E	9	C01500	CMU/ACARS DC

ECCN 9E991 BOEING PROPRIETARY - See title page for details

LOM 407, 412, 415, 420, 423, 424, 427, 428, 433, 434, 437-447, 453-456, 458-464; LOM 404 POST SB 737-23-1484; LOM 457 POST SB 737-31-2184 (Continued)

(Continued)

F/O Electrical System Panel, P6-1

Row	Col	Number	Name

LOM 407, 412, 415, 420, 422-425, 427-431, 433, 434, 437-447, 450-999; LOM 404 POST SB 737-23-1484

These circuit breakers are inoperative and should remain open:

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
LOM 404 POST SB 737-23-1484			
E	8	C01483	CMU-1 AC (INOP)
LOM 429-431, 450-452, 465-999; LOM 404 POST SB 737-23-1484; LOM 457 PRE SB 737-31-2184			
E	9	C01500	CMU/ACARS DC (INOP)

I

LOM 407, 412, 415, 420, 422-425, 427-431, 433, 434, 437-447, 450-999; LOM 404 POST SB 737-23-1484

F. Installation Test

SUBTASK 23-27-35-700-004

(1) Do this task: ACARS Airplane Personality Module (APM) Data Verification Check, TASK 23-27-35-700-801.

SUBTASK 23-27-35-740-001

(2) Do this task: ACARS - Operational Test, TASK 23-27-00-740-816-010 or ACARS - Operational Test, TASK 23-27-00-740-814-009.

G. Put the Airplane Back to its Initial Condition.

SUBTASK 23-27-35-410-001

(1) Close this access panel:

Number	Name/Location
117A	Electronic Equipment Access Door

SUBTASK 23-27-35-410-002

(2) Close this access panel:

Number	Name/Location
821	Forward Cargo Door

SUBTASK 23-27-35-860-004

(3) Do this task: Remove Electrical Power, TASK 24-22-00-860-812.

END OF TASK

ECCN 9E991 BOEING PROPRIETARY - See title page for details

SELCAL SYSTEM - MAINTENANCE/PRACTICES

1. General

A. This procedure has these tasks:

(1) SELCAL System Deactivation.

(2) SELCAL System Activation.

(3) SELCAL Program Switch Module switch settings

TASK 23-28-00-040-801

2. SELCAL System - Deactivation

A. General

(1) This procedure removes electrical power from the Selective Call System (SELCAL) System.

B. Location Zones

Zone	Area
117	Electrical and Electronics Compartment - Left
118	Electrical and Electronics Compartment - Right
211	Flight Compartment - Left
212	Flight Compartment - Right

C. Procedure

SUBTASK 23-28-00-860-011

(1) Open this circuit breaker and install safety tag:

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
D	15	C00058	COMMUNICATIONS SELCAL

D. SELCAL System - Tryout

SUBTASK 23-28-00-860-012

(1) Make sure that this circuit breaker is open and has safety tag:

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
D	15	C00058	COMMUNICATIONS SELCAL

SUBTASK 23-28-00-700-002

(2) Do the steps that follow:

(a) Set the captain's audio control panel to the Very High Frequency (VHF) 1 communication system.

(b) Set the VHF 1 to an approved test frequency.

(c) Have a SELCAL identified signal transmitted on the VHF 1 test frequency.

NOTE: If a station is not available to transmit from, make a SELCAL signal with a SELCAL ground station encoder. Make sure that the signal is approved and set to the SELCAL code for the airplane.

LOM 404, 411, 412, 415, 416, 422-426, 432-434, 437-442, 445-447, 451-457, 461-463, 466-999

(d) Make sure that the VHF 1 light on the SELCAL control panel does not come on (Figure 201).

ECCN 9E991 BOEING PROPRIETARY - See title page for details

LOM 402, 406, 407, 420, 427-431, 443, 444, 450, 458-460, 464, 465

(e) Make sure that the VHF 1 call light on all audio control panels does not come on (Figure 202).

LOM ALL

(f) Make sure that you do not hear a high-low chime in the flight compartment.

——— END OF TASK ———

ECCN 9E991 BOEING PROPRIETARY - See title page for details

FLIGHT COMPARTMENT

AISLE STAND

A

2381186 S0000543787_V1

SELCAL Control Panel
Figure 201/23-28-00-990-802

ECCN 9E991 BOEING PROPRIETARY - See title page for details

2967747 S0000747176_V1

Audio Control Panel
Figure 202/23-28-00-990-803

ECCN 9E991 BOEING PROPRIETARY - See title page for details

TASK 23-28-00-440-801

3. SELCAL System - Activation

(Figure 201 or Figure 202)

A. General

(1) This procedure adds electrical power to the SELCAL System.

B. Location Zones

Zone	Area
117	Electrical and Electronics Compartment - Left
118	Electrical and Electronics Compartment - Right
211	Flight Compartment - Left
212	Flight Compartment - Right

C. Procedure

SUBTASK 23-28-00-860-013

(1) Remove the safety tag and close this circuit breaker:

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
D	15	C00058	COMMUNICATIONS SELCAL

END OF TASK

TASK 23-28-00-860-801

4. SELCAL Program Switch Module switch settings

A. General

(1) This task includes the steps to set the DIP switches on the SELCAL Program Switch Module (PSM), M1995. The PSM is located at the rear side of the E4-1 electronics shelf.

(2) This procedure is used to change the SELCAL code (four letter code) when required as a result of an airplane registry change.

B. References

Reference	Title
23-28-00-700-801	SELCAL System - Operational Test (P/B 501)
WDM 23-22-11	Wiring Diagram Manual

C. Location Zones

Zone	Area
117	Electrical and Electronics Compartment - Left
118	Electrical and Electronics Compartment - Right
211	Flight Compartment - Left
212	Flight Compartment - Right

D. Procedure

SUBTASK 23-28-00-860-010

(1) When necessary, set the SELCAL program switch module switch settings as follows:

NOTE: See WDM 23-22-11 for specific airplane switch settings.

(a) Look at the SELCAL coding table in WDM 23-22-11 and find the airplane you are performing this task on.

ECCN 9E991 BOEING PROPRIETARY - See title page for details

(b) Look at the airplane identification placard in the flight compartment (pilots' instrument panels) to make sure that the SELCAL code is same.

(c) In the forward cargo compartment, open an access panel to get access the rear side of the E4 electronics rack.

NOTE: The SELCAL PSM, M1995 is on the rear side of the E4-1 electronics rack.

(d) Loosen the two captive screws [4] and washers [5] to remove the security cover [3] from the PSM [1].

(e) Remove the switch seals [2] to get access to the DIP switches [6].

(f) Find the same airplane code in WDM 23-22-11 and read across all columns to find all switch settings.

(g) Move the DIP switches [6] to the ON/OFF position according to the WDM 23-22-11.

- For each switch where you find a “0”, set the switch to ON.
- For each switch where you find a “1”, set the switch to OFF.
- For each switch where you find unused or not connected, set the switch to OFF.

1) If it is necessary to convert the SELCAL code (four letter code) to Binary code, see the SELCAL letter code to binary code conversion table in Figure 203.

2) Make sure that all the DIP switches are set correctly.

(h) Install the two switch seals [2] to cover the DIP switches.

(i) Put the security cover [3] on the PSM [1]. Tighten the two captive screws [4] and washers [5] to attach the security cover [3] on the PSM [1].

(j) Install the access panel for the E4 electronics rack.

E. Operational Test

SUBTASK 23-28-00-710-022

(1) Do this task: SELCAL System - Operational Test, TASK 23-28-00-700-801.

——— END OF TASK ———

ECCN 9E991 BOEING PROPRIETARY - See title page for details

EXAMPLE SELCAL CODE OF "AB-CD"

NOTE:

"0"=SWITCH ON
"1"=SWITCH OFF
"NOT UNUSED"=SWITCH OFF

SELCAL LETTER CODE	BINARY CODE
A	1000
B	0100
C	1100
D	0010
E	1010
F	0110
G	1110
H	0001
J	1001
K	0101
L	1101
M	0011
P	1011
Q	0111
R	1111
S	0000

SELCAL LETTER CODE TO BINARY CODE CONVERSION TABLE

2304013 S0000522986_V2

SELCAL Program Switch Module Switch Settings
Figure 203/23-28-00-990-801

ECCN 9E991 BOEING PROPRIETARY - See title page for details

SELCAL - ADJUSTMENT/TEST

1. General

A. This procedure has this task:

(1) An operational test of the Selective Calling (SELCAL) system.

TASK 23-28-00-700-801

2. SELCAL System - Operational Test

A. References

Reference	Title
23-11-00-710-801	HF Communication System - Operational Test (P/B 501)
23-12-00-710-801	VHF Communication System - Operational Test (P/B 501)
23-51-00-710-801	Flight Interphone System - Operational Test (P/B 501)

B. Tools/Equipment

NOTE: When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

Reference	Description
COM-1613	Transmitter Tester - Selcal, Ground Equipment Part #: 1000005-004 Supplier: 30242 Part #: 1000005-005 Supplier: 30242 Part #: 90000147 Supplier: 92606 Part #: ARTS-7000 Supplier: 0RDZ5 Part #: AVX-10K Supplier: 51190 Part #: N1304B-1 Supplier: 30242 Opt Part #: 1000005-001 Supplier: 30242 Opt Part #: 1000005-002 Supplier: 30242 Opt Part #: IFR 4000 Supplier: 51190 Opt Part #: N1304A Supplier: 30242

C. Location Zones

Zone	Area
211	Flight Compartment - Left
212	Flight Compartment - Right

D. SELCAL System Operational Test

SUBTASK 23-28-00-860-002

(1) Make sure that this circuit breaker is closed:

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
D	15	C00058	COMMUNICATIONS SELCAL

SUBTASK 23-28-00-860-003

(2) Make sure that the HF communication system (TASK 23-11-00-710-801) and VHF communication system (TASK 23-12-00-710-801) are serviceable.

LOM 402, 406, 407, 420, 427-431, 443, 444, 450, 458-460, 464, 465

SUBTASK 23-28-00-860-007

(3) Make sure that the Flight Interphone System (TASK 23-51-00-710-801) is serviceable.

ECCN 9E991 BOEING PROPRIETARY - See title page for details

LOM 404, 411, 412, 415, 416, 422-426, 432-434, 437-442, 445-447, 451-457, 461-463, 466-999

SUBTASK 23-28-00-710-007

(4) Do the steps that follow for VHF 1:

(a) Set the captain's audio control panel to the VHF 1 communication system.

(b) Set the VHF 1 to an approved test frequency.

(c) Have a SELCAL identified signal transmitted on the VHF 1 test frequency.

NOTE: If a station is not available to transmit from, make a SELCAL signal with a SELCAL ground station encoder. Make sure that the signal is approved and the SELCAL Transmitter/Tester, COM-1613, set to the SELCAL code for the airplane.

(d) Make sure that the VHF 1 light on the SELCAL control panel comes on.

(e) Make sure that you hear a single high-low chime in the flight compartment.

(f) Push and release the VHF 1 button on the SELCAL control panel.

(g) Make sure that the VHF 1 light on the SELCAL control panel goes off.

LOM 402, 406, 407, 420, 427-431, 443, 444, 450, 458-460, 464, 465

SUBTASK 23-28-00-710-008

(5) Do the steps that follow for VHF 1:

(a) Set the captain's audio control panel to the VHF 1 communication system.

(b) Set the VHF 1 to an approved test frequency.

(c) Have a SELCAL identified signal transmitted on the VHF 1 test frequency.

NOTE: If a station is not available to transmit from, make a SELCAL signal with a SELCAL ground station encoder. Make sure that the signal is approved and the SELCAL Transmitter/Tester, COM-1613, set to the SELCAL code for the airplane.

(d) Make sure that the VHF 1 call light on all the audio control panels comes on.

(e) Make sure that you hear a single high-low chime in the flight compartment.

(f) Push the push-to-talk (PTT) switch on the Captain's or the First Officer's control wheel.

1) Make sure that the VHF1 Transmitting Switch on the ACP panel is selected.

(g) Make sure that the VHF 1 light on all the audio control panels goes off.

LOM 404, 411, 412, 415, 416, 422-426, 432-434, 437-442, 445-447, 451-457, 461-463, 466-999

SUBTASK 23-28-00-710-009

(6) Do the steps that follow for VHF 2:

(a) Set the captain's audio control panel to the VHF 2 communication system.

(b) Set the VHF 2 to an approved test frequency.

(c) Have a SELCAL identified signal transmitted on the VHF 2 test frequency.

NOTE: If a station is not available to transmit from, make a SELCAL signal with a SELCAL ground station encoder. Make sure that the signal is approved and the SELCAL Transmitter/Tester, COM-1613, set to the SELCAL code for the airplane.

(d) Make sure that the VHF 2 light on the SELCAL control panel comes on.

(e) Make sure that you hear a single high-low chime in the flight compartment.

(f) Push and release the VHF 2 button on the SELCAL control panel.

(g) Make sure that the VHF 2 light on the SELCAL control panel goes off.

ECCN 9E991 BOEING PROPRIETARY - See title page for details

LOM 402, 406, 407, 420, 427-431, 443, 444, 450, 458-460, 464, 465

SUBTASK 23-28-00-710-010

(7) Do the steps that follow for VHF 2:

(a) Set the captain's audio control panel to the VHF 2 communication system.

(b) Set the VHF 2 to an approved test frequency.

(c) Have a SELCAL identified signal transmitted on the VHF 2 test frequency.

NOTE: If a station is not available to transmit from, make a SELCAL signal with a SELCAL ground station encoder. Make sure that the signal is approved and the SELCAL Transmitter/Tester, COM-1613, set to the SELCAL code for the airplane.

(d) Make sure that the VHF 2 call light on all the audio control panels comes on.

(e) Make sure that you hear a single high-low chime in the flight compartment.

(f) Push the push-to-talk (PTT) switch on the Captain's or the First Officer's control wheel.

1) Make sure that the VHF2 Transmitting Switch on the ACP panel is selected.

(g) Make sure that the VHF 2 light on all the audio control panels goes off.

LOM 411, 412, 415, 422-425, 432-434, 437-442, 445-447, 451-457, 461-463, 466-999; LOM 404 POST SB 737-23-1484; LOM 426 POST SB 737-23-1535

SUBTASK 23-28-00-710-011

(8) Do the steps that follow for VHF 3:

(a) Set the captain's audio control panel to the VHF 3 communication system.

(b) Set the VHF 3 to an approved test frequency.

(c) Have a SELCAL identified signal transmitted on the VHF 3 test frequency.

NOTE: If a station is not available to transmit from, make a SELCAL signal with a SELCAL ground station encoder. Make sure that the signal is approved and the SELCAL Transmitter/Tester, COM-1613, set to the SELCAL code for the airplane.

(d) Make sure that the VHF 3 light on the SELCAL control panel comes on.

(e) Make sure that you hear a single high-low chime in the flight compartment.

(f) Push and release the VHF 3 button on the SELCAL control panel.

(g) Make sure that the VHF 3 light on the SELCAL control panel goes off.

LOM 402, 406, 407, 420, 427-431, 443, 444, 450, 458-460, 464, 465

SUBTASK 23-28-00-710-012

(9) Do the steps that follow for VHF 3:

(a) Set the captain's audio control panel to the VHF 3 communication system.

(b) Set the VHF 3 to an approved test frequency.

(c) Have a SELCAL identified signal transmitted on the VHF 3 test frequency.

NOTE: If a station is not available to transmit from, make a SELCAL signal with a SELCAL ground station encoder. Make sure that the signal is approved and the SELCAL Transmitter/Tester, COM-1613, set to the SELCAL code for the airplane.

(d) Make sure that the VHF 3 call light on all the audio control panels comes on.

(e) Make sure that you hear a single high-low chime in the flight compartment.

(f) Push the push-to-talk (PTT) switch on the Captain's or the First Officer's control wheel.

1) Make sure that the VHF3 Transmitting Switch on the ACP panel is selected.

ECCN 9E991 BOEING PROPRIETARY - See title page for details

LOM 402, 406, 407, 420, 427-431, 443, 444, 450, 458-460, 464, 465 (Continued)

(g) Make sure that the VHF 3 light on all the audio control panels goes off.

LOM 404, 411, 412, 415, 416, 422-426, 432-434, 437-442, 445-447, 451-457, 461-463, 466-999

SUBTASK 23-28-00-710-013

(10) Do the steps that follow for HF 1:

(a) Set the captain's audio control panel to the HF 1 communication system.

(b) Set the HF 1 to an approved test frequency.

(c) Have a SELCAL identified signal transmitted on the HF 1 test frequency.

NOTE: If a station is not available to transmit from, make a SELCAL signal with a SELCAL ground station encoder. Make sure that the signal is approved and the SELCAL Transmitter/Tester, COM-1613, set to the SELCAL code for the airplane.

(d) Make sure that the HF 1 light on the SELCAL control panel comes on.

(e) Make sure that you hear a single high-low chime in the flight compartment.

(f) Push and release the HF 1 button on the SELCAL control panel.

(g) Make sure that the HF 1 light on the SELCAL control panel goes off.

LOM 402, 406, 407, 420, 427-431, 443, 444, 450, 458-460, 464, 465

SUBTASK 23-28-00-710-014

(11) Do the steps that follow for HF 1:

(a) Set the captain's audio control panel to the HF 1 communication system.

(b) Set the HF 1 to an approved test frequency.

(c) Have a SELCAL identified signal transmitted on the HF 1 test frequency.

NOTE: If a station is not available to transmit from, make a SELCAL signal with a SELCAL ground station encoder. Make sure that the signal is approved and the SELCAL Transmitter/Tester, COM-1613, set to the SELCAL code for the airplane.

(d) Make sure that the HF 1 call light on all the audio control panels comes on.

(e) Make sure that you hear a single high-low chime in the flight compartment.

(f) Push the push-to-talk (PTT) switch on the Captain's or the First Officer's control wheel.

(g) Make sure that the HF 1 light on all the audio control panels goes off.

LOM 404, 412, 415, 416, 422-426, 432-434, 439-442, 445, 451-454, 457, 466-999

SUBTASK 23-28-00-710-015

(12) Do the steps that follow for HF 2:

(a) Set the captain's audio control panel to the HF 2 communication system.

(b) Set the HF 2 to an approved test frequency.

(c) Have a SELCAL identified signal transmitted on the HF 2 test frequency.

NOTE: If a station is not available to transmit from, make a SELCAL signal with a SELCAL ground station encoder. Make sure that the signal is approved and the SELCAL Transmitter/Tester, COM-1613, set to the SELCAL code for the airplane.

(d) Make sure that the HF 2 light on the SELCAL control panel comes on.

(e) Make sure that you hear a single high-low chime in the flight compartment.

(f) Push and release the HF 2 button on the SELCAL control panel.

ECCN 9E991 BOEING PROPRIETARY - See title page for details

(g) Make sure that the HF 2 light on the SELCAL control panel goes off.

LOM 443, 444, 465

SUBTASK 23-28-00-710-016

(13) Do the steps that follow for HF 2:

(a) Set the captain's audio control panel to the HF 2 communication system.

(b) Set the HF 2 to an approved test frequency.

(c) Have a SELCAL identified signal transmitted on the HF 2 test frequency.

NOTE: If a station is not available to transmit from, make a SELCAL signal with a SELCAL ground station encoder. Make sure that the signal is approved and the SELCAL Transmitter/Tester, COM-1613, set to the SELCAL code for the airplane.

(d) Make sure that the HF 2 call light on all the audio control panels comes on.

(e) Make sure that you hear a single high-low chime in the flight compartment.

(f) Push the push-to-talk (PTT) switch on the Captain's or the First Officer's control wheel.

(g) Make sure that the HF 2 light on all the audio control panels goes off.

LOM ALL

SUBTASK 23-28-00-860-006

(14) Set the communication systems back to their usual conditions.

END OF TASK

ECCN 9E991 BOEING PROPRIETARY - See title page for details

SELCAL DECODER - REMOVAL/INSTALLATION

1. General

A. This procedure has these tasks:

(1) A removal of the selective calling (SELCAL) decoder.

(2) An installation of the SELCAL decoder.

B. The SELCAL decoder is located on the E4-1 electronics shelf in the main equipment center.

TASK 23-28-11-020-801

2. SELCAL Decoder Unit Removal

(Figure 401)

A. References

Reference	Title
20-10-07-000-801	E/E Box Removal (P/B 201)
20-40-12-000-802	ESDS Handling for Metal Encased Unit Removal (P/B 201)

B. Location Zones

Zone	Area
117	Electrical and Electronics Compartment - Left
118	Electrical and Electronics Compartment - Right
211	Flight Compartment - Left
212	Flight Compartment - Right

C. Access Panels

Number	Name/Location
117A	Electronic Equipment Access Door

D. Removal Procedure

SUBTASK 23-28-11-010-001

(1) Open this access panel to get access to the main equipment center:

Number	Name/Location
117A	Electronic Equipment Access Door

SUBTASK 23-28-11-860-001

(2) Open this circuit breaker and install safety tag:

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
D	15	C00058	COMMUNICATIONS SELCAL

SUBTASK 23-28-11-860-002

> **CAUTION** DO NOT TOUCH THE CONNECTOR PINS OR OTHER CONDUCTORS ON THE SELCAL DECODER. IF YOU TOUCH THESE CONDUCTORS, ELECTROSTATIC DISCHARGE CAN CAUSE DAMAGE TO THE SELCAL DECODER.

(3) Before you touch the SELCAL decoder [1], do this task: ESDS Handling for Metal Encased Unit Removal, TASK 20-40-12-000-802.

ECCN 9E991 BOEING PROPRIETARY - See title page for details

SUBTASK 23-28-11-020-001

(4) Remove the SELCAL decoder [1] from the shelf. To remove it, do this task: E/E Box Removal, TASK 20-10-07-000-801.

——— END OF TASK ———

ECCN 9E991 BOEING PROPRIETARY - See title page for details

ELECTRONIC EQUIPMENT RACKS, E2, E3 AND E4

A

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Selective Calling (SELCAL) Decoder Installation
Figure 401/23-28-11-990-801

ECCN 9E991 BOEING PROPRIETARY - See title page for details

TASK 23-28-11-420-801

3. SELCAL Decoder Installation

(Figure 401)

A. References

Reference	Title
20-10-07-400-801	E/E Box Installation (P/B 201)
20-40-12-400-802	ESDS Handling for Metal Encased Unit Installation (P/B 201)
23-12-00-710-801	VHF Communication System - Operational Test (P/B 501)

B. Tools/Equipment

NOTE: When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

Reference	Description
COM-1613	Transmitter Tester - Selcal, Ground Equipment Part #: 1000005-004 Supplier: 30242 Part #: 1000005-005 Supplier: 30242 Part #: 90000147 Supplier: 92606 Part #: ARTS-7000 Supplier: 0RDZ5 Part #: AVX-10K Supplier: 51190 Part #: N1304B-1 Supplier: 30242 Opt Part #: 1000005-001 Supplier: 30242 Opt Part #: 1000005-002 Supplier: 30242 Opt Part #: IFR 4000 Supplier: 51190 Opt Part #: N1304A Supplier: 30242

C. Expendables/Parts

AMM Item	Description	AIPC Reference	AIPC Effectivity
1	SELCAL decoder	23-22-11-02-005	LOM ALL

D. Location Zones

Zone	Area
117	Electrical and Electronics Compartment - Left
118	Electrical and Electronics Compartment - Right
211	Flight Compartment - Left
212	Flight Compartment - Right

E. Access Panels

Number	Name/Location
117A	Electronic Equipment Access Door

F. Installation Procedure

SUBTASK 23-28-11-860-003

(1) Make sure that this circuit breaker is open and has safety tag:

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
D	15	C00058	COMMUNICATIONS SELCAL

ECCN 9E991 BOEING PROPRIETARY - See title page for details

SUBTASK 23-28-11-860-004

CAUTION	DO NOT TOUCH THE CONNECTOR PINS OR OTHER CONDUCTORS ON THE SELCAL DECODER. IF YOU TOUCH THESE CONDUCTORS, ELECTROSTATIC DISCHARGE CAN CAUSE DAMAGE TO THE SELCAL DECODER.

(2) Before you touch the SELCAL decoder [1], do this task: ESDS Handling for Metal Encased Unit Installation, TASK 20-40-12-400-802.

SUBTASK 23-28-11-420-001

(3) Install the SELCAL decoder [1] on the shelf. To install it, do this task: E/E Box Installation, TASK 20-10-07-400-801.

SUBTASK 23-28-11-860-005

(4) Remove the safety tag and close this circuit breaker:

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
D	15	C00058	COMMUNICATIONS SELCAL

G. Installation Test

SUBTASK 23-28-11-860-007

(1) Make sure that the VHF communication system (TASK 23-12-00-710-801) is serviceable.

SUBTASK 23-28-11-700-002

(2) Do the SELCAL decoder installation test.

(a) Set the captain's audio control panel to the VHF 1 communication system.

(b) Set the VHF 1 to an approved test frequency.

1) Make sure you can communicate on this system.

(c) Have a SELCAL identified signal transmitted on the VHF 1 test frequency.

NOTE: If a station is not available to transmit from, make a SELCAL signal with a SELCAL ground station encoder. Make sure the signal is approved and the SELCAL Transmitter/Tester, COM-1613 set to the SELCAL code for the airplane.

LOM 404, 411, 412, 415, 416, 422-426, 432-434, 437-442, 445-447, 451-457, 461-463, 466-999

(d) Make sure the VHF 1 light on the SELCAL control panel comes on.

LOM 402, 406, 407, 420, 427-431, 443, 444, 450, 458-460, 464, 465

(e) Make sure the VHF 1 call light on all audio control panels comes on.

LOM ALL

(f) Make sure you hear a single high-low chime in the flight compartment.

LOM 404, 411, 412, 415, 416, 422-426, 432-434, 437-442, 445-447, 451-457, 461-463, 466-999

(g) Push and release the VHF 1 button on the SELCAL control panel.

LOM 402, 406, 407, 420, 427-431, 443, 444, 450, 458-460, 464, 465

(h) Push the push-to-talk (PTT) switch on the Captain's or the First Officer's control wheel.

LOM 404, 411, 412, 415, 416, 422-426, 432-434, 437-442, 445-447, 451-457, 461-463, 466-999

(i) Make sure the VHF 1 light on the SELCAL control panel goes off.

ECCN 9E991 BOEING PROPRIETARY - See title page for details

LOM 402, 406, 407, 420, 427-431, 443, 444, 450, 458-460, 464, 465

(j) Make sure the VHF 1 light on all the audio control panels goes off.

LOM ALL

(k) Set the communication system back to its usual condition.

H. Put the Airplane Back to Its Initial Condition

SUBTASK 23-28-11-410-001

(1) Close this access panel for the main equipment center:

Number	Name/Location
117A	Electronic Equipment Access Door

——— END OF TASK ———

ECCN 9E991 BOEING PROPRIETARY - See title page for details

SELCAL CONTROL PANEL - REMOVAL/INSTALLATION

1. General

A. This procedure has these tasks:

(1) A removal of the SELCAL control panel.

(2) An installation of the SELCAL control panel.

B. The SELCAL control panel is located on the aft electronic panel, P8, in the flight compartment.

TASK 23-28-21-000-801

2. SELCAL Control Panel - Removal

(Figure 401)

A. References

Reference	Title
20-40-12-000-802	ESDS Handling for Metal Encased Unit Removal (P/B 201)
20-40-12-400-804	Conductive Dust Cap and Connector Cover Installation (P/B 201)

B. Location Zones

Zone	Area
211	Flight Compartment - Left
212	Flight Compartment - Right

C. Removal Procedure

SUBTASK 23-28-21-860-001

(1) Open these circuit breakers and install safety tags:

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
D	15	C00058	COMMUNICATIONS SELCAL

F/O Electrical System Panel, P6-3

Row	Col	Number	Name
D	8	C00701	EMER PANEL LTG

SUBTASK 23-28-21-860-002

(2) On the pilots aft electronics panel, P8, set the AISLE STAND PANEL LIGHTING BRIGHT/DIM CONTROL switch to the OFF position.

SUBTASK 23-28-21-020-001

CAUTION

DO NOT TOUCH THE CONNECTOR PINS OR OTHER CONDUCTORS ON THE SELCAL CONTROL PANEL. IF YOU TOUCH THESE CONDUCTORS, ELECTROSTATIC DISCHARGE CAN CAUSE DAMAGE TO THE SELCAL CONTROL PANEL.

(3) Before you touch the SELCAL control panel [1], do this task: ESDS Handling for Metal Encased Unit Removal, TASK 20-40-12-000-802.

SUBTASK 23-28-21-020-002

(4) Do these steps to remove the SELCAL control panel [1]:

(a) Loosen the twoquarter-turn fastener [2].

ECCN 9E991 BOEING PROPRIETARY - See title page for details

(b) Carefully lift the SELCAL control panel [1] from the aft electronics panel, P8, to get access to the electrical connector.

(c) Disconnect the electrical connector [3].

(d) To install a protective covers on the electrical connector [3], do this task: Conductive Dust Cap and Connector Cover Installation, TASK 20-40-12-400-804.

END OF TASK

ECCN 9E991 BOEING PROPRIETARY - See title page for details

FLIGHT COMPARTMENT

AISLE STAND

A

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SELCAL Control Panel Installation
Figure 401/23-28-21-990-801

ECCN 9E991 BOEING PROPRIETARY - See title page for details

TASK 23-28-21-400-801

3. SELCAL Control Panel - Installation

(Figure 401)

A. References

Reference	Title
20-40-12-000-804	Conductive Dust Cap and Connector Cover Removal (P/B 201)
20-40-12-400-802	ESDS Handling for Metal Encased Unit Installation (P/B 201)
23-12-00-710-801	VHF Communication System - Operational Test (P/B 501)

B. Tools/Equipment

NOTE: When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

Reference	Description
COM-1613	Transmitter Tester - Selcal, Ground Equipment Part #: 1000005-004 Supplier: 30242 Part #: 1000005-005 Supplier: 30242 Part #: 90000147 Supplier: 92606 Part #: ARTS-7000 Supplier: 0RDZ5 Part #: AVX-10K Supplier: 51190 Part #: N1304B-1 Supplier: 30242 Opt Part #: 1000005-001 Supplier: 30242 Opt Part #: 1000005-002 Supplier: 30242 Opt Part #: IFR 4000 Supplier: 51190 Opt Part #: N1304A Supplier: 30242

C. Expendables/Parts

AMM Item	Description	AIPC Reference	AIPC Effectivity
1	SELCAL control panel	23-28-21-01-050	LOM 404, 416, 432
		23-28-21-02-025	LOM 461-463
		23-28-21-03-025	LOM 412, 415, 423, 424, 437-439, 441, 445-447, 455-457
		23-28-21-04-025	LOM 411, 426, 451, 452, 466-999
		23-28-21-09-025	LOM 422, 425, 433, 434, 440, 442, 453, 454

D. Location Zones

Zone	Area
211	Flight Compartment - Left
212	Flight Compartment - Right

E. SELCAL Control Panel Installation

SUBTASK 23-28-21-860-003

(1) Make sure that these circuit breakers are open and have safety tags:

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
D	15	C00058	COMMUNICATIONS SELCAL

ECCN 9E991 BOEING PROPRIETARY - See title page for details

F/O Electrical System Panel, P6-3

Row	Col	Number	Name
D	8	C00701	EMER PANEL LTG

SUBTASK 23-28-21-860-004

(2) On the pilots aft electronics panel, P8, make sure that the AISLE STAND PANEL LIGHTING BRIGHT/DIM CONTROL switch set to the OFF position.

SUBTASK 23-28-21-420-001

CAUTION DO NOT TOUCH THE CONNECTOR PINS OR OTHER CONDUCTORS ON THE SELCAL CONTROL PANEL. IF YOU TOUCH THESE CONDUCTORS, ELECTROSTATIC DISCHARGE CAN CAUSE DAMAGE TO THE SELCAL CONTROL PANEL.

(3) Before you touch the SELCAL control panel [1], do this task: ESDS Handling for Metal Encased Unit Installation, TASK 20-40-12-400-802.

SUBTASK 23-28-21-420-002

(4) Do these steps to install the SELCAL control panel [1]:

(a) To remove the protective covers from the electrical connector [3], do this task: Conductive Dust Cap and Connector Cover Removal, TASK 20-40-12-000-804.

(b) Examine the electrical connector [3] for bent or broken pins, dirt, and damage.

(c) Connect the electrical connector [3].

(d) Put the SELCAL control panel [1] in its position on the aft electronics control panel, P8.

(e) Tighten the two quarter-turn fastener [2].

SUBTASK 23-28-21-860-005

(5) Remove the safety tags and close these circuit breakers:

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
D	15	C00058	COMMUNICATIONS SELCAL

F/O Electrical System Panel, P6-3

Row	Col	Number	Name
D	8	C00701	EMER PANEL LTG

SUBTASK 23-28-21-860-006

(6) Set the AISLE STAND PANEL LIGHTING BRIGHT/DIM control switch on the aft pilots control stand panel, P8, to the midrange position.

F. Installation Test

SUBTASK 23-28-21-860-008

(1) To make sure that the VHF communication system is serviceable, do this task:VHF Communication System - Operational Test, TASK 23-12-00-710-801.

SUBTASK 23-28-21-700-001

(2) Do the SELCAL control panel [1] installation test.

(a) Set the Captain's audio selector panel to the VHF 1 communication system.

(b) Set the VHF 1 to an approved test frequency.

1) Make sure that you can communicate on this system.

ECCN 9E991 BOEING PROPRIETARY - See title page for details

(c) Have a SELCAL identified signal transmitted on the VHF 1 test frequency.

NOTE: If a station is not available to transmit from, make a SELCAL signal with a SELCAL ground station encoder. Make sure that the signal is approved and the SELCAL Transmitter/Tester, COM-1613, set to the SELCAL code for the airplane.

(d) Make sure that the VHF 1 light on the SELCAL control panel comes on.

(e) Make sure that you hear a single high-low chime in the flight compartment.

(f) Push and release the VHF 1 button switch on the SELCAL control panel.

(g) Make sure that the VHF 1 light on the SELCAL control panel [1] goes off.

(h) Set the communication system back to its usual condition.

——— END OF TASK ———

ECCN 9E991 BOEING PROPRIETARY - See title page for details

PASSENGER ADDRESS SYSTEM - ADJUSTMENT/TEST

1. **General**
   A. This procedure contains scheduled maintenance task data.
   B. This procedure does a full test of the passenger address system.
   C. This procedure contains:
      (1) An operational test of the passenger address system
      (2) A system flight mode test of the sound level in the passenger cabin.

TASK 23-31-00-740-801

2. **Passenger Address System - Operational Test**

A. General

(1) The operational test is a fast check of the system. The test has a number of different parts. All parts of the test follow in a given sequence.

(2) The operational test has these test sections:

LOM 402, 404, 406, 407, 411, 412, 415, 416, 420, 423, 424, 426, 429-432, 450-452, 465

(a) Boarding Music Operation Test

(b) Prerecorded Announcement Test

LOM 402, 404, 406, 407, 411, 412, 415, 416, 420, 423, 424, 426, 432, 450-452, 465

(c) Emergency Announcement Test

LOM ALL

(d) Passenger Address Operation Test

(e) Chime Operation Test

LOM 402, 404, 406, 407, 412, 415, 416, 420, 423, 424

(f) Passenger Entertainment Override

LOM ALL

B. Tools/Equipment

NOTE: When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

Reference	Description
COM-17479	Tape - Test Part #: RD-AM9530 Supplier: SZ437

C. Location Zones

Zone	Area
117	Electrical and Electronics Compartment - Left
118	Electrical and Electronics Compartment - Right
211	Flight Compartment - Left
212	Flight Compartment - Right

ECCN 9E991 BOEING PROPRIETARY - See title page for details

D. Passenger Address System Operational Test

LOM 402, 406, 407, 412, 415, 420

SUBTASK 23-31-00-710-033

(1) Do a test of the boarding music operation:

(a) Push the buttons “9” and “0” on the Pre-Recorded Announcement Machine (PRAM).

(b) Push the MUSIC 1 button.

1) Make sure that the cassette door opens.

(c) Put a music tape or test tape, COM-17479, into the PRAM.

(d) Close the cassette door.

(e) Turn the volume control to the middle position.

(f) Push the MUSIC 1 button.

1) Make sure that the MUSIC 1 light comes on.

(g) Push the START button.

1) Make sure that the START light comes on.

2) Make sure that you hear clear music on the Passenger Service Unit (PSU), lavatory, and attendant speakers.

(h) Turn the volume control clockwise.

1) Make sure that the volume level increases at all of the speakers.

(i) Turn the volume control counterclockwise.

1) Make sure that the volume level decreases at all of the speakers.

(j) Turn the volume control to the middle position.

(k) Push the MUSIC 2 button.

1) Make sure that the MUSIC 2 light comes on.

2) Make sure that you hear a different type of music on all of the speakers.

(l) Make an announcement from the flight compartment and from each attendant station.

1) Make sure that the announcement is heard at all of the speakers.

2) Make sure that the music is not heard.

3) Make sure that the LED display shows “0”.

LOM 404, 411, 423, 424, 426, 429-432

SUBTASK 23-31-00-710-034

(2) Do a test of the boarding music operation:

(a) Push the ENT button on the PRAM.

(b) Push the MUSIC button on the PRAM.

(c) Push a number, '1', '2', '3', or '4', on the PRAM keypad to select a boarding music channel.

(d) Push the START button.

1) Make sure that you hear music on the attendant, PSU, and lavatory speakers.

(e) Turn the volume control clockwise.

1) Make sure that the volume level increases at all of the speakers.

ECCN 9E991 BOEING PROPRIETARY - See title page for details

LOM 404, 411, 423, 424, 426, 429-432 (Continued)

(f) Turn the volume control counterclockwise.
  1) Make sure that the volume level decreases at all of the speakers.
(g) Turn the volume control to the middle position.
(h) Make an announcement from the flight compartment and from each attendant station.
  1) Make sure that the announcement is heard at all of the speakers.
  2) Make sure that the music is not heard.

LOM 450-452, 465

SUBTASK 23-31-00-710-035

(3) Do a test of the boarding music operation:
  (a) Push the ENT button on the PRAM.
  (b) Push the MUSIC button on the PRAM.
  (c) Push a number, '1', '2', '3', or '4', on the PRAM keypad to select a boarding music channel.
  (d) Push the START button.
    1) Make sure that you hear music on the attendant, PSU, and lavatory speakers.
  (e) Push the up volume button on the PRAM.
    1) Make sure that the volume level increases at all of the speakers.
  (f) Push the down volume button on the PRAM.
    1) Make sure that the volume level decreases at all of the speakers.
  (g) Make an announcement from the flight compartment and from each attendant station.
    1) Make sure that the announcement is heard at all of the speakers.
    2) Make sure that the music is not heard.

LOM 402, 406, 407, 412, 415, 420

SUBTASK 23-31-00-710-038

(4) Do a test of the prerecorded announcement operation:
  (a) Push the keys “0” and “1” on the PRAM.
    1) Make sure that “01” shows on the LED display.
    2) Make sure that the tape starts to wind.
    3) Make sure that the READY light comes on when the cassette tape stops.
  (b) Push the START button.
    1) Make sure that the START light comes on.
    2) Make sure that an announcement is heard on the attendant, PSU, and lavatory speakers.
    3) Make sure that the boarding music is not heard while the prerecorded announcement is heard.
    4) Make sure that you hear the boarding music after the announcement stops.
  (c) Push the STOP key.
  (d) Push the keys “0” and “2” on the PRAM.

ECCN 9E991 BOEING PROPRIETARY - See title page for details

LOM 402, 406, 407, 412, 415, 420 (Continued)

1) Make sure that “02” shows on the LED display.
2) Make sure that the READY light comes on.

(e) Push the START button.
1) Make sure that the START light comes on.
2) Make sure that you hear the prerecorded announcement on all of the speakers.

(f) Make an announcement from the flight compartment and each attendant station while you hear the prerecorded announcement.
1) Make sure that you can hear the flight compartment announcement on all of the speakers.
2) Make sure that you cannot hear the prerecorded announcement while the voice announcement is being made.

LOM 404, 411, 423, 424, 426, 429-432, 450-452, 465

SUBTASK 23-31-00-710-039

(5) Do a test of the prerecorded announcement operation:
(a) Push the ANNC button on the PRAM.
(b) Enter a three-digit number for an announcement.
(c) Push the START button.
1) Make sure that you hear an announcement on all of the PA speakers.
2) Make sure that the boarding music is not heard while the prerecorded announcement is heard.
3) Make sure that you hear the boarding music after the announcement stops.

(d) Make an announcement from the flight compartment and each attendant station while you hear the prerecorded announcement.
1) Make sure that you can hear the announcement on all of the speakers.
2) Make sure that you cannot hear the prerecorded announcement while the voice announcement is being made.

(e) Push the STOP button.

LOM 402, 404, 406, 407, 411, 412, 415, 416, 420, 423, 424, 426, 432, 450-452, 465

SUBTASK 23-31-00-710-042

(6) Do a test of the emergency announcement:

CAUTION
MAKE SURE THAT YOU DO THE STEPS BELOW CORRECTLY. THIS CAN PREVENT DAMAGE TO THE OXYGEN SYSTEM.

(a) Do the steps below in the correct sequence:
1) Open these circuit breakers and install safety tags:

CAPT Electrical System Panel, P18-3

Row	Col	Number	Name

LOM 402, 404, 406, 407, 411, 412, 415, 416, 423, 424, 426, 432, 450-452, 465

ECCN 9E991 BOEING PROPRIETARY - See title page for details

LOM 402, 404, 406, 407, 411, 412, 415, 416, 423, 424, 426, 432, 450-452, 465 (Continued)

(Continued)

CAPT Electrical System Panel, P18-3

Row	Col	Number	Name
F	9	C00784	OXYGEN PASS RIGHT
F	10	C00783	OXYGEN PASS LEFT

LOM 402, 404, 406, 407, 411, 412, 415, 416, 420, 423, 424, 426, 432, 450-452, 465

2) Set the PASS OXYGEN switch, on the P5 overhead panel, to the ON position.

a) Make sure that you hear an emergency announcement from the passenger address speakers.

NOTE: There is up to a 5 second delay after switch is put ON and emergency announcement is made.

3) Set the PASS OXYGEN switch, on the P5 overhead panel, to the NORMAL position.

4) Open and close this circuit breaker:

CAPT Electrical System Panel, P18-3

Row	Col	Number	Name
F	7	C00156	OXYGEN IND

a) Make sure that the passenger OXYGEN ON light on the P5-14 panel is not illuminated.

5) Remove the safety tags and close these circuit breakers:

CAPT Electrical System Panel, P18-3

Row	Col	Number	Name
LOM 402, 404, 406, 407, 411, 412, 415, 416, 423, 424, 426, 432, 450-452, 465			
F	9	C00784	OXYGEN PASS RIGHT
F	10	C00783	OXYGEN PASS LEFT

LOM ALL

SUBTASK 23-31-00-710-044

(7) Do a test to do a check of the Passenger Address priority system from the aft control stand:

(a) Attach a PA microphone to the jack (D6001) on the aft control stand if a microphone or handset is not installed.

(b) Push and hold the PTT switch on the control stand PA microphone.

1) Make sure that you can hear the announcement from these speakers:

a) Attendant's speakers.

b) Lavatory speakers.

c) PSU speakers.

(c) Release the PTT switch.

(d) Remove the PA microphone from the jack as applicable.

LOM 404, 437, 438, 445

(e) Do these steps to do a check of the PA IN USE light:

ECCN 9E991 BOEING PROPRIETARY - See title page for details

LOM 404, 437, 438, 445 (Continued)

1) Set the PA microphone selector switch on the captain's audio control panel to the ON position.
   a) Make sure that its light comes on
2) Push and hold the PTT on the Captain's control wheel to MIC position.
   a) Make sure that the PA IN USE light on the P5 overhead panel comes on.

LOM ALL

SUBTASK 23-31-00-710-043

(8) Do a test of the passenger address operation from the captain's boom mic:
   (a) Select PA on the captain's audio panel, P8.
   (b) Push and hold the PTT switch on the captain's control wheel to MIC.
   (c) Speak into the captain's boom mic.
      1) Make sure that you can hear the announcement from these speakers:
         a) Attendant's speakers.
         b) Lavatory speakers.
         c) PSU speakers.
   (d) Release the PTT switch.

SUBTASK 23-31-00-710-053

(9) Do a test of the passenger address operation from the first officer's boom mic:
   (a) Select PA on the first officer’s audio panel, P8.
   (b) Push and hold the PTT switch on the first officer's control wheel to MIC.
   (c) Speak into the first officer's boom mic.
      1) Make sure that you can hear the announcement from these speakers:
         a) Attendant’s speakers.
         b) Lavatory speakers.
         c) PSU speakers.
   (d) Release the PTT switch.

SUBTASK 23-31-00-710-045

(10) Do a test of the passenger address operation from a forward attendant station:
   (a) Set the attendant handset to the PA mode.
   (b) Push and hold the PTT switch on the captain's control wheel to the MIC position.
   (c) Push the PTT button on the attendant handset.

LOM 404, 437, 438, 445

1) Make sure that the PA IN USE light on the P5 overhead panel in the flight compartment comes on.

LOM ALL

   (d) At the same time, speak into the captain's boom mic and have someone speak into the attendant handset.
      1) Make sure that you can hear the captain's announcement on these speakers:
         a) Attendant's speakers.

ECCN 9E991 BOEING PROPRIETARY - See title page for details

b) Lavatory speakers.

c) PSU speakers.

2) Make sure that you cannot hear the announcement from the attendant handset on the speakers.

(e) Release the PTT switch on the captain's control wheel.

1) Make sure that you can hear the announcement from the attendant handset on the speakers.

2) Make sure that you cannot hear the announcement on the forward attendant speakers.

(f) Put the attendant handset in the handset cradle.

LOM 404, 437, 438, 445

1) Make sure that the PA IN USE light on the P5 overhead panel is off.

LOM ALL

(g) Do this test again using a handset from a different Forward attendant station (if installed).

SUBTASK 23-31-00-710-046

(11) Do a test of the passenger address operation from an aft attendant station:

(a) Set the handset from an aft attendant station to the PA mode.

(b) Push and hold the PTT switch on the captain's control wheel to the MIC position.

(c) Push the PTT button on the attendant handset.

LOM 404, 437, 438, 445

1) Make sure that the PA IN USE light on the P5 overhead panel comes on.

LOM ALL

(d) At the same time, speak into the captain's boom mic and have someone speak into the aft attendant handset.

1) Make sure that you can hear the captain's announcement on the attendant, PSU, and lavatory speakers.

2) Make sure that you cannot hear the announcement from the attendant handset on the speakers.

(e) Release the PTT switch on the captain's control wheel.

1) Make sure that you can hear the announcement from the attendant handset on the forward attendant, PSU, and lavatory speakers.

2) Make sure that you cannot hear the announcement from the attendant handset on the aft attendant speakers.

(f) Put the attendant handset in the handset cradle.

LOM 404, 437, 438, 445

1) Make sure that the PA IN USE light on the P5 overhead panel is off.

LOM ALL

(g) Do this test again using a handset from a different Aft attendant station (if installed).

SUBTASK 23-31-00-710-050

(12) Do a test of the chime operation:

(a) Push the attendant call button on a PSU.

ECCN 9E991 BOEING PROPRIETARY - See title page for details

1) Make sure that you hear one high tone on the PA speakers.

(b) Push the attendant call button on all other PSUs.

1) Make sure that you hear a high tone each time you push an attendant call button.

(c) Push the attendant call buttons once more to reset them.

1) Make sure that the attendant light goes off.

(d) Push the PILOT call button on each attendant handset.

1) Make sure that you hear a high tone in the flight compartment.

(e) Push the button for the attendant on each attendant handset.

1) Make sure that you hear a high/low tone on the attendant speakers and in the passenger cabin.

(f) Push the ATTEND call button on the captain's overhead panel (P5).

1) Make sure that you hear a high/low tone on the attendant speakers and in the passenger cabin.

(g) Put the attendant handsets in the handset cradles.

(h) Do these steps to do a check of the Fasten Seat Belt warning function:

1) Make sure that the FASTEN BELTS sign switch on the captain's overhead panel is in the OFF position.

2) Put the FASTEN BELTS sign switch to the ON position.

a) Make sure that you hear a low tone in the passenger cabin.

LOM 404, 411, 412, 415, 416, 423, 424, 426, 432, 450, 465

3) Make sure that you hear a fasten seat belt announcement.

LOM ALL

4) Put the FASTEN BELTS sign switch to the OFF position.

a) Make sure that you hear a low tone in the passenger cabin.

LOM 402, 404, 406, 407, 412, 415, 416, 420, 423, 424

SUBTASK 23-31-00-710-051

I (13) Do this test of the Passenger Entertainment Override:

(a) Make the applicable selections on the Video System Control Unit (VSCU) to play audio from the video system on the PA speakers.

(b) Adjust the PA volume to a comfortable level.

1) Make sure that you can hear audio from the video system on the PA speakers.

LOM 402, 404, 406, 407, 420

2) Make sure that VIDEO ON light, on the P5 overhead panel, in the flight compartment comes on.

LOM 402, 404, 406, 407, 412, 415, 416, 420, 423, 424

(c) Make a PA announcement from any attendant's handset.

1) Make sure that you hear the announcement from the attendant's handset on the PA speakers.

2) Make sure that you hear the announcement on the headphones.

ECCN 9E991 BOEING PROPRIETARY - See title page for details

3) Make sure that you do not hear audio from the video system on the PA speakers.
4) Make sure that the video program pauses during the announcement.

(d) Make a PA announcement from a pilot's station.

NOTE: Flight Compartment announcements done through the handset will not override Flight Attendant announcements.

1) Make sure that you hear the announcement from the pilot's station on the PA speakers.
2) Make sure that you hear the announcement on the headphones.
3) Make sure that you do not hear audio from the video system on the PA speakers.
4) Make sure that the video program pauses during the announcement.

(e) Make the applicable selections on the PRAM to play an emergency message.

1) Make sure that you hear the emergency message from the PRAM on the PA speakers.
2) Make sure that you do not hear audio from the video system on the PA speakers.
3) Make sure that the video display on all monitors pause.
4) Push the STOP button on the PRAM.
5) Make sure that the video program resumes operation.

LOM ALL

——— END OF TASK ———

TASK 23-31-00-730-801

3. Passenger Address System - System Test

A. General

(1) The system test has these test sections:

(a) A ground mode test which checks the sound level of each passenger address speaker.

(b) A flight mode test which makes sure that the sound level of the passenger address speakers increases when the engines are running.

(2) This test makes sure the sound level of the speakers in the passenger cabin increases by at least 5 dBs when the engines are running.

(3) This test checks the sound level in the airplane with the engine running relay from the #1 engine, or the #1 and #2 engines, connected to the PA amplifier.

B. Tools/Equipment

NOTE: When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

ECCN 9E991 BOEING PROPRIETARY - See title page for details

Reference	Description
COM-1322	Multimeter (Analog / Digital with sufficient internal voltage to measure long cable distances) Part #: 117 Supplier: 89536 Part #: 260-8XPI Supplier: 55026 Part #: FLUKE 289 Supplier: 89536 Opt Part #: MODEL 8 MK7 Supplier: 00426
COM-1612	Generator - Random Noise, Audio Output Part #: 543-1 Supplier: 21562
COM-1616	Meter - Sound Level Part #: CEL-240/K1 Supplier: 01RN5 Part #: SE-402-AC3 Supplier: 24575 Opt Part #: 2100-10 Supplier: 90435 Opt Part #: 2400-10 Supplier: 90435 Opt Part #: CEL-254/K1 Supplier: 01RN5

C. Location Zones

Zone	Area
117	Electrical and Electronics Compartment - Left
118	Electrical and Electronics Compartment - Right
211	Flight Compartment - Left
212	Flight Compartment - Right

D. System Ground Mode Test

SUBTASK 23-31-00-820-001

(1) Do these steps to calibrate the noise generator:

(a) Connect the multimeter, COM-1322 to the SIGNAL OUTPUT jacks on the noise random noise generator, COM-1612.

(b) Set the PWR/PTT switch on the noise generator to the ON position.

(c) Set the OUTPUT switch to the SIG position.

1) Make sure that 1.0 +/- 0.05 volts rms is shown on the voltmeter.

(d) Adjust the SIGNAL ADJUST potentiometer on the noise generator if necessary.

(e) Set the PWR/PTT switch on the noise generator to the OFF position.

(f) Disconnect the multimeter, COM-1322 from the SIGNAL OUTPUT jacks on the noise random noise generator, COM-1612.

SUBTASK 23-31-00-480-001

(2) Do these steps to prepare for test:

(a) Connect the noise random noise generator, COM-1612, to a microphone jack in the flight compartment.

(b) Set the noise random noise generator, COM-1612, PWR/PTT switch to the ON position.

(c) Set the PA microphone selector switch on the applicable audio control panel to the ON position.

1) Make sure that its light comes on.

2) Set the sound level meter, COM-1616 to SLOW and C.

SUBTASK 23-31-00-730-003

(3) Do this test of the sound level of the PA speakers:

ECCN 9E991 BOEING PROPRIETARY - See title page for details

(a) Hold the sound level meter, COM-1616 close to the speaker grill at each passenger service unit with an installed speaker and at each lavatory.

NOTE: Do not touch the sound level meter to the speaker grill when you do the sound level test.

LOM 427-434, 437-447, 450-999

1) Make sure that the sound level meter shows a value between 106 dB and 108 dB.

LOM 402, 404, 406, 407, 411, 412, 415, 416, 420, 422-426

2) Make sure that the sound level meter shows a value of 104 +/- 2dB.

LOM ALL

(b) If necessary, adjust the PA GAIN on the front panel of the Remote Electronic Unit (M01353) located on shelf E4-1 in the Electronic Equipment Compartment.

(c) Hold the sound level meter, COM-1616 close to the speaker grill at each of the speakers in the overwing area.

NOTE: Do not touch the sound level meter to the speaker grill when you do the sound level test.

LOM 427-434, 437-447, 450-999

1) Make sure that the sound level meter shows a value between 106 dB and 108 dB.

LOM 402, 404, 406, 407, 411, 412, 415, 416, 420, 422-426

2) Make sure that the sound level meter shows a value of 104 dB +/- 2dB.

LOM ALL

(d) Set the random noise generator, COM-1612, PWR/PTT switch to the OFF position.

(e) Disconnect the random noise generator, COM-1612, from the microphone jack in the flight compartment.

E. System Flight Mode Test

SUBTASK 23-31-00-860-001

(1) Do these steps to prepare for test:

(a) Connect the noise random noise generator, COM-1612, to a microphone jack in the flight compartment.

(b) Set the noise random noise generator, COM-1612, PWR/PTT switch to the ON position.

(c) Measure the sound level of the speakers:

1) Hold the sound level meter, COM-1616 close to the speaker grill of each speaker in the overwing area.

NOTE: Do not touch the speaker grill.

LOM 427-434, 437-447, 450-999

2) Make sure that the sound level meter shows a value between 106 dB and 108dB.

NOTE: This is the sound level value you will use to compare to the other measurements that will follow.

ECCN 9E991 BOEING PROPRIETARY - See title page for details

LOM 402, 404, 406, 407, 411, 412, 415, 416, 420, 422-426

3) Makes sure that the sound level meter shows a value of 104 dB +/-2 dB.

NOTE: This is the sound level value you will use to compare to the other measurements that will follow.

LOM ALL

(d) If the sound level value is outside of specified limits, refer to System Ground Mode Test for PA GAIN adjustment.

(e) Open these circuit breakers and install safety tags:

F/O Electrical System Panel, P6-3

Row	Col	Number	Name
E	12	C00314	INDICATOR MASTER DIM SECT 2
F	11	C00317	INDICATOR MASTER DIM SECT 5

SUBTASK 23-31-00-730-001

(2) Do a test of engine 1 flight mode:

(a) Open these circuit breakers and install safety tags:

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
A	1	C00458	ENGINE 1 IGNITION RIGHT
A	3	C00153	ENGINE 1 IGNITION LEFT

F/O Electrical System Panel, P6-3

Row	Col	Number	Name
B	4	C00359	FUEL SPAR VALVE ENG 1

(b) Make sure that this circuit breaker is closed:

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
B	3	C01312	ENGINE 1 RUN/PWR

(c) Move the engine 1 start lever to the IDLE position.

(d) Wait at least five minutes.

(e) Measure the sound level of the speakers:

1) Move the sound level meter across the same speaker panel used in the Prepare For Test section.

2) Write the value down.

a) Make sure the value is at least 5 dBs higher than the first measurement.

(f) Move the engine 1 start lever to the CUTOFF position.

(g) Remove the safety tags and close these circuit breakers:

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
A	1	C00458	ENGINE 1 IGNITION RIGHT
A	3	C00153	ENGINE 1 IGNITION LEFT

ECCN 9E991 BOEING PROPRIETARY - See title page for details

F/O Electrical System Panel, P6-3

Row	Col	Number	Name
B	4	C00359	FUEL SPAR VALVE ENG 1

(h) Measure the sound level across the speaker.

1) Make sure that the sound level is approximately the same as in the first measurement.

SUBTASK 23-31-00-730-002

(3) Do a test of engine 2 flight mode:

(a) Open these circuit breakers and install safety tags:

F/O Electrical System Panel, P6-2

Row	Col	Number	Name
D	4	C00459	ENGINE 2 IGNITION RIGHT
D	6	C00151	ENGINE 2 IGNITION LEFT

F/O Electrical System Panel, P6-3

Row	Col	Number	Name
B	3	C00360	FUEL SPAR VALVE ENG 2

(b) Make sure that this circuit breaker is closed:

F/O Electrical System Panel, P6-2

Row	Col	Number	Name
B	5	C01313	ENGINE 2 RUN/PWR

(c) Move the engine 2 start lever to the IDLE position.

(d) Wait at least five minutes.

(e) Measure the sound level of the speakers:

1) Move the sound level meter across the same speaker panel used in the Prepare For Test section.

2) Write the value down.

a) Make sure the value is at least 5 dBs higher than the first measurement.

(f) Move the engine 2 start lever to the CUTOFF position.

(g) Remove the safety tags and close these circuit breakers:

F/O Electrical System Panel, P6-2

Row	Col	Number	Name
D	4	C00459	ENGINE 2 IGNITION RIGHT
D	6	C00151	ENGINE 2 IGNITION LEFT

F/O Electrical System Panel, P6-3

Row	Col	Number	Name
B	3	C00360	FUEL SPAR VALVE ENG 2

(h) Measure the sound level across the same speaker.

1) Make sure that the sound level is approximately the same as in the first measurement.

ECCN 9E991 BOEING PROPRIETARY - See title page for details

F. Put the Airplane Back to Its Usual Condition

SUBTASK 23-31-00-860-002

(1) Remove the safety tags and close these circuit breakers:

F/O Electrical System Panel, P6-3

Row	Col	Number	Name
E	12	C00314	INDICATOR MASTER DIM SECT 2
F	11	C00317	INDICATOR MASTER DIM SECT 5

SUBTASK 23-31-00-860-003

(2) Do the steps that follow to put the airplane back to its usual condition:

(a) Set the noise random noise generator, COM-1612, PWR/PTT switch to the OFF position.

(b) Disconnect the noise random noise generator, COM-1612, from the microphone jack in the flight compartment.

1) Remove the test equipment from the airplane.

END OF TASK

ECCN 9E991 BOEING PROPRIETARY - See title page for details

PASSENGER ADDRESS AMPLIFIER - MAINTENANCE PRACTICES

1. **General**

A. This procedure has these tasks:

(1) Passenger Address Amplifier Deactivation.

(2) Passenger Address Amplifier Activation.

TASK 23-31-01-040-801

2. **Passenger Address Amplifier - Deactivation**

(Figure 201)

A. General

(1) This procedure removes electrical power from the Passenger Address Amplifier.

B. Location Zones

Zone	Area
117	Electrical and Electronics Compartment - Left
118	Electrical and Electronics Compartment - Right
211	Flight Compartment - Left
212	Flight Compartment - Right

C. Access Panels

Number	Name/Location
117A	Electronic Equipment Access Door

D. Procedure

SUBTASK 23-31-01-860-006

(1) Open this circuit breaker and install safety tag:

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
D	4	C00082	COMMUNICATIONS PA AMPL BAT

E. Passenger Address Amplifier - Tryout

NOTE: This tryout is to make sure the Passenger Address Amplifier is in a zero energy state.

SUBTASK 23-31-01-860-007

(1) Make sure that this circuit breaker is open and has safety tag:

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
D	4	C00082	COMMUNICATIONS PA AMPL BAT

SUBTASK 23-31-01-010-001

(2) Open this access panel:

Number	Name/Location
117A	Electronic Equipment Access Door

SUBTASK 23-31-01-700-001

(3) Make sure the display on the front of the amplifier is blank.

END OF TASK

ECCN 9E991 BOEING PROPRIETARY - See title page for details

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Passenger Address Amplifier
Figure 201/23-31-01-990-802

ECCN 9E991 BOEING PROPRIETARY - See title page for details

TASK 23-31-01-440-801

3. Passenger Address Amplifier - Activation

(Figure 201)

A. General

(1) This procedure adds electrical power to the Passenger Address Amplifier.

B. Location Zones

Zone	Area
117	Electrical and Electronics Compartment - Left
118	Electrical and Electronics Compartment - Right
211	Flight Compartment - Left
212	Flight Compartment - Right

C. Access Panels

Number	Name/Location
117A	Electronic Equipment Access Door

D. Procedure

SUBTASK 23-31-01-860-008

(1) Remove the safety tag and close this circuit breaker:

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
D	4	C00082	COMMUNICATIONS PA AMPL BAT

SUBTASK 23-31-01-410-001

(2) Close this access panel:

Number	Name/Location
117A	Electronic Equipment Access Door

END OF TASK

ECCN 9E991 BOEING PROPRIETARY - See title page for details

PASSENGER ADDRESS AMPLIFIER - REMOVAL/INSTALLATION

1. General

A. This procedure has these tasks:

(1) A removal of the passenger address (PA) amplifier

(2) An installation of the PA amplifier.

B. The PA amplifier is located on the E1-3 shelf.

TASK 23-31-01-000-801

2. Passenger Address (PA) Amplifier - Removal

(Figure 401)

A. References

Reference	Title
20-10-07-000-801	E/E Box Removal (P/B 201)

B. Location Zones

Zone	Area
117	Electrical and Electronics Compartment - Left

C. Passenger Address (PA) Amplifier Removal

SUBTASK 23-31-01-860-001

(1) Open this circuit breaker and install safety tag:

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
D	4	C00082	COMMUNICATIONS PA AMPL BAT

SUBTASK 23-31-01-020-001

(2) Remove the PA amplifier [1] (E/E Box Removal, TASK 20-10-07-000-801).

END OF TASK

ECCN 9E991 BOEING PROPRIETARY - See title page for details

Passenger Address Amplifier Installation
Figure 401/23-31-01-990-801

ECCN 9E991 BOEING PROPRIETARY - See title page for details

TASK 23-31-01-400-801

3. **Passenger Address (PA) Amplifier - Installation**
(Figure 401)

A. **References**

Reference	Title
20-10-07-400-801	E/E Box Installation (P/B 201)
23-31-00-740-801	Passenger Address System - Operational Test (P/B 501)

B. **Expendables/Parts**

AMM Item	Description	AIPC Reference	AIPC Effectivity
1	Amplifier	23-31-01-01-005	LOM 402, 406, 407
		23-31-01-01-010	LOM 404, 411, 412, 415, 416, 420, 422-434, 437-442, 445-447, 450-999
		23-31-01-01-060	LOM 404, 411, 412, 415, 416, 420, 422-434, 437-442, 445-447, 450-999
		23-31-01-03-005	LOM 443, 444

C. **Location Zones**

Zone	Area
117	Electrical and Electronics Compartment - Left

D. **Passenger Address (PA) Amplifier Installation**

SUBTASK 23-31-01-860-002

(1) Make sure that this circuit breaker is open and has safety tag:

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
D	4	C00082	COMMUNICATIONS PA AMPL BAT

SUBTASK 23-31-01-420-001

(2) Install the PA amplifier [1] (TASK 20-10-07-400-801).

SUBTASK 23-31-01-860-003

(3) Remove the safety tag and close this circuit breaker:

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
D	4	C00082	COMMUNICATIONS PA AMPL BAT

E. **Installation Test**

LOM 402, 406, 407; AIRPLANES WITH P/N 622-4096-001

SUBTASK 23-31-01-710-001

(1) Do a test of the PA amplifier operation:

(a) Put the TEST/NORM/CAL switch on the PA amplifier to the CAL position.

1) Make sure that the -1DB and 0DB lights come on.

ECCN 9E991 BOEING PROPRIETARY - See title page for details

LOM 402, 406, 407; AIRPLANES WITH P/N 622-4096-001 (Continued)

2) If the -1DB and 0DB lights do not come on, then adjust the MASTER LEVEL CONTROL potentiometer until the -1DB and 0DB lights come on.

NOTE: You can find the MASTER LEVEL CONTROL potentiometer below the handle on the front panel of the PA amplifier.

(b) Put the TEST/NORM/CAL switch to the TEST position.

1) Make sure that you can hear a high tone at these speakers:

a) Attendant speakers.

b) Lavatory speakers.

LOM 402, 406, 407

c) PSU speakers.

LOM 402, 406, 407; AIRPLANES WITH P/N 622-4096-001

(c) Put the TEST/NORM/CAL switch to the NORM position.

LOM 404, 411, 412, 415, 416, 420, 422-434, 437-442, 445-447, 450-999; AIRPLANES WITH PA P/N 622-5342-101

SUBTASK 23-31-01-710-002

(2) Do a test of the PA amplifier operation:

(a) Put the OPERATE/TONE switch on the front panel of the PA amplifier to the LEVEL position.

1) Make sure that the display on the amplifier shows 69.0 to 71.0 VRMS.

NOTE: If the PA amplifier's VRMS output is not within 69-71 VRMS, the output can be adjusted with the Master Gain knob on the front panel.

(b) Put the OPERATE/TONE switch to the TONE position.

1) Make sure that you can hear a high tone on the passenger address speakers.

(c) Put the OPERATE/TONE switch to the OPERATE position.

LOM 443, 444; AIRPLANES WITH PA P/N 256-5

SUBTASK 23-31-01-710-003

(3) Do a test of the PA amplifier operation:

(a) Put the NORM/SPKR TEST switch on the front panel of the PA amplifier to the AMP TEST position.

1) Make sure that the display on the amplifier shows 0db.

NOTE: This level is dependent on the total number and type of speakers in the airplane and is not adjustable.

(b) Put the NORM/SPKR TEST switch to the SPKR TEST position.

1) Make sure that you can hear a high tone on the passenger address speakers.

(c) Put the NORM/SPKR TEST switch to the NORM position.

LOM ALL

SUBTASK 23-31-01-730-001

(4) Do this task: Passenger Address System - Operational Test, TASK 23-31-00-740-801.

END OF TASK

ECCN 9E991 BOEING PROPRIETARY - See title page for details

PASSENGER SERVICE UNIT SPEAKER - MAINTENANCE PRACTICES

1. General

A. This procedure has these tasks:

(1) Passenger Service Unit Speaker Deactivation.

(2) Passenger Service Unit Speaker Activation.

TASK 23-31-02-040-801

2. Passenger Service Unit Speaker - Deactivation

(Figure 201)

A. General

(1) This procedure removes electrical power to the Passenger Service Unit Speaker.

B. Location Zones

Zone	Area
200	Upper Half of Fuselage
211	Flight Compartment - Left
212	Flight Compartment - Right

C. Procedure

SUBTASK 23-31-02-860-009

(1) Open this circuit breaker and install safety tag:

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
D	4	C00082	COMMUNICATIONS PA AMPL BAT

D. Passenger Service Unit Speaker - Tryout

NOTE: This tryout is to make sure the Passenger Service Unit Speaker is in a zero energy state.

SUBTASK 23-31-02-860-011

(1) Make sure that this circuit breaker is open and has safety tag:

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
D	4	C00082	COMMUNICATIONS PA AMPL BAT

SUBTASK 23-31-02-700-001

(2) Do the following to test the PSU speaker:

(a) Lift a handset from an attendant station.

(b) Set the handset to PA.

(c) Push the PTT button on the handset.

(d) Make an announcement on the PA system.

1) Make sure you can not hear the announcement on the speaker.

END OF TASK

ECCN 9E991 BOEING PROPRIETARY - See title page for details

PASSENGER COMPARTMENT

PASSENGER SERVICE UNIT (PSU)
(EXAMPLE)

A

2381516 S0000543865_V2

Passenger Service Unit Speaker
Figure 201/23-31-02-990-803

ECCN 9E991 BOEING PROPRIETARY - See title page for details

TASK 23-31-02-440-801

3. **Passenger Service Unit Speaker - Activation**
(Figure 201)

A. General

(1) This procedure adds electrical power to the Passenger Service Unit Speaker.

B. Location Zones

Zone	Area
200	Upper Half of Fuselage
211	Flight Compartment - Left
212	Flight Compartment - Right

C. Procedure

SUBTASK 23-31-02-860-013

(1) Remove the safety tag and close this circuit breaker:

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
D	4	C00082	COMMUNICATIONS PA AMPL BAT

END OF TASK

ECCN 9E991 BOEING PROPRIETARY - See title page for details

PASSENGER SERVICE UNIT SPEAKER - REMOVAL/INSTALLATION

1. General

A. This procedure has these tasks:

(1) A removal of the passenger service unit (PSU) speaker

(2) An installation of the PSU speaker.

B. The passenger service units have speakers installed, as necessary, to supply equal sound in the passenger compartment.

TASK 23-31-02-000-801

2. Passenger Service Unit (PSU) Speaker - Removal

(Figure 401 or Figure 402)

A. Tools/Equipment

Reference	Description
STD-1073	Wire - Standard, 18-22 Gauge, Insulation Removed

B. Location Zones

Zone	Area
200	Upper Half of Fuselage

C. Removal Procedure

SUBTASK 23-31-02-860-001

(1) Open this circuit breaker and install safety tag:

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
D	4	C00082	COMMUNICATIONS PA AMPL BAT

SUBTASK 23-31-02-020-001

> **CAUTION** MAKE SURE THAT THE RELEASE PIN FOR THE CHEMICAL OXYGEN GENERATOR STAYS ENGAGED IN THE FIRING PIN. IF THE CHEMICAL OXYGEN GENERATOR ACCIDENTALLY OPERATES, IT IS MANDATORY THAT YOU REPLACE IT.

(2) Do the steps that follow to remove the PSU speaker:

(a) Open the PSU.

1) Push a 18-22 gauge insulation removed wire, STD-1073, in the holes of the PSU face panel to open the assembly.

(b) Hold the PSU panel.

1) Push the spring clip with the 18-22 gauge insulation removed wire, STD-1073, to release the assembly.

(c) Slowly lower the PSU panel assembly until the lanyard can hold the PSU.

(d) Identify the location of the electrical wires on the speaker transformer terminals.

LOM 402, 404, 406, 407, 411, 412, 415, 416, 420, 422-426

(e) Disconnect the two electrical connectors [3] from the speaker transformer terminals.

LOM 427-434, 437-447, 450-999

(f) Disconnect the two electrical connectors [2] from the speaker transformer terminals.

ECCN 9E991 BOEING PROPRIETARY - See title page for details

LOM 402, 404, 406, 407, 411, 412, 415, 416, 420, 422-426

(g) Remove the nuts [1] and washers [2] from the speaker [5].

LOM 427-434, 437-447, 450-999

(h) Remove the screws [1] from the speaker [3].

LOM ALL

(i) Carefully remove the speaker from the PSU.

LOM 402, 404, 406, 407, 411, 412, 415, 416, 420, 422-426

(j) Remove the gasket [4].

LOM ALL

——— END OF TASK ———

ECCN 9E991 BOEING PROPRIETARY - See title page for details

Passenger Service Unit Speaker Installation
Figure 401/23-31-02-990-801 (Sheet 1 of 2)

ECCN 9E991 BOEING PROPRIETARY - See title page for details

PASSENGER SERVICE UNIT (PSU) SPEAKER (EXAMPLE)

B

G35463 S0006565486_V3

Passenger Service Unit Speaker Installation
Figure 401/23-31-02-990-801 (Sheet 2 of 2)

ECCN 9E991 BOEING PROPRIETARY - See title page for details

PASSENGER COMPARTMENT

PASSENGER SERVICE UNIT (PSU)
(EXAMPLE)

A

2037319 S0000410233_V2

Passenger Service Unit Speaker Installation
Figure 402/23-31-02-990-802 (Sheet 1 of 2)

ECCN 9E991 BOEING PROPRIETARY - See title page for details

PASSENGER SERVICE UNIT (PSU) SPEAKER (EXAMPLE)

B

2037315 S0000410234_V2

Passenger Service Unit Speaker Installation
Figure 402/23-31-02-990-802 (Sheet 2 of 2)

ECCN 9E991 BOEING PROPRIETARY - See title page for details

TASK 23-31-02-400-801

3. Passenger Service Unit (PSU) Speaker - Installation

(Figure 401 or Figure 402)

A. Expendables/Parts

AMM Item	Description	AIPC Reference	AIPC Effectivity
3	Speaker	23-31-02-61B-070	LOM 427, 428, 433, 434, 440, 442, 445, 450, 453, 454, 457
		23-31-02-61W-020	LOM 461-464
		23-31-02-61X-020	LOM 427-434, 437-442, 445-447, 450
		23-31-02-61Y-020	LOM 451
		23-31-02-62F-070	LOM 443, 444, 451, 452
		23-31-02-62G-070	LOM 466-999
		23-31-02-71-075	LOM 429-432, 437-439, 441, 446, 447, 455, 456, 458-460, 465
5	Speaker	23-31-02-28B-020	LOM 402, 404, 406, 416
		23-31-02-28B-021	LOM 402, 404, 406, 416
		23-31-02-33D-020	LOM 402, 404, 406, 416
		23-31-02-50K-020	LOM 412, 415, 423, 424
		23-31-02-60B-020	LOM 426
		23-31-02-60C-020	LOM 407, 420
		23-31-02-60D-020	LOM 407, 412, 415, 420, 423, 424
		23-31-02-60N-020	LOM 411
		23-31-02-60Q-020	LOM 422, 425
		23-31-02-60R-020	LOM 422, 425

B. Location Zones

Zone	Area
200	Upper Half of Fuselage

C. Installation Procedure

SUBTASK 23-31-02-860-002

(1) Make sure that this circuit breaker is open and has safety tag:

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
D	4	C00082	COMMUNICATIONS PA AMPL BAT

SUBTASK 23-31-02-420-001

> **CAUTION** MAKE SURE THAT THE RELEASE PIN FOR THE CHEMICAL OXYGEN GENERATOR STAYS ENGAGED IN THE FIRING PIN. IF THE CHEMICAL OXYGEN GENERATOR ACCIDENTALLY OPERATES, IT IS MANDATORY THAT YOU REPLACE IT.

(2) Install the PSU speaker:

ECCN 9E991 BOEING PROPRIETARY - See title page for details

LOM 402, 404, 406, 407, 411, 412, 415, 416, 420, 422-426

(a) Install the speaker gasket [4].

(b) Install the speaker [5] on the PSU assembly.

1) Make sure the gasket is level after the speaker installation.

LOM 427-434, 437-447, 450-999

(c) Install the speaker [3] on the PSU assembly.

LOM 402, 404, 406, 407, 411, 412, 415, 416, 420, 422-426

(d) Install the washers [2] and nuts [1].

LOM 427-434, 437-447, 450-999

(e) Install the screws [1].

LOM 402, 404, 406, 407, 411, 412, 415, 416, 420, 422-426

(f) Connect the electrical connectors [3] to the speaker transformer terminals.

1) Make sure the electrical connectors are connected to the same terminals that they were removed from.

LOM 427-434, 437-447, 450-999

(g) Connect the electrical connectors [2] to the speaker transformer terminals.

1) Make sure the electrical connectors are connected to the same terminals that they were removed from.

LOM ALL

(h) Connect the PSU electrical connector.

(i) Close the PSU panel assembly.

SUBTASK 23-31-02-860-003

(3) Remove the safety tag and close this circuit breaker:

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
D	4	C00082	COMMUNICATIONS PA AMPL BAT

D. Installation Test

SUBTASK 23-31-02-710-001

(1) Do a test of the PSU speaker operation:

(a) Lift a handset from an attendant station.

(b) Set the handset to PA.

(c) Push the PTT button on the handset.

(d) Make an announcement on the PA system.

1) Make sure you can hear the announcement on the new PSU speaker.

(e) Put the handset back in the cradle.

END OF TASK

ECCN 9E991 BOEING PROPRIETARY - See title page for details

ATTENDANT SPEAKER - MAINTENANCE PRACTICES

1. General

A. This procedure has these tasks:

(1) Attendant Speaker Deactivation.

(2) Attendant Speaker Activation.

TASK 23-31-03-040-801

2. Attendant Speaker - Deactivation

(Figure 201)

A. General

(1) This task deactivates the attendant speaker.

B. Location Zones

Zone	Area
200	Upper Half of Fuselage
211	Flight Compartment - Left
212	Flight Compartment - Right

C. Attendant Speaker Deactivation

SUBTASK 23-31-03-860-007

(1) Open this circuit breaker and install safety tag:

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
D	4	C00082	COMMUNICATIONS PA AMPL BAT

D. Attendant Speaker Tryout

NOTE: This tryout is to make sure that the attendant speaker is in a zero energy state.

SUBTASK 23-31-03-860-009

(1) Make sure that this circuit breaker is open and has safety tag:

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
D	4	C00082	COMMUNICATIONS PA AMPL BAT

SUBTASK 23-31-03-700-001

(2) Do the following to test the attendant speaker operation:

(a) Push the call button on a Passenger Service Unit (PSU).

1) Make sure that there is no high chime from all the attendant speakers.

2) Make sure that the PSU call light does not come on.

END OF TASK

ECCN 9E991 BOEING PROPRIETARY - See title page for details

Attendant Speaker
Figure 201/23-31-03-990-802

ECCN 9E991 BOEING PROPRIETARY - See title page for details

TASK 23-31-03-440-801

3. Attendant Speaker - Activation

(Figure 201)

A. General

(1) This procedure activates the attendant speaker.

B. Location Zones

Zone	Area
200	Upper Half of Fuselage
211	Flight Compartment - Left
212	Flight Compartment - Right

C. Attendant Speaker Activation

SUBTASK 23-31-03-860-011

(1) Remove the safety tag and close this circuit breaker:

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
D	4	C00082	COMMUNICATIONS PA AMPL BAT

END OF TASK

ECCN 9E991 BOEING PROPRIETARY - See title page for details

ATTENDANT SPEAKER - REMOVAL/INSTALLATION

1. General

A. This procedure contains:

(1) A removal of the attendant speaker

(2) An installation of the attendant speaker.

B. The attendant speaker is in the header panel over the door. You must remove the door header panel to get access to the speaker.

TASK 23-31-03-000-801

2. Attendant Speaker - Removal

(Figure 401)

A. References

Reference	Title
25-21-24-000-801	Aft Door Doorway Header Panel - Removal (P/B 401)
25-21-30-020-801	Forward Entry Door Doorway Header Panel - Removal (P/B 401)

B. Location Zones

Zone	Area
200	Upper Half of Fuselage

C. Attendant Speaker Removal

SUBTASK 23-31-03-860-001

(1) Open this circuit breaker and install safety tag:

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
D	4	C00082	COMMUNICATIONS PA AMPL BAT

SUBTASK 23-31-03-010-002

(2) Do this task for the forward attendant speaker: Forward Entry Door Doorway Header Panel - Removal, TASK 25-21-30-020-801.

SUBTASK 23-31-03-010-001

(3) Do this task for the aft attendant speaker: Aft Door Doorway Header Panel - Removal, TASK 25-21-24-000-801.

SUBTASK 23-31-03-020-001

(4) Do these steps to remove the attendant speaker [1]:

(a) Identify the location of the electrical wires on the speaker transformer terminals.

(b) Disconnect the electrical connectors [2] from the speaker [1].

(c) Remove the screws [3], washers [4] (if applicable), speaker [1], gasket [6], and spacers [5] (if applicable).

END OF TASK

ECCN 9E991 BOEING PROPRIETARY - See title page for details

Attendant Speaker Installation
Figure 401/23-31-03-990-801 (Sheet 1 of 2)

ECCN 9E991 BOEING PROPRIETARY - See title page for details

ATTENDANT SPEAKER (EXAMPLE)

C

1 IF APPLICABLE

G36356 S0006565492_V4

Attendant Speaker Installation
Figure 401/23-31-03-990-801 (Sheet 2 of 2)

ECCN 9E991 BOEING PROPRIETARY - See title page for details

TASK 23-31-03-400-801

3. Attendant Speaker - Installation

(Figure 401)

A. References

Reference	Title
25-21-24-400-801	Aft Door Doorway Header Panel - Installation (P/B 401)
25-21-30-420-801	Forward Entry Door Doorway Header Panel - Installation (P/B 401)

B. Expendables/Parts

AMM Item	Description	AIPC Reference	AIPC Effectivity
1	Speaker	23-31-03-01B-025	LOM 416, 422, 425
		23-31-03-06-020	LOM 416
		23-31-03-09A-040	LOM 427-434, 437-447, 450-456
		23-31-03-09A-110	LOM 457-999
		23-31-03-17-035	LOM 402, 404, 406, 407, 420
		23-31-03-24-040	LOM 402, 404, 406, 407, 411, 412, 415, 416, 420, 422-426
		23-31-03-30-045	LOM 411, 412, 415, 416, 422-426
		23-31-03-31-040	LOM 427-429, 445
		23-31-03-31-110	LOM 430-434, 437-444, 446, 447, 450-999
		23-31-03-33-040	LOM 427-434, 437-439, 441, 445, 450-452, 461-463, 465
		23-31-03-33-089	LOM 430-434, 440, 442-444, 446, 447, 451-999
		23-31-03-33-090	LOM 430-434, 440, 442-444, 446, 447, 451-999
		23-31-03-89D-045	LOM 402, 406, 407, 411, 412, 415, 420, 423, 424
		23-31-03-91-040	LOM 404
		23-31-03-91B-040	LOM 426
		23-31-03-93-035	LOM 402, 404, 406, 407, 411, 422, 425
		23-31-03-93A-035	LOM 412, 415, 420, 423, 424
		23-31-03-93B-045	LOM 426
		23-31-03-95-035	LOM 427-429, 437-439, 441, 445, 450

ECCN 9E991 BOEING PROPRIETARY - See title page for details

(Continued)

AMM Item	Description	AIPC Reference	AIPC Effectivity
1 (cont.)		23-31-03-95-085	LOM 430-434, 440, 442-444, 446, 447, 451-999
6	Gasket	23-31-03-09A-115	LOM 427-434, 437-447, 450-999
		23-31-03-31-130	LOM 427-434, 437-447, 450-999
		23-31-03-33-095	LOM 427-434, 437-447, 450-999
		23-31-03-95-090	LOM 427-434, 437-447, 450-999

C. Location Zones

Zone	Area
200	Upper Half of Fuselage

D. Attendant Speaker Installation

SUBTASK 23-31-03-420-001

(1) Do these steps to install the attendant speaker [1]:

(a) Hold the speaker [1] in the correct position.

(b) Install the spacers [5] (if applicable), gasket [6], speaker [1], washers [4] (if applicable) and screws [3].

(c) Connect the electrical connectors [2] to the speaker [1].

1) Make sure that the electrical connectors [2] are connected to the same terminals that they were removed from.

SUBTASK 23-31-03-410-002

(2) Do this task for the forward attendant speaker: Forward Entry Door Doorway Header Panel - Installation, TASK 25-21-30-420-801.

SUBTASK 23-31-03-410-001

(3) Do this task for the aft attendant speaker: Aft Door Doorway Header Panel - Installation, TASK 25-21-24-400-801.

SUBTASK 23-31-03-860-002

(4) Remove the safety tag and close this circuit breaker:

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
D	4	C00082	COMMUNICATIONS PA AMPL BAT

E. Installation Test

SUBTASK 23-31-03-710-001

(1) Do a test of the attendant speaker operation:

(a) Push the call button on a Passenger Service Unit (PSU).

1) Make sure that you can hear one high chime from all the attendant speakers.

2) Make sure that the PSU Call Light comes ON.

(b) Push the call button on a PSU one more time.

ECCN 9E991 BOEING PROPRIETARY - See title page for details

1) Make sure that the PSU Call Light goes OFF.

END OF TASK

ECCN 9E991 BOEING PROPRIETARY - See title page for details

LAVATORY SPEAKER - MAINTENANCE PRACTICES

1. General

A. This procedure has these tasks:

(1) Lavatory Speaker Deactivation.

(2) Lavatory Speaker Activation.

TASK 23-31-05-040-801

2. Lavatory Speaker - Deactivation

(Figure 201)

A. General

(1) This task removes electrical power from the lavatory speaker.

B. Location Zones

Zone	Area
200	Upper Half of Fuselage
211	Flight Compartment - Left
212	Flight Compartment - Right

C. Lavatory Speaker Deactivation

SUBTASK 23-31-05-860-012

(1) Open this circuit breaker and install safety tag:

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
D	4	C00082	COMMUNICATIONS PA AMPL BAT

D. Lavatory Speaker Tryout

NOTE: This tryout is to make sure that the lavatory speaker is in a zero energy state.

SUBTASK 23-31-05-860-014

(1) Make sure that this circuit breaker is open and has safety tag:

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
D	4	C00082	COMMUNICATIONS PA AMPL BAT

SUBTASK 23-31-05-700-001

(2) Do these steps to test the lavatory speaker operation:

(a) Lift the PA microphone from an attendant station.

(b) Push the PTT button on the microphone.

(c) Make an announcement on the PA system.

1) Make sure that you can not hear the announcement on the speaker.

(d) Put the PA microphone back in its cradle.

END OF TASK

ECCN 9E991 BOEING PROPRIETARY - See title page for details

COMPARTMENT ENTRYWAY
(TYPICAL)

A

2381533 S0000543903_V2

Lavatory Speaker
Figure 201/23-31-05-990-802

ECCN 9E991 BOEING PROPRIETARY - See title page for details

TASK 23-31-05-440-801

3. Lavatory Speaker - Activation

(Figure 201)

A. General

(1) This task adds electrical power to the lavatory speaker.

B. Location Zones

Zone	Area
200	Upper Half of Fuselage
211	Flight Compartment - Left
212	Flight Compartment - Right

C. Lavatory Speaker Activation

SUBTASK 23-31-05-860-016

(1) Remove the safety tag and close this circuit breaker:

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
D	4	C00082	COMMUNICATIONS PA AMPL BAT

END OF TASK

ECCN 9E991 BOEING PROPRIETARY - See title page for details

LAVATORY SPEAKER - REMOVAL/INSTALLATION

1. General

A. This procedure contains:

(1) A removal of the lavatory speaker

(2) An installation of the lavatory speaker.

B. The location of the lavatory speaker is in the Lavatory Service Unit (LSU) in the ceiling.

TASK 23-31-05-000-801

2. Lavatory Speaker Removal

(Figure 401)

A. Tools/Equipment

NOTE: When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

Reference	Description
SPL-13800	Bit - Screwdriver, Special Part #: D72D72684-111 Supplier: 1TGN3
SPL-14266	Screwdriver - Driver Assembly Part #: 29-90-114-10 Supplier: 94222 Part #: 29-90-214-10 Supplier: 94222
STD-1073	Wire - Standard, 18-22 Gauge, Insulation Removed

B. Location Zones

Zone	Area
200	Upper Half of Fuselage

C. Lavatory Speaker Removal

SUBTASK 23-31-05-860-011

(1) Open this circuit breaker and install safety tag:

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
D	4	C00082	COMMUNICATIONS PA AMPL BAT

LOM 429-434, 437-447, 450-464

SUBTASK 23-31-05-010-001

(2) Open the Lavatory Service Unit (LSU):

(a) Loosen the fasteners on the face of the LSU panel with the special screwdriver bit, SPL-13800.

LOM 465-999

SUBTASK 23-31-05-010-002

(3) Open the LSU:

(a) Loosen the fasteners on the face of the LSU panel with the driver assembly screwdriver, SPL-14266.

LOM ALL

ECCN 9E991 BOEING PROPRIETARY - See title page for details

SUBTASK 23-31-05-020-001

(4) Remove the lavatory speaker [1].

(a) Hold the LSU panel.

1) Push the spring clip with the 18-22 gauge insulation removed wire, STD-1073, to release the assembly.

(b) Slowly lower the LSU panel assembly until the lanyard can hold the LSU.

(c) Identify the location of the speaker wires on the speaker transformer terminals.

(d) Disconnect the electrical connectors [9] from the speaker transformer terminals.

(e) Remove the screws [2], screws [8], washers [3], washers [7], spacers [5], and speaker [1].

END OF TASK

ECCN 9E991 BOEING PROPRIETARY - See title page for details

**COMPARTMENT ENTRYWAY
(TYPICAL)**

G44091 S0006565497_V3

**Lavatory Speaker Installation
Figure 401/23-31-05-990-801 (Sheet 1 of 2)**

ECCN 9E991 BOEING PROPRIETARY - See title page for details

A

G44161 S0006565498_V2

Lavatory Speaker Installation
Figure 401/23-31-05-990-801 (Sheet 2 of 2)

ECCN 9E991 BOEING PROPRIETARY - See title page for details

TASK 23-31-05-400-801

3. Lavatory Speaker Installation

(Figure 401)

A. Tools/Equipment

NOTE: When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

Reference	Description
SPL-13800	Bit - Screwdriver, Special Part #: D72D72684-111 Supplier: 1TGN3
SPL-14266	Screwdriver - Driver Assembly Part #: 29-90-114-10 Supplier: 94222 Part #: 29-90-214-10 Supplier: 94222

B. Location Zones

Zone	Area
200	Upper Half of Fuselage

C. Lavatory Speaker Installation

SUBTASK 23-31-05-860-008

(1) Make sure that this circuit breaker is open and has safety tag:

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
D	4	C00082	COMMUNICATIONS PA AMPL BAT

SUBTASK 23-31-05-420-001

(2) Install the lavatory speaker [1].

(a) Hold the speaker [1] in the correct position.

(b) Make sure that the clamp [6] and the electrical connector [4] are in the correct position.

(c) Install the screws [2], screws [8], washers [3], washers [7], and spacers [5].

(d) Attach the electrical connectors [9] to the speaker [1].

1) Make sure that the electrical connectors are connected to the same terminals that they were removed from.

(e) Push the Lavatory Service Unit (LSU) panel assembly up until it closes to the usual position.

LOM 429-434, 437-447, 450-464

SUBTASK 23-31-05-410-001

(3) Close the LSU:

(a) Tighten the fasteners on the face of the LSU panel with the special screwdriver bit, SPL-13800.

LOM 465-999

SUBTASK 23-31-05-410-002

(4) Close the LSU:

(a) Tighten the fasteners on the face of the LSU panel with the driver assembly screwdriver, SPL-14266.

ECCN 9E991 BOEING PROPRIETARY - See title page for details

LOM ALL

SUBTASK 23-31-05-860-010

(5) Remove the safety tag and close this circuit breaker:

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
D	4	C00082	COMMUNICATIONS PA AMPL BAT

D. Installation Test

SUBTASK 23-31-05-710-001

(1) Do a test of the lavatory speaker operation.

(a) Lift the PA microphone from an attendant station.

(b) Push the PTT button on the microphone.

(c) Make an announcement on the PA system.

1) Make sure that you can hear the announcement on the new lavatory speaker.

(d) Put the PA microphone back in its cradle.

——— END OF TASK ———

ECCN 9E991 BOEING PROPRIETARY - See title page for details

PRE-RECORDED ANNOUNCEMENT MACHINE (PRAM) - MAINTENANCE PRACTICES

1. General

A. This procedure contains:

LOM 402, 406, 407, 412, 415, 420

(1) Tape Replacement

(2) Tape Cleaning

LOM 404, 411, 423, 424, 426, 429-432, 450-452, 465; AIRPLANES WITH PART NUMBERS RD-AX7360-XX OR RD-AX7370-01

(3) Maintenance modes

LOM 404, 411, 423, 424, 426, 429-432, 450-452, 465; AIRPLANES WITH PART NUMBERS RD-AX7360-XX

(4) Software configuration check

LOM 404, 411, 423, 424, 426, 429-432, 450-452, 465; AIRPLANES WITH PART NUMBERS RD-AX7360-XX OR RD-AX7370-01

(5) Software installation.

LOM 402, 404, 406, 407, 411, 412, 415, 420, 423, 424, 426, 429-432, 450-452, 465

(6) Pre Recorded Announcement Machine Deactivation.

(7) Pre Recorded Announcement Machine Activation.

LOM 402, 406, 407, 412, 415, 420

TASK 23-31-07-900-801

2. Tape Replacement

A. General

(1) This procedure replaces the cassette in the PRAM.

B. Location Zones

Zone	Area
221	Passenger Compartment - Aft of Control Compartment to Forward Entry Door - Left

C. Replacement Procedure

SUBTASK 23-31-07-900-003

(1) Do these steps to replace the cassette:

(a) Push the buttons 9 and 0 on the PRAM.

(b) Push the MUSIC 1 button.

1) Make sure the cassette door opens.

(c) Remove the tape cassette.

NOTE: To reduce transfer of contamination perform this task: Tape Head Cleaning, TASK 23-31-07-160-801

(d) Put the new cassette into the PRAM.

1) Make sure the cassette is against the PRAM head.

NOTE: The tape is installed correctly when you see the label on the cassette.

(e) Close the door on the PRAM.

ECCN 9E991 BOEING PROPRIETARY - See title page for details

LOM 402, 406, 407, 412, 415, 420 (Continued)

D. Boarding Music Test

SUBTASK 23-31-07-710-009

(1) Do this test of the boarding music:

(a) Push the MUSIC key on the PRAM.

(b) Adjust the volume control if it is necessary.

1) Make sure you hear clear music on all of the speakers.

——— END OF TASK ———

TASK 23-31-07-160-801

3. Tape Head Cleaning

A. General

(1) This task cleans the tape path and the heads on the tape reproducer.

B. Consumable Materials

Reference	Description	Specification
B00130	Alcohol - Isopropyl	TT-I-735
G00034	Cotton Wiper - Process Cleaning Absorbent Wiper (Cheesecloth, Gauze)	AMS3819 Class 1 Grade A or B Form 1 (Supersede BMS15-5 CL A)
G01659	Swab - Cotton Or Rayon, (Disposable)	

C. Location Zones

Zone	Area
221	Passenger Compartment - Aft of Control Compartment to Forward Entry Door - Left

D. Cleaning Procedure

SUBTASK 23-31-07-020-003

(1) Do these steps to remove the cassette:

(a) Push the buttons 9 and 0 on the tape reproducer.

(b) Push the MUSIC 1 button.

1) Make sure the cassette door opens.

(c) Remove the tape cassette.

SUBTASK 23-31-07-160-001

(2) Do these steps to clean the tape reproducer heads and the tape path:

(a) Make the swab, G01659, or cotton wiper, G00034, moist with alcohol, B00130.

(b) Carefully clean the tape head or tape path with the swab, G01659, or cotton wiper, G00034, until there is no change in the color of the applicator.

(c) Let the cleaned surfaces dry fully.

SUBTASK 23-31-07-420-005

(3) Do these steps to install the cassette:

(a) Put the cassette into the tape reproducer.

ECCN 9E991 BOEING PROPRIETARY - See title page for details

LOM 402, 406, 407, 412, 415, 420 (Continued)

1) Make sure the cassette is against the tape reproducer head.

NOTE: The tape is installed correctly when you see the label on the cassette.

(b) Close the door on the tape reproducer.

E. Boarding Music Test

SUBTASK 23-31-07-710-013

(1) Do this test of the boarding music:

(a) Push the MUSIC 1 button on the tape reproducer.

1) Make sure the MUSIC 1 light comes on.

(b) Push the START button.

1) Make sure the START light comes on.

(c) Adjust the volume control if it is necessary.

1) Make sure you hear clear music on all of the speakers.

END OF TASK

LOM 404, 411, 423, 424, 426, 429-432, 450-452, 465; AIRPLANES WITH PART NUMBERS RD-AX7360-XX OR RD-AX7370-01

TASK 23-31-07-820-801

4. Pre-Recorded Announcement Machine (PRAM) Maintenance Modes

A. General

(1) You use the PRAM maintenance modes to make adjustments to the announcement playback operation. These are the maintenance modes:

LOM 404, 411, 423, 424, 426, 429-432, 450-452, 465; AIRPLANES WITH PART NUMBERS RD-AX7360-XX

(a) UPDATE FILES - used to load, delete, or alter announcement or music files in memory.

LOM 404, 411, 423, 424, 426, 429-432, 450-452, 465; AIRPLANES WITH PART NUMBERS RD-AX7360-XX OR RD-AX7370-01

(b) EMERGENCY REPEAT - sets the number of times that the emergency decompression announcement repeats when triggered.

(c) PLAY MODE SETTING - selects single playback mode or sequential playback mode.

(d) MUSIC LEVEL SETTING - sets the boarding music volume level.

(e) ANNC LEVEL SETTING - sets the announcement volume level.

B. References

Reference	Title
23-31-07-000-801	Pre-Recorded Announcement Machine (PRAM) Removal (P/B 401)
23-31-07-400-801	Pre-Recorded Announcement Machine (PRAM) Installation (P/B 401)

C. Location Zones

Zone	Area
221	Passenger Compartment - Aft of Control Compartment to Forward Entry Door - Left

ECCN 9E991 BOEING PROPRIETARY - See title page for details

LOM 404, 411, 423, 424, 426, 429-432, 450-452, 465; AIRPLANES WITH PART NUMBERS RD-AX7360-XX OR RD-AX7370-01 (Continued)

D. Procedure

LOM 404, 411, 423, 424, 426, 429-432, 450-452, 465; AIRPLANES WITH PART NUMBERS RD-AX7360-XX

SUBTASK 23-31-07-820-002

(1) Do these steps to enter the maintenance mode:

(a) Push the RV (review) and ENT (enter) keys at the same time.

1) The display screen shows:

MAINTENANCE MODE

PASSWORD

PLEASE INPUT

(b) Push the number keys to enter the password (7360).

1) Make sure the MAINTENANCE MODE menu screen appears in the display window.

NOTE: If an error message appears in line three and QUIT:STOP appears in line 4, the password entry was incorrect. Press STOP to clear the screen and then press RV and ENT to retry the password entry.

(c) Use the "2" key (up arrow) or "8" key (down arrow) to move through the list of maintenance modes.

(d) When the applicable maintenance mode screen is in the display, push the ENT key.

LOM 404, 411, 423, 424, 426, 429-432, 450-452, 465; AIRPLANES WITH PART NUMBERS RD-AX7370-01

SUBTASK 23-31-07-820-009

(2) Do these steps to enter the maintenance mode:

(a) Push and hold the ENT (enter) and then the ANNC (announcement) key.

1) The display screen shows:

PASSWORD

PLEASE INPUT

OK: ENT CANCEL: STOP

(b) Push the number keys to enter the password (7370).

1) Make sure the MAINTENANCE MODE menu screen appears in the display window.

NOTE: If an error message appears in line three and QUIT:STOP appears in line 4, the password entry was incorrect. Press STOP to clear the screen and then press ANNC and ENT to retry the password entry.

(c) Use the UP key or DOWN key to move through the list of maintenance modes.

(d) When the applicable maintenance mode screen is in the display, push the ENT key.

LOM 404, 411, 423, 424, 426, 429-432, 450-452, 465; AIRPLANES WITH PART NUMBERS RD-AX7360-XX

SUBTASK 23-31-07-820-003

(3) Do these steps to do the UPDATE FILES procedure:

(a) Select the UPDATE FILES mode from the MAINTENANCE MODE menu.

ECCN 9E991 BOEING PROPRIETARY - See title page for details

LOM 404, 411, 423, 424, 426, 429-432, 450-452, 465; AIRPLANES WITH PART NUMBERS RD-AX7360-XX (Continued)

1) The display screen shows:

MAINTENANCE MODE

UPDATED FILES

INSERT CARD?

OK:START

NOTE: Do not use the DOWNLOAD SOFTWARE mode. Make sure that the "UPDATED FILES" is shown on the screen.

(b) Remove the PRAM shroud (TASK 23-31-07-000-801).

(c) Insert a pre-programmed PC card into the card slot.

(d) Push the START key.

1) The PRAM reads the PC card label and the label contents show in line 3 of the display.

2) A few seconds later START DOWNLOAD shows in line 3 and CANCEL:STOP appears in line 4.

NOTE: To cancel the download press STOP.

(e) Push the ENT key.

1) PLEASE WAIT shows in line 3 and the file name being loaded shows in line 4.

NOTE: The amount of time required for loading depends on the number and size of files to be loaded.

2) When downloading is completed the screen shows:

AIRLINE TST

CARD ID 001

(f) Remove the PC card from the card slot.

(g) Re-install the PRAM shroud (TASK 23-31-07-400-801).

LOM 404, 411, 423, 424, 426, 429-432, 450-452, 465; AIRPLANES WITH PART NUMBERS RD-AX7360-XX OR RD-AX7370-01

SUBTASK 23-31-07-820-004

(4) Do these steps to do the EMERGENCY REPEAT mode procedure:

(a) Select the EMERGENCY REPEAT mode from the MAINTENANCE MODE menu.

1) The EMERGENCY REPEAT screen shows in the display window.

2) Line 3 shows the current emergency announcement repeat number.

NOTE: The emergency repeat number may be set from 1 to 16.

LOM 404, 411, 423, 424, 426, 429-432, 450-452, 465; AIRPLANES WITH PART NUMBERS RD-AX7360-XX

(b) Use the "2" or "8" keys to select the repeat number setting.

ECCN 9E991 BOEING PROPRIETARY - See title page for details

LOM 404, 411, 423, 424, 426, 429-432, 450-452, 465; AIRPLANES WITH PART NUMBERS RD-AX7370-01

(c) Use the "UP" or "DOWN" keys to select the repeat number setting.

LOM 404, 411, 423, 424, 426, 429-432, 450-452, 465; AIRPLANES WITH PART NUMBERS RD-AX7360-XX OR RD-AX7370-01

(d) Push the ENT key.

(e) The display returns to the MAINTENANCE MODE menu screens.

LOM 404, 411, 423, 424, 426, 429-432, 450-452, 465; AIRPLANES WITH PART NUMBERS RD-AX7360-XX

SUBTASK 23-31-07-820-006

(5) Do these steps to do the MUSIC or ANNC LEVEL SETTING mode procedure.

NOTE: The MUSIC LEVEL and ANNC LEVEL SETTING mode procedures are identical except for the screen title in line 2 of the display.

(a) Select the MUSIC LEVEL SETTING mode or the ANNC LEVEL SETTING mode from the MAINTENANCE MODE menu.

1) The MUSIC LEVEL or ANNC LEVEL SETTING screen shows in the display with the current volume level setting in line 3.

(b) Use the "2" key or "8" key to select the correct volume level setting.

NOTE: The volume level can be set anywhere from -6dB to +6dB in 2dB steps.

(c) When the volume level setting is correct, push the ENT key.

1) The display returns to the MAINTENANCE MODE menu.

LOM 404, 411, 423, 424, 426, 429-432, 450-452, 465; AIRPLANES WITH PART NUMBERS RD-AX7370-01

SUBTASK 23-31-07-820-010

(6) Do these steps to do the MUSIC or ANNC LEVEL SETTING mode procedure.

NOTE: The MUSIC LEVEL and ANNC LEVEL SETTING mode procedures are identical except for the screen title in line 2 of the display.

(a) Select the MUSIC LEVEL SETTING mode or the ANNC LEVEL SETTING mode from the MAINTENANCE MODE menu.

1) The MUSIC LEVEL or ANNC LEVEL SETTING screen shows in the display with the current volume level setting in line 3.

(b) Use the UP key or DOWN key to select the correct volume level setting.

NOTE: The volume level can be set anywhere from -6dB to +6dB in 2dB steps.

(c) When the volume level setting is correct, push the ENT key.

1) The display returns to the MAINTENANCE MODE menu.

LOM 404, 411, 423, 424, 426, 429-432, 450-452, 465; AIRPLANES WITH PART NUMBERS RD-AX7360-XX OR RD-AX7370-01

SUBTASK 23-31-07-820-005

(7) Do these steps to do the PLAY MODE SETTING mode procedure.

(a) Select the PLAY MODE SETTING mode from the MAINTENANCE MODE menu.

1) The PLAY MODE SETTING screen shows in the display with the current play mode setting in line 2.

ECCN 9E991 BOEING PROPRIETARY - See title page for details

LOM 404, 411, 423, 424, 426, 429-432, 450-452, 465; AIRPLANES WITH PART NUMBERS RD-AX7360-XX

(b) Use the "2" or "8" keys to switch between the play modes.

NOTE: The plays modes are SINGLE or SEQUENTIAL.

LOM 404, 411, 423, 424, 426, 429-432, 450-452, 465; AIRPLANES WITH PART NUMBERS RD-AX7370-01

(c) Use the "UP" or "DOWN" keys to switch between the play modes.

NOTE: The plays modes are SINGLE or SEQUENTIAL.

LOM 404, 411, 423, 424, 426, 429-432, 450-452, 465; AIRPLANES WITH PART NUMBERS RD-AX7360-XX OR RD-AX7370-01

(d) When the desired play mode is correct, push the ENT key.

1) The display returns to the MAINTENANCE MODE menu.

SUBTASK 23-31-07-820-007

(8) To exit from the MAINTENANCE MODE push the STOP key.

END OF TASK

LOM 404, 411, 423, 424, 426, 429-432, 450-452, 465; AIRPLANES WITH PART NUMBERS RD-AX7360-XX

TASK 23-31-07-750-801

5. Pre-Recorded Announcement Machine(PRAM) Software Configuration Check

A. General

(1) This software configuration check makes sure that the Pre-Recorded Announcement Machine (PRAM) has the correct software installed.

B. Location Zones

Zone	Area
221	Passenger Compartment - Aft of Control Compartment to Forward Entry Door - Left

C. PRAM Software Configuration Check

SUBTASK 23-31-07-730-001

(1) Do these steps to do a software configuration check of the PRAM:

NOTE: You must know the correct software part numbers for the PRAM. For the PRAM to be an approved installation, software with the correct part numbers must be installed.

(a) Push the ENT key on the PRAM.

(b) Push the RV (review) and ENT (enter) keys at the same time.

1) The display screen shows:

MAINTENANCE MODE
PASSWORD
PLEASE INPUT

(c) Push the number keys to enter the password (7360).

1) The screen displays:

MAINTENANCE MODE
UPDATE FILES
FWD:8 REV:2 OK:ENT

ECCN 9E991 BOEING PROPRIETARY - See title page for details

(d) Push the “8” key (down arrow) 2 times.

1) The screen displays:

MAINTENANCE MODE

SOFTWARE P/N & VER

FWD:8 REV:2 OK:ENT

(e) Push the ENT key.

1) The software part number is displayed on line 3 and the version number is displayed on line 4.

(f) Make sure that the correct software part numbers show.

1) If the software part number is not correct, do this task: Pre-Recorded Announcement Machine (PRAM) Software Installation, TASK 23-31-07-470-801 or replace the PRAM with one that has the correct software.

(g) Push the ENT key to exit the MAINTENANCE MODE.

END OF TASK

TASK 23-31-07-470-801

6. Pre-Recorded Announcement Machine (PRAM) Software Installation

A. General

(1) The Operational Program Software (OPS) is stored in the flash memory devices in the Pre-Recorded Announcement Machine (PRAM).

(2) Flash card with the correct OPS is necessary for this task.

B. References

Reference	Title
23-31-07-000-801	Pre-Recorded Announcement Machine (PRAM) Removal (P/B 401)
23-31-07-400-801	Pre-Recorded Announcement Machine (PRAM) Installation (P/B 401)

C. Location Zones

Zone	Area
221	Passenger Compartment - Aft of Control Compartment to Forward Entry Door - Left

D. Procedure

SUBTASK 23-31-07-470-002

NOTE: You must know the correct software part numbers for the PRAM. For the PRAM to be an approved installation, software with the correct part numbers must be installed.

(1) This procedure is for older PRAM RD-AX7360–01, -02.

Do these steps to install the software:

(a) Remove the PRAM shroud (TASK 23-31-07-000-801).

(b) Push the RV (review) and ENT (enter) keys at the same time.

(c) Push the number keys to enter the password (7360).

ECCN 9E991 BOEING PROPRIETARY - See title page for details

LOM 404, 411, 423, 424, 426, 429-432, 450-452, 465; AIRPLANES WITH PART NUMBERS RD-AX7360-XX (Continued)

(d) Use the “2” key (up arrow) or “8” key (down arrow) to select the Download Software mode.

(e) Push the ENT key.

1) The display screen shows:

MAINTENANCE MODE

DOWNLOAD SOFTWARE

INSERT CARD?

OK: START CANCEL:STOP

LOM 404, 411, 423, 424, 426, 429-432, 450-452, 465

CAUTION KEEP THE FLASH CARD STRAIGHT WHEN YOU INSTALL IT IN THE PRAM. IF YOU DO NOT INSTALL THE FLASH CARD CORRECTLY, IT CAN CAUSE DAMAGE TO THE PRAM UNIT.

LOM 404, 411, 423, 424, 426, 429-432, 450-452, 465; AIRPLANES WITH PART NUMBERS RD-AX7360-XX

(f) Insert the flash card for the OPS into the PC Card Slot on the PRAM.

NOTE: The flash card slot is directly beneath the keys of the PRAM.

NOTE: Do not force flash card into slot. Make sure that the card's holes line up with the two rows of pins within the card slot (using inspection mirror or by temporary removal of the unit). Do not permit pin damage/shorting due to mis-installation.

(g) Push the START key.

(h) After the software installation is completed, push the ENT key.

(i) Remove the flash card from the PC Card Slot on the PRAM.

NOTE: The flash card for the OPS MUST be removed from the PRAM after installation of the software for the unit to function properly.

(j) Re-install the PRAM shroud (TASK 23-31-07-400-801).

SUBTASK 23-31-07-750-002

(2) Do this task: Pre-Recorded Announcement Machine(PRAM) Software Configuration Check, TASK 23-31-07-750-801.

END OF TASK

ECCN 9E991 BOEING PROPRIETARY - See title page for details

LOM 404, 411, 423, 424, 426, 429-432, 450-452, 465; AIRPLANES WITH PART NUMBERS RD-AX7360-XX OR RD-AX7370-01

TASK 23-31-07-470-802

7. Pre-Recorded Announcement Machine (PRAM) Content Installation

(Figure 201)

A. General

LOM 404, 411, 423, 424, 426, 429-432, 450-452, 465; AIRPLANES WITH PART NUMBERS RD-AX7370-01

(1) A Compact Flash (CF) memory card with the correct announcement and boarding music content is necessary for this task.

LOM 404, 411, 423, 424, 426, 429-432, 450-452, 465; AIRPLANES WITH PART NUMBERS RD-AX7360-XX

(2) A Personal Computer Memory Card Interface Adapter (PCMCIA) card with the correct announcement and boarding music content is necessary for this task.

LOM 404, 411, 423, 424, 426, 429-432, 450-452, 465; AIRPLANES WITH PART NUMBERS RD-AX7360-XX OR RD-AX7370-01

B. References

Reference	Title
23-31-07-000-801	Pre-Recorded Announcement Machine (PRAM) Removal (P/B 401)
23-31-07-400-801	Pre-Recorded Announcement Machine (PRAM) Installation (P/B 401)

C. Location Zones

Zone	Area
221	Passenger Compartment - Aft of Control Compartment to Forward Entry Door - Left

D. Content Installation

LOM 404, 411, 423, 424, 426, 429-432, 450-452, 465; AIRPLANES WITH PART NUMBERS RD-AX7360-XX

SUBTASK 23-31-07-470-008

(1) Do these steps to install the announcement and boarding music contents:

(a) Remove the Pre-Recorded Announcement Machine (PRAM) shroud (TASK 23-31-07-000-801).

(b) Push the RV key and the ENT key at the same time.

(c) Push the number keys to enter the password (7360).

(d) Use the “2” key (up arrow) or “8” key (down arrow) to select UPDATED FILES mode.

(e) Make sure that UPDATED FILES shows on the screen.

(f) Push the ENT key.

(g) If it is necessary, remove the protective label from the front of the PRAM.

(h) Insert the PCMCIA card with the new content into the PC card slot on the PRAM.

1) Do not force the PCMCIA card into the PC card slot.

2) Make sure that the PCMCIA card holes line up with the two rows of pins in the PC card slot.

(i) Push the START key.

ECCN 9E991 BOEING PROPRIETARY - See title page for details

LOM 404, 411, 423, 424, 426, 429-432, 450-452, 465; AIRPLANES WITH PART NUMBERS RD-AX7360-XX (Continued)

(j) Push the ENT key when START DOWNLOAD shows on the screen.

(k) Remove the PCMCIA card when the download is completed.

(l) Install the PRAM shroud (TASK 23-31-07-400-801).

LOM 404, 411, 423, 424, 426, 429-432, 450-452, 465; AIRPLANES WITH PART NUMBERS RD-AX7370-01

SUBTASK 23-31-07-860-019

(2) Open this circuit breaker and install safety tag:

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
C	9	C00080	ENTERTAINMENT PA TAPE RPDR AC

SUBTASK 23-31-07-470-005

(3) Do these steps to install the announcement and boarding music contents:

(a) Remove the PRAM shroud (TASK 23-31-07-000-801).

(b) Open the access door on the right side of the PRAM.

(c) Push the CF card eject button and remove the CF memory card.

CAUTION KEEP THE COMPACT FLASH CARD STRAIGHT WHEN YOU INSTALL IT IN THE PRAM. IF YOU DO NOT INSTALL THE CARD CORRECTLY, IT CAN CAUSE DAMAGE TO THE PRAM UNIT.

(d) Insert the CF memory card with new content into the CF card slot on the PRAM.

NOTE: The new CF memory card must stay in the PRAM after installation for the unit to function correctly.

(e) Carefully push the new CF memory card into the CF card slot.

1) Do not force the CF memory card into the CF card slot.

2) Make sure that the CF memory card holes line up with the two rows of pins in the CF card slot.

(f) Close the access door on the right side of the PRAM.

1) Make sure that the door is completely latched.

(g) Install the PRAM shroud (TASK 23-31-07-400-801).

SUBTASK 23-31-07-860-020

(4) Remove the safety tag and close this circuit breaker:

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
C	9	C00080	ENTERTAINMENT PA TAPE RPDR AC

ECCN 9E991 BOEING PROPRIETARY - See title page for details

LOM 404, 411, 423, 424, 426, 429-432, 450-452, 465; AIRPLANES WITH PART NUMBERS RD-AX7370-01 (Continued)

NOTE: When the PRAM is energized, the unit does a Built-In-Test Equipment (BITE) test for sound, LSI and card checks. The airline code and card ID are shown followed by the default screen and the ANNC, FLIGHT and MUSIC Light Emitting Diode (LED) come on.

LOM 404, 411, 423, 424, 426, 429-432, 450-452, 465; AIRPLANES WITH PART NUMBERS RD-AX7360-XX OR RD-AX7370-01

——— END OF TASK ———

ECCN 9E991 BOEING PROPRIETARY - See title page for details

3013112 S0000786562_V1

Pre-Recorded Announcement Machine (PRAM) Content Installation
Figure 201/23-31-07-990-806 (Sheet 1 of 2)

ECCN 9E991 BOEING PROPRIETARY - See title page for details

A

CF MEMORY CARD

B

1 INSTALL CF MEMORY CARD WITH THE WIDER GUIDE SLOT ON TOP.

2337399 S0000532495_V2

Pre-Recorded Announcement Machine (PRAM) Content Installation
Figure 201/23-31-07-990-806 (Sheet 2 of 2)

ECCN 9E991 BOEING PROPRIETARY - See title page for details

LOM 402, 404, 406, 407, 411, 412, 415, 420, 423, 424, 426, 429-432, 450-452, 465

TASK 23-31-07-040-801

8. Pre-Recorded Announcement Machine (PRAM) - Deactivation

(Figure 202)

A. General

(1) This procedure removes the electrical power to the Pre Recorded Announcement Machine (PRAM).

B. Location Zones

Zone	Area
117	Electrical and Electronics Compartment - Left
221	Passenger Compartment - Aft of Control Compartment to Forward Entry Door - Left

C. Procedure

SUBTASK 23-31-07-860-021

(1) Open this circuit breaker and install safety tag:

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
LOM 402, 404, 406, 407, 411, 412, 415, 423, 424, 426, 429-432, 450-452, 465			
C	9	C00080	ENTERTAINMENT PA TAPE RPDR AC

LOM 402, 404, 406, 407, 411, 412, 415, 420, 423, 424, 426, 429-432, 450-452, 465

D. PRAM - Tryout

NOTE: This tryout is to make sure the PRAM is in a zero energy state.

SUBTASK 23-31-07-860-022

(1) Make sure that this circuit breaker is open and has safety tag:

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
LOM 402, 404, 406, 407, 411, 412, 415, 423, 424, 426, 429-432, 450-452, 465			
C	9	C00080	ENTERTAINMENT PA TAPE RPDR AC

LOM 402, 404, 406, 407, 411, 412, 415, 420, 423, 424, 426, 429-432, 450-452, 465

SUBTASK 23-31-07-860-023

(2) At the forward attendants station make sure the PRAM is off by viewing the front and that the display is blank.

END OF TASK

ECCN 9E991 BOEING PROPRIETARY - See title page for details

L56142 S0006565514_V2

Pre Recorded Announcement Machine
Figure 202/23-31-07-990-805

ECCN 9E991 BOEING PROPRIETARY - See title page for details

TASK 23-31-07-440-801

9. Pre-Recorded Announcement Machine (PRAM) - Activation

(Figure 202)

A. General

(1) This procedure adds electrical power to the PRAM.

B. Location Zones

Zone	Area
117	Electrical and Electronics Compartment - Left
221	Passenger Compartment - Aft of Control Compartment to Forward Entry Door - Left

C. Procedure

SUBTASK 23-31-07-860-024

(1) Remove the safety tag and close this circuit breaker:

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
LOM 402, 404, 406, 407, 411, 412, 415, 423, 424, 426, 429-432, 450-452, 465			
C	9	C00080	ENTERTAINMENT PA TAPE RPDR AC

END OF TASK

ECCN 9E991 BOEING PROPRIETARY - See title page for details

PRE-RECORDED ANNOUNCEMENT MACHINE (PRAM) - REMOVAL/INSTALLATION

1. General

A. This procedure contains:

(1) A removal of the PRAM.

(2) An installation of the PRAM.

TASK 23-31-07-000-801

2. Pre-Recorded Announcement Machine (PRAM) Removal

(Figure 401)

A. Location Zones

Zone	Area
221	Passenger Compartment - Aft of Control Compartment to Forward Entry Door - Left

B. Pre-Recorded Announcement Machine (PRAM) Removal

SUBTASK 23-31-07-860-001

(1) Open this circuit breaker and install safety tag:

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
LOM 402, 404, 406, 407, 411, 412, 415, 423, 424, 426, 429-432, 450-452, 465			
C	9	C00080	ENTERTAINMENT PA TAPE RPDR AC

LOM 402, 404, 406, 407, 411, 412, 415, 420, 423, 424, 426, 429-432, 450-452, 465

SUBTASK 23-31-07-020-001

(2) Do these steps to remove the PRAM [1]:

(a) Remove the screws [6] that attach the cover [5] to the PRAM [1].

(b) Remove the cover [5] from the PRAM [1].

LOM 450-452, 465

(c) Open the access door on the right side of the PRAM [1].

(d) Press the eject button and remove the CF memory card.

1) Retain the CF memory card for the installation.

LOM 402, 404, 406, 407, 411, 412, 415, 420, 423, 424, 426, 429-432, 450-452, 465

(e) Remove the screws [3] and washers [4] that attach PRAM [1] to the wall.

(f) Pull the PRAM [1] from the wall.

(g) Remove the electrical connector [2] from the rear of the PRAM [1].

END OF TASK

ECCN 9E991 BOEING PROPRIETARY - See title page for details

L56142 S0006565514_V2

Boarding Music Reproducer Installation
Figure 401/23-31-07-990-801 (Sheet 1 of 5)

ECCN 9E991 BOEING PROPRIETARY - See title page for details

L56141 S0006565515_V3

Boarding Music Reproducer Installation
Figure 401/23-31-07-990-801 (Sheet 2 of 5)

ECCN 9E991 BOEING PROPRIETARY - See title page for details

2213060 S0000493692_V4

Boarding Music Reproducer Installation
Figure 401/23-31-07-990-801 (Sheet 3 of 5)

ECCN 9E991 BOEING PROPRIETARY - See title page for details

A

CF MEMORY CARD

B

1 INSTALL CF MEMORY CARD WITH THE WIDER GUIDE SLOT ON TOP.

2337399 S0000532495_V2

Boarding Music Reproducer Installation
Figure 401/23-31-07-990-801 (Sheet 4 of 5)

ECCN 9E991 BOEING PROPRIETARY - See title page for details

TAPE REPRODUCER CABINET

A

G61192 S0006565507_V2

Boarding Music Reproducer Installation
Figure 401/23-31-07-990-801 (Sheet 5 of 5)

ECCN 9E991 BOEING PROPRIETARY - See title page for details

TASK 23-31-07-400-801

3. Pre-Recorded Announcement Machine (PRAM) Installation

(Figure 401)

A. References

Reference	Title
23-31-07-470-802	Pre-Recorded Announcement Machine (PRAM) Content Installation (P/B 201)
23-31-07-750-801	Pre-Recorded Announcement Machine(PRAM) Software Configuration Check (P/B 201)
23-31-07-820-801	Pre-Recorded Announcement Machine (PRAM) Maintenance Modes (P/B 201)
23-31-07-900-801	Tape Replacement (P/B 201)

B. Location Zones

Zone	Area
221	Passenger Compartment - Aft of Control Compartment to Forward Entry Door - Left

C. Pre-Recorded Announcement Machine (PRAM) Installation

SUBTASK 23-31-07-400-001

(1) Do these steps to install the PRAM [1]:

(a) Connect the electrical connector [2] to the rear of the PRAM [1].

(b) Put the PRAM [1] over the bolt holes on the wall.

(c) Install the screws [3] and washers [4] that attach the PRAM [1] to the wall.

LOM 450-452, 465

> **CAUTION** KEEP THE COMPACT FLASH CARD STRAIGHT WHEN YOU INSTALL IT IN THE PRAM. IF YOU DO NOT INSTALL THE CARD CORRECTLY, IT CAN CAUSE DAMAGE TO THE PRAM UNIT.

(d) Insert the CF memory card with new content into the CF card slot on the PRAM [1] (View B, Figure 401).

NOTE: The pre-programmed CF memory card should be left in the PRAM after installation for the unit to function properly.

> **CAUTION** DO NOT FORCE THE MEMORY CARD INTO THE CARD SLOT. FORCING THE MEMORY CARD INTO THE CARD SLOT CAN CAUSE DAMAGE TO THE PINS.

(e) Carefully slide the new CF memory card into the CF card slot and push the new CF memory card into its position.

(f) Make sure that the holes on the memory card align with the two rows of pins in the card slot.

(g) Close the access door on the right side of the PRAM [1].

1) Make sure that the access door is fully latched.

LOM 402, 404, 406, 407, 411, 412, 415, 420, 423, 424, 426, 429-432, 450-452, 465

(h) Put the cover [5] over the bolt holes on the PRAM [1].

(i) Install the screws [6] that attach the cover [5] to the PRAM [1].

ECCN 9E991 BOEING PROPRIETARY - See title page for details

SUBTASK 23-31-07-860-002

(2) Remove the safety tag and close this circuit breaker:

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
LOM 402, 404, 406, 407, 411, 412, 415, 423, 424, 426, 429-432, 450-452, 465			
C	9	C00080	ENTERTAINMENT PA TAPE RPDR AC

LOM 402, 404, 406, 407, 411, 412, 415, 420, 423, 424, 426, 429-432, 450-452, 465

D. Pre-Recorded Announcement Machine (PRAM) Installation Test

LOM 404, 411, 423, 424, 426, 429-432

SUBTASK 23-31-07-750-001

(1) Do this task: Pre-Recorded Announcement Machine(PRAM) Software Configuration Check, TASK 23-31-07-750-801.

LOM 404, 411, 423, 424, 426, 429-432, 450-452, 465

SUBTASK 23-31-07-470-003

(2) If it is necessary to set the PRAM maintenance modes, do this task: Pre-Recorded Announcement Machine (PRAM) Maintenance Modes, TASK 23-31-07-820-801.

SUBTASK 23-31-07-470-009

(3) If it is necessary, install the content on the PRAM, do this task: Pre-Recorded Announcement Machine (PRAM) Content Installation, TASK 23-31-07-470-802.

LOM 402, 406, 407, 412, 415, 420

SUBTASK 23-31-07-710-004

(4) Do this test of the PRAM [1]:

(a) Push the buttons 9 and 0 on the PRAM [1].

(b) Push the MUSIC 1 button.

1) Make sure that the cassette door opens.

2) Reduce transfer of contamination, do this task: Tape Replacement, TASK 23-31-07-900-801.

(c) Put the cassette into the PRAM [1].

(d) Close the door on the PRAM [1].

(e) Push the MUSIC 1 button.

1) Make sure that the MUSIC 1 light comes on.

(f) Push the START button.

1) Make sure that the START light comes on.

(g) If it is necessary, adjust the volume control.

1) Make sure that you hear clear music on all of the speakers.

LOM 404, 411, 423, 424, 426, 429-432, 450-452, 465

SUBTASK 23-31-07-710-002

(5) Do this test of the PRAM [1]:

(a) Push the ENT button on the PRAM [1].

(b) Push the MUSIC button.

ECCN 9E991 BOEING PROPRIETARY - See title page for details

LOM 404, 411, 423, 424, 426, 429-432, 450-452, 465 (Continued)

(c) Push '1' on the PRAM [1].

(d) Push the START button.

(e) If it is necessary, adjust the volume control.

1) Make sure that you hear clear music on all of the speakers.

END OF TASK

ECCN 9E991 BOEING PROPRIETARY - See title page for details

PASSENGER VIDEO SYSTEM - ADJUSTMENT/TEST

1. General

A. This procedure has one task: an operational test of the passenger video system. The test will make sure that the system operates correctly.

TASK 23-32-00-710-802

2. Passenger Video System - Operational Test

A. References

Reference	Title
23-31-00-740-801	Passenger Address System - Operational Test (P/B 501)
23-32-02-700-801	Video System BITE Test (P/B 201)
23-34-00-710-801	Passenger Entertainment System - Operational Test (P/B 501)
34-21-00-820-801	Air Data Inertial Reference System - Alignment from the FMC CDU (P/B 201)
34-21-00-820-802	Air Data Inertial Reference System - Alignment from the ISDU (P/B 201)

B. Location Zones

Zone	Area
231	Forward Passenger Compartment - Forward Entry Door to Sta 663.75 - Left
232	Forward Passenger Compartment - Forward Entry Door to Sta 663.75 - Right
241	Aft Passenger Compartment - Station 663.75 to Aft Pressure Bulkhead - Left
242	Aft Passenger Compartment - Station 663.75 to Aft Pressure Bulkhead - Right

C. Prepare For Test

SUBTASK 23-32-00-710-029

(1) Do these steps to prepare for the test:

(a) Make sure the passenger address system is serviceable (TASK 23-31-00-740-801).

LOM 402, 406, 407, 420

(b) Make sure the passenger entertainment system is serviceable (TASK 23-34-00-710-801).

LOM 402, 404, 406, 407, 412, 415, 420, 423, 424

(c) Make sure the inertial reference system is aligned and in the NAV mode. To align the IRS, do this task: Air Data Inertial Reference System - Alignment from the ISDU, TASK 34-21-00-820-802 or Air Data Inertial Reference System - Alignment from the FMC CDU, TASK 34-21-00-820-801.

LOM 402, 404, 406, 407, 412, 415, 416, 420, 423, 424

(d) Make sure the power button on the video system control unit (VSCU) is in the off position.

LOM 402, 406, 407, 420

(e) Make sure the ENTERTAINMENT IFE button on the forward attendant's panel (P13) is set to the off position.

LOM 402, 404, 406, 407, 412, 415, 416, 420, 423, 424

(f) Push the IFE/PASS SEAT switch on the pilot's overhead panel P5 to the ON position.

ECCN 9E991 BOEING PROPRIETARY - See title page for details

LOM 402, 406, 407, 420

(g) Push the ENTERTAINMENT IFE button on the forward attendant's panel to the on position.

1) Make sure its light comes on.

LOM 412, 415, 423, 424

(h) Push the power button on the video system control unit (VSCU) to the on position.

1) Make sure its light comes on.

2) Make sure the power light on the video reproducer(s) (VRs) is on.

LOM 402, 404, 406, 407, 412, 415, 420, 423, 424

(i) Make sure the PA volume control is set to MIN.

(j) Connect headphones to the jack on the front of the VSCU.

LOM 402, 404, 406, 407, 412, 415, 416, 420, 423, 424

D. Procedure

LOM 402, 404, 406, 407, 412, 415, 420, 423, 424

SUBTASK 23-32-00-740-001

(1) Do these steps to do a BITE test:

(a) Do this task: Video System BITE Test, TASK 23-32-02-700-801

LOM 402, 404, 406, 407, 420

(b) Push the SYST PWR switch on the VSCU to the ON position.

1) Make sure its light comes on.

2) Make sure the power light on the video reproducer(s) (VRs) is on.

LOM 412, 415, 423, 424

SUBTASK 23-32-00-710-045

(2) Do this test of the passenger video system:

(a) If it is necessary, push the power button on the video system control unit (VSCU) to the on position.

1) Make sure the green PASS light stays on.

2) Make sure the video reproducer (VR) power is on.

(b) Make sure the ALL ZONES LED is green.

1) If the ALL ZONES LED is not green, push the MODE SELECT button to select ALL ZONES.

(c) Make sure the main menu is displayed.

(d) Do these steps to play video from the VR:

1) Put a media source (tape, CD, or DVD) in the VR if necessary.

2) Push the number on the VSCU numeric keypad to select PLAY VIDEO.

a) Make sure the cabin monitors lower from the stowed position.

b) Make sure you see video from the VR on the cabin monitors.

3) Push the STOP button on the VSCU.

4) Push the number on the VSCU numeric keypad to select SCREENS OFF.

ECCN 9E991 BOEING PROPRIETARY - See title page for details

LOM 412, 415, 423, 424 (Continued)

a) Make sure the monitors raise to the stowed position.

(e) Push the power button on the VSCU to the off position.

(f) Close the access door for the video control center if necessary.

LOM 402, 404, 406, 407, 420

SUBTASK 23-32-00-710-030

(3) Do this test for each video reproducer (repeat if more than one video reproducer installed):

(a) Put a media source (tape, CD, or DVD) into the video reproducer.

(b) Make the selections on the VSCU to show video from the video reproducer on all video monitors and the VSCU preview screen.

1) Make sure the video from the video reproducer is shown on the VSCU display.

2) Make sure you hear audio from the video reproducer in the headphones.

3) Make sure that all of the LCD monitors lower from the stowed position.

4) Make sure the video from the video reproducer is shown on all monitors.

5) Make sure that the brightness, contrast, color, and picture on all monitors is of acceptable quality.

LOM 402, 406, 407, 420

(c) Do these steps to do a check of the audio at the seat PCU:

1) Put the PCU channel selector to a channel with audio from the video system.

a) Make sure you hear the audio from the video system on the headphones.

LOM 402, 404, 406, 407, 420

(d) If there is another video reproducer to test, then do these steps:

1) Make the selections on the VSCU to stop the video from the video reproducer.

a) Make sure the video reproducer stops.

b) Make sure there is no video on any of the monitors.

LOM 412, 415, 423, 424

SUBTASK 23-32-00-710-003

(4) Do this test of the PA announcement:

(a) Adjust the passenger address (PA) volume to a comfortable level.

(b) Make the selection to play video from the video entertainment system.

1) Make sure you hear the audio from the video system on the passenger address speakers.

(c) Make an announcement from an attendant's handset.

1) Make sure that you hear the announcement from the attendant's handset on the PA speakers.

2) Make sure you hear the announcement from the attendant's handset on the headphones.

3) Make sure you do not hear audio from the video system on the PA speakers.

(d) Make a PA announcement from a pilot's station.

ECCN 9E991 BOEING PROPRIETARY - See title page for details

LOM 412, 415, 423, 424 (Continued)

1) Make sure that you hear the announcement from the pilot's station on the PA speakers.
2) Make sure you hear the announcement from the pilot's station on the headphones.
3) Make sure you do not hear audio from the video system on the PA speakers.

LOM 402, 404, 406, 407, 420

SUBTASK 23-32-00-710-010

(5) Do this test of the PA announcement:

(a) Make the applicable selections on the VSCU to play audio from the video system on the PA speakers.

(b) Adjust the PA volume to a comfortable level.

1) Make sure you can hear audio from the video system on the PA speakers.
2) Make sure VIDEO ON light on the P5 overhead panel in the flight compartment comes ON.

(c) Make a PA announcement from any attendant's handset.

1) Make sure that you hear the announcement from the attendant's handset on the PA speakers.
2) Make sure that you hear the announcement on the headphones.
3) Make sure you do not hear audio from the video system on the PA speakers.
4) Make sure that the video program pauses during the announcement.

(d) Make a PA announcement from a pilot's station.

1) Make sure that you hear the announcement from the pilot's station on the PA speakers.
2) Make sure that you hear the announcement on the headphones.
3) Make sure you do not hear audio from the video system on the PA speakers.
4) Make sure that the video program pauses during the announcement.

(e) Make the applicable selections on the PRAM to play an emergency message.

1) Make sure you hear the emergency message from the PRAM on the PA speakers.
2) Make sure you do not hear audio from the video system on the PA speakers.
3) Make sure the video shown on all monitors pause.
4) Push the STOP button on the PRAM.
5) Make sure that the video program resumes operation.

LOM 412, 415, 423, 424

SUBTASK 23-32-00-710-044

(6) Do this test of the cabin information system:

(a) Make sure the main menu is shown on the VSCU.

(b) Push the SEL button until AUX7 is shown on the menu screen.

(c) Push the number on the VSCU numeric keypad to select PLAY VIDEO.

1) Make sure you see video from the cabin information system on the cabin video monitors.

ECCN 9E991 BOEING PROPRIETARY - See title page for details

LOM 402, 404, 406, 407, 420

SUBTASK 23-32-00-710-031

(7) Do this test of the airshow display modes:

(a) Make the selections on the PVSCU to display PFIDS MAP mode.

(b) Make the selections on the PVSCU to show video from the airshow system on the PVSCU preview monitor.

1) Make sure the aircraft position shown on the PVSCU preview monitor is correct.

(c) Make the selections on the PVSCU to show PFIDS INFO mode.

(d) Make the selection on the ACU to show the TEST mode.

(e) Use the baro adjust knob on the captain's altimeter to set a positive altitude.

1) Make sure the altitude data shown on the blue information screen is the same as the captain's altimeter (+/- 10%).

LOM 402, 406

SUBTASK 23-32-00-710-032

(8) Do this test of the random access device (RAD):

(a) Put a test CD-ROM (Airshow part number 915950-5159-xxxx) into the top RAD CD-ROM drive with the label side up.

NOTE: If the test CD-ROM is not available, you can use any CD-ROM with a program segment that contains both audio and video.

(b) Make the selections on the ACU to show the RAD WORK segment (or segment with both audio and video).

(c) Make the selections on the VSCU to show the RAD WORK segment (or segment with both audio and video).

1) Make sure that video from the RAD is shown on the VSCU preview monitor.

2) Make sure that you hear audio from the RAD on the headphones connected to the VSCU.

(d) Push the STOP button on the RAD.

(e) Remove the test CD-ROM from the RAD.

LOM 402, 404, 406, 407, 412, 415, 416, 420, 423, 424

SUBTASK 23-32-00-710-004

(9) Do this test of cabin decompression:

CAUTION

IF YOU DO NOT OPEN THESE CIRCUIT BREAKERS, THE OXYGEN MASKS IN THE PASSENGER COMPARTMENT WILL RELEASE.

(a) Open these circuit breakers and install safety tags:

CAPT Electrical System Panel, P18-3

Row	Col	Number	Name
LOM 402, 404, 406, 407, 412, 415, 416, 423, 424			
F	9	C00784	OXYGEN PASS RIGHT
F	10	C00783	OXYGEN PASS LEFT

LOM 402, 404, 406, 407, 412, 415, 416, 420, 423, 424

ECCN 9E991 BOEING PROPRIETARY - See title page for details

(b) Make sure that these circuit breakers are closed:

CAPT Electrical System Panel, P18-3

Row	Col	Number	Name
F	7	C00156	OXYGEN IND
F	8	C00785	OXYGEN MAN CONT

(c) Set the MANUAL OXYGEN switch on the P5 overhead panel in the flight deck to ON.

1) Make sure the PASS OXY ON light on the P5-14 panel comes on.
2) Make sure all video monitors retract to the stowed position.
3) Make sure you do not see video on the monitors.
4) Make sure that all VRs are off.
5) Make sure that the VSCU preview screen is off.

(d) Set the MANUAL OXYGEN switch to the NORMAL position.

(e) Open and close this circuit breaker:

CAPT Electrical System Panel, P18-3

Row	Col	Number	Name
F	7	C00156	OXYGEN IND

1) Make sure the PASS OXY ON light on the P5-14 panel goes out.

(f) Remove the safety tags and close these circuit breakers:

CAPT Electrical System Panel, P18-3

Row	Col	Number	Name
LOM 402, 404, 406, 407, 412, 415, 416, 423, 424			
F	9	C00784	OXYGEN PASS RIGHT
F	10	C00783	OXYGEN PASS LEFT

LOM 402, 404, 406, 407, 412, 415, 416, 420, 423, 424

SUBTASK 23-32-00-840-001

(10) Put the airplane back to its usual condition:

(a) Push the EJECT button on all video reproducer.

(b) Remove the test media source (if applicable).

(c) Push the power button on the VSCU to the OFF position.

LOM 402, 406, 407, 420

(d) Push the ENTERTAINMENT IFE button to the off position.

LOM 402, 404, 406, 407, 412, 415, 416, 420, 423, 424

(e) Push the IFE/PASS SEAT switch on the pilot's overhead panel P5 to the OFF position.

END OF TASK

ECCN 9E991 BOEING PROPRIETARY - See title page for details

VIDEO REPRODUCER - MAINTENANCE PRACTICES

1. General

A. This procedure contains these tasks:

(1) Video Reproducer Deactivation.

(2) Video Reproducer Activation.

TASK 23-32-01-040-802-001

2. Video Reproducer - Deactivation

(Figure 23-32-01-990-801)

A. General

(1) This procedure removes electrical power from the Video Reproducer.

B. References

Reference	Title
23-32-01-990-801	Figure: Video Reproducer (VR) Installation (P/B 401)

C. Location Zones

Zone	Area
211	Flight Compartment - Left
212	Flight Compartment - Right
241	Aft Passenger Compartment - Station 663.75 to Aft Pressure Bulkhead - Left
242	Aft Passenger Compartment - Station 663.75 to Aft Pressure Bulkhead - Right

D. Procedure

SUBTASK 23-32-01-860-019-001

(1) Open these circuit breakers and install safety tags:

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
LOM 402, 404, 406, 407, 412, 415, 423, 424			
C	5	C01450	ENT VID CONT CENTER DC
C	7	C01451	ENT VID CONT CENTER AC

LOM 402, 404, 406, 407, 412, 415, 420, 423, 424

E. Video Reproducer - Tryout

NOTE: This tryout is to make sure the Video Reproducer is in a zero energy state.

SUBTASK 23-32-01-860-021-001

(1) Make sure that these circuit breakers are open and have safety tags:

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
LOM 402, 404, 406, 407, 412, 415, 423, 424			
C	5	C01450	ENT VID CONT CENTER DC
C	7	C01451	ENT VID CONT CENTER AC

LOM 402, 404, 406, 407, 412, 415, 420, 423, 424

SUBTASK 23-32-01-700-002-001

(2) At the video control center do the following:

ECCN 9E991 BOEING PROPRIETARY - See title page for details

(a) Push the power on button on the video reproducer.

1) Make sure the power on light does not come on.

(b) Put a media source into the video reproducer.

1) Make sure no video is visible on any monitor.

——— END OF TASK ———

TASK 23-32-01-440-802-001

3. Video Reproducer - Activation

(Figure 23-32-01-990-801)

A. General

(1) This procedure adds electrical power to the Video Reproducer

B. References

Reference	Title
23-32-01-990-801	Figure: Video Reproducer (VR) Installation (P/B 401)

C. Location Zones

Zone	Area
211	Flight Compartment - Left
212	Flight Compartment - Right
241	Aft Passenger Compartment - Station 663.75 to Aft Pressure Bulkhead - Left
242	Aft Passenger Compartment - Station 663.75 to Aft Pressure Bulkhead - Right

D. Procedure

SUBTASK 23-32-01-860-026-001

(1) Remove the safety tags and close these circuit breakers:

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
LOM 402, 404, 406, 407, 412, 415, 423, 424			
C	5	C01450	ENT VID CONT CENTER DC
C	7	C01451	ENT VID CONT CENTER AC

——— END OF TASK ———

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VIDEO REPRODUCER - REMOVAL/INSTALLATION

1. General

A. This procedure has two tasks:

(1) A removal of the video reproducers.

(2) An installation of the video reproducers.

TASK 23-32-01-000-801

2. Video Reproducer Removal

(Figure 401)

A. General

(1) This task is the removal procedure for the video reproducer.

(a) When you remove the video reproducer, do not supply the electrical power to the video system.

(2) The video reproducer(s) is/are installed in the video control center.

B. References

Reference	Title
20-10-07-000-801	E/E Box Removal (P/B 201)

C. Location Zones

Zone	Area
241	Aft Passenger Compartment - Station 663.75 to Aft Pressure Bulkhead - Left
242	Aft Passenger Compartment - Station 663.75 to Aft Pressure Bulkhead - Right

D. Video Reproducer Removal

SUBTASK 23-32-01-860-001

(1) Open these circuit breakers and install safety tags:

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
LOM 402, 404, 406, 407, 412, 415, 423, 424			
C	5	C01450	ENT VID CONT CENTER DC
C	7	C01451	ENT VID CONT CENTER AC

LOM 412, 415, 423, 424

SUBTASK 23-32-01-020-001

(2) Do these steps to remove the video reproducer [1]:

(a) Get access to the video reproducer.

(b) Remove the video reproducer [1]. To remove it, do this task: E/E Box Removal, TASK 20-10-07-000-801.

LOM 402, 404, 406, 407, 420

SUBTASK 23-32-01-020-002

(3) Do these steps to remove the video reproducer [1]:

(a) Get access to the video reproducer in the video control center.

(b) Loosen the two captive screws on the bottom of the video reproducer front panel [1].

(c) Carefully remove the video reproducer [1] from the tray.

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LOM 402, 404, 406, 407, 420 (Continued)

(d) Install dust caps on the video reproducer electrical connector.

LOM 402, 404, 406, 407, 412, 415, 420, 423, 424

——— END OF TASK ———

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D67830 S0000162916_V2

Video Reproducer (VR) Installation
Figure 401/23-32-01-990-801 (Sheet 1 of 3)

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D67995 S0000163134_V2

Video Reproducer (VR) Installation
Figure 401/23-32-01-990-801 (Sheet 2 of 3)

ECCN 9E991 BOEING PROPRIETARY - See title page for details

D68329 S0000163138_V2

Video Reproducer (VR) Installation
Figure 401/23-32-01-990-801 (Sheet 3 of 3)

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TASK 23-32-01-400-801

3. Video Reproducer Installation

(Figure 401)

A. General

(1) This task is the installation procedure for the video reproducer.

B. References

Reference	Title
20-10-07-400-801	E/E Box Installation (P/B 201)

C. Location Zones

Zone	Area
241	Aft Passenger Compartment - Station 663.75 to Aft Pressure Bulkhead - Left
242	Aft Passenger Compartment - Station 663.75 to Aft Pressure Bulkhead - Right

D. Video Reproducer Installation

LOM 412, 415, 423, 424

SUBTASK 23-32-01-420-001

(1) Do these steps to install the video reproducer [1]:

(a) Install the video reproducer [1]. To install it, do this task: E/E Box Installation, TASK 20-10-07-400-801.

LOM 402, 404, 406, 407, 420

SUBTASK 23-32-01-420-002

(2) Do these steps to install the video reproducer [1]:

(a) Remove the dust caps from the video reproducer electrical connector.

> **CAUTION** MAKE SURE THAT THE ELECTRICAL PINS ON THE VR AND THE TRAY CONNECTOR ARE NOT BENT OR DAMAGED. IF YOU INSTALL THE VR WITH DAMAGED PINS, DAMAGE TO THE VR, THE TRAY CONNECTOR, OR THE SYSTEM COMPONENTS CAN OCCUR.

(b) Make sure the electrical pins of the video reproducer are not bent or damaged.

(c) Carefully start to install the video reproducer [1] into the tray and engage the electrical connector.

> **CAUTION** PUSH THE VR LIGHTLY INTO THE TRAY. PUSH ONLY ON THE LOWER CORNERS OF THE VR TO ENGAGE THE ELECTRICAL CONNECTOR. IF YOU USE TOO MUCH FORCE, YOU WILL CAUSE DAMAGE TO THE ELECTRICAL CONNECTORS.

(d) Continue to move the video reproducer into the tray and engage the electrical connector.

(e) Tighten the two captive screws on the bottom of the video reproducer front panel.

LOM 402, 404, 406, 407, 412, 415, 420, 423, 424

ECCN 9E991 BOEING PROPRIETARY - See title page for details

SUBTASK 23-32-01-860-003

(3) Remove the safety tags and close these circuit breakers:

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
LOM 402, 404, 406, 407, 412, 415, 423, 424			
C	5	C01450	ENT VID CONT CENTER DC
C	7	C01451	ENT VID CONT CENTER AC

LOM 402, 404, 406, 407, 412, 415, 420, 423, 424

E. Video Reproducer Installation Test

LOM 412, 415, 423, 424

SUBTASK 23-32-01-710-007

(1) Do this test of the passenger video system:

(a) If it is necessary, push the power button on the video system control unit (VSCU) to the on position.

1) Make sure the green PASS light stays on.

2) Make sure the video reproducer (VR) power is on.

(b) Make sure the ALL ZONES LED is green.

1) If the ALL ZONES LED is not green, push the MODE SELECT button to select ALL ZONES.

(c) Make sure the main menu is displayed.

(d) Do these steps to play video from the VR:

1) Put a media source (tape, CD, or DVD) in the VR if necessary.

2) Push the number on the VSCU numeric keypad to select PLAY VIDEO.

a) Make sure the cabin monitors lower from the stowed position.

b) Make sure you see video from the VR on the cabin monitors.

3) Push the STOP button on the VSCU.

4) Push the number on the VSCU numeric keypad to select SCREENS OFF.

a) Make sure the monitors raise to the stowed position.

(e) Push the power button on the VSCU to the off position.

(f) Close the access door for the video control center if necessary.

LOM 402, 404, 406, 407, 420

SUBTASK 23-32-01-710-002

(2) Do this test of the video reproducer:

(a) Push the SYST PWR button on the system control unit (VSCU) to the on position.

1) Make sure its light comes on.

2) Make sure the power light on the video reproducer comes on.

(b) Put a media source (tape, CD, or DVD) into the video reproducer.

(c) Connect headphones to the audio jack on the VSCU.

(d) Make the selections on the VSCU to show video from the video reproducer on the VSCU preview screen.

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LOM 402, 404, 406, 407, 420 (Continued)

1) Make sure the video from the video reproducer is shown on the VSCU display.
2) Make sure you hear audio from the video reproducer on the headphones connected to the VSCU.

(e) Make the selections on the VSCU to stop the video from the video reproducer.
1) Make sure the video reproducer stops, rewinds, and then stops at the beginning of the tape.

(f) Push the EJECT button on the video reproducer.

(g) Remove the media source from the video reproducer.

(h) Remove the headphones from the VSCU.

(i) Push the SYST PWR button on the VSCU.

(j) Close the access door for the video control center if necessary.

END OF TASK

ECCN 9E991 BOEING PROPRIETARY - See title page for details

VIDEO SYSTEM CONTROL UNIT - MAINTENANCE PRACTICES

1. General

A. This procedure contains these tasks:

(1) Video System Control Unit Deactivation.

(2) Video System Control Unit Activation.

LOM 412, 415, 423, 424

(3) Video system PC card installation

LOM 402, 404, 406, 407, 412, 415, 420, 423, 424

(4) Video system configuration

(5) Video system BITE test

LOM 402, 404, 406, 407, 420

(6) Video system control.

LOM 402, 404, 406, 407, 412, 415, 420, 423, 424

TASK 23-32-02-040-802

2. Video System Control Unit - Deactivation

(Figure 23-32-02-990-801-001)

A. General

(1) This procedure removes electrical power from the Video System Control Unit.

B. References

Reference	Title
23-32-02-990-801-001	Figure: Video System Control Unit (VSCU) Installation (P/B 401)

C. Location Zones

Zone	Area
211	Flight Compartment - Left
212	Flight Compartment - Right
241	Aft Passenger Compartment - Station 663.75 to Aft Pressure Bulkhead - Left
242	Aft Passenger Compartment - Station 663.75 to Aft Pressure Bulkhead - Right

D. Procedure

SUBTASK 23-32-02-860-038

(1) Open these circuit breakers and install safety tags:

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
LOM 402, 404, 406, 407, 412, 415, 423, 424			
C	5	C01450	ENT VID CONT CENTER DC
C	7	C01451	ENT VID CONT CENTER AC

LOM 402, 404, 406, 407, 412, 415, 420, 423, 424

E. Video System Control Unit - Tryout

NOTE: This tryout is to make sure the Video System Control Unit is in a zero energy state.

ECCN 9E991 BOEING PROPRIETARY - See title page for details

SUBTASK 23-32-02-860-040

(1) Make sure that these circuit breakers are open and have safety tags:

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
LOM 402, 404, 406, 407, 412, 415, 423, 424			
C	5	C01450	ENT VID CONT CENTER DC
C	7	C01451	ENT VID CONT CENTER AC

LOM 402, 404, 406, 407, 412, 415, 420, 423, 424

SUBTASK 23-32-02-700-002

(2) Do the following steps at the Video Control Center:

(a) Push the PWR button/switch on the Video System Control Unit to the ON position.

(b) Insert a media source into a video reproducer.

(c) Make sure video does not show on any video or preview monitors.

END OF TASK

TASK 23-32-02-440-802

3. Video System Control Unit - Activation

(Figure 23-32-02-990-801-001)

A. General

(1) This procedure adds electrical power to the Video System Control Unit.

B. References

Reference	Title
23-32-02-990-801-001	Figure: Video System Control Unit (VSCU) Installation (P/B 401)

C. Location Zones

Zone	Area
211	Flight Compartment - Left
212	Flight Compartment - Right

D. Procedure

SUBTASK 23-32-02-860-045

(1) Remove the safety tags and close these circuit breakers:

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
LOM 402, 404, 406, 407, 412, 415, 423, 424			
C	5	C01450	ENT VID CONT CENTER DC
C	7	C01451	ENT VID CONT CENTER AC

END OF TASK

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LOM 412, 415, 423, 424

TASK 23-32-02-400-803

4. Video System PC Card Installation

A. General

(1) This task provides instructions on how to download the flight information and PSCU software to the video system control unit (VSCU) from the Personal Computer Memory Card (PC card).

(2) The PC card contains flight data, aircraft configuration, and entertainment delivery instructions.

(3) The VSCU is located in the video control center (VCC).

B. Location Zones

Zone	Area
231	Forward Passenger Compartment - Forward Entry Door to Sta 663.75 - Left
232	Forward Passenger Compartment - Forward Entry Door to Sta 663.75 - Right
241	Aft Passenger Compartment - Station 663.75 to Aft Pressure Bulkhead - Left
242	Aft Passenger Compartment - Station 663.75 to Aft Pressure Bulkhead - Right

C. Procedure

SUBTASK 23-32-02-860-026

(1) Do these steps to get access to the DOWNLOAD PC CARD menu:

(a) Push the MASTER POWER button to turn on the VSCU.

1) Make sure the green PASS light stays on and the main menu appears.

(b) Push and hold the MODE SELECT button for at least five seconds.

1) Make sure the MAINTENANCE MODE ENTER ID # menu appears.

(c) Use the numeric keypad to enter the ID number.

1) The default ID number is “9999”.

(d) Push the ENTER button.

1) Make sure the MAINTENANCE menu appears.

(e) Put the PC card into the VSCU.

1) Make sure the PC card vendor label is facing toward the numeric keypad of the VSCU.

2) If the auto download function is enabled, the VSCU will automatically download the PC card information. If the download does not automatically start, continue to access the DOWNLOAD PC CARD menu to manually download to the VSCU.

(f) Use the UP or DOWN arrows on the numeric keypad to select PC CARD/RSD.

(g) Push the ENTER button.

(h) Use the UP or DOWN arrows on the numeric keypad to select PC CARD.

(i) Push the ENTER button.

(j) Use the UP or DOWN arrows on the numeric keypad to select DOWNLOAD PC CARD.

(k) Push the ENTER button.

SUBTASK 23-32-02-860-027

(2) Do these steps to manually download the PC Card flight information:

(a) Make sure the PC card is installed in the VSCU.

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LOM 412, 415, 423, 424 (Continued)

(b) Make sure the DOWNLOAD PC CARD menu is displayed on the VSCU.

(c) Use the UP or DOWN arrows on the numeric keypad to select CONFIGURATION.

(d) Push the ENTER button.

> **CAUTION**
> DO NOT STOP THE DOWNLOAD PROCEDURE. IF YOU DO, YOU CAN CAUSE THE SYSTEM TO NOT OPERATE.

(e) Push the ENTER button again to start the download.

NOTE: The menu screen will show the percentage of the download that is complete.

(f) If the download is unsuccessful, do the download again.

(g) When the download is successful, do these steps.

1) Push the MASTER POWER button to turn off the VSCU.
2) Push the EJECT button above the PC card slot to eject the PC card.
3) Remove the PC card from the VSCU.
4) Push the MASTER POWER button again to turn on the VSCU.

(3) Do these steps to download the VSCU software:

NOTE: Perform this procedure only when you need to upgrade software.

(a) Make sure the PC card is installed in the VSCU.

(b) Make sure the DOWNLOAD PC CARD menu is displayed on the VSCU.

(c) Use the UP or DOWN arrows on the numeric keypad to select PSCU SOFTWARE.

(d) Push the ENTER button.

> **CAUTION**
> DO NOT STOP THE DOWNLOAD PROCEDURE. IF YOU DO, YOU CAN CAUSE THE SYSTEM TO NOT OPERATE.

(e) Push the ENTER button again to start the download.

(f) If the download is unsuccessful, do the download again.

(g) When the download is successful, do these steps:

1) Push the MASTER POWER button to turn off the VSCU.
2) Push the EJECT button above the PC card slot to eject the PC card.
3) Remove the PC card from the VSCU.
4) Push the MASTER POWER button again to turn on the VSCU.

SUBTASK 23-32-02-860-034

(4) PC Card Automatic Download

(a) When the auto download function is enabled, the VSCU will automatically download the PC card information when the PC card is put into the VSCU.

(b) The VSCU will only download the information in the PC card if the data is different from the current data in the VSCU memory.

1) To enable the auto download function, do these steps:

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LOM 412, 415, 423, 424 (Continued)

a) Make sure the MAINTENANCE menu is displayed on the VSCU.

b) Use the UP or DOWN arrows on the numeric keypad to select CONFIGURATION.

c) Push the ENTER button.

d) Use the UP or DOWN arrows on the numeric keypad to select PSCU CONFIG.

e) Push the ENTER button.

f) Use the UP or DOWN arrows on the numeric keypad to select AUTO CONFIG.

g) Push the ENTER button.

h) Use the UP or DOWN arrows on the numeric keypad to select LOAD PC CARD.

i) Push the SELECT button to select one of the following options:

<1> DISABLE: The auto download function is disabled.

<2> POWER ON: The auto download function will start if a valid PC card is detected in the VSCU when the VSCU is powered on.

<3> INSERT: The auto download function will start if a valid PC card is put into the VSCU during normal operation.

j) Push the ENTER button to save the changes.

SUBTASK 23-32-02-862-001

(5) When all necessary downloads are successful, do this step:

(a) Push the MASTER POWER button to turn off the VSCU.

——— END OF TASK ———

LOM 402, 404, 406, 407, 412, 415, 420, 423, 424

TASK 23-32-02-800-801

5. Video System Configuration

A. General

(1) This task provides instructions on how to activate program mode on the Video System Control Unit (VSCU). Use program mode to view the video system configuration or to program a new configuration.

(2) The system configuration is stored in the VSCU's non-volatile memory. It is only necessary to program the VSCU when the system is first installed, after a cabin configuration change, or when the VSCU is replaced by another unit with a different program configuration.

B. Tools/Equipment

NOTE: When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

Reference	Description
SPL-1690	Actuators/Deactuators Set - Proximity Sensor Part #: 8-758-01 Supplier: 08748 Part #: A27092-146 Supplier: 81205

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C. **Location Zones**

Zone	Area
231	Forward Passenger Compartment - Forward Entry Door to Sta 663.75 - Left
232	Forward Passenger Compartment - Forward Entry Door to Sta 663.75 - Right
241	Aft Passenger Compartment - Station 663.75 to Aft Pressure Bulkhead - Left
242	Aft Passenger Compartment - Station 663.75 to Aft Pressure Bulkhead - Right

D. **Video System Configuration**

LOM 402, 404, 406, 407, 420

SUBTASK 23-32-02-860-037

(1) Do these steps to do an initial set up:

(a) Push the AUDIO switch, on the P13 forward attendant panel, to ON position

1) Make sure that the Passenger Address and the Audio Entertainment systems are in operation.

2) Make sure that the PWR SWITCH on the PVSCU is in the OFF position.

> **CAUTION** THE VIDEO TAPE REPRODUCER (VTR) MUST BE SET TO STOP AND THE TAPE ALLOWED TO RETRACT INTO THE CASSETTE PRIOR TO SHUTTING OFF THE VTR OR REMOVING POWER FROM IT.

(b) Push the SYST PWR button on the PVSCU to ON position.

NOTE: Wait for about 6 minutes for system to proceed with the initialization and self Test.

(c) Select the AIRSHOW / MAINT MODE on the PVSCU screen.

(d) Select the MAINTENANCE MODE from the PVSCU screen.

1) Make sure the MAINTENANCE MODE menu shows.

(e) Enter a valid passcode.

(f) Push OK on the screen.

(g) Select the CONFIGURATION.

1) Make sure the CONFIG MODE menu appears.

(h) Select KEYLINE on the screen.

1) Make sure that the KEYLINE STATUS screen appears.

LOM 402, 404, 406

> **WARNING** MAKE SURE THAT THERE IS NO PRESSURE IN THE HYDRAULIC SYSTEM. PRESSURE IN THE HYDRAULIC SYSTEM CAN MOVE THE CONTROL SURFACES, CABLES, LANDING GEARS, AND LANDING GEAR DOORS QUICKLY. THEIR MOVEMENT CAN CAUSE INJURIES TO PERSONNEL, AND DAMAGE TO EQUIPMENT.

> **WARNING** MAKE SURE THAT THE DOWNLOCK PINS ARE INSTALLED IN ALL OF THE LANDING GEAR. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR CAN RETRACT AND CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

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LOM 402, 404, 406 (Continued)

(WARNING PRECEDES)

> **WARNING** OBEY THE PROCEDURE THAT PUTS THE AIRPLANE IN THE AIR MODE. IF YOU DO THE PROCEDURE INCORRECTLY, INJURIES TO PERSONNEL, AND DAMAGE TO EQUIPMENT CAN OCCUR.

(2) Do these steps to do a check of the Proximity Switch Electronic Unit (PSEU) Air/Ground discrete:

(a) Push the ON/OFF button located on the Proximity Switch Electronic Unit (PSEU) BITE Control panel.

1) Make sure that the PSEU BITE Display is ON and the display will read “EXISTING FAULTS?”.

2) Make sure that the status of J1B30:EXT. KEY INPUT on the PVSCU screen indicates GROUND.

(b) Push NO on the PSEU BITE Control panel.

1) Make sure that the display reads “FAULT HISTORY”?.

(c) Push NO on the PSEU BITE Control panel.

1) Make sure that the display reads “GROUND TESTS”?.

(d) Push NO on the PSEU BITE Control panel.

1) Make sure that the display reads “AIR / GND OVRD”?.

(e) Push the YES on the PSEU BITE Control panel.

1) Make sure that the display reads “SET SYS 1 IN THE AIR?”.

(f) Push YES on the PSEU BITE Control panel.

1) Make sure that the display reads “ARE YOU SURE?”.

(g) Push YES to verify.

NOTE: The display will read “Sys 1 is in Air” for 2 seconds followed by “ Set Sys 1 on GND?”. The Air / Ground led on the PSEU, labeled “Sys 1 in Air', will be illuminated and PSEU fault light will on the flight deck will also be illuminated.

1) Make sure that the status of J1B30 : EXT. KEY INPUT 1 on the PVSCU screen read OPEN.

(h) Push YES button on the PSEU BITE control panel.

1) Make sure that the display reads “ARE YOU SURE?”.

(i) Push YES.

(3) Do these steps to do a check of the Parking Brake Set Switch:

(a) Set the Parking Brake Switch S100 to the NOT SET position.

1) Make sure that the status of J1B31:EXT. KEY INPUT 2 the PVSCU screen reads OPEN.

(b) Set the Parking Set switch S100 to SET.

1) Make sure that the status of J1B31:EXT. KEY INPUT 2 on the PVSCU screen reads GROUND.

2) Make sure that the status of J1B31:EXT. KEY INPUT 3 on the PVSCU screen reads GROUND.

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LOM 402, 404, 406, 407

(4) Do these steps to do a check of the Nose Landing Gear Discrete.

(a) DEACTUATE the Nose Down Sensor A (S845) by placing the proximity sensor test set, SPL-1690, between the sensor and its target.

(b) DEACTUATE the Nose Down Sensor B (S853) by placing the proximity sensor test set, SPL-1690, between the sensor and its target.

1) Make sure that the status of J1B32:EXT. KEY INPUT 3 on the PVSCU screen reads OPEN.

(c) Remove the proximity sensor test set, SPL-1690, from sensor A and B.

1) Make sure that the status of J1B32;EXT. KEY INPUT 3 on the PVSCU screen reads GROUND.

(d) Push the ON/OFF button on the PSEU BITE control panel.

1) Make sure that the display reads “ TURN OFF DISPLAY”.

(e) Push YES and the display will blank.

LOM 402, 404, 406

(5) Do these steps to do a check of the FWD Door Lock Discrete:

(a) Close and lock all doors.

1) Make sure that the status of J1B33:EXT. KEY INPUT 4 on the PVSCU screen reads GROUND.

(b) Open the forward left entry door.

1) Make sure that the status of J1B33:EXT. KEY INPUT 4 on the PVSCU screen reads OPEN.

(c) Touch BACK on the PVSCU screen.

1) Make sure that the CONFIG MODE screen appears.

(d) Touch CHANGE on the PVSCU screen.

1) Make sure that the CONFIG CHANGE DEFAULT Volume screen appears.

(e) Touch NEXT on the PVSCU screen.

1) Make sure that the CONFIG CHANGE VCP CONFIGURATION screen appears.

(f) Touch NEXT on the PVSCU screen.

1) Make sure that the CONFIG CHANGE CAMERA CONFIGURATION screen appears.

(g) Touch NEXT on the PVSCU screen.

1) Make sure that the CONFIG CHANGE EXTERNAL KEYLINE screen appears.

2) Make sure that the PA indicates CH1 and SOURCE is VCP1.

LOM 402, 404, 406, 407, 420

(6) Do these steps to set configuration.

(a) Configuration may also be loaded using a PCMCIA card.

(b) Touch Next on the screen.

1) Make sure that the CONFIG CHANGE TU/VDU LEFT screen appears.

NOTE: GUIDELINES FOR ENTERING THE TU/VDU CONFIGURATION

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LOM 402, 404, 406, 407, 420 (Continued)

In the first row of the matrix, the Green Number indicates the TU/VDU number.

Pushing arrow < or > selects the VDU number from 1 to 12 (keep pushing > to get to VDU 7 to 12).

Pushing SEL selects between Mon1 and Mon2.

Pushing ZONE assigns the zone number for the monitor.

Pushing the ROW allow entry of the row number.

Pushing POS selects the position of the monitor.

(c) Touch the left arrow < on the PVSCU SCREEN until the cursor is under the VDU 1 column.

(d) Touch SEL on the screen to place the cursor on the Mon1 block.

(e) Touch ZONE on the screen until zone 1 is selected for Mon1.

(f) Touch ROW on the screen.

1) Make sure that the screen for entering the row number appears.

(g) For CONFIG1 ENTER the number 16 and push OK.

(h) For CONFIG2 ENTER the number 9 and push OK.

(i) Touch POS on the screen until L is selected.

(j) Touch SEL on the screen to place the cursor on the Mon2 Block

(k) Enter the rest of the TU/VDU LEFT configuration as required.

(l) Touch NEXT on the PVSCU SCREEN.

1) Make sure that the CONFIG CHANGE AUDIO INPUT screen appears.

2) Make sure that for CONFIG1 VCP1 CH1 is set to VCP1 L, CH2 is set to VCP1 R, and CH3 is set to OFF.

(7) Do the corresponding SEL to change configuration.

(a) Make sure that for CONFIG2 THE VCP1 is set to VCP1 L, CH2 is set to VCP1 R, and CH3 is set to VCP3 L.

(8) Do the corresponding SEL to change configuration.

(a) Make sure that for CONFIG1 the VCP2 CH1 is set to VCP2 L, CH2 is set to VCP2 R, and CH3 is set to OFF position.

(9) Do the corresponding SEL to change configuration.

(a) Make sure that for CONFIG2 the VCP2 CH1 is set to VCP2 L, CH2 is set to VCP2 R, and CH3 is set to VCP3 R.

(10) Do the corresponding SEL to change configuration.

(a) Touch NEXT on the screen until CONFIG CHANGE ZONE NAME screen appears.

(b) Touch SEL for ZONE 1, a screen for entering the name appears.

(c) Enter ZONE1 for the name.

NOTE: Touch CAPS to select uppercase letters.

Keep touching the key until the correct letter is displayed.

Use the arrow keys to move the cursor to the next letter in the name.

Touch NUM to select numbers.

(d) Touch OK on the screen.

ECCN 9E991 BOEING PROPRIETARY - See title page for details

LOM 402, 404, 406, 407, 420 (Continued)

(e) Touch NEXT on the screen, CONFIG CHANGE PA CHANNEL NAME screen appears.

1) Make sure that CH1 is set to 1, and CH2 is set to 2.

(11) Do these steps using SEL for setting. A screen for entering the name will appear.

(a) Touch NEXT on the screen until the screen for setting the configuration appears.

(b) Touch NEXT on the screen.

1) Make sure that the PVSCU reboots and wait until system completes initialization and self test.

LOM 412, 415, 423, 424

SUBTASK 23-32-02-860-028

(12) Do these steps to access the CONFIGURATION menu:

(a) Push the MASTER POWER button to turn on the VSCU.

1) Make sure that the green PASS light stays on and the main menu appears.

(b) Push and hold the MODE SELECT button for at least five seconds.

1) Make sure that the MAINTENANCE MODE ENTER ID # menu appears.

(c) Use the numeric keypad to enter the ID number.

1) The default ID number is “9999”.

(d) Push the ENTER button.

1) Make sure that the MAINTENANCE menu appears.

(e) Use the UP or DOWN arrows on the numeric keypad to select CONFIGURATION.

(f) Push the ENTER button.

SUBTASK 23-32-02-860-030

(13) Do these steps to enable or disable equipment from the system configuration:

(a) In the CONFIGURATION menu, use the UP or DOWN arrows on the numeric keypad to select PSCU CONFIG.

(b) Push the ENTER button.

(c) Use the UP or DOWN arrows on the numeric keypad to select LRU CONFIG.

(d) Push the ENTER button.

(e) Push the SEL button to select the equipment you wish to add or remove.

(f) Use the UP or DOWN arrows on the numeric keypad to select YES or NO.

(g) Push the SEL button to select YES or NO.

(h) Repeat steps (e) to (g) until all of the equipment is set.

(i) Push the ENTER button to set the configuration.

1) The PSCU CONFIG COMPLETED screen appears when the VSCU configuration is complete.

(j) When the configuration is successful, do these steps.

1) Push the MASTER POWER button to turn off the VSCU.

2) Push the MASTER POWER button again to turn on the VSCU.

SUBTASK 23-32-02-860-032

(14) Do these steps to manually change the VDU and monitor configuration:

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LOM 412, 415, 423, 424 (Continued)

(a) In the CONFIGURATION menu, use the UP or DOWN arrows on the numeric keypad to select TU/MONITOR CONFIG.

(b) Push the ENTER button.

(c) Use the UP or DOWN arrows on the numeric keypad to select TU CONFIG.

(d) Push the ENTER button.

(e) To set up zones with a predefined configuration, do these steps:

1) Use the UP or DOWN arrows on the numeric keypad to select PREDEFINED CONFIG.

2) Push the ENTER button.

3) Use the UP or DOWN arrows on the numeric keypad to select the zone configuration table of the airplane.

4) Push the ENTER button.

a) The TU INITIALIZATION IN PROGRESS screen appears.

b) If the initialization fails, do the configuration again using the correct configuration table.

c) When the initialization has completed, the TU INITIALIZATION COMPLETED screen appears.

5) Push the CLEAR button repeatedly to return to the TU CONFIG menu.

——— END OF TASK ———

LOM 402, 404, 406, 407, 412, 415, 420, 423, 424

TASK 23-32-02-700-801

6. Video System BITE Test

A. General

(1) The video system control unit (VSCU) has BITE functions for testing normal operation of the video system. The test will check the video reproducers (VRs), and all of the VDU's through data communications with them. Test results are shown on the VSCU preview screen.

B. Location Zones

Zone	Area
231	Forward Passenger Compartment - Forward Entry Door to Sta 663.75 - Left
232	Forward Passenger Compartment - Forward Entry Door to Sta 663.75 - Right
241	Aft Passenger Compartment - Station 663.75 to Aft Pressure Bulkhead - Left
242	Aft Passenger Compartment - Station 663.75 to Aft Pressure Bulkhead - Right

C. Procedure

LOM 402, 404, 406, 407, 420

SUBTASK 23-32-02-740-002

(1) Do these steps to do a BITE test of the VSCU:

(a) Push the SYST PWR switch on the VSCU to the on position.

1) Make sure its light comes on.

2) Make sure the power light on the video reproducer(s) (VRs) is on.

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LOM 402, 404, 406, 407, 420 (Continued)

(b) Make sure the VSCU display shows the MAIN MENU screen.

(c) Push AIRSHOW/MAINT MODE on the VSCU.

(d) Push MAINTENANCE MODE.

(e) Enter a valid passcode.

(f) Push OK.

(g) Push BITE TEST.

(h) Make sure the VSCU display shows the BITE RESULTS screen as follows: BITE RESULTS VCP 1 ===> OK VCP 2 ===> OK L TU/VDU ===> OK R TU/VDU ===> OK.

(i) Push BACK on the VSCU repeatedly until the VSCU shows the MAIN MENU screen.

LOM 412, 415, 423, 424

SUBTASK 23-32-02-740-006

(2) Do these steps to access the PSCU BITE menu:

(a) Push the MASTER POWER button to turn on the VSCU.

1) Make sure the green PASS light stays on and the main menu appears.

(b) Push and hold the MODE SELECT button for at least five seconds.

1) Make sure the MAINTENANCE MODE ENTER ID # menu appears.

(c) Use the numeric keypad to enter the ID number.

1) The default ID number is “9999”.

(d) Push the ENTER button.

1) Make sure the MAINTENANCE menu appears.

(e) Use the UP or DOWN arrows on the numeric keypad to select BITE/ERROR/KEYLINES.

(f) Push the ENTER button.

(g) Use the UP or DOWN arrows on the numeric keypad to select PSCU BITE.

(h) Push the ENTER button.

(3) Do these steps to do a BITE test of the VSCU:

NOTE: The BITE test takes approximately 5 minutes to complete.

(a) In the PSCU BITE menu, use the UP or DOWN arrows on the numeric keypad to select RUN BITE TESTS.

(b) Push the ENTER button to run the BITE test.

1) When the tests are completed, the PSCU BITE REPORT screen appears.

(c) Push the CLEAR button to return to the PSCU BITE menu.

(d) Use the UP or DOWN arrows on the numeric keypad to select DETAILED BITE REPORTS.

(e) Push the ENTER button.

1) The DETAILED BITE REPORT screen appears, showing any areas that failed.

(f) Push the CLEAR button repeatedly to return to the MAINTENANCE MODE menu.

END OF TASK

ECCN 9E991 BOEING PROPRIETARY - See title page for details

LOM 402, 404, 406, 407, 420

TASK 23-32-02-800-802

7. Video System Control

A. General

(1) This task describes the procedures for these basic video system operations:

(a) How to preview a video program

(b) How to route video to the passenger cabin

(c) How to route video audio to the passenger address system.

B. Location Zones

Zone	Area
231	Forward Passenger Compartment - Forward Entry Door to Sta 663.75 - Left
232	Forward Passenger Compartment - Forward Entry Door to Sta 663.75 - Right
241	Aft Passenger Compartment - Station 663.75 to Aft Pressure Bulkhead - Left
242	Aft Passenger Compartment - Station 663.75 to Aft Pressure Bulkhead - Right

C. Procedure

SUBTASK 23-32-02-860-007

(1) To route a video program to video monitors in the passenger cabin, do these steps:

(a) Set the ENTERTAINMENT IFE switch on the forward attendant's panel to the on position.

(b) Push the SYST PWR button on the video system control unit (VSCU) to the on position.

(c) Put the media source (tape, CD, or DVD) in the video reproducer (VR).

(d) Select video zones and source:

1) Touch the blinking CONT symbol on the VSCU display.

2) Make sure the MENU switch light is on and the MAIN MENU screen is shown on the VSCU preview screen.

3) Touch the applicable video zone(s) on the airplane symbol.

4) Touch the desired video source (VIDEO 1, VIDEO 2, PFIS, etc).

5) Touch the PA symbol if you want to hear the video program on the passenger address speakers.

(e) To preview the selected video before you route it to the passenger cabin, do these steps:

1) Push the PREV button.

2) Touch the applicable video source (VIDEO 1, VIDEO 2, PFIS, etc).

3) Touch the PLAY symbol at the bottom of the display if the video source is from a video reproducer.

(f) Push the EXEC button to route the video to the passenger cabin.

(g) To adjust and monitor video system audio output do these steps:

1) Turn the PA VOLUME switch clockwise from the OFF position to the middle position.

2) Set the PA CH switch to 1 or 2 as applicable.

3) To monitor audio at the VSCU, connect a headphone into the applicable MONITOR jack on the VSCU.

4) To monitor the audio at a passenger control unit at one of the passenger seats:

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LOM 402, 404, 406, 407, 420 (Continued)

a) Connect a headphone to a passenger seat armrest jack.

b) Set the DPCU to the channel assigned for video audio.

c) Adjust the volume if it is necessary.

END OF TASK

ECCN 9E991 BOEING PROPRIETARY - See title page for details

VIDEO SYSTEM CONTROL UNIT - REMOVAL/INSTALLATION

1. General

A. This procedure has two tasks:

(1) A removal of the video system control unit.

(2) An installation of the video system control unit.

TASK 23-32-02-000-801-001

2. Video System Control Unit Removal

(Figure 401)

A. General

(1) This task is the removal procedure for the video system control unit (VSCU).

(2) The VSCU is installed in the video control center.

(a) When you remove the VSCU, do not supply the electrical power to the video system.

B. References

Reference	Title
20-10-07-000-801	E/E Box Removal (P/B 201)

C. Location Zones

Zone	Area
241	Aft Passenger Compartment - Station 663.75 to Aft Pressure Bulkhead - Left
242	Aft Passenger Compartment - Station 663.75 to Aft Pressure Bulkhead - Right

D. Prepare for the Removal

SUBTASK 23-32-02-860-003-001

(1) Open these circuit breakers and install safety tags:

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
LOM 402, 404, 406, 407, 412, 415, 423, 424			
C	5	C01450	ENT VID CONT CENTER DC
C	7	C01451	ENT VID CONT CENTER AC

LOM 402, 404, 406, 407, 412, 415, 420, 423, 424

SUBTASK 23-32-02-860-001-001

(2) Get access to the VSCU in the video control center.

E. Video System Control Unit Removal

LOM 412, 415, 423, 424

SUBTASK 23-32-02-020-008

(1) Do these steps to remove the VSCU [1]:

(a) Get access to the video control center.

(b) Remove the nut [6] and washer [7] to disconnect the bonding jumper [8].

(c) Remove the screws [5] that attach the plate [4] to the mounting surface.

(d) Pull the VSCU plate assembly from its location.

NOTE: There are two slots cut into the plate. The slots fit under the spacers and washers that are attached to the mounting surface.

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LOM 412, 415, 423, 424 (Continued)

(e) Disconnect the electrical connectors [2] from the VSCU [1] receptacles.

(f) Remove the screws [3] that attach the VSCU [1] to the plate [4].

(g) Remove the VSCU [1] from the plate [4].

LOM 402, 404, 406, 407, 420

SUBTASK 23-32-02-020-002-001

(2) Do these steps to remove the VSCU [1]:

(a) Open the door to the video control center.

(b) Remove the VSCU [1], do this task: E/E Box Removal, TASK 20-10-07-000-801.

LOM 402, 404, 406, 407, 412, 415, 420, 423, 424

——— END OF TASK ———

ECCN 9E991 BOEING PROPRIETARY - See title page for details

D67830 S0000162916_V2

Video System Control Unit (VSCU) Installation
Figure 401/23-32-02-990-801-001 (Sheet 1 of 3)

ECCN 9E991 BOEING PROPRIETARY - See title page for details

D68448 S0000163215_V2

Video System Control Unit (VSCU) Installation
Figure 401/23-32-02-990-801-001 (Sheet 2 of 3)

ECCN 9E991 BOEING PROPRIETARY - See title page for details

D68538 S0000163219_V3

Video System Control Unit (VSCU) Installation
Figure 401/23-32-02-990-801-001 (Sheet 3 of 3)

ECCN 9E991 BOEING PROPRIETARY - See title page for details

TASK 23-32-02-400-801-001

3. Video System Control Unit Installation

(Figure 401)

A. General

(1) This task is the installation procedure for the video system control unit (VSCU).

B. References

Reference	Title
20-10-07-400-801	E/E Box Installation (P/B 201)
23-32-02-400-803	Video System PC Card Installation (P/B 201)
23-32-02-700-801	Video System BITE Test (P/B 201)
23-32-02-800-801	Video System Configuration (P/B 201)

C. Expendables/Parts

AMM Item	Description	AIPC Reference	AIPC Effectivity
1	VSCU	23-32-02-56-055	LOM 402, 404, 406, 407, 420
		23-32-02-75-090	LOM 412, 415, 423, 424

D. Location Zones

Zone	Area
241	Aft Passenger Compartment - Station 663.75 to Aft Pressure Bulkhead - Left
242	Aft Passenger Compartment - Station 663.75 to Aft Pressure Bulkhead - Right

E. Video System Control Unit Installation

LOM 412, 415, 423, 424

SUBTASK 23-32-02-420-001-001

(1) Do these steps to install the VSCU [1]:

(a) Put the VSCU [1] on the plate [4].

(b) Install the screws [3] that attach the VSCU [1] to the plate [4].

(c) Connect the electrical connectors [2] to the VSCU [1] receptacles.

(d) Put the VSCU plate assembly into its position.

NOTE: There are two slots cut into the plate. The slots fit under the spacers and washers that are attached to the mounting surface.

(e) Install the screws [5] that attach the plate [4] to the mounting surface.

(f) Connect the bonding jumper [8] with the nut [6] and washer [7] to the ground stud on the plate [4].

LOM 402, 404, 406, 407, 420

SUBTASK 23-32-02-420-002-001

(2) Do these steps to install the VSCU [1]:

(a) Install the video system VSCU [1]. To install it, do this task: E/E Box Installation, TASK 20-10-07-400-801.

LOM 402, 404, 406, 407, 412, 415, 420, 423, 424

ECCN 9E991 BOEING PROPRIETARY - See title page for details

SUBTASK 23-32-02-860-002-001

(3) Remove the safety tags and close these circuit breakers:

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
LOM 402, 404, 406, 407, 412, 415, 423, 424			
C	5	C01450	ENT VID CONT CENTER DC
C	7	C01451	ENT VID CONT CENTER AC

LOM 402, 404, 406, 407, 412, 415, 420, 423, 424

F. System Configuration

LOM 412, 415, 423, 424

SUBTASK 23-32-02-420-011

(1) Do this task: Video System PC Card Installation, TASK 23-32-02-400-803

LOM 402, 404, 406, 407, 412, 415, 420, 423, 424

SUBTASK 23-32-02-860-008-001

(2) Do this task: Video System Configuration, TASK 23-32-02-800-801

LOM 412, 415, 423, 424

SUBTASK 23-32-02-860-035

(3) Do these steps to initialize the audio multiplexer:

(a) In the MAINTENANCE menu, use the UP or DOWN arrows on the numeric keypad to select CONFIGURATION.

(b) Push the ENTER button.

(c) Use the UP or DOWN arrows on the numeric keypad to select AMUX CONFIG.

(d) Push the ENTER button.

(e) Use the UP or DOWN arrows on the numeric keypad to select the correct table.

(f) Push the ENTER button to start the AMUX initialization.

(g) When the initialization is complete, push the CLEAR button to return to the MAINTENANCE menu.

(h) Push the MASTER POWER button to turn off the VSCU.

LOM 402, 404, 406, 407, 412, 415, 420, 423, 424

G. Video System Control Unit Installation Test

LOM 412, 415, 423, 424

SUBTASK 23-32-02-710-006

(1) Do this test of the passenger video system:

(a) If it is necessary, push the power button on the video system control unit (VSCU) to the on position.

1) Make sure the green PASS light stays on.

2) Make sure the video reproducer (VR) power is on.

(b) Make sure the ALL ZONES LED is green.

1) If the ALL ZONES LED is not green, push the MODE SELECT button to select ALL ZONES.

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LOM 412, 415, 423, 424 (Continued)

(c) Make sure the main menu is displayed.

(d) Do these steps to play video from the VR:

1) Put a media source (tape, CD, or DVD) in the VR if necessary.

2) Push the number on the VSCU numeric keypad to select PLAY VIDEO.

a) Make sure the cabin monitors lower from the stowed position.

b) Make sure you see video from the VR on the cabin monitors.

3) Push the STOP button on the VSCU.

4) Push the number on the VSCU numeric keypad to select SCREENS OFF.

a) Make sure the monitors raise to the stowed position.

(e) Push the power button on the VSCU to the off position.

(f) Close the access door for the video control center if necessary.

LOM 402, 404, 406, 407, 420

SUBTASK 23-32-02-710-002-001

(2) Do this test of the video system control unit (VSCU):

(a) Push the SYST PWR button on the VSCU to the on position.

1) Make sure its light comes on.

(b) Push the SYST PWR button on the VSCU.

(c) Close the access door for the video control center if necessary.

LOM 402, 404, 406, 407, 412, 415, 420, 423, 424

SUBTASK 23-32-02-700-001

(3) If it is necessary, do the BITE functions for testing normal operations of the video system: Video System BITE Test, TASK 23-32-02-700-801

——— END OF TASK ———

ECCN 9E991 BOEING PROPRIETARY - See title page for details

VIDEO DISTRIBUTION UNIT - MAINTENANCE PRACTICES

1. General

A. This procedure has these tasks:

(1) Video Distribution Unit Deactivation.

(2) Video Distribution Unit Activation.

TASK 23-32-03-040-801

2. Video Distribution Unit - Deactivation

A. General

(1) This procedure removes electrical power from the Video Distribution Unit.

B. Location Zones

Zone	Area
211	Flight Compartment - Left
212	Flight Compartment - Right
231	Forward Passenger Compartment - Forward Entry Door to Sta 663.75 - Left
241	Aft Passenger Compartment - Station 663.75 to Aft Pressure Bulkhead - Left

C. Procedure

SUBTASK 23-32-03-860-008

(1) Open these circuit breakers and install safety tags:

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
LOM 402, 404, 406, 407, 412, 415, 423, 424			
C	5	C01450	ENT VID CONT CENTER DC
C	7	C01451	ENT VID CONT CENTER AC
LOM 402, 404, 406, 407, 412, 415, 416, 423, 424			
D	5	C01452	VIDEO 1
D	6	C01453	VIDEO 2
LOM 402, 404, 406, 407, 412, 415, 423, 424			
D	7	C01454	VIDEO 3
D	8	C01455	VIDEO 4
LOM 402, 404, 406, 407, 412, 415, 416, 420, 423, 424			

These circuit breakers are inoperative and should remain open:

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
LOM 416			
C	5	C01450	ENT VID CONT CENTER DC (INOP)
C	7	C01451	ENT VID CONT CENTER AC (INOP)
D	7	C01454	VIDEO 3 (INOP)
D	8	C01455	VIDEO 4 (INOP)
LOM 402, 404, 406, 407, 412, 415, 416, 420, 423, 424			

D. Video Distribution Unit - Tryout

NOTE: This tryout is to make sure the Video Distribution Unit is in a zero energy state.

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SUBTASK 23-32-03-860-010

(1) Make sure that these circuit breakers are open and have safety tags:

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
LOM 402, 404, 406, 407, 412, 415, 423, 424			
C	5	C01450	ENT VID CONT CENTER DC
C	7	C01451	ENT VID CONT CENTER AC
LOM 402, 404, 406, 407, 412, 415, 416, 423, 424			
D	5	C01452	VIDEO 1
D	6	C01453	VIDEO 2
LOM 402, 404, 406, 407, 412, 415, 423, 424			
D	7	C01454	VIDEO 3
D	8	C01455	VIDEO 4
LOM 402, 404, 406, 407, 412, 415, 416, 420, 423, 424			

These circuit breakers are inoperative and should remain open:

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
LOM 416			
C	5	C01450	ENT VID CONT CENTER DC (INOP)
C	7	C01451	ENT VID CONT CENTER AC (INOP)
D	7	C01454	VIDEO 3 (INOP)
D	8	C01455	VIDEO 4 (INOP)

I **LOM 402, 404, 406, 407, 412, 415, 416, 420, 423, 424**

SUBTASK 23-32-03-700-001

(2) Do the following steps at the Video Control Center:

(a) Push the PWR button/switch on the Video System Control Unit to the ON position.

(b) Insert a media source into a video reproducer.

(c) Make sure video does not show on any video or preview monitors.

——— **END OF TASK** ———

TASK 23-32-03-440-801

3. Video Distribution Unit - Activation

A. General

(1) This procedure adds electrical power to the Video Distribution Unit.

B. Location Zones

Zone	Area
211	Flight Compartment - Left
212	Flight Compartment - Right
231	Forward Passenger Compartment - Forward Entry Door to Sta 663.75 - Left
241	Aft Passenger Compartment - Station 663.75 to Aft Pressure Bulkhead - Left

ECCN 9E991 BOEING PROPRIETARY - See title page for details

C. Procedure

SUBTASK 23-32-03-860-011

(1) Remove the safety tags and close these circuit breakers:

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
LOM 402, 404, 406, 407, 412, 415, 423, 424			
C	5	C01450	ENT VID CONT CENTER DC
C	7	C01451	ENT VID CONT CENTER AC
LOM 402, 404, 406, 407, 412, 415, 416, 423, 424			
D	5	C01452	VIDEO 1
D	6	C01453	VIDEO 2
LOM 402, 404, 406, 407, 412, 415, 423, 424			
D	7	C01454	VIDEO 3
D	8	C01455	VIDEO 4
LOM 402, 404, 406, 407, 412, 415, 416, 420, 423, 424			

These circuit breakers are inoperative and should remain open:

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
LOM 416			
C	5	C01450	ENT VID CONT CENTER DC (INOP)
C	7	C01451	ENT VID CONT CENTER AC (INOP)
D	7	C01454	VIDEO 3 (INOP)
D	8	C01455	VIDEO 4 (INOP)

END OF TASK

ECCN 9E991 BOEING PROPRIETARY - See title page for details

VIDEO DISTRIBUTION UNIT - REMOVAL/INSTALLATION

1. General

A. This procedure has two tasks:

(1) The removal of the video distribution unit.

(2) The installation of the video distribution unit.

TASK 23-32-03-000-801

2. Video Distribution Unit Removal

(Figure 401)

A. General

(1) This task is the removal procedure for the video distribution unit (VDU).

(2) The VDUs are installed under the left sculptured ceiling panels.

(a) When you remove the VDU, do not supply the electrical power to the video system.

B. References

Reference	Title
25-21-45-000-801	Ceiling Panel - Removal (P/B 401)

C. Location Zones

Zone	Area
231	Forward Passenger Compartment - Forward Entry Door to Sta 663.75 - Left
241	Aft Passenger Compartment - Station 663.75 to Aft Pressure Bulkhead - Left

D. Prepare for the Removal

SUBTASK 23-32-03-860-001

(1) Do these steps to prepare the VDU for the removal:

(a) Open these circuit breakers and install safety tags:

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
LOM 402, 404, 406, 407, 412, 415, 423, 424			
C	5	C01450	ENT VID CONT CENTER DC
C	7	C01451	ENT VID CONT CENTER AC
LOM 402, 404, 406, 407, 412, 415, 416, 423, 424			
D	5	C01452	VIDEO 1
D	6	C01453	VIDEO 2
LOM 402, 404, 406, 407, 412, 415, 423, 424			
D	7	C01454	VIDEO 3
D	8	C01455	VIDEO 4

LOM 402, 404, 406, 407, 412, 415, 416, 420, 423, 424

These circuit breakers are inoperative and should remain open:

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
LOM 416			
C	5	C01450	ENT VID CONT CENTER DC (INOP)
C	7	C01451	ENT VID CONT CENTER AC (INOP)

ECCN 9E991 BOEING PROPRIETARY - See title page for details

LOM 416 (Continued)

(Continued)

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
D	7	C01454	VIDEO 3 (INOP)
D	8	C01455	VIDEO 4 (INOP)

LOM 402, 404, 406, 407, 412, 415, 416, 420, 423, 424

(b) Find the location of the applicable VDU between stringers 4L and 6L (Table 401):

NOTE: The video distribution units (VDUs) are above the ceiling. The VDUs are in groups. A VDU group has one, two, three, or four VDUs.

Table 401/23-32-03-993-808

VDU LOCATION	
GROUP #	**STATION**
1	450
2	500
3	695
4	727

(c) For the applicable VDU, do this task: Ceiling Panel - Removal, TASK 25-21-45-000-801.

E. Video Distribution Unit Removal

SUBTASK 23-32-03-020-001

(1) Do these steps to remove a VDU [1] from the top bracket:

(a) Disconnect the applicable electrical connectors [2] from the VDU receptacles.

NOTE: Attach a label to each electrical connector to identify which VDU receptacle it connects to. This helps when you install the VDU.

(b) Remove the four screws [3] and washers [4] that attach the applicable VDU [1] to the top bracket.

(c) Remove the VDU [1] from the top bracket.

(d) Remove the termination plug from the VDU receptacle if a plug is installed.

NOTE: Attach a label to the termination plug to identify the VDU receptacle it connects to. This helps when you install the VDU.

SUBTASK 23-32-03-020-002

(2) Do these steps to remove a VDU [1] from the bottom bracket:

(a) Disconnect the pin [5] and cotter pin [6] that attach the connecting rod [7] to the stowage bin.

(b) Remove the two screws [8] and washers [9] that attach the bottom bracket to the support bracket.

(c) Remove the VDU [1] and bottom bracket from its position.

(d) Disconnect the applicable electrical connectors [2] from the VDU receptacles.

NOTE: Attach a label to each electrical connector to identify which VDU receptacle it connects to. This helps when you install the VDU.

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(e) Remove the four screws [3] and washers [4] that attach the applicable VDU [1] to the bottom bracket.

(f) Remove the VDU [1] from the bottom bracket.

(g) Remove the termination plug from the VDU receptacle if a plug is installed.

NOTE: Attach a label to the termination plug to identify the VDU receptacle it connects to. This helps when you install the VDU.

END OF TASK

ECCN 9E991 BOEING PROPRIETARY - See title page for details

VIDEO DISTRIBUTION UNIT (VDU) TRAY LOCATIONS (EXAMPLE, 4 LOCATIONS)

VIDEO DISTRIBUTION UNIT (VDU) TRAY (EXAMPLE, 4 LOCATIONS)

A

1 BOTTOM VDUs REMOVAL ONLY (IF INSTALLED)

3 CONNECTION FROM TOP VDU TO AIRPLANE WIRE BUNDLE USES PLASTIC TIE STRAP (BACS38K2) TO SECURE ELECTRICAL CONNECTIONS.

H98993 S0006565651_V4

Video Distribution Unit (VDU) Installation
Figure 401/23-32-03-990-803 (Sheet 1 of 2)

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2 ONE OF THE VDUs HAS A TERMINATION PLUG (REFER TO VDU TABLE FOR THE AFT VDU).

3 CONNECTION FROM TOP VDU TO AIRPLANE WIRE BUNDLE USES PLASTIC TIE STRAP (BACS38K2) TO SECURE ELECTRICAL CONNECTIONS.

D60275 S0000160064_V3

Video Distribution Unit (VDU) Installation
Figure 401/23-32-03-990-803 (Sheet 2 of 2)

ECCN 9E991 BOEING PROPRIETARY - See title page for details

TASK 23-32-03-400-801

3. Video Distribution Unit Installation

(Figure 401)

A. General

(1) This task is the installation procedure for the video distribution unit (VDU).

B. References

Reference	Title
25-21-45-400-801	Ceiling Panel - Installation (P/B 401)

C. Location Zones

Zone	Area
231	Forward Passenger Compartment - Forward Entry Door to Sta 663.75 - Left
241	Aft Passenger Compartment - Station 663.75 to Aft Pressure Bulkhead - Left

D. Video Distribution Unit Installation

SUBTASK 23-32-03-420-001

(1) Do these steps to install a VDU [1] on the top bracket:

(a) Install the termination plug on the applicable VDU receptacle.

(b) Put the VDU [1] in its position on the top bracket.

(c) Install the four screws [3] and washers [4] that attach the VDU [1] to the top bracket.

(d) Connect the applicable electrical connectors [2] to the VDU receptacles.

SUBTASK 23-32-03-420-002

(2) Do these steps to install a VDU [1] on the bottom bracket:

(a) Install the termination plug on the applicable VDU receptacle.

(b) Put the VDU [1] in its position on the bottom bracket.

(c) Install the four screws [3] and washers [4] that attach the VDU [1] to the bottom bracket.

(d) Connect the applicable electrical connectors [2] to the VDU receptacles.

(e) Put the VDU [1] and bottom bracket into its correct position.

NOTE: The bottom of the bottom bracket fits into two slots in the bottom support bracket.

(f) Install the two screws [8] and washers [9] that attach the bottom bracket to the support bracket.

(g) Connect the pin [5] and cotter pin [6] that attach the connecting rod [7] to the stowage bin.

SUBTASK 23-32-03-860-002

(3) Remove the safety tags and close these circuit breakers:

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
LOM 402, 404, 406, 407, 412, 415, 423, 424			
C	5	C01450	ENT VID CONT CENTER DC
C	7	C01451	ENT VID CONT CENTER AC
LOM 402, 404, 406, 407, 412, 415, 416, 423, 424			
D	5	C01452	VIDEO 1
D	6	C01453	VIDEO 2

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LOM 402, 404, 406, 407, 412, 415, 416, 423, 424 (Continued)

(Continued)

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
LOM 402, 404, 406, 407, 412, 415, 423, 424			
D	7	C01454	VIDEO 3
D	8	C01455	VIDEO 4

LOM 402, 404, 406, 407, 412, 415, 416, 420, 423, 424

These circuit breakers are inoperative and should remain open:

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
LOM 416			
C	5	C01450	ENT VID CONT CENTER DC (INOP)
C	7	C01451	ENT VID CONT CENTER AC (INOP)
D	7	C01454	VIDEO 3 (INOP)
D	8	C01455	VIDEO 4 (INOP)

LOM 402, 404, 406, 407, 412, 415, 416, 420, 423, 424

E. Video Distribution Unit Installation Test

LOM 412, 415, 423, 424

SUBTASK 23-32-03-710-004

(1) Do this test of the passenger video system:

(a) If it is necessary, push the power button on the video system control unit (VSCU) to the on position.

1) Make sure the green PASS light stays on.

2) Make sure the video reproducer (VR) power is on.

(b) Make sure the ALL ZONES LED is green.

1) If the ALL ZONES LED is not green, push the MODE SELECT button to select ALL ZONES.

(c) Make sure the main menu is displayed.

(d) Do these steps to play video from the VR:

1) Put a media source (tape, CD, or DVD) in the VR if necessary.

2) Push the number on the VSCU numeric keypad to select PLAY VIDEO.

a) Make sure the cabin monitors lower from the stowed position.

b) Make sure you see video from the VR on the cabin monitors.

3) Push the STOP button on the VSCU.

4) Push the number on the VSCU numeric keypad to select SCREENS OFF.

a) Make sure the monitors raise to the stowed position.

(e) Push the power button on the VSCU to the off position.

(f) Close the access door for the video control center if necessary.

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LOM 402, 404, 406, 407, 420

SUBTASK 23-32-03-710-002

(2) Do this test of the video distribution unit (VDU):

(a) Open the door to the video control center.

(b) Push the SYST PWR button on the video system control unit (VSCU) to the on position.

(c) Put a media source (tape, CD, or DVD) into video reproducer 1.

(d) Make the selections on the VSCU to show video from video reproducer 1 on all monitors.

1) Make sure that all monitors lower from the stowed position.

2) Make sure the video from video reproducer 1 is shown on all monitors.

(e) Make the selections on the VSCU to stop video from video reproducer 1.

1) Make sure the video reproducer stops.

(f) Push the EJECT button on video reproducer 1.

(g) Remove the media source from video reproducer 1.

(h) Push the SYST PWR button on the VSCU.

(i) Close the door to the video control center.

LOM 402, 404, 406, 407, 412, 415, 416, 420, 423, 424

F. Put the Airplane Back to Its Usual Condition

SUBTASK 23-32-03-410-001

(1) For the applicable VDU, do this task: Ceiling Panel - Installation, TASK 25-21-45-400-801.

END OF TASK

ECCN 9E991 BOEING PROPRIETARY - See title page for details

DIGITAL INTERFACE UNIT - MAINTENANCE PRACTICES

1. General

LOM 402, 404, 406

A. The Digital Interface Unit (DIU) is also referred to as the Digital Media Unit (DMU) or Digital Media Server (DMS). For consistency, this document will use the term DIU when referring to the DMU or DMS.

LOM 402, 404, 406, 407, 412, 415, 420, 423, 424

B. This procedure has these tasks:

(1) Digital Interface Unit (DIU) Deactivation.

(2) Digital Interface Unit (DIU) Activation.

(3) A software configuration check of the digital interface unit (DIU).

LOM 407, 412, 415, 420, 423, 424

(4) An installation of the Airshow DIU software.

LOM 402, 404, 406

(5) A removal of the DIU CD-ROM

(6) An installation of the DIU CD-ROM

(7) A procedure to clean the DIU CD-ROM

LOM 402, 404, 406, 407, 412, 415, 420, 423, 424

C. For general information for software installation times and data loaders, do this task: On-Airplane Software - Installation, TASK 20-15-11-400-801.

LOM 402, 404, 406

D. The software for the Airshow 420 DIU is on a CD-ROM which must be installed into the DIU. The Airshow 420 DIU has a CD-ROM drive access door on its front panel. The CD-ROM contains the system software for the DIU, and customized route and graphics information that is unique to each airline. The CD-ROM must be properly installed and uploaded into the DIU memory for the system to operate.

LOM 407, 412, 415, 420, 423, 424

E. The Digital Interface Unit (DIU) is also referred to as the Digital Media Unit (DMU) or Digital Media Server (DMS). For consistency, this document will use the term DIU when referring to the DMU or DMS.

F. The software for the Airshow 4200 is installed using a USB installation key. The Airshow 4200 DIU has an access door and USB port on its front panel. The USB installation key contains the system software for the DIU with route and graphic information that is unique to each airline. The software must be properly installed into the DIU memory for the system to operate.

LOM 402, 404, 406, 407, 412, 415, 420, 423, 424

TASK 23-32-06-040-801

2. Digital Interface Unit - Deactivation

(Figure 201)

A. General

(1) This procedure removes electrical power to the DIU.

ECCN 9E991 BOEING PROPRIETARY - See title page for details

B. Location Zones

Zone	Area
146	Aft Cargo Compartment Equipment Bay - Right

C. Access Panels

Number	Name/Location
822	Aft Cargo Door

D. Procedure

SUBTASK 23-32-06-860-027

(1) Open these circuit breakers and install safety tags:

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
LOM 402, 404, 406, 407, 412, 415, 423, 424			
B	11	C01670	AIRSHOW AC
C	5	C01450	ENT VID CONT CENTER DC

LOM 402, 404, 406, 407, 412, 415, 420, 423, 424

E. Digital Interface Unit - Tryout

NOTE: This tryout is to make sure the DIU is in a zero energy state.

SUBTASK 23-32-06-010-007

(1) Open this access panel:

Number	Name/Location
822	Aft Cargo Door

SUBTASK 23-32-06-211-001

(2) Make sure the green Power ON LED light on the Digital Interface Unit is OFF.

END OF TASK

ECCN 9E991 BOEING PROPRIETARY - See title page for details

Digital Interface Unit
Figure 201/23-32-06-990-812

ECCN 9E991 BOEING PROPRIETARY - See title page for details

TASK 23-32-06-440-801

3. Digital Interface Unit - Activation

(Figure 201)

A. General

(1) This procedure adds electrical power to the DIU.

B. Location Zones

Zone	Area
146	Aft Cargo Compartment Equipment Bay - Right

C. Access Panels

Number	Name/Location
822	Aft Cargo Door

D. Procedure

SUBTASK 23-32-06-860-029

(1) Remove the safety tags and close these circuit breakers:

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
LOM 402, 404, 406, 407, 412, 415, 423, 424			
B	11	C01670	AIRSHOW AC
C	5	C01450	ENT VID CONT CENTER DC

LOM 402, 404, 406, 407, 412, 415, 420, 423, 424

SUBTASK 23-32-06-211-002

(2) Verify the green Power ON LED on the Digital Interface Unit is ON.

SUBTASK 23-32-06-410-007

(3) Close this access panel:

Number	Name/Location
822	Aft Cargo Door

——— END OF TASK ———

TASK 23-32-06-700-801

4. DIU Software Configuration Check

A. General

(1) This task tells you how to do a software configuration check for the Digital Interface Unit (DIU).

(2) Use this task to make sure that the DIU software was loaded properly, or to identify the current software configuration of the DIU.

NOTE: You must know the correct part number for the custom Airshow software your system uses to do this procedure.

B. Location Zones

Zone	Area
220	Subzone - Passenger Compartment - Body Station 259.50 to 360.00
230	Subzone - Passenger Compartment - Body Station 360.00 to 663.75
240	Subzone - Passenger Compartment - Body Station 663.75 to Body Station 1016.00

ECCN 9E991 BOEING PROPRIETARY - See title page for details

C. Procedure

LOM 402, 404, 406, 407, 420

SUBTASK 23-32-06-740-001

(1) Do these steps to do a software configuration check of the DIU:

(a) Push the power switch on the Video System Control Unit (VSCU) to the on position.

(b) Make the selections on the VSCU to show video from the DIU on the VSCU preview screen.

(c) Open these circuit breakers and attach safety tags:

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
LOM 402, 404, 406, 407			
B	11	C01670	AIRSHOW AC
C	5	C01450	ENT VID CONT CENTER DC

LOM 402, 404, 406, 407, 420

(d) Wait for 3 minutes and make sure that the power LED is not illuminated.

NOTE: Wait time is to make sure that the DIU has completely shutdown.

(e) Remove safety tags and close these circuit breakers:

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
LOM 402, 404, 406, 407			
B	11	C01670	AIRSHOW AC
C	5	C01450	ENT VID CONT CENTER DC

LOM 402, 404, 406, 407, 420

(f) Make sure the correct software part numbers for your system show on the Airshow copyright page shown on the preview screen.

NOTE: It may take up to a minute for the software information to appear on the copyright page.

(g) Push the power switch on the VSCU to the off position.

LOM 412, 415, 423, 424

SUBTASK 23-32-06-740-002

(2) Do these steps to do a software configuration check of the DIU:

(a) Open this circuit breaker and attach safety tag:

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
C	5	C01450	ENT VID CONT CENTER DC

(b) Remove safety tag and close this circuit breaker:

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
C	5	C01450	ENT VID CONT CENTER DC

(c) At the video control center, do these steps:

1) Push the power button on the video system control unit (VSCU) to the on position.

ECCN 9E991 BOEING PROPRIETARY - See title page for details

LOM 412, 415, 423, 424 (Continued)

a) Make sure the green PASS light comes on.
b) Make sure the main menu is displayed.

2) Push and hold the MODE SELECT button for at least five seconds.
3) Use the numeric keypad to enter the ID number.
   a) The default ID number is “9999”.
4) Push the ENTER button
   a) Make sure the MAINTENANCE menu is displayed.
5) Use the UP or DOWN arrows on the numeric keypad to select PART NUMBERS.
6) Push the ENTER button.
7) Use the UP or DOWN arrows on the numeric keypad to select each menu option.
   a) Push the ENTER button.
   b) Make sure each part number is correct for your system.
8) Push the CLEAR button to return to the MAINTENANCE menu.
9) Push the power button on the VSCU to the off position.

——— END OF TASK ———

LOM 407, 412, 415, 420, 423, 424

TASK 23-32-06-400-806

5. Digital Interface Unit Software Installation

A. General

(1) This procedure tells you how to install software in the Airshow 4200 digital interface unit (DIU). It will take approximately 15 - 40 minutes depending on your setup and configuration.

(2) A USB installation key is necessary for this procedure.

(3) This procedure requires access to the DIU and the video system control unit (VSCU).

NOTE: Two personnel are recommended to perform this procedure quickly. One person should be located at the VSCU. The other person should be located at the DIU.

(a) The DIU is located on the E6-1 shelf in the aft cargo bay.

(b) The VSCU is located in the video control center (VCC).

B. Location Zones

Zone	Area
146	Aft Cargo Compartment Equipment Bay - Right

C. Procedure

SUBTASK 23-32-06-470-006

(1) Do these steps to install the software:

(a) Open the front access panel of the DIU.

(b) Insert the USB installation key into the DIU connector.

NOTE: Do not remove the USB installation key until the copying process is complete.

1) Wait at least one minute for the copying process to begin.
2) The status screen with percentage complete is displayed on the cabin monitors.

ECCN 9E991 BOEING PROPRIETARY - See title page for details

LOM 407, 412, 415, 420, 423, 424 (Continued)

(c) Wait until the copying process on the status screen is 100% complete.

(d) Remove the USB installation key.

(e) The DIU will begin installing the software. Wait until the installation on the status screen is 100% complete.

(f) The cleanup process will begin. Wait until the cleanup process on the status screen is 100% complete.

(g) The program will automatically restart. Wait until the Airshow program is displayed on the monitors.

(h) Do these steps:

1) Push the power button on the VSCU to the off position.

2) Push the power button on the VSCU to the on position.

SUBTASK 23-32-06-860-025

(2) Do these steps to put the airplane back to its usual condition:

(a) Push the power button on the VSCU to the off position.

——— END OF TASK ———

LOM 402, 404, 406

TASK 23-32-06-000-803

6. DIU CD-ROM Removal

A. General

(1) This task is the removal procedure for the Airshow DIU CD-ROM.

(a) When you remove the DIU CD-ROM, power must be supplied to the system.

B. Location Zones

Zone	Area
146	Aft Cargo Compartment Equipment Bay - Right

C. Removal Procedure

SUBTASK 23-32-06-860-010

(1) Make sure that this circuit breaker is closed:

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
C	5	C01450	ENT VID CONT CENTER DC

SUBTASK 23-32-06-020-013

(2) Do these steps to remove the CD-ROM from the DIU:

(a) Loosen the knurled knob on the front panel of the DIU.

(b) Open the CD-ROM access door.

(c) Push the eject button on the face of the CD-ROM drive.

NOTE: The DIU will automatically eject the CD tray.

(d) Remove the CD-ROM from the tray.

ECCN 9E991 BOEING PROPRIETARY - See title page for details

> **CAUTION** DO NOT PUSH THE FRONT OF THE CD-ROM TRAY TO CLOSE IT. IF YOU PUSH THE TRAY, YOU CAN CAUSE DAMAGE TO THE TRAY MECHANISM.

(e) Push the eject button on the CD-ROM drive to close the CD tray.

(f) Close the CD-ROM access door on the DIU.

(g) Tighten the knurled knob on the front panel of the DIU.

——— END OF TASK ———

TASK 23-32-06-400-805

7. DIU CD-ROM Installation

A. General

(1) This task is the installation procedure for the Airshow DIU CD-ROM.

(a) When you install the DIU CD-ROM, power must be supplied to the system.

(b) After you install the CD-ROM, you must remove power and then supply power to the system. The software on the CD-ROM will not be installed to the DIU unless the power is cycled.

B. Location Zones

Zone	Area
146	Aft Cargo Compartment Equipment Bay - Right

C. Installation Procedure

SUBTASK 23-32-06-420-013

(1) Do these steps to install the CD-ROM into the DIU:

(a) Loosen the knurled knob on the front panel of the DIU to open the CD-ROM access door.

(b) Open the CD-ROM access door.

(c) Push the eject button on the face of the CD-ROM drive.

(d) Put the CD-ROM (printed side out) onto the CD tray, behind the four loading clips.

(e) Extend the two lower clips over the CD-ROM.

NOTE: The two upper clips can be partially extended over the CD-ROM.

> **CAUTION** DO NOT PUSH THE FRONT OF THE CD-ROM TRAY TO CLOSE IT. IF YOU PUSH THE TRAY, YOU CAN CAUSE DAMAGE TO THE TRAY MECHANISM.

(f) Push the EJECT button on the face of the CD-ROM drive to close the tray.

(g) Close the CD-ROM access door.

(h) Tighten the knurled knob.

(i) Open this circuit breaker and attach safety tag:

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
C	5	C01450	ENT VID CONT CENTER DC

ECCN 9E991 BOEING PROPRIETARY - See title page for details

LOM 402, 404, 406 (Continued)

NOTE: The software on the CD-ROM will not be installed to the DIU unless the power is cycled. The system may take up to 2 minutes to initialize after the power is cycled.

(j) Remove safety tag and close this circuit breaker:

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
C	5	C01450	ENT VID CONT CENTER DC

SUBTASK 23-32-06-740-005

(2) Do this task: DIU Software Configuration Check, TASK 23-32-06-700-801.

END OF TASK

TASK 23-32-06-100-801

8. DIU CD-ROM Cleaning and Handling

A. General

(1) This task tells you how to handle and clean a CD-ROM.

B. Consumable Materials

Reference	Description	Specification
G01043	Cloth - Lint-free	

C. DIU CD-ROM Handling Instructions

SUBTASK 23-32-06-910-001

(1) When you handle a CD-ROM, follow these general guidelines:

(a) Always hold a CD-ROM by its edges.

(b) Do not write on a CD-ROM recording surface (the shiny side). If you need to write on the label side of the CD-ROM, use a soft felt tip marker.

(c) Always keep the recording surface clean. Do not apply any stickers or tape to the recording surface.

(d) Never use any cleaning fluid other than water to clean a CD-ROM.

(e) Store CD-ROMs in their storage cases in a clean, cool, dry place when not in use. Keep CD-ROMs out of direct sunlight or heat.

D. DIU CD-ROM Cleaning Procedure

SUBTASK 23-32-06-160-001

(1) Do these steps to clean the CD-ROM:

(a) Apply a small amount of water (2 or 3 drops) to a lint-free cloth, G01043.

(b) Hold the CD-ROM by its edges with one hand, with the recording side (shiny side) up.

CAUTION

DO NOT USE TOO MUCH PRESSURE ON THE CD ROM. DO NOT USE A DIRTY CLOTH TO CLEAN THE CD ROM. DO NOT CLEAN THE CD ROM WITH A CLOTH IN A CIRCULAR DIRECTION. DAMAGE TO THE CD ROM CAN OCCUR.

(c) With the other hand, gently wipe the CD-ROM from the center hole to the edge of the CD-ROM until the entire recording surface has been cleaned.

ECCN 9E991 BOEING PROPRIETARY - See title page for details

LOM 402, 404, 406 (Continued)

(d) Use compressed air (less than 10psi) to blow any dirt or dust that may remain on the CD-ROM.

END OF TASK

ECCN 9E991 BOEING PROPRIETARY - See title page for details

DIGITAL INTERFACE UNIT - REMOVAL/INSTALLATION

1. General

A. This procedure contains scheduled maintenance task data.

B. This procedure has two tasks:

(1) A removal of the digital interface unit.

(2) An installation of the digital interface unit.

TASK 23-32-06-000-804

2. Digital Interface Unit (DIU) Removal

(Figure 401)

A. General

(1) This task is the removal procedure for the digital interface unit.

(2) The digital interface unit is located on the E6-1 shelf in the aft cargo bay.

(a) When you remove the digital interface unit, do not supply the electrical power to the video system.

(3) The digital interface unit (DIU) is also referred to as the digital media unit (DMU) or digital media server (DMS). For consistency this document will use the term DIU when referring to the DMU or DMS.

B. References

Reference	Title
20-10-07-000-801	E/E Box Removal (P/B 201)
23-32-06-000-803	DIU CD-ROM Removal (P/B 201)

C. Location Zones

Zone	Area
146	Aft Cargo Compartment Equipment Bay - Right

D. Access Panels

Number	Name/Location
822	Aft Cargo Door

E. Removal Procedure

LOM 402, 404, 406

SUBTASK 23-32-06-020-002

(1) Remove the CD-ROM from the DIU. To remove it, do this task: DIU CD-ROM Removal, TASK 23-32-06-000-803.

LOM 402, 404, 406, 407, 412, 415, 420, 423, 424

SUBTASK 23-32-06-860-001

(2) Open these circuit breakers and install safety tags:

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
LOM 402, 404, 406, 407, 412, 415, 423, 424			
B	11	C01670	AIRSHOW AC
C	5	C01450	ENT VID CONT CENTER DC

ECCN 9E991 BOEING PROPRIETARY - See title page for details

LOM 402, 404, 406, 407, 412, 415, 420, 423, 424

SUBTASK 23-32-06-010-002

(3) Open this access panel:

Number	Name/Location
822	Aft Cargo Door

SUBTASK 23-32-06-010-003

(4) Remove the E6 rack access panel:

(a) Loosen the quarter-turn fasteners on the panel that covers the E6-1 rack.

(b) Remove the panel.

SUBTASK 23-32-06-020-001

(5) To remove the digital interface unit [1], do this task: E/E Box Removal, TASK 20-10-07-000-801.

END OF TASK

ECCN 9E991 BOEING PROPRIETARY - See title page for details

Digital Interface Unit (DIU) Installation
Figure 401/23-32-06-990-801

ECCN 9E991 BOEING PROPRIETARY - See title page for details

TASK 23-32-06-400-801

3. Digital Interface Unit (DIU) Installation

(Figure 401)

A. General

(1) This task is the installation procedure for the digital interface unit.

B. References

Reference	Title
20-10-07-400-801	E/E Box Installation (P/B 201)
23-32-06-400-805	DIU CD-ROM Installation (P/B 201)
23-32-06-700-801	DIU Software Configuration Check (P/B 201)

C. Expendables/Parts

AMM Item	Description	AIPC Reference	AIPC Effectivity
1	Digital interface unit	23-32-06-01-005	LOM 402, 404, 406
		23-32-06-12-005	LOM 407, 412, 415, 420, 423, 424

D. Location Zones

Zone	Area
146	Aft Cargo Compartment Equipment Bay - Right

E. Access Panels

Number	Name/Location
822	Aft Cargo Door

F. Installation Procedure

SUBTASK 23-32-06-860-002

(1) Make sure that these circuit breakers are open and have safety tags:

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
LOM 402, 404, 406, 407, 412, 415, 423, 424			
B	11	C01670	AIRSHOW AC
C	5	C01450	ENT VID CONT CENTER DC

LOM 402, 404, 406, 407, 412, 415, 420, 423, 424

SUBTASK 23-32-06-420-001

(2) To install the digital interface unit [1], do this task: E/E Box Installation, TASK 20-10-07-400-801.

SUBTASK 23-32-06-860-003

(3) Remove the safety tags and close these circuit breakers:

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
LOM 402, 404, 406, 407, 412, 415, 423, 424			
B	11	C01670	AIRSHOW AC
C	5	C01450	ENT VID CONT CENTER DC

LOM 402, 404, 406, 407, 412, 415, 420, 423, 424

ECCN 9E991 BOEING PROPRIETARY - See title page for details

SUBTASK 23-32-06-750-001

(4) Do this task: DIU Software Configuration Check, TASK 23-32-06-700-801

LOM 402, 404, 406

SUBTASK 23-32-06-420-002

(5) Install the CD-ROM in the DIU. To install it, do this task: DIU CD-ROM Installation, TASK 23-32-06-400-805.

LOM 402, 404, 406, 407, 412, 415, 420, 423, 424

G. Installation Test

SUBTASK 23-32-06-710-007

(1) Do this test of the digital interface unit (DIU):

(a) Get access to the video control center.

(b) Make the selections on the VSCU to display cabin information system video on the monitors in the passenger cabin.

1) Make sure you see video from the cabin information system on the cabin video monitors.

H. Put the Airplane Back to Its Usual Condition

SUBTASK 23-32-06-410-002

(1) Install the E6 rack access panel:

(a) Place the E6-1 panel over the screw holes on the E6-1 rack.

(b) Tighten the quarter-turn fasteners on the E6-1 panel.

SUBTASK 23-32-06-410-003

(2) Close this access panel:

Number	Name/Location
822	Aft Cargo Door

END OF TASK

ECCN 9E991 BOEING PROPRIETARY - See title page for details

RANDOM ACCESS DEVICE - MAINTENANCE PRACTICES

1. General

A. This procedure has these task:

(1) Random Access Device Deactivation.

(2) Random Access Device Activation.

TASK 23-32-08-040-801

2. Random Access Device - Deactivation

(Figure 201)

A. General

(1) This procedure removes electrical power to the Random Access Device.

B. Location Zones

Zone	Area
117	Electrical and Electronics Compartment - Left
118	Electrical and Electronics Compartment - Right
146	Aft Cargo Compartment Equipment Bay - Right
211	Flight Compartment - Left
212	Flight Compartment - Right
231	Forward Passenger Compartment - Forward Entry Door to Sta 663.75 - Left

C. Access Panels

Number	Name/Location
822	Aft Cargo Door

D. Procedure

SUBTASK 23-32-08-860-006

(1) Open these circuit breakers and install safety tags:

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
C	5	C01450	ENT VID CONT CENTER DC
C	7	C01451	ENT VID CONT CENTER AC

E. Random Access Device - Tryout

NOTE: This tryout is to make sure the Random Access Device is in a zero energy state.

SUBTASK 23-32-08-860-007

(1) Make sure that these circuit breakers are open and have safety tags:

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
C	5	C01450	ENT VID CONT CENTER DC
C	7	C01451	ENT VID CONT CENTER AC

SUBTASK 23-32-08-010-008

(2) Open this access panel:

Number	Name/Location
822	Aft Cargo Door

ECCN 9E991 BOEING PROPRIETARY - See title page for details

SUBTASK 23-32-08-700-001

(3) Do the following steps to test the RAD:

(a) Push the system power button on the VSCU to the on position.

(b) Connect headphones to the audio jack on the VSCU.

(c) Install a test CD-ROM into the top RAD CD-ROM drive with the label side up.

NOTE: If a test CD-ROM is not available, use any CD-ROM that contains a program segment with both audio and video.

(d) Make the selections on the VSCU to show the CD-ROM test segment on the VSCU preview screen.

1) Make sure that video from the RAD does not show on the VSCU preview screen.

2) Make sure you do not hear audio from the RAD on the headset connected to the VSCU.

END OF TASK

ECCN 9E991 BOEING PROPRIETARY - See title page for details

H90589 S0006565740_V2

Random Access Device
Figure 201/23-32-08-990-806

ECCN 9E991 BOEING PROPRIETARY - See title page for details

TASK 23-32-08-440-801

3. **Random Access Device - Activation**
(Figure 201)

A. **General**

(1) This procedure adds electrical power to the Random Access Device.

B. **Location Zones**

Zone	Area
117	Electrical and Electronics Compartment - Left
118	Electrical and Electronics Compartment - Right
146	Aft Cargo Compartment Equipment Bay - Right
211	Flight Compartment - Left
212	Flight Compartment - Right
231	Forward Passenger Compartment - Forward Entry Door to Sta 663.75 - Left

C. **Access Panels**

Number	Name/Location
117A	Electronic Equipment Access Door
822	Aft Cargo Door

D. **Procedure**

SUBTASK 23-32-08-860-008

(1) Remove the safety tags and close these circuit breakers:

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
C	5	C01450	ENT VID CONT CENTER DC
C	7	C01451	ENT VID CONT CENTER AC

SUBTASK 23-32-08-410-006

(2) Close this access panel:

Number	Name/Location
117A	Electronic Equipment Access Door

SUBTASK 23-32-08-410-007

(3) Close this access panel:

Number	Name/Location
822	Aft Cargo Door

——— END OF TASK ———

ECCN 9E991 BOEING PROPRIETARY - See title page for details

RANDOM ACCESS DEVICE - REMOVAL/INSTALLATION

1. **General**
   A. This procedure has two tasks:
      (1) A removal of the random access device.
      (2) An installation of the random access device.
   B. The random access device is located on the E6-1 shelf in the aft cargo bay.

TASK 23-32-08-000-802

2. **Random Access Device (RAD) Removal**
   (Figure 401)

A. General

(1) This task is the removal procedure for the random access device (RAD).

(2) When you remove the random access device, do not supply the electrical power to the video system.

B. References

Reference	Title
20-10-07-000-801	E/E Box Removal (P/B 201)

C. Location Zones

Zone	Area
146	Aft Cargo Compartment Equipment Bay - Right

D. Access Panels

Number	Name/Location
822	Aft Cargo Door

E. Removal Procedure

SUBTASK 23-32-08-860-001

(1) Open these circuit breakers and install safety tags:

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
C	5	C01450	ENT VID CONT CENTER DC
C	7	C01451	ENT VID CONT CENTER AC

SUBTASK 23-32-08-010-001

(2) Open this access panel:

Number	Name/Location
822	Aft Cargo Door

SUBTASK 23-32-08-020-001

(3) Do these steps to remove the random access device (RAD) [1]:

(a) To remove the random access device (RAD) [1], do this task: E/E Box Removal, TASK 20-10-07-000-801.

END OF TASK

ECCN 9E991 BOEING PROPRIETARY - See title page for details

Random Access Device (RAD) Installation
Figure 401/23-32-08-990-801

ECCN 9E991 BOEING PROPRIETARY - See title page for details

TASK 23-32-08-400-801

3. Random Access Device (RAD) Installation

(Figure 401)

A. General

(1) This task is the installation procedure for the random access device (RAD).

B. References

Reference	Title
20-10-07-400-801	E/E Box Installation (P/B 201)

C. Location Zones

Zone	Area
146	Aft Cargo Compartment Equipment Bay - Right

D. Access Panels

Number	Name/Location
822	Aft Cargo Door

E. Installation Procedure

SUBTASK 23-32-08-860-002

(1) Make sure that these circuit breakers are open and have safety tags:

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
C	5	C01450	ENT VID CONT CENTER DC
C	7	C01451	ENT VID CONT CENTER AC

SUBTASK 23-32-08-420-001

(2) Do these steps to install the random access device (RAD) [1]:

(a) To install the random access device (RAD) [1], do this task: E/E Box Installation, TASK 20-10-07-400-801.

SUBTASK 23-32-08-410-001

(3) Install the E6 rack access panel:

(a) Place the E6-1 panel over the screw holes on the E6-1 rack.

(b) Tighten the quarter-turn fasteners on the E6-1 panel.

SUBTASK 23-32-08-860-003

(4) Remove the safety tags and close these circuit breakers:

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
C	5	C01450	ENT VID CONT CENTER DC
C	7	C01451	ENT VID CONT CENTER AC

F. Installation Test

SUBTASK 23-32-08-710-001

(1) Do this test of the random access device (RAD):

(a) Open the access door to get access to the video system control unit (VSCU).

(b) Push the system power button on the VSCU to the ON position.

(c) Connect headphones to the audio jack on the VSCU.

ECCN 9E991 BOEING PROPRIETARY - See title page for details

(d) Install a test CD-ROM into the top RAD CD-ROM drive with the label side up.

NOTE: If a test CD-ROM is not available, use any CD-ROM that contains a program segment with both audio and video.

(e) Make the selections on the VSCU to show the CD-ROM test segment on the VSCU preview screen.

1) Make sure that video from the RAD is shown on the VSCU preview screen.

2) Make sure you hear audio from the RAD on the headset connected to the VSCU.

(f) Push the STOP button on the RAD.

(g) Remove the CD-ROM from the RAD.

(h) Push the system power button on the VSCU to the off position.

(i) Close the access door.

G. Put the Airplane Back to Its Usual Condition

SUBTASK 23-32-08-410-002

(1) Close this access panel:

Number	Name/Location
822	Aft Cargo Door

END OF TASK

ECCN 9E991 BOEING PROPRIETARY - See title page for details

PSU-MOUNTED LCD MONITOR - INDIVIDUAL MONITOR DEACTIVATION/ACTIVATION

1. General

A. This procedure has one task:

(1) The deactivation/activation of the each individual PSU-mounted LCD monitor.

TASK 23-32-13-040-801

2. PSU-Mounted LCD Monitor - Individual Monitor Deactivation/Activation

A. General

(1) This task deactivates and re-activates each individual PSU-Mounted LCD monitor.

B. References

Reference	Title
23-32-13-040-802-001	PSU-Mounted LCD Monitor - Deactivation (P/B 201)

C. Location Zones

Zone	Area
231	Forward Passenger Compartment - Forward Entry Door to Sta 663.75 - Left
232	Forward Passenger Compartment - Forward Entry Door to Sta 663.75 - Right
241	Aft Passenger Compartment - Station 663.75 to Aft Pressure Bulkhead - Left
242	Aft Passenger Compartment - Station 663.75 to Aft Pressure Bulkhead - Right

D. Procedure

LOM 402, 404, 406, 407, 416, 420

SUBTASK 23-32-13-040-001

(1) Do the steps that follow to deactivate the individual monitor:

(a) Push the manual reset button located in the hole on the front of the PSU panel forward of the LCD monitor.

NOTE: Pushing the button once to remove power to the monitor. Pushing the button again re-apply power to the monitor

(b) Make sure that the LCD monitor fully retracts and stows.

LOM 412, 415, 423, 424

SUBTASK 23-32-13-040-002

(2) Do the steps that follow to deactivate the individual monitor:

(a) If necessary, do this task to de-energize the PSU-mounted monitor: PSU-Mounted LCD Monitor - Deactivation, TASK 23-32-13-040-802-001.

(b) Release the latches on the inboard side of the PSU overhead door to get access to the PSU panel assembly.

NOTE: Put the locally manufactured tool into the access holes in the PSU overhead door.

(c) Release the lanyard to lower the PSU panel assembly.

(d) Disconnect the J1 electrical connector from the monitor receptacles.

LOM 402, 404, 406, 407, 416, 420

SUBTASK 23-32-13-440-001

(3) Do the steps that follow to re-activate the individual monitor:

ECCN 9E991 BOEING PROPRIETARY - See title page for details

LOM 402, 404, 406, 407, 416, 420 (Continued)

(a) Push the manual reset button located in the hole on the front of the PSU panel forward of the LCD monitor.

(b) Make sure that the LCD monitor fully deploys and displays video picture.

LOM 412, 415, 423, 424

SUBTASK 23-32-13-440-002

(4) Do the steps that follow to re-activate the individual monitor:

(a) If necessary, do this task to de-energize the PSU-mounted monitor: PSU-Mounted LCD Monitor - Deactivation, TASK 23-32-13-040-802-001.

(b) Connect the J1 electrical connector to the monitor receptacles.

(c) Lift up the PSU panel and put the lanyard in the shortened position.

1) Attach the lanyard hook to the small ring on the lanyard.

(d) Push the PSU overhead door back to its correct position.

NOTE: Make sure that the latches on the inboard side of the PSU door assembly lock before you release the PSU overhead door.

——— END OF TASK ———

ECCN 9E991 BOEING PROPRIETARY - See title page for details

PSU-MOUNTED LCD MONITOR - MAINTENANCE PRACTICES

1. General

A. This procedure has these tasks:

(1) PSU-Mounted LCD Monitor Deactivation.

(2) PSU-Mounted LCD Monitor Activation.

TASK 23-32-13-040-802-001

2. PSU-Mounted LCD Monitor - Deactivation

(Figure 201)

A. General

(1) This procedure removes electrical power from the PSU-Mounted LCD Monitors.

NOTE: This procedure removes electrical power from all PSU mounted monitors simultaneously.

B. Location Zones

Zone	Area
211	Flight Compartment - Left
212	Flight Compartment - Right
231	Forward Passenger Compartment - Forward Entry Door to Sta 663.75 - Left
232	Forward Passenger Compartment - Forward Entry Door to Sta 663.75 - Right
241	Aft Passenger Compartment - Station 663.75 to Aft Pressure Bulkhead - Left
242	Aft Passenger Compartment - Station 663.75 to Aft Pressure Bulkhead - Right

C. Procedure

SUBTASK 23-32-13-860-009-001

(1) Open these circuit breakers and install safety tags:

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
LOM 402, 404, 406, 407, 412, 415, 416, 423, 424			
D	5	C01452	VIDEO 1
D	6	C01453	VIDEO 2
LOM 402, 404, 406, 407, 412, 415, 423, 424			
D	7	C01454	VIDEO 3
D	8	C01455	VIDEO 4

LOM 402, 404, 406, 407, 412, 415, 416, 420, 423, 424

These circuit breakers are inoperative and should remain open:

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
LOM 416			
D	7	C01454	VIDEO 3 (INOP)
D	8	C01455	VIDEO 4 (INOP)

LOM 402, 404, 406, 407, 412, 415, 416, 420, 423, 424

D. PSU-Mounted LCD Monitor - Tryout

NOTE: This tryout is to make sure the PSU-Mounted LCD Monitor is in a zero energy state.

ECCN 9E991 BOEING PROPRIETARY - See title page for details

SUBTASK 23-32-13-860-010-001

(1) Make sure that these circuit breakers are open and have safety tags:

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
LOM 402, 404, 406, 407, 412, 415, 416, 423, 424			
D	5	C01452	VIDEO 1
D	6	C01453	VIDEO 2
LOM 402, 404, 406, 407, 412, 415, 423, 424			
D	7	C01454	VIDEO 3
D	8	C01455	VIDEO 4

LOM 402, 404, 406, 407, 412, 415, 416, 420, 423, 424

These circuit breakers are inoperative and should remain open:

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
LOM 416			
D	7	C01454	VIDEO 3 (INOP)
D	8	C01455	VIDEO 4 (INOP)

LOM 402, 404, 406, 407, 412, 415, 416, 420, 423, 424

SUBTASK 23-32-13-700-001-001

(2) Do the following steps at the video control center:

LOM 402, 404, 406, 407, 420

(a) Push the SYST PWR button on the video system control unit (VSCU) to the on position.

LOM 402, 404, 406, 407, 412, 415, 416, 420, 423, 424

(b) Put a media source into a video reproducer.

(c) Push the play button on the VSCU.

1) Make sure that the monitor does not lower from the stowed position.

2) Make sure there is no video from video reproducer on the monitor.

SUBTASK 23-32-13-700-002-001

(3) Do the following steps at the PSU-Mounted Monitor:

(a) Push the manual reset button located in the hole on the front of the PSU panel forward of the LCD monitor.

(b) Make sure that the LCD monitor does not deploy and no video picture is displayed.

END OF TASK

ECCN 9E991 BOEING PROPRIETARY - See title page for details

PASSENGER COMPARTMENT
(EXAMPLE)

2381622 S0000544320_V1

PSU-Mounted Monitor
Figure 201/23-32-13-990-802-001

ECCN 9E991 BOEING PROPRIETARY - See title page for details

TASK 23-32-13-440-801-001

3. PSU-Mounted LCD Monitor - Activation

(Figure 201)

A. General

(1) This procedure adds electrical power to the PSU-Mounted LCD Monitor.

NOTE: This procedure adds electrical power to all PSU mounted monitors simultaneously.

B. Location Zones

Zone	Area
211	Flight Compartment - Left
212	Flight Compartment - Right
231	Forward Passenger Compartment - Forward Entry Door to Sta 663.75 - Left
232	Forward Passenger Compartment - Forward Entry Door to Sta 663.75 - Right
241	Aft Passenger Compartment - Station 663.75 to Aft Pressure Bulkhead - Left
242	Aft Passenger Compartment - Station 663.75 to Aft Pressure Bulkhead - Right

C. Procedure

SUBTASK 23-32-13-860-011-001

(1) Remove the safety tags and close these circuit breakers:

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
LOM 402, 404, 406, 407, 412, 415, 416, 423, 424			
D	5	C01452	VIDEO 1
D	6	C01453	VIDEO 2
LOM 402, 404, 406, 407, 412, 415, 423, 424			
D	7	C01454	VIDEO 3
D	8	C01455	VIDEO 4
LOM 402, 404, 406, 407, 412, 415, 416, 420, 423, 424			

These circuit breakers are inoperative and should remain open:

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
LOM 416			
D	7	C01454	VIDEO 3 (INOP)
D	8	C01455	VIDEO 4 (INOP)

END OF TASK

ECCN 9E991 BOEING PROPRIETARY - See title page for details

PSU-MOUNTED LCD MONITOR - REMOVAL/INSTALLATION

1. General

A. This procedure has two tasks:

(1) A removal of the Passenger Service Unit (PSU)-mounted LCD monitor.

(2) An installation of the PSU-mounted LCD monitor.

TASK 23-32-13-000-801

2. PSU-Mounted LCD Monitor Removal

(Figure 401)

A. General

(1) This task is the removal procedure for the Passenger Service Unit (PSU)-mounted LCD monitor (referred to as the monitor).

(2) The monitor and PSU overhead door are installed as one assembly and will be referred to as the PSU panel assembly.

(3) The monitors are installed under the overhead stowage bins.

(a) When you remove the monitor, do not supply the electrical power to the video system.

B. References

Reference	Title
33-25-00-040-801	Information Signs - Deactivation (P/B 201)

C. Location Zones

Zone	Area
231	Forward Passenger Compartment - Forward Entry Door to Sta 663.75 - Left
232	Forward Passenger Compartment - Forward Entry Door to Sta 663.75 - Right
241	Aft Passenger Compartment - Station 663.75 to Aft Pressure Bulkhead - Left
242	Aft Passenger Compartment - Station 663.75 to Aft Pressure Bulkhead - Right

D. Removal Procedure

SUBTASK 23-32-13-860-013

(1) Deactivate the FASTEN-SEAT-BELT / NO SMOKING signs (Information Signs - Deactivation, TASK 33-25-00-040-801).

SUBTASK 23-32-13-860-001

(2) Open these circuit breakers and install safety tags:

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
LOM 402, 404, 406, 407, 412, 415, 416, 423, 424			
D	5	C01452	VIDEO 1
D	6	C01453	VIDEO 2
LOM 402, 404, 406, 407, 412, 415, 423, 424			
D	7	C01454	VIDEO 3
D	8	C01455	VIDEO 4

ECCN 9E991 BOEING PROPRIETARY - See title page for details

LOM 402, 404, 406, 407, 412, 415, 423, 424 (Continued)

(Continued)

F/O Electrical System Panel, P6-1

Row	Col	Number	Name

LOM 402, 404, 406, 407, 412, 415, 416, 420, 423, 424

These circuit breakers are inoperative and should remain open:

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
LOM 416			
D	7	C01454	VIDEO 3 (INOP)
D	8	C01455	VIDEO 4 (INOP)

LOM 402, 404, 406, 407, 412, 415, 416, 420, 423, 424

SUBTASK 23-32-13-020-001

(3) Do these steps to remove the applicable PSU panel assembly [2]:

NOTE: The monitor and PSU overhead door are removed as one assembly.

(a) Release the latches on the inboard side of the PSU overhead door to get access to the PSU panel assembly [2].

NOTE: Put the locally manufactured tool into the access holes in the PSU overhead door.

LOM 402, 404, 406, 407, 416, 420 PRE SB 737-25-1858

(b) Release the lanyard [3] to lower the PSU panel assembly [2].

LOM 402, 404, 406, 407, 416, 420 POST SB 737-25-1858

(c) Release the inboard lanyard [5] to lower the PSU panel assembly [2].

LOM 412, 415, 423, 424 PRE SB 737-25-1851

(d) Release the lanyard [3] to lower the PSU panel assembly [2].

LOM 412, 415, 423, 424 POST SB 737-25-1851

(e) Release the inboard lanyards [5] to lower the PSU panel assembly [2].

LOM 402, 404, 406, 407, 412, 415, 416, 420, 423, 424

(f) Disconnect the three electrical connectors [1] from the monitor receptacles.

LOM 402, 404, 406, 407, 416, 420 POST SB 737-25-1858

(g) Release the outboard lanyards [6].

LOM 412, 415, 423, 424 POST SB 737-25-1851

(h) Release the outboard lanyards [6].

LOM 402, 404, 406, 407, 412, 415, 416, 420, 423, 424

(i) Push the two spring-loaded pins on the outboard side of the overhead frame to remove the PSU panel assembly [2].

NOTE: Use the locally manufactured tool to push the pins that release the PSU overhead door from the overhead frame.

ECCN 9E991 BOEING PROPRIETARY - See title page for details

(j) Remove the PSU panel assembly [2].

END OF TASK

ECCN 9E991 BOEING PROPRIETARY - See title page for details

**PASSENGER COMPARTMENT
(EXAMPLE)**

**PSU-MOUNTED VIDEO MONITOR
(EXAMPLE)**

A

3020356 S0000791968_V1

**PSU-Mounted Video Monitor Installation
Figure 401/23-32-13-990-801 (Sheet 1 of 5)**

ECCN 9E991 BOEING PROPRIETARY - See title page for details

PSU-Mounted Video Monitor Installation
Figure 401/23-32-13-990-801 (Sheet 2 of 5)

ECCN 9E991 BOEING PROPRIETARY - See title page for details

PSU-Mounted Video Monitor Installation
Figure 401/23-32-13-990-801 (Sheet 3 of 5)

ECCN 9E991 BOEING PROPRIETARY - See title page for details

3019932 S0000791989_V1

PSU-Mounted Video Monitor Installation
Figure 401/23-32-13-990-801 (Sheet 4 of 5)

ECCN 9E991 BOEING PROPRIETARY - See title page for details

**PASSENGER COMPARTMENT
(EXAMPLE)**

PARTIAL ENGAGEMENT

FULL ENGAGEMENT

**INBOARD LATCH ENGAGEMENT WITH PSU RAIL
(TYPICAL)**

B

2970275 S0000749094_V2

**PSU-Mounted Video Monitor Installation
Figure 401/23-32-13-990-801 (Sheet 5 of 5)**

ECCN 9E991 BOEING PROPRIETARY - See title page for details

TASK 23-32-13-400-801

3. PSU-Mounted LCD Monitor Installation

(Figure 401)

A. General

(1) This task is the installation procedure for the Passenger Service Unit (PSU)-mounted LCD monitor (referred to as the monitor).

(2) The monitor and PSU overhead door are installed as one assembly and will be referred to as the PSU panel assembly.

B. References

Reference	Title
24-22-00-860-811	Supply Electrical Power (P/B 201)
24-22-00-860-812	Remove Electrical Power (P/B 201)
33-25-00-440-801	Information Signs - Activation (P/B 201)
33-25-00-960-804	Information Sign - Lamp Replacement (P/B 201)

C. Expendables/Parts

AMM Item	Description	AIPC Reference	AIPC Effectivity
2	PSU panel assembly	23-32-13-26D-005	LOM 402, 406
		23-32-13-48E-005	LOM 404
		23-32-13-64S-005	LOM 407, 420
		23-32-13-67F-005	LOM 412, 415, 423, 424
		23-32-13-70W-005	LOM 416

D. Location Zones

Zone	Area
231	Forward Passenger Compartment - Forward Entry Door to Sta 663.75 - Left
232	Forward Passenger Compartment - Forward Entry Door to Sta 663.75 - Right
241	Aft Passenger Compartment - Station 663.75 to Aft Pressure Bulkhead - Left
242	Aft Passenger Compartment - Station 663.75 to Aft Pressure Bulkhead - Right

E. Installation Procedure

SUBTASK 23-32-13-420-001

(1) Do these steps to install the applicable PSU panel assembly [2]:

NOTE: The monitor and PSU overhead door are installed as one assembly.

(a) Put the PSU panel assembly [2] in its correct position.

(b) Engage the two spring-loaded pins in the outboard side of the overhead frame to install the PSU panel assembly [2].

LOM 402, 404, 406, 407, 416, 420 POST SB 737-25-1858

(c) Connect the outboard lanyards [6] to the two spring-loaded pins.

LOM 412, 415, 423, 424 POST SB 737-25-1851

(d) Connect the outboard lanyards [6] to the two spring-loaded pins.

LOM 412, 415, 423, 424 PRE SB 737-25-1851

(e) Connect the lanyard [3] to support the PSU panel assembly [2].

ECCN 9E991 BOEING PROPRIETARY - See title page for details

LOM 402, 404, 406, 407, 416, 420 PRE SB 737-25-1858

(f) Connect the inboard lanyard [3] to support the PSU panel assembly [2].

LOM 402, 404, 406, 407, 416, 420 POST SB 737-25-1858

(g) Connect the inboard lanyard [5] to support the PSU panel assembly [2].

LOM 402, 404, 406, 407, 412, 415, 416, 420, 423, 424

(h) Connect the three electrical connectors [1] to the monitor receptacles.

LOM 412, 415, 423, 424 PRE SB 737-25-1851

(i) Lift up the PSU panel assembly [2] and put the lanyard [3] in the shortened position.

1) Attach the lanyard hook to the small ring on the lanyard [3].

LOM 412, 415, 423, 424 POST SB 737-25-1851

(j) Lift up the PSU panel assembly [2] and put the lanyard [5] in the shortened position.

1) Attach the lanyard hook to the small ring on the lanyard [5].

LOM 402, 404, 406, 407, 416, 420 PRE SB 737-25-1858

(k) Lift up the PSU panel assembly [2] and put the lanyard [3] in the shortened position.

1) Attach the lanyard hook to the small ring on the lanyard [3].

LOM 402, 404, 406, 407, 416, 420 POST SB 737-25-1858

(l) Lift up the PSU panel assembly [2] and put the lanyard [5] in the shortened position.

1) Attach the lanyard hook to the small ring on the lanyard [5].

LOM 402, 404, 406, 407, 412, 415, 416, 420, 423, 424

SUBTASK 23-32-13-410-001

(2) Push the PSU overhead door back to its correct position.

NOTE: Make sure that the latches on the inboard side of the PSU door assembly lock before you release the PSU overhead door.

SUBTASK 23-32-13-420-002

(3) To latch the Video Retract Panels to the inboard PSU rails follow these steps:

(a) Make sure that the inboard edge of the video monitor clears the inboard edge of the stow-bin rail.

(b) Make sure that the click sound of the cam-latch is heard.

(c) Visually make sure that the inboard latches of the video panel fully engage the PSU rail. See FULL ENGAGEMENT in Figure 401 (Sheet 5).

1) If visual access to the video panel latches is blocked by an adjacent PSU, lower the PSU to the service position.

SUBTASK 23-32-13-860-008

(4) If it is necessary, do this task: Supply Electrical Power, TASK 24-22-00-860-811.

SUBTASK 23-32-13-860-014

(5) Activate the FASTEN-SEAT-BELT / NO SMOKING signs (Information Signs - Activation, TASK 33-25-00-440-801).

ECCN 9E991 BOEING PROPRIETARY - See title page for details

SUBTASK 23-32-13-860-002

(6) Remove the safety tags and close these circuit breakers:

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
LOM 402, 404, 406, 407, 412, 415, 416, 423, 424			
D	5	C01452	VIDEO 1
D	6	C01453	VIDEO 2
LOM 402, 404, 406, 407, 412, 415, 423, 424			
D	7	C01454	VIDEO 3
D	8	C01455	VIDEO 4

LOM 402, 404, 406, 407, 412, 415, 416, 420, 423, 424

These circuit breakers are inoperative and should remain open:

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
LOM 416			
D	7	C01454	VIDEO 3 (INOP)
D	8	C01455	VIDEO 4 (INOP)

LOM 402, 404, 406, 407, 412, 415, 416, 420, 423, 424

F. Installation Test

LOM 412, 415, 423, 424

SUBTASK 23-32-13-710-004

(1) Do this test of the passenger video system:

(a) If it is necessary, push the power button on the video system control unit (VSCU) to the on position.

1) Make sure the green PASS light stays on.

2) Make sure the video reproducer (VR) power is on.

(b) Make sure the ALL ZONES LED is green.

1) If the ALL ZONES LED is not green, push the MODE SELECT button to select ALL ZONES.

(c) Make sure the main menu is displayed.

(d) Do these steps to play video from the VR:

1) Put a media source (tape, CD, or DVD) in the VR if necessary.

2) Push the number on the VSCU numeric keypad to select PLAY VIDEO.

a) Make sure the cabin monitors lower from the stowed position.

b) Make sure you see video from the VR on the cabin monitors.

3) Push the STOP button on the VSCU.

4) Push the number on the VSCU numeric keypad to select SCREENS OFF.

a) Make sure the monitors raise to the stowed position.

(e) Push the power button on the VSCU to the off position.

(f) Close the access door for the video control center if necessary.

ECCN 9E991 BOEING PROPRIETARY - See title page for details

LOM 402, 404, 406, 407, 420

SUBTASK 23-32-13-710-002

(2) Do this test of the monitor:

(a) Get access to the video control center.

(b) Push the SYST PWR button on the Video System Control Unit (VSCU) to the on position.

(c) Put a media source (tape, CD, or DVD) into video reproducer 1.

(d) Make the selections on the VSCU to show video from video reproducer 1 on the PSU monitor and the VSCU display.

1) Make sure that the monitor lowers from the stowed position.

2) Make sure the video from video reproducer 1 is shown on the monitor.

(e) Make the selections on the VSCU to stop video from video reproducer 1.

1) Make sure video reproducer 1 stops.

2) Make sure there is no video on the monitor.

3) Make sure the monitor returns to the stowed position.

(f) Push the EJECT button on the video reproducer.

(g) Remove the media source from the video reproducer.

(h) Push the power button on the VSCU.

(i) Close the access door for the video control center if necessary.

LOM 402, 404, 406, 407, 412, 415, 416, 420, 423, 424

SUBTASK 23-32-13-860-015

(3) If it is necessary, do this task for the FASTEN-SEAT-BELT / NO SMOKING signs: (Information Sign - Lamp Replacement, TASK 33-25-00-960-804).

SUBTASK 23-32-13-860-007

(4) If it is necessary, do this task: Remove Electrical Power, TASK 24-22-00-860-812.

END OF TASK

ECCN 9E991 BOEING PROPRIETARY - See title page for details

WALL MOUNTED LCD MONITOR - MAINTENANCE PRACTICES

1. General

A. This procedure has these tasks:

(1) Wall Mounted LCD Monitor Deactivation.

(2) Wall Mounted LCD Monitor Activation.

TASK 23-32-14-040-801

2. Wall Mounted LCD Monitor - Deactivation

(Figure 201)

A. General

(1) This procedure removes electrical power to the Wall Mounted LCD Monitor:

B. Location Zones

Zone	Area
211	Flight Compartment - Left
212	Flight Compartment - Right
231	Forward Passenger Compartment - Forward Entry Door to Sta 663.75 - Left
232	Forward Passenger Compartment - Forward Entry Door to Sta 663.75 - Right

C. Procedure

SUBTASK 23-32-14-860-009

(1) Open these circuit breakers and install safety tags:

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
LOM 402, 406, 407			
C	5	C01450	ENT VID CONT CENTER DC
C	7	C01451	ENT VID CONT CENTER AC
D	5	C01452	VIDEO 1

LOM 402, 406, 407, 420

D. Wall Mounted LCD Monitor - Tryout

NOTE: This tryout is to make sure the Wall Mounted LCD Monitor is in a zero energy state.

SUBTASK 23-32-14-860-011

(1) Make sure that these circuit breakers are open and have safety tags:

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
LOM 402, 406, 407			
C	5	C01450	ENT VID CONT CENTER DC
C	7	C01451	ENT VID CONT CENTER AC
D	5	C01452	VIDEO 1

LOM 402, 406, 407, 420

SUBTASK 23-32-14-700-001

(2) At the video control center do the following steps:

(a) Push the SYST PWR button on the video system control unit (VSCU) to the on position.

(b) Put a media source into the video reproducer.

ECCN 9E991 BOEING PROPRIETARY - See title page for details

(c) Push the PLAY button on the video reproducer.

1) Make sure video from the video reproducer does not show on the monitors.

——— END OF TASK ———

ECCN 9E991 BOEING PROPRIETARY - See title page for details

**PASSENGER COMPARTMENT
(EXAMPLE)**

2381626 S0000544327_V1

**Wall Mounted LCD Monitor
Figure 201/23-32-14-990-805 (Sheet 1 of 2)**

ECCN 9E991 BOEING PROPRIETARY - See title page for details

DV COMPARTMENT

2381636 S0000544328_V1

Wall Mounted LCD Monitor
Figure 201/23-32-14-990-805 (Sheet 2 of 2)

ECCN 9E991 BOEING PROPRIETARY - See title page for details

TASK 23-32-14-440-801

3. Wall Mounted LCD Monitor - Activation

(Figure 201)

A. General

(1) This procedure adds electrical power to the Wall Mounted LCD Monitor.

B. Location Zones

Zone	Area
211	Flight Compartment - Left
212	Flight Compartment - Right
231	Forward Passenger Compartment - Forward Entry Door to Sta 663.75 - Left
232	Forward Passenger Compartment - Forward Entry Door to Sta 663.75 - Right

C. Procedure

SUBTASK 23-32-14-860-014

(1) Remove the safety tags and close these circuit breakers:

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
LOM 402, 406, 407			
C	5	C01450	ENT VID CONT CENTER DC
C	7	C01451	ENT VID CONT CENTER AC
D	5	C01452	VIDEO 1

END OF TASK

ECCN 9E991 BOEING PROPRIETARY - See title page for details

WALL-MOUNTED LCD MONITOR - REMOVAL/INSTALLATION

1. General

A. This procedure has two tasks:

(1) A removal of the wall-mounted LCD monitor.

(2) A installation of the wall-mounted LCD monitor.

TASK 23-32-14-000-801

2. Wall-Mounted LCD Monitor Removal

(Figure 401)

A. General

(1) This task is the removal procedure for the wall-mounted LCD monitor.

B. Location Zones

Zone	Area
231	Forward Passenger Compartment - Forward Entry Door to Sta 663.75 - Left
232	Forward Passenger Compartment - Forward Entry Door to Sta 663.75 - Right

C. Prepare for the Removal

SUBTASK 23-32-14-860-016

(1) Open these circuit breakers and install safety tags:

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
LOM 402, 406, 407			
C	5	C01450	ENT VID CONT CENTER DC
C	7	C01451	ENT VID CONT CENTER AC
D	5	C01452	VIDEO 1

LOM 402, 406, 407, 420

D. Removal Procedure

SUBTASK 23-32-14-020-002

(1) Do these steps to remove the wall-mounted LCD monitor [1]:

(a) Release the latches that hold the front cover of the monitor shroud [6] to the wall-mounted LCD monitor [1].

NOTE: Put the 1/16 inch awl, allen wrench or paper clip into the access holes in the LCD shroud.

(b) Remove the four screws [9], washers [8] and spacers [7] that attach the plate [4] to the mounting surface.

(c) Remove the eight screws [5] that attach the wall-mounted LCD monitor [1] to the plate [4].

(d) Remove the two electrical connectors [2] and [3] from the wall-mounted LCD monitor [1].

(e) Remove the wall-mounted LCD monitor [1].

END OF TASK

ECCN 9E991 BOEING PROPRIETARY - See title page for details

Wall-Mounted LCD Monitor Installation
Figure 401/23-32-14-990-801

ECCN 9E991 BOEING PROPRIETARY - See title page for details

TASK 23-32-14-400-801

3. Wall-Mounted LCD Monitor Installation

(Figure 401)

A. General

(1) This task is the installation procedure for the wall-mounted LCD monitor.

B. References

Reference	Title
24-22-00-860-811	Supply Electrical Power (P/B 201)
24-22-00-860-812	Remove Electrical Power (P/B 201)

C. Location Zones

Zone	Area
231	Forward Passenger Compartment - Forward Entry Door to Sta 663.75 - Left
232	Forward Passenger Compartment - Forward Entry Door to Sta 663.75 - Right

D. Installation Procedure

SUBTASK 23-32-14-860-008

(1) If it is necessary, do this task: Supply Electrical Power, TASK 24-22-00-860-811.

SUBTASK 23-32-14-860-006

(2) Make sure that these circuit breakers are open and have safety tags:

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
LOM 402, 406, 407			
C	5	C01450	ENT VID CONT CENTER DC
C	7	C01451	ENT VID CONT CENTER AC
D	5	C01452	VIDEO 1

LOM 402, 406, 407, 420

SUBTASK 23-32-14-420-002

(3) Do these steps to install the wall-mounted LCD monitor [1]:

(a) Make sure that these circuit breakers are open and have safety tags:

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
LOM 402, 406, 407			
C	5	C01450	ENT VID CONT CENTER DC
C	7	C01451	ENT VID CONT CENTER AC
D	5	C01452	VIDEO 1

LOM 402, 406, 407, 420

(b) Connect the two electrical connectors [2] and [3] to the wall-mounted LCD monitor [1].

(c) Put the wall-mounted LCD monitor [1] in its location over the screw holes on the plate [4].

(d) Install the eight screws [5] that attach the wall-mounted LCD monitor [1] to the plate [4].

(e) Install the four screws [9], washers [8] and spacers [7] that attach the plate [4] to the mounting surface.

(f) Install the LCD shroud [6] to the wall-mounted LCD monitor [1].

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SUBTASK 23-32-14-760-001

(4) Remove the safety tags and close these circuit breakers:

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
LOM 402, 406, 407			
C	5	C01450	ENT VID CONT CENTER DC
C	7	C01451	ENT VID CONT CENTER AC
D	5	C01452	VIDEO 1

LOM 402, 406, 407, 420

E. Installation Test

SUBTASK 23-32-14-710-007

(1) Do this test of the wall-mounted LCD monitor [1]:

(a) Get access to the video control center.

(b) Push the SYST PWR button on the video system control unit (VSCU) to the on position.

(c) Put a media source (tape, CD, or DVD) into video reproducer 1.

(d) Make the selections on the VSCU to show video from video reproducer 1 on the wall-mounted LCD monitor and the VSCU display.

1) Make sure the video from video reproducer 1 is shown on the monitor.

(e) Make the selections on the VSCU to stop video from video reproducer 1.

1) Make sure video reproducer 1 stops.

2) Make sure there is no video on the monitor.

(f) Push the EJECT button on the video reproducer.

(g) Remove the media source from the video reproducer.

(h) Push the power button on the VSCU.

(i) Close the access door for the video control center if necessary.

SUBTASK 23-32-14-860-007

(2) If it is necessary, do this task: Remove Electrical Power, TASK 24-22-00-860-812.

END OF TASK

ECCN 9E991 BOEING PROPRIETARY - See title page for details

PASSENGER ENTERTAINMENT SYSTEM - MAINTENANCE PRACTICES

1. General

A. This procedure has these tasks:

(1) Passenger Entertainment System Deactivation.

(2) Passenger Entertainment System Activation.

TASK 23-34-00-040-801

2. Passenger Entertainment System - Deactivation

A. General

(1) This procedure removes electrical power to the Passenger Entertainment System.

B. Tools/Equipment

Reference	Description
STD-6722	Passenger Headset

C. Location Zones

Zone	Area
117	Electrical and Electronics Compartment - Left
118	Electrical and Electronics Compartment - Right
211	Flight Compartment - Left
212	Flight Compartment - Right
231	Forward Passenger Compartment - Forward Entry Door to Sta 663.75 - Left
232	Forward Passenger Compartment - Forward Entry Door to Sta 663.75 - Right
241	Aft Passenger Compartment - Station 663.75 to Aft Pressure Bulkhead - Left
242	Aft Passenger Compartment - Station 663.75 to Aft Pressure Bulkhead - Right

D. Access Panels

Number	Name/Location
117A	Electronic Equipment Access Door

E. Passenger Entertainment System Deactivation

SUBTASK 23-34-00-860-006

(1) Open this circuit breaker and install safety tag:

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
LOM 402, 406, 407, 426			
C	8	C01456	ENTERTAINMENT AUDIO

LOM 402, 406, 407, 420, 426

F. Passenger Entertainment System - Tryout

NOTE: This tryout is to make sure the Passenger Entertainment System is in a zero energy state.

SUBTASK 23-34-00-860-008

(1) Make sure that this circuit breaker is open and has safety tag:

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
LOM 402, 406, 407, 426			

ECCN 9E991 BOEING PROPRIETARY - See title page for details

LOM 402, 406, 407, 426 (Continued)

(Continued)

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
C	8	C01456	ENTERTAINMENT AUDIO

LOM 402, 406, 407, 420, 426

SUBTASK 23-34-00-860-010

(2) Do the following steps to make sure that power has been removed:

(a) Push the IFE/PASS SEAT switch, on the P5 pilot's overhead panel, to the ON position.

LOM 402, 406, 407, 426

(b) Push the ENTERTAINMENT ON/OFF button, on the forward Attendant's panel, to the ON position.

1) Make sure the switch light does not come on.

LOM 402, 406, 407, 420, 426

(c) Open this access panel:

Number	Name/Location
117A	Electronic Equipment Access Door

1) Make sure that the display screens are blank and LED lights are not illuminated on the audio entertainment player.

(d) Connect a passenger headset, STD-6722, to the headphone jack at any seat.

1) Make sure that no audio is heard.

——— END OF TASK ———

TASK 23-34-00-440-801

3. Passenger Entertainment System - Activation

A. General

(1) This procedure adds electrical power to the Passenger Entertainment System.

B. Location Zones

Zone	Area
117	Electrical and Electronics Compartment - Left
118	Electrical and Electronics Compartment - Right
211	Flight Compartment - Left
212	Flight Compartment - Right
231	Forward Passenger Compartment - Forward Entry Door to Sta 663.75 - Left
232	Forward Passenger Compartment - Forward Entry Door to Sta 663.75 - Right
241	Aft Passenger Compartment - Station 663.75 to Aft Pressure Bulkhead - Left
242	Aft Passenger Compartment - Station 663.75 to Aft Pressure Bulkhead - Right

C. Passenger Entertainment System Activation

SUBTASK 23-34-00-860-013

(1) Set the IFE/PASS SEAT switch, on the P5 pilot's overhead panel, to the OFF position.

ECCN 9E991 BOEING PROPRIETARY - See title page for details

LOM 402, 406, 407, 426

SUBTASK 23-34-00-860-014

(2) Push the ENTERTAINMENT ON/OFF button on forward Attendant's panel to the OFF position.

LOM 402, 406, 407, 420, 426

SUBTASK 23-34-00-860-011

(3) Remove the safety tag and close this circuit breaker:

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
LOM 402, 406, 407, 426			
C	8	C01456	ENTERTAINMENT AUDIO

END OF TASK

ECCN 9E991 BOEING PROPRIETARY - See title page for details

PASSENGER ENTERTAINMENT SYSTEM - ADJUSTMENT/TEST

1. General

A. This procedure has one task: an operational test of the passenger audio system. The test will make sure that the system operates correctly.

TASK 23-34-00-710-801

2. Passenger Entertainment System - Operational Test

A. References

Reference	Title
23-31-00-740-801	Passenger Address System - Operational Test (P/B 501)
24-22-00-860-811	Supply Electrical Power (P/B 201)

B. Location Zones

Zone	Area
117	Electrical and Electronics Compartment - Left
118	Electrical and Electronics Compartment - Right
231	Forward Passenger Compartment - Forward Entry Door to Sta 663.75 - Left
232	Forward Passenger Compartment - Forward Entry Door to Sta 663.75 - Right
241	Aft Passenger Compartment - Station 663.75 to Aft Pressure Bulkhead - Left
242	Aft Passenger Compartment - Station 663.75 to Aft Pressure Bulkhead - Right

C. Prepare for the Test

SUBTASK 23-34-00-860-004

(1) If it is necessary, do this task: Supply Electrical Power, TASK 24-22-00-860-811.

SUBTASK 23-34-00-710-015

(2) Do these steps to prepare for the test:

(a) Make sure that the passenger address system is serviceable (TASK 23-31-00-740-801).

(b) Make sure that the ENTERTAINMENT button, on the P13 forward attendant's panel, is set to the OFF position.

NOTE: Button may be labeled as IFE or AUDIO.

D. Passenger Entertainment System Operational Test

SUBTASK 23-34-00-710-002

(1) Do this test of the Passenger Entertainment System (PES):

(a) Push the IFE/PASS SEAT switch, on the P5 pilot's overhead panel, to the ON position.

LOM 402, 406, 407, 426

(b) Push the ENTERTAINMENT button, on the P13 forward attendant's panel, to the ON position.

1) Make sure that the switch light comes on.

(c) Connect headphones to the headphone jack at a seat.

LOM 402, 406, 407, 420, 426

(d) Make sure that the volume control on the Passenger Control Unit (PCU) changes the volume level in the headphones.

(e) Make sure that the audio heard on the PCU agrees with the channel assignment data in the inflight magazine.

ECCN 9E991 BOEING PROPRIETARY - See title page for details

SUBTASK 23-34-00-710-003

(2) Do this test of the PA announcement:

(a) Make the applicable selections on the PRAM for emergency messages (TASK 23-31-00-740-801).

1) Make sure that the PES audio stops.

2) Make sure that the announcement is heard.

(b) Make an announcement from an attendant's handset.

1) Make sure that the announcement from the attendant's handset is heard on the PA speakers.

2) Make sure that the announcement from the attendant's handset is heard on the headphones.

(c) Make an announcement from a pilot's station.

1) Make sure that the announcement from the pilot's station is heard on the PA speakers.

2) Make sure that the announcement from the pilot's station is heard on the headphones.

E. Put the Airplane Back to Its Usual Condition

LOM 402, 406, 407, 426

SUBTASK 23-34-00-800-001

(1) Push the ENTERTAINMENT button, on the P13 forward attendant's panel, to the OFF position.

NOTE: Button may be labeled as IFE or AUDIO.

(a) Make sure that the switch light turns off.

LOM 402, 406, 407, 420, 426

SUBTASK 23-34-00-860-005

(2) Push the IFE/PASS SEAT switch, on P5 pilot's overhead panel, to the OFF position.

END OF TASK

ECCN 9E991 BOEING PROPRIETARY - See title page for details

AUDIO ENTERTAINMENT PLAYER - MAINTENANCE PRACTICES

1. General

A. This procedure contains:

(1) A task to remove a compact disc (CD) from the CD module of the audio entertainment player (AEP).

(2) A task to install a CD into the CD module of the AEP.

(3) A task to clean the CD.

(4) A task to remove the audio entertainment player.

(5) A task to install the audio entertainment player.

TASK 23-34-01-000-801

2. Compact Disc (CD) Removal

A. Location Zones

Zone	Area
117	Electrical and Electronics Compartment - Left
118	Electrical and Electronics Compartment - Right

B. Access Panels

Number	Name/Location
117A	Electronic Equipment Access Door

C. Removal Procedure

SUBTASK 23-34-01-010-001

(1) Open this access panel:

Number	Name/Location
117A	Electronic Equipment Access Door

LOM 426

SUBTASK 23-34-01-020-001

(2) Remove the compact disc (CD) from the CD module of the audio entertainment player (AEP):

(a) While you push the latch below the front panel, pull the front panel out from the AEP.

(b) Remove the CD from the CD module.

(c) Carefully push the front panel into the AEP.

LOM 402, 404, 406, 407, 420

SUBTASK 23-34-01-020-005

(3) Remove the compact disc (CD) from the CD module of the audio entertainment player (AEP):

(a) While you press upward on the latch located just below the front panel of the AEP, pull the CD drawer out of the AEP.

(b) Push the disk shaft (marked PUSH) and remove the CD.

(c) Remove the CD from the CD module.

(d) Carefully push the front panel into the AEP.

END OF TASK

LOM 402, 404, 406, 407, 420, 426

ECCN 9E991 BOEING PROPRIETARY - See title page for details

TASK 23-34-01-400-801

3. Compact Disc (CD) Installation

A. Location Zones

Zone	Area
117	Electrical and Electronics Compartment - Left
118	Electrical and Electronics Compartment - Right

B. Access Panels

Number	Name/Location
117A	Electronic Equipment Access Door

C. Installation Procedure

SUBTASK 23-34-01-010-002

(1) Open this access panel:

Number	Name/Location
117A	Electronic Equipment Access Door

SUBTASK 23-34-01-160-002

(2) If necessary, clean the compact disc (CD). To clean it, do this task: Clean Compact Disc, TASK 23-34-01-100-802.

LOM 426

SUBTASK 23-34-01-420-001

(3) Install the compact disc (CD) into the CD module of the audio entertainment player (AEP):

(a) Do this step if the front panel is not open:

1) While you push the latch below the front panel, pull the front panel out from the AEP.

(b) Install the CD into the CD module.

(c) Carefully push the front panel into the AEP.

LOM 402, 404, 406, 407, 420

SUBTASK 23-34-01-420-005

(4) Install the compact disc (CD) into the CD module of the audio entertainment player (AEP):

(a) Do this step if the front panel is not open:

1) While you press upward on the latch located just below the front panel of the AEP, pull the CD drawer out of the AEP.

(b) Install the CD into the CD module as far as it can go.

(c) Carefully push the front panel into the AEP until you hear it click.

END OF TASK

LOM 402, 404, 406, 407, 420, 426

TASK 23-34-01-100-802

4. Clean Compact Disc

A. General

(1) This task shows how to clean the compact disc.

ECCN 9E991 BOEING PROPRIETARY - See title page for details

B. Consumable Materials

Reference	Description	Specification
G00034	Cotton Wiper - Process Cleaning Absorbent Wiper (Cheesecloth, Gauze)	AMS3819 Class 1 Grade A or B Form 1 (Supersede BMS15-5 CL A)

C. Location Zones

Zone	Area
117	Electrical and Electronics Compartment - Left
118	Electrical and Electronics Compartment - Right

D. Procedure

SUBTASK 23-34-01-160-003

(1) Do these steps to clean the compact disc (CD):

(a) Hold the CD with one hand, with the CD label face down.

(b) Apply two to three drops of water to a clean cotton wiper, G00034.

> **CAUTION** DO NOT USE TOO MUCH PRESSURE ON THE CD ROM. DO NOT USE A DIRTY CLOTH TO CLEAN THE CD ROM. DO NOT CLEAN THE CD ROM WITH A CLOTH IN A CIRCULAR DIRECTION. DAMAGE TO THE CD ROM CAN OCCUR.

(c) Wipe the CD from the center to the edge of the recording surface with the cotton wiper, G00034.

(d) Use an air blower to blow any dirt or dust that may remain on the CD.

——— END OF TASK ———

TASK 23-34-01-000-803

5. Audio Entertainment Player Removal

(Figure 201)

A. General

(1) This procedure contains a task to remove the audio entertainment player (AEP). The AEP is also referred to as the audio reproducer unit (ARU). For consistency, this procedure will use the term AEP when referring to the audio reproducer unit.

(2) The audio entertainment player is installed on the E3-2 shelf in the main equipment center.

(a) When you remove the audio entertainment player, do not supply the electrical power to the audio entertainment system.

(b) A lever that is part of the handle holds the audio entertainment player in the E3 rack mount.

B. References

Reference	Title
20-10-07-000-801	E/E Box Removal (P/B 201)

C. Location Zones

Zone	Area
117	Electrical and Electronics Compartment - Left
118	Electrical and Electronics Compartment - Right

ECCN 9E991 BOEING PROPRIETARY - See title page for details

D. Access Panels

Number	Name/Location
117A	Electronic Equipment Access Door

E. Removal Procedure

SUBTASK 23-34-01-860-001

(1) Open this circuit breaker and install safety tag:

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
LOM 402, 406, 407, 426			
C	8	C01456	ENTERTAINMENT AUDIO

LOM 402, 404, 406, 407, 420, 426

This circuit breaker is inoperative and should remain open:

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
LOM 404			
C	8	C01456	ENTERTAINMENT AUDIO (INOP)

LOM 402, 404, 406, 407, 420, 426

SUBTASK 23-34-01-010-005

(2) Open this access panel:

Number	Name/Location
117A	Electronic Equipment Access Door

SUBTASK 23-34-01-020-004

(3) To remove the audio entertainment player [1], do this task: E/E Box Removal, TASK 20-10-07-000-801.

——— END OF TASK ———

ECCN 9E991 BOEING PROPRIETARY - See title page for details

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Audio Entertainment Player Maintenance Practices
Figure 201/23-34-01-990-801

ECCN 9E991 BOEING PROPRIETARY - See title page for details

TASK 23-34-01-400-803

6. Audio Entertainment Player Installation

(Figure 201)

A. General

(1) This procedure contains a task to install the audio entertainment player. The AEP is also referred to as the audio reproducer unit (ARU). For consistency, this procedure will use the term AEP when referring to the audio reproducer unit.

(2) When you install the audio entertainment player, do not supply the electrical power to the audio entertainment system.

(3) Make sure that the IFE/PASS SEAT switch on pilot's overhead panel P5 is set to the OFF position.

LOM 402, 404, 406, 407, 426

(4) Make sure that the ENTERTAINMENT ON/OFF button on forward Attendant's panel to the OFF position.

LOM 402, 404, 406, 407, 420, 426

B. References

Reference	Title
20-10-07-400-801	E/E Box Installation (P/B 201)
23-34-00-710-801	Passenger Entertainment System - Operational Test (P/B 501)
24-22-00-860-811	Supply Electrical Power (P/B 201)
24-22-00-860-812	Remove Electrical Power (P/B 201)

C. Location Zones

Zone	Area
117	Electrical and Electronics Compartment - Left
118	Electrical and Electronics Compartment - Right
211	Flight Compartment - Left
212	Flight Compartment - Right

D. Access Panels

Number	Name/Location
117A	Electronic Equipment Access Door

E. Installation Procedure

SUBTASK 23-34-01-860-014

(1) Make sure that this circuit breaker is open and has safety tag:

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
LOM 402, 406, 407, 426			
C	8	C01456	ENTERTAINMENT AUDIO

LOM 402, 404, 406, 407, 420, 426

This circuit breaker is inoperative and should remain open:

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
LOM 404			

ECCN 9E991 BOEING PROPRIETARY - See title page for details

LOM 404 (Continued)

(Continued)

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
C	8	C01456	ENTERTAINMENT AUDIO (INOP)

LOM 402, 404, 406, 407, 420, 426

SUBTASK 23-34-01-420-004

(2) To install the audio entertainment player [1], do this task: E/E Box Installation, TASK 20-10-07-400-801.

SUBTASK 23-34-01-010-006

(3) Close this access panel:

Number	Name/Location
117A	Electronic Equipment Access Door

SUBTASK 23-34-01-860-003

(4) Remove the safety tag and close this circuit breaker:

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
LOM 402, 406, 407, 426			
C	8	C01456	ENTERTAINMENT AUDIO

LOM 402, 404, 406, 407, 420, 426

This circuit breaker is inoperative and should remain open:

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
LOM 404			
C	8	C01456	ENTERTAINMENT AUDIO (INOP)

LOM 402, 406, 407, 420

F. Installation Test

SUBTASK 23-34-01-860-013

(1) If it is necessary, do this task: Supply Electrical Power, TASK 24-22-00-860-811.

SUBTASK 23-34-01-710-001

(2) Do this task: Passenger Entertainment System - Operational Test, TASK 23-34-00-710-801.

SUBTASK 23-34-01-860-012

(3) If it is necessary, do this task: Remove Electrical Power, TASK 24-22-00-860-812.

END OF TASK

ECCN 9E991 BOEING PROPRIETARY - See title page for details

AUDIO MULTIPLEXER - REMOVAL/INSTALLATION

1. General

A. This procedure has these tasks:

(1) A removal of the audio multiplexer.

(2) An installation of the audio multiplexer.

TASK 23-34-02-000-801

2. Audio Multiplexer Removal

(Figure 401)

A. General

(1) This task is the removal procedure for the audio multiplexer.

LOM 402, 404, 406, 407, 426

(2) The audio multiplexer is installed on the E4-2 shelf in the main equipment center.

(a) When you remove the audio multiplexer, do not supply the electrical power to the audio entertainment system.

(b) A lever that is part of the handle holds the audio multiplexer in the E4 rack mount.

LOM 402, 404, 406, 407, 420, 426

B. References

Reference	Title
20-10-07-000-801	E/E Box Removal (P/B 201)

C. Location Zones

Zone	Area
117	Electrical and Electronics Compartment - Left
118	Electrical and Electronics Compartment - Right
211	Flight Compartment - Left
212	Flight Compartment - Right

D. Access Panels

Number	Name/Location
117A	Electronic Equipment Access Door

E. Removal Procedure

SUBTASK 23-34-02-860-001

(1) Open this circuit breaker and install safety tag:

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
LOM 402, 406, 407, 426			
C	8	C01456	ENTERTAINMENT AUDIO

LOM 402, 404, 406, 407, 420, 426

This circuit breaker is inoperative and should remain open:

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
LOM 404			

ECCN 9E991 BOEING PROPRIETARY - See title page for details

LOM 404 (Continued)

(Continued)

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
C	8	C01456	ENTERTAINMENT AUDIO (INOP)

LOM 402, 404, 406, 407, 420, 426

SUBTASK 23-34-02-010-001

(2) Open this access panel:

Number	Name/Location
117A	Electronic Equipment Access Door

SUBTASK 23-34-02-020-001

(3) To remove the audio multiplexer [1], do this task: E/E Box Removal, TASK 20-10-07-000-801.

——— **END OF TASK** ———

ECCN 9E991 BOEING PROPRIETARY - See title page for details

ELECTRONIC EQUIPMENT RACKS, E2, E3 AND E4

A

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Audio Multiplexer Installation
Figure 401/23-34-02-990-801

ECCN 9E991 BOEING PROPRIETARY - See title page for details

TASK 23-34-02-400-801

3. Audio Multiplexer Installation

(Figure 401)

A. General

(1) This task is the installation procedure for the audio multiplexer.

B. References

Reference	Title
20-10-07-400-801	E/E Box Installation (P/B 201)
23-34-00-710-801	Passenger Entertainment System - Operational Test (P/B 501)
23-34-03-700-801	Audio Multiplexer Memory Update (P/B 201)
24-22-00-860-811	Supply Electrical Power (P/B 201)
24-22-00-860-812	Remove Electrical Power (P/B 201)

C. Expendables/Parts

AMM Item	Description	AIPC Reference	AIPC Effectivity
1	Multiplexer	23-34-02-05-005	LOM 406
		23-34-02-05A-010	LOM 402, 404, 407, 420
		23-34-02-12-050	LOM 426

D. Location Zones

Zone	Area
117	Electrical and Electronics Compartment - Left
118	Electrical and Electronics Compartment - Right
211	Flight Compartment - Left
212	Flight Compartment - Right

E. Access Panels

Number	Name/Location
117A	Electronic Equipment Access Door

F. Installation Procedure

SUBTASK 23-34-02-420-001

(1) To install the audio multiplexer [1], do this task: E/E Box Installation, TASK 20-10-07-400-801.

SUBTASK 23-34-02-010-002

(2) Close this access panel:

Number	Name/Location
117A	Electronic Equipment Access Door

SUBTASK 23-34-02-860-002

(3) Remove the safety tag and close this circuit breaker:

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
LOM 402, 406, 407, 426			
C	8	C01456	ENTERTAINMENT AUDIO

ECCN 9E991 BOEING PROPRIETARY - See title page for details

LOM 402, 406, 407, 426 (Continued)

(Continued)

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
LOM 402, 404, 406, 407, 420, 426			

This circuit breaker is inoperative and should remain open:

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
LOM 404			
C	8	C01456	ENTERTAINMENT AUDIO (INOP)

LOM 402, 404, 406, 407, 420, 426

G. Audio Multiplexer Memory Update

LOM 402, 404, 406, 407, 420

NOTE: Channel assignment and seat layout data is stored in both the audio multiplexer and the BITE panel. If you replace the audio multiplexer, you must transfer the data from the BITE panel to the new audio multiplexer.

LOM 402, 404, 406, 407, 420, 426

SUBTASK 23-34-02-860-010

(1) If it is necessary, do this task: Supply Electrical Power, TASK 24-22-00-860-811.

LOM 402, 404, 406, 407, 420

SUBTASK 23-34-02-860-004

(2) Do this task: Audio Multiplexer Memory Update, TASK 23-34-03-700-801

LOM 402, 406, 407, 420

H. Installation Test

SUBTASK 23-34-02-710-001

(1) Do this task: Passenger Entertainment System - Operational Test, TASK 23-34-00-710-801.

SUBTASK 23-34-02-860-009

(2) If it is necessary, do this task: Remove Electrical Power, TASK 24-22-00-860-812.

END OF TASK

ECCN 9E991 BOEING PROPRIETARY - See title page for details

AUDIO BITE PANEL - MAINTENANCE PRACTICES

1. General

A. This procedure has three tasks:

(1) An update of the audio multiplexer memory.

(2) An update of the BITE panel memory.

(3) A BITE test of the passenger entertainment system.

B. Both the BITE panel and the multiplexer contain an EEPROM (electrically erasable and programmable read only memory), which stores cabin zoning and system setting data required for proper system operation. The multiplexer's EEPROM data is used for normal system operation, while the BITE panel's data is used as a backup copy.

C. The first two tasks are used to transfer data from one component to the new component any time a new component is installed.

D. The BITE panel is located above right aft entry door.

TASK 23-34-03-700-801

2. Audio Multiplexer Memory Update

A. General

(1) This procedure transfers the EEPROM data of the BITE panel to the EEPROM in the audio multiplexer.

(2) These steps overwrite any contents of the audio multiplexer's existing memory with the contents of the BITE panel memory, and cannot be reversed.

B. References

Reference	Title
24-22-00-860-811	Supply Electrical Power (P/B 201)
24-22-00-860-812	Remove Electrical Power (P/B 201)

C. Location Zones

Zone	Area
242	Aft Passenger Compartment - Station 663.75 to Aft Pressure Bulkhead - Right

D. Procedure

SUBTASK 23-34-03-860-003

(1) If it is necessary, do this task: Supply Electrical Power, TASK 24-22-00-860-811.

SUBTASK 23-34-03-750-001

(2) Do these steps to update the audio multiplexer memory:

(a) Push the ENTERTAINMENT IFE button to the on position.

(b) Push and hold the INITIAL SET button on the BITE panel.

(c) Push the CL button.

(d) Release the INITIAL SET button.

(e) Make sure you see DATA EEPROM > MM PASS CODE PLEASE on the BITE panel display.

(f) Push this sequence of keys to enter the PASS CODE: '8', '1', '3', '1'.

(g) Push the MODE SELECT button.

ECCN 9E991 BOEING PROPRIETARY - See title page for details

1) Make sure you see XXXXXXXX SND/SEL EXIT/ENT on the BITE panel display.

NOTE: XXXXXXXX is the configuration number assigned when the airplane data was entered into the BITE panel.

(h) Push the MODE SELECT button.

1) Make sure you see SENDING CNF DATA PLEASE WAIT L0 on the BITE panel display.

NOTE: During the transfer, L0 will change to L1, L2, L3, and L4. When the BITE panel finishes the transfer, it will return to normal operating mode.

(i) Do this task: Passenger Entertainment System BITE Test, TASK 23-34-03-700-803.

SUBTASK 23-34-03-860-004

(3) If it is necessary, do this task: Remove Electrical Power, TASK 24-22-00-860-812.

——— END OF TASK ———

TASK 23-34-03-700-802

3. BITE Panel Memory Update

A. General

(1) This task transfers the EEPROM data of the audio multiplexer to the EEPROM in the BITE panel.

(2) These steps overwrite any contents of the BITE panel's existing memory with the contents of the multiplexer's memory. It cannot be reversed.

B. References

Reference	Title
24-22-00-860-811	Supply Electrical Power (P/B 201)
24-22-00-860-812	Remove Electrical Power (P/B 201)

C. Location Zones

Zone	Area
242	Aft Passenger Compartment - Station 663.75 to Aft Pressure Bulkhead - Right

D. Procedure

SUBTASK 23-34-03-860-006

(1) If it is necessary, do this task: Supply Electrical Power, TASK 24-22-00-860-811.

SUBTASK 23-34-03-750-002

(2) Do these steps to update the BITE Panel Memory:

(a) Set the ENTERTAINMENT IFE switch on the forward attendant's panel to the on position.

(b) Push and hold the INITIAL SET button on the BITE panel.

(c) Push the RV button.

(d) Release the INITIAL SET button.

1) Make sure you see DATA MM > EEPROM PASS CODE PLEASE on the BITE display.

(e) Push this sequence of buttons to enter the PASS CODE: '8', '1', '3', '1'.

(f) Push the MODE SELECT button.

1) Make sure you see RECEIVE SURE? RCV/SEL EXIT/ENT on the BITE display.

(g) Push the MODE SELECT button.

ECCN 9E991 BOEING PROPRIETARY - See title page for details

1) Make sure you see SENDING CNF DATA PLEASE WAIT L0 on the BITE display.

NOTE: During the transfer, L0 will change to L1, L2, L3, and L4. When the BITE panel finishes the transfer, it will return to normal operating mode.

(h) Do this task: do this task: Passenger Entertainment System BITE Test, TASK 23-34-03-700-803.

SUBTASK 23-34-03-860-005

(3) If it is necessary, do this task: Remove Electrical Power, TASK 24-22-00-860-812.

END OF TASK

TASK 23-34-03-700-803

4. Passenger Entertainment System BITE Test

A. References

Reference	Title
24-22-00-860-811	Supply Electrical Power (P/B 201)
24-22-00-860-812	Remove Electrical Power (P/B 201)

B. Location Zones

Zone	Area
242	Aft Passenger Compartment - Station 663.75 to Aft Pressure Bulkhead - Right

C. Procedure

SUBTASK 23-34-03-860-012

(1) If it is necessary, do this task: Supply Electrical Power, TASK 24-22-00-860-811.

SUBTASK 23-34-03-740-001

(2) Do these steps to do a BITE test of the passenger entertainment system:

(a) Push the ENTERTAINMENT IFE button to the on position.

(b) Push and hold the BITE button on the BITE panel.

(c) Push the MODE SELECT button.

(d) Release the BITE button.

1) Make sure you see BITE START SURE? PASS CODE PLEASE on the BITE display.

(e) Push this sequence of buttons to enter the PASS CODE: '8', '1', '3', '1'.

(f) Push the MODE SELECT button.

1) Make sure you see BITE PLEASE WAIT EXIT/ENT on the BITE display.

(g) Wait for the BITE test to complete.

1) Make sure you see BITE OK PUSH ENT KEY on the BITE display.

NOTE: If a BITE error message is shown, push the NEXT button to view the next message, or the ENTER DATA button to exit BITE mode.

(h) Push the DATA ENTER button to exit BITE.

SUBTASK 23-34-03-860-011

(3) If it is necessary, do this task: Remove Electrical Power, TASK 24-22-00-860-812.

END OF TASK

ECCN 9E991 BOEING PROPRIETARY - See title page for details

AUDIO BITE PANEL - REMOVAL/INSTALLATION

1. General

A. This procedure has two tasks:

(1) A removal of the audio BITE panel.

(2) An installation of the audio BITE panel.

TASK 23-34-03-000-801

2. Audio BITE Panel Removal

(Figure 401)

A. General

(1) This task is the removal procedure for the BITE panel.

(2) The BITE panel is installed above the right aft entry door.

B. Location Zones

Zone	Area
242	Aft Passenger Compartment - Station 663.75 to Aft Pressure Bulkhead - Right

C. Removal Procedure

SUBTASK 23-34-03-020-001

(1) Do these steps to remove the audio BITE panel [1]:

(a) Open this circuit breaker and install safety tag:

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
LOM 402, 406, 407			
C	8	C01456	ENTERTAINMENT AUDIO
LOM 402, 404, 406, 407, 420			

This circuit breaker is inoperative and should remain open:

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
LOM 404			
C	8	C01456	ENTERTAINMENT AUDIO (INOP)

LOM 402, 404, 406, 407, 420

(b) Remove the four screws [3] from the cover [2].

(c) Remove the cover [2].

(d) Loosen the four quarter-turn fasteners on the front of the BITE panel [1].

(e) Pull the BITE panel [1] towards you to access the electrical connector.

(f) Remove the electrical connector from the BITE panel [1].

(g) Remove the BITE panel [1].

END OF TASK

ECCN 9E991 BOEING PROPRIETARY - See title page for details

BITE Panel Installation
Figure 401/23-34-03-990-801

ECCN 9E991 BOEING PROPRIETARY - See title page for details

TASK 23-34-03-400-801

3. Audio BITE Panel Installation

(Figure 401)

A. General

(1) This task is the installation procedure for the BITE panel.

B. References

Reference	Title
23-34-03-700-802	BITE Panel Memory Update (P/B 201)
24-22-00-860-811	Supply Electrical Power (P/B 201)
24-22-00-860-812	Remove Electrical Power (P/B 201)

C. Location Zones

Zone	Area
242	Aft Passenger Compartment - Station 663.75 to Aft Pressure Bulkhead - Right

D. Procedure

SUBTASK 23-34-03-420-001

(1) Do these steps to install the audio BITE panel:

(a) Install the electrical connector to the BITE panel [1].

(b) Put the BITE panel [1] over the screw holes.

(c) Tighten the four quarter-turn fasteners on the front of the BITE panel [1].

(d) Install the cover [2].

(e) Install the four screws [3] in the cover [2].

SUBTASK 23-34-03-760-001

(2) Remove the safety tag and close this circuit breaker:

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
LOM 402, 406, 407			
C	8	C01456	ENTERTAINMENT AUDIO

LOM 402, 404, 406, 407, 420

This circuit breaker is inoperative and should remain open:

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
LOM 404			
C	8	C01456	ENTERTAINMENT AUDIO (INOP)

LOM 402, 404, 406, 407, 420

E. BITE Panel Memory Update

SUBTASK 23-34-03-860-014

(1) If it is necessary, do this task: Supply Electrical Power, TASK 24-22-00-860-811.

SUBTASK 23-34-03-750-003

(2) Do this task: BITE Panel Memory Update, TASK 23-34-03-700-802.

ECCN 9E991 BOEING PROPRIETARY - See title page for details

F. Installation Test

SUBTASK 23-34-03-710-001

(1) Do this test of the BITE panel:

(a) Push the ENTERTAINMENT IFE button on the forward attendant's panel to the on position.

(b) Push and hold the BITE button on the BITE panel.

(c) Push the MODE SELECT button.

(d) Release the BITE button.

1) Make sure you see BITE START SURE? PASS CODE PLEASE on the BITE display.

(e) Push this sequence of buttons to enter the PASS CODE: '8', '1', '3', '1'.

(f) Push the MODE SELECT button.

1) Make sure you see BITE PLEASE WAIT EXIT/ENT on the BITE display.

(g) Wait for the BITE test to complete.

1) Make sure you see BITE OK PUSH ENT KEY on the BITE display.

(h) Push the DATA ENTER button to exit BITE.

SUBTASK 23-34-03-860-013

(2) If it is necessary, do this task: Remove Electrical Power, TASK 24-22-00-860-812.

——— END OF TASK ———

ECCN 9E991 BOEING PROPRIETARY - See title page for details

SEAT ELECTRONICS BOX - REMOVAL/INSTALLATION

1. General

A. This procedure has two tasks:

(1) A removal of the seat electronics box.

(2) An installation of the seat electronics box.

TASK 23-34-04-000-801

2. Seat Electronics Box Removal

(Figure 401)

A. General

(1) This task is the removal procedure for the seat electronics box (SEB).

(2) An SEB is installed under each passenger seat group on the seat leg.

(a) When you remove the SEB, do not supply the electrical power to the audio system.

B. References

Reference	Title
20-40-12-000-802	ESDS Handling for Metal Encased Unit Removal (P/B 201)

C. Location Zones

Zone	Area
231	Forward Passenger Compartment - Forward Entry Door to Sta 663.75 - Left
232	Forward Passenger Compartment - Forward Entry Door to Sta 663.75 - Right
241	Aft Passenger Compartment - Station 663.75 to Aft Pressure Bulkhead - Left
242	Aft Passenger Compartment - Station 663.75 to Aft Pressure Bulkhead - Right

D. Removal Procedure

SUBTASK 23-34-04-860-001

(1) Open this circuit breaker and install safety tag:

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
LOM 402, 406, 407, 426			
C	8	C01456	ENTERTAINMENT AUDIO

LOM 402, 404, 406, 407, 420, 426

This circuit breaker is inoperative and should remain open:

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
LOM 404			
C	8	C01456	ENTERTAINMENT AUDIO (INOP)

LOM 402, 404, 406, 407, 420, 426

ECCN 9E991 BOEING PROPRIETARY - See title page for details

SUBTASK 23-34-04-840-001

CAUTION	DO NOT TOUCH THE SEAT ELECTRONICS BOX BEFORE YOU DO THE PROCEDURE FOR DEVICES THAT ARE SENSITIVE TO ELECTROSTATIC DISCHARGE. ELECTROSTATIC DISCHARGE CAN CAUSE DAMAGE TO THE SEAT ELECTRONICS BOX.

(2) Before you touch the seat electronics box (SEB) [1], do this task: ESDS Handling for Metal Encased Unit Removal, TASK 20-40-12-000-802.

SUBTASK 23-34-04-020-001

(3) Do these steps to remove the seat electronics box (SEB) [1]:

(a) Remove the scews [2] that attach the shroud [3] to the seat bracket.

(b) Remove the shroud [3].

(c) Disconnect the three electrical connectors [4] from the SEB receptacles.

(d) Pull the four push-pull knobs that attach the seat electronics box (SEB) [1] to the seat bracket.

(e) Remove the seat electronics box (SEB) [1] from the seat bracket.

——— END OF TASK ———

ECCN 9E991 BOEING PROPRIETARY - See title page for details

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Seat Electronics Box (SEB) Installation
Figure 401/23-34-04-990-801 (Sheet 1 of 3)

ECCN 9E991 BOEING PROPRIETARY - See title page for details

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Seat Electronics Box (SEB) Installation
Figure 401/23-34-04-990-801 (Sheet 2 of 3)

ECCN 9E991 BOEING PROPRIETARY - See title page for details

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Seat Electronics Box (SEB) Installation
Figure 401/23-34-04-990-801 (Sheet 3 of 3)

ECCN 9E991 BOEING PROPRIETARY - See title page for details

TASK 23-34-04-400-801

3. Seat Electronics Box Installation

(Figure 401)

A. General

(1) This task is the installation procedure for the seat electronics box (SEB).

B. References

Reference	Title
20-40-12-400-802	ESDS Handling for Metal Encased Unit Installation (P/B 201)
23-34-00-710-801	Passenger Entertainment System - Operational Test (P/B 501)
24-22-00-860-811	Supply Electrical Power (P/B 201)
24-22-00-860-812	Remove Electrical Power (P/B 201)

C. Location Zones

Zone	Area
231	Forward Passenger Compartment - Forward Entry Door to Sta 663.75 - Left
232	Forward Passenger Compartment - Forward Entry Door to Sta 663.75 - Right
241	Aft Passenger Compartment - Station 663.75 to Aft Pressure Bulkhead - Left
242	Aft Passenger Compartment - Station 663.75 to Aft Pressure Bulkhead - Right

D. Installation Procedure

SUBTASK 23-34-04-840-002

CAUTION DO NOT TOUCH THE SEAT ELECTRONICS BOX BEFORE YOU DO THE PROCEDURE FOR DEVICES THAT ARE SENSITIVE TO ELECTROSTATIC DISCHARGE. ELECTROSTATIC DISCHARGE CAN CAUSE DAMAGE TO THE SEAT ELECTRONICS BOX.

(1) Before you touch the seat electronics box (SEB) [1], do this task: ESDS Handling for Metal Encased Unit Installation, TASK 20-40-12-400-802.

SUBTASK 23-34-04-420-001

(2) Do these steps to install the seat electronics box (SEB) [1]:

(a) Put the seat electronics box (SEB) [1] in its correct position on the seat bracket.

(b) Push the four push-pull knobs that attach the seat electronics box (SEB) [1] to the seat bracket.

(c) Connect the three electrical connectors [4] to the SEB receptacles.

(d) Put the shroud [3] in its correct position.

(e) Install the scews [2] that attach the shroud [3] to the seat bracket.

SUBTASK 23-34-04-860-003

(3) Remove the safety tag and close this circuit breaker:

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
LOM 402, 406, 407, 426			
C	8	C01456	ENTERTAINMENT AUDIO

ECCN 9E991 BOEING PROPRIETARY - See title page for details

LOM 402, 406, 407, 426 (Continued)

(Continued)

F/O Electrical System Panel, P6-1

Row	Col	Number	Name

LOM 402, 404, 406, 407, 420, 426

This circuit breaker is inoperative and should remain open:

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
LOM 404			
C	8	C01456	ENTERTAINMENT AUDIO (INOP)

LOM 402, 406, 407, 420

E. Seat Electronics Box Installation Test

SUBTASK 23-34-04-860-006

(1) If it is necessary, do this task: Supply Electrical Power, TASK 24-22-00-860-811.

SUBTASK 23-34-04-710-001

(2) Do this task: do this task: Passenger Entertainment System - Operational Test, TASK 23-34-00-710-801

SUBTASK 23-34-04-860-005

(3) If it is necessary, do this task: Remove Electrical Power, TASK 24-22-00-860-812.

——— END OF TASK ———

ECCN 9E991 BOEING PROPRIETARY - See title page for details

ENTERTAINMENT SWITCH MODULE - REMOVAL/INSTALLATION

1. General

A. This procedure has two tasks:

(1) A removal of the entertainment switch module.

(2) An installation of the entertainment switch module.

TASK 23-34-05-000-801

2. Entertainment Switch Module Removal

(Figure 401)

A. General

(1) This task is the removal procedure for the entertainment switch module.

(2) The entertainment switch module is installed on the forward attendants' panel, P13.

(a) When you remove the entertainment switch module, do not supply the electrical power to the audio system.

B. References

Reference	Title
20-40-12-000-802	ESDS Handling for Metal Encased Unit Removal (P/B 201)

C. Location Zones

Zone	Area
221	Passenger Compartment - Aft of Control Compartment to Forward Entry Door - Left

D. Removal Procedure

SUBTASK 23-34-05-860-028

(1) Open these circuit breakers and install safety tags:

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
LOM 407, 426			
B	10	C01584	ENTERTAINMENT AUDIO DC
LOM 402, 406, 407, 426			
C	8	C01456	ENTERTAINMENT AUDIO
LOM 402, 404, 406, 407, 420, 426			
D	4	C00082	COMMUNICATIONS PA AMPL BAT

This circuit breaker is inoperative and should remain open:

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
LOM 404			
C	8	C01456	ENTERTAINMENT AUDIO (INOP)

LOM 402, 404, 406, 407, 420, 426

ECCN 9E991 BOEING PROPRIETARY - See title page for details

SUBTASK 23-34-05-840-001

CAUTION	DO NOT TOUCH THE ENTERTAINMENT SWITCH MODULE BEFORE YOU DO THE PROCEDURE FOR DEVICES THAT ARE SENSITIVE TO ELECTROSTATIC DISCHARGE. ELECTROSTATIC DISCHARGE CAN CAUSE DAMAGE TO THE ENTERTAINMENT SWITCH MODULE.

(2) Before you touch the entertainment switch module [1], do this task: ESDS Handling for Metal Encased Unit Removal, TASK 20-40-12-000-802.

SUBTASK 23-34-05-020-001

(3) Do these steps to remove the entertainment switch module [1]:

(a) Remove the screws [2] that attach the shroud [3] to the attendants' panel.

(b) Remove the shroud [3].

(c) Remove the screws [4] and washers [5] that attach the entertainment switch module to the attendants' panel.

(d) Remove the entertainment switch module [1].

——— END OF TASK ———

ECCN 9E991 BOEING PROPRIETARY - See title page for details

ENTRY DOOR
(EXAMPLE)

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Entertainment Switch Module Installation
Figure 401/23-34-05-990-801

ECCN 9E991 BOEING PROPRIETARY - See title page for details

TASK 23-34-05-400-801

3. Entertainment Switch Module Installation

(Figure 401)

A. General

(1) This task is the installation procedure for the entertainment switch module.

B. References

Reference	Title
20-40-12-000-802	ESDS Handling for Metal Encased Unit Removal (P/B 201)
24-22-00-860-811	Supply Electrical Power (P/B 201)
24-22-00-860-812	Remove Electrical Power (P/B 201)

C. Installation Procedure

LOM 402, 404, 406, 407, 420

SUBTASK 23-34-05-860-021

(1) Make sure that these circuit breakers are open:

(a) Circuit Breaker Panel, P6-1:

1) 6B10 ENTERTAINMENT AUDIO DC

2) 6C8 ENTERTAINMENT AUDIO

LOM 402, 404, 406, 407, 420, 426

SUBTASK 23-34-05-840-002

CAUTION

DO NOT TOUCH THE ENTERTAINMENT SWITCH MODULE BEFORE YOU DO THE PROCEDURE FOR DEVICES THAT ARE SENSITIVE TO ELECTROSTATIC DISCHARGE. ELECTROSTATIC DISCHARGE CAN CAUSE DAMAGE TO THE ENTERTAINMENT SWITCH MODULE.

(2) Before you touch the entertainment switch module [1], do this task: ESDS Handling for Metal Encased Unit Removal, TASK 20-40-12-000-802.

SUBTASK 23-34-05-420-001

(3) Do these steps to install the entertainment switch module [1]:

(a) Put the entertainment switch module [1] in its place over the screw holes on the attendants' panel.

(b) Install the screws [4] and washers [5] that attach the entertainment switch module to the attendants' panel.

(c) Put the shroud [3] in its place over the attendants' panel.

(d) Install the screws [2] that attach the shroud [3] to the attendants' panel.

LOM 402, 404, 406, 407, 420

SUBTASK 23-34-05-860-023

(4) Remove the DO-NOT-CLOSE tags and close these circuit breakers:

(a) Circuit Breaker Panel, P6-1:

1) 6B10 ENTERTAINMENT AUDIO DC

2) 6C8 ENTERTAINMENT AUDIO

ECCN 9E991 BOEING PROPRIETARY - See title page for details

LOM 426

SUBTASK 23-34-05-865-001

(5) Remove the DO-NOT-CLOSE tags and close these circuit breakers:

(a) Circuit Breaker Panel, P6-1:

1) 6B10 ENTERTAINMENT AUDIO DC

2) 6C8 ENTERTAINMENT AUDIO

LOM 402, 406, 407, 420

D. Installation Test

SUBTASK 23-34-05-860-025

(1) If it is necessary, do this task: Supply Electrical Power, TASK 24-22-00-860-811.

LOM 402, 406, 407

SUBTASK 23-34-05-710-001

(2) Do this test of the entertainment switch module:

(a) Push the ENTERTAINMENT IFE button to the on position.

1) Make sure the switch light comes on.

(b) Push the ENTERTAINMENT IFE button to the off position.

LOM 402, 406, 407, 420

SUBTASK 23-34-05-860-026

(3) If it is necessary, do this task: Remove Electrical Power, TASK 24-22-00-860-812.

END OF TASK

ECCN 9E991 BOEING PROPRIETARY - See title page for details

PASSENGER CONTROL UNIT - REMOVAL/INSTALLATION

1. General

A. This procedure has two tasks:

(1) A removal of the passenger control unit.

(2) An installation of the passenger control unit.

TASK 23-34-11-000-801

2. Passenger Control Unit Removal

(Figure 401)

A. General

(1) This task is the removal procedure for the passenger control unit (PCU).

(2) The PCU is installed in the passenger seat arm rest.

(a) When you remove the PCU, do not supply the electrical power to the audio system.

B. Location Zones

Zone	Area
231	Forward Passenger Compartment - Forward Entry Door to Sta 663.75 - Left
232	Forward Passenger Compartment - Forward Entry Door to Sta 663.75 - Right
241	Aft Passenger Compartment - Station 663.75 to Aft Pressure Bulkhead - Left
242	Aft Passenger Compartment - Station 663.75 to Aft Pressure Bulkhead - Right

C. Prepare for the Removal

SUBTASK 23-34-11-860-001

(1) Push the ENTERTAINMENT IFE button on the forward attendant's panel to the off position.

SUBTASK 23-34-11-860-002

(2) Open this circuit breaker and install safety tag:

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
LOM 402, 406, 407, 426			
C	8	C01456	ENTERTAINMENT AUDIO

LOM 402, 404, 406, 407, 420, 426

This circuit breaker is inoperative and should remain open:

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
LOM 404			
C	8	C01456	ENTERTAINMENT AUDIO (INOP)

LOM 402, 404, 406, 407, 420, 426

SUBTASK 23-34-11-020-002

(3) Do these steps to remove the passenger control unit (PCU) [1]:

ECCN 9E991 BOEING PROPRIETARY - See title page for details

CAUTION FOR CAPTIVE-TYPE FASTENERS, LOOSEN THE FASTENER ONLY UNTIL YOU CAN REMOVE THE PCU. IF YOU TURN THE FASTENER TOO MUCH, YOU CAN CAUSE DAMAGE TO THE PCU.

(a) Remove the fastener [2] that attaches the PCU to the passenger seat arm rest.

(b) Remove the PCU [1] from the arm rest to get access to the electrical connector(s) [3].

(c) Disconnect the electrical connector(s) [3] from the PCU.

(d) Remove the PCU [1].

(e) Put protective covers on the electrical connectors [3].

END OF TASK

ECCN 9E991 BOEING PROPRIETARY - See title page for details

PASSENGER CONTROL UNIT (PCU)
(EXAMPLE)

A

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Passenger Control Unit (PCU) Installation
Figure 401/23-34-11-990-801 (Sheet 1 of 2)

ECCN 9E991 BOEING PROPRIETARY - See title page for details

Passenger Control Unit (PCU) Installation
Figure 401/23-34-11-990-801 (Sheet 2 of 2)

ECCN 9E991 BOEING PROPRIETARY - See title page for details

TASK 23-34-11-400-801

3. Passenger Control Unit Installation

(Figure 401)

A. General

(1) This task is the installation procedure for the passenger control unit (PCU).

B. References

Reference	Title
24-22-00-860-811	Supply Electrical Power (P/B 201)
24-22-00-860-812	Remove Electrical Power (P/B 201)

C. Location Zones

Zone	Area
231	Forward Passenger Compartment - Forward Entry Door to Sta 663.75 - Left
232	Forward Passenger Compartment - Forward Entry Door to Sta 663.75 - Right
241	Aft Passenger Compartment - Station 663.75 to Aft Pressure Bulkhead - Left
242	Aft Passenger Compartment - Station 663.75 to Aft Pressure Bulkhead - Right

D. Installation Procedure

LOM 402, 404, 406, 407, 420

SUBTASK 23-34-11-420-002

(1) Do these steps to install the PCU[1]:

(a) Remove the protective covers from the electrical connectors [3].

(b) Connect the electrical connector(s) [3] to the PCU [1].

(c) Install the PCU [1] in the passenger seat arm rest.

> **CAUTION**
> DO NOT TIGHTEN THE FASTENER TOO MUCH. IF YOU TIGHTEN IT TOO MUCH, YOU CAN CAUSE DAMAGE TO THE PCU.

(d) Install the fastener [2] that attaches the PCU [1] to the passenger seat arm rest.

LOM 426

SUBTASK 23-34-11-420-001

(2) Do these steps to install the PCU[1]:

(a) Remove the protective covers from the electrical connectors [3].

(b) Connect the electrical connector(s) [3] to the PCU [1].

(c) Lower the passenger seat arm rest.

> **CAUTION**
> DO NOT TIGHTEN THE FASTENER TOO MUCH. IF YOU TIGHTEN IT TOO MUCH, YOU CAN CAUSE DAMAGE TO THE PCU.

(d) Install the fastener [2] to attach the arm rest pad to the passenger seat arm rest.

LOM 402, 404, 406, 407, 420, 426

ECCN 9E991 BOEING PROPRIETARY - See title page for details

SUBTASK 23-34-11-860-003

(3) Remove the safety tag and close this circuit breaker:

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
LOM 402, 406, 407, 426			
C	8	C01456	ENTERTAINMENT AUDIO
LOM 402, 404, 406, 407, 420, 426			

This circuit breaker is inoperative and should remain open:

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
LOM 404			
C	8	C01456	ENTERTAINMENT AUDIO (INOP)

LOM 402, 406, 407, 420

E. Installation Test

SUBTASK 23-34-11-860-005

(1) If it is necessary, do this task: Supply Electrical Power, TASK 24-22-00-860-811.

SUBTASK 23-34-11-710-001

(2) Do these steps to test the PCU:

(a) Push the ENTERTAINMENT IFE button on the forward attendant's panel to the on position.

1) Make sure the channel display comes on at the PCU.

SUBTASK 23-34-11-860-004

(3) If it is necessary, do this task: Remove Electrical Power, TASK 24-22-00-860-812.

END OF TASK

ECCN 9E991 BOEING PROPRIETARY - See title page for details

SERVICE INTERPHONE SYSTEM - ADJUSTMENT/TEST

1. General

A. This procedure contains this task:

(1) An operational test of the service interphone system.

TASK 23-41-00-710-801

2. Service Interphone System - Operational Test

A. References

Reference	Title
24-22-00-860-811	Supply Electrical Power (P/B 201)
24-22-00-860-812	Remove Electrical Power (P/B 201)

B. Location Zones

Zone	Area
LOM 402, 404, 406, 407, 412, 415, 416, 420, 422-426, 429-431, 433, 434, 437-442, 446, 447, 451-460, 464	
112	Area Forward of Nose Landing Gear Wheel Well
LOM ALL	
118	Electrical and Electronics Compartment - Right
133	Main Landing Gear Wheel Well, Body Station 663.75 to Body Station 727.00 - Left
134	Main Landing Gear Wheel Well, Body Station 663.75 to Body Station 727.00 - Right
211	Flight Compartment - Left
212	Flight Compartment - Right
241	Aft Passenger Compartment - Station 663.75 to Aft Pressure Bulkhead - Left
315	APU Compartment - Left
600	Right Wing

C. Procedure

SUBTASK 23-41-00-860-005

(1) If it is necessary, do this task: Supply Electrical Power, TASK 24-22-00-860-811.

SUBTASK 23-41-00-860-002

(2) Make sure that these circuit breakers are closed:

F/O Electrical System Panel, P6-2

Row	Col	Number	Name
C	21	C00560	INTERPHONE POWER F/O DC 2
C	22	C00561	INTERPHONE POWER F/O BAT
C	23	C00239	INTERPHONE POWER CAPT DC 2
C	24	C00240	INTERPHONE POWER CAPT BAT
D	21	C00084	INTPH AND WARN
D	22	C00086	AUDIO F/O
D	23	C00083	AUDIO CAPT
D	24	C00085	AUDIO OBS

LOM 402, 406, 407, 420, 427-431, 443, 444, 450, 458-460, 464, 465

SUBTASK 23-41-00-840-004

(3) Do these steps to prepare for test:

ECCN 9E991 BOEING PROPRIETARY - See title page for details

LOM 402, 406, 407, 420, 427-431, 443, 444, 450, 458-460, 464, 465 (Continued)

(a) Connect a boom mic/headset to the captain's boom mic/headset jack in the flight deck.

(b) Push the CABIN microphone selector switch on all audio control panels (ACPs).

(c) Push the volume control for the CABIN microphone selector switch.

(d) Turn the volume control switch for CABIN to the middle position.

(e) Set the SERVICE INTERPHONE switch, on the P5 overhead panel in the flight deck, to ON.

LOM 404, 411, 412, 415, 416, 422-426, 432-434, 437-442, 445-447, 451-457, 461-463, 466-999

SUBTASK 23-41-00-840-002

(4) Do these steps to prepare for test:

(a) Connect a boom mic/headset to the captain's boom mic/headset jack in the flight deck.

(b) Push the SVC microphone selector switch on all audio control panels (ACPs).

(c) Push the volume control for the SVC microphone selector switch.

(d) Turn the volume control switch for SVC to the middle position.

(e) Set the SERVICE INTERPHONE switch, on the P5 overhead panel in the flight deck, to ON.

LOM 402, 404, 406, 407, 412, 415, 416, 420, 422-426, 429-431, 433, 434, 437-442, 446, 447, 451-460, 464

SUBTASK 23-41-00-710-001

(5) Do a communication test between the flight crew and the ground crew at the nose wheel well area:

(a) Connect a boom mic/headset to the service interphone jack.

LOM 404, 412, 415, 416, 422-426, 433, 434, 437-442, 446, 447, 451-460

(b) Push and hold the R/T - I/C switch on the captain's ACP to the R/T position.

LOM 402, 406, 407, 420, 429-431, 464

(c) Push and hold the RADIO - INT switch on the captain's ACP to the RADIO position.

LOM 402, 404, 406, 407, 412, 415, 416, 420, 422-426, 429-431, 433, 434, 437-442, 446, 447, 451-460, 464

(d) Speak into the captain's boom microphone.

1) Make sure the ground crew can hear the voice clearly on the headset.

LOM 404, 412, 415, 416, 422-426, 433, 434, 437-442, 446, 447, 451-460

(e) Release the R/T - I/C switch on the captain's ACP.

LOM 402, 406, 407, 420, 429-431, 464

(f) Release the RADIO - INT switch on the captain's ACP.

LOM 402, 404, 406, 407, 412, 415, 416, 420, 422-426, 429-431, 433, 434, 437-442, 446, 447, 451-460, 464

(g) Have the ground crew speak into the boom microphone.

1) Make sure you can hear the voice clearly on the captain's headset.

(h) Disconnect the boom mic/headset from the service interphone jack.

ECCN 9E991 BOEING PROPRIETARY - See title page for details

LOM 411, 427, 428, 432, 443-445, 450, 461-463, 465-999

SUBTASK 23-41-00-710-012

(6) Do a communication test between the flight crew and the ground crew at the auxiliary power unit:

(a) Connect a boom mic/headset to the service interphone jack.

LOM 411, 427, 428, 432, 445, 450, 461-463, 466-999

(b) Push and hold the R/T - I/C switch on the captain's ACP to the R/T position.

LOM 443, 444, 465

(c) Push and hold the RADIO - INT switch on the captain's ACP to the RADIO position.

LOM 411, 427, 428, 432, 443-445, 450, 461-463, 465-999

(d) Speak into the captain's boom microphone.

1) Make sure the ground crew can hear the voice clearly on the headset.

LOM 411, 427, 428, 432, 445, 450, 461-463, 466-999

(e) Release the R/T - I/C switch on the captain's ACP.

LOM 443, 444, 465

(f) Release the RADIO - INT switch on the captain's ACP.

LOM 411, 427, 428, 432, 443-445, 450, 461-463, 465-999

(g) Have the ground crew speak into the boom microphone.

1) Make sure you can hear the voice clearly on the captain's headset.

(h) Disconnect the boom mic/headset from the service interphone jack.

LOM 402, 404, 406, 407, 412, 415, 416, 420, 422-426, 429-431, 433, 434, 437-442, 446, 447, 451-460, 464

SUBTASK 23-41-00-710-003

(7) Repeat the communication test between the flight crew and the ground crew using the service interphone jack at the auxiliary power unit.

LOM ALL

SUBTASK 23-41-00-710-004

(8) Repeat the communication test between the flight crew and the ground crew using the service interphone jack in the overhead at the aft passenger cabin.

SUBTASK 23-41-00-710-005

(9) Repeat the communication test between the flight crew and the ground crew using the service interphone jack at the refueling station on the right wing.

SUBTASK 23-41-00-710-006

(10) Repeat the communication test between the flight crew and the ground crew using the service interphone jack at the left wheel well.

SUBTASK 23-41-00-710-007

(11) Repeat the communication test between the flight crew and the ground crew using the service interphone jack at the right wheel well.

SUBTASK 23-41-00-710-008

(12) Repeat the communication test between the flight crew and the ground crew using the service interphone jack at the electrical and electronics compartment.

ECCN 9E991 BOEING PROPRIETARY - See title page for details

SUBTASK 23-41-00-710-009

(13) Do this test of the SERVICE INTERPHONE switch:

(a) Connect a boom mic/headset to any service interphone jack.

(b) Set the SERVICE INTERPHONE switch to OFF.

LOM 404, 411, 412, 415, 416, 422-428, 432-434, 437-442, 445-447, 450-463, 466-999

(c) Push and hold the R/T - I/C switch on the captain's ACP to the R/T position.

LOM 402, 406, 407, 420, 429-431, 443, 444, 464, 465

(d) Push and hold the RADIO - INT switch on the captain's ACP to the RADIO position.

LOM ALL

(e) Speak into the captain's boom microphone.

1) Make sure the ground crew can hear the voice on the service interphone headset.

LOM 404, 411, 412, 415, 416, 422-428, 432-434, 437-442, 445-447, 450-463, 466-999

(f) Release the R/T - I/C switch on the captain's ACP.

LOM 402, 406, 407, 420, 429-431, 443, 444, 464, 465

(g) Release the RADIO - INT switch on the captain's ACP.

LOM ALL

(h) Have the ground crew speak into the boom microphone.

1) Make sure you cannot hear the voice on the captain's headset.

SUBTASK 23-41-00-710-010

(14) Repeat the communication test between the flight crew and the ground crew using the first officer's ACP.

SUBTASK 23-41-00-710-011

(15) Repeat the communication test between the flight crew and the ground crew using the observer's ACP.

SUBTASK 23-41-00-860-004

(16) If it is necessary, do this task: Remove Electrical Power, TASK 24-22-00-860-812.

END OF TASK

ECCN 9E991 BOEING PROPRIETARY - See title page for details

CABIN INTERPHONE SYSTEM - ADJUSTMENT/TEST

1. General

A. This procedure contains these tasks:

(1) An Operational Test of the Cabin Interphone system

LOM 429-431, 445

(2) An Operational Test of the Cabin Ready system

LOM ALL

(3) A Cabin Interphone system / Attendant Panel Installation Test

TASK 23-42-00-710-802

2. Cabin Interphone System - Operational Test

A. General

(1) This task checks to make sure that the interphone communication between the flight crew and the attendants operates correctly.

(2) This task requires two persons to complete.

B. References

Reference	Title
24-22-00-860-811	Supply Electrical Power (P/B 201)
24-22-00-860-812	Remove Electrical Power (P/B 201)

C. Location Zones

Zone	Area
211	Flight Compartment - Left
212	Flight Compartment - Right
221	Passenger Compartment - Aft of Control Compartment to Forward Entry Door - Left
240	Subzone - Passenger Compartment - Body Station 663.75 to Body Station 1016.00

D. Prepare for the Operational Test

SUBTASK 23-42-00-840-001

(1) If it is necessary, do this task: Supply Electrical Power, TASK 24-22-00-860-811.

SUBTASK 23-42-00-840-002

(2) Make sure that all handsets are on the hook.

E. Cabin Interphone Operational Test

SUBTASK 23-42-00-710-001

(1) Do the steps that follow for the Cabin Interphone Call Test:

(a) Push the “ATTEND” call switch on the P5 panel (passenger sign panel).

(b) Make sure that the attendant call light on the forward and aft exit locator signs turn on.

(c) Make sure that you hear a HI/LO tone in the cabin.

(d) Remove any handset from the holder to reset the light.

(e) Make sure that the attendant call lights turn off.

(f) Put the handset back on its holder.

(g) Do the steps that follow for the forward attendant handset:

1) Remove the handset from its holder.

ECCN 9E991 BOEING PROPRIETARY - See title page for details

2) Push the button corresponding to “PILOT” on the handset.

LOM 402, 406, 407, 420, 427-431, 443, 444, 450, 458-460, 464, 465

3) Make sure that the CABIN call light on the audio control panel turns on.

LOM 404, 411, 412, 415, 416, 422-426, 432-434, 437-442, 445-447, 451-457, 461-463, 466-999

4) Make sure that the Captain CALL light on the P5 panel turns on.

LOM ALL

5) Make sure that you hear a HI tone in the flight deck.
6) Push the “RESET” button on the handset.
7) Push the button corresponding to an “Attendant call” on the handset.
8) Make sure that the attendant call light at the other station turns on.
9) Make sure you hear a HI/LO tone in the cabin.
10) Put the handset back on its holder.
11) Make sure that the attendant call light at the other station turns off.

(h) Repeat the test for the aft attendant handset(s).

SUBTASK 23-42-00-710-002

(2) Do the steps that follow for the Cabin Interphone Communication Test:

(a) Push the interphone button on all audio control panels.

NOTE: Button may be labeled “SVC” or “CABIN”.

(b) Make sure that you get good two way interphone communication between all communication devices: flight deck handset, pilots boom/mic headset, forward and aft attendant handsets.

F. Put the Airplane Back to Its Usual Condition

SUBTASK 23-42-00-840-003

(1) If it is necessary, do this task: Remove Electrical Power, TASK 24-22-00-860-812.

——— END OF TASK ———

LOM 429-431, 445

TASK 23-42-00-710-804

3. Cabin Ready System - Operational Test

A. Location Zones

Zone	Area
221	Passenger Compartment - Aft of Control Compartment to Forward Entry Door - Left
240	Subzone - Passenger Compartment - Body Station 663.75 to Body Station 1016.00

B. Procedure

SUBTASK 23-42-00-710-007

(1) Do the steps that follow to check the operation of the Cabin Ready system:

(a) Make sure the Cabin Ready indicator in the P5 panel in the flight deck is off.

ECCN 9E991 BOEING PROPRIETARY - See title page for details

LOM 429-431, 445 (Continued)

(b) At the forward Attendant Control Panel (ACP), select the PASSENGER SERVICES menu.

NOTE: PASSENGER SERVICES menu is on the left hand side of the main menu display.

NOTE: When the ACP is not in use for 5 minutes, the display will enter screen saver mode. To exit the screen saver mode, touch opposite corners of the display in sequence within 2 seconds.

(c) Make sure the Cabin Ready soft button on the ACP's PASSENGER SERVICES menu is “OFF” and not blue.

NOTE: The Cabin Ready operates like a three way control switch with the Cabin Ready button on the ACP and the flight deck switch located in the P5 panel.

(d) Push the Cabin Ready soft button on the ACP.

(e) Make sure you hear a LO tone chime in the flight deck.

(f) Make sure the Cabin Ready soft button on the ACP's PASSENGER SERVICES menu is “ON” and blue.

(g) Make sure the Cabin Ready indicator in the P5 panel in the flight deck turns on.

(h) Push the Cabin Ready switch in the P5 panel.

(i) Make sure you do not hear a LO tone chime in the flight deck.

NOTE: If you push the Cabin Ready switch in the flight deck when the Cabin Ready indicator in the P5 panel and the Cabin Ready button on the ACP are off, you will hear a LO chime in the flight deck.

(j) Make sure the Cabin Ready soft button on the ACP's menu is “OFF” and not blue.

(k) Make sure the Cabin Ready indicator in the P5 panel in the flight deck turns off.

LOM ALL

——— END OF TASK ———

TASK 23-42-00-710-803

4. Cabin Interphone system - Attendant Panel Installation Test

A. General

(1) This task makes sure that the Cabin Interphone system operates correctly after the ACP installation.

(2) This task requires two persons to complete.

B. Location Zones

Zone	Area
221	Passenger Compartment - Aft of Control Compartment to Forward Entry Door - Left
240	Subzone - Passenger Compartment - Body Station 663.75 to Body Station 1016.00

C. Cabin Interphone / Attendant Panel Installation Test

SUBTASK 23-42-00-710-005

(1) Do the steps that follow to check the Cabin Interphone system after the Attendant Panel installation:

(a) Do the steps that follow for any forward attendant handset:

ECCN 9E991 BOEING PROPRIETARY - See title page for details

1) Remove the handset from its holder.
2) Push the button corresponding to an “Attendant call” on the handset.
3) Make sure the attendant call light at the other station turns on.
4) Make sure you hear a HI/LO tone in the cabin.
5) Make sure you get a good two way communication between the handset and the other station's attendant handset.
6) Push the “RESET” button on the handset.
7) Push the button corresponding to “PILOT” on the handset.

LOM 402, 406, 407, 420, 427-431, 443, 444, 450, 458-460, 464, 465

8) Make sure the CABIN call light on the audio control panel turns on.

LOM 404, 411, 412, 415, 416, 422-426, 432-434, 437-442, 445-447, 451-457, 461-463, 466-999

9) Make sure the Captain CALL light on the P5 panel turns on.

LOM ALL

10) Make sure you hear a HI tone in the flight deck.
11) Make sure you get a good two way communication between the handset and the pilot's boom microphone.
12) Push the “RESET” button on the handset.
13) Put the handset back on its holder.

(b) Repeat the test for any aft attendant handset.

END OF TASK

ECCN 9E991 BOEING PROPRIETARY - See title page for details

ATTENDANT HANDSET - REMOVAL/INSTALLATION

1. General

A. This procedure has these tasks:

(1) Removal of an attendant handset.

(2) Removal of an attendant handset cord.

(3) Removal of an attendant handset cradle.

(4) Installation of an attendant handset cradle.

(5) Installation of an attendant handset cord.

(6) Installation of an attendant handset.

(7) Installation Test of an attendant handset.

B. The attendant handsets are installed at the forward and aft attendant's stations.

TASK 23-42-01-000-801

2. Attendant Handset Removal

(Figure 401)

A. Location Zones

Zone	Area
221	Passenger Compartment - Aft of Control Compartment to Forward Entry Door - Left
240	Subzone - Passenger Compartment - Body Station 663.75 to Body Station 1016.00

B. Removal Procedure

SUBTASK 23-42-01-020-001

(1) Remove the attendant handset [4]:

(a) Remove the handset [4] from the handset cradle [1].

(b) Disconnect the cord [5] from the handset [4].

END OF TASK

ECCN 9E991 BOEING PROPRIETARY - See title page for details

Attendant Handset Installation
Figure 401/23-42-01-990-801 (Sheet 1 of 2)

ECCN 9E991 BOEING PROPRIETARY - See title page for details

B

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Attendant Handset Installation
Figure 401/23-42-01-990-801 (Sheet 2 of 2)

ECCN 9E991 BOEING PROPRIETARY - See title page for details

TASK 23-42-01-000-802

3. **Attendant Handset Cord Removal**

(Figure 401)

A. Location Zones

Zone	Area
221	Passenger Compartment - Aft of Control Compartment to Forward Entry Door - Left
240	Subzone - Passenger Compartment - Body Station 663.75 to Body Station 1016.00

B. Removal Procedure

SUBTASK 23-42-01-020-002

(1) Remove the handset cord [5]:

(a) Disconnect the cord [5] from the handset [4].

(b) Remove the screw [6] from the clamp [7].

(c) Remove the clamp [7].

(d) Pull the handset cord [5] out of the clamp [7].

END OF TASK

TASK 23-42-01-000-803

4. **Attendant Handset Cradle Removal**

(Figure 401)

A. Location Zones

Zone	Area
221	Passenger Compartment - Aft of Control Compartment to Forward Entry Door - Left
240	Subzone - Passenger Compartment - Body Station 663.75 to Body Station 1016.00

B. Removal Procedure

SUBTASK 23-42-01-020-003

(1) Remove the handset cradle [1]:

(a) Remove the handset [4] from the handset cradle [1].

(b) Remove screws [2] and screws [3] from the handset cradle [1].

(c) Remove the handset cradle [1] from the attendant's station.

(d) Do these steps if the magnet [9] is loose inside the handset cradle [1].

1) Remove the screws.

2) Remove the retainer [8] and magnet [9].

END OF TASK

TASK 23-42-01-400-801

5. **Attendant Handset Cradle Installation**

(Figure 401)

A. Consumable Materials

Reference	Description	Specification
A00188	Adhesive - Urethane, Two Component	BMS5-105 Type V

ECCN 9E991 BOEING PROPRIETARY - See title page for details

B. Expendables/Parts

AMM Item	Description	AIPC Reference	AIPC Effectivity
1	Handset cradle	23-42-01-02-050	LOM 402, 404, 406, 407, 411, 412, 415, 416, 420, 422-426
		23-42-01-03-038	LOM 402, 404, 406, 407, 411, 412, 415, 416, 420, 422-426
		23-42-01-07-045	LOM 402, 404, 406, 407, 411, 412, 415, 420, 422-426
		23-42-01-18-040	LOM 427-434, 437-447, 450-999
		23-42-01-19-040	LOM 427-434, 437-447, 450-999
		23-42-01-20-035	LOM 427, 428, 465
		23-42-01-25-025	LOM 429-434, 437-447, 450-460, 464, 466-999

C. Location Zones

Zone	Area
221	Passenger Compartment - Aft of Control Compartment to Forward Entry Door - Left
240	Subzone - Passenger Compartment - Body Station 663.75 to Body Station 1016.00

D. Handset Cradle Installation

SUBTASK 23-42-01-420-001

(1) Install the handset cradle [1].

(a) Do these steps if you need to attach the magnet [9] to the handset cradle [1]:

1) Use adhesive, A00188, to attach the magnet [9] to the handset cradle [1].

2) Put the retainer [8] in its correct position in the handset cradle [1].

3) Install the screws.

(b) Put the handset cradle [1] in its correct position over the screw holes in the attendant's station.

(c) Install the screws [2] and screws [3] to tighten the handset cradle [1] to the attendant's station.

(d) Put the handset [4] in the handset cradle [1].

SUBTASK 23-42-01-710-002

(2) Do this task: Attendant Handset Installation Test, TASK 23-42-01-700-801.

END OF TASK

ECCN 9E991 BOEING PROPRIETARY - See title page for details

TASK 23-42-01-400-802

6. Attendant Handset Cord Installation

(Figure 401)

A. Expendables/Parts

AMM Item	Description	AIPC Reference	AIPC Effectivity
5	Cord	23-42-01-02-020	LOM 402, 404, 406, 407, 411, 412, 415, 416, 420, 422-426
		23-42-01-03-020	LOM 402, 404, 406, 407, 411, 412, 415, 416, 420, 422-426
		23-42-01-18-020	LOM 427-434, 437-447, 450-999
		23-42-01-19-020	LOM 427-434, 437-447, 450-999

B. Location Zones

Zone	Area
221	Passenger Compartment - Aft of Control Compartment to Forward Entry Door - Left
240	Subzone - Passenger Compartment - Body Station 663.75 to Body Station 1016.00

C. Attendant Handset Cord Installation

SUBTASK 23-42-01-420-002

(1) Install the handset cord [5].

(a) Put the handset cord [5] through the clamp [7].

(b) Put the clamp [7] in its correct position over the screw hole in the attendant's station.

(c) Install the screws [6] to tighten the clamp [7] to the attendant's station.

(d) Connect the cord [5] to the handset [4].

SUBTASK 23-42-01-710-003

(2) Do this task: Attendant Handset Installation Test, TASK 23-42-01-700-801.

END OF TASK

TASK 23-42-01-400-803

7. Attendant Handset Installation

(Figure 401)

A. Expendables/Parts

AMM Item	Description	AIPC Reference	AIPC Effectivity
4	Handset	23-42-01-02-025	LOM 402, 404, 406, 407, 411, 412, 415, 416, 420, 422-426
		23-42-01-03-025	LOM 402, 404, 406, 407, 411, 412, 415, 416, 420, 422-426
		23-42-01-07-015	LOM 402, 404, 406, 407, 411, 412, 415, 420, 422-426

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(Continued)

AMM Item	Description	AIPC Reference	AIPC Effectivity
4 (cont.)		23-42-01-18-025	LOM 427-434, 437-447, 450-999
		23-42-01-19-025	LOM 427-434, 437-447, 450-999
		23-42-01-20-020	LOM 427, 428, 465
		23-42-01-25-015	LOM 429-434, 437-447, 450-460, 464, 466-999

B. Location Zones

Zone	Area
221	Passenger Compartment - Aft of Control Compartment to Forward Entry Door - Left
240	Subzone - Passenger Compartment - Body Station 663.75 to Body Station 1016.00

C. Attendant Handset Installation

SUBTASK 23-42-01-420-003

(1) Install the handset [4].

NOTE: Install the marker on the handset if it is necessary.

(a) Connect the cord [5] to the handset [4].

(b) Put the handset [4] on the handset cradle [1].

SUBTASK 23-42-01-710-004

(2) Do this task: Attendant Handset Installation Test, TASK 23-42-01-700-801.

——— END OF TASK ———

TASK 23-42-01-700-801

8. Attendant Handset Installation Test

A. References

Reference	Title
24-22-00-860-811	Supply Electrical Power (P/B 201)
24-22-00-860-812	Remove Electrical Power (P/B 201)

B. Location Zones

Zone	Area
221	Passenger Compartment - Aft of Control Compartment to Forward Entry Door - Left
240	Subzone - Passenger Compartment - Body Station 663.75 to Body Station 1016.00

C. Installation Test

SUBTASK 23-42-01-860-002

(1) If it is necessary, do this task: Supply Electrical Power, TASK 24-22-00-860-811.

SUBTASK 23-42-01-710-001

(2) Do an installation test of the handset:

(a) Lift the handset from the handle cradle.

(b) Push the button for the attendant on the handset keypad.

1) Make sure you hear a chime on the PA speakers.

2) Make sure the pink attendant call light at the other attendant's station comes on.

ECCN 9E991 BOEING PROPRIETARY - See title page for details

(c) Make voice communication to the calling attendant's station.

1) Make sure communication can be made.

(d) Put the handset in the handset cradle.

SUBTASK 23-42-01-860-001

(3) If it is necessary, do this task: Remove Electrical Power, TASK 24-22-00-860-812.

——— END OF TASK ———

ECCN 9E991 BOEING PROPRIETARY - See title page for details

FLIGHT DECK HANDSET - REMOVAL/INSTALLATION

1. General

A. This procedure has these tasks:

(1) A removal of the flight deck handset

(2) An installation of the flight deck handset.

(3) A removal of the flight deck handset cord.

(4) An installation of the flight deck handset cord.

(5) A removal of the flight deck handset cradle.

(6) An installation of the flight deck handset cradle.

(7) A removal of the flight deck handset cradle magnet.

(8) An installation of the flight deck handset cradle magnet.

B. The flight deck handset is located on the P8 Aft electronic panel of the flight deck aisle stand.

C. Handset cradles contain a magnet used to open an off-hook switch in the handset while the handset is in the cradle.

(1) An incorrect location of the cradle magnet will cause an off-hook condition while the handset is in the cradle.

TASK 23-42-02-000-801

2. Flight Deck Handset Removal

Figure 401

A. Location Zones

Zone	Area
210	Subzone - Control Compartment - Body Station 178.00 to Body Station 259.50

B. Removal Procedure

SUBTASK 23-42-02-020-001

(1) Remove the handset [1]:

(a) Remove the handset [1] from the cradle [3].

(b) Disconnect the handset [1] from the cord [2].

END OF TASK

ECCN 9E991 BOEING PROPRIETARY - See title page for details

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Flight Deck Handset/Cradle Installation
Figure 401/23-42-02-990-801 (Sheet 1 of 3)

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FLIGHT DECK HANDSET CRADLE

C

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Flight Deck Handset/Cradle Installation
Figure 401/23-42-02-990-801 (Sheet 2 of 3)

ECCN 9E991 BOEING PROPRIETARY - See title page for details

MAGNET INSTALLATION

D

A-A

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Flight Deck Handset/Cradle Installation
Figure 401/23-42-02-990-801 (Sheet 3 of 3)

ECCN 9E991 BOEING PROPRIETARY - See title page for details

TASK 23-42-02-400-801

3. Flight Deck Handset Installation

Figure 401

A. Location Zones

Zone	Area
210	Subzone - Control Compartment - Body Station 178.00 to Body Station 259.50

B. Installation Procedure

SUBTASK 23-42-02-420-001

(1) Install the handset [1]:

(a) Connect the cord [2] to the handset [1].

(b) Put the handset [1] on its cradle [3].

C. Installation Test

SUBTASK 23-42-02-700-001

(1) Do an installation test of the handset [1]:

(a) Lift the handset [1] from the handle cradle [3].

(b) Push the dial code for PA ALL.

NOTE: The dial code directory is on the back of the handset

(c) Push and hold the PTT button on the handset [1].

(d) Speak into the handset microphone.

1) Make sure you hear your voice clearly from the cabin speakers.

(e) Put the handset [1] in the handset cradle [3].

END OF TASK

TASK 23-42-02-000-802

4. Flight Deck Handset Cord Removal

Figure 401

A. Location Zones

Zone	Area
210	Subzone - Control Compartment - Body Station 178.00 to Body Station 259.50

B. Removal Procedure

SUBTASK 23-42-02-020-002

(1) Do these steps to remove the cord [2] for the handset in the flight deck:

(a) Gain access to the clamp [4].

(b) Loosen the clamp [4].

(c) Pull the handset cord [2] out of the clamp [4].

END OF TASK

ECCN 9E991 BOEING PROPRIETARY - See title page for details

TASK 23-42-02-400-802

5. Flight Deck Handset Cord Installation

Figure 401

A. Location Zones

Zone	Area
210	Subzone - Control Compartment - Body Station 178.00 to Body Station 259.50

B. Installation Procedure

SUBTASK 23-42-02-420-002

(1) Do these steps to install the cord [2] for the handset in the flight deck:

(a) Put the handset cord [2] through the clamp [4].

(b) Tighten the clamp [4].

(c) Connect the handset cord [2] to the handset [1].

END OF TASK

TASK 23-42-02-000-803

6. Flight Deck Handset Cradle Removal

Figure 401

A. Location Zones

Zone	Area
210	Subzone - Control Compartment - Body Station 178.00 to Body Station 259.50

B. Removal Procedure

SUBTASK 23-42-02-020-003

(1) Do these steps to remove the cradle [3]:

(a) Remove the nuts [8], if applicable.

(b) Remove the screws [6] and screws [7] from the handset cradle [3].

(c) Remove the handset cradle [3] from its mounting area.

END OF TASK

TASK 23-42-02-400-803

7. Flight Deck Handset Cradle Installation

Figure 401

A. Location Zones

Zone	Area
210	Subzone - Control Compartment - Body Station 178.00 to Body Station 259.50

B. Installation Procedure

SUBTASK 23-42-02-212-001

(1) Make sure that the handset cradle magnet [5] is in the correct location.

(a) If the magnet [5] is missing or not aligned, do the applicable tasks: Flight Deck Handset Cradle Magnet Removal, TASK 23-42-02-000-804Flight Deck Handset Cradle Magnet Installation, TASK 23-42-02-400-804.

SUBTASK 23-42-02-420-003

(2) Do these steps to install the cradle [3]:

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(a) Put the handset cradle [3] on its mounting area.

(b) Install the screws [6] and screws [7] that attach the handset cradle [3] to its mounting area.

(c) Install the nuts [8] if applicable.

——— END OF TASK ———

TASK 23-42-02-000-804

8. Flight Deck Handset Cradle Magnet Removal

Figure 401

A. General

(1) This task removes the magnet from the flight deck handset cradle.

(2) Do this task if the magnet is not in the correct position.

B. Location Zones

Zone	Area
210	Subzone - Control Compartment - Body Station 178.00 to Body Station 259.50

C. Removal Procedure

SUBTASK 23-42-02-010-001

(1) Do this task: Flight Deck Handset Cradle Removal, TASK 23-42-02-000-803.

SUBTASK 23-42-02-020-004

(2) Carefully remove the magnet [5] from the cradle [3].

NOTE: The magnet [5] is attached to the cradle [3] with adhesive.

——— END OF TASK ———

TASK 23-42-02-400-804

9. Flight Deck Handset Cradle Magnet Installation

Figure 401

A. General

(1) This task installs the magnet in the handset cradle.

(2) Do this task if the magnet is missing or if the magnet is not in the correct position.

B. References

Reference	Title
20-30-91-910-801	Final Cleaning of Composites Prior to Non-structural Bonding (Series 91) (P/B 201)

C. Consumable Materials

Reference	Description	Specification
A50055	Adhesive - Two-Part, RT Cure, Urethane	BAC5010 Type 89 (BMS5-105)
B01011	Solvent - Final Cleaning Of Composites Prior To Non-Structural Bonding (AMM 20-30-91) - Series 91	

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D. Location Zones

Zone	Area
210	Subzone - Control Compartment - Body Station 178.00 to Body Station 259.50

E. Installation Procedure

SUBTASK 23-42-02-420-004

(1) Do these steps to install the magnet [5]:

(a) Use Series 91 solvent, B01011 to clean the mating surfaces of the magnet [5] and the cradle [3] (Final Cleaning of Composites Prior to Non-structural Bonding (Series 91), TASK 20-30-91-910-801).

(b) Put urethane adhesive, A50055 on the mating surfaces of the magnet [5] and the cradle [3].

(c) Put the magnet [5] on the cradle [3].

NOTE: Make sure that you put the magnet [5] in the correct location.

(d) Apply more adhesive around the edges of the magnet [5].

(e) Let the adhesive dry.

F. Installation test

SUBTASK 23-42-02-700-002

(1) Make sure that the magnet [5] opens the off-hook switch in the handset [1] while the handset is in the cradle [3].

END OF TASK

ECCN 9E991 BOEING PROPRIETARY - See title page for details

ATTENDANT CONTROL PANEL - MAINTENANCE PRACTICES

1. General

A. This procedure has these tasks:

(1) Software Loading

(2) Configuration Check

(3) Saving Data Diskette Preparation

(4) Saving Configuration Data

(5) Saving Fault Data

(6) Erasing Mass Storage Area (MSA)

(7) Touchscreen Cleaning

(8) LCD Screen Display Check

TASK 23-42-03-470-801

2. Attendant Control Panel (ACP) Software Loading

A. General

(1) This procedure installs new Loadable Software Airplane Parts (LSAPs) to the ACP's and the Light LRU's.

NOTE: You need to have three different types of software for the ACP operation: OPS (Operational Software), CDB (Configuration Database) and LDB (Lighting Database). The software is loaded individually.

NOTE: If you need to load software to only the forward ACP MSA, ADL to ACP (Phase 1) dataload is required. If you need to load software to the aft ACP or the light LRU's, ACP to ACP/ACP to LRU (Phase 2) dataload is required.

B. References

Reference	Title
20-15-11-400-801	On-Airplane Software - Installation (P/B 201)
32-09-00 P/B 201	AIR/GROUND SYSTEM - MAINTENANCE PRACTICES

C. Procedure

SUBTASK 23-42-03-940-001

(1) Make sure the airplane is set to ground mode. Refer to: AIR/GROUND SYSTEM - MAINTENANCE PRACTICES, PAGEBLOCK 32-09-00/201.

SUBTASK 23-42-03-940-002

(2) Make sure that these circuit breakers are closed:

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
A	9	C00923	DATA LOADER

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
D	12	C01936	ATTENDANT PANELS

SUBTASK 23-42-03-470-001

(3) AIRPLANES WITH P1, P2 OR P4 SOFTWARE:

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Do the steps that follow to install the new software:

(a) Set up the data loader at P61-1 panel located in the flight deck to applicable configuration for loading software to the ACP. Refer to On-Airplane Software - Installation, TASK 20-15-11-400-801.

1) Set CHANNEL SELECT to CENTER

2) Set DATA LOAD SELECT to ACP

(b) Go to the forward ACP touchscreen and select Maintenance Menu.

(c) Enter password if required.

NOTE: Default password is “1234” unless changed by the operator.

(d) Select the “ADL to ACP” button located under the Data Load section.

1) The “ADL to ACP” button should be highlighted and the ACP is ready to accept data loads from the data loader.

(e) Insert the media containing the new LSAPs into the data loader.

NOTE: The word “media” defines a data storage device. Examples of media are CDs, mass storage devices, diskettes, PCMCIA, etc.

(f) Wait and check to make sure that the loading is complete for all the new LSAPs.

NOTE: The ACP will not accept an LSAP currently installed unless the file is corrupted. A data load fail message will appear if the user tries to reload an LSAP which is already installed.

(g) Press “ADL to ACP” button to exit the Data load.

1) The “ADL to ACP” button should not be illuminated and the “ACP to LRUs” button should be disabled.

(h) Remove and store away the media containing the LSAPs.

(i) Press “ACP to ACP” button to load the LSAPs from the forward ACP to the aft ACP.

1) The “ACP to ACP” button should be highlighted.

NOTE: If the aft ACP has the same LSAPs as the forward ACP, the ACP to ACP button will fail and a manual restart of the ACP circuit breaker is required.

(j) Wait for the loading to complete, both the forward and aft ACP's should restart.

(k) For loading data from the ACP to the LED Lighting assemblies, do the steps that follow:

1) Press the “ACP to LRUs” button.

a) The “ACP to LRUs” button should highlight.

2) Wait for the data load to finish.

3) Check to make sure the Address, Scene and Zone information are downloaded without errors.

SUBTASK 23-42-03-470-002

(4) AIRPLANES WITH P5 SOFTWARE:

Do the steps that follow to install the new software:

(a) Set up the data loader at P61-1 panel located in the flight deck to applicable configuration for loading software to the ACP. Refer to On-Airplane Software - Installation, TASK 20-15-11-400-801.

1) Set CHANNEL SELECT to CENTER

2) Set DATA LOAD SELECT to ACP

ECCN 9E991 BOEING PROPRIETARY - See title page for details

(b) Go to the forward ACP touchscreen and select Maintenance Menu.

(c) Enter password if required.

NOTE: Default password is “1234” unless changed by the operator.

(d) Select the “Data Load” button in the Maintenance menu.

NOTE: When you push the “Data Load” button, you will see four buttons in the control window: Phase 1 Data Load, Phase 2 Data Load, Start, and Exit. Data loading instructions will be displayed in the result window.

Phase 1 Data Load transfers data from aircraft loader to the FWD ACP and installs software from NFS/PDL to the FWD ACP MSA.

Phase 2 Data Load will load software from MSA to FWD ACP. The software will be automatically cross-loaded from FWD ACP to AFT ACP and distributed its data to Lighting LRUs. If AFT ACP and/or Lighting LRUs are not present, the software must be manually cross-loaded from FWD ACP to AFT ACP and distributed its data to Lighting LRUs.

(e) For Phase 1 Data Load, do the steps that follow:

1) Push the “Phase 1 Data Load” button.

2) Insert the media containing the new LSAPs into the data loader or select an appropriate file in the Electronic Aircraft Data Loader (eADL).

NOTE: Once the process has started, the result window will show the current progress of the file transfer. The status bar will show the approximate percent complete as the process executes.

3) When the process completes, push the “Exit” button.

(f) For Phase 2 Data Load, do the steps that follow:

1) Push the “Phase 2 Data Load” button.

NOTE: When user select Phase 2 Data Load button, the screen will show the LSAP selection table and control window. The current configuration is selected at default. The user can select another LSAP to load into the ACP's and the light LRU's.

2) Select the LSAP in the Mass Storage Area.

3) Push the “Start” button.

NOTE: Once the process has started, the result window will show the current progress of the file transfer. The status bar will show the approximate percent complete as the process executes.

SUBTASK 23-42-03-700-001

(5) Do this task to verify that the LSAPs are loaded correctly: Attendant Control Panel (ACP) Configuration Check, TASK 23-42-03-700-801.

END OF TASK

TASK 23-42-03-700-801

3. Attendant Control Panel (ACP) Configuration Check

A. General

(1) The Configuration Check provides part number information for the ACP's and each Light LRU. It displays part numbers for hardware, Operational Software (OPS), Configuration Database (CDB), Standard Scene and Custom Scene (if applicable).

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B. Procedure

SUBTASK 23-42-03-700-002

(1) AIRPLANES WITH P4 SOFTWARE;

Do the steps that follow for the Configuration Check:

(a) At the forward ACP, select Maintenance menu.

Enter password if required.

NOTE: Default password is “1234” unless changed by the operator.

(b) Select the “Check” button in the Configuration Check section.

(c) Verify the part numbers on the display screen.

SUBTASK 23-42-03-700-003

(2) AIRPLANES WITH P5 SOFTWARE;

Do the steps that follow for the Configuration Check:

(a) At the forward ACP, select Maintenance menu.

(b) Enter password if required.

NOTE: Default password is “1234” unless changed by the operator.

(c) Push the “Config Check” button in the Maintenance menu.

(d) Push the “Start Check” button in the control window.

(e) Verify the part numbers on the display screen.

——— END OF TASK ———

TASK 23-42-03-940-801

4. Attendant Control Panel (ACP) - Saving Data Diskette Preparation

A. General

(1) This procedure prepares the diskette for saving configuration check data and fault data.

NOTE: This task is applicable for airplanes with P5 software.

B. Procedure

SUBTASK 23-42-03-940-004

(1) To prepare a diskette for saving configuration check data, do the steps that follow on your computer:

(a) Insert the diskette in the diskette drive.

(b) Create a text file with following contents:

LBL=226

DSN = 1

DTN = 1

B1D = 1H,1H,374

B2D = 0H,0H,300

B1P = 1

B2P = 0

B1R = SAVECFG.TXT

ECCN 9E991 BOEING PROPRIETARY - See title page for details

(c) Save the text file on the diskette as CONFIG.LDR.

NOTE: Windows may hide the extension of the text file. Make sure the filename has a ".LDR" file extension and not a ".TXT" extension.

(d) Remove the diskette from diskette drive.

SUBTASK 23-42-03-940-003

(2) To prepare a diskette for saving fault data and configuration check data, do the steps that follow on your computer:

(a) Insert a diskette in the diskette drive.

(b) Create a text file with following contents:

LBL=226

DSN = 1

DTN = 1

B1D = 1H,1H,374

B2D = 0H,0H,300

B1P = 1

B2P = 0

B1R = SAVEALL.TXT

(c) Save the text file on the diskette as CONFIG.LDR.

NOTE: Windows may hide the extension of the text file. Make sure the filename has a ".LDR" file extension and not a ".TXT" extension.

(d) Remove the diskette from diskette drive.

END OF TASK

TASK 23-42-03-970-801

5. Attendant Control Panel (ACP) - Saving Configuration Data

A. General

(1) This task saves the Configuration Data on a diskette.

NOTE: This task is applicable for airplanes with P5 software.

B. Procedure

SUBTASK 23-42-03-970-001

(1) Do the steps that follow to save the Configuration Data:

(a) In the Maintenance menu column, push the "Config Check" button.

NOTE: When you push the Config Check button, three buttons will appear in the control window: Start Check, Save Config Data and Exit. The result window will display instructions for user to view or save the configuration data.

(b) Insert a properly formatted diskette into the Aircraft Data Loader (ADL).

1) The Save Data diskette can be created by using the Configuration Database Generator (CDG) or by the task: Attendant Control Panel (ACP) - Saving Data Diskette Preparation, TASK 23-42-03-940-801.

(c) Push the Save Config Data button in the control window.

NOTE: When this process starts, the result window will display the current progress of the file transfer.

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(d) Push the Exit button in the control window to complete the process.

——— END OF TASK ———

TASK 23-42-03-970-802

6. Attendant Control Panel (ACP) - Saving Fault Data

A. General

(1) This task saves the system test faults or data load faults on a diskette.

NOTE: This task is applicable for airplanes with P5 software.

B. Procedure

SUBTASK 23-42-03-970-002

(1) In the Maintenance menu column, push the ‘‘Config Check’’ button.

NOTE: NOTE: When you push the Config Check button, three buttons will appear in the control window: Start Check, Save Config Data and Exit. The result window will display instructions for user to view or save the configuration data. This will save the current config data to memory.

(2) To save the fault data, do the steps that follow:

(a) In the Maintenance menu column, push the Fault Data button.

NOTE: When you push the Fault Data button, four buttons will appear in the control window: System Test Faults, Data Load Faults, Save All and Exit. The result window will display instructions for user to view or save the fault data.

(b) Insert a properly formatted diskette into the Aircraft Data Loader (ADL).

1) The Save Data diskette can be created by using the Configuration Database Generator (CDG) or by the task: Attendant Control Panel (ACP) - Saving Data Diskette Preparation, TASK 23-42-03-940-801.

(c) Push the Save All button in the control window.

NOTE: When this process starts, the result window will display the current progress of the file transfer.

(d) Push the Exit button in the control window to complete the process.

——— END OF TASK ———

TASK 23-42-03-070-801

7. Attendant Control Panel (ACP) - Erasing Mass Storage Area (MSA)

A. General

(1) This task erases the Mass Storage Area (MSA) at the forward ACP.

NOTE: This task is applicable for airplanes with P5 software.

B. Procedure

SUBTASK 23-42-03-070-001

(1) At the forward ACP, do the steps that follow to erase the MSA:

(a) In the ACP main menu column, push the Maintenance button.

(b) Enter password if required.

NOTE: Default password is “1234” unless changed by the operator.

(c) In the Maintenance menu column, push the Data Load button.

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(d) In the control window, push the Phase 2 Data Load button.

(e) In the control window, push the Erase MS Area button.

(f) In the control window, push the Start button.

NOTE: The result window will show the progress of the erase process.

END OF TASK

TASK 23-42-03-100-801

8. Attendant Control Panel (ACP) Touchscreen Cleaning

A. General

(1) This tasks tells you how to clean the LCD touchscreen.

B. LCD Touchscreen Cleaning Procedure

SUBTASK 23-42-03-160-001

(1) Do the steps that follow to clean the LCD Touchscreen:

(a) Under display menu, push the Clean screen button to put the ACP in screen cleaning mode.

(b) Clean the LCD Touchscreen assembly with soft, lint-free cloth and isopropyl alcohol.

1) Wipe the screen in gentle motion.

NOTE: Lint-free cleaning wipes with alcohol are acceptable.

END OF TASK

TASK 23-42-03-700-802

9. Attendant Control Panel (ACP) LCD Screen Display Check

A. General

(1) This task determines serviceability of the ACP LCD screen displays.

B. References

Reference	Title
25-25-11-000-802	Attendant's Panel with LCD Touch Panel - Removal (P/B 401)
25-25-11-400-802	Attendant's Panel with LCD Screen - Installation (P/B 401)

C. LCD Screen Display Check Procedure

SUBTASK 23-42-03-720-001

(1) Make sure that the LCD screen display is clear to read.

(2) Count the number of defective pixels on the LCD screen of the ACP.

(a) Make sure that there are no more than four defective pixels in total with no more than two defective pixels adjacent to each other.

NOTE: Defective is defined as a pixel that does not display the intended color with respect to adjacent pixels.

1) If the LCD screen does not meet this criteria, replace the ACP. Do these tasks:

a) Attendant's Panel with LCD Touch Panel - Removal, TASK 25-25-11-000-802

b) Attendant's Panel with LCD Screen - Installation, TASK 25-25-11-400-802.

END OF TASK

ECCN 9E991 BOEING PROPRIETARY - See title page for details

ATTENDANT CONTROL PANEL - ADJUSTMENT/TEST

1. General

A. This procedure contains a task for the operation test of the Attendant Control Panel (ACP). Do this task when you replace the ACP.

TASK 23-42-03-710-801

2. Attendant Control Panel - Operational Test

A. General

(1) This task makes sure that the Attendant Control Panel (ACP) operates correctly.

(2) The ACP controls and monitors several systems on the airplane. The ACP operational test consists of the tests for all systems that the ACP is associated with.

B. References

Reference	Title
23-42-00-710-803	Cabin Interphone system - Attendant Panel Installation Test (P/B 501)
23-42-00-710-804	Cabin Ready System - Operational Test (P/B 501)
23-42-03-700-801	Attendant Control Panel (ACP) Configuration Check (P/B 201)
23-81-00-710-803	PC Power System - Operational Test (P/B 501)
26-14-00-710-802	Lavatory Smoke Detection - Self Test (P/B 501)
44-21-00-440-802	Video Entertainment System - Activation (P/B 201)
44-21-00-440-803-001	Passenger Video System - Activation (P/B 201)
44-21-00-700-803	Passenger Video System - Operational Test (P/B 501)
44-21-00-700-805	Digital Passenger Audio/Video Entertainment System - Operational Test (P/B 501)
44-21-16-700-801	PC Power System - Operational Test (P/B 501)
FIM 23-42 TASK 839	LED on the ACP Switch Assembly (ISA) is ON - Fault Isolation
FIM 23-42 TASK 840	Attendant Control Panel - Touch Screen Inoperative
FIM 23-42 TASK 841	Amber LED Light on ACP Switch Assembly does not come on during operational test

C. Procedure

SUBTASK 23-42-03-700-004

(1) Do the power-up test for the ACP:

NOTE: After power-up, the Over-Temperature LED will turn on for 2 seconds and then turn off.

(a) Open this circuit breaker:

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
D	12	C01936	ATTENDANT PANELS

(b) Close this circuit breaker:

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
D	12	C01936	ATTENDANT PANELS

(c) Check the LED at the upper left corner of the Integrated Switch Assembly (ISA).

NOTE: The LED should turn on in the first 2 seconds after power-up and then turn off.

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1) If the LED light (amber) does not turn on in the first 2 seconds after power-up, refer to FIM 23-42 TASK 841 for corrective actions.

2) If the LED light continues to stay on after power-up, refer to FIM 23-42 TASK 839 for corrective actions.

(d) Check the ACP Touch Screen to make sure that it responds to touching inputs.

1) If the ACP Touch Screen does not respond to any touching inputs, refer to FIM 23-42 TASK 840 for corrective actions.

SUBTASK 23-42-03-710-003

(2) Do the test for the Cabin Interphone system:

(a) Do this task: Cabin Interphone system - Attendant Panel Installation Test, TASK 23-42-00-710-803.

LOM 429-431, 445

SUBTASK 23-42-03-710-004

(3) Do the test for the Cabin Ready system if you replace the forward ACP:

(a) Do this task: Cabin Ready System - Operational Test, TASK 23-42-00-710-804.

LOM 429-432, 437, 438, 445, 465

SUBTASK 23-42-03-710-005

(4) Do the test for the PC Power system if you replace the forward ACP:

(a) Do the task:PC Power System - Operational Test, TASK 23-81-00-710-803.

LOM 433, 434, 440, 442-445, 453, 454, 458-461, 464, 466-999

SUBTASK 23-42-03-710-011

(5) Do the test for the PC Power system if you replace the forward ACP:

(a) Do the task: PC Power System - Operational Test, TASK 44-21-16-700-801.

LOM 427, 428, 433, 434, 437-447, 453-464, 466-999

SUBTASK 23-42-03-710-006

(6) Do the test for the IFE system if you replace the forward ACP:

LOM 427, 428, 433, 434, 437-447, 453-460, 462-464, 466-999

(a) Do this task: Video Entertainment System - Activation, TASK 44-21-00-440-802 or Passenger Video System - Activation, TASK 44-21-00-440-803-001.

LOM 427, 428, 433, 434, 437-447, 453-464, 466-999

(b) Do this task: Passenger Video System - Operational Test, TASK 44-21-00-700-803 or Digital Passenger Audio/Video Entertainment System - Operational Test, TASK 44-21-00-700-805.

LOM 427-434, 437-447, 450-999; AIRPLANES WITHOUT ACP OPS P/N 2316-BPS-03P-05

SUBTASK 23-42-03-710-007

(7) Do the test for the Water/Waste system if you replace the aft ACP:

NOTE: You can find which Operational Software (OPS) is installed on the Attendant Control Panel (ACP) with this task: Attendant Control Panel (ACP) Configuration Check, TASK 23-42-03-700-801.

(a) At the aft ACP, select ENVIRONMENT menu.

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1) Make sure that you see the indicators for Potable Water, Vacuum Waste and LAV INOP.

2) Make sure that the Potable Water and Vacuum Waste indicators show the actual system levels.

(b) Select the MAINTENANCE menu at the aft ACP:

1) Make sure that you see the LAV INOP Test, LAV INOP and Clean Check Sensors buttons in the Vacuum Waste section.

2) Make sure that the LAV INOP indicator is not orange.

LOM 427-434, 437-447, 450-999; AIRPLANES WITH ACP OPS P/N 2316-BPS-03P-05

SUBTASK 23-42-03-710-009

(8) Do the test for the Water/Waste system if you replace the aft ACP:

NOTE: You can find which Operational Software (OPS) is installed on the Attendant Control Panel (ACP) with this task: Attendant Control Panel (ACP) Configuration Check, TASK 23-42-03-700-801.

(a) At the aft ACP, select ENVIRONMENT menu.

1) Make sure that you see the indicators for Potable Water, Vacuum Waste, LAV INOP and Clean Check Sensors.

2) Make sure that the Potable Water and Vacuum Waste indicators show the actual system levels.

SUBTASK 23-42-03-710-010

(9) Do the test for the Water/Waste system if you replace the forward ACP:

(a) Select the MAINTENANCE menu at the forward ACP and select the Vacuum Waste button:

1) Make sure that you see the LAV INOP Test in the Control Window, LAV INOP and Clean Check Sensors buttons in the Status window.

2) Make sure that the LAV INOP indicator is not orange.

LOM 427, 428

SUBTASK 23-42-03-710-008

(10) Do the test for the lavatory smoke detection:

(a) Do this task:Lavatory Smoke Detection - Self Test, TASK 26-14-00-710-802.

——— END OF TASK ———

ECCN 9E991 BOEING PROPRIETARY - See title page for details

INLINE FILTER - REMOVAL/INSTALLATION

1. General

A. This procedure has these tasks:

(1) Removal of an inline filter.

(2) Installation of an inline filter.

B. The inline filters are installed above the ceiling in the forward and aft sections of the passenger compartment.

TASK 23-42-04-000-801

2. Inline Filter Removal

Figure 401

A. References

Reference	Title
20-40-12-000-802	ESDS Handling for Metal Encased Unit Removal (P/B 201)
25-21-45-000-801	Ceiling Panel - Removal (P/B 401)
25-21-45-000-803-001	Main Ceiling Panel - Removal (P/B 401)

B. Location Zones

Zone	Area
222	Passenger Compartment - Aft of Control Compartment to Forward Entry Door - Right
241	Aft Passenger Compartment - Station 663.75 to Aft Pressure Bulkhead - Left

C. Removal Procedure

SUBTASK 23-42-04-840-001

(1) Open these circuit breakers and install safety tags:

CAPT Electrical System Panel, P18-3

Row	Col	Number	Name
A	9	C00073	PASSENGER CABIN CREW CALL

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
LOM 427-434, 437-447, 450-999			
D	12	C01936	ATTENDANT PANELS

LOM 423-434, 437-447, 450-999

SUBTASK 23-42-04-010-001

(2) To get access to the inline filter, do this task: Ceiling Panel - Removal, TASK 25-21-45-000-801 or Main Ceiling Panel - Removal, TASK 25-21-45-000-803-001.

SUBTASK 23-42-04-840-004

(3) Before you touch the inline filter, do this task: ESDS Handling for Metal Encased Unit Removal, TASK 20-40-12-000-802.

SUBTASK 23-42-04-020-001

(4) Do the steps that follow to remove the inline filter [1]:

(a) Disconnect the electrical connector from the inline filter [1].

(b) Remove the four screws [2] that attach the inline filter [1] to the mounting bracket.

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(c) Remove the inline filter [1].

——— END OF TASK ———

ECCN 9E991 BOEING PROPRIETARY - See title page for details

A

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INLINE FILTER INSTALLATION
Figure 401/23-42-04-990-801

ECCN 9E991 BOEING PROPRIETARY - See title page for details

TASK 23-42-04-400-801

3. Inline Filter Installation

Figure 401

A. References

Reference	Title
20-40-12-000-802	ESDS Handling for Metal Encased Unit Removal (P/B 201)
23-42-00-710-802	Cabin Interphone System - Operational Test (P/B 501)
25-21-45-400-801	Ceiling Panel - Installation (P/B 401)
25-21-45-400-803-001	Main Ceiling Panel - Installation (P/B 401)

B. Location Zones

Zone	Area
222	Passenger Compartment - Aft of Control Compartment to Forward Entry Door - Right
241	Aft Passenger Compartment - Station 663.75 to Aft Pressure Bulkhead - Left

C. Installation Procedure

SUBTASK 23-42-04-840-002

(1) Make sure that these circuit breakers are open and have safety tags:

CAPT Electrical System Panel, P18-3

Row	Col	Number	Name
A	9	C00073	PASSENGER CABIN CREW CALL

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
LOM 427-434, 437-447, 450-999			
D	12	C01936	ATTENDANT PANELS

LOM 423-434, 437-447, 450-999

SUBTASK 23-42-04-840-005

(2) Before you touch the inline filter, do this task: ESDS Handling for Metal Encased Unit Removal, TASK 20-40-12-000-802.

SUBTASK 23-42-04-420-001

(3) Do the steps that follow to install the inline filter [1]:

(a) Attach the inline filter [1] to the mounting bracket with the screws [2] from the removal.

(b) Connect the electrical connector to the inline filter [1].

SUBTASK 23-42-04-410-001

(4) Install the main ceiling panel:

Do this task: Ceiling Panel - Installation, TASK 25-21-45-400-801 or Main Ceiling Panel - Installation, TASK 25-21-45-400-803-001.

SUBTASK 23-42-04-840-003

(5) Remove the safety tags and close these circuit breakers:

CAPT Electrical System Panel, P18-3

Row	Col	Number	Name
A	9	C00073	PASSENGER CABIN CREW CALL

ECCN 9E991 BOEING PROPRIETARY - See title page for details

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
LOM 427-434, 437-447, 450-999			
D	12	C01936	ATTENDANT PANELS

LOM 423-434, 437-447, 450-999

D. Installation Test

SUBTASK 23-42-04-700-001

(1) Do voice communication test between the flight compartment and the attendant stations and make sure you can hear the voice clearly. Refer to the task: Cabin Interphone System - Operational Test, TASK 23-42-00-710-802.

END OF TASK

ECCN 9E991 BOEING PROPRIETARY - See title page for details

FLIGHT AND GROUND CREW CALL SYSTEM - ADJUSTMENT/TEST

1. General

A. This procedure has one task:

(1) An operational test of the flight and ground crew call system.

TASK 23-43-00-710-801

2. Flight and Ground Crew Call System - Operational Test

A. References

Reference	Title
24-22-00-860-811	Supply Electrical Power (P/B 201)
24-22-00-860-812	Remove Electrical Power (P/B 201)

B. Location Zones

Zone	Area
115	Nose Landing Gear Wheel Well - Left
211	Flight Compartment - Left
212	Flight Compartment - Right

C. Flight and Ground Crew Call System Operational Test

SUBTASK 23-43-00-860-002

(1) If it is necessary, do this task: Supply Electrical Power, TASK 24-22-00-860-811.

SUBTASK 23-43-00-710-001

(2) Do an operational test of the forward attendant to aft attendant call:

(a) Do these steps from each forward attendant handset to each aft attendant handset.

1) Push the button for attendant on the handset at the forward attendant's station.

a) Make sure you hear a chime on the PA speakers.

b) Make sure the aft pink attendant call light comes on.

2) Push the button for reset on the handset at the aft attendant's station.

a) Make sure the attendant call light goes off.

3) Speak into the forward attendant's handset.

a) Make sure you can hear speech on the aft attendant's handset.

4) Speak into the aft attendant's handset.

a) Make sure you can hear speech on the forward attendant's handset.

SUBTASK 23-43-00-710-004

(3) Do an operational test of the aft attendant to forward attendant call:

(a) Do these steps from each aft attendant handset to each forward attendant handset.

1) Push the button for attendant on the handset at the aft attendant's station.

a) Make sure you hear a chime on the PA speakers.

b) Make sure the pink attendant call light at the forward attendant's station comes on.

2) Push the button for reset on the handset at the forward attendant's station.

a) Make sure the attendant call light goes off.

ECCN 9E991 BOEING PROPRIETARY - See title page for details

LOM 402, 404, 406, 407, 411, 412, 415, 416, 420, 422-426

SUBTASK 23-43-00-710-007

(4) Do a cabin interphone reset test:

(a) Remove each Attendant's handset from its holder.

(b) Press the button for the PA system on each handset.

(c) Press and hold the PTT button and speak into each handset. Make sure that speech is heard over the PSU speaker.

(d) Release the PTT button.

(e) Press the reset button on the Forward Attendant handset.

(f) Press and hold the PTT button and speak into the Forward Attendant handset. Make sure speech cannot be heard over the PSU speaker.

(g) Release the PTT button.

(h) Press the button for the PA system on the Forward Attendant's handset.

(i) Press the reset button on each Aft Attendant's handset.

(j) Press and hold the PTT button and speak into each Aft Attendant's handset. Make sure speech cannot be heard over the PSU speaker.

(k) Release the PTT button.

(l) Return each Attendant's handset to its holder.

LOM ALL

SUBTASK 23-43-00-710-002

(5) Do an operational test of the flight crew to attendant call:

(a) Push the ATTEND button on the P5 Overhead Panel.

1) Make sure the pink attendant call lights at the forward and aft attendant's stations come on.

2) Make sure you hear a two-tone chime in the passenger cabin.

(b) Push the button for reset on the handset at the forward attendant's station.

1) Make sure the attendant call light goes off.

SUBTASK 23-43-00-710-005

(6) Do an operational test of the attendant to flight crew call:

(a) Do these steps from each forward attendant handset and from each aft attendant handset.

1) Push the button for the pilot on the forward or aft attendant's handset.

a) Make sure that you hear a chime in the flight compartment.

LOM 404, 411, 412, 415, 416, 422-426, 432-434, 437-442, 445-447, 451-457, 461-463, 466-999

b) Make sure the CALL light on the P5 overhead panel comes on.

LOM 402, 406, 407, 420, 427-431, 443, 444, 450, 458-460, 464, 465

c) Make sure the CABIN interphone call light on each audio control panel comes on.

d) Make sure the CABIN microphone selector switch is depressed on the audio control panels.

LOM ALL

ECCN 9E991 BOEING PROPRIETARY - See title page for details

2) Speak into the attendant's handset.
   a) Make sure you can hear speech on the pilot's headset.
3) Speak into the pilot's boom microphone.
   a) Make sure you can hear speech on the attendant's handset.

LOM 461-463

SUBTASK 23-43-00-710-006

(7) Do an operational test of the sterile light:
   (a) Put the STERILE switch on the P5 panel in the flight deck to the ON position.
      1) Make sure the blue sterile light above the entry door to the flight deck comes on.
   (b) Put the STERILE switch to the OFF position.
      1) Make sure the blue sterile light goes off.

LOM ALL

SUBTASK 23-43-00-710-003

(8) Do an operational test between the flight crew and the ground crew:
   (a) Push and hold the GRD CALL button on the P5 Overhead Panel in the flight compartment.
      1) Make sure you hear the ground crew call horn at the nose wheel well area.
   (b) Release the GRD CALL button.
   (c) Push and hold the PILOT CALL button on the external power P19 panel at the nose wheel well area.
      1) Make sure you hear a chime in the flight compartment.

LOM 404, 411, 412, 415, 416, 422-426, 432-434, 437-442, 445-447, 451-457, 461-463, 466-999

2) Make sure the CALL light on the P5 overhead panel comes on.

LOM 402, 406, 407, 420, 427-431, 443, 444, 450, 458-460, 464, 465

3) Make sure the flight interphone call light on each audio control panel comes on. The flight interphone is labelled Flt, Int, or Flt Int.

LOM ALL

   (d) Release the pilot call BUTTON.

SUBTASK 23-43-00-860-001

(9) If it is necessary, do this task: Remove Electrical Power, TASK 24-22-00-860-812.

END OF TASK

ECCN 9E991 BOEING PROPRIETARY - See title page for details

GROUND CREW CALL HORN - REMOVAL/INSTALLATION

1. General

A. This procedure has these tasks:

(1) A removal of the ground crew call horn.

(2) An installation of the ground crew call horn.

B. The ground crew call horn is installed at the nose wheel well area.

TASK 23-43-02-000-801

2. Ground Crew Call Horn Removal

(Figure 401)

A. References

Reference	Title
32-00-01-480-801	Landing Gear Downlock Pins Installation (P/B 201)

B. Location Zones

Zone	Area
115	Nose Landing Gear Wheel Well - Left

C. Ground Crew Call Horn Removal

SUBTASK 23-43-02-760-001

(1) Open this circuit breaker and install safety tag:

CAPT Electrical System Panel, P18-3

Row	Col	Number	Name
A	9	C00073	PASSENGER CABIN CREW CALL

SUBTASK 23-43-02-020-001

(2) Remove the ground crew call horn [1]:

> **WARNING** MAKE SURE THAT THE DOWNLOCK PINS ARE INSTALLED ON ALL THE LANDING GEAR BEFORE YOU REMOVE THE GROUND-CREW CALL HORN. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR CAN RETRACT. THIS CAN CAUSE INJURIES TO PERSONNEL AND DAMAGE TO EQUIPMENT.

(a) Make sure that the downlock pins are installed on the nose and main landing gear (TASK 32-00-01-480-801).

(b) Remove the screws [3] and washers [2] from the ground crew call horn [1].

(c) Pull the ground crew call horn [1] out until you can get access to the terminals.

(d) Remove the nuts [4] from the ground crew call horn [1] terminals.

(e) Disconnect the electrical connectors [5] from the ground crew call horn [1] terminals.

(f) Remove the ground crew call horn [1].

END OF TASK

ECCN 9E991 BOEING PROPRIETARY - See title page for details

NOSE LANDING GEAR WHEEL WELL

A

G06602 S0006566005_V2

Ground Crew Call Horn Installation
Figure 401/23-43-02-990-801 (Sheet 1 of 2)

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GROUND CREW CALL HORN

B

G06607 S0006566006_V3

Ground Crew Call Horn Installation
Figure 401/23-43-02-990-801 (Sheet 2 of 2)

ECCN 9E991 BOEING PROPRIETARY - See title page for details

TASK 23-43-02-420-801

3. Ground Crew Call Horn Installation

(Figure 401)

A. References

Reference	Title
24-22-00-860-811	Supply Electrical Power (P/B 201)
32-00-01-480-801	Landing Gear Downlock Pins Installation (P/B 201)

B. Expendables/Parts

AMM Item	Description	AIPC Reference	AIPC Effectivity
1	Horn	23-43-01-01-005	LOM ALL

C. Location Zones

Zone	Area
115	Nose Landing Gear Wheel Well - Left

D. Ground Crew Call Horn Installation

SUBTASK 23-43-02-760-003

(1) Make sure that this circuit breaker is open and has safety tag:

CAPT Electrical System Panel, P18-3

Row	Col	Number	Name
A	9	C00073	PASSENGER CABIN CREW CALL

SUBTASK 23-43-02-420-001

(2) Install the ground crew call horn [1]:

> **WARNING** MAKE SURE THAT THE DOWNLOCK PINS ARE INSTALLED ON ALL THE LANDING GEAR BEFORE YOU REMOVE THE GROUND-CREW CALL HORN. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR CAN RETRACT. THIS CAN CAUSE INJURIES TO PERSONNEL AND DAMAGE TO EQUIPMENT.

(a) Make sure that the downlock pins are installed on the nose and main landing gear (TASK 32-00-01-480-801).

(b) Connect the electrical connectors [5] to the ground crew call horn [1] terminals.

NOTE: The ground crew call horn is polarity sensitive and will not operate if the positive connector is not connected to the positive terminal above the +28V label.

(c) Install and tighten the nuts [4] that attach the electrical connectors [5] to the ground crew call horn [1] terminals.

(d) Put the ground crew call horn [1] in its position over the screw holes in the forward area of the nose wheel well.

1) Make sure that the drain hole is downward to allow drainage of moisture.

(e) Install the screws [3] and washers [2] that attach the ground crew call horn [1] to the airplane.

ECCN 9E991 BOEING PROPRIETARY - See title page for details

SUBTASK 23-43-02-760-002

(3) Remove the safety tag and close this circuit breaker:

CAPT Electrical System Panel, P18-3

Row	Col	Number	Name
A	9	C00073	PASSENGER CABIN CREW CALL

E. Installation Test

SUBTASK 23-43-02-860-002

(1) If it is necessary, do this task: Supply Electrical Power, TASK 24-22-00-860-811.

SUBTASK 23-43-02-700-001

(2) Do an installation test of the ground crew call horn:

(a) Push the GRD CALL switch momentarily on the P5 overhead panel.

(b) Make sure that the ground crew call horn operates.

END OF TASK

ECCN 9E991 BOEING PROPRIETARY - See title page for details

FLIGHT INTERPHONE SYSTEM - MAINTENANCE PRACTICES

1. General

A. This procedure has these tasks:

(1) Flight Interphone System Deactivation.

(2) Flight Interphone System Activation.

TASK 23-51-00-040-801

2. Flight Interphone System - Deactivation

A. General

(1) This procedure removes electrical power to the Flight Interphone System.

B. Location Zones

Zone	Area
117	Electrical and Electronics Compartment - Left
118	Electrical and Electronics Compartment - Right
210	Subzone - Control Compartment - Body Station 178.00 to Body Station 259.50
211	Flight Compartment - Left
212	Flight Compartment - Right

C. Procedure

SUBTASK 23-51-00-860-015

(1) Open these circuit breakers and install safety tags:

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
D	11	C00165	COMMUNICATIONS VHF 1

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
C	3	C00166	COMMUNICATIONS VHF 2

F/O Electrical System Panel, P6-2

Row	Col	Number	Name
C	21	C00560	INTERPHONE POWER F/O DC 2
C	22	C00561	INTERPHONE POWER F/O BAT
C	23	C00239	INTERPHONE POWER CAPT DC 2
C	24	C00240	INTERPHONE POWER CAPT BAT
D	21	C00084	INTPH AND WARN
D	22	C00086	AUDIO F/O
D	23	C00083	AUDIO CAPT
D	24	C00085	AUDIO OBS

F/O Electrical System Panel, P6-3

Row	Col	Number	Name
F	11	C00317	INDICATOR MASTER DIM SECT 5
F	13	C01179	INDICATOR MASTER DIM SECT 7
F	14	C01180	INDICATOR MASTER DIM SECT 8

ECCN 9E991 BOEING PROPRIETARY - See title page for details

D. Flight Interphone System - Tryout

NOTE: This tryout is to make sure the Flight Interphone System is in a zero energy state.

SUBTASK 23-51-00-860-016

(1) Make sure that these circuit breakers are open and have safety tags:

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
D	11	C00165	COMMUNICATIONS VHF 1

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
C	3	C00166	COMMUNICATIONS VHF 2

F/O Electrical System Panel, P6-2

Row	Col	Number	Name
C	21	C00560	INTERPHONE POWER F/O DC 2
C	22	C00561	INTERPHONE POWER F/O BAT
C	23	C00239	INTERPHONE POWER CAPT DC 2
C	24	C00240	INTERPHONE POWER CAPT BAT
D	21	C00084	INTPH AND WARN
D	22	C00086	AUDIO F/O
D	23	C00083	AUDIO CAPT
D	24	C00085	AUDIO OBS

F/O Electrical System Panel, P6-3

Row	Col	Number	Name
F	11	C00317	INDICATOR MASTER DIM SECT 5
F	13	C01179	INDICATOR MASTER DIM SECT 7
F	14	C01180	INDICATOR MASTER DIM SECT 8

SUBTASK 23-51-00-700-001

(2) Set all audio control panels (ACPs) to these conditions:

(a) Push all audio monitor switches to off.

(b) Push the applicable microphone selector switch to on.

1) Make sure its light does not come on.

——— **END OF TASK** ———

TASK 23-51-00-440-801

3. Flight Interphone System - Activation

A. General

(1) This procedure adds electrical power to the Flight Interphone System.

B. Location Zones

Zone	Area
117	Electrical and Electronics Compartment - Left
118	Electrical and Electronics Compartment - Right
210	Subzone - Control Compartment - Body Station 178.00 to Body Station 259.50

ECCN 9E991 BOEING PROPRIETARY - See title page for details

(Continued)

Zone	Area
211	Flight Compartment - Left
212	Flight Compartment - Right

C. Procedure

SUBTASK 23-51-00-860-014

(1) ...

Remove the safety tags and close these circuit breakers:

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
D	11	C00165	COMMUNICATIONS VHF 1

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
C	3	C00166	COMMUNICATIONS VHF 2

F/O Electrical System Panel, P6-2

Row	Col	Number	Name
C	21	C00560	INTERPHONE POWER F/O DC 2
C	22	C00561	INTERPHONE POWER F/O BAT
C	23	C00239	INTERPHONE POWER CAPT DC 2
C	24	C00240	INTERPHONE POWER CAPT BAT
D	21	C00084	INTPH AND WARN
D	22	C00086	AUDIO F/O
D	23	C00083	AUDIO CAPT
D	24	C00085	AUDIO OBS

F/O Electrical System Panel, P6-3

Row	Col	Number	Name
F	11	C00317	INDICATOR MASTER DIM SECT 5
F	13	C01179	INDICATOR MASTER DIM SECT 7
F	14	C01180	INDICATOR MASTER DIM SECT 8

END OF TASK

ECCN 9E991 BOEING PROPRIETARY - See title page for details

FLIGHT INTERPHONE SYSTEM - ADJUSTMENT/TEST

1. **General**
   A. This procedure contains scheduled maintenance task data.
   B. This procedure contains the following:
      (1) An operational test of the flight interphone system.
      NOTE: Two persons are necessary to do this procedure.
      (2) An operational test of the oxygen mask microphones.
      NOTE: Two persons are necessary to do this procedure.

TASK 23-51-00-710-801

2. **Flight Interphone System - Operational Test**

A. References

Reference	Title
35-12-85-910-801	Crew Oxygen Mask Stowage (P/B 201)

B. Location Zones

Zone	Area
117	Electrical and Electronics Compartment - Left
210	Subzone - Control Compartment - Body Station 178.00 to Body Station 259.50
211	Flight Compartment - Left
212	Flight Compartment - Right

C. Access Panels

Number	Name/Location
117A	Electronic Equipment Access Door

D. Operational Test

LOM 402, 406, 407, 420, 427-431, 443, 444, 450, 458-460, 464, 465

SUBTASK 23-51-00-860-009

(1) Make sure the oxygen system for the flight crew is pressurized.

LOM ALL

SUBTASK 23-51-00-860-002

(2) Make sure the SERVICE INTERPHONE switch on the captain's and first officer's overhead panel is in the OFF position.

LOM 404, 411, 412, 415, 416, 422-428, 432-434, 437-442, 445-447, 450-463, 466-999

SUBTASK 23-51-00-860-006

(3) Set each Audio Control Panel (ACP) to these conditions:
   (a) Push all audio monitor switches to off.
   (b) Push the FLT microphone selector switch to on.
      1) Make sure its light comes on.
   (c) Push the volume control for the FLT microphone selector switch.
   (d) Turn the volume control for the FLT microphone selector switch clockwise to the middle position.

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LOM 402, 406, 407, 420, 429-431, 443, 444, 464, 465

SUBTASK 23-51-00-860-008

(4) Set each ACP to these conditions:

(a) Push all audio monitor switches to off.

(b) Push the INT microphone selector switch to on.

1) Make sure its light comes on.

(c) Push the volume control for the INT microphone selector switch.

(d) Turn the volume control for the INT microphone selector switch clockwise to the middle position.

LOM ALL

SUBTASK 23-51-00-860-004

(5) Set the captain's and first officer's ACPs to these conditions:

(a) Push the SPKR volume control switch to ON.

1) Make sure its light comes on.

(b) Turn the SPKR volume control switch clockwise to the middle position or to the volume level you are comfortable with.

SUBTASK 23-51-00-710-001

(6) Do the communication test between each of the flight crew stations with the Push-To-Talk (PTT) switch on the hand microphone:

(a) Push and hold the PTT switch on the hand microphone.

(b) Speak into the hand microphone.

1) Make sure you can hear the voice clearly from the other headsets.

LOM 402, 404, 406, 407, 411, 412, 415, 416, 420, 422-434, 437-447, 450-460, 464-999

2) Make sure the voice level from the flight deck speakers decreases.

LOM 461-463

3) Make sure the captain's announcement decreases the captain's speaker volume and the first officer's announcement decreases the first officer's speaker volume.

LOM ALL

(c) Release the PTT switch on the hand microphone.

SUBTASK 23-51-00-710-002

(7) Do the communication test between each of the flight crew stations with the PTT switch on the captain's and first officer's control wheel:

LOM 404, 411, 412, 415, 416, 422-426, 432-434, 437-442, 445-447, 451-457, 461-463, 466-999

(a) Set the MASK/BOOM switch on the captain's and first officer's ACP to the BOOM position.

LOM 402, 404, 406, 407, 411, 412, 415, 416, 420, 423, 424, 432, 437-439, 441, 446, 447, 450, 455, 456, 458-999; LOM 445 PRE SB 737-23-1942

(b) Push and hold the PTT switch on the captain's and first officer's control wheel to the INT position.

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LOM 422, 425-431, 433, 434, 440, 442-444, 451-454, 457; LOM 445 POST SB 737-23-1942

(c) Push the PTT switch on the captain's and first officer's control wheel to the INT position.

LOM ALL

(d) Speak into the captain's and first officer's boom microphone.

1) Make sure you can hear the voice clearly from the other headsets.

LOM 402, 404, 406, 407, 411, 412, 415, 416, 420, 422-434, 437-447, 450-460, 464-999

2) Make sure the voice level from the flight deck speakers decreases.

LOM 461-463

3) Make sure the captain's announcement decreases the captain's speaker volume and the first officer's announcement decreases the first officer's speaker volume.

LOM 402, 404, 406, 407, 411, 412, 415, 416, 420, 423, 424, 432, 437-439, 441, 446, 447, 450, 455, 456, 458-999; LOM 445 PRE SB 737-23-1942

(e) Release the PTT switch on the captain's and first officer's control wheel.

LOM 422, 425-431, 433, 434, 440, 442-444, 451-454, 457; LOM 445 POST SB 737-23-1942

(f) Push the PTT switch on the captain's and first officer's control wheel to the OFF position.

LOM 402, 404, 406, 407, 411, 412, 415, 416, 420, 422-434, 437-447, 450-460, 464-999

SUBTASK 23-51-00-710-008

(8) Do the communication test between each of the flight crew stations with the PTT switch on the captain's and first officer's glareshield:

(a) Push and hold the PTT switch on the captain's and first officer's glareshield.

(b) Speak into the captain's and first officer's boom microphone.

1) Make sure you can hear the voice clearly from the other headsets.

2) Make sure the voice level from the flight deck speakers decreases.

(c) Release the PTT switch on the captain's and first officer's glareshield panel.

LOM 404, 411, 412, 415, 416, 422-428, 432-434, 437-442, 445-447, 450-463, 466-999

SUBTASK 23-51-00-710-003

(9) Do the communication test between each of the flight crew stations with the R/T - I/C switch on the captain's and first officer's ACP:

(a) Push and hold the R/T - I/C switch on the captain's and first officer's ACP to the R/T position.

(b) Speak into the captain's and first officer's boom microphone.

1) Make sure you can hear the voice clearly from the other headsets.

LOM 404, 411, 412, 415, 416, 422-428, 432-434, 437-442, 445-447, 450-460, 466-999

2) Make sure the voice level from the flight deck speakers decreases.

LOM 461-463

3) Make sure the captain's announcement decreases the captain's speaker volume and the first officer's announcement decreases the first officer's speaker volume.

LOM 404, 411, 412, 415, 416, 422-428, 432-434, 437-442, 445-447, 450-463, 466-999

(c) Release the R/T - I/C switch on the ACP.

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(d) Push the R/T - I/C switch on the captain's and first officer's ACP to the I/C position.

1) If necessary, hold the switch in the I/C position.

(e) Speak into the captain's and first officer's boom microphone.

1) Make sure you can hear the voice clearly from the other headsets.

LOM 404, 411, 412, 415, 416, 422-428, 432-434, 437-442, 445-447, 450-460, 466-999

2) Make sure the voice level from the flight deck speakers decreases.

LOM 461-463

3) Make sure the captain's announcement decreases the captain's speaker volume and the first officer's announcement decreases the first officer's speaker volume.

LOM 404, 411, 412, 415, 416, 422-428, 432-434, 437-442, 445-447, 450-463, 466-999

(f) Release the R/T - I/C switch on the captain's and first officer's ACP so that it returns to the center position.

1) If necessary, push the R/T - I/C switch back to the center position.

LOM 402, 406, 407, 420, 429-431, 443, 444, 464, 465

SUBTASK 23-51-00-710-006

(10) Do the communication test between each of the flight crew stations with the RADIO - INT switch on the captain's and first officer's ACP:

(a) Push and hold the RADIO - INT switch on the captain's and first officer's ACP to the RADIO position.

(b) Speak into the captain's and first officer's boom microphone.

1) Make sure you can hear the voice clearly from the other headsets.

2) Make sure the voice level from the flight deck speakers decreases.

(c) Release the RADIO - INT switch on the ACP.

(d) Push the RADIO - INT switch on the captain's and first officer's ACP to the INT position.

(e) Speak into the captain's and first officer's boom microphone.

1) Make sure you can hear the voice clearly from the other headsets.

2) Make sure the voice level from the flight deck speakers decreases.

LOM 402, 406, 407, 420, 429-431, 443, 444

(f) Set the RADIO - INT switch on the captain's and first officer's ACP to the neutral position.

LOM 464, 465

(g) Push the RADIO - INT switch on the captain's and first officer's ACP back to the center position.

LOM ALL

SUBTASK 23-51-00-710-012

(11) Do the communication test between each of the flight crew stations with the oxygen mask:

(a) Remove the oxygen mask from the stowage box at the flight crew's station.

(b) If necessary, connect the oxygen mask microphone to the interphone jack at the flight crew's station.

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LOM 404, 411, 412, 415, 416, 422-426, 432-434, 437-442, 445-447, 451-457, 461-463, 466-999

(c) Set the MASK/BOOM switch on the flight crew's ACP to the MASK position.

LOM 404, 411, 412, 415, 416, 422-428, 432-434, 439-442, 445-447, 450-463, 466-999

(d) Push and hold the R/T - I/C switch on the flight crew's ACP to the I/C position.

LOM 437, 438

(e) Push the R/T - I/C switch on the flight crew's ACP to the I/C position.

LOM 402, 406, 407, 420, 429-431, 443, 444, 464, 465

(f) Push the RADIO - INT switch on the flight crew's ACP to the INT position.

LOM ALL

(g) Speak into the flight crew's oxygen mask microphone.

1) Make sure the person at the other end can hear your voice clearly.
2) Make sure you can hear the voice at both flight deck speakers.
3) Make sure the voice level from the flight deck speakers does not decrease.

(h) Make sure you can hear the voice clearly when the person at the other end speaks to you.

LOM 404, 411, 412, 415, 416, 422-428, 432-434, 439-442, 445-447, 450-463, 466-999

(i) Release the R/T - I/C switch on the flight crew's ACP.

LOM 437, 438

(j) Push the R/T - I/C switch on the flight crew's ACP back to the center position.

LOM 402, 406, 407, 420, 429-431, 443, 444, 464, 465

(k) Push the RADIO - INT switch on the flight crew's ACP back to the center position.

LOM 404, 411, 412, 415, 416, 422-426, 432-434, 437-442, 445-447, 451-457, 461-463, 466-999

(l) Set the MASK/BOOM switch on the flight crew's ACP to the BOOM position.

LOM 404, 411, 412, 415, 416, 422-426, 432-434, 439-442, 445-447, 451-457, 461-463, 466-999

(m) Push and hold the R/T - I/C switch on the flight crew's ACP to the I/C position.

LOM 437, 438

(n) Push the R/T - I/C switch on the flight crew's ACP to the I/C position.

LOM 404, 411, 412, 415, 416, 422-434, 437-442, 445-447, 451-457, 461-463, 466-999

(o) Speak into the flight crew's oxygen mask microphone.

1) Make sure the person at the other end cannot hear your voice.
2) Make sure you cannot hear the voice at both flight deck speakers.

LOM 404, 411, 412, 415, 416, 422-426, 432-434, 439-442, 445-447, 451-457, 461-463, 466-999

(p) Release the R/T - I/C switch on the flight crew's ACP.

LOM 437, 438

(q) Push the R/T - I/C switch on the flight crew's ACP back to the center position.

LOM ALL

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(r) Do this task to stow the Oxygen Masks: Crew Oxygen Mask Stowage, TASK 35-12-85-910-801

(s) Close the door of all mask stowage boxes.

SUBTASK 23-51-00-710-005

(12) Do a test of the flight interphone jack at the external power panel:

(a) Connect a headset to the FLIGHT INTERPHONE jack on the external power panel.

(b) Push and hold the PTT switch on the ground crew microphone.

(c) Speak into the ground crew microphone.

1) Make sure you can hear the voice clearly on the flight compartment speakers.

(d) Release the PTT switch on the ground crew microphone.

LOM 402, 404, 406, 407, 411, 412, 415, 416, 420, 423, 424, 432, 437-439, 441, 446, 447, 450, 455, 456, 458-999; LOM 445 PRE SB 737-23-1942

(e) Push and hold the PTT switch on the captain's and first officer's control wheel to the INT position.

LOM 422, 425-431, 433, 434, 440, 442-444, 451-454, 457; LOM 445 POST SB 737-23-1942

(f) Push the PTT switch on the captain's and first officer's control wheel to the INT position.

LOM ALL

(g) Speak into the captain's and first officer's boom microphone.

1) Make sure you can hear the voice clearly on the ground crew headphone.

LOM 402, 404, 406, 407, 411, 412, 415, 416, 420, 423, 424, 432, 437-439, 441, 446, 447, 450, 455, 456, 458-999; LOM 445 PRE SB 737-23-1942

(h) Release the PTT switch on the captain's and first officer's control wheel.

LOM 422, 425-431, 433, 434, 440, 442-444, 451-454, 457; LOM 445 POST SB 737-23-1942

(i) Push the PTT switch on the captain's and first officer's control wheel to the OFF position.

LOM ALL

SUBTASK 23-51-00-760-001

(13) Do the dual power source test:

(a) Do the test for the captain's station:

1) Open these circuit breakers and install safety tags:

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
D	11	C00165	COMMUNICATIONS VHF 1

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
C	3	C00166	COMMUNICATIONS VHF 2

F/O Electrical System Panel, P6-2

Row	Col	Number	Name
C	23	C00239	INTERPHONE POWER CAPT DC 2

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LOM 402, 404, 406, 407, 411, 412, 415, 416, 420, 423, 424, 432, 437-439, 441, 446, 447, 450, 455, 456, 458-999; LOM 445 PRE SB 737-23-1942

2) Push and hold the PTT switch on the captain's control wheel to the INT position.

LOM 422, 425-431, 433, 434, 440, 442-444, 451-454, 457; LOM 445 POST SB 737-23-1942

3) Push the PTT switch on the captain's control wheel to the INT position.

LOM ALL

4) Speak into the captain's boom microphone.

a) Make sure you hear the voice clearly on the flight deck speakers.

LOM 402, 404, 406, 407, 411, 412, 415, 416, 420, 423, 424, 432, 437-439, 441, 446, 447, 450, 455, 456, 458-999; LOM 445 PRE SB 737-23-1942

5) Release the PTT switch on the captain's control wheel.

LOM 422, 425-431, 433, 434, 440, 442-444, 451-454, 457; LOM 445 POST SB 737-23-1942

6) Push the PTT switch on the captain's control wheel to the OFF position.

LOM ALL

7) Open this circuit breaker and install safety tag:

F/O Electrical System Panel, P6-2

Row	Col	Number	Name
C	24	C00240	INTERPHONE POWER CAPT BAT

LOM 402, 404, 406, 407, 411, 412, 415, 416, 420, 423, 424, 432, 437-439, 441, 446, 447, 450, 455, 456, 458-999; LOM 445 PRE SB 737-23-1942

8) Push and hold the PTT switch on the captain's control wheel to the INT position.

LOM 422, 425-431, 433, 434, 440, 442-444, 451-454, 457; LOM 445 POST SB 737-23-1942

9) Push the PTT switch on the captain's control wheel to the INT position.

LOM ALL

10) Speak into the captain's boom microphone.

a) Make sure you cannot hear the voice on the flight deck speakers.

LOM 402, 404, 406, 407, 411, 412, 415, 416, 420, 423, 424, 432, 437-439, 441, 446, 447, 450, 455, 456, 458-999; LOM 445 PRE SB 737-23-1942

11) Release the PTT switch on the captain's control wheel.

a) Make sure that VHF-1 is the only microphone selector button on the captain's ACP that is on.

LOM 422, 425-431, 433, 434, 440, 442-444, 451-454, 457; LOM 445 POST SB 737-23-1942

12) Push the PTT switch on the captain's control wheel to the OFF position.

a) Make sure that VHF-1 is the only microphone selector button on the captain's ACP that is on.

LOM ALL

13) Remove the safety tag and close this circuit breaker:

F/O Electrical System Panel, P6-2

Row	Col	Number	Name
C	23	C00239	INTERPHONE POWER CAPT DC 2

ECCN 9E991 BOEING PROPRIETARY - See title page for details

LOM 404, 411, 412, 415, 416, 422-428, 432-434, 437-442, 445-447, 450-463, 466-999

14) Make sure that the FLT microphone selector button on the captain's ACP comes on.

LOM 402, 406, 407, 420, 429-431, 443, 444, 464, 465

15) Make sure that the INT microphone selector button on the captain's ACP comes on.

LOM ALL

(b) Do the test for the first officer's station:

1) Open this circuit breaker and install safety tag:

F/O Electrical System Panel, P6-2

Row	Col	Number	Name
C	21	C00560	INTERPHONE POWER F/O DC 2

LOM 402, 404, 406, 407, 411, 412, 415, 416, 420, 423, 424, 432, 437-439, 441, 446, 447, 450, 455, 456, 458-999; LOM 445 PRE SB 737-23-1942

2) Push and hold the PTT switch on the first officer's control wheel to the INT position.

LOM 422, 425-431, 433, 434, 440, 442-444, 451-454, 457; LOM 445 POST SB 737-23-1942

3) Push the PTT switch on the first officer's control wheel to the INT position.

LOM ALL

4) Speak into the first officer's boom microphone.

a) Make sure you hear the voice clearly on the flight deck speakers.

LOM 402, 404, 406, 407, 411, 412, 415, 416, 420, 423, 424, 432, 437-439, 441, 446, 447, 450, 455, 456, 458-999; LOM 445 PRE SB 737-23-1942

5) Release the PTT switch on the first officer's control wheel.

LOM 422, 425-431, 433, 434, 440, 442-444, 451-454, 457; LOM 445 POST SB 737-23-1942

6) Push the PTT switch on the first officer's control wheel to the OFF position.

LOM ALL

7) Open this circuit breaker and install safety tag:

F/O Electrical System Panel, P6-2

Row	Col	Number	Name
C	22	C00561	INTERPHONE POWER F/O BAT

LOM 402, 404, 406, 407, 411, 412, 415, 416, 420, 423, 424, 432, 437-439, 441, 446, 447, 450, 455, 456, 458-999; LOM 445 PRE SB 737-23-1942

8) Push and hold the PTT switch on the first officer's control wheel to the INT position.

LOM 422, 425-431, 433, 434, 440, 442-444, 451-454, 457; LOM 445 POST SB 737-23-1942

9) Push the PTT switch on the first officer's control wheel to the INT position.

LOM ALL

10) Speak into the first officer's boom microphone.

a) Make sure you cannot hear the voice on the flight deck speakers.

LOM 402, 404, 406, 407, 411, 412, 415, 416, 420, 423, 424, 432, 437-439, 441, 446, 447, 450, 455, 456, 458-999; LOM 445 PRE SB 737-23-1942

11) Release the PTT switch on the first officer's control wheel.

ECCN 9E991 BOEING PROPRIETARY - See title page for details

a) Make sure that VHF-2 is the only microphone selector button on the first officer's ACP that is on.

LOM 422, 425-431, 433, 434, 440, 442-444, 451-454, 457; LOM 445 POST SB 737-23-1942

12) Push the PTT switch on the first officer's control wheel to the OFF position.

a) Make sure that VHF-2 is the only microphone selector button on the first officer's ACP that is on.

LOM ALL

13) Remove the safety tag and close this circuit breaker:

F/O Electrical System Panel, P6-2

Row	Col	Number	Name
C	21	C00560	INTERPHONE POWER F/O DC 2

LOM 404, 411, 412, 415, 416, 422-428, 432-434, 437-442, 445-447, 450-463, 466-999

14) Make sure that the FLT microphone selector button on the first officer's ACP comes on.

LOM 402, 406, 407, 420, 429-431, 443, 444, 464, 465

15) Make sure that the INT microphone selector button on the first officer's ACP comes on.

LOM ALL

SUBTASK 23-51-00-710-011

(14) Do the test for the ALT/NORM switch:

(a) Put the ALT/NORM switch on the captain's and first observer's ACP to the ALT position.

1) Make sure that the VHF-1 microphone selector button on the captain's and first observer's ACP comes on.

(b) Put the ALT/NORM switch on the captain's and first observer's ACP to the NORM position.

LOM 404, 411, 412, 415, 416, 422-428, 432-434, 437-442, 445-447, 450-463, 466-999

1) Make sure that the FLT microphone selector button on the captain's and first observer's ACP comes on.

LOM 402, 406, 407, 420, 429-431, 443, 444, 464, 465

2) Make sure that the INT microphone selector button on the captain's and first observer's ACP comes on.

LOM ALL

(c) Put the ALT/NORM switch on the first officer's ACP to the ALT position.

1) Make sure that the VHF-2 microphone selector button on the first officer's ACP comes on.

(d) Put the ALT/NORM switch on the first officer's ACP to the NORM position.

ECCN 9E991 BOEING PROPRIETARY - See title page for details

LOM 404, 411, 412, 415, 416, 422-428, 432-434, 437-442, 445-447, 450-463, 466-999

1) Make sure that the FLT microphone selector button on the first officer's ACP comes on.

LOM 402, 406, 407, 420, 429-431, 443, 444, 464, 465

2) Make sure that the INT microphone selector button on the first officer's ACP comes on.

LOM 402, 404, 406, 407, 411, 412, 415, 416, 420, 422-434, 437-447, 450-460, 464-999

SUBTASK 23-51-00-710-014

(15) If the Remote Electronics Unit (REU) has an Aural Warning Mute switch, do this test to verify the position of the switch:

(a) Open this access panel:

Number	Name/Location
117A	Electronic Equipment Access Door

(b) With the REU Aural Warning Mute switch in the horizontal position:

1) Push the SYS TEST switch on the ground proximity panel, P3.

2) Make sure that the PULL UP message is not audible in the flight deck headphones.

(c) With the REU Aural Warning Mute switch in the vertical position:

1) Push the SYS TEST switch on the ground proximity panel, P3.

2) Make sure that the PULL UP message is audible in the flight deck headphones.

(d) Close this access panel:

Number	Name/Location
117A	Electronic Equipment Access Door

LOM ALL

E. Put the Airplane Back to Its Usual Condition

SUBTASK 23-51-00-860-005

(1) Put all ACPs back to their usual condition:

LOM 404, 411, 412, 415, 416, 422-428, 432-434, 437-442, 445-447, 450-463, 466-999

(a) Push the FLT microphone selector switch to on.

NOTE: This will select the Flight Interphone System (FIS) and deselect the other systems.

LOM 402, 406, 407, 420, 429-431, 443, 444, 464, 465

(b) Push the INT microphone selector switch to on.

NOTE: This will select the FIS and deselect the other systems.

LOM ALL

(c) Push the volume control switch for all microphone selector switches to off.

(d) Push the SPKR volume control switch to off.

ECCN 9E991 BOEING PROPRIETARY - See title page for details

SUBTASK 23-51-00-760-002

(2) Remove the safety tags and close these circuit breakers:

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
D	11	C00165	COMMUNICATIONS VHF 1

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
C	3	C00166	COMMUNICATIONS VHF 2

F/O Electrical System Panel, P6-2

Row	Col	Number	Name
C	22	C00561	INTERPHONE POWER F/O BAT
C	24	C00240	INTERPHONE POWER CAPT BAT

END OF TASK

TASK 23-51-00-710-803

3. Oxygen Mask Microphone - Operational Test

NOTE: This procedure is a scheduled maintenance task.

A. References

Reference	Title
35-12-85-910-801	Crew Oxygen Mask Stowage (P/B 201)

B. Location Zones

Zone	Area
117	Electrical and Electronics Compartment - Left
210	Subzone - Control Compartment - Body Station 178.00 to Body Station 259.50
211	Flight Compartment - Left
212	Flight Compartment - Right

C. Oxygen Mask Microphone - Operational Test

LOM 402, 406, 407, 420, 427-431, 443, 444, 450, 458-460, 464, 465

SUBTASK 23-51-00-860-022

(1) Make sure the oxygen system for the flight crew is pressurized.

LOM ALL

SUBTASK 23-51-00-710-018

(2) Do the communication test between each of the flight crew stations with the oxygen mask:

(a) Remove the oxygen mask from the stowage box at the flight crew's station.

(b) If necessary, connect the oxygen mask microphone to the interphone jack at the flight crew's station.

LOM 404, 411, 412, 415, 416, 422-426, 432-434, 437-442, 445-447, 451-457, 461-463, 466-999

(c) Set the MASK/BOOM switch on the flight crew's Audio Control Panel (ACP) to the MASK position.

ECCN 9E991 BOEING PROPRIETARY - See title page for details

LOM 404, 411, 412, 415, 416, 422-428, 432-434, 439-442, 445-447, 450-463, 466-999

(d) Push and hold the R/T - I/C switch on the flight crew's ACP to the I/C position.

LOM 437, 438

(e) Push the R/T - I/C switch on the flight crew's ACP to the I/C position.

LOM 402, 406, 407, 420, 429-431, 443, 444, 464, 465

(f) Push the RADIO - INT switch on the flight crew's ACP to the INT position.

LOM ALL

(g) Speak into the flight crew's oxygen mask microphone.

1) Make sure the person at the other end can hear your voice clearly.
2) Make sure you can hear the voice at both flight deck speakers.
3) Make sure the voice level from the flight deck speakers does not decrease.

(h) Make sure you can hear the voice clearly when the person at the other end speaks to you.

LOM 404, 411, 412, 415, 416, 422-428, 432-434, 439-442, 445-447, 450-463, 466-999

(i) Release the R/T - I/C switch on the flight crew's ACP.

LOM 437, 438

(j) Push the R/T - I/C switch on the flight crew's ACP back to the center position.

LOM 402, 406, 407, 420, 429-431, 443, 444, 464, 465

(k) Push the RADIO - INT switch on the flight crew's ACP back to the center position.

LOM 404, 411, 412, 415, 416, 422-426, 432-434, 437-442, 445-447, 451-457, 461-463, 466-999

(l) Set the MASK/BOOM switch on the flight crew's ACP to the BOOM position.

LOM 404, 411, 412, 415, 416, 422-426, 432-434, 439-442, 445-447, 451-457, 461-463, 466-999

(m) Push and hold the R/T - I/C switch on the flight crew's ACP to the I/C position.

LOM 437, 438

(n) Push the R/T - I/C switch on the flight crew's ACP to the I/C position.

LOM 404, 411, 412, 415, 416, 422-434, 437-442, 445-447, 451-457, 461-463, 466-999

(o) Speak into the flight crew's oxygen mask microphone.

1) Make sure the person at the other end cannot hear your voice.
2) Make sure you cannot hear the voice at both flight deck speakers.

LOM 404, 411, 412, 415, 416, 422-426, 432-434, 439-442, 445-447, 451-457, 461-463, 466-999

(p) Release the R/T - I/C switch on the flight crew's ACP.

LOM 437, 438

(q) Push the R/T - I/C switch on the flight crew's ACP back to the center position.

LOM ALL

(r) Do this task to stow the Oxygen Masks: Crew Oxygen Mask Stowage, TASK 35-12-85-910-801

(s) Close the door of all mask stowage boxes.

ECCN 9E991 BOEING PROPRIETARY - See title page for details

D. Put the Airplane Back to Its Usual Condition

SUBTASK 23-51-00-860-023

(1) Put all ACPs back to their usual condition:

LOM 404, 411, 412, 415, 416, 422-428, 432-434, 437-442, 445-447, 450-463, 466-999

(a) Push the FLT microphone selector switch to on.

NOTE: This will select the Flight Interphone System (FIS) and deselect the other systems.

LOM 402, 406, 407, 420, 429-431, 443, 444, 464, 465

(b) Push the INT microphone selector switch to on.

NOTE: This will select the FIS and deselect the other systems.

LOM ALL

(c) Push the volume control switch for all microphone selector switches to off.

(d) Push the SPKR volume control switch to off.

END OF TASK

ECCN 9E991 BOEING PROPRIETARY - See title page for details

REMOTE ELECTRONICS UNIT - REMOVAL/INSTALLATION

1. **General**
   A. This procedure has these tasks:
      (1) A removal of the remote electronics unit (REU).
      (2) An installation of the REU.
   B. The REU is on the E4-1 shelf in the electrical/electronic compartment.

TASK 23-51-01-000-801

2. **Remote Electronics Unit (REU) Removal**
   (Figure 401)

A. References

Reference	Title
20-10-07-000-801	E/E Box Removal (P/B 201)
20-40-12-000-802	ESDS Handling for Metal Encased Unit Removal (P/B 201)

B. Location Zones

Zone	Area
117	Electrical and Electronics Compartment - Left

C. Access Panels

Number	Name/Location
117A	Electronic Equipment Access Door

D. Removal Procedure

SUBTASK 23-51-01-010-001

(1) To get access to the main equipment center, do this step:
Open this access panel:

Number	Name/Location
117A	Electronic Equipment Access Door

SUBTASK 23-51-01-860-001

(2) Open these circuit breakers and install safety tags:

F/O Electrical System Panel, P6-2

Row	Col	Number	Name
C	21	C00560	INTERPHONE POWER F/O DC 2
C	22	C00561	INTERPHONE POWER F/O BAT
C	23	C00239	INTERPHONE POWER CAPT DC 2
C	24	C00240	INTERPHONE POWER CAPT BAT
D	21	C00084	INTPH AND WARN
D	22	C00086	AUDIO F/O
D	23	C00083	AUDIO CAPT
D	24	C00085	AUDIO OBS

ECCN 9E991 BOEING PROPRIETARY - See title page for details

SUBTASK 23-51-01-860-005

CAUTION	DO NOT TOUCH THE CONNECTOR PINS OR OTHER CONDUCTORS ON THE REU. IF YOU TOUCH THESE CONDUCTORS, ELECTROSTATIC DISCHARGE CAN CAUSE DAMAGE TO THE REU.

(3) Before you touch the REU, do the procedure for devices that are sensitive to electrostatic discharge. To do this procedure, do this task: ESDS Handling for Metal Encased Unit Removal, TASK 20-40-12-000-802.

SUBTASK 23-51-01-020-001

(4) Remove the REU [1] from the shelf. To remove it, do this task: E/E Box Removal, TASK 20-10-07-000-801.

——— END OF TASK ———

ECCN 9E991 BOEING PROPRIETARY - See title page for details

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Remote Electronics Unit Installation
Figure 401/23-51-01-990-801

ECCN 9E991 BOEING PROPRIETARY - See title page for details

TASK 23-51-01-000-802

3. Remote Electronics Unit (REU) Installation

(Figure 401)

A. References

Reference	Title
20-10-07-400-801	E/E Box Installation (P/B 201)
20-40-12-400-802	ESDS Handling for Metal Encased Unit Installation (P/B 201)
23-51-00-710-801	Flight Interphone System - Operational Test (P/B 501)
24-22-00-860-811	Supply Electrical Power (P/B 201)
24-22-00-860-812	Remove Electrical Power (P/B 201)

B. Expendables/Parts

AMM Item	Description	AIPC Reference	AIPC Effectivity
1	REU	23-51-01-03-005	LOM ALL

C. Location Zones

Zone	Area
117	Electrical and Electronics Compartment - Left

D. Access Panels

Number	Name/Location
117A	Electronic Equipment Access Door

E. Installation Procedure

SUBTASK 23-51-01-860-002

(1) Make sure that these circuit breakers are open and have safety tags:

F/O Electrical System Panel, P6-2

Row	Col	Number	Name
C	21	C00560	INTERPHONE POWER F/O DC 2
C	22	C00561	INTERPHONE POWER F/O BAT
C	23	C00239	INTERPHONE POWER CAPT DC 2
C	24	C00240	INTERPHONE POWER CAPT BAT
D	21	C00084	INTPH AND WARN
D	22	C00086	AUDIO F/O
D	23	C00083	AUDIO CAPT
D	24	C00085	AUDIO OBS

SUBTASK 23-51-01-860-006

CAUTION

DO NOT TOUCH THE CONNECTOR PINS OR OTHER CONDUCTORS ON THE REU. IF YOU TOUCH THESE CONDUCTORS, ELECTROSTATIC DISCHARGE CAN CAUSE DAMAGE TO THE REU.

(2) Before you touch the Remote Electronics Unit (REU), do the procedure for the devices that are sensitive to electrostatic discharge. To do this procedure, do this task: ESDS Handling for Metal Encased Unit Installation, TASK 20-40-12-400-802.

SUBTASK 23-51-01-420-001

(3) Install the REU [1] on the shelf. To install it, do this task: E/E Box Installation, TASK 20-10-07-400-801.

ECCN 9E991 BOEING PROPRIETARY - See title page for details

SUBTASK 23-51-01-200-003

(4) If there is an AURAL WARN MUTE switch on the front panel of the REU, adjust the switch to the applicable airline standard as follows:

NOTE: If no AURAL WARN MUTE switch is present, the REU is preset.

(a) Vertical Position - Aural warnings are delivered to the flight deck headsets and speakers.

(b) Horizontal Position - Aural warnings are muted from the flight deck headsets and are only heard through the flight deck speakers.

SUBTASK 23-51-01-860-003

(5) Close these circuit breakers:

F/O Electrical System Panel, P6-2

Row	Col	Number	Name
C	21	C00560	INTERPHONE POWER F/O DC 2
C	22	C00561	INTERPHONE POWER F/O BAT
C	23	C00239	INTERPHONE POWER CAPT DC 2
C	24	C00240	INTERPHONE POWER CAPT BAT
D	21	C00084	INTPH AND WARN
D	22	C00086	AUDIO F/O
D	23	C00083	AUDIO CAPT
D	24	C00085	AUDIO OBS

F. REU Installation Test

SUBTASK 23-51-01-600-001

(1) Do this task: Supply Electrical Power, TASK 24-22-00-860-811.

SUBTASK 23-51-01-860-009

(2) Close these circuit breakers:

F/O Electrical System Panel, P6-2

Row	Col	Number	Name
C	21	C00560	INTERPHONE POWER F/O DC 2
C	22	C00561	INTERPHONE POWER F/O BAT
C	23	C00239	INTERPHONE POWER CAPT DC 2
C	24	C00240	INTERPHONE POWER CAPT BAT
D	21	C00084	INTPH AND WARN
D	22	C00086	AUDIO F/O
D	23	C00083	AUDIO CAPT
D	24	C00085	AUDIO OBS

SUBTASK 23-51-01-710-002

(3) Do an installation test of the REU:

(a) Push the Flight Interphone Microphone Selector Buttons on the Captain's, First Officer's and Observer's Audio Control Panels to the ON position.

(b) Make sure that the Flight Interphone Microphone Selector Buttons are illuminated on all three panels.

(c) Turn the Flight Interphone volume controls to approximately 1/2 MAX on all three panels.

(d) Push the Captain's and First Officer's Audio Control Panel "SPKR" volume control to the ON position.

ECCN 9E991 BOEING PROPRIETARY - See title page for details

(e) Turn the "SPKR" volume control on the Captain's Audio Control Panel to approximately 1/2 MAX.

(f) Turn the "SPKR" volume control on the First Officer's Audio Control Panel to approximately 1/2 MAX.

(g) Make sure that you hear an announcement between the Captain, First Officer and Observer when you use Hand Microphones, Headphones, and Boom Mic headsets.

SUBTASK 23-51-01-710-001

(4) Do this task: Flight Interphone System - Operational Test, TASK 23-51-00-710-801.

G. Put the Airplane Back to Its Usual Condition

SUBTASK 23-51-01-860-007

(1) Close this access panel:

Number	Name/Location
117A	Electronic Equipment Access Door

SUBTASK 23-51-01-860-008

(2) If it is necessary, do this task: Remove Electrical Power, TASK 24-22-00-860-812.

——— END OF TASK ———

ECCN 9E991 BOEING PROPRIETARY - See title page for details

AUDIO CONTROL PANEL - MAINTENANCE PRACTICES

1. General

A. This procedure has this task:

(1) Audio Control Panel (ACP) mic select switch lamp replacement.

TASK 23-51-02-300-801-001

2. Audio Control Panel - Mic Select Switch Lamp Replacement

(Figure 201)

A. General

(1) This task is to replace the mic selector switch lamps when the lamps do not come on and the switch is still functional.

B. Location Zones

Zone	Area
211	Flight Compartment - Left
212	Flight Compartment - Right

C. Mic Selector Switch Lamp Replacement

SUBTASK 23-51-02-040-001-001

(1) Open these circuit breakers and install safety tags:

F/O Electrical System Panel, P6-2

Row	Col	Number	Name
C	21	C00560	INTERPHONE POWER F/O DC 2
C	22	C00561	INTERPHONE POWER F/O BAT
C	23	C00239	INTERPHONE POWER CAPT DC 2
C	24	C00240	INTERPHONE POWER CAPT BAT
D	21	C00084	INTPH AND WARN
D	22	C00086	AUDIO F/O
D	23	C00083	AUDIO CAPT
D	24	C00085	AUDIO OBS

F/O Electrical System Panel, P6-3

Row	Col	Number	Name
F	11	C00317	INDICATOR MASTER DIM SECT 5
F	13	C01179	INDICATOR MASTER DIM SECT 7
F	14	C01180	INDICATOR MASTER DIM SECT 8

SUBTASK 23-51-02-300-001-001

(2) Get access to the thumbnail slots on the perimeter of the switch bezel.

SUBTASK 23-51-02-300-002-001

CAUTION

DO NOT USE SHARP TOOLS TO PULL THE SWITCH BEZEL. IF YOU DO NOT OBEY, DAMAGE TO THE SEAL THAT IS AROUND THE SWITCH CAN OCCUR.

(3) Carefully pull the switch forward, away from the edgelit panel.

ECCN 9E991 BOEING PROPRIETARY - See title page for details

SUBTASK 23-51-02-300-003-001

(4) Pivot the switch bezel to the side to gain access to the lamps, then slide the lamps out of the switch body.

SUBTASK 23-51-02-300-004-001

(5) Insert new replacement lamps all the way into the socket in the back of the switch body.

SUBTASK 23-51-02-300-005-001

(6) Pivot the switch body back into normal position and gently push on the switch cap until the switch body is fully seated.

SUBTASK 23-51-02-440-001-001

(7) Remove the safety tags and close these circuit breakers:

F/O Electrical System Panel, P6-2

Row	Col	Number	Name
C	21	C00560	INTERPHONE POWER F/O DC 2
C	22	C00561	INTERPHONE POWER F/O BAT
C	23	C00239	INTERPHONE POWER CAPT DC 2
C	24	C00240	INTERPHONE POWER CAPT BAT
D	21	C00084	INTPH AND WARN
D	22	C00086	AUDIO F/O
D	23	C00083	AUDIO CAPT
D	24	C00085	AUDIO OBS

F/O Electrical System Panel, P6-3

Row	Col	Number	Name
F	11	C00317	INDICATOR MASTER DIM SECT 5
F	13	C01179	INDICATOR MASTER DIM SECT 7
F	14	C01180	INDICATOR MASTER DIM SECT 8

SUBTASK 23-51-02-700-001-001

(8) Push the mic select switch and make sure that the light comes on.

END OF TASK

ECCN 9E991 BOEING PROPRIETARY - See title page for details

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Audio Control Panel Mic Select Switch
Figure 201/23-51-02-990-804-001

ECCN 9E991 BOEING PROPRIETARY - See title page for details

AUDIO CONTROL PANEL - REMOVAL/INSTALLATION

1. General

A. This procedure has these tasks:

(1) A removal of the Audio Control Panel (ACP)

(2) An installation of the ACP.

TASK 23-51-02-000-801

2. Audio Control Panel Removal

(Figure 401)

A. References

Reference	Title
20-40-12-000-802	ESDS Handling for Metal Encased Unit Removal (P/B 201)

B. Location Zones

Zone	Area
211	Flight Compartment - Left
212	Flight Compartment - Right

C. Audio Control Panel Removal

SUBTASK 23-51-02-860-001

(1) Open these circuit breakers and install safety tags:

F/O Electrical System Panel, P6-2

Row	Col	Number	Name
C	21	C00560	INTERPHONE POWER F/O DC 2
C	22	C00561	INTERPHONE POWER F/O BAT
C	23	C00239	INTERPHONE POWER CAPT DC 2
C	24	C00240	INTERPHONE POWER CAPT BAT
D	21	C00084	INTPH AND WARN
D	22	C00086	AUDIO F/O
D	23	C00083	AUDIO CAPT
D	24	C00085	AUDIO OBS

F/O Electrical System Panel, P6-3

Row	Col	Number	Name
C	10	C00284	PANEL & INSTR ELEX PANEL
D	8	C00701	EMER PANEL LTG
F	10	C00390	OVERHEAD 5V SECONDARY
F	11	C00317	INDICATOR MASTER DIM SECT 5
F	13	C01179	INDICATOR MASTER DIM SECT 7
F	14	C01180	INDICATOR MASTER DIM SECT 8

SUBTASK 23-51-02-860-018

(2) Turn the PANEL BRIGHT control, on the P8-50 control stand lighting control panel, to the OFF position.

ECCN 9E991 BOEING PROPRIETARY - See title page for details

SUBTASK 23-51-02-000-001

CAUTION

DO NOT TOUCH THE ACP BEFORE YOU DO THE PROCEDURE FOR DEVICES THAT ARE SENSITIVE TO ELECTROSTATIC DISCHARGE. ELECTROSTATIC DISCHARGE CAN CAUSE DAMAGE TO THE ACP.

(3) Before the audio control panel [1] is touched, do this task: ESDS Handling for Metal Encased Unit Removal, TASK 20-40-12-000-802.

SUBTASK 23-51-02-020-001

(4) Remove the audio control panel [1]:

(a) Loosen the quarter-turn fasteners [2] on the front panel of the audio control panel [1].

(b) Lift the audio control panel [1] to get access to the electrical connectors [3].

(c) Disconnect the electrical connectors [3] from the rear of the audio control panel [1].

NOTE: Number of connectors can vary.

(d) Remove the audio control panel [1].

END OF TASK

ECCN 9E991 BOEING PROPRIETARY - See title page for details

Audio Control Panel Installation
Figure 401/23-51-02-990-801 (Sheet 1 of 3)

ECCN 9E991 BOEING PROPRIETARY - See title page for details

FLIGHT COMPARTMENT

CAPTAIN'S AUXILIARY PANEL (FIRST OFFICER'S IS EQUIVALENT)

A

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Audio Control Panel Installation
Figure 401/23-51-02-990-801 (Sheet 2 of 3)

ECCN 9E991 BOEING PROPRIETARY - See title page for details

OVERHEAD PANEL
(VIEW IN THE FORWARD DIRECTION)

B

G29032 S0006566022_V2

Audio Control Panel Installation
Figure 401/23-51-02-990-801 (Sheet 3 of 3)

ECCN 9E991 BOEING PROPRIETARY - See title page for details

TASK 23-51-02-400-801

3. **Audio Control Panel Installation**

(Figure 401)

A. **References**

Reference	Title
20-40-12-400-802	ESDS Handling for Metal Encased Unit Installation (P/B 201)

B. **Expendables/Parts**

AMM Item	Description	AIPC Reference	AIPC Effectivity
1	Audio control panel	23-51-02-04-050	LOM 402, 404, 406, 407, 411, 412, 415, 416, 420, 422, 425-434, 439-447, 450-999
		23-51-02-04-051	LOM 404, 411, 412, 415, 416, 422-426, 432-434, 437-442, 445-447, 451-457, 461-463
		23-51-02-08-050	LOM 402, 404, 406, 407, 411, 412, 415, 416, 420, 423, 424, 426-432, 437-439, 441, 443-447, 451, 452, 455-460, 464
		23-51-02-08A-025	LOM 422, 425, 433, 434, 440, 442, 450, 453, 454, 465-999

C. **Location Zones**

Zone	Area
211	Flight Compartment - Left
212	Flight Compartment - Right

D. **Audio Control Panel Installation**

SUBTASK 23-51-02-860-004

(1) Make sure that these circuit breakers are open and have safety tags:

F/O Electrical System Panel, P6-2

Row	Col	Number	Name
C	21	C00560	INTERPHONE POWER F/O DC 2
C	22	C00561	INTERPHONE POWER F/O BAT
C	23	C00239	INTERPHONE POWER CAPT DC 2
C	24	C00240	INTERPHONE POWER CAPT BAT
D	21	C00084	INTPH AND WARN
D	22	C00086	AUDIO F/O
D	23	C00083	AUDIO CAPT
D	24	C00085	AUDIO OBS

F/O Electrical System Panel, P6-3

Row	Col	Number	Name
C	10	C00284	PANEL & INSTR ELEX PANEL

ECCN 9E991 BOEING PROPRIETARY - See title page for details

(Continued)

F/O Electrical System Panel, P6-3

Row	Col	Number	Name
D	8	C00701	EMER PANEL LTG
F	10	C00390	OVERHEAD 5V SECONDARY
F	11	C00317	INDICATOR MASTER DIM SECT 5
F	13	C01179	INDICATOR MASTER DIM SECT 7
F	14	C01180	INDICATOR MASTER DIM SECT 8

SUBTASK 23-51-02-860-019

(2) Make sure that the PANEL BRIGHT control, on the P8-50 control stand lighting control panel, is in the OFF position.

SUBTASK 23-51-02-400-001

CAUTION

DO NOT TOUCH THE ACP BEFORE YOU DO THE PROCEDURE FOR DEVICES THAT ARE SENSITIVE TO ELECTROSTATIC DISCHARGE. ELECTROSTATIC DISCHARGE CAN CAUSE DAMAGE TO THE ACP.

(3) Before the audio control panel [1] is touched, do this task: ESDS Handling for Metal Encased Unit Installation, TASK 20-40-12-400-802.

SUBTASK 23-51-02-420-001

(4) Install the audio control panel [1]:

(a) Connect the electrical connectors [3] to the rear of the audio control panel [1].

NOTE: Number of connectors can vary.

(b) Put the audio control panel [1] into its position.

(c) Tighten the quarter-turn fasteners [2] on the front panel of the audio control panel [1].

SUBTASK 23-51-02-860-007

(5) Remove the safety tags and close these circuit breakers:

F/O Electrical System Panel, P6-2

Row	Col	Number	Name
C	21	C00560	INTERPHONE POWER F/O DC 2
C	22	C00561	INTERPHONE POWER F/O BAT
C	23	C00239	INTERPHONE POWER CAPT DC 2
C	24	C00240	INTERPHONE POWER CAPT BAT
D	21	C00084	INTPH AND WARN
D	22	C00086	AUDIO F/O
D	23	C00083	AUDIO CAPT
D	24	C00085	AUDIO OBS

F/O Electrical System Panel, P6-3

Row	Col	Number	Name
C	10	C00284	PANEL & INSTR ELEX PANEL
D	8	C00701	EMER PANEL LTG
F	10	C00390	OVERHEAD 5V SECONDARY
F	11	C00317	INDICATOR MASTER DIM SECT 5
F	13	C01179	INDICATOR MASTER DIM SECT 7
F	14	C01180	INDICATOR MASTER DIM SECT 8

ECCN 9E991 BOEING PROPRIETARY - See title page for details

E. Installation Test

SUBTASK 23-51-02-710-001

(1) Do an operational test of the Audio Control Panel (ACP):

LOM 404, 411, 412, 415, 416, 422-428, 432-434, 437-442, 445-447, 450-463, 466-999

(a) Push the FLT microphone selector switch, on the ACP.

LOM 402, 406, 407, 420, 429-431, 443, 444, 464, 465

(b) Push the INT microphone selector switch, on the ACP.

LOM 404, 411, 412, 415, 416, 422-428, 432-434, 437-442, 445-447, 450-463, 466-999

(c) Push and hold the Push-To-Talk (PTT) switch on the ACP to the R/T position.

LOM 402, 406, 407, 420, 429-431, 443, 444, 464, 465

(d) Push and hold the PTT switch, on the ACP, to the RADIO position.

LOM ALL

(e) Speak into the pilot's boom microphone or any other available microphone.

1) Make sure that the voice can be heard from the other pilot's headsets.

(f) Push the Passenger Address (PA) microphone selector switch, on the ACP.

LOM 404, 411, 412, 415, 416, 422-428, 432-434, 439-442, 445-447, 450-463, 466-999

(g) Push and hold the PTT switch on the ACP to the I/C position.

NOTE: The switch will be held momentary.

LOM 437, 438

(h) Push the PTT switch, on the ACP, to the I/C position.

LOM 402, 406, 407, 420, 429-431, 443, 444, 464, 465

(i) Push and hold the PTT switch, on the ACP, to the INT position.

NOTE: There can be feedback caused by this audio coupling between the headphones and the area microphone. The feedback is intermittent and does not affect the test results.

1) If there is background noise caused by the audio feedback from the hot microphone, cover the oxygen mask microphone.

LOM ALL

(j) Speak into the pilot's boom microphone.

NOTE: For the observer's ACP test when boom microphone is not installed, it is possible to connect a boom microphone at the observer's boom mic jack and use it for the test. It is also possible to use the oxygen mask microphone for the test.

1) Make sure that the voice can be heard from the other pilot's headset.

2) Make sure that the voice cannot be heard on the PA.

LOM 404, 411, 412, 415, 416, 422-428, 432-434, 439-442, 445-447, 450-463, 466-999

(k) Release the PTT switch.

ECCN 9E991 BOEING PROPRIETARY - See title page for details

LOM 437, 438

(l) Push the I/C switch, on the ACP, back to the center position.

LOM ALL

(m) Push any other microphone selector switch, on the ACP.

1) Make sure that the PA microphone selector switch light goes off.

END OF TASK

ECCN 9E991 BOEING PROPRIETARY - See title page for details

FLIGHT INTERPHONE SPEAKER - REMOVAL/INSTALLATION

1. General

A. Procedure Information:

(1) This procedure has these tasks:

(a) A removal of the flight interphone speaker.

(b) An installation of the flight interphone speaker.

(2) These tasks are the same for the captain's and first officer's speaker.

(3) The flight interphone speaker is in the forward ceiling panel in the flight compartment.

TASK 23-51-03-000-802

2. Flight Interphone Speaker Removal

(Figure 401)

A. References

Reference	Title
25-11-21-000-801	Flight Compartment Forward Ceiling Panel Removal (P/B 201)
25-11-21-000-805	Flight Compartment Forward Ceiling Panel Removal (P/B 201)

B. Location Zones

Zone	Area
211	Flight Compartment - Left
212	Flight Compartment - Right

C. Flight Interphone Speaker Removal

SUBTASK 23-51-03-760-002

(1) Open these circuit breakers and install safety tags:

F/O Electrical System Panel, P6-2

Row	Col	Number	Name
C	21	C00560	INTERPHONE POWER F/O DC 2
C	22	C00561	INTERPHONE POWER F/O BAT
C	23	C00239	INTERPHONE POWER CAPT DC 2
C	24	C00240	INTERPHONE POWER CAPT BAT
D	22	C00086	AUDIO F/O
D	23	C00083	AUDIO CAPT

SUBTASK 23-51-03-010-001

(2) Do this task: Flight Compartment Forward Ceiling Panel Removal, TASK 25-11-21-000-801 or Flight Compartment Forward Ceiling Panel Removal, TASK 25-11-21-000-805.

SUBTASK 23-51-03-000-002

(3) Remove the speaker [7].

(a) Disconnect the electrical connector [8] from the speaker [7].

(b) Remove the screws [9] from the speaker [7].

(c) Remove the speaker [7].

END OF TASK

ECCN 9E991 BOEING PROPRIETARY - See title page for details

FLIGHT COMPARTMENT

FIRST OFFICER'S FLIGHT INTERPHONE SPEAKER
(CAPTAIN'S IS SIMILAR)

A

L28339 S0006566033_V3

Flight Interphone Speaker Installation
Figure 401/23-51-03-990-804

ECCN 9E991 BOEING PROPRIETARY - See title page for details

TASK 23-51-03-000-804

3. Flight Interphone Speaker Installation

(Figure 401)

A. References

Reference	Title
25-11-21-400-801	Flight Compartment Forward Ceiling Panel Installation (P/B 201)
25-11-21-400-805	Flight Compartment Forward Ceiling Panel Installation (P/B 201)

B. Location Zones

Zone	Area
211	Flight Compartment - Left
212	Flight Compartment - Right

C. Flight Interphone Speaker Installation

SUBTASK 23-51-03-420-002

(1) Install the speaker [7].

(a) Put the speaker [7] in its correct position in the forward overhead panel.

(b) Install the screws [9] to the speaker [7].

(c) Connect the electrical connector [8] to the speaker [7].

SUBTASK 23-51-03-410-001

(2) Do this task: Flight Compartment Forward Ceiling Panel Installation, TASK 25-11-21-400-801 or Flight Compartment Forward Ceiling Panel Installation, TASK 25-11-21-400-805.

SUBTASK 23-51-03-860-002

(3) Remove the safety tags and close these circuit breakers:

F/O Electrical System Panel, P6-2

Row	Col	Number	Name
C	21	C00560	INTERPHONE POWER F/O DC 2
C	22	C00561	INTERPHONE POWER F/O BAT
C	23	C00239	INTERPHONE POWER CAPT DC 2
C	24	C00240	INTERPHONE POWER CAPT BAT
D	22	C00086	AUDIO F/O
D	23	C00083	AUDIO CAPT

D. Flight Interphone Speaker Installation Test

SUBTASK 23-51-03-700-002

(1) Do this test of the flight interphone speaker.

(a) Make sure that the SERVICE INTERPHONE switch on the P5 overhead panel is in the OFF position.

(b) Set each Audio Control Panel (ACP) to these conditions.

1) Push all audio monitor switches to off.

LOM 404, 411, 412, 415, 416, 422-428, 432-434, 437-442, 445-447, 450-463, 466-999

2) Push the FLT microphone selector switch to on.

a) Make sure that the light comes on.

ECCN 9E991 BOEING PROPRIETARY - See title page for details

LOM 402, 406, 407, 420, 429-431, 443, 444, 464, 465

3) Push the INT microphone selector switch to on.

a) Make sure that the light comes on.

LOM 404, 411, 412, 415, 416, 422-428, 432-434, 437-442, 445-447, 450-463, 466-999

4) Push the volume control for the FLT microphone selector switch.

a) Make sure that the light comes on.

LOM 402, 406, 407, 420, 429-431, 443, 444, 464, 465

5) Push the volume control for the INT microphone selector switch.

a) Make sure that the light comes on.

LOM 404, 411, 412, 415, 416, 422-428, 432-434, 437-442, 445-447, 450-463, 466-999

6) Turn the volume control for the FLT microphone selector switch to the middle position.

LOM 402, 406, 407, 420, 429-431, 443, 444, 464, 465

7) Turn the volume control for the INT microphone selector switch to the middle position.

LOM ALL

(c) Set the captain's ACP to these conditions:

1) Push the SPKR volume control switch to ON.

a) Make sure that the light comes on.

2) Turn the SPKR volume control switch to the middle position or to the volume level you are comfortable with.

(d) Connect a headset to the first officer's boom/mic jack.

(e) Push and hold the Push-To-Talk (PTT) switch on the first officer's control wheel to the MIC position.

(f) Speak into the first officer's boom microphone.

1) Make sure that you can hear the voice clearly on the captain's flight interphone speaker.

SUBTASK 23-51-03-700-003

(2) Do this test of the first officer's flight interphone speaker:

(a) Make sure that the SERVICE INTERPHONE switch on the P5 overhead panel is in the OFF position.

(b) Set each ACP to these conditions:

1) Push all audio monitor switches to off.

LOM 404, 411, 412, 415, 416, 422-428, 432-434, 437-442, 445-447, 450-463, 466-999

2) Push the FLT microphone selector switch to on.

a) Make sure that the light comes on.

LOM 402, 406, 407, 420, 429-431, 443, 444, 464, 465

3) Push the INT microphone selector switch to on.

a) Make sure that the light comes on.

ECCN 9E991 BOEING PROPRIETARY - See title page for details

LOM 404, 411, 412, 415, 416, 422-428, 432-434, 437-442, 445-447, 450-463, 466-999

4) Push the volume control for the FLT microphone selector switch.

a) Make sure that the light comes on.

LOM 402, 406, 407, 420, 429-431, 443, 444, 464, 465

5) Push the volume control for the INT microphone selector switch.

a) Make sure that the light comes on.

LOM 404, 411, 412, 415, 416, 422-428, 432-434, 437-442, 445-447, 450-463, 466-999

6) Turn the volume control for the FLT microphone selector switch to the middle position.

LOM 402, 406, 407, 420, 429-431, 443, 444, 464, 465

7) Turn the volume control for the INT microphone selector switch to the middle position.

LOM ALL

(c) Set the First Officer's ACP to these conditions:

1) Push the SPKR volume control switch to ON.

a) Make sure that the light comes on.

2) Turn the SPKR volume control switch to the middle position or to the volume level you are comfortable with.

(d) Connect a headset to the captain's boom/mic jack.

(e) Push and hold the PTT switch on the captain's control wheel to the MIC position.

(f) Speak into the captain's boom microphone.

1) Make sure that you can hear the voice clearly from the first officer's flight interphone speaker.

END OF TASK

ECCN 9E991 BOEING PROPRIETARY - See title page for details

CONTROL WHEEL PTT SWITCH - REMOVAL/INSTALLATION

1. **General**

A. This procedure has three tasks:

(1) A removal of the push-to-talk (PTT) switch on the control wheel.

(2) An installation of the PTT switch on the control wheel.

(a) The installation task includes an operational test of the PTT switch.

LOM 422, 425-431, 433, 434, 440, 442-444, 451-454, 457; LOM 445 POST SB 737-23-1942

(3) An adjustment of the bullet catch on the PTT switch.

(a) Use this procedure when the PTT switch will not stay in the INT locked position.

(b) You may need to replace the switch mount if the PTT switch will not stay in the locked position.

LOM ALL

TASK 23-51-04-000-801

2. **Control Wheel PTT Switch Removal**

(Figure 401 or Figure 402)

A. Location Zones

Zone	Area
211	Flight Compartment - Left
212	Flight Compartment - Right

B. Procedure

SUBTASK 23-51-04-860-001

(1) Open these circuit breakers and install safety tags:

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
D	11	C00165	COMMUNICATIONS VHF 1

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
C	3	C00166	COMMUNICATIONS VHF 2

F/O Electrical System Panel, P6-2

Row	Col	Number	Name
C	21	C00560	INTERPHONE POWER F/O DC 2
C	22	C00561	INTERPHONE POWER F/O BAT
C	23	C00239	INTERPHONE POWER CAPT DC 2
C	24	C00240	INTERPHONE POWER CAPT BAT
D	21	C00084	INTPH AND WARN
D	22	C00086	AUDIO F/O
D	23	C00083	AUDIO CAPT
D	24	C00085	AUDIO OBS

SUBTASK 23-51-04-020-001

(2) Remove the push-to-talk (PTT) switch on the control wheel:

ECCN 9E991 BOEING PROPRIETARY - See title page for details

(a) Remove the two mounting screws [2] from the control wheel.

(b) Carefully remove the PTT switch assembly [1] to get access to the wires.

(c) Disconnect the terminal lugs from the switch to be changed [3] or [6].

1) Identify each wire for correct installation on the switch.

NOTE: Correct wire installation is important for correct switch operation.

2) Make sure the disconnected wire ends do not touch.

(d) Remove the locking screw [5] from the clamp [4].

(e) Turn the PTT switch in a counterclockwise direction to remove it from the clamp [4].

(f) Remove the PTT switch from the clamp [4].

END OF TASK

ECCN 9E991 BOEING PROPRIETARY - See title page for details

Control Wheel PTT Switch Installation
Figure 401/23-51-04-990-801

ECCN 9E991 BOEING PROPRIETARY - See title page for details

Control Wheel PTT Switch Installation
Figure 402/23-51-04-990-802

ECCN 9E991 BOEING PROPRIETARY - See title page for details

TASK 23-51-04-400-801

3. Control Wheel PTT Switch Installation

(Figure 401 or Figure 402)

A. Expendables/Parts

AMM Item	Description	AIPC Reference	AIPC Effectivity
3	Interphone switch	23-51-04-01-055	LOM ALL
6	Microphone switch	23-51-04-01-055	LOM ALL

B. Location Zones

Zone	Area
211	Flight Compartment - Left
212	Flight Compartment - Right

C. Control Wheel PTT Switch Installation

SUBTASK 23-51-04-860-002

(1) Make sure that these circuit breakers are open and have safety tags:

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
D	11	C00165	COMMUNICATIONS VHF 1

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
C	3	C00166	COMMUNICATIONS VHF 2

F/O Electrical System Panel, P6-2

Row	Col	Number	Name
C	21	C00560	INTERPHONE POWER F/O DC 2
C	22	C00561	INTERPHONE POWER F/O BAT
C	23	C00239	INTERPHONE POWER CAPT DC 2
C	24	C00240	INTERPHONE POWER CAPT BAT
D	21	C00084	INTPH AND WARN
D	22	C00086	AUDIO F/O
D	23	C00083	AUDIO CAPT
D	24	C00085	AUDIO OBS

LOM 422, 425-431, 433, 434, 440, 442-444, 451-454, 457; LOM 445 POST SB 737-23-1942

SUBTASK 23-51-04-420-001

(2) Install the Push-To-Talk (PTT) switch on the control wheel.

(a) Install the replacement interphone switch [3] or microphone switch [6] into the clamp [4].

(b) Turn the switch in a clockwise direction until the switch makes contact with the trigger and the ball makes contact with the switch mount detent.

SUBTASK 23-51-04-420-002

(3) Do the PTT switch adjustment.

(a) Adjust the microphone switch [6] all the way in.

NOTE: Switch may be backed out up to one full turn as required to facilitate wiring.

(b) Adjust the interphone switch [3] until switch contacts trigger, then back off one half turn.

ECCN 9E991 BOEING PROPRIETARY - See title page for details

(c) Install the locking screw [5] in the clamp [4].

(d) Push the trigger to the INT position and then release the trigger.

1) Trigger stays in the detented position.

NOTE: Two common conditions exist that may prevent the trigger from staying in the detented position: switch position and catch ball depth. Perform the steps that follow as required to correct these conditions.

a) Loosen the clamp screw and back the interphone switch [3] out until the trigger remains in the detented position and retighten the screw clamp.

b) Adjust the catch ball depth (TASK 23-51-04-820-801).

(e) Push the trigger to the center (OFF) position.

(f) Push the trigger to the MIC position and then release the trigger.

1) Make sure that the trigger returns to the center (OFF) position.

LOM 402, 404, 406, 407, 411, 412, 415, 416, 420, 423, 424, 432, 437-439, 441, 446, 447, 450, 455, 456, 458-999; LOM 445 PRE SB 737-23-1942

SUBTASK 23-51-04-420-004

(4) Install the PTT switch on the control wheel.

(a) Install the replacement interphone switch [3] or microphone switch [6] into the clamp [4].

(b) Turn the switch clockwise until the switch stays in the clamp [4].

(c) Adjust the microphone switch [6] all the way in.

NOTE: Switch may be backed out up to one full turn as required to facilitate wiring.

(d) Adjust the interphone switch [3] until switch contacts trigger.

(e) Turn the interphone switch [3] clockwise 1/4 turn, plus or minus 1/8 turn to preload the switch button.

(f) Tighten the locking screw [5] in the clamp [4].

LOM ALL

SUBTASK 23-51-04-420-003

(5) Finish PTT switch installation.

(a) Connect the terminal lugs to the switch you just installed.

1) Make sure that you connect the identified wires on the correct terminal locations.

NOTE: Correct wire installation is important for correct switch operation.

(b) Make sure that the locking screw is tight.

(c) Carefully push the clamp [4] into the control wheel.

(d) Install and tighten the mounting screws [2] on the control wheel.

SUBTASK 23-51-04-860-003

(6) Remove the safety tags and close these circuit breakers:

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
D	11	C00165	COMMUNICATIONS VHF 1

ECCN 9E991 BOEING PROPRIETARY - See title page for details

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
C	3	C00166	COMMUNICATIONS VHF 2

F/O Electrical System Panel, P6-2

Row	Col	Number	Name
C	21	C00560	INTERPHONE POWER F/O DC 2
C	22	C00561	INTERPHONE POWER F/O BAT
C	23	C00239	INTERPHONE POWER CAPT DC 2
C	24	C00240	INTERPHONE POWER CAPT BAT
D	21	C00084	INTPH AND WARN
D	22	C00086	AUDIO F/O
D	23	C00083	AUDIO CAPT
D	24	C00085	AUDIO OBS

D. Installation Test

LOM 404, 411, 412, 415, 416, 422-428, 432-434, 437-442, 445-447, 450-463, 466-999

SUBTASK 23-51-04-710-002

(1) Do an operational test of the PTT switch on the control wheel.

(a) Push the PA microphone selector switch on the pilot's Audio Control Panel (ACP) to the ON position.

(b) Push the volume control for the FLT microphone selector switch.

(c) Turn the volume control for the FLT microphone selector switch clockwise to the middle position.

(d) Make sure that the PA volume control is on.

(e) Turn the volume control for the PA selector switch clockwise to the middle position.

(f) Push the SPKR volume control switch to ON.

(g) Turn the SPKR volume control switch clockwise to the middle position or to the volume level you are comfortable with.

(h) Push and hold the PTT switch on the pilot's control wheel to the MIC position.

(i) Speak into the pilot's boom microphone.

1) Make sure that you hear the voice clearly on both headsets.

2) Make sure that the voice is heard on the flight deck speakers.

NOTE: Voice over the flight deck speakers will be lower than usual.

3) Make sure that the voice is heard on the PA system.

(j) Release the PTT switch.

1) Make sure that the switch goes to the center (OFF) position.

(k) Push and hold the PTT switch on the pilot's control wheel to the INT position.

(l) Speak into the pilot's boom microphone.

1) Make sure that you can hear the voice clearly on both headsets.

2) Make sure that the voice is heard on the flight deck speakers.

NOTE: Voice over the flight deck speakers will be lower than usual.

3) Make sure that you do not hear the voice on the PA system.

ECCN 9E991 BOEING PROPRIETARY - See title page for details

(m) Release the PTT switch.

LOM 404, 411, 412, 415, 416, 423, 424, 432, 437-439, 441, 446, 447, 450, 455, 456, 458-463, 466-999; LOM 445 PRE SB 737-23-1942

1) Make sure that the switch goes to the center (OFF) position.

LOM 422, 425-428, 433, 434, 440, 442, 451-454, 457; LOM 445 POST SB 737-23-1942

2) Make sure that the PTT switch stays in the INT position.

3) Push the PTT switch to the center (OFF) position.

LOM 402, 406, 407, 420, 429-431, 443, 444, 464, 465

SUBTASK 23-51-04-710-003

(2) Do an operational test of the PTT switch on the control wheel.

(a) Push the PA microphone selector switch on the pilot's ACP to the ON position.

(b) Push the volume control for the INT microphone selector switch.

(c) Turn the volume control for the INT microphone selector switch clockwise to the middle position.

(d) Make sure that the PA volume control is on.

(e) Turn the volume control for the PA selector switch clockwise to the middle position.

(f) Push the SPKR volume control switch to ON.

(g) Turn the SPKR volume control switch clockwise to the middle position or to the volume level you are comfortable with.

(h) Push and hold the PTT switch on the pilot's control wheel to the MIC position.

(i) Speak into the pilot's boom microphone.

1) Make sure that you hear the voice clearly on both headsets.

2) Make sure that the voice is heard on the flight deck speakers.

NOTE: Voice over the flight deck speakers will be lower than usual.

3) Make sure that the voice is heard on the PA system.

(j) Release the PTT switch.

1) Make sure that the switch goes to the center (OFF) position.

(k) Push and hold the PTT switch on the pilot's control wheel to the INT position.

(l) Speak into the pilot's boom microphone.

1) Make sure that you can hear the voice clearly on both headsets.

2) Make sure that the voice is heard on the flight deck speakers.

NOTE: Voice over the flight deck speakers will be lower that usual.

3) Make sure that you do not hear the voice on the PA system.

(m) Release the PTT switch.

LOM 402, 406, 407, 420, 464, 465

1) Make sure that the switch goes to the center (OFF) position.

LOM 429-431, 443, 444

2) Make sure that the PTT switch remains in the INT position.

ECCN 9E991 BOEING PROPRIETARY - See title page for details

LOM 429-431, 443, 444 (Continued)

3) Push the PTT switch to the center (OFF) position.

END OF TASK

LOM 422, 425-431, 433, 434, 440, 442-444, 451-454, 457; LOM 445 POST SB 737-23-1942

TASK 23-51-04-820-801

4. Catch Ball Adjustment and Test

A. Location Zones

Zone	Area
211	Flight Compartment - Left
212	Flight Compartment - Right

B. Procedure

SUBTASK 23-51-04-820-001

(1) Do these steps when the PTT switch does not lock in the INT position:

(a) Remove the PTT switch assembly from the control wheel:

1) Remove the two mounting screws from the control wheel.

2) Carefully move the PTT switch assembly to get access to the wires.

3) Disconnect the wires and remove the PTT switch assembly.

(b) Do the steps that follow to adjust the ball catch:

NOTE: You will need to remove the ball catch assembly from the trigger. The assembly consists of three small parts that will spring apart when released.

1) Remove the ball catch assembly from the trigger with the adjusting wrench.

2) Apply a thin layer of Loctite 222 or Loctite 242 to 1 to 3 full threads approximately centered on threaded length of ball catch sleeve using a pointed non-metallic tool. See Figure 403

3) Re-assemble the catch sleeve, ball and spring in the trigger.

4) Turn the ball catch clockwise with the adjusting wrench until the ball no longer makes contact with the switch mount detent when you push the trigger to the INT position.

5) Turn the bullet catch counterclock wise until the ball just makes contact with the switch mount detent when you push the trigger to the INT position.

6) Turn the bullet catch counterclockwise 1/4 turn.

NOTE: Do not extend the bullet catch further than 0.078 inch from the trigger. If the PTT switch will not stay in the INT position when the bullet catch is fully extended, then it may be necessary to adjust the PTT switch per Control Wheel PTT Switch Installation, TASK 23-51-04-400-801or replace the switch mount.

7) Push the trigger to the bottom (INT) position.

8) Make sure the trigger stays in the locked INT position.

(c) Re-install the PTT switch assembly to the control wheel:

1) Connect the wires to the PTT switch assembly.

a) Make sure you connect the correct wire on the correct terminal.

ECCN 9E991 BOEING PROPRIETARY - See title page for details

2) Carefully put the PTT switch assembly into the control wheel.

3) Install and tighten the two mounting screws on the control wheel.

SUBTASK 23-51-04-700-001

(2) Do this test of the bullet catch on the control wheel

(a) Push the trigger to the bottom (INT) position.

1) Make sure the trigger stays in the locked INT position.

——— END OF TASK ———

ECCN 9E991 BOEING PROPRIETARY - See title page for details

PTT SWITCH ASSEMBLY

2180177 S0000481202_V2

Control Wheel PTT Switch Bullet Catch Assembly
Figure 403/23-51-04-990-803

ECCN 9E991 BOEING PROPRIETARY - See title page for details

GLARESHIELD PTT SWITCH - REMOVAL/INSTALLATION

1. General

A. This procedure has two tasks:

(1) A removal of the push-to-talk (PTT) switch on the glareshield.

(2) An installation of the PTT switch on the glareshield.

(a) The installation task includes an operational test of the PTT switch.

TASK 23-51-05-000-801

2. Glareshield PTT Switch Removal

(Figure 401)

A. Location Zones

Zone	Area
211	Flight Compartment - Left
212	Flight Compartment - Right

B. Glareshield PTT Switch Removal

SUBTASK 23-51-05-860-001

(1) Open these circuit breakers and install safety tags:

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
D	11	C00165	COMMUNICATIONS VHF 1

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
C	3	C00166	COMMUNICATIONS VHF 2

F/O Electrical System Panel, P6-2

Row	Col	Number	Name
C	21	C00560	INTERPHONE POWER F/O DC 2
C	22	C00561	INTERPHONE POWER F/O BAT
C	23	C00239	INTERPHONE POWER CAPT DC 2
C	24	C00240	INTERPHONE POWER CAPT BAT
D	22	C00086	AUDIO F/O
D	23	C00083	AUDIO CAPT

SUBTASK 23-51-05-020-002

(2) Remove the lower cover assembly panel [6]:

(a) Remove the screw [7].

(b) Release the quarter turn fastener [8] and quarter turn fasteners [9] from the lower cover assembly panel [6].

(c) Carefully pull the lower cover assembly panel [6] down to expose the Push-To-Talk (PTT) switch cable connector [3].

SUBTASK 23-51-05-020-001

(3) Remove the PTT switch on the glareshield:

(a) Remove the mounting screws [2] from the PTT switch plate [1] on the glareshield.

ECCN 9E991 BOEING PROPRIETARY - See title page for details

(b) Carefully pull the PTT switch plate [1] from the glareshield panel.

(c) Remove the locking nut [4] and lock washer [10] from the glareshield PTT switch [5].

(d) Remove the glareshield PTT switch [5] from the glareshield.

(e) Remove the key washer [11] from the glareshield PTT switch [5].

(f) Disconnect the cable connector [3] from the glareshield PTT switch [5].

END OF TASK

ECCN 9E991 BOEING PROPRIETARY - See title page for details

Glareshield PTT Switch Installation
Figure 401/23-51-05-990-801 (Sheet 1 of 2)

ECCN 9E991 BOEING PROPRIETARY - See title page for details

(EXAMPLE)

(LEFT SIDE IS SHOWN, RIGHT SIDE IS OPPOSITE)

E

3076371 S0000834264_V1

Glareshield PTT Switch Installation
Figure 401/23-51-05-990-801 (Sheet 2 of 2)

ECCN 9E991 BOEING PROPRIETARY - See title page for details

TASK 23-51-05-400-801

3. **Glareshield PTT Switch - Installation**
(Figure 401)

A. **Expendables/Parts**

AMM Item	Description	AIPC Reference	AIPC Effectivity
5	Glareshield PTT switch	23-51-05-03-005	LOM 432
		23-51-05-04-005	LOM 402, 404, 406, 407, 411, 412, 415, 416, 420, 422-431, 433, 434, 437-447, 450-460, 464-999

B. **Location Zones**

Zone	Area
211	Flight Compartment - Left
212	Flight Compartment - Right

C. **Glareshield PTT Switch Installation**

SUBTASK 23-51-05-860-005

(1) Make sure that these circuit breakers are open and have safety tags:

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
D	11	C00165	COMMUNICATIONS VHF 1

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
C	3	C00166	COMMUNICATIONS VHF 2

F/O Electrical System Panel, P6-2

Row	Col	Number	Name
C	21	C00560	INTERPHONE POWER F/O DC 2
C	22	C00561	INTERPHONE POWER F/O BAT
C	23	C00239	INTERPHONE POWER CAPT DC 2
C	24	C00240	INTERPHONE POWER CAPT BAT
D	22	C00086	AUDIO F/O
D	23	C00083	AUDIO CAPT

SUBTASK 23-51-05-420-001

(2) Install the Push-To-Talk (PTT) switch on the glareshield:

(a) Connect the cable connector [3] to the glareshield PTT switch [5].

(b) Place the key washer [11] on the glareshield PTT switch [5].

(c) Install the glareshield PTT switch [5] on the glareshield.

(d) Install the lock washer [10] and locking nut [4] to the glareshield PTT switch [5].

1) Make sure that the locking nut [4] is tight.

(e) Place the PTT switch plate [1] in its position on the glareshield.

(f) Tighten the mounting screws [2] that attach the PTT switch plate [1] to the glareshield.

ECCN 9E991 BOEING PROPRIETARY - See title page for details

SUBTASK 23-51-05-420-002

(3) Install the lower cover assembly panel [6] to the glareshield:

(a) Carefully place the lower cover assembly panel [6] up into position.

(b) Attach the quarter turn fastener [8], and quarter turn fasteners [9] to attach the lower cover assembly panel [6] to the glareshield.

(c) Install the screw [7].

SUBTASK 23-51-05-860-002

(4) Remove the safety tags and close these circuit breakers:

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
D	11	C00165	COMMUNICATIONS VHF 1

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
C	3	C00166	COMMUNICATIONS VHF 2

F/O Electrical System Panel, P6-2

Row	Col	Number	Name
C	21	C00560	INTERPHONE POWER F/O DC 2
C	22	C00561	INTERPHONE POWER F/O BAT
C	23	C00239	INTERPHONE POWER CAPT DC 2
C	24	C00240	INTERPHONE POWER CAPT BAT
D	22	C00086	AUDIO F/O
D	23	C00083	AUDIO CAPT

D. Installation Test

LOM 404, 411, 412, 415, 416, 422-428, 432-434, 437-442, 445-447, 450-460, 466-999

SUBTASK 23-51-05-710-002

(1) Do an operational test of the PTT switch on the glareshield:

(a) Push the FLT microphone selector switch, on the Audio Control Panel (ACP), to the ON position.

(b) Push the volume control for the FLT microphone selector switch to the ON position.

(c) Turn the volume control for the FLT microphone selector switch clockwise to the middle position.

(d) Push the SPKR volume control switch to the ON position.

(e) Turn the SPKR volume control switch clockwise to the middle position or to the volume level you are comfortable with.

(f) Push and hold the PTT switch on the glareshield.

(g) Speak into the boom microphone.

1) Make sure that you can hear the voice clearly from the other headsets.

(h) Release the PTT switch on the glareshield panel.

LOM 402, 406, 407, 420, 429-431, 443, 444, 464, 465

SUBTASK 23-51-05-710-003

(2) Do an operational test of the PTT switch on the glareshield:

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LOM 402, 406, 407, 420, 429-431, 443, 444, 464, 465 (Continued)

(a) Push the INT microphone selector switch, on the ACP, to the ON position.

(b) Push the volume control for the INT microphone selector switch to the ON position.

(c) Turn the volume control for the INT microphone selector switch clockwise to the middle position.

(d) Push the SPKR volume control switch to the ON position.

(e) Turn the SPKR volume control switch clockwise to the middle position or to the volume level you are comfortable with.

(f) Push and hold the PTT switch on the glareshield.

(g) Speak into the boom microphone.

1) Make sure that you can hear the voice clearly from the other headsets.

(h) Release the PTT switch on the glareshield panel.

END OF TASK

ECCN 9E991 BOEING PROPRIETARY - See title page for details

STATIC DISCHARGERS - MAINTENANCE PRACTICES

1. General

A. This procedure has these tasks:

(1) A removal of the static discharger.

(2) An installation of the static discharger.

(3) A removal of the static discharger base.

(4) An installation of the static discharger base.

TASK 23-61-00-000-801

2. Static Discharger Removal

(Figure 201)

A. General

(1) The static dischargers are installed on the edge of the airplane wing and tail.

(2) The discharger is held by a setscrew on its base.

(3) The base is attached to the airplane surface.

B. References

Reference	Title
24-22-00-860-812	Remove Electrical Power (P/B 201)
27-11-00-860-801	Pressure from the Aileron Hydraulic Systems A and B - Deactivation (P/B 201)
27-11-00-860-802	Pressure to the Aileron Hydraulic Systems A and B - Activation (P/B 201)
27-21-00-800-802	Pressure from the Rudder Hydraulic Systems A, B, and Standby - Deactivation (P/B 201)
27-21-00-840-802	Pressure to the Rudder Systems A, B, and Standby - Activation (P/B 201)
27-31-00-800-802	Remove Pressure from the Elevator Hydraulic Systems A and B (P/B 201)
27-31-00-840-802	Put the Elevator Systems A and B Back to the Condition Before the Pressure Removal (P/B 201)

C. Location Zones

Zone	Area
300	Empennage
500	Left Wing
600	Right Wing

ECCN 9E991 BOEING PROPRIETARY - See title page for details

D. Procedure

SUBTASK 23-61-00-860-021

WARNING	MAKE SURE PRESSURE IS REMOVED FROM HYDRAULIC SYSTEMS. MAKE SURE HYDRAULIC POWER AND ELECTRICAL POWER ARE NOT SUPPLIED. IF HYDRAULIC PRESSURE IS PRESENT OR HYDRAULIC/ ELECTRICAL POWER IS SUPPLIED, THE FLIGHT CONTROL SURFACE CAN MOVE. THIS CAN CAUSE INJURY TO PERSONS OR DAMAGE TO EQUIPMENT.

(1) Remove pressure and power from the hydraulic systems for the applicable flight control surfaces: do this task: Pressure from the Aileron Hydraulic Systems A and B - Deactivation, TASK 27-11-00-860-801

or, do this task: Pressure from the Rudder Hydraulic Systems A, B, and Standby - Deactivation, TASK 27-21-00-800-802

or, do this task: Remove Pressure from the Elevator Hydraulic Systems A and B, TASK 27-31-00-800-802.

SUBTASK 23-61-00-860-022

(2) Do this task: Remove Electrical Power, TASK 24-22-00-860-812.

SUBTASK 23-61-00-010-001

(3) Get access to the defective static discharger.

SUBTASK 23-61-00-020-001

(4) Loosen the static discharger setscrew [2].

SUBTASK 23-61-00-020-002

(5) Remove the static discharger [1] from the discharger base [3].

SUBTASK 23-61-00-010-002

(6) If it is necessary, put the hydraulic systems back to the usual condition: do this task: Pressure to the Aileron Hydraulic Systems A and B - Activation, TASK 27-11-00-860-802

or, do this task: Pressure to the Rudder Systems A, B, and Standby - Activation, TASK 27-21-00-840-802

or, do this task: Put the Elevator Systems A and B Back to the Condition Before the Pressure Removal, TASK 27-31-00-840-802.

END OF TASK

ECCN 9E991 BOEING PROPRIETARY - See title page for details

FUEL TANK VENT
(BOTTOM SIDE OF LEFT
AND RIGHT WINGS)

STATIC DISCHARGER LOCATIONS 1

STATIC DISCHARGER LOCATIONS 2

FUEL TANK VENT
(BOTTOM SIDE OF LEFT
AND RIGHT WINGS)

1 AIRPLANES WITHOUT WINGLETS
2 AIRPLANES WITH WINGLETS

M27444 S0006566047_V2

Static Discharger Installation
Figure 201/23-61-00-990-802 (Sheet 1 of 3)

ECCN 9E991 BOEING PROPRIETARY - See title page for details

VERTICAL STABILIZER DISCHARGERS

A

LEFT HORIZONTAL STABILIZER DISCHARGERS
(RIGHT HORIZONTAL STABILIZER
DISCHARGERS ARE OPPOSITE)

B

LEFT WING DISCHARGERS
(RIGHT WING DISCHARGERS
ARE OPPOSITE)

C 1

LEFT WING DISCHARGERS
(RIGHT WING DISCHARGERS
ARE OPPOSITE)

C 2

1 AIRPLANES WITHOUT WINGLETS

2 AIRPLANES WITH WINGLETS

M27439 S0006566050_V2

Static Discharger Installation
Figure 201/23-61-00-990-802 (Sheet 2 of 3)

ECCN 9E991 BOEING PROPRIETARY - See title page for details

TRAILING DISCHARGER WITH ADAPTER PLATE (EXAMPLE)

D

TRAILING DISCHARGER (EXAMPLE)

E

TIP DISCHARGER (EXAMPLE)

F

F77281 S0006566051_V4

Static Discharger Installation
Figure 201/23-61-00-990-802 (Sheet 3 of 3)

ECCN 9E991 BOEING PROPRIETARY - See title page for details

TASK 23-61-00-400-801

3. Static Discharger Installation

(Figure 201)

A. References

Reference	Title
23-61-00-990-803	Figure: Chelton Static Discharger Resistance Test (P/B 601)
24-22-00-860-812	Remove Electrical Power (P/B 201)
27-11-00-860-801	Pressure from the Aileron Hydraulic Systems A and B - Deactivation (P/B 201)
27-11-00-860-802	Pressure to the Aileron Hydraulic Systems A and B - Activation (P/B 201)
27-21-00-800-802	Pressure from the Rudder Hydraulic Systems A, B, and Standby - Deactivation (P/B 201)
27-21-00-840-802	Pressure to the Rudder Systems A, B, and Standby - Activation (P/B 201)
27-31-00-800-802	Remove Pressure from the Elevator Hydraulic Systems A and B (P/B 201)
27-31-00-840-802	Put the Elevator Systems A and B Back to the Condition Before the Pressure Removal (P/B 201)
SWPM 20-20-00	ELECTRICAL BONDING PROCESSES

B. Tools/Equipment

NOTE: When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

Reference	Description
COM-1550	Bonding Meter - Approved, Intrinsically Safe (Approved for use in Class I, Divisions I & II hazardous (classified) locations. Outside these hazardous locations, COM-614 can be used in lieu of COM-1550). Part #: 620LK Supplier: 1CRL2 Part #: M1 Supplier: 3AD17 Part #: M1B Supplier: 3AD17 Part #: T477W (C15292) Supplier: 06659
COM-1587	Wrench - Torque, 30 in-lbs (4 N-m) Part #: 5718A42 Supplier: 3A054 Opt Part #: TE3FUA Supplier: 55719
COM-6457	Meter - Insulation (Range: 1-1,000 VDC or equivalent, select meter per test requirements) Part #: 1864-9700 Supplier: 62015 Part #: 1865PLUS Supplier: 62015 Part #: 1865PLUSCE Supplier: 62015 Part #: 2471F Supplier: 21844 Opt Part #: 1865-00-CE Supplier: 62015

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C. Consumable Materials

Reference	Description	Specification
A00648	Compound - Retaining - Loctite 242	ASTM D5363 Grp 3 Cl 2 Gd 1 (SUPERSEDES MIL-S-46163)

D. Prepare Procedure

SUBTASK 23-61-00-860-023

> **WARNING**
> MAKE SURE PRESSURE IS REMOVED FROM HYDRAULIC SYSTEMS. MAKE SURE HYDRAULIC POWER AND ELECTRICAL POWER ARE NOT SUPPLIED. IF HYDRAULIC PRESSURE IS PRESENT OR HYDRAULIC/ ELECTRICAL POWER IS SUPPLIED, THE FLIGHT CONTROL SURFACE CAN MOVE. THIS CAN CAUSE INJURY TO PERSONS OR DAMAGE TO EQUIPMENT.

(1) Remove pressure and power from the hydraulic systems for the applicable flight control surfaces:

(a) Do this task: Pressure from the Aileron Hydraulic Systems A and B - Deactivation, TASK 27-11-00-860-801, and/or

(b) Do this task: Pressure from the Rudder Hydraulic Systems A, B, and Standby - Deactivation, TASK 27-21-00-800-802, and/or

(c) Do this task: Remove Pressure from the Elevator Hydraulic Systems A and B, TASK 27-31-00-800-802.

SUBTASK 23-61-00-860-024

(2) Do this task: Remove Electrical Power, TASK 24-22-00-860-812.

E. Static Discharger Inspection and Test Before Installation

SUBTASK 23-61-00-210-004

(1) Do a visual inspection for the static discharger assembly:

(a) Replace the static discharger assembly if you find it broken, damaged, or the metal pins are broken, blunt, or bent.

SUBTASK 23-61-00-910-001

> **WARNING**
> OBEY THE PRECAUTIONS THAT FOLLOW WHEN YOU USE A MEGOHMMETER. IF YOU DO NOT OBEY THESE PRECAUTIONS, THEN IT IS POSSIBLE THAT AN EXPLOSION OR FIRE CAN OCCUR.

(2) Use these precautions for possible fuel vapors when you use a megohmmeter:

(a) Use the insulation meter, COM-6457 or equivalent meter with a 500 VDC test voltage and a maximum 5 milliampere short circuit current.

(b) Do not use a megohmmeter at these locations:

1) A five foot (1.524 meters) diameter, vertical column areas adjacent to or below:

- a wing fuel tank vent (from the vent to the ground).
- open fuel tank doors (from the door to the ground).
- open fuel tank access panels (from the panel to the ground).

2) Zero to 18 inches (457 mm) above the ground in the area around the airplane.

(c) Make sure that:

ECCN 9E991 BOEING PROPRIETARY - See title page for details

1) Area is well ventilated.
2) Metal workstands are grounded.
3) Megohmmeter is plugged into a grounded receptacle.
4) Megohmmeter is insulated from metal work stands.

SUBTASK 23-61-00-910-002

(3) Move the static dischargers to a safe location for the test with a megohmmeter.

SUBTASK 23-61-00-700-001

(4) DAYTON-GRANGER AND OTHER STATIC DISCHARGERS NOT SUPPLIED BY CHELTON;

Use a megohmmeter to measure the resistance between the discharger tip and the discharger shank:

(a) Set the megohmmeter to 500 VDC test voltage.
(b) A good electrical bond between the end of the discharger tip and the megohmmeter is necessary for a correct measure of resistance.
(c) To make a good connection with the end of the discharger tip, use a wet paper towel, cotton cloth or a sponge.
(d) Put the wet towel on the end of the discharger tip.
(e) Put the megohmmeter connectors on the shank of the static discharger and on the wet towel at the end of the tip.
1) Make sure that the measured resistance is between 6-100 megohms.
2) If the resistance measured is high, make sure that the meter lead and the end of the discharger tip touch the wet towel.
(f) Add more water if it is necessary and measure again.
1) Use the lowest measured value.

SUBTASK 23-61-00-700-002

(5) CHELTON SUPPLIED STATIC DISCHARGER ONLY;

Use a megohmmeter to measure the resistance between the discharger tip and the discharger shank:

(a) Set the megohmmeter to 500 V dc (volts direct current) test voltage.
(b) A good electrical bond between the end of the discharger tip and the megohmmeter is necessary for a correct measure of resistance.
(c) To make a good connection with the end of the discharger tip, use a wet material.
(d) Put the wet material on the END of the discharger tip.

NOTE: DO NOT WRAP the wet material around the discharger tip of Chelton static dischargers. This can give incorrect resistance values that cause unnecessary removals of serviceable static dischargers. Put the wet material between the tip of the discharger and the megohmmeter probe.

(e) Put one megohmmeter probe on the shank of the static discharger and one probe on the edge of the wet material at the end of the discharger tip. See Alternate (Off Wing) Discharger Resistance Test Detail II (Figure 23-61-00-990-803).
1) Make sure that the measured resistance is between 6-100 megohms.
2) If the resistance is more than 6-100 megohms, remove the wet material and put megohmmeter probe directly on the tip of the discharger core material.
(f) Add more water if it is necessary and measure again.

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1) Use the lowest measured value.

F. Installation Procedure

SUBTASK 23-61-00-420-012

(1) Install the setscrew into the static discharger as follows:

> **CAUTION** DO NOT USE THIS MATERIAL WITH PLASTIC-BASED MATERIALS. IT WILL NOT BOND CORRECTLY. THE STATIC DISCHARGER WILL COME OFF. DAMAGE TO EQUIPMENT WILL OCCUR.

(a) FOR STATIC DISCHARGERS WITHOUT NY-LOC INSERT IN THE SETSCREW AND STATIC DISCHARGERS THAT ARE NOT PLASTIC-BASED MATERIAL;

Apply a thin layer of Loctite 242 compound, A00648 to the setscrew threads.

NOTE: Do not use Loctite with the plastic-based material static discharger or with NY-LOC insert in the setscrew. Loctite reacts to the plastic materials that will cause eventual failure of the bond and result in separation of the static discharger from the airplane.

(b) Install the setscrew on the static discharger.

(c) Adjust the setscrew until it makes a continuous surface with the static discharger casting.

SUBTASK 23-61-00-420-001

(2) Install the static discharger [1] into the static discharger base [3]:

(a) Hold the static discharger [1] in the correct position and tighten the setscrew [2] to this value:

LOM ALL; AIRPLANES WITH STATIC DISCHARGERS 2-14SC1, 2-16SC1, 740001, 740007, 80-1746-2, AND 80-1828-2

1) Tighten the setscrew [2] to 6 in-lb (0.68 N·m) -9 in-lb (1.02 N·m) using a torque wrench (30 in-lbs), COM-1587.

LOM ALL; AIRPLANES WITH STATIC DISCHARGERS 10-900-21 AND 10-900-25

2) Tighten the setscrew [2] to 2.5 in-lb (0.28 N·m) using a torque wrench (30 in-lbs), COM-1587.

LOM ALL

(b) Make sure that the static discharger [1] is attached to its base correctly.

G. Static Discharger Installation Test

SUBTASK 23-61-00-700-003

> **WARNING** MAKE SURE THAT THE BONDING METER IS RESISTANT TO EXPLOSION. IF NOT, IT IS POSSIBLE THAT AN EXPLOSION OR FIRE CAN OCCUR.

(1) STATIC DISCHARGERS WITH METALLIC SHANK;

Use a intrinsically safe approved bonding meter, COM-1550, (SWPM 20-20-00) to measure the resistance between the static discharger shank and the static discharger base.

(a) Make sure that the resistance is not more than 1 ohm.

NOTE: A resistance of more than these values can cause damage if a lightning strike occurs.

ECCN 9E991 BOEING PROPRIETARY - See title page for details

(2) STATIC DISCHARGERS WITH PLASTIC SHANK;

Use a intrinsically safe approved bonding meter, COM-1550, (SWPM 20-20-00) to measure the resistance between the setscrew in the static discharger shank and the static discharger base.

(a) Make sure that the resistance is not more than 1 ohm.

NOTE: A resistance of more than these values can cause damage if a lightning strike occurs.

H. Put the Airplane Back to Its Usual Condition

SUBTASK 23-61-00-010-003

(1) If it is necessary, put the hydraulic systems back to the usual condition:

(a) Do this task: Pressure to the Aileron Hydraulic Systems A and B - Activation, TASK 27-11-00-860-802, and/or

(b) Do this task: Pressure to the Rudder Systems A, B, and Standby - Activation, TASK 27-21-00-840-802, and/or

(c) Do this task: Put the Elevator Systems A and B Back to the Condition Before the Pressure Removal, TASK 27-31-00-840-802.

END OF TASK

TASK 23-61-00-000-802

4. Static Discharger Base Removal (Base Attached with Screws)

(Figure 201)

A. References

Reference	Title
24-22-00-860-812	Remove Electrical Power (P/B 201)
27-11-00-860-801	Pressure from the Aileron Hydraulic Systems A and B - Deactivation (P/B 201)
27-11-00-860-802	Pressure to the Aileron Hydraulic Systems A and B - Activation (P/B 201)
27-21-00-800-802	Pressure from the Rudder Hydraulic Systems A, B, and Standby - Deactivation (P/B 201)
27-21-00-840-802	Pressure to the Rudder Systems A, B, and Standby - Activation (P/B 201)
27-31-00-800-802	Remove Pressure from the Elevator Hydraulic Systems A and B (P/B 201)
27-31-00-840-802	Put the Elevator Systems A and B Back to the Condition Before the Pressure Removal (P/B 201)

B. Tools/Equipment

NOTE: When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

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Reference	Description
COM-2481	Sealant Removal Tool (Meets BSS7384 Requirements) Part #: 1-6390-A Supplier: 63318 Part #: 10810 Supplier: $0855 Part #: 10811 Supplier: $0855 Part #: 10812 Supplier: $0855 Part #: 234350 Supplier: 5HCF1 Part #: 235072 Supplier: 5HCF1 Part #: 235073 Supplier: 5HCF1 Part #: 235074 Supplier: 5HCF1 Part #: 235075 Supplier: 5HCF1 Part #: 235076 Supplier: 5HCF1 Part #: 311/03 Supplier: F6892 Part #: 311/14 Supplier: F6892 Part #: 311/25 Supplier: F6892 Part #: 311/37 Supplier: F6892 Part #: AS1 Supplier: $1351 Part #: AS2 Supplier: $1351 Part #: AS3 Supplier: $1351 Part #: DAD5013 Supplier: 7RKH2 Part #: DFD5019 Supplier: 7RKH2 Part #: JNT411B60 Supplier: 3DN12 Part #: JNT411B90 Supplier: 3DN12 Part #: PT6529-S Supplier: 81205 Part #: SCD5019 Supplier: 7RKH2 Part #: ST982LF-9 Supplier: 81205 Part #: TS1275-4 Supplier: 22975
STD-1053	Knife - Putty, Broad Blade

C. Location Zones

Zone	Area
300	Empennage
500	Left Wing
600	Right Wing

D. Procedure

SUBTASK 23-61-00-860-025

WARNING

MAKE SURE PRESSURE IS REMOVED FROM HYDRAULIC SYSTEMS. MAKE SURE HYDRAULIC POWER AND ELECTRICAL POWER ARE NOT SUPPLIED. IF HYDRAULIC PRESSURE IS PRESENT OR HYDRAULIC/ ELECTRICAL POWER IS SUPPLIED, THE FLIGHT CONTROL SURFACE CAN MOVE. THIS CAN CAUSE INJURY TO PERSONS OR DAMAGE TO EQUIPMENT.

(1) Remove pressure and power from the hydraulic systems for the applicable flight control surfaces: do this task: Pressure from the Aileron Hydraulic Systems A and B - Deactivation, TASK 27-11-00-860-801

or, do this task: Pressure from the Rudder Hydraulic Systems A, B, and Standby - Deactivation, TASK 27-21-00-800-802

or, do this task: Remove Pressure from the Elevator Hydraulic Systems A and B, TASK 27-31-00-800-802.

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SUBTASK 23-61-00-860-026

(2) Do this task: Remove Electrical Power, TASK 24-22-00-860-812.

SUBTASK 23-61-00-020-003

(3) Remove the discharger base [3]:

(a) Loosen the static discharger setscrew [2].

(b) Remove the static discharger [1] from the base.

(c) Make a mark with a grease pencil larger than the area of the discharger base [3] be cleaned.

1) Make sure that the line is parallel to the airflow.

(d) Remove the discharger base [3]:

1) Remove the weather/aerodynamic fillet seal around the edge of the discharger base [3] with a sealant removal tool, COM-2481.

2) Remove the screws [7] from the discharger base [3].

a) Keep the screws [7] for installation.

CAUTION

BE VERY CAREFUL WITH THE PUTTY KNIFE. DAMAGE TO THE AIRPLANE SURFACES CAN OCCUR.

3) Put a broad blade putty knife, STD-1053 below the edge of the discharger base.

4) Remove the discharger base [3] from the surface.

SUBTASK 23-61-00-010-004

(4) If it is necessary, put the hydraulic systems back to the usual condition: do this task: Pressure to the Aileron Hydraulic Systems A and B - Activation, TASK 27-11-00-860-802

or, do this task: Pressure to the Rudder Systems A, B, and Standby - Activation, TASK 27-21-00-840-802

or, do this task: Put the Elevator Systems A and B Back to the Condition Before the Pressure Removal, TASK 27-31-00-840-802.

——— END OF TASK ———

TASK 23-61-00-000-803

5. Static Discharger Base Removal (Base Attached with Rivets)

(Figure 201)

A. References

Reference	Title
24-22-00-860-812	Remove Electrical Power (P/B 201)
27-11-00-860-801	Pressure from the Aileron Hydraulic Systems A and B - Deactivation (P/B 201)
27-11-00-860-802	Pressure to the Aileron Hydraulic Systems A and B - Activation (P/B 201)
27-21-00-800-802	Pressure from the Rudder Hydraulic Systems A, B, and Standby - Deactivation (P/B 201)
27-21-00-840-802	Pressure to the Rudder Systems A, B, and Standby - Activation (P/B 201)

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(Continued)

Reference	Title
27-31-00-800-802	Remove Pressure from the Elevator Hydraulic Systems A and B (P/B 201)
27-31-00-840-802	Put the Elevator Systems A and B Back to the Condition Before the Pressure Removal (P/B 201)
SRM 51-40-02	Structural Repair Manual

B. Tools/Equipment

NOTE: When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

Reference	Description
COM-2481	Sealant Removal Tool (Meets BSS7384 Requirements) Part #: 1-6390-A Supplier: 63318 Part #: 10810 Supplier: $0855 Part #: 10811 Supplier: $0855 Part #: 10812 Supplier: $0855 Part #: 234350 Supplier: 5HCF1 Part #: 235072 Supplier: 5HCF1 Part #: 235073 Supplier: 5HCF1 Part #: 235074 Supplier: 5HCF1 Part #: 235075 Supplier: 5HCF1 Part #: 235076 Supplier: 5HCF1 Part #: 311/03 Supplier: F6892 Part #: 311/14 Supplier: F6892 Part #: 311/25 Supplier: F6892 Part #: 311/37 Supplier: F6892 Part #: AS1 Supplier: $1351 Part #: AS2 Supplier: $1351 Part #: AS3 Supplier: $1351 Part #: DAD5013 Supplier: 7RKH2 Part #: DFD5019 Supplier: 7RKH2 Part #: JNT411B60 Supplier: 3DN12 Part #: JNT411B90 Supplier: 3DN12 Part #: PT6529-S Supplier: 81205 Part #: SCD5019 Supplier: 7RKH2 Part #: ST982LF-9 Supplier: 81205 Part #: TS1275-4 Supplier: 22975
STD-1053	Knife - Putty, Broad Blade

I

C. Location Zones

Zone	Area
300	Empennage
500	Left Wing
600	Right Wing

ECCN 9E991 BOEING PROPRIETARY - See title page for details

D. Procedure

SUBTASK 23-61-00-860-027

> **WARNING** MAKE SURE PRESSURE IS REMOVED FROM HYDRAULIC SYSTEMS. MAKE SURE HYDRAULIC POWER AND ELECTRICAL POWER ARE NOT SUPPLIED. IF HYDRAULIC PRESSURE IS PRESENT OR HYDRAULIC/ ELECTRICAL POWER IS SUPPLIED, THE FLIGHT CONTROL SURFACE CAN MOVE. THIS CAN CAUSE INJURY TO PERSONS OR DAMAGE TO EQUIPMENT.

(1) Remove pressure and power from the hydraulic systems for the applicable flight control surfaces: do this task: Pressure from the Aileron Hydraulic Systems A and B - Deactivation, TASK 27-11-00-860-801

or, do this task: Pressure from the Rudder Hydraulic Systems A, B, and Standby - Deactivation, TASK 27-21-00-800-802

or, do this task: Remove Pressure from the Elevator Hydraulic Systems A and B, TASK 27-31-00-800-802.

SUBTASK 23-61-00-860-028

(2) Do this task: Remove Electrical Power, TASK 24-22-00-860-812.

SUBTASK 23-61-00-020-004

(3) Remove the discharger base [3]:

(a) Loosen the static discharger setscrew [2].

(b) Remove the static discharger [1] from the base.

(c) Make a mark with a grease pencil larger than the area of the discharger base [3] to be cleaned.

1) Make sure that the line is parallel to the airflow.

(d) Remove the discharger base [3].

1) Remove the weather/aerodynamic fillet seal around the edge of the discharger base [3] with a sealant removal tool, COM-2481.

2) Remove the rivets [8] from the discharger base [3] (SRM 51-40-02).

> **CAUTION** BE VERY CAREFUL WITH THE PUTTY KNIFE. DAMAGE TO THE AIRPLANE SURFACES CAN OCCUR.

3) Put a broad blade putty knife, STD-1053 below the edge of the discharger base [3].

4) Remove the discharger base [3] from the surface.

SUBTASK 23-61-00-010-005

(4) If it is necessary, put the hydraulic systems back to the usual condition: do this task: Pressure to the Aileron Hydraulic Systems A and B - Activation, TASK 27-11-00-860-802

or, do this task: Pressure to the Rudder Systems A, B, and Standby - Activation, TASK 27-21-00-840-802

or, do this task: Put the Elevator Systems A and B Back to the Condition Before the Pressure Removal, TASK 27-31-00-840-802.

END OF TASK

ECCN 9E991 BOEING PROPRIETARY - See title page for details

TASK 23-61-00-000-804

6. Static Discharger Base Removal (Adapter Plate Assembly)

(Figure 201)

A. References

Reference	Title
24-22-00-860-812	Remove Electrical Power (P/B 201)
27-11-00-860-801	Pressure from the Aileron Hydraulic Systems A and B - Deactivation (P/B 201)
27-11-00-860-802	Pressure to the Aileron Hydraulic Systems A and B - Activation (P/B 201)
27-21-00-800-802	Pressure from the Rudder Hydraulic Systems A, B, and Standby - Deactivation (P/B 201)
27-21-00-840-802	Pressure to the Rudder Systems A, B, and Standby - Activation (P/B 201)
27-31-00-800-802	Remove Pressure from the Elevator Hydraulic Systems A and B (P/B 201)
27-31-00-840-802	Put the Elevator Systems A and B Back to the Condition Before the Pressure Removal (P/B 201)
SRM 51-40-02	Structural Repair Manual

B. Tools/Equipment

NOTE: When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

Reference	Description
COM-2481	Sealant Removal Tool (Meets BSS7384 Requirements) Part #: 1-6390-A Supplier: 63318 Part #: 10810 Supplier: $0855 Part #: 10811 Supplier: $0855 Part #: 10812 Supplier: $0855 Part #: 234350 Supplier: 5HCF1 Part #: 235072 Supplier: 5HCF1 Part #: 235073 Supplier: 5HCF1 Part #: 235074 Supplier: 5HCF1 Part #: 235075 Supplier: 5HCF1 Part #: 235076 Supplier: 5HCF1 Part #: 311/03 Supplier: F6892 Part #: 311/14 Supplier: F6892 Part #: 311/25 Supplier: F6892 Part #: 311/37 Supplier: F6892 Part #: AS1 Supplier: $1351 Part #: AS2 Supplier: $1351 Part #: AS3 Supplier: $1351 Part #: DAD5013 Supplier: 7RKH2 Part #: DFD5019 Supplier: 7RKH2 Part #: JNT411B60 Supplier: 3DN12 Part #: JNT411B90 Supplier: 3DN12 Part #: PT6529-S Supplier: 81205 Part #: SCD5019 Supplier: 7RKH2 Part #: ST982LF-9 Supplier: 81205 Part #: TS1275-4 Supplier: 22975

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(Continued)

Reference	Description
STD-1053	Knife - Putty, Broad Blade

C. Location Zones

Zone	Area
300	Empennage
500	Left Wing
600	Right Wing

D. Procedure

SUBTASK 23-61-00-860-029

> **WARNING** MAKE SURE PRESSURE IS REMOVED FROM HYDRAULIC SYSTEMS. MAKE SURE HYDRAULIC POWER AND ELECTRICAL POWER ARE NOT SUPPLIED. IF HYDRAULIC PRESSURE IS PRESENT OR HYDRAULIC/ELECTRICAL POWER IS SUPPLIED, THE FLIGHT CONTROL SURFACE CAN MOVE. THIS CAN CAUSE INJURY TO PERSONS OR DAMAGE TO EQUIPMENT.

(1) Remove pressure and power from the hydraulic systems for the applicable flight control surfaces: do this task: Pressure from the Aileron Hydraulic Systems A and B - Deactivation, TASK 27-11-00-860-801

or, do this task: Pressure from the Rudder Hydraulic Systems A, B, and Standby - Deactivation, TASK 27-21-00-800-802

or, do this task: Remove Pressure from the Elevator Hydraulic Systems A and B, TASK 27-31-00-800-802.

SUBTASK 23-61-00-860-030

(2) Do this task: Remove Electrical Power, TASK 24-22-00-860-812.

SUBTASK 23-61-00-020-005

(3) Remove the discharger base assembly:

(a) Loosen the static discharger setscrew [2].

(b) Remove the static discharger [1] from the discharger base [3].

(c) Make a mark with a grease pencil larger than the area of the adapter plate [9] to be cleaned.

1) Make sure that the line is parallel to the airflow.

(d) Remove the adapter plate assembly:

1) Remove the weather/aerodynamic fillet seal around the edge of the adapter plate [9] with a sealant removal tool, COM-2481.

2) Remove the bolts [4] and rivets [6] from the adapter plate [9] (SRM 51-40-02).

> **CAUTION** BE VERY CAREFUL WITH THE PUTTY KNIFE. DAMAGE TO THE AIRPLANE SURFACES CAN OCCUR.

3) Put a broad blade putty knife, STD-1053 below the edge of the adapter plate [9].

4) Remove the adapter plate [9] from the surface.

(e) Remove the discharger base [3] from the adapter plate [9]:

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1) Remove the rivets [5] from the discharger base [3] (SRM 51-40-02).

2) Remove the discharger base [3] from the adapter plate [9].

SUBTASK 23-61-00-010-006

(4) If it is necessary, put the hydraulic systems back to the usual condition: do this task: Pressure to the Aileron Hydraulic Systems A and B - Activation, TASK 27-11-00-860-802

or, do this task: Pressure to the Rudder Systems A, B, and Standby - Activation, TASK 27-21-00-840-802

or, do this task: Put the Elevator Systems A and B Back to the Condition Before the Pressure Removal, TASK 27-31-00-840-802.

END OF TASK

TASK 23-61-00-400-802

7. Static Discharger Base Installation (With Screws)

(Figure 201)

A. References

Reference	Title
20-10-34-120-801	Hand Clean Metal Surfaces with Abrasives (P/B 701)
20-30-87-910-801	Final Cleaning of Composites Prior to Painting (Series 87) (P/B 201)
24-22-00-860-812	Remove Electrical Power (P/B 201)
27-11-00-860-801	Pressure from the Aileron Hydraulic Systems A and B - Deactivation (P/B 201)
27-11-00-860-802	Pressure to the Aileron Hydraulic Systems A and B - Activation (P/B 201)
27-21-00-800-802	Pressure from the Rudder Hydraulic Systems A, B, and Standby - Deactivation (P/B 201)
27-21-00-840-802	Pressure to the Rudder Systems A, B, and Standby - Activation (P/B 201)
27-31-00-800-802	Remove Pressure from the Elevator Hydraulic Systems A and B (P/B 201)
27-31-00-840-802	Put the Elevator Systems A and B Back to the Condition Before the Pressure Removal (P/B 201)
51-21-99-300-802	Decorative Exterior Paint System Repair (P/B 701)
51-31-00-390-804	Fillet Seal Application (P/B 201)
51-31-00-390-805	Fastener Seal Application (P/B 201)
SWPM 20-20-00	ELECTRICAL BONDING PROCESSES

B. Tools/Equipment

NOTE: When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

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Reference	Description
COM-1550	Bonding Meter - Approved, Intrinsically Safe (Approved for use in Class I, Divisions I & II hazardous (classified) locations. Outside these hazardous locations, COM-614 can be used in lieu of COM-1550). Part #: 620LK Supplier: 1CRL2 Part #: M1 Supplier: 3AD17 Part #: M1B Supplier: 3AD17 Part #: T477W (C15292) Supplier: 06659
COM-2481	Sealant Removal Tool (Meets BSS7384 Requirements) Part #: 1-6390-A Supplier: 63318 Part #: 10810 Supplier: $0855 Part #: 10811 Supplier: $0855 Part #: 10812 Supplier: $0855 Part #: 234350 Supplier: 5HCF1 Part #: 235072 Supplier: 5HCF1 Part #: 235073 Supplier: 5HCF1 Part #: 235074 Supplier: 5HCF1 Part #: 235075 Supplier: 5HCF1 Part #: 235076 Supplier: 5HCF1 Part #: 311/03 Supplier: F6892 Part #: 311/14 Supplier: F6892 Part #: 311/25 Supplier: F6892 Part #: 311/37 Supplier: F6892 Part #: AS1 Supplier: $1351 Part #: AS2 Supplier: $1351 Part #: AS3 Supplier: $1351 Part #: DAD5013 Supplier: 7RKH2 Part #: DFD5019 Supplier: 7RKH2 Part #: JNT411B60 Supplier: 3DN12 Part #: JNT411B90 Supplier: 3DN12 Part #: PT6529-S Supplier: 81205 Part #: SCD5019 Supplier: 7RKH2 Part #: ST982LF-9 Supplier: 81205 Part #: TS1275-4 Supplier: 22975
STD-739	Respirator - Half-Mask, Air Purifying (with filters/cartridges)
STD-810	Spatula - Fillet Smoothing, Hardwood or Plastic

I

C. Consumable Materials

Reference	Description	Specification
A00247	Sealant - Pressure And Environmental - Chromate Type	BMS5-95
B00102	Abrasive - Aluminum Oxide Coated Cloth	
B00148	Solvent - Methyl Ethyl Ketone (MEK)	ASTM D740
B00184	Solvent - Presealing, Cleaning Solvent	BMS11-7
B00666	Solvent - Methyl Propyl Ketone	BMS11-9
B01007	Solvent - Final Cleaning Of Composites Prior To Painting (AMM 20-30-87) - Series 87	
B01026	Solvent - FCC-55	
B01054	Solvent - Methyl Ethyl Ketone and sec-Butyl Alcohol Blend - (MEK:secButyl Alcohol - 42:58 Percent)	BAC5750, ASTM D740/ASTM D1007

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(Continued)

Reference	Description	Specification
G00034	Cotton Wiper - Process Cleaning Absorbent Wiper (Cheesecloth, Gauze)	AMS3819 Class 1 Grade A or B Form 1 (Supersede BMS15-5 CL A)

D. Expendables/Parts

AMM Item	Description	AIPC Reference	AIPC Effectivity
1	Discharger	23-61-00-02-010	LOM 461-463
		23-61-00-02-015	LOM 461-463
		23-61-00-02-110	LOM ALL
		23-61-00-02-160	LOM ALL
		23-61-00-02-210	LOM ALL
		23-61-00-02-305	LOM ALL
		23-61-00-02-310	LOM ALL
		23-61-00-02-355	LOM ALL

E. Procedure

SUBTASK 23-61-00-860-031

WARNING MAKE SURE PRESSURE IS REMOVED FROM HYDRAULIC SYSTEMS. MAKE SURE HYDRAULIC POWER AND ELECTRICAL POWER ARE NOT SUPPLIED. IF HYDRAULIC PRESSURE IS PRESENT OR HYDRAULIC/ELECTRICAL POWER IS SUPPLIED, THE FLIGHT CONTROL SURFACE CAN MOVE. THIS CAN CAUSE INJURY TO PERSONS OR DAMAGE TO EQUIPMENT.

(1) Remove pressure and power from the hydraulic systems for the applicable flight control surfaces: do this task: Pressure from the Aileron Hydraulic Systems A and B - Deactivation, TASK 27-11-00-860-801

or, do this task: Pressure from the Rudder Hydraulic Systems A, B, and Standby - Deactivation, TASK 27-21-00-800-802

or, do this task: Remove Pressure from the Elevator Hydraulic Systems A and B, TASK 27-31-00-800-802.

SUBTASK 23-61-00-860-032

(2) Do this task: Remove Electrical Power, TASK 24-22-00-860-812.

SUBTASK 23-61-00-420-002

(3) Prepare to install the static discharger base [3]:

(a) Remove the sealant with a sealant removal tool, COM-2481.

WARNING DO NOT GET SOLVENTS IN YOUR MOUTH, OR YOUR EYES, OR ON YOUR SKIN. DO NOT BREATHE THE FUMES FROM SOLVENTS. SOLVENTS ARE HAZARDOUS MATERIALS. SOLVENTS MAY BE FLAMMABLE OR HARMFUL TO THE ENVIRONMENT. REFER TO PRODUCT MATERIAL SAFETY DATA SHEETS (MSDS) AND LOCAL REQUIREMENTS FOR PROPER HANDLING PROCEDURES.

(b) Clean the area to be bonded with the solvent, B00148, solvent, B00666, solvent, B00184, FCC-55 solvent, B01026, or solvent, B01054.

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1) Wear a half-mask respirator, STD-739 to clean with solvents.
2) Apply the solvent with a cotton wiper, G00034.

(c) Remove the solvent with cotton wiper, G00034 before it dries.
1) Make sure that you do not touch the cleaned surface.

(d) Rub the surface with the abrasive cloth, B00102 (600 grit) (TASK 20-10-34-120-801).
NOTE: Change the sandpaper frequently.
1) Make sure that you have a smooth surface.
2) Make sure that the surface is not shiny.

(e) Clean with cotton wiper, G00034.
NOTE: Do not use solvent.

SUBTASK 23-61-00-420-003

(4) Install the static discharger base [3]:

(a) Remove the metal discharger base from the plastic container.
1) Do not touch the bottom surface of the discharger base [3] which touches the airplane surface.

CAUTION
YOU MUST INSTALL THE DISCHARGER BASE IN 5 MINUTES OR LESS AFTER IT WAS RUBBED WITH SANDPAPER. OXIDATION CAN OCCUR IF IT IS LONGER THAN 5 MINUTES.

(b) Rub the static discharger base [3] with abrasive cloth, B00102.
NOTE: Do not rub a plated discharger base with sandpaper. A plated discharger base has a green dot for identification. Put a pair of gloves on to touch the bases.
1) Make sure that you have a smooth surface.
NOTE: Change the sandpaper frequently.
2) Make sure that the airplane surface is not shiny.

(c) Attach the discharger base [3] to the airplane surface.
1) Make sure that you install the base in the same direction as the airflow.

(d) Install the screws [7] that you removed on the removal procedure to attach the base.

(e) Apply sealant, A00247 to the screws [7](Fastener Seal Application, TASK 51-31-00-390-805).

(f) Apply sealant, A00247 to the edge of the discharger base [3] (TASK 51-31-00-390-804).

(g) Make the sealant smooth with a hardwood or plastic fillet smoothing spatula, STD-810.

(h) Make sure that you do not see cracks between the discharger base [3] and the airplane surface.

(i) Remove the unwanted sealant, A00247 with a cotton wiper, G00034 which is moist with Series 87 solvent, B01007 (TASK 20-30-87-910-801).

SUBTASK 23-61-00-750-001

(5) Examine the installation of the discharger base [3].

(a) Make sure that there are no cracks in the sealant, A00247.

(b) If you find a crack, fill the crack with the sealant, A00247.

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SUBTASK 23-61-00-760-003

> **WARNING** MAKE SURE THAT THE OHMMETER IS RESISTANT TO EXPLOSION. IF NOT, IT IS POSSIBLE THAT AN EXPLOSION OR FIRE CAN OCCUR.

(6) Use a intrinsically safe approved bonding meter, COM-1550 to measure the electrical bond between the discharger base [3] and the airplane surface (SWPM 20-20-00).

NOTE: This resistance value is for a new installed static discharger base and a new bond. The resistance value is different for an in-service bond and the discharger base.

(a) The resistance value of a new discharger base [3] must not be more than:

NOTE: A resistance of more than these value can cause airplane equipment damage if a lightning strike occurs.

1) 0.01 ohms for discharger bases [3] installed on metal panels.

2) 0.10 ohms for discharger bases [3] installed on an aluminum flame spray on top of the fiberglass laminate or the composite panel.

NOTE: This includes discharger bases installed on aluminum-covered fabric.

3) 1.0 ohms for discharger bases [3] installed on composite panels without a cover of the aluminum flame spray.

SUBTASK 23-61-00-410-001

(7) To install the static discharger [1] into the discharger base [3], do this task: Static Discharger Installation, TASK 23-61-00-400-801.

SUBTASK 23-61-00-370-001

(8) Paint the area around the discharger base [3] (Decorative Exterior Paint System Repair, TASK 51-21-99-300-802).

SUBTASK 23-61-00-010-007

(9) Put the hydraulic systems back to the usual condition: do this task: Pressure to the Aileron Hydraulic Systems A and B - Activation, TASK 27-11-00-860-802

or, do this task: Pressure to the Rudder Systems A, B, and Standby - Activation, TASK 27-21-00-840-802

or, do this task: Put the Elevator Systems A and B Back to the Condition Before the Pressure Removal, TASK 27-31-00-840-802.

END OF TASK

TASK 23-61-00-400-803

8. Static Discharger Base Installation (With Rivets)

(Figure 201)

A. References

Reference	Title
20-10-34-120-801	Hand Clean Metal Surfaces with Abrasives (P/B 701)
20-30-87-910-801	Final Cleaning of Composites Prior to Painting (Series 87) (P/B 201)
24-22-00-860-812	Remove Electrical Power (P/B 201)
27-11-00-860-801	Pressure from the Aileron Hydraulic Systems A and B - Deactivation (P/B 201)

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(Continued)

Reference	Title
27-11-00-860-802	Pressure to the Aileron Hydraulic Systems A and B - Activation (P/B 201)
27-21-00-800-802	Pressure from the Rudder Hydraulic Systems A, B, and Standby - Deactivation (P/B 201)
27-21-00-840-802	Pressure to the Rudder Systems A, B, and Standby - Activation (P/B 201)
27-31-00-800-802	Remove Pressure from the Elevator Hydraulic Systems A and B (P/B 201)
27-31-00-840-802	Put the Elevator Systems A and B Back to the Condition Before the Pressure Removal (P/B 201)
51-21-99-300-802	Decorative Exterior Paint System Repair (P/B 701)
51-31-00-390-804	Fillet Seal Application (P/B 201)
51-31-00-390-805	Fastener Seal Application (P/B 201)
SRM 51-40-02	Structural Repair Manual
SWPM 20-20-00	ELECTRICAL BONDING PROCESSES

B. Tools/Equipment

NOTE: When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

Reference	Description
COM-1550	Bonding Meter - Approved, Intrinsically Safe (Approved for use in Class I, Divisions I & II hazardous (classified) locations. Outside these hazardous locations, COM-614 can be used in lieu of COM-1550). Part #: 620LK Supplier: 1CRL2 Part #: M1 Supplier: 3AD17 Part #: M1B Supplier: 3AD17 Part #: T477W (C15292) Supplier: 06659

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(Continued)

Reference	Description
COM-2481	Sealant Removal Tool (Meets BSS7384 Requirements) Part #: 1-6390-A Supplier: 63318 Part #: 10810 Supplier: $0855 Part #: 10811 Supplier: $0855 Part #: 10812 Supplier: $0855 Part #: 234350 Supplier: 5HCF1 Part #: 235072 Supplier: 5HCF1 Part #: 235073 Supplier: 5HCF1 Part #: 235074 Supplier: 5HCF1 Part #: 235075 Supplier: 5HCF1 Part #: 235076 Supplier: 5HCF1 Part #: 311/03 Supplier: F6892 Part #: 311/14 Supplier: F6892 Part #: 311/25 Supplier: F6892 Part #: 311/37 Supplier: F6892 Part #: AS1 Supplier: $1351 Part #: AS2 Supplier: $1351 Part #: AS3 Supplier: $1351 Part #: DAD5013 Supplier: 7RKH2 Part #: DFD5019 Supplier: 7RKH2 Part #: JNT411B60 Supplier: 3DN12 Part #: JNT411B90 Supplier: 3DN12 Part #: PT6529-S Supplier: 81205 Part #: SCD5019 Supplier: 7RKH2 Part #: ST982LF-9 Supplier: 81205 Part #: TS1275-4 Supplier: 22975
STD-739	Respirator - Half-Mask, Air Purifying (with filters/cartridges)
STD-810	Spatula - Fillet Smoothing, Hardwood or Plastic

C. Consumable Materials

Reference	Description	Specification
A00247	Sealant - Pressure And Environmental - Chromate Type	BMS5-95
B00102	Abrasive - Aluminum Oxide Coated Cloth	
B00148	Solvent - Methyl Ethyl Ketone (MEK)	ASTM D740
B00184	Solvent - Presealing, Cleaning Solvent	BMS11-7
B00666	Solvent - Methyl Propyl Ketone	BMS11-9
B01007	Solvent - Final Cleaning Of Composites Prior To Painting (AMM 20-30-87) - Series 87	
B01026	Solvent - FCC-55	
B01054	Solvent - Methyl Ethyl Ketone and sec-Butyl Alcohol Blend - (MEK:secButyl Alcohol - 42:58 Percent)	BAC5750, ASTM D740/ASTM D1007
G00034	Cotton Wiper - Process Cleaning Absorbent Wiper (Cheesecloth, Gauze)	AMS3819 Class 1 Grade A or B Form 1 (Supersede BMS15-5 CL A)

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D. Expendables/Parts

AMM Item	Description	AIPC Reference	AIPC Effectivity
1	Discharger	23-61-00-02-010	LOM 461-463
		23-61-00-02-015	LOM 461-463
		23-61-00-02-110	LOM ALL
		23-61-00-02-160	LOM ALL
		23-61-00-02-210	LOM ALL
		23-61-00-02-305	LOM ALL
		23-61-00-02-310	LOM ALL
		23-61-00-02-355	LOM ALL
8	Rivet	55-10-00-08A-040	LOM ALL
		57-30-00-01-216	LOM 461-463
		57-30-00-01-265	LOM 461-463
		57-30-00-01-270	LOM 461-463
		57-30-00-01-275	LOM 461-463
		57-30-00-01-280	LOM 461-463
		57-50-00-13-115	LOM ALL

E. Procedure

SUBTASK 23-61-00-860-033

WARNING

MAKE SURE PRESSURE IS REMOVED FROM HYDRAULIC SYSTEMS. MAKE SURE HYDRAULIC POWER AND ELECTRICAL POWER ARE NOT SUPPLIED. IF HYDRAULIC PRESSURE IS PRESENT OR HYDRAULIC/ELECTRICAL POWER IS SUPPLIED, THE FLIGHT CONTROL SURFACE CAN MOVE. THIS CAN CAUSE INJURY TO PERSONS OR DAMAGE TO EQUIPMENT.

(1) Remove pressure and power from the hydraulic systems for the applicable flight control surfaces: do this task: Pressure from the Aileron Hydraulic Systems A and B - Deactivation, TASK 27-11-00-860-801

or, do this task: Pressure from the Rudder Hydraulic Systems A, B, and Standby - Deactivation, TASK 27-21-00-800-802

or, do this task: Remove Pressure from the Elevator Hydraulic Systems A and B, TASK 27-31-00-800-802.

SUBTASK 23-61-00-860-034

(2) Do this task: Remove Electrical Power, TASK 24-22-00-860-812.

SUBTASK 23-61-00-420-004

(3) Prepare to install the static discharger base [3]:

(a) Remove the sealant with a sealant removal tool, COM-2481.

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> **WARNING**
> DO NOT GET SOLVENTS IN YOUR MOUTH, OR YOUR EYES, OR ON YOUR SKIN. DO NOT BREATHE THE FUMES FROM SOLVENTS. SOLVENTS ARE HAZARDOUS MATERIALS. SOLVENTS MAY BE FLAMMABLE OR HARMFUL TO THE ENVIRONMENT. REFER TO PRODUCT MATERIAL SAFETY DATA SHEETS (MSDS) AND LOCAL REQUIREMENTS FOR PROPER HANDLING PROCEDURES.

(b) Clean the area to be bonded with solvent, B00148, solvent, B00666, solvent, B00184, FCC-55 solvent, B01026, or solvent, B01054.

1) Wear a half-mask respirator, STD-739 to clean with solvent.

2) Apply the solvent with a cotton wiper, G00034.

(c) Remove the solvent with cotton wiper, G00034 before it dries.

1) Make sure that you do not touch the cleaned surface.

(d) Rub the surface with the abrasive cloth, B00102 (600 grit) 1183 (TASK 20-10-34-120-801).

NOTE: Change the sandpaper frequently.

1) Make sure that you have a smooth surface.

2) Make sure that the surface is not shiny.

(e) Clean with cotton wiper, G00034.

NOTE: Do not use solvent.

SUBTASK 23-61-00-420-005

(4) Install the static discharger base [3]:

(a) Remove the metal discharger base [3] from the plastic container.

1) Do not touch the bottom surface of the discharger base [3] which touches the airplane surface.

> **CAUTION**
> YOU MUST INSTALL THE DISCHARGER BASE IN 5 MINUTES OR LESS AFTER IT WAS RUBBED WITH SANDPAPER. OXIDATION CAN OCCUR IF IT IS LONGER THAN 5 MINUTES.

(b) Rub the static discharger base [3] with abrasive cloth, B00102.

NOTE: Do not rub a plated base with sandpaper. A plated discharger base has a green dot for identification. Put a pair of gloves on to touch the bases.

1) Make sure that you have a smooth surface.

NOTE: Change the sandpaper frequently.

2) Make sure that the airplane surface is not shiny.

(c) Attach the discharger base [3] to the airplane surface.

1) Make sure that you install the base in the same direction as the airflow.

(d) Install the rivets [8] to the base (SRM 51-40-02).

(e) Apply sealant, A00247 to the rivet (TASK 51-31-00-390-805).

(f) Apply sealant, A00247 to the edge of the discharger base (TASK 51-31-00-390-804).

(g) Make the sealant smooth with a hardwood or plastic fillet smoothing spatula, STD-810.

(h) Make sure that you do not see cracks between the discharger base [3] and the airplane surface.

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(i) Remove the unwanted sealant, A00247 with a cotton wiper, G00034 which is moist with Series 87 solvent, B01007 (TASK 20-30-87-910-801).

SUBTASK 23-61-00-750-002

(5) Examine the installation of the discharger base [3].

(a) Make sure that there are no cracks in the sealant, A00247.

(b) If you find a crack, fill the crack with the sealant, A00247.

SUBTASK 23-61-00-760-004

WARNING

MAKE SURE THAT THE OHMMETER IS RESISTANT TO EXPLOSION. IF NOT, IT IS POSSIBLE THAT AN EXPLOSION OR FIRE CAN OCCUR.

(6) Use a intrinsically safe approved bonding meter, COM-1550 to measure the electrical bond between the discharger base [3] and the airplane surface (SWPM 20-20-00).

NOTE: This resistance value is for a new installed static discharger base and a new bond. An in-service bond and the discharger base will have a different resistance value.

(a) The resistance value of a new discharger base [3] must not be more than:

NOTE: A resistance of more than these values can cause airplane equipment damage if a lightning strike occurs.

1) 0.01 ohms for discharger bases [3] installed on metal panels.

2) 0.10 ohms for discharger bases [3] installed on a fiberglass laminate or a composite panel with a cover of the aluminum flame spray.

NOTE: This includes discharger bases installed on aluminum-covered fabric.

3) 1.0 ohms for discharger bases [3] installed on composite panels without a cover of the aluminum flame spray.

SUBTASK 23-61-00-410-002

(7) To install the static discharger [1] into the discharger base [3], do this task: Static Discharger Installation, TASK 23-61-00-400-801.

SUBTASK 23-61-00-370-002

(8) Paint the area around the discharger base [3] (TASK 51-21-99-300-802).

SUBTASK 23-61-00-010-008

(9) Put the hydraulic systems back to the usual condition: do this task: Pressure to the Aileron Hydraulic Systems A and B - Activation, TASK 27-11-00-860-802

or, do this task: Pressure to the Rudder Systems A, B, and Standby - Activation, TASK 27-21-00-840-802

or, do this task: Put the Elevator Systems A and B Back to the Condition Before the Pressure Removal, TASK 27-31-00-840-802.

END OF TASK

ECCN 9E991 BOEING PROPRIETARY - See title page for details

TASK 23-61-00-400-805

9. Static Discharger Base Installation (Adapter Plate Assembly With Rivets and Screws)

(Figure 201)

A. References

Reference	Title
20-10-34-120-801	Hand Clean Metal Surfaces with Abrasives (P/B 701)
20-30-87-910-801	Final Cleaning of Composites Prior to Painting (Series 87) (P/B 201)
24-22-00-860-812	Remove Electrical Power (P/B 201)
27-11-00-860-801	Pressure from the Aileron Hydraulic Systems A and B - Deactivation (P/B 201)
27-11-00-860-802	Pressure to the Aileron Hydraulic Systems A and B - Activation (P/B 201)
27-21-00-800-802	Pressure from the Rudder Hydraulic Systems A, B, and Standby - Deactivation (P/B 201)
27-21-00-840-802	Pressure to the Rudder Systems A, B, and Standby - Activation (P/B 201)
27-31-00-800-802	Remove Pressure from the Elevator Hydraulic Systems A and B (P/B 201)
27-31-00-840-802	Put the Elevator Systems A and B Back to the Condition Before the Pressure Removal (P/B 201)
51-21-99-300-802	Decorative Exterior Paint System Repair (P/B 701)
51-31-00-390-804	Fillet Seal Application (P/B 201)
51-31-00-390-805	Fastener Seal Application (P/B 201)
SRM 51-40-02	Structural Repair Manual
SWPM 20-20-00	ELECTRICAL BONDING PROCESSES

B. Tools/Equipment

NOTE: When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

Reference	Description
COM-1550	Bonding Meter - Approved, Intrinsically Safe (Approved for use in Class I, Divisions I & II hazardous (classified) locations. Outside these hazardous locations, COM-614 can be used in lieu of COM-1550). Part #: 620LK Supplier: 1CRL2 Part #: M1 Supplier: 3AD17 Part #: M1B Supplier: 3AD17 Part #: T477W (C15292) Supplier: 06659

ECCN 9E991 BOEING PROPRIETARY - See title page for details

(Continued)

Reference	Description
COM-2481	Sealant Removal Tool (Meets BSS7384 Requirements) Part #: 1-6390-A Supplier: 63318 Part #: 10810 Supplier: $0855 Part #: 10811 Supplier: $0855 Part #: 10812 Supplier: $0855 Part #: 234350 Supplier: 5HCF1 Part #: 235072 Supplier: 5HCF1 Part #: 235073 Supplier: 5HCF1 Part #: 235074 Supplier: 5HCF1 Part #: 235075 Supplier: 5HCF1 Part #: 235076 Supplier: 5HCF1 Part #: 311/03 Supplier: F6892 Part #: 311/14 Supplier: F6892 Part #: 311/25 Supplier: F6892 Part #: 311/37 Supplier: F6892 Part #: AS1 Supplier: $1351 Part #: AS2 Supplier: $1351 Part #: AS3 Supplier: $1351 Part #: DAD5013 Supplier: 7RKH2 Part #: DFD5019 Supplier: 7RKH2 Part #: JNT411B60 Supplier: 3DN12 Part #: JNT411B90 Supplier: 3DN12 Part #: PT6529-S Supplier: 81205 Part #: SCD5019 Supplier: 7RKH2 Part #: ST982LF-9 Supplier: 81205 Part #: TS1275-4 Supplier: 22975
STD-739	Respirator - Half-Mask, Air Purifying (with filters/cartridges)
STD-810	Spatula - Fillet Smoothing, Hardwood or Plastic

I

C. Consumable Materials

Reference	Description	Specification
A00247	Sealant - Pressure And Environmental - Chromate Type	BMS5-95
B00102	Abrasive - Aluminum Oxide Coated Cloth	
B00148	Solvent - Methyl Ethyl Ketone (MEK)	ASTM D740
B00184	Solvent - Presealing, Cleaning Solvent	BMS11-7
B00666	Solvent - Methyl Propyl Ketone	BMS11-9
B01007	Solvent - Final Cleaning Of Composites Prior To Painting (AMM 20-30-87) - Series 87	
B01026	Solvent - FCC-55	
B01054	Solvent - Methyl Ethyl Ketone and sec-Butyl Alcohol Blend - (MEK:secButyl Alcohol - 42:58 Percent)	BAC5750, ASTM D740/ASTM D1007
G00034	Cotton Wiper - Process Cleaning Absorbent Wiper (Cheesecloth, Gauze)	AMS3819 Class 1 Grade A or B Form 1 (Supersede BMS15-5 CL A)

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D. Expendables/Parts

AMM Item	Description	AIPC Reference	AIPC Effectivity
1	Discharger	23-61-00-02-010	LOM 461-463
		23-61-00-02-015	LOM 461-463
		23-61-00-02-110	LOM ALL
		23-61-00-02-160	LOM ALL
		23-61-00-02-210	LOM ALL
		23-61-00-02-305	LOM ALL
		23-61-00-02-310	LOM ALL
		23-61-00-02-355	LOM ALL
4	Bolt	57-30-00-01-225	LOM 461-463

E. Procedure

SUBTASK 23-61-00-860-035

> **WARNING**
> MAKE SURE PRESSURE IS REMOVED FROM HYDRAULIC SYSTEMS. MAKE SURE HYDRAULIC POWER AND ELECTRICAL POWER ARE NOT SUPPLIED. IF HYDRAULIC PRESSURE IS PRESENT OR HYDRAULIC/ELECTRICAL POWER IS SUPPLIED, THE FLIGHT CONTROL SURFACE CAN MOVE. THIS CAN CAUSE INJURY TO PERSONS OR DAMAGE TO EQUIPMENT.

(1) Remove pressure and power from the hydraulic systems for the applicable flight control surfaces: do this task: Pressure from the Aileron Hydraulic Systems A and B - Deactivation, TASK 27-11-00-860-801

or, do this task: Pressure from the Rudder Hydraulic Systems A, B, and Standby - Deactivation, TASK 27-21-00-800-802

or, do this task: Remove Pressure from the Elevator Hydraulic Systems A and B, TASK 27-31-00-800-802.

SUBTASK 23-61-00-860-036

(2) Do this task: Remove Electrical Power, TASK 24-22-00-860-812.

SUBTASK 23-61-00-420-009

(3) Prepare to install the static discharger base [3]:

(a) Remove the sealant with a sealant removal tool, COM-2481.

> **WARNING**
> DO NOT GET SOLVENTS IN YOUR MOUTH, OR YOUR EYES, OR ON YOUR SKIN. DO NOT BREATHE THE FUMES FROM SOLVENTS. SOLVENTS ARE HAZARDOUS MATERIALS. SOLVENTS MAY BE FLAMMABLE OR HARMFUL TO THE ENVIRONMENT. REFER TO PRODUCT MATERIAL SAFETY DATA SHEETS (MSDS) AND LOCAL REQUIREMENTS FOR PROPER HANDLING PROCEDURES.

(b) Clean the adapter plate [9] to be bonded with solvent, B00148, solvent, B00666, solvent, B00184, FCC-55 solvent, B01026, or solvent, B01054.

1) Wear a half-mask respirator, STD-739 to clean with solvent.

2) Apply the solvent with a cotton wiper, G00034.

(c) Remove the solvent with cotton wiper, G00034 before it dries.

1) Make sure that you do not touch the cleaned surface.

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(d) Rub the adapter plate [9] surface with the abrasive cloth, B00102 (600 grit) (TASK 20-10-34-120-801).

NOTE: Change the sandpaper frequently.

1) Make sure that you have a smooth surface.

2) Make sure that the surface is not shiny.

(e) Clean with cotton wiper, G00034.

NOTE: Do not use solvent.

SUBTASK 23-61-00-420-010

(4) Install the static discharger base [3]:

(a) Remove the metal discharger base [3] from the plastic container.

1) Do not touch the surface of the discharger base [3] which touches the adapter plate [9].

CAUTION	YOU MUST INSTALL THE DISCHARGER BASE IN 5 MINUTES OR LESS AFTER IT WAS RUBBED WITH SANDPAPER. OXIDATION CAN OCCUR IF IT IS LONGER THAN 5 MINUTES.

(b) Rub the discharger base [3] with abrasive cloth, B00102.

NOTE: Do not rub a plated base with sandpaper. A plated discharger base has a green dot for identification. Put a pair of gloves on to touch the bases.

1) Make sure that you have a smooth surface.

NOTE: Change the sandpaper frequently.

2) Make sure that the adapter plate [9] is not shiny.

(c) Attach the discharger base [3] to the adapter plate [9].

(d) Install the rivets [5] which attaches the base to the adapter plate [9] (SRM 51-40-02).

(e) Apply sealant, A00247 to the rivets [5] (TASK 51-31-00-390-805).

(f) Apply sealant, A00247 to the edge of the discharger base [3] (TASK 51-31-00-390-804).

(g) Make the sealant smooth with a hardwood or plastic fillet smoothing spatula, STD-810.

(h) Make sure that you do not see cracks between the discharger base [3] and the adapter plate [9] surface.

(i) Remove the unwanted sealant, A00247 with a cotton wiper, G00034 which is moist with Series 87 solvent, B01007 (TASK 20-30-87-910-801).

SUBTASK 23-61-00-420-011

(5) Install the adapter plate assembly:

(a) Rub the airplane surface with abrasive cloth, B00102.

1) Make sure that you have a smooth surface.

NOTE: Change the sandpaper frequently.

2) Make sure that the airplane surface is not shiny.

(b) Attach the adapter plate assembly to the airplane surface.

1) Make sure that you install the adapter plate assembly in the same direction as the airflow.

(c) Install the bolts [4] that attaches the adapter plate assembly.

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(d) Install the rivets [6] that attach the adapter plate assembly (SRM 51-40-02).

(e) Apply sealant, A00247 to the rivets [6] and bolts [4] (TASK 51-31-00-390-805).

(f) Apply sealant, A00247 to the edge of the adapter plate [9] (TASK 51-31-00-390-804).

(g) Make the sealant smooth with a hardwood or plastic fillet smoothing spatula, STD-810.

(h) Make sure that you do not see cracks between the adapter plate [9] and the airplane surface.

(i) Remove the unwanted sealant, A00247 with a cotton wiper, G00034 which is moist with solvent, B00148 :

SUBTASK 23-61-00-750-004

(6) Examine the installation of the discharger base [3].

(a) Make sure that there are no cracks in the sealant, A00247.

(b) If you find a crack, fill the crack with the sealant, A00247.

SUBTASK 23-61-00-760-006

WARNING

MAKE SURE THAT THE OHMMETER IS RESISTANT TO EXPLOSION. IF NOT, IT IS POSSIBLE THAT AN EXPLOSION OR FIRE CAN OCCUR.

(7) Use a intrinsically safe approved bonding meter, COM-1550 to measure the electrical bond between the discharger base [3] and the airplane surface (SWPM 20-20-00).

NOTE: This resistance value is for a new installed static discharger base and a new bond. An in-service bond and the discharger base will have a different resistance value.

(a) The resistance value of a new discharger base [3] must not be more than:

NOTE: A resistance of more than these values can cause airplane equipment damage if a lightning strike occurs.

1) 0.01 ohms for discharger bases [3] installed on metal panels.

2) 0.10 ohms for discharger bases [3] installed on an aluminum flame spray on top of the fiberglass laminate or the composite panel.

NOTE: This includes discharger bases installed on aluminum-covered fabric.

3) 1.0 ohms for discharger bases [3] installed on composite panels without a cover of the aluminum flame spray.

SUBTASK 23-61-00-410-004

(8) To install the static discharger [1] into the discharger base [3], do this task: Static Discharger Installation, TASK 23-61-00-400-801.

SUBTASK 23-61-00-370-004

(9) Paint the area around the discharger base [3] (TASK 51-21-99-300-802).

SUBTASK 23-61-00-010-009

(10) Put the hydraulic systems back to the usual condition: do this task: Pressure to the Aileron Hydraulic Systems A and B - Activation, TASK 27-11-00-860-802

or, do this task: Pressure to the Rudder Systems A, B, and Standby - Activation, TASK 27-21-00-840-802

or, do this task: Put the Elevator Systems A and B Back to the Condition Before the Pressure Removal, TASK 27-31-00-840-802.

END OF TASK

ECCN 9E991 BOEING PROPRIETARY - See title page for details

STATIC DISCHARGER - INSPECTION/CHECK

1. General

A. This procedure contains scheduled maintenance task data.

B. This procedure has two tasks:

(1) An inspection of the static dischargers.

(2) A resistance check of the static dischargers.

C. You must do a check of the static dischargers regularly to prevent static interference and bad radio operation.

TASK 23-61-00-210-801

2. Static Discharger Inspection

(Figure 601)

A. References

Reference	Title
24-22-00-860-812	Remove Electrical Power (P/B 201)
27-11-00-860-801	Pressure from the Aileron Hydraulic Systems A and B - Deactivation (P/B 201)
27-11-00-860-802	Pressure to the Aileron Hydraulic Systems A and B - Activation (P/B 201)
27-21-00-800-802	Pressure from the Rudder Hydraulic Systems A, B, and Standby - Deactivation (P/B 201)
27-21-00-840-802	Pressure to the Rudder Systems A, B, and Standby - Activation (P/B 201)
27-31-00-800-802	Remove Pressure from the Elevator Hydraulic Systems A and B (P/B 201)
27-31-00-840-802	Put the Elevator Systems A and B Back to the Condition Before the Pressure Removal (P/B 201)

B. Location Zones

Zone	Area
300	Empennage
500	Left Wing
600	Right Wing

C. Prepare Procedure

SUBTASK 23-61-00-860-037

> **WARNING**
> MAKE SURE THAT PRESSURE IS REMOVED FROM THE HYDRAULIC SYSTEM AND HYDRAULIC POWER AND ELECTRICAL POWER ARE NOT SUPPLIED. IF YOU HAVE HYDRAULIC PRESSURE OR HYDRAULIC/ELECTRICAL POWER IS ON, THE FLIGHT CONTROL SURFACES CAN MOVE. THIS CAN CAUSE INJURY TO PERSONS OR DAMAGE TO EQUIPMENT.

(1) Remove the hydraulic pressure and power from the hydraulic systems for the applicable flight control surfaces:

- For the aileron hydraulic systems, do this task: Pressure from the Aileron Hydraulic Systems A and B - Deactivation, TASK 27-11-00-860-801.

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- For the rudder and standby hydraulic systems, do this task: Pressure from the Rudder Hydraulic Systems A, B, and Standby - Deactivation, TASK 27-21-00-800-802.
- For the elevator hydraulic systems, do this task: Remove Pressure from the Elevator Hydraulic Systems A and B, TASK 27-31-00-800-802.

SUBTASK 23-61-00-860-038

(2) Remove the electrical power (TASK 24-22-00-860-812).

D. Procedure

SUBTASK 23-61-00-210-001

(1) Make sure that at least 12 static dischargers are installed correctly in the locations that follow:

NOTE: There are 18 static dischargers installed on airplanes without winglets. There are 14 static dischargers installed on airplanes with winglets.

(a) Make sure at least two dischargers are installed on each horizontal stabilizer.

1) Make sure that one is in the tip position or in the outermost trailing position.

(b) Make sure that at least two static dischargers are installed on the vertical stabilizer and that one of the two must be in the top-most position.

(c) AIRPLANES WITH WINGLETS;

Make sure that the static discharger in the outermost trailing position is installed on each wing.

(d) AIRPLANES WITHOUT WINGLETS;

Make sure that at least two static dischargers are installed on each wing.

1) If there are only two static dischargers on a wing, then at least one must be in the tip position or in the outermost trailing position.

SUBTASK 23-61-00-210-003

(2) Make sure that there is no lightning damage.

NOTE: This damage will be seen as a burned or a rough area on the black conductive surfaces.

(a) You could also find damage as pits on the discharger base.

(b) Replace the discharger if it is necessary.

SUBTASK 23-61-00-210-002

(3) Do a visual check for erosion of the discharger surface:

(a) The leading edge erosion on the discharger must not extend more than a third the width of the discharger.

(b) Replace all dischargers that show damage.

(c) Replace all dischargers that show degradation of the shrink tube (orange or black).

NOTE: The shrink tube protects the conductive paint that connects the tip to the base.

E. Put the Airplane Back to Its Usual Condition

SUBTASK 23-61-00-010-010

(1) If it is necessary, put the applicable hydraulic systems back to the usual condition:

- For the aileron hydraulic systems, do this task: Pressure to the Aileron Hydraulic Systems A and B - Activation, TASK 27-11-00-860-802.
- For the rudder and standby hydraulic systems, do this task: Pressure to the Rudder Systems A, B, and Standby - Activation, TASK 27-21-00-840-802.

ECCN 9E991 BOEING PROPRIETARY - See title page for details

- For the elevator hydraulic systems, do this task: Put the Elevator Systems A and B Back to the Condition Before the Pressure Removal, TASK 27-31-00-840-802.

END OF TASK

ECCN 9E991 BOEING PROPRIETARY - See title page for details

STATIC DISCHARGER LOCATIONS 1

STATIC DISCHARGER LOCATIONS 2

1 AIRPLANES WITHOUT WINGLETS
2 AIRPLANES WITH WINGLETS

M27416 S0006566063_V3

Static Discharger Inspection
Figure 601/23-61-00-990-801 (Sheet 1 of 3)

ECCN 9E991 BOEING PROPRIETARY - See title page for details

VERTICAL STABILIZER DISCHARGERS

A

LEFT HORIZONTAL STABILIZER DISCHARGERS
(RIGHT HORIZONTAL STABILIZER
DISCHARGERS ARE OPPOSITE)

B

LEFT WING DISCHARGERS
(RIGHT WING DISCHARGERS
ARE OPPOSITE)

C 1

LEFT WING DISCHARGERS
(RIGHT WING DISCHARGERS
ARE OPPOSITE)

C 2

1 AIRPLANES WITHOUT WINGLETS
2 AIRPLANES WITH WINGLETS

M27429 S0006566066_V2

Static Discharger Inspection
Figure 601/23-61-00-990-801 (Sheet 2 of 3)

ECCN 9E991 BOEING PROPRIETARY - See title page for details

TRAILING DISCHARGER WITH ADAPTER PLATE (EXAMPLE)

D

TRAILING DISCHARGER (EXAMPLE)

E

TIP DISCHARGER (EXAMPLE)

F

F85121 S0006566067_V2

Static Discharger Inspection
Figure 601/23-61-00-990-801 (Sheet 3 of 3)

ECCN 9E991 BOEING PROPRIETARY - See title page for details

TASK 23-61-00-760-801

3. Static Discharger Resistance Measurement

(Figure 601)

NOTE: This procedure is a scheduled maintenance task.

A. References

Reference	Title
23-61-00-000-801	Static Discharger Removal (P/B 201)
23-61-00-000-802	Static Discharger Base Removal (Base Attached with Screws) (P/B 201)
23-61-00-000-803	Static Discharger Base Removal (Base Attached with Rivets) (P/B 201)
23-61-00-000-804	Static Discharger Base Removal (Adapter Plate Assembly) (P/B 201)
23-61-00-400-801	Static Discharger Installation (P/B 201)
23-61-00-400-802	Static Discharger Base Installation (With Screws) (P/B 201)
23-61-00-400-803	Static Discharger Base Installation (With Rivets) (P/B 201)
23-61-00-400-805	Static Discharger Base Installation (Adapter Plate Assembly With Rivets and Screws) (P/B 201)
24-22-00-860-812	Remove Electrical Power (P/B 201)
27-11-00-860-801	Pressure from the Aileron Hydraulic Systems A and B - Deactivation (P/B 201)
27-11-00-860-802	Pressure to the Aileron Hydraulic Systems A and B - Activation (P/B 201)
27-21-00-800-802	Pressure from the Rudder Hydraulic Systems A, B, and Standby - Deactivation (P/B 201)
27-21-00-840-802	Pressure to the Rudder Systems A, B, and Standby - Activation (P/B 201)
27-31-00-800-802	Remove Pressure from the Elevator Hydraulic Systems A and B (P/B 201)
27-31-00-840-802	Put the Elevator Systems A and B Back to the Condition Before the Pressure Removal (P/B 201)
51-21-99-300-802	Decorative Exterior Paint System Repair (P/B 701)
SWPM 20-20-00	ELECTRICAL BONDING PROCESSES

B. Tools/Equipment

NOTE: When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

Reference	Description
COM-1550	Bonding Meter - Approved, Intrinsically Safe (Approved for use in Class I, Divisions I & II hazardous (classified) locations. Outside these hazardous locations, COM-614 can be used in lieu of COM-1550). Part #: 620LK Supplier: 1CRL2 Part #: M1 Supplier: 3AD17 Part #: M1B Supplier: 3AD17 Part #: T477W (C15292) Supplier: 06659

ECCN 9E991 BOEING PROPRIETARY - See title page for details

(Continued)

Reference	Description
COM-6457	Meter - Insulation (Range: 1-1,000 VDC or equivalent, select meter per test requirements) Part #: 1864-9700 Supplier: 62015 Part #: 1865PLUS Supplier: 62015 Part #: 1865PLUSCE Supplier: 62015 Part #: 2471F Supplier: 21844 Opt Part #: 1865-00-CE Supplier: 62015

C. Consumable Materials

Reference	Description	Specification
G00034	Cotton Wiper - Process Cleaning Absorbent Wiper (Cheesecloth, Gauze)	AMS3819 Class 1 Grade A or B Form 1 (Supersede BMS15-5 CL A)

D. Location Zones

Zone	Area
300	Empennage
500	Left Wing
600	Right Wing

E. Prepare Procedure

SUBTASK 23-61-00-860-039

WARNING MAKE SURE PRESSURE IS REMOVED FROM HYDRAULIC SYSTEMS. MAKE SURE HYDRAULIC POWER AND ELECTRICAL POWER ARE NOT SUPPLIED. IF HYDRAULIC PRESSURE IS PRESENT OR HYDRAULIC/ELECTRICAL POWER IS SUPPLIED, THE FLIGHT CONTROL SURFACE CAN MOVE. THIS CAN CAUSE INJURY TO PERSONS OR DAMAGE TO EQUIPMENT.

(1) To remove pressure and power from the hydraulic systems for the applicable flight control surfaces, do the applicable tasks as follow:

(a) Pressure from the Aileron Hydraulic Systems A and B - Deactivation, TASK 27-11-00-860-801.

(b) Pressure from the Rudder Hydraulic Systems A, B, and Standby - Deactivation, TASK 27-21-00-800-802.

(c) Remove Pressure from the Elevator Hydraulic Systems A and B, TASK 27-31-00-800-802.

SUBTASK 23-61-00-860-040

(2) Do this task: Remove Electrical Power, TASK 24-22-00-860-812.

ECCN 9E991 BOEING PROPRIETARY - See title page for details

F. Resistance Test for Static Discharger

WARNING OBEY THE PRECAUTIONS THAT FOLLOW WHEN YOU USE A MEGOHMMETER. IF YOU DO NOT OBEY THESE PRECAUTIONS, THEN IT IS POSSIBLE THAT AN EXPLOSION OR FIRE CAN OCCUR.

SUBTASK 23-61-00-760-010

(1) If you must do a resistance check for a static discharger that is in a five foot diameter area around a fuel tank vent, open fuel tank doors or open fuel tank access panels, then do the Alternative Discharger Resistance Test procedures below.

SUBTASK 23-61-00-760-001

(2) Use these precautions for possible fuel vapors when you use a megohmmeter to measure the discharger resistance.

(a) Use a insulation meter, COM-6457 or equivalent meter with a 500 VDC test voltage and a maximum 5 milliampere short circuit current.

(b) Do not use a megohmmeter at these locations:

1) A five foot (1.524 meters) diameter, vertical column areas adjacent to or below:

- a wing fuel tank vent (from the vent to the ground).
- open fuel tank doors (from the door to the ground).
- open fuel tank access panels (from the panel to the ground).

2) Zero to 18 inches (457 mm) above the ground in the area around the airplane.

(c) Make sure that:

1) Area is well ventilated.

2) Metal workstands are grounded.

3) Megohmmeter is plugged into a grounded receptacle.

4) Megohmmeter is insulated from metal work stand.

SUBTASK 23-61-00-760-009

(3) DAYTON-GRANGER AND OTHER STATIC DISCHARGERS NOT SUPPLIED BY CHELTON;

Use a megohmmeter to measure the resistance between the discharger tip and the discharger base:

(a) Set the megohmmeter to 500 VDC test voltage.

(b) Make a good surface bond with the end of the static discharger:

NOTE: A good connection between the discharger end and the megohmmeter is necessary for a correct resistance value.

1) Use water to make a cotton wiper, G00034 wet.

2) Make sure that the full end of the discharger touches the wet cotton wiper, G00034.

(c) Put one lead of the megohmmeter on the discharger base.

(d) Put the other lead of the megohmmeter on the wet cotton wiper, G00034.

(e) Measure the resistance value.

(f) Make sure that the resistance value is in a range of 6-100 megohms for dischargers.

NOTE: If the measured value is too high, add water to the wet material and then measure the resistance value again.

ECCN 9E991 BOEING PROPRIETARY - See title page for details

(g) For a discharger that does not agree with the correct resistance value, replace the static discharger.

These are the tasks:

- Static Discharger Removal, TASK 23-61-00-000-801
- Static Discharger Installation, TASK 23-61-00-400-801

SUBTASK 23-61-00-760-011

(4) CHELTON SUPPLIED STATIC DISCHARGERS ONLY;

Use a megohmmeter to measure the resistance between the discharger tip and the discharger base:

(a) Set the megohmmeter to 500 VDC test voltage.

(b) A good electrical bond between the end of the discharger tip and the megohmmeter is necessary for a correct measure of resistance.

(c) To make a good connection with the end of the discharger tip, use a wet material.

(d) Put the wet material on the END of the discharger tip.

NOTE: DO NOT WRAP the wet material around the discharger tip of Chelton static dischargers. This can give incorrect resistance values that cause unnecessary removals of serviceable static dischargers. Put the wet material between the tip of the discharger and the megohmmeter probe

(e) Put one megohmmeter probe on the base and one probe on the wet material at the end of the discharger tip. See On Wing Discharger Resistance Test Detail I (Figure 602).

1) Make sure that the measured resistance is between 6-100 megohms.

2) If the resistance is more than 6-100 megohms, remove the wet material and put megohmmeter probe directly on the tip of the discharger core material.

(f) Add more water if it is necessary and measure again.

1) Use the lowest measured value.

(g) For a discharger that does not agree with the correct resistance value, replace the static discharger.

These are the tasks:

- Static Discharger Removal, TASK 23-61-00-000-801
- Static Discharger Installation, TASK 23-61-00-400-801

G. Alternative Static Discharger Resistance Test

SUBTASK 23-61-00-020-007

(1) Do this task: Static Discharger Removal, TASK 23-61-00-000-801.

SUBTASK 23-61-00-760-012

(2) DAYTON-GRANGER AND OTHER STATIC DISCHARGERS NOT SUPPLIED BY CHELTON;

Use a megohmmeter to measure the resistance between the discharger tip and the discharger shank:

(a) Set the megohmmeter to 500 VDC test voltage.

(b) A good electrical bond between the end of the discharger tip and the megohmmeter is necessary for a correct measure of resistance.

(c) To make a good connection with the end of the discharger tip, use a wet paper towel, cotton cloth or a sponge.

ECCN 9E991 BOEING PROPRIETARY - See title page for details

(d) Put the wet towel on the end of the discharger tip.

(e) Put the megohmmeter connectors on the shank of the static discharger and on the wet towel at the end of the tip.

1) Make sure that the measured resistance is between 6-100 megohms.

2) If the resistance measured is high, make sure that the meter lead and the end of the discharger tip touch the wet towel.

(f) Add more water if it is necessary and measure again.

1) Use the lowest measured value.

(g) For a discharger that does not agree with the correct resistance value, replace the static discharger.

These are the tasks:

- Static Discharger Removal, TASK 23-61-00-000-801
- Static Discharger Installation, TASK 23-61-00-400-801

SUBTASK 23-61-00-760-014

(3) CHELTON SUPPLIED STATIC DISCHARGER ONLY;

Use a megohmmeter to measure the resistance between the discharger tip and the discharger shank:

(a) Set the megohmmeter to 500 V dc (volts direct current) test voltage.

(b) A good electrical bond between the end of the discharger tip and the megohmmeter is necessary for a correct measure of resistance.

(c) To make a good connection with the end of the discharger tip, use a wet material.

(d) Put the wet material on the END of the discharger tip.

NOTE: DO NOT WRAP the wet material around the discharger tip of Chelton static dischargers. This can give incorrect resistance values that cause unnecessary removals of serviceable static dischargers. Put the wet material between the tip of the discharger and the megohmmeter probe.

(e) Put one megohmmeter probe on the shank of the static discharger and one probe on the edge of the wet material at the end of the discharger tip. See Alternate (Off Wing) Discharger Resistance Test Detail II (Figure 602).

1) Make sure that the measured resistance is between 6-100 megohms.

2) If the resistance is more than 6-100 megohms, remove the wet material and put megohmmeter probe directly on the tip of the discharger core material.

(f) Add more water if it is necessary and measure again.

1) Use the lowest measured value.

(g) For a discharger that does not agree with the correct resistance value, replace the static discharger.

These are the tasks:

- Static Discharger Removal, TASK 23-61-00-000-801
- Static Discharger Installation, TASK 23-61-00-400-801

SUBTASK 23-61-00-420-013

(4) Do this task: Static Discharger Installation, TASK 23-61-00-400-801.

ECCN 9E991 BOEING PROPRIETARY - See title page for details

H. Resistance Test for Static Discharger Installation

SUBTASK 23-61-00-760-016

> **WARNING** MAKE SURE THAT THE BONDING METER IS RESISTANT TO EXPLOSION. IF NOT, IT IS POSSIBLE THAT AN EXPLOSION OR FIRE CAN OCCUR.

(1) Do the resistance test between the static discharger shank and the static discharger base:

(a) STATIC DISCHARGERS WITH METALLIC SHANK;

Use a intrinsically safe approved bonding meter, COM-1550, (SWPM 20-20-00) to measure the resistance between the static discharger shank and the static discharger base.

1) Make sure that the resistance is not more than 1 ohm.

NOTE: A resistance of more than these values can cause damage if a lightning strike occurs.

(b) STATIC DISCHARGERS WITH PLASTIC SHANK;

Use a intrinsically safe approved bonding meter, COM-1550, (SWPM 20-20-00) to measure the resistance between the set screw in the static discharger shank and the static discharger base.

1) Make sure that the resistance is not more than 1 ohm.

NOTE: A resistance of more than these values can cause damage if a lightning strike occurs.

I. Resistance Test for Static Discharger Base

SUBTASK 23-61-00-760-002

> **WARNING** MAKE SURE THAT THE BONDING METER IS RESISTANT TO EXPLOSION. IF NOT, IT IS POSSIBLE THAT AN EXPLOSION OR FIRE CAN OCCUR.

(1) Use Method 1 or Method 2 to do a check of the electrical bond between the static discharger bases and the airplane surface:

(a) Method 1 - Measure the bond resistance from the discharger base to its mounting surface.

NOTE: It may be necessary to scratch the paint on the mounting surface to get a good connection.

1) Use a intrinsically safe approved bonding meter, COM-1550 to measure the bond between the static discharger base and the airplane surface (SWPM 20-20-00).

NOTE: This resistance value is for an in-service discharger. There is a different value for a new installed discharger base.

2) Put one lead on the static discharger base.

3) Put the other lead on the airplane surface.

4) Make sure that the two leads touch bare metal. If it is necessary, remove a small quantity of paint or use a sharp probe to go into the paint.

ECCN 9E991 BOEING PROPRIETARY - See title page for details

5) Make sure the resistance value for an in-service static discharger base is not more than:

NOTE: A resistance of more than these values can cause damage if a lightning strike occurs. Take the resistance measurement between the discharger base and the discharger mounting surface.

a) 0.05 ohms for the discharger base installed on the metal panels.

b) 0.5 ohms for the discharger base installed on an aluminum flame spray on top of the fiberglass laminate or the composite panels.

c) 0.5 ohms for the discharger base installed on an aluminum-covered fabric.

d) 5.0 ohms for the discharger base installed on a composite panels that do not have an aluminum layer.

(b) Method 2 - Measure the bond resistance between two adjacent discharger bases.

1) Use a intrinsically safe approved bonding meter, COM-1550 to measure the bond between a static discharger base and an adjacent static discharger base (SWPM 20-20-00).

NOTE: This resistance value is for an in-service discharger. There is a different value for a new installed discharger base.

2) Make sure that the resistance between the two adjacent static discharger bases is not more than:

NOTE: A resistance of more than these values can cause damage if a lightning strike occurs. Take the resistance measurement between two discharger bases.

a) 0.05 ohms for the discharger base installed on the metal panels.

b) 0.5 ohm for the discharger base installed on an aluminum flame spray on top of the fiberglass laminate or the composite panels.

c) 0.5 ohm for the discharger base installed on an aluminum-covered fabric.

d) 5.0 ohms for the discharger base installed on a composite panels that do not have an aluminum layer.

3) If the resistance shows more than the resistance values in Method 2, then do the procedure in Method 1 to find the defective static discharger base.

(c) For a static discharger base that shows more than the resistance value in Method 1, replace the static discharger base:

1) For a static discharger base attached with screws, do these tasks:

a) Static Discharger Base Removal (Base Attached with Screws), TASK 23-61-00-000-802.

b) Static Discharger Base Installation (With Screws), TASK 23-61-00-400-802.

2) For a static discharger base attached with rivets, do these tasks:

a) Static Discharger Base Removal (Base Attached with Rivets), TASK 23-61-00-000-803.

b) Static Discharger Base Installation (With Rivets), TASK 23-61-00-400-803.

3) For a static discharger adapter plate assembly attached with rivets and screws, do these tasks:

a) Static Discharger Base Removal (Adapter Plate Assembly), TASK 23-61-00-000-804.

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b) Static Discharger Base Installation (Adapter Plate Assembly With Rivets and Screws), TASK 23-61-00-400-805.

(d) To paint the area where the paint was removed for the surface resistance test, do this task:

1) Decorative Exterior Paint System Repair, TASK 51-21-99-300-802.

J. Put the Airplane Back to Its Usual Condition

SUBTASK 23-61-00-010-011

(1) To put the hydraulic systems back to the usual condition, do the applicable tasks as follow:

(a) Pressure to the Aileron Hydraulic Systems A and B - Activation, TASK 27-11-00-860-802.

(b) Pressure to the Rudder Systems A, B, and Standby - Activation, TASK 27-21-00-840-802.

(c) Put the Elevator Systems A and B Back to the Condition Before the Pressure Removal, TASK 27-31-00-840-802.

——— END OF TASK ———

ECCN 9E991 BOEING PROPRIETARY - See title page for details

ON WING DISCHARGER RESISTANCE TEST

ALTERNATE (OFF WING) DISCHARGER RESISTANCE TEST

NOTE:

TEST PROCEDURES FOR THE TRAILING EDGE AND WING TIP DISCHARGERS ARE THE SAME.

1305888 S0000219428_V2

Chelton Static Discharger Resistance Test
Figure 602/23-61-00-990-803

ECCN 9E991 BOEING PROPRIETARY - See title page for details

VOICE RECORDER SYSTEM - MAINTENANCE PRACTICES

1. General

A. This procedure has these tasks:

(1) Voice Recorder System Deactivation

(2) Voice Recorder System Activation

(3) Make a copy of the Cockpit Voice Recorder (CVR) data with the Hand Held Multipurpose Interface (HHMPI)

LOM 402, 404, 406, 407, 411, 412, 415, 416, 420, 422-426, 432-434, 437-442, 445-447, 453-460, 464

(4) Make a copy of the CVR data with the Extended Handheld Download Unit (EHHDLU)

LOM ALL

(5) Make a copy of the Cockpit Voice Recorder (CVR) data with the Portable Interface (PI) unit

LOM ALL; AIRPLANES WITH CVR PART NUMBER 980-6020-001, 980-6022-001, 980-6032-00x, 2100-1010-00, 2100-1020-00, 2100-1025-22, 2100-1925-22, or 2100-1925-23

(6) Make a copy of the Cockpit Voice Recorder (CVR) data with the Data Acquisition Ruggedized Tool (DART).

LOM ALL

TASK 23-71-00-040-801

2. Voice Recorder System - Deactivation

(Figure 201)

A. General

(1) This task gives the steps on how to remove electrical power to the Cockpit Voice Recorder (CVR) system.

B. Tools/Equipment

Reference	Description
STD-1390	Headphone - 600 Ohm, with 1/4 Inch Mono Audio Plug

C. Location Zones

Zone	Area
142	Aft Cargo Compartment - Right
211	Flight Compartment - Left
212	Flight Compartment - Right

D. Voice Recorder Deactivation

SUBTASK 23-71-00-860-037

(1) Deactivate the CVR as follows:

(a) Open these circuit breakers and install safety tags:

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
LOM 402, 404, 406, 407, 411, 412, 415, 416, 426-431, 437, 438, 443-445, 450-452, 457-463, 466-999			
C	7	C01537	VOICE RCDR RELAY
LOM 423, 424, 432, 437-439, 441, 443-447, 450-452, 455-999			
D	6	C01948	VOICE RCDR/RIPS

ECCN 9E991 BOEING PROPRIETARY - See title page for details

LOM 423, 424, 432, 437-439, 441, 443-447, 450-452, 455-999 (Continued)

(Continued)

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
LOM 402, 404, 406, 407, 411, 412, 415, 416, 420, 422, 425-431, 433, 434, 440, 442, 453, 454			
D	7	C00107	VOICE RCDR

LOM ALL

These circuit breakers are inoperative and should remain open:

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
LOM 420, 422-425, 432-434, 439-442, 446, 447, 453-456, 464, 465			
C	7	C01537	VOICE RCDR RELAY (INOP)
LOM 422, 425-431, 433, 434, 440, 442, 453, 454			
D	6	C01948	VOICE RCDR/RIPS (INOP)
LOM 423, 424, 432, 437-439, 441, 443-447, 450-452, 455-999			
D	7	C00107	VOICE RCDR (INOP)

(b) Wait for a minimum of 11 minutes after you remove power from the CVR.

LOM ALL

E. Voice Recorder System - Tryout

NOTE: This tryout is to make sure that the CVR system is in a zero energy state.

LOM 402, 404, 406, 411, 416, 426-431, 437, 438, 443-445, 450-452, 457

SUBTASK 23-71-00-860-040

(1) Set the CVR AUTO/ON switch, on the P5 pilot's overhead panel, to the ON position.

LOM ALL

SUBTASK 23-71-00-420-003

(2) Connect a headphone, STD-1390, to the voice recorder control panel at the P5 pilot's overhead panel.

SUBTASK 23-71-00-710-016

(3) Push the TEST switch on the voice recorder control panel for approximately five seconds.

(a) Make sure that you can't hear a tone in the headphone.

(b) As applicable make sure of the following while the TEST switch is pushed:

1) TEST light does not come on.

2) Needle on the control panel meter does on move and is not in the green.

END OF TASK

ECCN 9E991 BOEING PROPRIETARY - See title page for details

ELECTRONIC EQUIPMENT RACK, E6
(ACCESS PANEL REMOVED)

A

3013886 S0000787379_V1

Cockpit Voice Recorder
Figure 201/23-71-00-990-801 (Sheet 1 of 2)

ECCN 9E991 BOEING PROPRIETARY - See title page for details

3013894 S0000787378_V1

Cockpit Voice Recorder
Figure 201/23-71-00-990-801 (Sheet 2 of 2)

ECCN 9E991 BOEING PROPRIETARY - See title page for details

TASK 23-71-00-440-801

3. Voice Recorder System - Activation

(Figure 201)

A. General

(1) This task gives the steps on how to supply electrical power to the Cockpit Voice Recorder (CVR) system.

B. Location Zones

Zone	Area
142	Aft Cargo Compartment - Right
211	Flight Compartment - Left
212	Flight Compartment - Right

C. Voice Recorder Activation

SUBTASK 23-71-00-860-039

(1) Activate the CVR as follows:

(a) Remove the safety tags and close these circuit breakers:

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
LOM 402, 404, 406, 407, 411, 412, 415, 416, 426-431, 437, 438, 443-445, 450-452, 457-463, 466-999			
C	7	C01537	VOICE RCDR RELAY
LOM 423, 424, 432, 437-439, 441, 443-447, 450-452, 455-999			
D	6	C01948	VOICE RCDR/RIPS
LOM 402, 404, 406, 407, 411, 412, 415, 416, 420, 422, 425-431, 433, 434, 440, 442, 453, 454			
D	7	C00107	VOICE RCDR
LOM ALL			

These circuit breakers are inoperative and should remain open:

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
LOM 420, 422-425, 432-434, 439-442, 446, 447, 453-456, 464, 465			
C	7	C01537	VOICE RCDR RELAY (INOP)
LOM 422, 425-431, 433, 434, 440, 442, 453, 454			
D	6	C01948	VOICE RCDR/RIPS (INOP)
LOM 423, 424, 432, 437-439, 441, 443-447, 450-452, 455-999			
D	7	C00107	VOICE RCDR (INOP)

LOM ALL

END OF TASK

ECCN 9E991 BOEING PROPRIETARY - See title page for details

TASK 23-71-00-970-801

4. Make a Copy of the CVR Data with the HHMPI

A. General

(1) This task gives the steps on how to use the Hand Held Multi-Purpose Interface (HHMPI) to make a copy of the Cockpit Voice Recorder (CVR) data.

(2) The copied data then can be analyzed at a different location by the applicable airline personnel.

B. References

Reference	Title
23-71-11-000-801	Voice Recorder Removal (P/B 401)
23-71-11-400-801	Voice Recorder Installation (P/B 401)

C. Tools/Equipment

NOTE: When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

Reference	Description
COM-13694	Unit - Interface, Hand-Held Multi-Purpose (HHMPI) Part #: FDS40-0301 Supplier: Z7C70 Opt Part #: FDS400-301 Supplier: Z7C70
COM-13697	Cable - Interface, HHMPI (L-3 Comm FA2100) Part #: FDS40-0202 Supplier: Z7C70 Opt Part #: FDS400-202 Supplier: Z7C70
COM-14626	Adaptor - CVR Rack, Cable Interface (For Honeywell SSCVR) Part #: FDS40-0215 Supplier: Z7C70
COM-14627	Adapter - CVR Rack, ARINC-757 Part #: FDS40-0247 Supplier: Z7C70
COM-14992	Cable - Interface, HHMPI (For Honeywell HRF5-V or C) Part #: FDS40-0274 Supplier: Z7C70

D. Location Zones

Zone	Area
142	Aft Cargo Compartment - Right

E. Prepare to Make a Copy of the CVR Data

SUBTASK 23-71-00-040-001

(1) Make sure that the Hand-Held Multi-Purpose Interface Unit (HHMPI), COM-13694, is OFF.

SUBTASK 23-71-00-480-002

(2) If it is necessary, install the removable media into the Hand-Held Multi-Purpose Interface Unit (HHMPI), COM-13694.

NOTE: The downloaded CVR data can be stored on its internal memory, a USB flash drive, a compact flash card, Secure Digital (SD) card, or an optional Personal Computer Memory Card Interface Adapter (PCMCIA) card.

SUBTASK 23-71-00-480-003

(3) If it is necessary, do these steps to prepare the CVR:

NOTE: These steps are not necessary if audio data is not necessary. These steps are necessary if there is no front Ground Support Equipment (GSE) port on the CVR.

ECCN 9E991 BOEING PROPRIETARY - See title page for details

(a) Do this task: Voice Recorder Removal, TASK 23-71-11-000-801.

LOM 402, 404, 406, 407, 411, 412, 415, 416, 420, 422-426, 432-434, 440, 442, 446, 447, 453-456; AIRPLANES WITH CVR P/N 980-6020-001 OR P/N 980-6022-001

(b) Connect the HHMPI interface cable CVR rack adaptor, COM-14626, to the CVR equipment rack and the rear of the CVR.

LOM ALL; AIRPLANES WITHOUT CVR PART NUMBERS 980-6020-001 OR 980-6022-001

(c) Connect the ARINC-757 CVR rack adapter, COM-14627, to the CVR equipment rack and the rear of the CVR.

LOM 423, 424, 432, 437-439, 441, 443-447, 450-452, 455-999

(d) Make sure that the J1 connector is connected to the Recorder Independent Power Supply (RIPS)

LOM ALL

(e) Activate the CVR system (TASK 23-71-00-440-801).

LOM 402, 404, 406, 411, 416, 426-431, 437, 438, 443-445, 450-452, 457

SUBTASK 23-71-00-440-001

(4) Set the voice recorder switch panel AUTO/ON switch to ON.

LOM ALL

SUBTASK 23-71-00-480-004

(5) Connect the Hand-Held Multi-Purpose Interface Unit (HHMPI), COM-13694, as follows:

LOM 402, 404, 406, 407, 411, 412, 415, 416, 420, 422-426, 432-434, 440, 442, 446, 447, 453-456; AIRPLANES WITH CVR P/N 980-6020-001 OR P/N 980-6022-001

(a) Connect the HHMPI interface cable CVR rack adaptor, COM-14626, to the Hand-Held Multi-Purpose Interface Unit (HHMPI), COM-13694.

LOM ALL; AIRPLANES WITH CVR PART NUMBER 980-6032-00x

(b) Connect the HHMPI interface cable (For Honeywell HRF5-V or C), COM-14992, to the CVR front connector.

(c) Connect the HHMPI interface cable (For Honeywell HRF5-V or C), COM-14992, to the Hand-Held Multi-Purpose Interface Unit (HHMPI), COM-13694.

LOM 427-431, 443, 444, 450-452, 461-463, 465-999

(d) Connect the HHMPI interface cable (L-3 Comm FA2100), COM-13697, to the CVR front connector.

(e) Connect the HHMPI interface cable (L-3 Comm FA2100), COM-13697, to the Hand-Held Multi-Purpose Interface Unit (HHMPI), COM-13694.

LOM ALL

SUBTASK 23-71-00-480-005

(6) Turn on the Hand-Held Multi-Purpose Interface Unit (HHMPI), COM-13694, as follows:

(a) Press CANCEL or OK for 2-3 seconds until the unit beeps.

NOTE: The interface cable is detected automatically. A blue aircraft icon will show in the status bar of the display to indicate correct connection to the CVR.

ECCN 9E991 BOEING PROPRIETARY - See title page for details

F. Make a Copy of the CVR Data

SUBTASK 23-71-00-970-001

(1) Make a copy of the CVR data with the Hand-Held Multi-Purpose Interface Unit (HHMPI), COM-13694, as follows:

(a) If it is necessary, select the aircraft type, model and tail number.

(b) If it is necessary, select the memory storage device.

NOTE: The option to download to the HHMPI Internal Memory will not appear if an SD card is connected. Remove the SD storage card if access to the internal memory is required.

(c) Select DOWNLOAD OPERATIONS from the main menu.

(d) Select one of the CVR download options.

(e) Push the OK button when the download has completed.

G. Put the Airplane Back to Its Usual Condition

SUBTASK 23-71-00-040-002

(1) Turn off the Hand-Held Multi-Purpose Interface Unit (HHMPI), COM-13694, as follows:

(a) Press CANCEL until the CONFIRM POWER OFF alert is on the display.

(b) Press OK to confirm.

SUBTASK 23-71-00-080-003

(2) Disconnect the Hand-Held Multi-Purpose Interface Unit (HHMPI), COM-13694, as follows:

LOM 402, 404, 406, 407, 411, 412, 415, 416, 420, 422-426, 432-434, 440, 442, 446, 447, 453-456; AIRPLANES WITH CVR P/N 980-6020-001 OR P/N 980-6022-001

(a) Disconnect the HHMPI interface cable CVR rack adaptor, COM-14626, from the Hand-Held Multi-Purpose Interface Unit (HHMPI), COM-13694.

LOM ALL; AIRPLANES WITH CVR PART NUMBER 980-6032-00x

(b) Disconnect the HHMPI interface cable (For Honeywell HRF5-V or C), COM-14992, from the Hand-Held Multi-Purpose Interface Unit (HHMPI), COM-13694.

(c) Disconnect the HHMPI interface cable (For Honeywell HRF5-V or C), COM-14992, from the CVR front connector.

LOM 427-431, 443, 444, 450-452, 461-463, 465-999

(d) Disconnect the HHMPI interface cable (L-3 Comm FA2100), COM-13697, from the Hand-Held Multi-Purpose Interface Unit (HHMPI), COM-13694.

(e) Disconnect the HHMPI interface cable (L-3 Comm FA2100), COM-13697, from the CVR front connector.

LOM ALL

SUBTASK 23-71-00-080-004

(3) If removed, do these steps to re-install the CVR:

(a) Deactivate the CVR system (TASK 23-71-00-040-801).

LOM 423, 424, 432, 437-439, 441, 443-447, 450-452, 455-999

NOTE: The RIPS can power the CVR for a maximum of 11 minutes after deactivation.

ECCN 9E991 BOEING PROPRIETARY - See title page for details

LOM 402, 404, 406, 407, 411, 412, 415, 416, 420, 422-426, 432-434, 440, 442, 446, 447, 453-456; AIRPLANES WITH CVR P/N 980-6020-001 OR P/N 980-6022-001

(b) Disconnect the HHMPI interface cable CVR rack adaptor, COM-14626, from the CVR equipment rack and the rear of the CVR.

LOM ALL; AIRPLANES WITHOUT CVR PART NUMBERS 980-6020-001 OR 980-6022-001

(c) Disconnect the ARINC-757 CVR rack adapter, COM-14627, from the CVR equipment rack and the rear of the CVR.

LOM ALL

(d) Do this task: Voice Recorder Installation, TASK 23-71-11-400-801.

LOM 402, 404, 406, 411, 416, 426-431, 437, 438, 443-445, 450-452, 457

SUBTASK 23-71-00-040-003

(4) Set the voice recorder switch panel AUTO/ON switch to AUTO.

——— END OF TASK ———

LOM 402, 404, 406, 407, 411, 412, 415, 416, 420, 422-426, 432-434, 437-442, 445-447, 453-460, 464

TASK 23-71-00-970-802

5. Make a Copy of the CVR Data with the Extended HHDLU

A. General

(1) This task gives the steps on how to use the extended Hand-Held Down-load Unit (HHDLU) to make a copy of the Cockpit Voice Recorder (CVR) data.

(2) The copied data then can be analyzed at a different location by the applicable airline personnel.

B. References

Reference	Title
23-71-11-000-801	Voice Recorder Removal (P/B 401)
23-71-11-400-801	Voice Recorder Installation (P/B 401)

C. Tools/Equipment

NOTE: When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

Reference	Description
COM-913	Download Unit - Handheld Part #: 69001074-080 Supplier: 97896 Opt Part #: 69001074-001 Supplier: 97896 Opt Part #: 69001074-060 Supplier: 97896 Opt Part #: 69001074-070 Supplier: 97896 Opt Part #: 964-0446-001 Supplier: 97896
COM-20206	Download Unit - Recorder Part #: 69001074-080 Supplier: 97896

D. Location Zones

Zone	Area
142	Aft Cargo Compartment - Right

ECCN 9E991 BOEING PROPRIETARY - See title page for details

E. Prepare to Make a Copy of the CVR Data

SUBTASK 23-71-00-480-016

(1) Do this task: Voice Recorder Removal, TASK 23-71-11-000-801.

SUBTASK 23-71-00-480-017

(2) Connect the download unit, COM-20206, as follows:

NOTE: The handheld download unit, COM-913, can be used to download from the legacy Honeywell Flight Data Recorder (FDR)/CVR units. The download unit, COM-20206, is applicable to the all Honeywell FDR/CVR units.

(a) Connect the Universal Serial Bus (USB)-C adapter to the handheld unit.

(b) Connect the download cable to the USB-C adapter.

(c) Connect the download cable to the CVR.

SUBTASK 23-71-00-480-006

(3) Do these steps to install the CVR with the rack adapter:

(a) Connect the rack adapter to the CVR equipment rack and the rear of the CVR.

NOTE: The CVR download unit PN 69001074-060 uses the rack adapter PN 704-3058-002.

LOM 423, 424, 432, 437-439, 441, 445-447, 455-460, 464

(b) Make sure that the J1 connector is connected to the Recorder Independent Power Supply (RIPS).

LOM 402, 404, 406, 407, 411, 412, 415, 416, 420, 422-426, 432-434, 437-442, 445-447, 453-460, 464

(c) Activate the CVR system (TASK 23-71-00-440-801).

LOM 402, 404, 406, 411, 416, 426, 437, 438, 445, 457

SUBTASK 23-71-00-440-002

(4) Set the voice recorder switch panel AUTO/ON switch to ON.

LOM 402, 404, 406, 407, 411, 412, 415, 416, 420, 422-426, 432-434, 437-442, 445-447, 453-460, 464

SUBTASK 23-71-00-480-008

(5) Push the power button on the handheld unit, to turn it on.

SUBTASK 23-71-00-480-009

(6) If it is necessary, move one finger across the screen to unlock the handheld unit.

F. Network Settings

SUBTASK 23-71-00-480-015

(1) Do these steps to prepare the network settings on the handheld unit:

(a) Move one finger down from the top of the screen.

(b) At the bottom of the screen, select the configuration icon.

(c) Select Network & internet.

(d) Select Ethernet.

(e) Enter Netmask: 255.255.255.0.

(f) Enter IP Address: 192.168.27.1.

(g) Select OK.

ECCN 9E991 BOEING PROPRIETARY - See title page for details

(h) Select the home button to go back to the main menu.

G. Make a Copy of the CVR Data

SUBTASK 23-71-00-970-002

(1) Make a copy the CVR data with the handheld unit, as follows:

(a) Select the extended HHDLU application.

(b) Make sure that the Download screen is displayed.

(c) Select HFR5-V SSCVR from the Recorder Type list.

(d) Select DOWNLOAD.

(e) If the security notification is shown, select ALLOW.

(f) Select the folder location to save the file.

(g) If it is necessary, change the file name.

(h) Select SAVE to start the download.

1) Do not disconnect any cables to the CVR.

2) Wait for the download to finish.

H. Put the Airplane Back to Its Usual Condition

SUBTASK 23-71-00-040-004

(1) Turn off the handheld unit, as follows:

(a) Press and hold the power button.

(b) Select POWER OFF.

SUBTASK 23-71-00-080-006

(2) Do these steps to remove the CVR and the rack adapter:

(a) Deactivate the CVR system (TASK 23-71-00-040-801).

LOM 423, 424, 432, 437-439, 441, 445-447, 455-460, 464

NOTE: The RIPS can power the CVR for a maximum of 11 minutes after deactivation.

LOM 402, 404, 406, 407, 411, 412, 415, 416, 420, 422-426, 432-434, 437-442, 445-447, 453-460, 464

(b) Disconnect the rack adapter of the download unit, COM-20206, from the CVR equipment rack and the rear of the CVR.

LOM 402, 404, 406, 411, 416, 426, 437, 438, 445, 457

SUBTASK 23-71-00-040-005

(3) Set the voice recorder switch panel AUTO/ON switch to AUTO.

LOM 402, 404, 406, 407, 411, 412, 415, 416, 420, 422-426, 432-434, 437-442, 445-447, 453-460, 464

SUBTASK 23-71-00-080-008

(4) Disconnect the download unit, COM-20206, as follows:

(a) Disconnect the download cable from the CVR front connector.

(b) Disconnect the download cable from the USB-C adapter.

(c) Disconnect the USB-C adapter from the handheld unit.

SUBTASK 23-71-00-080-007

(5) Do this task: Voice Recorder Installation, TASK 23-71-11-400-801.

ECCN 9E991 BOEING PROPRIETARY - See title page for details

END OF TASK

TASK 23-71-00-970-803

6. Make a Copy of the Cockpit Voice Recorder (CVR) Data with the Portable Interface (PI) Unit

A. General

(1) This task gives the steps on how to use the Portable Interface (PI) Unit to make a copy of the Cockpit Voice Recorder (CVR) data.

(2) The copied data then can be analyzed at a different location by the applicable airline personnel.

B. References

Reference	Title
23-71-11-000-801	Voice Recorder Removal (P/B 401)
23-71-11-400-801	Voice Recorder Installation (P/B 401)

C. Tools/Equipment

NOTE: When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

Reference	Description
COM-14627	Adapter - CVR Rack, ARINC-757 Part #: FDS40-0247 Supplier: Z7C70
COM-21043	Cable - Interface, L-3 Comm FA2100/7100 Series CVR Download Part #: 17TES0078 Supplier: 06141
COM-24229	Unit - Interface, Portable (PI/1, PI/2) Part #: 17TES0043 Supplier: 06141 Opt Part #: 17TES0065 Supplier: 06141

D. Prepare to Make a Copy of the CVR Data

SUBTASK 23-71-00-480-010

(1) If the audio data is necessary, do these steps:

(a) Do this task: Voice Recorder Removal, TASK 23-71-11-000-801.

(b) Connect the CVR download interface cable (L-3 Comm FA2100/7100 Series), COM-21043, or ARINC-757 CVR rack adapter, COM-14627, to the CVR equipment rack and the rear of the CVR.

SUBTASK 23-71-00-480-011

(2) If the audio data is not necessary, deactivate the CVR system (TASK 23-71-00-040-801).

SUBTASK 23-71-00-470-001

(3) Make sure that the Personal Computer (PC) card hard drive is installed in the Personal Computer Memory Card Interface Adapter (PCMCIA) slot in the bottom of the portable interface unit, COM-24229.

SUBTASK 23-71-00-480-012

(4) Connect the portable interface unit, COM-24229, to the CVR front connector.

SUBTASK 23-71-00-440-003

(5) Activate the CVR system (TASK 23-71-00-440-801).

ECCN 9E991 BOEING PROPRIETARY - See title page for details

SUBTASK 23-71-00-470-003

(6) Make sure that the portable interface unit, COM-24229, display is turn on.

E. Make a Copy of the CVR Data

SUBTASK 23-71-00-970-003

(1) Make a copy of the CVR data with the portable interface unit, COM-24229, as follows:

NOTE: The arrow buttons move the cursor. The SELECT button makes a selection. The green MENU button causes the PI main menu to show.

(a) Select the PLAYBACK.

(b) Push the SELECT button.

(c) Push the red DELETE button.

(d) Select the FILE.

(e) Push the SELECT button.

(f) Select necessary file to copy by the arrow up and down buttons.

(g) Push the COPY button.

(h) Push the START button.

(i) Push the START COPY button.

NOTE: The PI unit shows the remaining time to make the copy of the data.

(j) Make sure that the copy procedure is completed.

F. Put the Airplane Back to Its Usual Condition

SUBTASK 23-71-00-040-006

(1) Deactivate the CVR system (TASK 23-71-00-040-801).

SUBTASK 23-71-00-040-007

(2) Disconnect the portable interface unit, COM-24229, from the CVR front connector.

SUBTASK 23-71-00-480-013

(3) If it is removed, do these steps to re-install the CVR:

(a) Disconnect the CVR download interface cable (L-3 Comm FA2100/7100 Series), COM-21043, or ARINC-757 CVR rack adapter, COM-14627, from the CVR equipment rack and the rear of the CVR.

(b) Do this task: Voice Recorder Installation, TASK 23-71-11-400-801.

SUBTASK 23-71-00-480-014

(4) If the CVR is not removed, activate the CVR system (TASK 23-71-00-440-801).

END OF TASK

ECCN 9E991 BOEING PROPRIETARY - See title page for details

LOM ALL; AIRPLANES WITH CVR PART NUMBER 980-6020-001, 980-6022-001, 980-6032-00x, 2100-1010-00, 2100-1020-00, 2100-1025-22, 2100-1925-22, or 2100-1925-23

TASK 23-71-00-970-804

7. Make a Copy of the Cockpit Voice Recorder (CVR) Data with the Data Acquisition Ruggedized Tool (DART)

A. General

(1) This task gives the instructions on how to use the Data Acquisition Ruggedized Tool (DART) to make a copy of the Cockpit Voice Recorder (CVR) data.

(2) The copied data then can be analyzed at a different location by the applicable airline personnel.

B. References

Reference	Title
23-71-11-000-801	Voice Recorder Removal (P/B 401)
23-71-11-400-801	Voice Recorder Installation (P/B 401)

C. Tools/Equipment

NOTE: When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

Reference	Description
COM-23709	Ruggedized Tool - Data Acquisition (DART) Part #: KGB750-001 Supplier: 73ZG6
COM-23710	Cable - Interface, DART (For Honeywell SSCVR) Part #: KGB750-109 Supplier: 73ZG6
COM-23711	Cable - Interface, DART (For Honeywell HFR5) Part #: KGB750-108 Supplier: 73ZG6
COM-23712	Cable - Interface, DART (For L-3 FA2100) Part #: KGB750-100 Supplier: 73ZG6
COM-23909	Connector - Power Part #: KGB750-121 Supplier: 73ZG6

D. Location Zones

Zone	Area
142	Aft Cargo Compartment - Right

E. Prepare to Make a Copy of the CVR Data

SUBTASK 23-71-00-020-004

(1) If the audio data is necessary, do these steps:

NOTE: These steps are not necessary if audio data is not necessary.

(a) Do this task: Voice Recorder Removal, TASK 23-71-11-000-801.

(b) Connect power connector, COM-23909, to the CVR equipment rack and rear of the CVR.

SUBTASK 23-71-00-040-008

(2) Do this task: Voice Recorder System - Deactivation, TASK 23-71-00-040-801.

SUBTASK 23-71-00-970-004

(3) Make sure that data acquisition ruggedized tool, COM-23709, is turned ON.

ECCN 9E991 BOEING PROPRIETARY - See title page for details

LOM 402, 404, 406, 407, 411, 412, 415, 416, 420, 422-426, 432-434, 440, 442, 446, 447, 453-456; AIRPLANES WITH CVR P/N 980-6020-001 OR P/N 980-6022-001

SUBTASK 23-71-00-970-005

(4) Connect DART interface cable, COM-23710, to the CVR front connector and J1 connector on data acquisition ruggedized tool, COM-23709.

LOM 437-439, 441, 445, 457-460, 464; AIRPLANES WITH CVR P/N 980-6032-00X

SUBTASK 23-71-00-970-006

(5) Connect DART interface cable, COM-23711, to the CVR front connector and J2 connector on data acquisition ruggedized tool, COM-23709.

LOM 427-431, 443, 444, 450-452, 461-463, 465-999; AIRPLANES WITH FAIRCHILD CVR FA2100 SERIES INSTALLED

SUBTASK 23-71-00-970-007

(6) Connect DART interface cable, COM-23712, to the CVR front connector and J1 connector on data acquisition ruggedized tool, COM-23709.

LOM ALL; AIRPLANES WITH CVR PART NUMBER 980-6020-001, 980-6022-001, 980-6032-00x, 2100-1010-00, 2100-1020-00, 2100-1025-22, 2100-1925-22, or 2100-1925-23

SUBTASK 23-71-00-970-008

(7) Make sure that DETECTED CABLE field, on the DART screen, indicates the attached cable.

SUBTASK 23-71-00-440-004

(8) Do this task: Voice Recorder System - Activation, TASK 23-71-00-440-801

SUBTASK 23-71-00-970-009

(9) Make sure that RECORDER field, on the DART screen, shows CONNECTED.

SUBTASK 23-71-00-970-010

(10) Make sure that function buttons, F1, F2, and F3, on the DART screen, are red in color.

F. Make a Copy of the CVR Data

SUBTASK 23-71-00-970-011

(1) Push the F2 button to open the DOWNLOAD RECORDER screen on the DART screen.

SUBTASK 23-71-00-970-012

(2) Select Download Type.

LOM 402, 404, 406, 407, 411, 412, 415, 416, 420, 422-434, 440, 442-444, 446, 447, 450-456, 461-463, 465-999; AIRPLANES WITH CVR 980-602X-001 OR FAIRCHILD FA2100 SERIES INSTALLED

(a) Use the Up and Down arrow buttons to select CVR Data.

LOM 437-439, 441, 445, 457-460, 464; AIRPLANES WITH CVR P/N 980-6032-00X

(b) Use the Up and Down arrow buttons to select CVR Narrow Data or CVR Wide Data.

LOM ALL; AIRPLANES WITH CVR PART NUMBER 980-6020-001, 980-6022-001, 980-6032-00x, 2100-1010-00, 2100-1020-00, 2100-1025-22, 2100-1925-22, or 2100-1925-23

(c) Push the Enter button.

SUBTASK 23-71-00-970-013

(3) Select the applicable download option:

- For the DOWNLOAD ALL option, push F2 button.
- For the DOWNLOAD X MINUTES option (if applicable), push F3 button.
- For the DOWNLOAD SINCE LAST option (if applicable), push F4 button.

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LOM ALL; AIRPLANES WITH CVR PART NUMBER 980-6020-001, 980-6022-001, 980-6032-00x, 2100-1010-00, 2100-1020-00, 2100-1025-22, 2100-1925-22, or 2100-1925-23 (Continued)

SUBTASK 23-71-00-970-014

(4) If the DOWNLOAD X MINUTES option is selected, do these steps:

(a) Use the Up and Down arrow buttons to specify the desired download minutes.

(b) Push the Enter button.

(c) Push the F4 button to select START DOWNLOAD.

SUBTASK 23-71-00-970-015

(5) Enter the aircraft tail number.

(a) Use the Up, Down, Left, and Right arrow buttons to navigate around the keyboard.

(b) Push the Enter button to add the selected alphanumeric digit to the aircraft tail number text entry area.

(c) Push F4 button to select OK.

SUBTASK 23-71-00-970-016

(6) Enter the Recorder Part Number and Recorder Serial Number.

(a) Use F2 and F3 buttons to navigate between different fields on the DOWNLOAD INFORMATION screen.

(b) Use the Up, Down, Left, and Right arrow buttons to navigate around the keyboard.

(c) Push the Enter button to add the selected alphanumeric digit to the Recorder Part Number or Recorder Serial Number text entry area.

(d) Push F4 button to select OK.

SUBTASK 23-71-00-970-017

(7) Push F3 to advance to the Reason For Download options.

SUBTASK 23-71-00-970-018

(8) Select the applicable Reason For Download option.

(a) Use the Up and Down arrow buttons to select the Reason For Download.

(b) Push the Enter button.

SUBTASK 23-71-00-970-019

(9) Push the F4 button to select START DOWNLOAD.

(a) Make sure that the DART screen shows the progress bar at the center of the screen.

NOTE: When download is complete, the file name displays at the top of the UPLOADED DATA screen and OK displays in the file name.

G. Put the Airplane Back to Its Usual Condition

SUBTASK 23-71-00-040-009

(1) Do this task: Voice Recorder System - Deactivation, TASK 23-71-00-040-801.

LOM 402, 404, 406, 407, 411, 412, 415, 416, 420, 422-426, 432-434, 440, 442, 446, 447, 453-456; AIRPLANES WITH CVR P/N 980-6020-001 OR P/N 980-6022-001

SUBTASK 23-71-00-970-020

(2) Disconnect DART interface cable, COM-23710, from the CVR front connector and J1 connector on data acquisition ruggedized tool, COM-23709.

ECCN 9E991 BOEING PROPRIETARY - See title page for details

LOM 437-439, 441, 445, 457-460, 464; AIRPLANES WITH CVR P/N 980-6032-00X

SUBTASK 23-71-00-970-021

(3) Disconnect DART interface cable, COM-23711, from the CVR front connector and J2 connector on data acquisition ruggedized tool, COM-23709.

LOM 427-431, 443, 444, 450-452, 461-463, 465-999; AIRPLANES WITH FAIRCHILD CVR FA2100 SERIES INSTALLED

SUBTASK 23-71-00-970-022

(4) Disconnect DART interface cable, COM-23712, from the CVR front connector and J1 connector on data acquisition ruggedized tool, COM-23709.

LOM ALL; AIRPLANES WITH CVR PART NUMBER 980-6020-001, 980-6022-001, 980-6032-00x, 2100-1010-00, 2100-1020-00, 2100-1025-22, 2100-1925-22, or 2100-1925-23

SUBTASK 23-71-00-420-004

(5) If it is removed, do these steps to install the CVR:

(a) Disconnect power connector, COM-23909, from the CVR equipment rack and rear of the CVR.

(b) Do this task: Voice Recorder Installation, TASK 23-71-11-400-801.

SUBTASK 23-71-00-440-005

(6) Do this task: Voice Recorder System - Activation, TASK 23-71-00-440-801.

END OF TASK

ECCN 9E991 BOEING PROPRIETARY - See title page for details

VOICE RECORDER SYSTEM - ADJUSTMENT/TEST

1. General

A. This procedure contains scheduled maintenance task data.

B. This procedure has these tasks for the voice recorder system:

(1) An operational test

(2) An audio fidelity test

(3) A system test.

TASK 23-71-00-710-801

2. Voice Recorder System - Operational Test

NOTE: This procedure is a scheduled maintenance task.

A. General

(1) This test will perform an operational test of the voice recorder system.

B. References

Reference	Title
23-27-00-740-814-009	ACARS - Operational Test (P/B 501)
23-27-00-740-816-010	ACARS - Operational Test (P/B 501)

C. Tools/Equipment

Reference	Description
STD-1390	Headphone - 600 Ohm, with 1/4 Inch Mono Audio Plug

D. Location Zones

Zone	Area
142	Aft Cargo Compartment - Right
212	Flight Compartment - Right

E. Prepare for the Test

LOM 428, 443-445, 450-452, 457, 461-463, 466-999

SUBTASK 23-71-00-860-034

(1) Make sure that the Aircraft Communications Addressing And Reporting System (ACARS) is serviceable (TASK 23-27-00-740-816-010 or TASK 23-27-00-740-814-009).

LOM ALL

SUBTASK 23-71-00-420-001

(2) Connect a headphone, STD-1390, to the voice recorder control panel at the P5 pilot's overhead panel.

SUBTASK 23-71-00-860-003

(3) Set the volume control switches, on the Audio Control Panel (ACP), to the OFF position.

LOM 402, 404, 406, 411, 416, 426-431, 437, 438, 443-445, 450-452, 457

SUBTASK 23-71-00-860-004

(4) Set the Cockpit Voice Recorder (CVR) AUTO/ON switch, on the P5 overhead panel, to the ON position.

ECCN 9E991 BOEING PROPRIETARY - See title page for details

LOM 402, 404, 406, 411, 416, 426, 427, 429-431

NOTE: Both engines must be off for at least five minutes.

LOM 402, 404, 406, 411, 416, 426-431, 437, 438, 443-445, 450-452, 457

(a) Make sure that the CVR AUTO/ON switch stays in the ON position.

LOM ALL

SUBTASK 23-71-00-710-014

(5) Make sure that you can hear the flight deck conversation in the headphone.

F. Voice Recorder System Operational Test

SUBTASK 23-71-00-700-001

(1) Do the operational test as follows:

LOM 423, 424, 432, 437-439, 441, 446, 447, 455, 456, 458-460, 464, 465

NOTE: When you push the TEST switch, on the CVR control panel, a test is performed on the CVR and Recorder Independent Power Supply (RIPS).

LOM 443-445, 450-452, 457, 461-463, 466-999

NOTE: When you push the TEST switch, on the CVR control panel, a test is performed on the CVR, Datalink, and RIPS.

LOM 427-431, 443, 444, 450-452, 461-463, 465-999; AIRPLANES WITH L3 VOICE RECORDER

(a) Push and hold the TEST switch, on the voice recorder control panel, for approximately 2 seconds.

LOM 427-431, 443, 444, 450-452, 461-463, 465-999

1) Make sure that you hear a tone in the headphone while you push the TEST switch.

2) After approximately 2 seconds, the tone will stop and the green TEST light will come on and remain on while test switch is pushed.

LOM 402, 404, 406, 407, 411, 412, 415, 416, 420, 422-426, 432-434, 437-442, 445-447, 453-460, 464; AIRPLANES WITH HONEYWELL VOICE RECORDER

(b) Push and hold the TEST switch, on the control panel for the voice recorder, for a minimum of 2 seconds.

1) Make sure that you hear a tone in the headphone.

2) The STATUS light comes on.

NOTE: If you hold the TEST switch down for more than 2 seconds, the CVR will continue in the TEST mode.

a) A “PASS” Test is when the STATUS light is stable and bright.

NOTE: You can apply a “PASS” Test if the STATUS light does this procedure. It must come on stable and bright for one second and then go OFF for a minimum of two seconds.

b) A "FAIL" is when the STATUS light is not stable or the intensity decreases.

<1> Do the applicable procedure to correct the system as given in the FIM.

LOM ALL

G. Put the Airplane Back to Its Usual Condition

SUBTASK 23-71-00-080-002

(1) Disconnect the headphone from the voice recorder's control panel.

ECCN 9E991 BOEING PROPRIETARY - See title page for details

LOM 402, 404, 406, 411, 416, 426-431, 437, 438, 443-445, 450-452, 457

SUBTASK 23-71-00-730-002

(2) Set the CVR AUTO/ON switch, on the P5 overhead panel, back to the AUTO position.

LOM ALL

END OF TASK

TASK 23-71-00-730-801

3. Voice Recorder System - Audio Fidelity Test

NOTE: This procedure is a scheduled maintenance task.

A. General

(1) This procedure contains a task for the four-channel microphone test of the voice recorder system with the flight crew's microphones and area microphone.

B. References

Reference	Title
23-27-00-740-814-009	ACARS - Operational Test (P/B 501)
23-27-00-740-816-010	ACARS - Operational Test (P/B 501)
23-51-00-710-801	Flight Interphone System - Operational Test (P/B 501)

C. Tools/Equipment

Reference	Description
STD-1390	Headphone - 600 Ohm, with 1/4 Inch Mono Audio Plug
STD-13898	Headset with Boom Mic and two-prong plug (For use on Flight Deck during CVR testing)

D. Location Zones

Zone	Area
211	Flight Compartment - Left
212	Flight Compartment - Right

E. Prepare for the Test

SUBTASK 23-71-00-760-003

(1) Make sure that the Flight Interphone System (FIS) is serviceable (TASK 23-51-00-710-801).

LOM 428, 443-445, 450-452, 457, 461-463, 466-999

SUBTASK 23-71-00-860-041

(2) Make sure that the Aircraft Communications Addressing And Reporting System (ACARS) is serviceable (TASK 23-27-00-740-816-010 or TASK 23-27-00-740-814-009).

LOM ALL

SUBTASK 23-71-00-480-001

(3) Connect a headphone, STD-1390, to the voice recorder control panel at the P5 pilot's overhead panel.

SUBTASK 23-71-00-860-008

(4) Set the volume control switches, on the Audio Control Panel (ACP), to the OFF position.

ECCN 9E991 BOEING PROPRIETARY - See title page for details

F. Voice Recorder System Audio Fidelity Test

LOM 402, 404, 406, 411, 416, 426-431, 437, 438, 443-445, 450-452, 457

SUBTASK 23-71-00-860-012

(1) Set the Cockpit Voice Recorder (CVR) AUTO/ON switch, on the P5 overhead panel, to the ON position.

LOM 402, 404, 406, 411, 416, 426, 427, 429-431

NOTE: Both engines must be off for at least five minutes.

LOM 402, 404, 406, 411, 416, 426-431, 437, 438, 443-445, 450-452, 457

(a) Make sure that the CVR AUTO/ON switch stays in the ON position.

LOM ALL

SUBTASK 23-71-00-710-015

(2) Do the operational test as follows:

LOM 423, 424, 432, 437-439, 441, 446, 447, 455, 456, 458-460, 464, 465

NOTE: When you push the TEST switch, on the CVR control panel, a test is performed on the CVR and Recorder Independent Power Supply (RIPS).

LOM 443-445, 450-452, 457, 461-463, 466-999

NOTE: When you push the TEST switch, on the CVR control panel, a test is performed on the CVR, Datalink, and RIPS.

LOM 427-431, 443, 444, 450-452, 461-463, 465-999; AIRPLANES WITH L3 VOICE RECORDER

(a) Push and hold the TEST switch, on the voice recorder control panel, for approximately 2 seconds.

LOM 427-431, 443, 444, 450-452, 461-463, 465-999

1) Make sure that you hear a tone in the headphone while you push the TEST switch.

2) Make sure that the TEST light comes on and stays on while you push the TEST switch.

LOM 402, 404, 406, 407, 411, 412, 415, 416, 420, 422-426, 432-434, 437-442, 445-447, 453-460, 464; AIRPLANES WITH HONEYWELL VOICE RECORDER

(b) Push and hold the TEST switch, on the control panel for the voice recorder, for a minimum of 2 seconds.

1) Make sure that you hear a tone in the headphone.

The STATUS light comes on.

NOTE: If you hold the TEST switch down for more than 2 seconds, the CVR will continue in the test mode.

a) A “PASS” Test is when the STATUS light is stable and bright.

NOTE: You can apply a “PASS” Test if the STATUS light does this procedure. It must come on stable and bright for one second and then go OFF for a minimum of two seconds.

b) A “FAIL” is when the STATUS light is not stable or the intensity decreases.

<1> Do the applicable procedure to correct the system as given in the FIM.

LOM ALL

ECCN 9E991 BOEING PROPRIETARY - See title page for details

SUBTASK 23-71-00-860-013

(3) Put a cover on the area microphone for the voice recorder system.

SUBTASK 23-71-00-710-001

(4) Do a test for the voice recorder microphone at the captain's position:

(a) Connect a boom microphone (on-board boom microphone headset, STD-13898) to the captain's jack panel.

(b) If the captain's ACP has a BOOM microphone switch, make sure that it is set to the BOOM position.

(c) Speak into the boom microphone.

1) Make sure that you hear your voice through the headphone at the voice recorder control panel.

NOTE: When you test the digital or solid state voice recorder you will hear your voice in the headset as you speak. When you test the analog or tape based voice recorder you will hear your voice in the headset after approximately a 0.5 second delay.

(d) Disconnect the boom microphone from the captain's jack panel.

SUBTASK 23-71-00-710-002

(5) Do a test for the voice recorder microphone at the first officer's position:

(a) Connect a boom microphone to the first officer's jack panel.

(b) If the first officer's ACP has a BOOM microphone switch, make sure that it is set to the BOOM position.

(c) Speak into the boom microphone.

1) Make sure that you hear your voice through the headphone at the voice recorder control panel.

NOTE: When you test the digital or solid state voice recorder you will hear your voice in the headset as you speak. When you test the analog or tape based voice recorder you will hear your voice in the headset after approximately a 0.5 second delay.

(d) Disconnect the boom microphone from the first officer's jack panel.

SUBTASK 23-71-00-710-017

(6) Do a test for the voice recorder microphone at the observer's position:

(a) Connect a boom microphone or a hand mic, as applicable, to the observer's jack panel.

(b) If the observer's ACP has a BOOM microphone switch, make sure that it is set to the BOOM position.

(c) Speak into the boom microphone or hand mic.

1) Make sure that you hear your voice through the headphone at the voice recorder control panel.

NOTE: When you test the digital or solid state voice recorder you will hear your voice in the headset as you speak. When you test the analog or tape based voice recorder you will hear your voice in the headset after approximately a 0.5 second delay.

(d) Disconnect the boom microphone or hand mic from the observer's jack panel.

SUBTASK 23-71-00-700-003

(7) Remove the cover from the area microphone for the voice recorder system.

ECCN 9E991 BOEING PROPRIETARY - See title page for details

SUBTASK 23-71-00-710-005

(8) Do a test for the area microphone of the voice recorder system:

(a) Speak in an usual voice to the area microphone.

NOTE: Keep 3 ft (0.9 m) to 4 ft (1.2 m) away from the area microphone for the voice recorder.

1) Make sure that you hear your voice through the headphone at the voice control panel.

NOTE: When you test the digital or solid state voice recorder you will hear your voice in the headset as you speak. When you test the analog or tape based voice recorder you will hear your voice in the headset after approximately a 0.5 second delay.

LOM 402, 406, 407, 411, 412, 415, 420, 422-434, 437-447, 450-999

SUBTASK 23-71-00-860-014

(9) Do these steps to erase the memory for the voice recorder:

(a) Set the airplane's parking brake.

LOM 402, 406, 407, 411, 412, 415, 420, 422-426, 432-434, 437-442, 445-447, 453-460, 464

(b) Push the ERASE switch, on the voice recorder's control panel, for a minimum of one half second.

1) Make sure that you hear a tone through the headphone at the voice recorder control panel.

LOM 427-431, 443, 444, 450-452, 461-463, 465-999

(c) Push the ERASE switch, on the voice recorder's control panel, for a minimum of two seconds and then release it.

1) Make sure that you hear a tone through the headphone at the voice recorder control panel.

LOM ALL

G. Put the Airplane Back to Its Usual Condition

SUBTASK 23-71-00-020-003

(1) Disconnect the headphone from the voice recorder control panel.

LOM 402, 404, 406, 411, 416, 426-431, 437, 438, 443-445, 450-452, 457

SUBTASK 23-71-00-730-001

(2) Set the CVR AUTO/ON switch, on the P5 overhead panel, to the AUTO position.

LOM ALL

END OF TASK

TASK 23-71-00-730-802

4. Voice Recorder System - System Test

A. General

(1) This procedure contains a task for the system test of the voice recorder system.

(2) The system test includes these tests:

(a) An operational test

ECCN 9E991 BOEING PROPRIETARY - See title page for details

(b) An audio fidelity test

LOM 428, 443-445, 450-452, 457

(c) A datalink recording interface test

LOM 402, 404, 406, 411, 416, 426-431, 437, 438, 443-445, 450-452, 457

(d) A Cockpit Voice Recorder (CVR) engine relay test

LOM 465-999

(e) An external CVR monitor jack test

LOM 402, 406, 407, 411, 412, 415, 420, 422-434, 437-447, 450-999

(f) A bulk erasure test

LOM ALL

B. References

Reference	Title
10-11-05 P/B 201	CHOCK INSTALLATION
23-27-00-740-814-009	ACARS - Operational Test (P/B 501)
23-27-00-740-815-001	ACARS - Operational Test (P/B 501)
23-27-00-740-816-010	ACARS - Operational Test (P/B 501)
23-51-00-710-801	Flight Interphone System - Operational Test (P/B 501)
32-09-00-860-801	Put the Airplane in the Air Mode (P/B 201)
32-09-00-860-802	Return the Airplane to the Ground Mode (P/B 201)

C. Tools/Equipment

NOTE: When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

Reference	Description
COM-1614	Headset - Microphone Part #: 12506G-05 Supplier: 71483 Part #: 12508G-34 Supplier: 71483 Part #: 12515G-12 Supplier: 71483 Opt Part #: 460A Supplier: 39SU9 Opt Part #: 462A Supplier: 39SU9 Opt Part #: H3310 Supplier: 71483 Opt Part #: H3312 Supplier: 71483
STD-1390	Headphone - 600 Ohm, with 1/4 Inch Mono Audio Plug

D. Location Zones

Zone	Area
211	Flight Compartment - Left
212	Flight Compartment - Right

E. Prepare for the Test

SUBTASK 23-71-00-860-024

(1) Make sure that the Flight Interphone System (FIS) is serviceable (TASK 23-51-00-710-801).

ECCN 9E991 BOEING PROPRIETARY - See title page for details

LOM 402, 406, 407, 412, 415, 420, 422-425, 427-434, 437-447, 450-999; LOM 404 POST SB 737-23-1484 OR POST SB 737-23-1483

SUBTASK 23-71-00-860-036

(2) Make sure that the ACARS system is serviceable (TASK 23-27-00-740-816-010 or TASK 23-27-00-740-815-001 or TASK 23-27-00-740-814-009).

LOM ALL

SUBTASK 23-71-00-860-025

(3) Connect a headphone, STD-1390, to the voice recorder's control panel at the P5 pilot's overhead panel.

SUBTASK 23-71-00-860-026

(4) Set the volume control switches, on the Audio Control Panel (ACP), to the OFF position.

F. Operational Test

SUBTASK 23-71-00-710-009

(1) Do this task: Voice Recorder System - Operational Test, TASK 23-71-00-710-801.

G. Audio Fidelity Test

SUBTASK 23-71-00-710-012

(1) Do this task: Voice Recorder System - Audio Fidelity Test, TASK 23-71-00-730-801.

LOM 428, 443-445, 450-452, 457

H. Datalink Recording Interface Test

SUBTASK 23-71-00-720-001

(1) Do the steps that follow for the datalink recording interface test:

(a) Open this circuit breaker and install safety tag:

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
E	8	C01483	CMU-1 AC

(b) Push and hold the “Test” switch, on the CVR control panel, for a minimum of 2 seconds.

(c) Make sure that you can hear the tone in the headset.

(d) Make sure that the LED status light DOES NOT illuminate, on the CVR control panel.

NOTE: The LED might blink for less than a second but SHOULD NOT ILLUMINATE for more than a second or dimly glow continuously.

(e) Remove the safety tag and close this circuit breaker:

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
E	8	C01483	CMU-1 AC

(f) Wait for 30 seconds.

(g) Push and hold the “Test” switch, on the CVR control panel, for a minimum of 2 seconds.

(h) Make sure that you can hear the tone in the headset.

(i) Make sure that the LED status light illuminates, on the CVR control panel.

NOTE: PASS/FAIL criteria:

“PASS” if the LED illumination is stable and bright.

“FAIL” if the LED illumination blinks, flickers, or dims.

ECCN 9E991 BOEING PROPRIETARY - See title page for details

LOM 402, 404, 406, 411, 416, 426-431, 437, 438, 443-445, 450-452, 457

I. CVR Engine Relay Test

SUBTASK 23-71-00-710-010

(1) Do a test for the CVR engine relay as follows:

(a) Make sure that a headphone connected to the voice recorder's control panel.

(b) Set the CVR AUTO/ON switch to the AUTO position.

(c) Open these circuit breakers and install safety tags:

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
A	1	C00458	ENGINE 1 IGNITION RIGHT
A	3	C00153	ENGINE 1 IGNITION LEFT

F/O Electrical System Panel, P6-2

Row	Col	Number	Name
D	4	C00459	ENGINE 2 IGNITION RIGHT
D	6	C00151	ENGINE 2 IGNITION LEFT

F/O Electrical System Panel, P6-3

Row	Col	Number	Name
B	3	C00360	FUEL SPAR VALVE ENG 2
B	4	C00359	FUEL SPAR VALVE ENG 1

(d) Set the left engine start lever to the IDLE position.

1) Make sure that the right engine start lever is in the CUTOFF position.

2) Wait approximately five minutes.

NOTE: The CDS will toggle the engine running relay five minutes after the start lever is placed in the IDLE position.

3) Make sure that you can hear the flight deck conversation in the headphone.

LOM 427-431, 443, 444, 450-452; AIRPLANES WITH L3 VOICE RECORDER

(e) Push and hold the TEST switch, on the voice recorder's control panel, for approximately 2 seconds.

LOM 427-431, 443, 444, 450-452

1) Make sure that you hear a tone in the headphone while you push the TEST switch.

2) Make sure that the TEST light comes on and stays on while you push the TEST switch.

LOM 402, 404, 406, 411, 416, 426, 437, 438, 445, 457; AIRPLANES WITH HONEYWELL VOICE RECORDER

(f) Push and hold the TEST switch, on the voice recorder's control panel, for a minimum of 2 seconds.

1) Make sure that you hear a tone in the headphone.

2) Make sure that the STATUS light comes on once.

LOM 402, 404, 406, 411, 416, 426-431, 437, 438, 443-445, 450-452, 457

(g) Set the left engine start lever to the CUTOFF position.

ECCN 9E991 BOEING PROPRIETARY - See title page for details

LOM 402, 404, 406, 411, 416, 426-431

1) Wait approximately five minutes.

NOTE: The voice recorder will continue to operate for five minutes after both engines have stopped running, or engine running simulation has been discontinued.

LOM 437, 438, 443-445, 450-452, 457

2) Wait approximately 10 +/- 1 minutes.

NOTE: The voice recorder will continue to operate for 10 more minutes after both engines have stopped running, or engine running simulation has been discontinued.

LOM 402, 404, 406, 411, 416, 426-431, 437, 438, 443-445, 450-452, 457

3) Make sure that you cannot hear the flight deck conversation in the headphone.

(h) Set the right engine start lever to the IDLE position.

1) Wait approximately five minutes.

NOTE: The CDS will toggle the engine running relay five minutes after the start lever is placed in the IDLE position.

2) Make sure that you can hear the flight deck conversation in the headphone.

LOM 427-431, 443, 444, 450-452; AIRPLANES WITH L3 VOICE RECORDER

(i) Push and hold the TEST switch, on the voice recorder's control panel, for approximately 2 seconds.

LOM 427-431, 443, 444, 450-452

1) Make sure that you hear a tone in the headphone while you push the TEST switch.

2) Make sure that the TEST light comes on and stays on while you push the TEST switch.

LOM 402, 404, 406, 411, 416, 426, 437, 438, 445, 457; AIRPLANES WITH HONEYWELL VOICE RECORDER

(j) Push and hold the TEST switch, on the voice recorder's control panel, for a minimum of 2 seconds.

1) Make sure that you hear a tone in the headphone.

2) Make sure that the STATUS light comes on once.

NOTE: If the Aircraft Communications Addressing And Reporting System (ACARS) is disconnected, the status light does not illuminate. The tone in the headphone is the signal of a correct operation test.

LOM 402, 404, 406, 411, 416, 426-431, 437, 438, 443-445, 450-452, 457

(k) Set the right engine start lever to the CUTOFF position.

LOM 402, 404, 406, 411, 416, 426-431

1) Wait approximately five minutes.

NOTE: The voice recorder will continue to operate for five minutes after both engines have stopped running, or engine running simulation has been discontinued.

ECCN 9E991 BOEING PROPRIETARY - See title page for details

LOM 437, 438, 443-445, 450-452, 457

2) Wait approximately 10 +/- 1 minutes.

NOTE: The voice recorder will continue to operate for 10 more minutes after both engines have stopped running, or engine running simulation has been discontinued.

LOM 402, 404, 406, 411, 416, 426-431, 437, 438, 443-445, 450-452, 457

3) Make sure that you cannot hear the flight deck conversation in the headphone.

LOM 437, 438, 443-445, 450-452, 457

(l) Do the steps that follow for the CVR Air/Ground function test:

1) Set the PSEU SYS 2 to the Air Mode.

2) Make sure that you can hear the flight deck conversation in the headset.

3) Set the PSEU SYS 2 to the Ground Mode.

4) Wait 10 +/- 1 minutes.

NOTE: The CVR will continue to operate for 10 more minutes after both engines have stopped running, or the engine running simulation has been discontinued.

5) Make sure that you cannot hear the flight deck conversation in the headset.

LOM 402, 404, 406, 411, 416, 426-431, 437, 438, 443-445, 450-452, 457

(m) Set the CVR AUTO/ON switch, on the P5 overhead panel, to the ON position.

LOM 402, 404, 406, 411, 416, 426, 427, 429-431

NOTE: Both engines must be off for at least five minutes.

LOM 402, 404, 406, 411, 416, 426-431, 437, 438, 443-445, 450-452, 457

1) Make sure that the CVR AUTO/ON switch stays in the ON position.

2) Make sure that you can hear the flight deck conversation in the headphone.

LOM 465-999

J. External CVR Monitor Jack Test

SUBTASK 23-71-00-710-011

(1) Do a test for the external CVR monitor jack as follows:

NOTE: This task uses two persons, one in the flight compartment to speak and the other in the wheel well to listen.

NOTE: The external CVR monitor jack (D3535) is located on the Auxiliary Power Unit (APU) control panel in the Right Main Wheel Well.

(a) Make sure that a headphone connected to the voice recorder's control panel.

(b) Connect a headset (microphone headset, COM-1614) to the external CVR monitor jack.

(c) In the flight compartment, speak into the area microphone for the voice recorder system.

(d) Make sure that flight deck communication is heard in the headset connected to the external CVR monitor jack.

(e) Disconnect the headset from the external CVR monitor jack.

ECCN 9E991 BOEING PROPRIETARY - See title page for details

LOM 402, 406, 407, 411, 412, 415, 420, 422-434, 437-447, 450-999

K. Bulk Erasure Test

SUBTASK 23-71-00-710-013

(1) Do a test for the bulk erasure of the voice recorder as follows:

(a) Make sure that the airplane wheels have chocks installed around them (CHOCK INSTALLATION, PAGEBLOCK 10-11-05/201).

(b) Make sure that a headphone connected to the voice recorder's control panel.

LOM 402, 406, 411, 426-431, 437, 438, 443-445, 450-452, 457

(c) Make sure that the CVR AUTO/ON switch, on the P5 overhead panel, is set to the ON position.

NOTE: Both engines must be off for at least five minutes.

LOM 402, 406, 407, 411, 412, 415, 420, 422-434, 437-447, 450-999

WARNING

BEFORE RELEASING PARKING BRAKE, VERIFY THAT WHEELS ARE CHOCKED AND CLEAR ALL PERSONNEL FROM WHEEL AREAS.

(d) Release the parking brake.

LOM 402, 406, 407, 411, 412, 415, 420, 422-426, 432-434, 437-442, 445-447, 453-460, 464

(e) Push the ERASE switch, on the voice recorder's control panel, for a minimum of one half second.

1) Make sure that you do not hear a tone in the headphone.

LOM 427-431, 443, 444, 450-452, 461-463, 465-999

(f) Push the ERASE switch, on the voice recorder's control panel, for a minimum of two seconds and then release it.

1) Make sure that you do not hear a tone in the headphone.

LOM 402, 406, 407, 411, 412, 415, 420, 422-434, 437-447, 450-999

(g) Set the parking brake.

LOM 402, 406, 407, 411, 412, 415, 420, 422-426, 432-434, 437-442, 445-447, 453-460, 464

(h) Push the ERASE switch, on the voice recorder's control panel, for a minimum of one half second.

1) Make sure that you hear a tone in the headphone.

LOM 427-431, 443, 444, 450-452, 461-463, 465-999

(i) Push the ERASE switch, on the voice recorder's control panel, for a minimum of two seconds and then release it.

1) Make sure that you hear a tone in the headphone.

LOM 402, 406, 407, 411, 412, 415, 420, 422-434, 437-447, 450-999

ECCN 9E991 BOEING PROPRIETARY - See title page for details

LOM 402, 406, 407, 411, 412, 415, 420, 422-434, 437-447, 450-999 (Continued)

> **WARNING** MAKE SURE THAT YOU INSTALL CHOCKS AT THE WHEELS. THE BRAKES WILL RELEASE WHEN YOU PUT THE AIRPLANE IN AIR MODE. THIS CAN CAUSE THE AIRPLANE TO MOVE SUDDENLY. IF YOU DO NOT INSTALL THE CHOCKS, INJURY TO PERSONS AND DAMAGE TO EQUIPMENT CAN OCCUR.

(j) Do the PSEU BITE procedure to put the No. 1 air/ground system in air mode, do this task: Put the Airplane in the Air Mode, TASK 32-09-00-860-801.

LOM 402, 406, 407, 411, 412, 415, 420, 422-426, 432-434, 437-442, 445-447, 453-460, 464

(k) Push the ERASE switch, on the voice recorder's control panel, for a minimum of one half second.

1) Make sure that you do not hear a tone in the headphone.

LOM 427-431, 443, 444, 450-452, 461-463, 465-999

(l) Push the ERASE switch, on the voice recorder's control panel, for a minimum of two seconds and then release it.

1) Make sure that you do not hear a tone in the headphone.

LOM 402, 406, 407, 411, 412, 415, 420, 422-434, 437-447, 450-999

(m) Put the airplane back to the ground mode:

1) Do this task: Return the Airplane to the Ground Mode, TASK 32-09-00-860-802.

LOM 402, 406, 407, 411, 412, 415, 420, 422-426, 432-434, 437-442, 445-447, 453-460, 464

(n) Push the ERASE switch, on the voice recorder's control panel, for a minimum of one half second.

1) Make sure that you hear a tone in the headphone.

LOM 427-431, 443, 444, 450-452, 461-463, 465-999

(o) Push the ERASE switch, on the voice recorder's control panel, for a minimum of two seconds and then release it.

1) Make sure that you hear a tone in the headphone.

LOM ALL

L. Put the Airplane Back to Its Usual Condition

SUBTASK 23-71-00-860-027

(1) Disconnect the headphone from the voice recorder's control panel.

LOM 402, 404, 406, 411, 416, 426-431, 437, 438, 443-445, 450-452, 457

SUBTASK 23-71-00-860-028

(2) Set the CVR AUTO/ON switch, on the P5 overhead panel, back to the AUTO position.

SUBTASK 23-71-00-860-031

(3) Remove the safety tags and close these circuit breakers:

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
A	1	C00458	ENGINE 1 IGNITION RIGHT
A	3	C00153	ENGINE 1 IGNITION LEFT

ECCN 9E991 BOEING PROPRIETARY - See title page for details

F/O Electrical System Panel, P6-2

Row	Col	Number	Name
D	4	C00459	ENGINE 2 IGNITION RIGHT
D	6	C00151	ENGINE 2 IGNITION LEFT

F/O Electrical System Panel, P6-3

Row	Col	Number	Name
B	3	C00360	FUEL SPAR VALVE ENG 2
B	4	C00359	FUEL SPAR VALVE ENG 1

END OF TASK

ECCN 9E991 BOEING PROPRIETARY - See title page for details

VOICE RECORDER - REMOVAL/INSTALLATION

1. General

A. This procedure has these tasks:

(1) A removal of the voice recorder

(2) An installation of the voice recorder.

B. The voice recorder is installed in the voice recorder rack in the aft cargo compartment.

TASK 23-71-11-000-801

2. Voice Recorder Removal

(Figure 401)

A. References

Reference	Title
20-10-07-000-801	E/E Box Removal (P/B 201)
20-40-12-000-802	ESDS Handling for Metal Encased Unit Removal (P/B 201)
23-71-21-000-801	Underwater Locator Beacon (ULB) Removal (P/B 201)

B. Tools/Equipment

Reference	Description
STD-1048	Stepladder - 6 foot (1.83m)

C. Location Zones

Zone	Area
142	Aft Cargo Compartment - Right

D. Voice Recorder Removal

SUBTASK 23-71-11-860-001

(1) Open these circuit breakers and install safety tags:

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
LOM 423, 424, 432, 437-439, 441, 443-447, 450-452, 455-999			
D	6	C01948	VOICE RCDR/RIPS
LOM 402, 404, 406, 407, 411, 412, 415, 416, 420, 422, 425-431, 433, 434, 440, 442, 453, 454			
D	7	C00107	VOICE RCDR
LOM ALL			

These circuit breakers are inoperative and should remain open:

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
LOM 422, 425-431, 433, 434, 440, 442, 453, 454			
D	6	C01948	VOICE RCDR/RIPS (INOP)
LOM 423, 424, 432, 437-439, 441, 443-447, 450-452, 455-999			
D	7	C00107	VOICE RCDR (INOP)

SUBTASK 23-71-11-040-001

(2) Wait for a minimum of 11 minutes after you remove power from the voice recorder [1].

ECCN 9E991 BOEING PROPRIETARY - See title page for details

LOM 423, 424, 432, 437-439, 441, 443-447, 450-452, 455-999 (Continued)

SUBTASK 23-71-11-800-001

(3) To get access to the Recorder Independent Power Supply (RIPS) in the aft passenger compartment, open the lowered ceiling panel.

(a) Use a 6 foot (1.83m) stepladder, STD-1048, to get access to the RIPS.

NOTE: The RIPS is next to the Flight Data Recorder (FDR).

SUBTASK 23-71-11-020-005

(4) Disconnect the J1 connector from the RIPS unit.

LOM ALL

SUBTASK 23-71-11-010-001

(5) Open the access door on the voice recorder rack to get access to the voice recorder [1].

SUBTASK 23-71-11-020-006

(6) Do this task: ESDS Handling for Metal Encased Unit Removal, TASK 20-40-12-000-802.

SUBTASK 23-71-11-020-001

CAUTION

DO NOT TOUCH THE CONNECTOR PINS OR OTHER CONDUCTORS ON THE VOICE RECORDER. IF YOU TOUCH THESE CONDUCTORS, ELECTROSTATIC DISCHARGE CAN CAUSE DAMAGE TO THE VOICE RECORDER.

(7) To remove the voice recorder [1], do this task: E/E Box Removal, TASK 20-10-07-000-801.

SUBTASK 23-71-11-020-002

(8) If it is necessary, do this task: Underwater Locator Beacon (ULB) Removal, TASK 23-71-21-000-801.

——— END OF TASK ———

ECCN 9E991 BOEING PROPRIETARY - See title page for details

F53048 S0006566077_V3

Voice Recorder Installation
Figure 401/23-71-11-990-801 (Sheet 1 of 4)

ECCN 9E991 BOEING PROPRIETARY - See title page for details

H97966 S0006566078_V3

Voice Recorder Installation
Figure 401/23-71-11-990-801 (Sheet 2 of 4)

ECCN 9E991 BOEING PROPRIETARY - See title page for details

**VOICE RECORDER
(EXAMPLE)**

B

F53779 S0006566080_V3

**Voice Recorder Installation
Figure 401/23-71-11-990-801 (Sheet 3 of 4)**

ECCN 9E991 BOEING PROPRIETARY - See title page for details

VOICE RECORDER

B

H98008 S0006566083_V2

Voice Recorder Installation
Figure 401/23-71-11-990-801 (Sheet 4 of 4)

ECCN 9E991 BOEING PROPRIETARY - See title page for details

TASK 23-71-11-400-801

3. Voice Recorder Installation

(Figure 401)

A. References

Reference	Title
20-10-07-400-801	E/E Box Installation (P/B 201)
20-40-12-400-802	ESDS Handling for Metal Encased Unit Installation (P/B 201)
23-71-00-710-801	Voice Recorder System - Operational Test (P/B 501)
23-71-21-400-801	Underwater Locator Beacon (ULB) Installation (P/B 201)

B. Expendables/Parts

AMM Item	Description	AIPC Reference	AIPC Effectivity
1	Voice recorder	23-71-11-03-005	LOM 402, 404, 406, 407, 411, 412, 415, 416, 420, 422-426, 432-434, 440, 442, 446, 447, 453-456
		23-71-11-03-100	LOM 402, 404, 406, 407, 411, 412, 415, 416, 420, 422-426, 432-434, 440, 442, 446, 447, 453-456
		23-71-11-05-005	LOM 437-439, 441, 445, 457-460, 464
		23-71-11-05-100	LOM 427-431, 443, 444, 450-452, 461-463, 465-999
		23-71-11-05-250	LOM 427-431, 443, 444, 450-452, 461-463

C. Location Zones

Zone	Area
142	Aft Cargo Compartment - Right

D. Voice Recorder Installation

SUBTASK 23-71-11-420-001

(1) If the Underwater Locator Beacon (ULB) is removed, do this task: Underwater Locator Beacon (ULB) Installation, TASK 23-71-21-400-801.

SUBTASK 23-71-11-860-002

(2) Make sure that these circuit breakers are open and have safety tags:

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
LOM 423, 424, 432, 437-439, 441, 443-447, 450-452, 455-999			
D	6	C01948	VOICE RCDR/RIPS
LOM 402, 404, 406, 407, 411, 412, 415, 416, 420, 422, 425-431, 433, 434, 440, 442, 453, 454			
D	7	C00107	VOICE RCDR

ECCN 9E991 BOEING PROPRIETARY - See title page for details

(Continued)

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name

LOM ALL

These circuit breakers are inoperative and should remain open:

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
LOM 422, 425-431, 433, 434, 440, 442, 453, 454			
D	6	C01948	VOICE RCDR/RIPS (INOP)
LOM 423, 424, 432, 437-439, 441, 443-447, 450-452, 455-999			
D	7	C00107	VOICE RCDR (INOP)

LOM ALL

SUBTASK 23-71-11-420-005

(3) Do this task: ESDS Handling for Metal Encased Unit Installation, TASK 20-40-12-400-802.

SUBTASK 23-71-11-420-002

CAUTION

DO NOT TOUCH THE CONNECTOR PINS, OR OTHER CONDUCTORS. IF YOU TOUCH THESE CONDUCTORS, ELECTROSTATIC DISCHARGE CAN CAUSE DAMAGE TO THE COMPONENTS.

(4) To install the voice recorder [1], do this task: E/E Box Installation, TASK 20-10-07-400-801.

SUBTASK 23-71-11-410-001

(5) Close the access door on the voice recorder rack.

LOM 423, 424, 432, 437-439, 441, 443-447, 450-452, 455-999

SUBTASK 23-71-11-420-004

(6) Connect the J1 connector to the Recorder Independent Power Supply (RIPS) unit.

SUBTASK 23-71-11-410-002

(7) Close the lowered ceiling panel in the aft passenger compartment.

LOM ALL

SUBTASK 23-71-11-860-003

(8) Remove the safety tags and close these circuit breakers:

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
LOM 423, 424, 432, 437-439, 441, 443-447, 450-452, 455-999			
D	6	C01948	VOICE RCDR/RIPS
LOM 402, 404, 406, 407, 411, 412, 415, 416, 420, 422, 425-431, 433, 434, 440, 442, 453, 454			
D	7	C00107	VOICE RCDR

ECCN 9E991 BOEING PROPRIETARY - See title page for details

(Continued)

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
LOM ALL			

These circuit breakers are inoperative and should remain open:

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
LOM 422, 425-431, 433, 434, 440, 442, 453, 454			
D	6	C01948	VOICE RCDR/RIPS (INOP)
LOM 423, 424, 432, 437-439, 441, 443-447, 450-452, 455-999			
D	7	C00107	VOICE RCDR (INOP)

LOM ALL

E. Installation Test

SUBTASK 23-71-11-710-008

(1) Do this task: Voice Recorder System - Operational Test, TASK 23-71-00-710-801.

END OF TASK

ECCN 9E991 BOEING PROPRIETARY - See title page for details

VOICE RECORDER CONTROL PANEL - REMOVAL/INSTALLATION

1. General

A. This procedure has these tasks:

(1) A removal of the voice recorder control panel.

(2) An installation of the voice recorder control panel.

B. The voice recorder control panel is installed in the P5 pilot's overhead panel.

TASK 23-71-12-000-801

2. Voice Recorder Control Panel Removal

(Figure 401)

A. References

Reference	Title
23-71-22-000-801	Recorder Independent Power Supply - Removal (P/B 401)

B. Tools/Equipment

Reference	Description
STD-1048	Stepladder - 6 foot (1.83m)

C. Location Zones

Zone	Area
212	Flight Compartment - Right

D. Voice Recorder Control Panel Removal

SUBTASK 23-71-12-860-001

(1) Open these circuit breakers and install safety tags:

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
LOM 423, 424, 432, 437-439, 441, 443-447, 450-452, 455-999			
D	6	C01948	VOICE RCDR/RIPS
LOM 402, 404, 406, 407, 411, 412, 415, 416, 420, 422, 425-431, 433, 434, 440, 442, 453, 454			
D	7	C00107	VOICE RCDR
LOM ALL			

These circuit breakers are inoperative and should remain open:

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
LOM 422, 425-431, 433, 434, 440, 442, 453, 454			
D	6	C01948	VOICE RCDR/RIPS (INOP)
LOM 423, 424, 432, 437-439, 441, 443-447, 450-452, 455-999			
D	7	C00107	VOICE RCDR (INOP)

SUBTASK 23-71-12-040-001

(2) Wait for a minimum of 11 minutes after the power from the voice recorder was removed.

SUBTASK 23-71-12-800-001

(3) To get access to the Recorder Independent Power Supply (RIPS) in the aft passenger compartment, open the lowered ceiling panel (TASK 23-71-22-000-801).

NOTE: The RIPS is next to the Flight Data Recorder.

ECCN 9E991 BOEING PROPRIETARY - See title page for details

LOM 423, 424, 432, 437-439, 441, 443-447, 450-452, 455-999 (Continued)

(a) Use the 6 foot (1.83m) stepladder, STD-1048, to get access to the RIPS.

SUBTASK 23-71-12-020-002

CAUTION	DO NOT TOUCH THE CONNECTOR PINS, OR OTHER CONDUCTORS. IF YOU TOUCH THESE CONDUCTORS, ELECTROSTATIC DISCHARGE CAN CAUSE DAMAGE TO THE COMPONENTS.

(4) Disconnect the J1 connector from the RIPS unit.

LOM ALL

SUBTASK 23-71-12-000-001

(5) Remove the voice recorder control panel [1]:

(a) Loosen the quater-turn fasteners [2] on the voice recorder control panel [1].

(b) Remove the voice recorder control panel [1] to get access to the electrical connecctor [3].

(c) Disconnect the electrical connecctor [3] from the voice recorder control panel [1].

(d) Put a protective cover on the electrical connecctor [3].

END OF TASK

ECCN 9E991 BOEING PROPRIETARY - See title page for details

FLIGHT COMPARTMENT

F62345 S0006566090_V2

Voice Recorder Control Panel Installation
Figure 401/23-71-12-990-801

ECCN 9E991 BOEING PROPRIETARY - See title page for details

TASK 23-71-12-400-801

3. Voice Recorder Control Panel Installation

(Figure 401)

A. References

Reference	Title
23-71-00-710-801	Voice Recorder System - Operational Test (P/B 501)
23-71-22-400-801	Recorder Independent Power Supply - Installation (P/B 401)

B. Expendables/Parts

AMM Item	Description	AIPC Reference	AIPC Effectivity
1	Voice recorder control panel	23-71-12-03-020	LOM ALL
		31-11-94-05A-505	LOM 432, 437-439, 441, 451, 452, 465
		31-11-94-05B-505	LOM 443, 444, 458-460, 464
		31-11-94-05C-505	LOM 433, 434, 440, 442, 453, 454, 461-463
		31-11-94-05E-505	LOM 429-431, 445, 457
		31-11-94-05G-505	LOM 427, 428
		31-11-94-05K-505	LOM 446, 447, 455, 456
		31-11-94-07B-505	LOM 423, 424
		31-11-94-07N-255	LOM 420
		31-11-94-07P-555	LOM 407
		31-11-94-08E-255	LOM 411, 426
		31-11-94-12-255	LOM 402, 404, 406, 416
		31-11-94-13V-505	LOM 466-999
		31-11-94-18P-505	LOM 422, 425
		31-11-94-23-580	LOM 412, 415

C. Location Zones

Zone	Area
212	Flight Compartment - Right

D. Voice Recorder Control Panel Installation

SUBTASK 23-71-12-860-002

(1) Make sure that these circuit breakers are open and have safety tags:

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
LOM 423, 424, 432, 437-439, 441, 443-447, 450-452, 455-999			
D	6	C01948	VOICE RCDR/RIPS
LOM 402, 404, 406, 407, 411, 412, 415, 416, 420, 422, 425-431, 433, 434, 440, 442, 453, 454			
D	7	C00107	VOICE RCDR

ECCN 9E991 BOEING PROPRIETARY - See title page for details

(Continued)

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
LOM ALL			

These circuit breakers are inoperative and should remain open:

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
LOM 422, 425-431, 433, 434, 440, 442, 453, 454			
D	6	C01948	VOICE RCDR/RIPS (INOP)
LOM 423, 424, 432, 437-439, 441, 443-447, 450-452, 455-999			
D	7	C00107	VOICE RCDR (INOP)

LOM ALL

SUBTASK 23-71-12-400-001

(2) Install the voice recorder control panel [1]:

(a) Remove the protective cover from the electrical connecctor [3].

(b) Examine the electrical connectors for bent or broken pins, dirt, and damage.

(c) Connect the electrical connecctor [3] to the voice recorder control panel [1].

(d) Install the voice recorder control panel [1].

(e) Tighten the quater-turn fasteners [2] on the voice recorder control panel [1].

LOM 423, 424, 432, 437-439, 441, 443-447, 450-452, 455-999

SUBTASK 23-71-12-420-002

CAUTION DO NOT TOUCH THE CONNECTOR PINS, OR OTHER CONDUCTORS. IF YOU TOUCH THESE CONDUCTORS, ELECTROSTATIC DISCHARGE CAN CAUSE DAMAGE TO THE COMPONENTS.

(3) Connect the J1 connector to the Recorder Independent Power Supply (RIPS) unit.

SUBTASK 23-71-12-410-001

(4) Close the lowered ceiling panel in the aft passenger compartment (TASK 23-71-22-400-801).

LOM ALL

SUBTASK 23-71-12-860-003

(5) Remove the safety tags and close these circuit breakers:

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
LOM 423, 424, 432, 437-439, 441, 443-447, 450-452, 455-999			
D	6	C01948	VOICE RCDR/RIPS
LOM 402, 404, 406, 407, 411, 412, 415, 416, 420, 422, 425-431, 433, 434, 440, 442, 453, 454			
D	7	C00107	VOICE RCDR

ECCN 9E991 BOEING PROPRIETARY - See title page for details

(Continued)

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
LOM ALL			

These circuit breakers are inoperative and should remain open:

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
LOM 422, 425-431, 433, 434, 440, 442, 453, 454			
D	6	C01948	VOICE RCDR/RIPS (INOP)
LOM 423, 424, 432, 437-439, 441, 443-447, 450-452, 455-999			
D	7	C00107	VOICE RCDR (INOP)

LOM ALL

E. Voice Recorder Control Panel Installation Test

SUBTASK 23-71-12-710-007

(1) Do this task: Voice Recorder System - Operational Test, TASK 23-71-00-710-801.

END OF TASK

ECCN 9E991 BOEING PROPRIETARY - See title page for details

UNDERWATER LOCATOR BEACON - MAINTENANCE PRACTICES

1. General

A. This procedure has these tasks:

(1) A removal of the Underwater Locator Beacon (ULB)

(2) A replacement of the ULB battery

(3) A test of the ULB

(4) An installation of the ULB.

B. The ULB is attached to the front of the voice recorder. The voice recorder is located in the voice recorder rack at the aft cargo compartment.

TASK 23-71-21-000-801

2. Underwater Locator Beacon (ULB) Removal

(Figure 201)

NOTE: This procedure is a scheduled maintenance task.

A. General

(1) The Underwater Locator Beacon (ULB) has a battery as the power source. The ULB has no external electrical connections.

B. References

Reference	Title
23-71-11-000-801	Voice Recorder Removal (P/B 401)

C. Location Zones

Zone	Area
142	Aft Cargo Compartment - Right

D. Underwater Locator Beacon Removal

SUBTASK 23-71-21-020-001

(1) If it is necessary, do this task: Voice Recorder Removal, TASK 23-71-11-000-801.

LOM 427-431, 443, 444, 450-452, 461-463, 465-999

SUBTASK 23-71-21-020-003

(2) Remove the ULB [4] from the voice recorder:

(a) Remove the screws [5] and brackets [9] that attach the ULB [4] to the voice recorder.

1) If the new 30-day ULB [4] will be installed, it is recommended to discard the screws [5].

2) If the new 90-day ULB [4] will be installed, it is recommended to discard the screws [5].

3) If the new 90-day ULB [4] is replacing 30-day ULB [4], discard the screws [5].

(b) Remove the ULB [4] from the brackets [9].

LOM 402, 404, 406, 407, 411, 412, 415, 416, 420, 422-426, 432-434, 440, 442, 446, 447, 453-456; AIRPLANES WITH P/N 980-6020-001 WITH SERIAL NUMBER 3500 AND ON OR P/N 980-6022-001 WITH SERIAL NUMBER 2200 AND ON

SUBTASK 23-71-21-020-009

(3) Remove the ULB [4] from the voice recorder:

(a) Remove the screws [1] that attach the ULB [4] to the supports.

ECCN 9E991 BOEING PROPRIETARY - See title page for details

LOM 402, 404, 406, 407, 411, 412, 415, 416, 420, 422-426, 432-434, 440, 442, 446, 447, 453-456; AIRPLANES WITH P/N 980-6020-001 WITH SERIAL NUMBER 3500 AND ON OR P/N 980-6022-001 WITH SERIAL NUMBER 2200 AND ON (Continued)

(b) Remove the ULB [4] from the supports.

LOM 402, 404, 406, 407, 411, 412, 415, 416, 420, 422-426, 432-434, 440, 442, 446, 447, 453-456; AIRPLANES WITH P/N 980-6020-001 WITH SERIAL NUMBER 3499 AND LOWER OR P/N 980-6022-001 WITH SERIAL NUMBER 2199 AND LOWER

SUBTASK 23-71-21-020-010

(4) Remove the ULB [4] from the voice recorder:

(a) Remove the screws [1] and mounts [10] that attach the ULB [4] to the voice recorder.

(b) Remove the ULB [4] from the mounts [10].

LOM 437-439, 441, 445, 457-460, 464; AIRPLANES WITH CVR P/N 980-6032-00X

SUBTASK 23-71-21-020-011

(5) Remove the ULB [4] from the voice recorder:

(a) Remove the screws [1] that attach the ULB [4] to the supports.

(b) Remove the ULB [4] from the supports.

LOM ALL

END OF TASK

ECCN 9E991 BOEING PROPRIETARY - See title page for details

F68964 S0006566095_V2

Underwater Locator Beacon Installation
Figure 201/23-71-21-990-801 (Sheet 1 of 6)

ECCN 9E991 BOEING PROPRIETARY - See title page for details

H94847 S0006566096_V2

Underwater Locator Beacon Installation
Figure 201/23-71-21-990-801 (Sheet 2 of 6)

ECCN 9E991 BOEING PROPRIETARY - See title page for details

RECORDER
(EXAMPLE)

B

UNDERWATER LOCATOR BEACON

C

H95621 S0006566101_V3

Underwater Locator Beacon Installation
Figure 201/23-71-21-990-801 (Sheet 3 of 6)

ECCN 9E991 BOEING PROPRIETARY - See title page for details

VOICE RECORDER

B

UNDERWATER LOCATOR BEACON

C

K08180 S0006566102_V3

Underwater Locator Beacon Installation
Figure 201/23-71-21-990-801 (Sheet 4 of 6)

ECCN 9E991 BOEING PROPRIETARY - See title page for details

RECORDER
(EXAMPLE)

B

UNDERWATER LOCATOR BEACON

C

2983065 S0000760644_V1

Underwater Locator Beacon Installation
Figure 201/23-71-21-990-801 (Sheet 5 of 6)

ECCN 9E991 BOEING PROPRIETARY - See title page for details

RECORDER
(EXAMPLE)

B

UNDERWATER LOCATOR BEACON

C

2983069 S0000760645_V1

Underwater Locator Beacon Installation
Figure 201/23-71-21-990-801 (Sheet 6 of 6)

ECCN 9E991 BOEING PROPRIETARY - See title page for details

TASK 23-71-21-960-801

3. Dukane Underwater Locator Beacon Battery - Replacement

(Figure 202 or Figure 203)

NOTE: This procedure is a scheduled maintenance task.

A. General

(1) This procedure contains the steps to replace the Dukane Underwater Locator Beacon (ULB) battery.

B. Tools/Equipment

NOTE: When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

Reference	Description
COM-1619	Wrench - Spanner, Underwater Locator Beacon Part #: 810-2007/KVS Supplier: 94970 Part #: 810-325 Supplier: 94970 Part #: B362-09111 Supplier: 61257 Opt Part #: 008407 Supplier: 26858 Opt Part #: B362-04180A Supplier: 26858
COM-1793	Multimeter - Digital/Analog (or equivalent meter meets task requirements) Part #: 117 Supplier: 89536 Part #: 260-8XPI Supplier: 55026 Part #: 287 Supplier: 89536 Part #: 289 Supplier: 89536 Part #: 87V Supplier: 89536 Part #: FLUKE 27 II Supplier: 89536 Part #: FLUKE-77-4 Supplier: 89536 Opt Part #: 187 Supplier: 89536 Opt Part #: 189 Supplier: 89536 Opt Part #: 21 Supplier: 89536 Opt Part #: 27 Supplier: 89536 Opt Part #: 77 SERIES III Supplier: 89536 Opt Part #: 87 Supplier: 89536 Opt Part #: FLUKE 27 Supplier: 89536 Opt Part #: MODEL 27 Supplier: 89536
COM-15071	Wrench - Spanner Part #: 810-325 Supplier: 94970 Part #: 9809800007 Supplier: 06141
COM-15496	Clamp - Vise Part #: 810-546 Supplier: 94970 Part #: 9809800002 Supplier: 06141
STD-1066	Hose - Radiator, Split, 1-1/4 Inch Diameter, 5 Inch Length

C. Consumable Materials

Reference	Description	Specification
D50082	Lubricant - 810-346	
G02440	Battery - Lithium Battery	MIL-I-45208A
G50275	O-ring	

ECCN 9E991 BOEING PROPRIETARY - See title page for details

D. Dukane Underwater Locator Beacon Battery Removal

SUBTASK 23-71-21-800-003

> **WARNING**
> DO NOT REMOVE THE BATTERY FROM THE DK100/DK130 ULB. DO NOT CAUSE DAMAGE TO THE DK100/DK130 ULB. DO NOT DISCARD THE DK100/DK130 ULB. THE MANUFACTURER HAS A REPLACEMENT PROGRAM FOR EXPIRED ULBS. ON OR BEFORE THE EXPIRED DATE, SEND THE DK100/DK130 ULB TO THE MANUFACTURER FOR SERVICING. THE BATTERY CONTAINS DANGEROUS CHEMICAL MATERIALS WHICH CAN CAUSE INJURIES TO PERSONNEL.

(1) If you have a DK100/DK130 ULB [4], send it to the manufacturer for servicing.

SUBTASK 23-71-21-020-012

(2) If you do not have a DK100/DK130 ULB [4], remove the battery [28] as follows:

> **CAUTION**
> DO NOT HOLD THE UNDERWATER LOCATOR BEACON IN A VISE. THIS CAN CAUSE DAMAGE TO THE BEACON BODY.

(a) Hold the ULB [4] body with a radiator hose - 1-1/4 Inch Diameter, 5 Inch Length, STD-1066, or vise clamp, COM-15496.

(b) Use a wrench, COM-1619, or spanner wrench, COM-15071, to remove the end cap [25] that is identified BATTERY ACCESS.

(c) Remove the rubber shock cushion [27] from the battery end if it is not removed with the end cap [25].

(d) Remove and discard the o-ring [26] from the end cap [25].

(e) Hit the ULB [4] lightly to remove the battery [28].

E. Dukane Underwater Locator Beacon Battery Installation

SUBTASK 23-71-21-420-010

(1) Make sure that the new battery is the same as the battery code on the ULB label, see the table below.

NOTE: It is necessary to replace the removed Battery Code C with a new Battery Code C. Battery Codes B and D are interchangeable.

NOTE: It is necessary to replace the removed Battery Code F with a new Battery Code F.

Table 201/23-71-21-993-802

BATTERY CODE	REQUIRED BATTERY KIT
B	810-2007/K
C	810-2008/K
D	810-2007/K
F	810-2042/K

ECCN 9E991 BOEING PROPRIETARY - See title page for details

(2) Install the ULB battery [28] (battery, G02440).

NOTE: The Dukane 810-2007/K, 810-2008/K are 6 year lithium batteries used in the Dukane models DK120 and DK140 ULB.

NOTE: The 810-2042/K are 7 year lithium batteries used in the Dukane model DK120-90 ULB.

NOTE: Battery, O-ring and lubricant are provided in battery replacement kit.

(a) Put a new battery replacement label [23] on the ULB [4] body.

(b) On the date label, write the next scheduled replacement date for the new ULB battery [28] that you installed.

NOTE: The date label is blank so you can write in a replacement date based on your maintenance schedule.

CAUTION REMOVE ALL OF THE CONTAMINATION FROM THE THREADS AND THE O-RING GROOVES. CONTAMINATION CAN CAUSE DAMAGE TO THE THREADS. THREAD DAMAGE CAN CAUSE LEAKS.

(c) Clean the threads and the o-ring contact area in the ULB [4] body.

CAUTION MAKE SURE THE POLARITY IS CORRECT. INCORRECT POLARITY CAN CAUSE PERMANENT DAMAGE TO THE BEACON.

(d) Put the new battery [28] (battery, G02440) in the ULB [4] with the end identified INSERT THIS END in first.

(e) Do these steps to test the beacon off-current:

1) Put the positive probe of a digital/analog multimeter, COM-1793, on the positive end of the battery [28].

2) Put the negative probe on the outer surface of the ULB [4].

3) Make sure that the multimeter shows an electrical current of 3 microamperes or less.

a) If the current is more than 3 microamperes, replace the ULB [4].

(f) Remove and discard the used o-ring [26] from the end cap [25].

CAUTION REMOVE ALL OF THE CONTAMINATION FROM THE THREADS AND THE O-RING GROOVES. CONTAMINATION CAN CAUSE DAMAGE TO THE THREADS. THREAD DAMAGE CAN CAUSE LEAKS.

(g) Clean the threads and the o-ring groove in the end cap [25].

(h) Apply a thin layer of lubricant, D50082, to the new o-ring [26] (O-ring, G50275), o-ring groove, and threads.

(i) Install the new o-ring [26] (O-ring, G50275), on the end cap [25].

(j) Put the rubber shock cushion [27] smoothly on the end cap [25].

(k) Put the end cap [25] into the ULB [4] body.

(l) Use a wrench, COM-1619, or spanner wrench, COM-15071, to tighten the end cap [25] until the cap flange touches the ULB [4] body.

ECCN 9E991 BOEING PROPRIETARY - See title page for details

1) Use only hand force on the wrench.

END OF TASK

ECCN 9E991 BOEING PROPRIETARY - See title page for details

E11040 S0006417281_V2

Underwater Locator Beacon Battery Replacement
Figure 202/23-71-21-990-802

ECCN 9E991 BOEING PROPRIETARY - See title page for details

2279078 S0000514233_V2

Beacon Off-Current Test
Figure 203/23-71-21-990-804

ECCN 9E991 BOEING PROPRIETARY - See title page for details

TASK 23-71-21-960-802

4. Teledyne Benthos Underwater Locator Beacon Battery - Replacement

(Figure 204)

NOTE: This procedure is a scheduled maintenance task.

A. General

(1) This procedure contains the steps to replace the Teledyne Benthos ULB battery.

B. Tools/Equipment

NOTE: When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

Reference	Description
COM-2543	Torque - Adapter, Used on Underwater Locator Beacon Part #: B362-09111 Supplier: 61257 Opt Part #: 008407 Supplier: 26858 Opt Part #: B362-04180A Supplier: 26858
STD-1066	Hose - Radiator, Split, 1-1/4 Inch Diameter, 5 Inch Length

C. Consumable Materials

Reference	Description	Specification
G50272	Battery - Teledyne Benthos (P/N C362-04270-2)	
G50273	O-ring - Lubricated, Teledyne Benthos (P/N 2-022)	

D. Prepare for the Removal

SUBTASK 23-71-21-860-001

(1) Measure the battery voltage of the ELP-362D ULB [4]. Use a high-impedance digital voltmeter with a minimum input impedance of 10 Megohms.

(a) Put the negative meter lead on the water switch.

(b) Put the positive meter lead on the bare aluminum surface of the beacon housing.

(c) Read the voltmeter.

E. Removal Procedure

SUBTASK 23-71-21-510-002

(1) If the measured voltage is less than 6.0 Volts, send the ELP-362D ULB [4] to the manufacturer for servicing.

SUBTASK 23-71-21-020-005

(2) If the measured voltage is 6.0 Volts or more, remove the battery [28] from the ELP-362D ULB [4]:

CAUTION

DO NOT HOLD THE ULB [4] WITH A VISE. THIS CAN CAUSE DAMAGE TO THE ULB [4].

(a) Hold the ULB [4] body with a radiator hose - 1-1/4 Inch Diameter, 5 Inch Length, STD-1066.

ECCN 9E991 BOEING PROPRIETARY - See title page for details

(b) Use the underwater locator beacon torque adapter, COM-2543 to remove the end cap [25] identified as “BATTERY ACCESS”.

(c) Turn the housing up to remove the battery [28] from the unit.

(d) Discard the battery [28].

NOTE: Refer to local instructions when you discard the battery [28].

F. Installation Procedure

SUBTASK 23-71-21-420-002

(1) Install the ULB battery, G50272 [28]:

NOTE: The Teledyne Benthos C362–04270–2 is a five year battery.

(a) Set the battery [28] until the arrow points to the top end of the unit.

NOTE: The battery label has an arrow mark.

(b) On the date label [23], write the next scheduled replacement date for the new ULB battery that you installed.

NOTE: The date label [23] is blank so you can write in a replacement date based on your maintenance schedule.

CAUTION

INSTALL THE ULB BATTERY [28] CORRECTLY. INCORRECT POLARITY WILL CAUSE PERMANENT DAMAGE TO THE ULB [4].

(c) Put the new battery, G50272 [28] in the ULB [4] with the end identified INSERT THIS END in first.

(d) Remove the o-ring [26] from its groove in the end cap [25].

CAUTION

DIRT OR OTHER UNWANTED MATERIALS CAN CAUSE DAMAGE TO THE THREADS AND THE O-RING SEAL. THIS CAN PERMIT WATER LEAKAGE.

(e) Clean the O-ring groove of dirt, lint, and other unwanted materials.

(f) Apply the O-ring lubricant to the new o-ring [26].

(g) Put the lubricated O-ring, G50273 [26] in the end-cap groove.

(h) Attach the end cap [25] to the housing.

(i) Use the underwater locator beacon torque adapter, COM-2543 to install the end cap [25] tightly.

NOTE: Only use hand force on the underwater locator beacon torque adapter, COM-2543.

(j) Torque the end cap [25] to 25 to 30 inch pounds.

END OF TASK

ECCN 9E991 BOEING PROPRIETARY - See title page for details

1578730 S0000296580_V1

Underwater Locator Beacon Battery Replacement
Figure 204/23-71-21-990-803

ECCN 9E991 BOEING PROPRIETARY - See title page for details

TASK 23-71-21-960-804

5. L-3 Underwater Locator Beacon Battery - Replacement

(Figure 205)

NOTE: This procedure is a scheduled maintenance task.

A. General

(1) This procedure contains the steps the replace the L-3 Underwater Locator Beacon (ULB) battery.

B. References

Reference	Title
31-31-09-700-807	L-3 Underwater Locator Beacon Off-Current Test (P/B 201)

C. Tools/Equipment

NOTE: When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

Reference	Description
COM-15071	Wrench - Spanner Part #: 810-325 Supplier: 94970 Part #: 9809800007 Supplier: 06141
COM-15496	Clamp - Vise Part #: 810-546 Supplier: 94970 Part #: 9809800002 Supplier: 06141

D. Consumable Materials

Reference	Description	Specification
D50082	Lubricant - 810-346	
G02440	Battery - Lithium Battery	MIL-I-45208A
G50275	O-ring	

E. L-3 Underwater Locator Beacon Battery Removal

SUBTASK 23-71-21-020-008

> **CAUTION** REMOVE ALL OF THE CONTAMINATION FROM THE THREADS AND THE O-RING GROOVES. CONTAMINATION CAN CAUSE DAMAGE TO THE THREADS. THREAD DAMAGE CAN CAUSE LEAKS.

(1) Remove the battery [28] from the L-3 ULB [4].

(a) Secure the L-3 ULB [4] with vise clamp, COM-15496.

> **CAUTION** DO NOT GET DIRT OR UNWANTED MATERIALS NEAR THE O-RING. DAMAGE TO THE O-RING AND THREADS CAN CAUSE DAMAGE TO THE UNDERWATER LOCATOR BEACON.

(b) Use the spanner wrench, COM-15071, to remove the battery end cap [25] with two wrench holes by unscrewing counterclockwise.

NOTE: The breakaway torque is usually high, so the spanner wrench should be held firmly in contact with the battery end cap in order to prevent damage to wrench holes.

ECCN 9E991 BOEING PROPRIETARY - See title page for details

(c) Remove the rubber shock cushion [27] from the battery end if it is not removed with the battery end cap [25].

> **CAUTION**
> DO NOT USE A STEEL SCREWDRIVER OR SHARP TOOL. THIS WILL PREVENT DAMAGE TO THE O-RING GROOVE.

(d) Remove the o-ring [26] from the end cap [25].

(e) Remove the battery [28].

1) Make sure that the rubber shock cushion [27] remains in the battery end cap [25].

F. L-3 Underwater Locator Beacon Battery Installation

SUBTASK 23-71-21-400-001

> **CAUTION**
> DO NOT INSTALL A BATTERY OTHER THAN THAT FROM THE BATTERY REPLACEMENT KIT. IF YOU DO NOT FOLLOW THIS CAUTION, IT CAN CAUSE DAMAGE.

> **CAUTION**
> DO NOT INSTALL A 90-DAY BATTERY IN A 30-DAY BEACON OR A 30-DAY BATTERY IN A 90-DAY BEACON. IF YOU DO, IT CAN CAUSE DAMAGE.

(1) Make sure that the new battery [28] is the same as the battery on the battery replacement label [23] (Table 202).

Table 202/23-71-21-993-801 Beacon Battery Replacement Kits

Description	Kit Part Number
30-Day Battery	147E030500
90–Day Battery	147E554200

> **CAUTION**
> MAKE SURE THAT YOU INSTALL THE BATTERY CORRECTLY. INCORRECT INSTALLATION OF THE BATTERY WILL CAUSE PERMANENT DAMAGE TO THE BEACON.

> **CAUTION**
> DO NOT CLAMP THE BEACON IN A VISE, UNLESS YOU USE VISE CLAMP COM-15496. IF YOU DO NOT, IT CAN CAUSE DAMAGE.

> **CAUTION**
> REMOVE ALL OF THE CONTAMINATION FROM THE THREADS AND THE O-RING GROOVES. CONTAMINATION CAN CAUSE DAMAGE TO THE THREADS. THREAD DAMAGE CAN CAUSE LEAKS.

(2) Install the L-3 ULB [4] battery [28] (battery, G02440).

(a) Apply a thin coating of lubricant, D50082, to the new o-ring [26] (O-ring, G50275), o-ring groove, and threads on end cap [25].

(b) Carefully install the new o-ring [26] on the battery end cap [25].

(c) Install the new battery [28] (battery, G02440).

ECCN 9E991 BOEING PROPRIETARY - See title page for details

1) Make sure that the end marked “INSERT THIS END FIRST” goes in first.

(d) Do this task: L-3 Underwater Locator Beacon Off-Current Test, TASK 31-31-09-700-807.

(e) Position rubber shock cushion [27] around contact spring and on the inside of the battery end cap [25].

(f) Install the battery end cap [25] and tighten it until the cover flange contacts the body or leaves less than a 0.003 in. (0.076 mm) gap.

1) Hold the L-3 ULB [4] in the vise clamp, COM-15496.

2) Use only hand force to tighten.

(g) Clean the L-3 ULB [4] exterior of excess lubricant.

(h) Replace the battery replacement label [23] on the outside of the L-3 ULB [4] case with the new label that is supplied with the battery.

1) Locate the battery replacement label [23] on the L-3 ULB [4] body in the space provided.

a) Do not put label on the water switch end of the beacon.

END OF TASK

ECCN 9E991 BOEING PROPRIETARY - See title page for details

2783477 S0000630075_V1

Underwater Locator Beacon Battery Replacement
Figure 205/23-71-21-990-805

ECCN 9E991 BOEING PROPRIETARY - See title page for details

TASK 23-71-21-700-801

6. Underwater Locator Beacon Test with a 42A12 Test Set

A. Tools/Equipment

NOTE: When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

Reference	Description
COM-10768	Test Set - 42A12, Underwater Locator Beacon (ULB) Opt Part #: 42A12-1 Supplier: 94970

B. Procedure

SUBTASK 23-71-21-720-008

(1) If you have a 42A12 ULB Test Set, COM-10768, do this test of the ULB:

NOTE: 42A12 can do a test for all ULBs.

(a) Put the 42A12 ULB Test Set, COM-10768 as close as possible to the ULB.

(b) Set the GAIN control switch on the 42A12 ULB Test Set, COM-10768 to the maximum clockwise position.

NOTE: A background noise is heard. If you do not hear noise from the test set, replace the test set battery.

(c) Set the TUNING control switch to the middle position.

(d) Make sure that the 42A12 ULB Test Set, COM-10768 operates correctly.

1) Rub your thumb and fingers together in front of the microphone to make sure that it operates.

NOTE: This will produce a rushing noise from the speaker.

a) Make sure that you hear sounds through the speaker.

(e) Use tape to attach a piece of wire, a shorting tab, or other conductive material to the ULB case and to the center of the water switch.

NOTE: This will make a short circuit from the center of the water switch to the outer part of the ULB.

(f) Set the GAIN control switch to a comfortable listening level.

(g) Point the microphone of the test set towards the water switch end of the beacon for best results.

1) Make sure you hear a pulse tone.

(h) Remove the wire, shorting tab, or other conducting material from the ULB case and the center of the water switch.

(i) Set the GAIN control switch to the OFF position.

(j) Make sure that the water switch on the ULB has no grease or dirt.

(k) If necessary, do the steps that follow:

1) Clean the switch with water and detergent.

2) Dry the switch with a clean cloth.

END OF TASK

ECCN 9E991 BOEING PROPRIETARY - See title page for details

TASK 23-71-21-700-802

7. Underwater Locator Beacon Test with a PL1 Test Set

A. Tools/Equipment

NOTE: When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

Reference	Description
COM-10771	Test Set - PL1, Underwater Locator Beacon (ULB) Opt Part #: PL1 Supplier: 94970

B. Consumable Materials

Reference	Description	Specification
G00270	Tape - Scotch Flatback Masking 250	ASTM D6123 (Supersedes A-A-883)

C. Procedure

SUBTASK 23-71-21-720-009

(1) If you have a PL1 ULB test set, COM-10771, do this test of the ULB:

NOTE: PL1 can only do a test for the DK100 ULB.

(a) Use Scotch Flatback Masking Tape 250, G00270 to attach a piece of wire or other conductive material to the ULB case and the center of the water switch.

NOTE: This will make a short circuit from the center of the water switch to the outer part of the ULB.

(b) Put the end of the PL1 ULB test set, COM-10771 against the ULB, approximately one inch from the water switch.

(c) Push and hold the operation switch on the PL1 ULB test set, COM-10771.

1) Make sure that the BEACON ACTIVE WHEN FLASHING light flashes.

2) Remove the piece of wire or other conductive material from the ULB case and the center of the water switch.

3) Make sure that the BEACON ACTIVE WHEN FLASHING light does not flash.

(d) Release the operation switch on the PL1 ULB test set, COM-10771.

(e) Remove the PL1 ULB test set, COM-10771.

(f) Make sure that the water switch end of the ULB has no grease or dirt.

(g) If necessary, do the steps that follow:

1) Clean the switch with water and detergent.

2) Dry the switch with a clean cloth.

END OF TASK

TASK 23-71-21-700-803

8. Underwater Locator Beacon Test with a PL3 Test Set

A. Tools/Equipment

NOTE: When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

ECCN 9E991 BOEING PROPRIETARY - See title page for details

Reference	Description
COM-10772	Test Set - PL3, Underwater Locator Beacon (ULB) Opt Part #: PL3 Supplier: 94970

B. Procedure

SUBTASK 23-71-21-720-003

(1) If you have a PL3 ULB test set, COM-10772, do this test of the ULB [4]:

NOTE: PL3 can only do a test for the DK100 and DK120 ULBs.

(a) Push and hold the PL3 ULB test set, COM-10772 against the ULB [4] water switch.

1) Make sure that you hear a pulse sound.

2) Make sure that you see the LED light comes on and off.

(b) Remove the PL3 ULB test set, COM-10772.

(c) Make sure that the water switch end of the ULB [4] has no grease or dirt.

(d) If necessary, do the steps that follow:

1) Clean the switch with water and detergent.

2) Dry the switch with a clean cloth.

——— END OF TASK ———

TASK 23-71-21-700-804

9. Underwater Locator Beacon Test with an ATS-260 Test Set

A. Tools/Equipment

NOTE: When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

Reference	Description
COM-978	Test Set - ATS-260, Underwater Locator Beacon (ULB) Part #: ATS-260 Supplier: 1MXA1

B. Procedure

SUBTASK 23-71-21-720-004

(1) If you have a ATS-260 ULB test set, COM-978, do this test of the ULB [4]:

NOTE: ATS-260 can only do a test for the ELP-362D ULB.

(a) Put the ATS-260 ULB test set, COM-978 clip on the ULB [4].

(b) Push and hold the PUSH TO TEST button.

(c) Put the ATS-260 ULB test set, COM-978 probe on the ULB [4] water switch.

1) Make sure that a green light (LED) shows.

2) Make sure that you can hear sounds from the ATS-260 ULB test set, COM-978 and/or the amber light (LED) flashes.

(d) Release the PUSH TO TEST button.

(e) Remove the ATS-260 ULB test set, COM-978.

(f) Make sure that the water switch end of the ULB [4] has no grease or dirt.

(g) If necessary, do the steps that follow:

1) Clean the switch with water and detergent.

ECCN 9E991 BOEING PROPRIETARY - See title page for details

2) Dry the switch with a clean cloth.

——— END OF TASK ———

TASK 23-71-21-700-805

10. Underwater Locator Beacon Test with a Seacom TS100 Test Set

A. Tools/Equipment

NOTE: When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

Reference	Description
COM-10769	Test Set - TS100, Underwater Locator Beacon (ULB) Opt Part #: TS100 Supplier: 94970

B. Procedure

SUBTASK 23-71-21-720-005

(1) If you have a TS100 ULB test set, COM-10769, do this test of the ULB [4]:

NOTE: TS100 can only do a test for the DK100 and DK120 ULBs.

(a) Connect the probe head of the TS100 ULB test set, COM-10769 to the ULB [4] in its mount.

(b) Slide the switch on the side of the TS100 ULB test set, COM-10769 housing to ON.

1) Make sure that the LCD display shows “TESTING”.

(c) Press the button in the center of the TS100 ULB test set, COM-10769 to start a retest.

1) Make sure that the LCD display shows “TESTING”.

(d) Within a few seconds, the LCD will change to show one of the following Pass / Fault messages:

LCD Message	Explanation
Beacon Passed	Beacon is operating properly
Battery Fault	Beacon is NOT operating properly
No Pulse Output	Beacon is NOT operating properly
Pulse Fault	Beacon is NOT operating properly
Free-Run Fault	Beacon is NOT operating properly
Test Set Fault	Test Set batteries must be replaced
Need Service	Beacon is NOT operating properly
Open Probe/Batt.	Probe head is not properly attached or the beacon battery is dead.

1) Make sure that the LCD shows “Beacon Passed”.

NOTE: THE PASS / FAULT MESSAGE WILL BE DISPLAYED FOR APPROXIMATELY 10 SECONDS BEFORE RETURNING TO “READY FOR TEST”.

(e) Remove the TS100 ULB test set, COM-10769.

(f) Make sure that the water switch end of the ULB [4] has no grease or dirt.

(g) If necessary, do the steps that follow:

1) Clean the switch with water and detergent.

ECCN 9E991 BOEING PROPRIETARY - See title page for details

2) Dry the switch with a clean cloth.

——— END OF TASK ———

TASK 23-71-21-700-806

11. Underwater Locator Beacon Test with a TS200 Test Set

A. Tools/Equipment

NOTE: When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

Reference	Description
COM-10770	Test Set - TS200, Underwater Locator Beacon (ULB) Opt Part #: TS200 Supplier: 94970

B. Underwater Locator Beacon Test with a TS200 Test Set

SUBTASK 23-71-21-720-011

(1) If you have a TS200 ULB test set, COM-10770, do this test of the Underwater Locator Beacon (ULB):

NOTE: TS200 can do a test for all Dukane ULBs.

(a) Attach the test probe clip of the TS200 ULB test set, COM-10770, to the beacon in its mount.

(b) Put the tip of the probe on the silver pad of the water switch at the end of the beacon.

1) The LCD display will show the battery voltage of the beacon.

(c) Refer to the applicable battery code for the minimum permitted range of the beacon battery voltage:

NOTE: Examine the battery replacement label to find the battery code.

1) Code A – 3.55 Volts
2) Code B – 2.97 Volts
3) Code C – 2.97 Volts
4) Code D – 2.97 Volts
5) Code F – 2.97 Volts

LOM ALL; AIRPLANES WITH UNDERWATER LOCATOR BEACON PART NUMBER 266-E5542-00

6) Without battery code – 2.97 Volts.

LOM ALL

(d) Push the red button on the TS200 ULB test set, COM-10770.

1) The beacon starts and you hear a pinging noise from the TS200 ULB test set, COM-10770.

(e) Remove the test probe clip of the TS200 ULB test set, COM-10770.

(f) If it is necessary, replace the ULB.

(g) Make sure that the water switch end of the ULB has no grease or dirt.

(h) If it is necessary, do the steps that follow:

1) Clean the switch with water and detergent.

ECCN 9E991 BOEING PROPRIETARY - See title page for details

2) Dry the switch with a clean cloth.

——— END OF TASK ———

TASK 23-71-21-700-807

12. Underwater Locator Beacon Test with a TS500 Test Set

A. General

(1) This procedure has steps to do a test of the Underwater Locator Beacon (ULB) with a TS500 underwater locator beacon test set, COM-19623.

NOTE: TS500 can do a test for all ULBs.

B. Tools/Equipment

NOTE: When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

Reference	Description
COM-19623	Test Set - TS500, Underwater Locator Beacon (ULB) Part #: TS500 Supplier: 94970

C. Procedure

SUBTASK 23-71-21-700-005

(1) Testing for the ULB battery voltage:

(a) Attach the test probe clip of the TS500 underwater locator beacon test set, COM-19623 to the beacon in its mount.

(b) Put the tip of the probe on the silver pad of the water switch at the end of the beacon.

1) The LCD display will show the battery voltage of the beacon.

(c) Refer to the applicable battery code for the minimum permitted range of the beacon battery voltage:

NOTE: Examine the battery replacement label to find the battery code.

1) Code F - 2.97 Volts

(2) Testing for the operation of the ULB:

(a) Keep the probes connected to the ULB.

NOTE: The test set display will remain blank during this test.

(b) Push the red button on the TS500 underwater locator beacon test set, COM-19623.

1) The beacon starts and you hear a pinging noise from the TS500 underwater locator beacon test set, COM-19623.

2) The TS500 underwater locator beacon test set, COM-19623 LED indicator will light up red every time the ULB pings.

(c) Remove the test probe clip of the TS500.

(3) If voltage or operation test does not pass, replace the ULB if necessary.

(a) Make sure that the water switch end of the ULB has no grease or dirt.

(b) If necessary, do the steps that follow:

1) Clean the switch with water and detergent.

2) Dry the switch with a clean cloth.

——— END OF TASK ———

ECCN 9E991 BOEING PROPRIETARY - See title page for details

TASK 23-71-21-400-801

13. Underwater Locator Beacon (ULB) Installation

(Figure 201)

NOTE: This procedure is a scheduled maintenance task.

A. References

Reference	Title
23-71-11-400-801	Voice Recorder Installation (P/B 401)

B. Consumable Materials

Reference	Description	Specification
A00270	Compound - Threadlocking, Low-strength - Loctite 222	
A00648	Compound - Retaining - Loctite 242	ASTM D5363 Grp 3 Cl 2 Gd 1 (SUPERSEDES MIL-S-46163)
B00541	Cleaner - General Purpose Household Detergent	

C. Expendables/Parts

AMM Item	Description	AIPC Reference	AIPC Effectivity
4	ULB	23-71-11-03-060	LOM 402, 404, 406, 407, 411, 412, 415, 416, 420, 422-426, 432-434, 440, 442, 446, 447, 453-456
		23-71-11-03-160	LOM 402, 404, 406, 407, 411, 412, 415, 416, 420, 422-426, 432-434, 440, 442, 446, 447, 453-456
		23-71-11-03-176	LOM 402, 404, 406, 407, 411, 412, 415, 416, 420, 422-426, 432-434, 440, 442, 446, 447, 453-456
		23-71-11-05-065	LOM 437-439, 441, 445, 457-460, 464
		23-71-11-05-085	LOM 437-439, 441, 445, 457-460, 464
		23-71-11-05-115	LOM 427-431, 443, 444, 450-452, 461-463, 465-999
		23-71-11-05-275	LOM 427-431, 443, 444, 450-452, 461-463
5	Screw	23-71-11-05-105	LOM 427-431, 443, 444, 450-452, 461-463, 465-999

D. Location Zones

Zone	Area
142	Aft Cargo Compartment - Right

ECCN 9E991 BOEING PROPRIETARY - See title page for details

E. Underwater Locator Beacon Installation

LOM 427-431, 443, 444, 450-452, 461-463, 465-999

SUBTASK 23-71-21-420-004

(1) Install the ULB [4] on the voice recorder:

(a) Make sure that the ULB [4] water switch has no grease or dirt.

1) Clean the water switch with a weak general purpose household detergent cleaner, B00541.

(b) Install the ULB [4] into the brackets [9].

1) Make sure that the water switch points left.

(c) Make sure that you can read the replacement date on the ULB [4].

(d) Apply Loctite 222 compound, A00270, to the threads of the screws [5].

1) If the new 30-day ULB [4] is installed, it is recommended to use the new screws [5].

2) If the new 90-day ULB [4] is installed, it is recommended to use the new screws [5].

3) If the new 90-day ULB [4] is replacing 30-day ULB [4], use the new screws [5].

(e) Install the brackets [9] with the screws [5].

(f) Tighten the screws [5] to 75 in-lb (8.47 N·m) in this sequence:

1) Bottom left.

2) Top right

3) Bottom right.

4) Top left.

LOM 402, 404, 406, 407, 411, 412, 415, 416, 420, 422-426, 432-434, 440, 442, 446, 447, 453-456; AIRPLANES WITH P/N 980-6020-001 WITH SERIAL NUMBER 3500 AND ON OR P/N 980-6022-001 WITH SERIAL NUMBER 2200 AND ON

SUBTASK 23-71-21-420-007

(2) Install the ULB [4] on the voice recorder:

(a) Make sure that the ULB [4] water switch has no grease or dirt.

1) Clean the water switch with a weak general purpose household detergent cleaner, B00541.

(b) Install the ULB [4] into the supports.

1) Make sure that the water switch points left.

(c) Make sure that you can read the replacement date on the ULB [4].

(d) Install the screws [1].

(e) Tighten the screws [1] to 20 in-lb (2.26 N·m) - 26 in-lb (2.94 N·m).

LOM 402, 404, 406, 407, 411, 412, 415, 416, 420, 422-426, 432-434, 440, 442, 446, 447, 453-456; AIRPLANES WITH P/N 980-6020-001 WITH SERIAL NUMBER 3499 AND LOWER OR P/N 980-6022-001 WITH SERIAL NUMBER 2199 AND LOWER

SUBTASK 23-71-21-420-008

(3) Install the ULB [4] on the voice recorder:

(a) Make sure that the ULB [4] water switch has no grease or dirt.

1) Clean the water switch with a weak general purpose household detergent cleaner, B00541.

ECCN 9E991 BOEING PROPRIETARY - See title page for details

(b) Install the ULB [4] into the mounts [10].

1) Make sure that the water switch points left.

(c) Make sure that you can read the replacement date on the ULB [4].

(d) Apply Loctite 242 compound, A00648, to the threads of the screws [1].

(e) Install the mounts [10] with the screws [1].

(f) Tighten the screws [1] to 20 in-lb (2.26 N·m) - 26 in-lb (2.94 N·m).

LOM 437-439, 441, 445, 457-460, 464; AIRPLANES WITH CVR P/N 980-6032-00X

SUBTASK 23-71-21-420-009

(4) Install the ULB [4] on the voice recorder:

(a) Make sure that the ULB [4] water switch has no grease or dirt.

1) Clean the water switch with a weak general purpose household detergent cleaner, B00541.

(b) Install the ULB [4] into the supports.

1) Make sure that the water switch points left.

(c) Make sure that you can read the replacement date on the ULB [4].

(d) Install the screws [1].

LOM 437-439, 441, 445, 457-460, 464; AIRPLANES WITH P/N 980-6032-001

(e) Tighten the screws [1] to 20 in-lb (2.26 N·m) - 26 in-lb (2.94 N·m).

LOM ALL

SUBTASK 23-71-21-700-004

(5) Do one of these tasks to test the Underwater Locator Beacon (ULB):

Underwater Locator Beacon Test with a 42A12 Test Set, TASK 23-71-21-700-801 or Underwater Locator Beacon Test with a PL1 Test Set, TASK 23-71-21-700-802 or Underwater Locator Beacon Test with an ATS-260 Test Set, TASK 23-71-21-700-804 or Underwater Locator Beacon Test with a PL3 Test Set, TASK 23-71-21-700-803 or Underwater Locator Beacon Test with a Seacom TS100 Test Set, TASK 23-71-21-700-805 or Underwater Locator Beacon Test with a TS200 Test Set, TASK 23-71-21-700-806, or Underwater Locator Beacon Test with a TS500 Test Set, TASK 23-71-21-700-807.

SUBTASK 23-71-21-420-005

(6) If it is necessary, do this task: Voice Recorder Installation, TASK 23-71-11-400-801.

END OF TASK

ECCN 9E991 BOEING PROPRIETARY - See title page for details

RECORDER INDEPENDENT POWER SUPPLY (RIPS) - MAINTENANCE PRACTICES

1. General

A. This procedure has this task:

(1) A replacement of the RIPS battery pack.

B. The RIPS battery pack is attached to the RIPS charger.

C. The recorder independent power supply is in the aft passenger compartment. The unit is adjacent to the flight recorder.

LOM 423, 424, 432, 437-439, 441, 443-447, 450-452, 455-999; AIRPLANES WITH RIPS PART NUMBER 100-3020-400

TASK 23-71-22-960-801

2. Recorder Independent Power Supply (RIPS) Battery - Replacement

(Figure 201)

NOTE: This procedure is a scheduled maintenance task.

A. General

(1) This task includes a replacement of the Lithium-Ion Recorder Independent Power Supply (RIPS) battery pack.

(2) The RIPS is in the 47 section.

B. References

Reference	Title
20-40-12-000-802	ESDS Handling for Metal Encased Unit Removal (P/B 201)
20-40-12-000-804	Conductive Dust Cap and Connector Cover Removal (P/B 201)
20-40-12-400-802	ESDS Handling for Metal Encased Unit Installation (P/B 201)
20-40-12-400-804	Conductive Dust Cap and Connector Cover Installation (P/B 201)
23-71-22-730-801	Recorder Independent Power Supply (RIPS) System Test (P/B 501)

C. Tools/Equipment

Reference	Description
STD-1048	Stepladder - 6 foot (1.83m)

D. Location Zones

Zone	Area
240	Subzone - Passenger Compartment - Body Station 663.75 to Body Station 1016.00

E. Prepare for the Removal

SUBTASK 23-71-22-860-018

(1) Open this circuit breaker and install safety tag:

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
D	6	C01948	VOICE RCDR/RIPS

SUBTASK 23-71-22-040-002

(2) Wait for a minimum of 11 minutes after you remove power from the voice recorder.

ECCN 9E991 BOEING PROPRIETARY - See title page for details

SUBTASK 23-71-22-800-002

(3) To get access to the RIPS in the aft passenger compartment, open the lowered ceiling panel.

(a) Use a 6 foot (1.83m) stepladder, STD-1048, to get access to the RIPS.

NOTE: The RIPS is next to the Flight Data Recorder.

SUBTASK 23-71-22-020-001

(4) Disconnect the J1 connector from the RIPS unit.

SUBTASK 23-71-22-020-002

CAUTION DO NOT TOUCH THE CONNECTOR PINS, OR OTHER CONDUCTORS. IF YOU TOUCH THESE CONDUCTORS, ELECTROSTATIC DISCHARGE CAN CAUSE DAMAGE TO THE COMPONENTS.

(5) Before the RIPS unit is touched, do this task: ESDS Handling for Metal Encased Unit Removal, TASK 20-40-12-000-802.

F. Recorder Independent Power Supply Battery Removal

SUBTASK 23-71-22-000-003

(1) Remove the RIPS battery pack from the RIPS:

(a) Loosen the captive screws from the RIPS battery pack.

(b) Pull the RIPS battery pack forward to disengage the rear electrical connector.

SUBTASK 23-71-22-400-002

(2) Do this task: Conductive Dust Cap and Connector Cover Installation, TASK 20-40-12-400-804.

G. Recorder Independent Power Supply Battery Installation

SUBTASK 23-71-22-400-003

CAUTION DO NOT TOUCH THE CONNECTOR PINS, OR OTHER CONDUCTORS. IF YOU TOUCH THESE CONDUCTORS, ELECTROSTATIC DISCHARGE CAN CAUSE DAMAGE TO THE COMPONENTS.

(1) Before the RIPS unit is touched, do this task: ESDS Handling for Metal Encased Unit Installation, TASK 20-40-12-400-802.

SUBTASK 23-71-22-400-004

CAUTION DO NOT TOUCH THE CONNECTOR PINS, OR OTHER CONDUCTORS. IF YOU TOUCH THESE CONDUCTORS, ELECTROSTATIC DISCHARGE CAN CAUSE DAMAGE TO THE COMPONENTS.

(2) Do this task: Conductive Dust Cap and Connector Cover Removal, TASK 20-40-12-000-804.

SUBTASK 23-71-22-420-002

(3) Install a new Lithium-Ion RIPS battery pack to the RIPS .

(a) Push slightly to engage the rear electrical connector.

(b) Tighten the captive screws to 12 in-lb (1.4 N·m) to 14 in-lb (1.6 N·m).

SUBTASK 23-71-22-420-009

(4) Connect the J1 connector to the RIPS unit.

ECCN 9E991 BOEING PROPRIETARY - See title page for details

SUBTASK 23-71-22-860-019

(5) Remove the safety tag and close this circuit breaker:

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
D	6	C01948	VOICE RCDR/RIPS

H. Recorder Independent Power Supply Battery Test

SUBTASK 23-71-22-730-003

(1) Do this task: Recorder Independent Power Supply (RIPS) System Test, TASK 23-71-22-730-801.

END OF TASK

ECCN 9E991 BOEING PROPRIETARY - See title page for details

RECORDER INDEPENDENT POWER SUPPLY (RIPS)

1957265 S0000374172_V3

RECORDER INDEPENDENT POWER SUPPLY BATTERY - REPLACEMENT
Figure 201/23-71-22-990-802

ECCN 9E991 BOEING PROPRIETARY - See title page for details

LOM 423, 424, 432, 437-439, 441, 443-447, 450-452, 455-999; AIRPLANES WITH RIPS PART NUMBER 100-3010-401

TASK 23-71-22-960-802

3. Recorder Independent Power Supply (RIPS) Battery - Replacement

(Figure 202)

A. General

(1) This task includes a replacement of the Nickel-Cadmium Recorder Independent Power Supply (RIPS) battery pack.

(2) The RIPS is in the 47 section.

B. References

Reference	Title
20-40-12-000-802	ESDS Handling for Metal Encased Unit Removal (P/B 201)
20-40-12-400-802	ESDS Handling for Metal Encased Unit Installation (P/B 201)
20-40-12-400-804	Conductive Dust Cap and Connector Cover Installation (P/B 201)
23-71-22-730-801	Recorder Independent Power Supply (RIPS) System Test (P/B 501)

C. Tools/Equipment

Reference	Description
STD-1048	Stepladder - 6 foot (1.83m)

D. Location Zones

Zone	Area
240	Subzone - Passenger Compartment - Body Station 663.75 to Body Station 1016.00

E. Prepare for the Removal

SUBTASK 23-71-22-860-029

(1) Open this circuit breaker and install safety tag:

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
D	6	C01948	VOICE RCDR/RIPS

SUBTASK 23-71-22-040-003

(2) Wait for a minimum of 11 minutes after you remove power from the voice recorder.

SUBTASK 23-71-22-800-003

(3) To get access to the RIPS in the aft passenger compartment, open the lowered ceiling panel.

(a) Use a 6 foot (1.83m) stepladder, STD-1048, to get access to the RIPS.

NOTE: The RIPS is next to the Flight Data Recorder (FDR).

SUBTASK 23-71-22-020-006

(4) Disconnect the J1 connector from the RIPS unit.

ECCN 9E991 BOEING PROPRIETARY - See title page for details

LOM 423, 424, 432, 437-439, 441, 443-447, 450-452, 455-999; AIRPLANES WITH RIPS PART NUMBER 100-3010-401 (Continued)

SUBTASK 23-71-22-000-004

> **CAUTION** DO NOT TOUCH THE CONNECTOR PINS, OR OTHER CONDUCTORS. IF YOU TOUCH THESE CONDUCTORS, ELECTROSTATIC DISCHARGE CAN CAUSE DAMAGE TO THE COMPONENTS.

(5) Before the RIPS unit is touched, do this task: ESDS Handling for Metal Encased Unit Removal, TASK 20-40-12-000-802.

F. Recorder Independent Power Supply Battery Removal

SUBTASK 23-71-22-400-005

(1) Remove the Nickel-Cadmium RIPS battery pack from the RIPS:

(a) Loosen the two captive screws from the Nickel-Cadmium RIPS battery pack.

(b) Pull the Nickel-Cadmium RIPS battery pack forward to disengage the rear electrical connector.

SUBTASK 23-71-22-400-006

(2) Do this task: Conductive Dust Cap and Connector Cover Installation, TASK 20-40-12-400-804.

G. Recorder Independent Power Supply Battery Installation

SUBTASK 23-71-22-400-008

> **CAUTION** DO NOT TOUCH THE CONNECTOR PINS, OR OTHER CONDUCTORS. IF YOU TOUCH THESE CONDUCTORS, ELECTROSTATIC DISCHARGE CAN CAUSE DAMAGE TO THE COMPONENTS.

(1) Before the RIPS unit is touched, do this task: ESDS Handling for Metal Encased Unit Installation, TASK 20-40-12-400-802.

SUBTASK 23-71-22-400-007

> **CAUTION** DO NOT TOUCH THE CONNECTOR PINS, OR OTHER CONDUCTORS. IF YOU TOUCH THESE CONDUCTORS, ELECTROSTATIC DISCHARGE CAN CAUSE DAMAGE TO THE COMPONENTS.

(2) Do this task: Conductive Dust Cap and Connector Cover Installation, TASK 20-40-12-400-804.

SUBTASK 23-71-22-420-012

(3) Install a new Nickel-Cadmium RIPS battery pack to the RIPS .

(a) Push slightly to engage the rear electrical connector.

(b) Tighten the captive screws to 12 in-lb (1.4 N·m) - 14 in-lb (1.6 N·m).

SUBTASK 23-71-22-420-013

(4) Connect the J1 connector to the RIPS unit.

SUBTASK 23-71-22-860-030

(5) Remove the safety tag and close this circuit breaker:

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
D	6	C01948	VOICE RCDR/RIPS

ECCN 9E991 BOEING PROPRIETARY - See title page for details

H. Recorder Independent Power Supply Battery Test

SUBTASK 23-71-22-730-004

(1) Do this task: Recorder Independent Power Supply (RIPS) System Test, TASK 23-71-22-730-801.

END OF TASK

ECCN 9E991 BOEING PROPRIETARY - See title page for details

RECORDER INDEPENDENT POWER SUPPLY (RIPS)

2992841 S0000769559_V1

Recorder Independent Power Supply Battery - Replacement
Figure 202/23-71-22-990-803

ECCN 9E991 BOEING PROPRIETARY - See title page for details

RECORDER INDEPENDENT POWER SUPPLY (RIPS) - REMOVAL/INSTALLATION

1. General

A. This procedure has these tasks:

(1) A removal of the recorder independent power supply.

(2) An installation of the recorder independent power supply, which includes an installation test.

B. The recorder independent power supply is in the aft passenger compartment. The unit is adjacent to the flight data recorder.

TASK 23-71-22-000-801

2. Recorder Independent Power Supply - Removal

(Figure 401)

A. General

(1) This task gives the steps to remove the recorder independent power supply [1].

(2) The RIPS is in the 47 section.

B. References

Reference	Title
20-40-12-000-802	ESDS Handling for Metal Encased Unit Removal (P/B 201)
20-40-12-400-804	Conductive Dust Cap and Connector Cover Installation (P/B 201)

C. Tools/Equipment

Reference	Description
STD-1048	Stepladder - 6 foot (1.83m)

D. Location Zones

Zone	Area
240	Subzone - Passenger Compartment - Body Station 663.75 to Body Station 1016.00

E. Prepare for the Removal

SUBTASK 23-71-22-860-001

(1) Open these circuit breakers and install safety tags:

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
LOM 437, 438, 443-445, 450-452, 457-463, 466-999			
C	7	C01537	VOICE RCDR RELAY
LOM 423, 424, 432, 437-439, 441, 443-447, 450-452, 455-999			
D	6	C01948	VOICE RCDR/RIPS

This circuit breaker is inoperative and should remain open:

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
LOM 423, 424, 432, 439, 441, 446, 447, 455, 456, 464, 465			
C	7	C01537	VOICE RCDR RELAY (INOP)

LOM 423, 424, 432, 437-439, 441, 443-447, 450-452, 455-999

ECCN 9E991 BOEING PROPRIETARY - See title page for details

F. Recorder Independent Power Supply Removal

SUBTASK 23-71-22-040-001

(1) Wait for a minimum of 11 minutes after remove power from the voice recorder.

SUBTASK 23-71-22-800-001

(2) To get access to the recorder independent power supply [1] in the aft passenger compartment, open the lowered ceiling panel.

(a) Use a 6 foot (1.83m) stepladder, STD-1048, to get access to the recorder independent power supply [1].

NOTE: The recorder independent power supply [1] is next to the Flight Data Recorder.

SUBTASK 23-71-22-020-005

(3) Disconnect the J1 connector [6] from the recorder independent power supply [1] unit.

SUBTASK 23-71-22-000-001

(4) Do this task: ESDS Handling for Metal Encased Unit Removal, TASK 20-40-12-000-802.

SUBTASK 23-71-22-000-002

CAUTION

DO NOT TOUCH THE CONNECTOR PINS, OR OTHER CONDUCTORS. IF YOU TOUCH THESE CONDUCTORS, ELECTROSTATIC DISCHARGE CAN CAUSE DAMAGE TO THE COMPONENTS.

(5) Do these steps to remove the recorder independent power supply [1]:

(a) Remove the nut [2] and washer [3] from the ground stud.

(b) Remove the ground wire [4] from the recorder independent power supply [1].

(c) Do this task: Conductive Dust Cap and Connector Cover Installation, TASK 20-40-12-400-804.

(d) Loosen the captive screws [5].

(e) Remove the recorder independent power supply [1] from the structure.

END OF TASK

ECCN 9E991 BOEING PROPRIETARY - See title page for details

1956950 S0000374179_V2

RECORDER INDEPENDENT POWER SUPPLY - INSTALLATION
Figure 401/23-71-22-990-801 (Sheet 1 of 4)

ECCN 9E991 BOEING PROPRIETARY - See title page for details

1957628 S0000374182_V2

RECORDER INDEPENDENT POWER SUPPLY - INSTALLATION
Figure 401/23-71-22-990-801 (Sheet 2 of 4)

ECCN 9E991 BOEING PROPRIETARY - See title page for details

RECORDER INDEPENDENT POWER SUPPLY (RIPS) (EXAMPLE)

B

1957775 S0000374501_V5

RECORDER INDEPENDENT POWER SUPPLY - INSTALLATION
Figure 401/23-71-22-990-801 (Sheet 3 of 4)

ECCN 9E991 BOEING PROPRIETARY - See title page for details

RECORDER INDEPENDENT POWER SUPPLY (RIPS) (EXAMPLE)

B

2992842 S0000769560_V2

RECORDER INDEPENDENT POWER SUPPLY - INSTALLATION
Figure 401/23-71-22-990-801 (Sheet 4 of 4)

ECCN 9E991 BOEING PROPRIETARY - See title page for details

TASK 23-71-22-400-801

3. Recorder Independent Power Supply - Installation

(Figure 401)

A. General

(1) This task gives the steps to install the recorder independent power supply [1].

B. References

Reference	Title
20-40-12-000-804	Conductive Dust Cap and Connector Cover Removal (P/B 201)
20-40-12-400-802	ESDS Handling for Metal Encased Unit Installation (P/B 201)
23-71-22-730-801	Recorder Independent Power Supply (RIPS) System Test (P/B 501)
SWPM 20-20-00 Paragraph 14.C	Category 1 Unsealed Fay Surface Bonds

C. Tools/Equipment

NOTE: When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

Reference	Description
COM-1550	Bonding Meter - Approved, Intrinsically Safe (Approved for use in Class I, Divisions I & II hazardous (classified) locations. Outside these hazardous locations, COM-614 can be used in lieu of COM-1550). Part #: 620LK Supplier: 1CRL2 Part #: M1 Supplier: 3AD17 Part #: M1B Supplier: 3AD17 Part #: T477W (C15292) Supplier: 06659

D. Consumable Materials

Reference	Description	Specification
B00130	Alcohol - Isopropyl	TT-I-735
B00666	Solvent - Methyl Propyl Ketone	BMS11-9
G00034	Cotton Wiper - Process Cleaning Absorbent Wiper (Cheesecloth, Gauze)	AMS3819 Class 1 Grade A or B Form 1 (Supersede BMS15-5 CL A)

E. Expendables/Parts

AMM Item	Description	AIPC Reference	AIPC Effectivity
1	Recorder independent power supply	23-71-51-05-025	LOM 423, 424, 432, 437-439, 441, 443-447, 450-452, 455-999
		23-71-51-05-100	LOM 423, 424, 432, 437-439, 441, 443-447, 450-452, 455-999

F. Location Zones

Zone	Area
240	Subzone - Passenger Compartment - Body Station 663.75 to Body Station 1016.00

ECCN 9E991 BOEING PROPRIETARY - See title page for details

G. Prepare for the Installation

SUBTASK 23-71-22-860-002

(1) Make sure that these circuit breakers are open and have safety tags:

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
LOM 437, 438, 443-445, 450-452, 457-463, 466-999			
C	7	C01537	VOICE RCDR RELAY
LOM 423, 424, 432, 437-439, 441, 443-447, 450-452, 455-999			
D	6	C01948	VOICE RCDR/RIPS

This circuit breaker is inoperative and should remain open:

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
LOM 423, 424, 432, 439, 441, 446, 447, 455, 456, 464, 465			
C	7	C01537	VOICE RCDR RELAY (INOP)

LOM 423, 424, 432, 437-439, 441, 443-447, 450-452, 455-999

H. Recorder Independent Power Supply Installation

SUBTASK 23-71-22-400-001

(1) Do this task: ESDS Handling for Metal Encased Unit Installation, TASK 20-40-12-400-802.

SUBTASK 23-71-22-100-001

(2) Do these steps to clean the mounting flanges and captive screws [5] of the recorder independent power supply [1]: SWPM 20-20-00 Paragraph 14.C Category 1 Unsealed Fay Surface Bonds.

(a) Clean the mounting flanges and captive screws [5] with alcohol, B00130, and cotton wiper, G00034.

NOTE: Use a moist cotton wiper. Do not soak.

(b) Dry the mounting flanges and captive screws [5] with a new cotton wiper, G00034.

SUBTASK 23-71-22-100-002

(3) Do these steps to clean the ground wire [4] and ground stud of the recorder independent power supply [1]: SWPM 20-20-00 Paragraph 14.C Category 1 Unsealed Fay Surface Bonds.

(a) Use solvent, B00666, and cotton wiper, G00034, to clean the bond surface of the ground wire [4] and ground stud.

NOTE: Use a moist cotton wiper. Do not soak.

(b) Dry the ground wire [4] and ground stud with a new cotton wiper, G00034.

SUBTASK 23-71-22-420-001

CAUTION

DO NOT TOUCH THE CONNECTOR PINS, OR OTHER CONDUCTORS. IF YOU TOUCH THESE CONDUCTORS, ELECTROSTATIC DISCHARGE CAN CAUSE DAMAGE TO THE COMPONENTS.

(4) Do these steps to install the recorder independent power supply [1]:

(a) Put the recorder independent power supply [1] in its position on the support panel.

NOTE: Mounting flanges sealing not required. Installation of the parts must be done within 24 hours of surface preparation and cleaning. If installation is not done within 24 hours, the surface must be prepared and cleaned again.

ECCN 9E991 BOEING PROPRIETARY - See title page for details

(b) Tighten the captive screws [5] to 54 in-lb (6.1 N·m) - 66 in-lb (7.5 N·m).

(c) Do this task: Conductive Dust Cap and Connector Cover Removal, TASK 20-40-12-000-804.

(d) Install the washer [3] and nut [2] that attach the ground wire [4] to the ground stud as a specified bond.

1) Tighten the nut [2] to 27 in-lb (3.1 N·m) - 33 in-lb (3.7 N·m).

2) Measure the specified bond resistance with a intrinsically safe approved bonding meter, COM-1550.

a) Make sure that the specified bond resistance is not more than 0.001 Ohm.

SUBTASK 23-71-22-420-010

(5) Connect the J1 connector [6] to the recorder independent power supply [1] unit.

SUBTASK 23-71-22-860-020

(6) Remove the safety tags and close these circuit breakers:

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
LOM 437, 438, 443-445, 450-452, 457-463, 466-999			
C	7	C01537	VOICE RCDR RELAY
LOM 423, 424, 432, 437-439, 441, 443-447, 450-452, 455-999			
D	6	C01948	VOICE RCDR/RIPS

This circuit breaker is inoperative and should remain open:

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
LOM 423, 424, 432, 439, 441, 446, 447, 455, 456, 464, 465			
C	7	C01537	VOICE RCDR RELAY (INOP)

LOM 423, 424, 432, 437-439, 441, 443-447, 450-452, 455-999

I. Installation Test

SUBTASK 23-71-22-860-005

(1) Do this task: Recorder Independent Power Supply (RIPS) System Test, TASK 23-71-22-730-801.

J. Put the Airplane Back to Its Usual Condition

SUBTASK 23-71-22-410-001

(1) Close the lowered ceiling panel in the aft passenger compartment.

END OF TASK

ECCN 9E991 BOEING PROPRIETARY - See title page for details

RECORDER INDEPENDENT POWER SUPPLY (RIPS) - ADJUSTMENT/TEST

1. General

A. This procedure has the system test, the functional test and the maintenance discrete check for the Recorder Independent Power Supply (RIPS).

(1) Do the RIPS System Test when you install a new RIPS or you replace the RIPS battery.

(2) The RIPS Functional Test is a scheduled maintenance task.

(3) The RIP Maintenance Discrete Check is a scheduled maintenance task.

B. The RIPS is at STA 940 in the aft passenger compartment ceiling adjacent to the flight data recorder.

C. The RIPS Maintenance Port (Connector D10101) is in the crown near the left side raceway at STA 955. It is fifteen inches aft and approximately six inches higher than the RIPS.

TASK 23-71-22-730-801

2. Recorder Independent Power Supply (RIPS) System Test

NOTE: This procedure is a scheduled maintenance task.

A. General

(1) This task does a system test of the Recorder Independent Power Supply (RIPS).

(2) Do this test when you install a new RIPS or when you replace the battery in the RIPS.

(3) The RIPS is at STA 940 in the aft passenger compartment adjacent to the flight data recorder.

(4) To do this test, it is necessary that the ambient temperature is between 32°F (0°C) and 113°F (45°C).

(5) The RIPS Maintenance Port (Connector D10101) is in the crown near the left side raceway at STA 955. It is fifteen inches aft and approximately six inches higher than the RIPS.

B. References

Reference	Title
WDM 23-71-01	Wiring Diagram Manual

C. Tools/Equipment

NOTE: When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

ECCN 9E991 BOEING PROPRIETARY - See title page for details

Reference	Description
COM-1793	Multimeter - Digital/Analog (or equivalent meter meets task requirements) Part #: 117 Supplier: 89536 Part #: 260-8XPI Supplier: 55026 Part #: 287 Supplier: 89536 Part #: 289 Supplier: 89536 Part #: 87V Supplier: 89536 Part #: FLUKE 27 II Supplier: 89536 Part #: FLUKE-77-4 Supplier: 89536 Opt Part #: 187 Supplier: 89536 Opt Part #: 189 Supplier: 89536 Opt Part #: 21 Supplier: 89536 Opt Part #: 27 Supplier: 89536 Opt Part #: 77 SERIES III Supplier: 89536 Opt Part #: 87 Supplier: 89536 Opt Part #: FLUKE 27 Supplier: 89536 Opt Part #: MODEL 27 Supplier: 89536
STD-1048	Stepladder - 6 foot (1.83m)

D. Location Zones

Zone	Area
240	Subzone - Passenger Compartment - Body Station 663.75 to Body Station 1016.00

E. Prepare for the Test

SUBTASK 23-71-22-860-011

(1) Make sure that this circuit breaker is closed:

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
D	6	C01948	VOICE RCDR/RIPS

SUBTASK 23-71-22-860-012

(2) Make sure you wait for 15 (fifteen) minutes after you supply electrical power to the airplane before you do the tests that follow.

NOTE: It may take more than 30 (thirty) minutes, and possibly up to 4 (four) hours, to charge if the batteries were not properly stored and maintained every 12 (twelve) months. Until the battery is charged sufficiently, the no-fault status check and maintenance status and battery discharge check will not pass.

SUBTASK 23-71-22-020-003

(3) Open the applicable lowered ceiling panel to get access to the Maintenance Port in the aft passenger compartment.

NOTE: The Maintenance Port is at STA 955, WL 301, LBL 8.

(4) Use a 6 foot (1.83m) stepladder, STD-1048, to get access to the Maintenance Port.

(a) Remove the protective dust-cap cover from the Maintenance Port (Connector D10101).

LOM 437, 438, 443-445, 450-452, 457

SUBTASK 23-71-22-860-027

(5) Set the CVR AUTO/ON switch (P5) to the ON position.

LOM 423, 424, 432, 437-439, 441, 443-447, 450-452, 455-999

ECCN 9E991 BOEING PROPRIETARY - See title page for details

F. No-Fault Status Check

SUBTASK 23-71-22-760-005

(1) Do the steps that follow.

(a) Make sure that the digital/analog multimeter, COM-1793, is set to the DIODE position.

1) Attach the Black (Negative) lead of the multimeter to Pin 1 of connector D10101 as a ground reference when taking measurements in the subsequent steps.

(b) Do a check for voltage at connector D10101 between pin 1 and pin 6 (WDM 23-71-01).

LOM 423, 424, 432, 437-439, 441, 443-447, 450-452, 455-999; AIRPLANES WITH RIPS PART NUMBER 100-3020-400

1) Make sure that the multimeter shows a voltage between “0.400 V” and “0.700 V”.

LOM 423, 424, 432, 437-439, 441, 443-447, 450-452, 455-999; AIRPLANES WITH RIPS PART NUMBER 100-3010-401

2) Make sure that the multimeter shows a voltage less than “0.700 V”.

LOM 423, 424, 432, 437-439, 441, 443-447, 450-452, 455-999

(c) Push and hold the TEST switch on the CVR Control Panel for a minimum of 5 seconds.

LOM 423, 424, 432, 437-439, 441, 445-447, 455-460, 464

1) Make sure that the STATUS light on the CVR Control Panel comes on.

LOM 443, 444, 450-452, 461-463, 465-999

2) Make sure that the TEST light on the CVR Control Panel comes on.

LOM 423, 424, 432, 437-439, 441, 443-447, 450-452, 455-999

(d) Release the TEST switch on the CVR Control Panel.

G. Maintenance Status and Battery Discharge Check

SUBTASK 23-71-22-760-006

(1) Do the maintenance discrete and battery discharge test as follows.

NOTE: If you do not wait fifteen minutes, it is possible the value you see will not be satisfactory because the battery is at a low state of charge.

NOTE: Use a watch or a clock to measure the time after you open this circuit breaker.

(2) Open this circuit breaker and install safety tag:

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
D	6	C01948	VOICE RCDR/RIPS

NOTE: The RIPS will now supply power to the CVR for 10 (ten) minutes (± 1 minute).

SUBTASK 23-71-22-730-002

(3) Use a digital/analog multimeter, COM-1793, and set it to the DIODE position.

(a) Attach the Black (Negative) lead of the multimeter to Pin 1 of connector D10101 as a ground reference when taking measurements in the subsequent steps.

(b) Do a check for continuity at connector D10101 between pin 1 and pin 10 (WDM 23-71-01).

(c) Make sure that you see “OL” (out-of-limit).

(4) At or before 8 minutes and 45 seconds, push and hold the TEST switch on the CVR Control Panel.

ECCN 9E991 BOEING PROPRIETARY - See title page for details

LOM 423, 424, 432, 437-439, 441, 445-447, 455-460, 464

(a) Make sure that the STATUS light on the CVR Control Panel comes on.

LOM 443, 444, 450-452, 461-463, 465-999

(b) Make sure that the TEST light on the CVR Control Panel comes on.

LOM 423, 424, 432, 437-439, 441, 443-447, 450-452, 455-999

(5) Continue to hold the TEST switch on the CVR Control Panel.

LOM 423, 424, 432, 437-439, 441, 445-447, 455-460, 464

(6) Make sure that at approximately 9 minutes to 11 minutes, the STATUS light on the CVR control panel goes out.

LOM 443, 444, 450-452, 461-463, 465-999

(7) Make sure that at approximately 9 minutes to 11 minutes, the TEST light on the CVR control panel goes out.

LOM 423, 424, 432, 437-439, 441, 443-447, 450-452, 455-999

(8) Release the TEST switch on the CVR Control Panel.

SUBTASK 23-71-22-860-013

(9) Remove the safety tag and close this circuit breaker:

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
D	6	C01948	VOICE RCDR/RIPS

H. Put the Airplane Back to Its Usual Condition

LOM 437, 438, 443-445, 450-452, 457

SUBTASK 23-71-22-860-028

(1) Set the CVR AUTO/ON switch (P5) back to the AUTO position.

LOM 423, 424, 432, 437-439, 441, 443-447, 450-452, 455-999

SUBTASK 23-71-22-420-005

(2) Install the protective dust-cap cover on the Maintenance Port (Connector D10101).

SUBTASK 23-71-22-420-006

(3) Close the lowered ceiling panel in the aft passenger compartment.

——— END OF TASK ———

TASK 23-71-22-720-801

3. Recorder Independent Power Supply (RIPS) Functional Test

NOTE: This procedure is a scheduled maintenance task.

A. General

(1) This task does a functional test of the Recorder Independent Power Supply (RIPS).

(2) To do this test, it is necessary that the ambient temperature is between 32°F (0°C) and 113°F (45°C).

(3) The RIPS is at STA 940 in the aft passenger compartment adjacent to the flight data recorder.

ECCN 9E991 BOEING PROPRIETARY - See title page for details

B. References

Reference	Title
23-27-00-740-814-009	ACARS - Operational Test (P/B 501)
23-27-00-740-816-010	ACARS - Operational Test (P/B 501)
24-22-00-860-811	Supply Electrical Power (P/B 201)
24-22-00-860-812	Remove Electrical Power (P/B 201)

C. Tools/Equipment

Reference	Description
STD-836	Stopwatch
STD-1390	Headphone - 600 Ohm, with 1/4 Inch Mono Audio Plug

D. Location Zones

Zone	Area
212	Flight Compartment - Right

E. Prepare for the Functional Test.

SUBTASK 23-71-22-860-006

(1) Make sure that this circuit breaker is closed:

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
D	6	C01948	VOICE RCDR/RIPS

SUBTASK 23-71-22-860-007

(2) Do this task: Supply Electrical Power, TASK 24-22-00-860-811.

(a) It is necessary for you to wait for 15 (fifteen) minutes after you supply electrical power to the airplane before you do the tests that follow.

LOM 437, 438, 443-445, 450-452, 457

SUBTASK 23-71-22-860-024

(3) Make sure to set the CVR AUTO/ON switch (P5) to the ON position.

LOM 443-445, 450-452, 457, 461-463, 466-999

SUBTASK 23-71-22-860-023

(4) Make sure that the ACARS system is serviceable (ACARS - Operational Test, TASK 23-27-00-740-816-010 or ACARS - Operational Test, TASK 23-27-00-740-814-009).

LOM 423, 424, 432, 437-439, 441, 443-447, 450-452, 455-999

F. No-Fault Status Check

LOM 443, 444, 450-452, 461-463, 465-999

SUBTASK 23-71-22-760-002

(1) Push and hold the TEST switch on the CVR Control Panel for a minimum of 5 seconds.

(a) Make sure that the TEST light on the CVR Control Panel comes on.

(b) Release the TEST switch on the CVR Control Panel.

LOM 423, 424, 432, 437-439, 441, 445-447, 455-460, 464

SUBTASK 23-71-22-760-010

(2) Push and hold the TEST switch on the CVR Control Panel for approximately 2 seconds and then release it.

ECCN 9E991 BOEING PROPRIETARY - See title page for details

LOM 423, 424, 432, 437-439, 441, 445-447, 455-460, 464 (Continued)

(a) Make sure that the STATUS light on the CVR Control Panel comes on one time and then goes off.

LOM 423, 424, 432, 437-439, 441, 443-447, 450-452, 455-999

G. Battery Discharge Check

SUBTASK 23-71-22-760-003

(1) Connect a headphone, STD-1390 to the voice recorder's control panel (pilot's overhead panel, P5).

SUBTASK 23-71-22-760-011

(2) Use a stopwatch, STD-836 or a clock to measure the time after you open this circuit breaker.

(a) Open this circuit breaker and install safety tag:

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
D	6	C01948	VOICE RCDR/RIPS

NOTE: The RIPS will now supply power to the CVR for 10 (ten) minutes (± 1 minute).

SUBTASK 23-71-22-720-011

(3) Use the headphone that connected to the voice recorder's control panel to monitor the voice recorder's functions.

(a) Make sure that the voice recorder continues to function normally on RIPS battery power for 10 minutes ± 1 minute, but does NOT function after 11 minutes.

NOTE: The area sounds can be heard through the headphone when the voice recorder has power and the area sound stops when the voice recorder does NOT have power.

SUBTASK 23-71-22-860-008

(4) Remove the safety tag and close this circuit breaker:

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
D	6	C01948	VOICE RCDR/RIPS

H. Put the Airplane Back to Its Usual Condition

SUBTASK 23-71-22-860-010

(1) Disconnect the headphone from the voice recorder's control panel.

LOM 437, 438, 443-445, 450-452, 457

SUBTASK 23-71-22-860-025

(2) Set the CVR AUTO/ON switch (P5) to the AUTO position.

LOM 423, 424, 432, 437-439, 441, 443-447, 450-452, 455-999

SUBTASK 23-71-22-860-026

(3) Do this task: Remove Electrical Power, TASK 24-22-00-860-812.

END OF TASK

ECCN 9E991 BOEING PROPRIETARY - See title page for details

LOM 423, 424, 432, 437-439, 441, 443-447, 450-452, 455-999; AIRPLANES WITH RIPS PART NUMBER 100-3020-400

TASK 23-71-22-760-801

4. Recorder Independent Power Supply (RIPS) Maintenance Discrete Check

NOTE: This procedure is a scheduled maintenance task.

A. General

(1) This task gives a check of the maintenance discrete for the Recorder Independent Power Supply (RIPS) with the Lithium-Ion battery.

(2) The RIPS is at STA 940 in the aft passenger compartment adjacent to the flight data recorder.

(3) To do this test, it is necessary that the ambient temperature is between 0 and 45 degrees C (between 32 and 113 degrees F).

(4) The RIPS Maintenance Port (Connector D10101) is in the crown near the left side raceway at STA 955. It is fifteen inches aft and approximately six inches higher than the RIPS.

B. References

Reference	Title
WDM 23-71-01	Wiring Diagram Manual

C. Tools/Equipment

NOTE: When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

Reference	Description
COM-1793	Multimeter - Digital/Analog (or equivalent meter meets task requirements) Part #: 117 Supplier: 89536 Part #: 260-8XPI Supplier: 55026 Part #: 287 Supplier: 89536 Part #: 289 Supplier: 89536 Part #: 87V Supplier: 89536 Part #: FLUKE 27 II Supplier: 89536 Part #: FLUKE-77-4 Supplier: 89536 Opt Part #: 187 Supplier: 89536 Opt Part #: 189 Supplier: 89536 Opt Part #: 21 Supplier: 89536 Opt Part #: 27 Supplier: 89536 Opt Part #: 77 SERIES III Supplier: 89536 Opt Part #: 87 Supplier: 89536 Opt Part #: FLUKE 27 Supplier: 89536 Opt Part #: MODEL 27 Supplier: 89536
STD-1048	Stepladder - 6 foot (1.83m)

D. Location Zones

Zone	Area
240	Subzone - Passenger Compartment - Body Station 663.75 to Body Station 1016.00

ECCN 9E991 BOEING PROPRIETARY - See title page for details

E. Prepare for the RIPS Maintenance Discrete Check

SUBTASK 23-71-22-020-004

(1) Open the applicable lowered ceiling panel to get access to the Maintenance Port in the aft passenger compartment.

NOTE: The Maintenance Port is at STA 955, WL 301, LBL 8.

SUBTASK 23-71-22-080-001

(2) Use a 6 foot (1.83m) stepladder, STD-1048 to get access to the Maintenance Port.

(a) Remove the protective dust-cap cover from the Maintenance Port (Connector D10101).

F. RIPS Status Check with Aircraft Power On

SUBTASK 23-71-22-760-008

(1) Make sure that this circuit breaker is closed:

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
D	6	C01948	VOICE RCDR/RIPS

SUBTASK 23-71-22-720-003

(2) Make sure that the digital/analog multimeter, COM-1793, is set to the DIODE position.

(a) Attach the black (negative) lead of the multimeter to Pin 1 of connector D10101 as a ground reference when taking measurements in the subsequent steps.

SUBTASK 23-71-22-720-004

(3) Do the check that follows for the RIPS Status Check with aircraft power on:

(a) Do these steps for RIPS Maintenance Status Check:

1) At Maintenance Port (Connector D10101), measure between pin 1 and pin 10 (WDM 23-71-01) for the status of the RIPS MAINT REQ.

2) Make sure that the multimeter shows “OL” (out of limit).

(b) Do these steps for RIPS No-Fault Status Check:

1) At Maintenance Port (Connector D10101), measure between pin 1 and pin 6 (WDM 23-71-01) for the status of the RIPS NO FAULT.

2) Make sure that the multimeter shows a voltage between “0.400 V” and “0.700 V”.

G. RIPS Status Check with Aircraft Power Off

SUBTASK 23-71-22-860-021

(1) Open this circuit breaker and install safety tag:

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
D	6	C01948	VOICE RCDR/RIPS

SUBTASK 23-71-22-720-007

(2) Make sure that the digital/analog multimeter, COM-1793, is set to the DIODE position.

(a) Attach the black (negative) lead of the multimeter to Pin 1 of connector D10101 as a ground reference when taking measurements in the subsequent steps.

ECCN 9E991 BOEING PROPRIETARY - See title page for details

LOM 423, 424, 432, 437-439, 441, 443-447, 450-452, 455-999; AIRPLANES WITH RIPS PART NUMBER 100-3020-400 (Continued)

SUBTASK 23-71-22-720-006

(3) Do the check that follows in no more than nine (9) minutes after you opened the circuit breaker:

(a) Do these steps for RIPS Maintenance Status Check:

1) At Maintenance Port (Connector D10101), measure between pin 1 and pin 10 (WDM 23-71-01) for the status of the RIPS MAINT REQ.

2) Make sure that the multimeter shows “OL”.

(b) Do these steps for RIPS No-Fault Status Check:

1) At Maintenance Port (Connector D10101), measure between pin 1 and pin 6 (WDM 23-71-01) for the status of the RIPS NO FAULT.

2) Make sure that the multimeter shows a voltage between “0.400 V” and “0.700 V”.

H. Put the Airplane Back to Its Usual Condition

SUBTASK 23-71-22-420-007

(1) Install the protective dust-cap cover on the Maintenance Port (Connector D10101).

SUBTASK 23-71-22-420-008

(2) Close the lowered ceiling panel in the aft passenger compartment.

SUBTASK 23-71-22-860-022

(3) Remove the safety tag and close this circuit breaker:

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
D	6	C01948	VOICE RCDR/RIPS

END OF TASK

LOM 423, 424, 432, 437-439, 441, 443-447, 450-452, 455-999; AIRPLANES WITH RIPS PART NUMBER 100-3010-401

TASK 23-71-22-760-802

5. Recorder Independent Power Supply (RIPS) Maintenance Discrete Check

A. General

(1) This task gives a check of the maintenance discrete for the Recorder Independent Power Supply (RIPS) with the Nickel-Cadmium battery.

(2) The RIPS is at STA 940 in the aft passenger compartment adjacent to the flight data recorder.

(3) To do this test, it is necessary that the ambient temperature is between 32°F (0°C) and 113°F (45°C).

(4) The RIPS Maintenance Port (Connector D10101) is in the crown near the left side raceway at STA 955. It is 15 in. (38 cm) aft and approximately 6 in. (15 cm) higher than the RIPS.

B. References

Reference	Title
WDM 23-71-01	Wiring Diagram Manual

ECCN 9E991 BOEING PROPRIETARY - See title page for details

C. Tools/Equipment

NOTE: When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

Reference	Description
COM-1793	Multimeter - Digital/Analog (or equivalent meter meets task requirements) Part #: 117 Supplier: 89536 Part #: 260-8XPI Supplier: 55026 Part #: 287 Supplier: 89536 Part #: 289 Supplier: 89536 Part #: 87V Supplier: 89536 Part #: FLUKE 27 II Supplier: 89536 Part #: FLUKE-77-4 Supplier: 89536 Opt Part #: 187 Supplier: 89536 Opt Part #: 189 Supplier: 89536 Opt Part #: 21 Supplier: 89536 Opt Part #: 27 Supplier: 89536 Opt Part #: 77 SERIES III Supplier: 89536 Opt Part #: 87 Supplier: 89536 Opt Part #: FLUKE 27 Supplier: 89536 Opt Part #: MODEL 27 Supplier: 89536
STD-1048	Stepladder - 6 foot (1.83m)

D. Location Zones

Zone	Area
240	Subzone - Passenger Compartment - Body Station 663.75 to Body Station 1016.00

E. Prepare for the RIPS Maintenance Discrete Check

SUBTASK 23-71-22-010-003

(1) Open the applicable lowered ceiling panel to get access to the Maintenance Port (Connector D10101) in the aft passenger compartment.

NOTE: The Maintenance Port (Connector D10101) is at STA 955, WL 301, LBL 8.

SUBTASK 23-71-22-480-001

(2) Use a 6 foot (1.83m) stepladder, STD-1048, to get access to the Maintenance Port (Connector D10101).

(a) Remove the protective dust-cap cover from the Maintenance Port (Connector D10101).

F. RIPS Status Check with Aircraft Power On

SUBTASK 23-71-22-720-012

(1) Make sure that the digital/analog multimeter, COM-1793, is set to the DIODE position.

(a) Attach the Black (Negative) lead of the digital/analog multimeter, COM-1793, to Pin 1 of connector D10101 as a ground reference when taking measurements in the subsequent steps.

SUBTASK 23-71-22-720-013

(2) Do the check that follows for the RIPS Status Check with aircraft power on:

(a) Do these steps for RIPS Maintenance Status Check:

ECCN 9E991 BOEING PROPRIETARY - See title page for details

1) At Maintenance Port (Connector D10101), measure between pin 1 and pin 10 for the status of the RIPS MAINT REQ (WDM 23-71-01).

2) Make sure that the digital/analog multimeter, COM-1793, shows “OL” (out of limit).

(b) Do these steps for RIPS No-Fault Status Check:

1) At Maintenance Port (Connector D10101), measure between pin 1 and pin 6 for the status of the RIPS NO FAULT (WDM 23-71-01).

2) Make sure that the digital/analog multimeter, COM-1793, shows a voltage less than “0.700 V”.

G. RIPS Status Check with Aircraft Power Off

SUBTASK 23-71-22-860-031

(1) Open this circuit breaker and install safety tag:

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
D	6	C01948	VOICE RCDR/RIPS

SUBTASK 23-71-22-720-014

(2) Make sure that the digital/analog multimeter, COM-1793, is set to the DIODE position.

(a) Attach the black (negative) lead of the digital/analog multimeter, COM-1793, to Pin 1 of connector D10101 as a ground reference when taking measurements in the subsequent steps.

SUBTASK 23-71-22-720-015

(3) Do the check that follows in no more than nine (9) minutes after you opened the circuit breaker:

(a) Do these steps for RIPS Maintenance Status Check:

1) At Maintenance Port (Connector D10101), measure between pin 1 and pin 10 for the status of the RIPS MAINT REQ (WDM 23-71-01).

2) Make sure that the digital/analog multimeter, COM-1793, shows “OL” (out of limit).

(b) Do these steps for RIPS No-Fault Status Check:

1) At Maintenance Port (Connector D10101), measure between pin 1 and pin 6 for the status of the RIPS NO FAULT (WDM 23-71-01).

2) Make sure that the digital/analog multimeter, COM-1793 shows a voltage less than “0.700 V”.

H. Put the Airplane Back to Its Usual Condition

SUBTASK 23-71-22-420-014

(1) Install the protective dust-cap cover on the Maintenance Port (Connector D10101).

SUBTASK 23-71-22-410-003

(2) Close the lowered ceiling panel in the aft passenger compartment.

ECCN 9E991 BOEING PROPRIETARY - See title page for details

SUBTASK 23-71-22-860-032

(3) Remove the safety tag and close this circuit breaker:

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
D	6	C01948	VOICE RCDR/RIPS

END OF TASK

ECCN 9E991 BOEING PROPRIETARY - See title page for details

FLIGHT DECK ENTRY VIDEO SURVEILLANCE SYSTEM - MAINTENANCE PRACTICES

1. **General**
   A. This procedure has these tasks:
      (1) Video Surveillance System Deactivation
      (2) Video Surveillance System Activation

TASK 23-75-00-040-801

2. **Video Surveillance System - Deactivation**
(Figure 201)

A. General

(1) This procedure removes the electrical power to the Video Surveillance System.

B. Location Zones

Zone	Area
211	Flight Compartment - Left
212	Flight Compartment - Right

C. Procedure

SUBTASK 23-75-00-860-008

(1) Open this circuit breaker and install safety tag:

F/O Electrical System Panel, P6-12

Row	Col	Number	Name
LOM 412, 415, 416, 423, 424, 427, 428, 437-439, 441, 443-445, 450, 458-460, 464-999			
B	1	C01641	SURVEILLANCE CAMERA

LOM 412, 415, 416, 420, 423, 424, 427, 428, 437-439, 441, 443-445, 450, 458-460, 464-999

D. Video Surveillance System - Tryout

SUBTASK 23-75-00-211-001

NOTE: This tryout is to make sure the Video Surveillance system is in a zero energy state.

(1) Do the following steps to verify the Video System is off:
   (a) Select a camera on the Camera Control Panel.
   (b) View the Multifunctional Display or Electronic Flight Bag.
(2) If the Video Surveillance System is off there will be no display from any of the cameras.

END OF TASK

ECCN 9E991 BOEING PROPRIETARY - See title page for details

Video Control Panel
Figure 201/23-75-00-990-802 (Sheet 1 of 2)

ECCN 9E991 BOEING PROPRIETARY - See title page for details

FLIGHT COMPARTMENT

VIDEO CONTROL PANEL

A

2360810 S0000539356_V2

Video Control Panel
Figure 201/23-75-00-990-802 (Sheet 2 of 2)

ECCN 9E991 BOEING PROPRIETARY - See title page for details

TASK 23-75-00-440-801

3. Video Surveillance System - Activation

(Figure 201)

A. General

(1) This procedure adds electrical power to the Video Surveillance System.

B. Location Zones

Zone	Area
211	Flight Compartment - Left
212	Flight Compartment - Right

C. Procedure

SUBTASK 23-75-00-860-009

(1)

Remove the safety tag and close this circuit breaker:

F/O Electrical System Panel, P6-12

Row	Col	Number	Name
LOM 412, 415, 416, 423, 424, 427, 428, 437-439, 441, 443-445, 450, 458-460, 464-999			
B	1	C01641	SURVEILLANCE CAMERA

END OF TASK

ECCN 9E991 BOEING PROPRIETARY - See title page for details

FLIGHT DECK ENTRY VIDEO SURVEILLANCE SYSTEM - ADJUSTMENT/TEST

1. General

A. This procedure has one task:

(1) System test.

TASK 23-75-00-730-804

2. Flight Deck Entry Video Surveillance System - System Test

A. References

Reference	Title
31-62-00 P/B 501	COMMON DISPLAY SYSTEM - ADJUSTMENT/TEST

B. Location Zones

Zone	Area
211	Flight Compartment - Left
212	Flight Compartment - Right

C. Prepare for the Procedure

SUBTASK 23-75-00-865-002

(1) Make sure that these circuit breakers are closed:

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
E	12	C01373	DISPLAY CTR LWR

F/O Electrical System Panel, P6-11

Row	Col	Number	Name
LOM 412, 415, 416, 423, 424, 427, 428, 437-439, 441, 443-445, 450, 458-460, 464-999			
A	8	C01627	CABIN UTIL RLY PWR

F/O Electrical System Panel, P6-12

Row	Col	Number	Name
B	1	C01641	SURVEILLANCE CAMERA

LOM 412, 415, 416, 420, 423, 424, 427, 428, 437-439, 441, 443-445, 450, 458-460, 464-999

SUBTASK 23-75-00-860-006

(2) On the electric meters, battery and galley power module, P5-13, make sure that the IFE/PASS SEAT switch is set to ON.

SUBTASK 23-75-00-860-004

(3) Make sure the Common Display System (CDS) is serviceable, (COMMON DISPLAY SYSTEM - ADJUSTMENT/TEST, PAGEBLOCK 31-62-00/501).

D. Test Procedure

LOM 412, 415, 416, 420, 423, 424, 437, 438, 443-445, 458-460, 465-999

SUBTASK 23-75-00-710-011

(1) Do the steps that follow from the captain's, or first officer's seat:

(a) On the captain's and first officer's CDS Display Select Panel (DSP), set the LOWER DU to NORM.

ECCN 9E991 BOEING PROPRIETARY - See title page for details

LOM 412, 415, 416, 420, 423, 424, 427, 428, 437-439, 441, 443-445, 450, 458-460, 464-999

SUBTASK 23-75-00-710-012

(2) Set the rotary switch on the camera control panel, M3000, to C (center), and push the DSPL (display) button.

(a) Make sure that the lower center multi-function display, N190, shows video from camera 1, M3002.

NOTE: Camera 1 is installed at approximately STA 285, BL 0.

(b) Make sure that the video from the camera is in correct direction.

LOM 412, 415, 416, 420, 423, 424

SUBTASK 23-75-00-710-013

(3) Set the rotary switch on the camera control panel, M3000, to L (left), and push the DSPL button.

(a) Make sure that the lower center multi-function display, N190, shows video from camera 2, M3003.

NOTE: Camera 2 is installed at approximately STA 340, BL 0.

(b) Make sure that the video from the camera is in correct direction.

LOM 427, 428, 437-439, 441, 443-445, 450, 458-460, 464-999

SUBTASK 23-75-00-710-018

(4) Set the rotary switch on the camera control panel, M3000, to L (left), and push the DSPL button.

(a) Make sure that the lower center multi-function display, N190, shows video from camera 2, M3026.

NOTE: Camera 2 is installed at approximately STA 338, LBL 28.

(b) Make sure that the video from the camera is in correct direction.

LOM 412, 415, 416, 420, 423, 424

SUBTASK 23-75-00-710-014

(5) Set the rotary switch on the camera control panel, M3000, to R (right), and push the DSPL button.

(a) Make sure that the lower center multi-function display, N190, shows video from camera 3, M3004.

NOTE: Camera 3 is installed at approximately STA 300, RBL 17.

(b) Make sure that the video from the camera is in correct direction.

LOM 427, 428, 437-439, 441, 443-445, 450, 458-460, 464-999

SUBTASK 23-75-00-710-019

(6) Set the rotary switch on the camera control panel, M3000, to R (right), and push the DSPL button.

(a) Make sure that the lower center multi-function display, N190, shows video from camera 3, M3004.

NOTE: Camera 3 is installed at approximately STA 300, RBL 23.

(b) Make sure that the video from the camera is in correct direction.

END OF TASK

ECCN 9E991 BOEING PROPRIETARY - See title page for details

VIDEO CAMERAS - REMOVAL/INSTALLATION

1. General

A. This procedure has these tasks:

(1) Removal of the cameras for the Flight Deck Entry Video Surveillance System (FDEVSS).

(2) Installation of the cameras for the FDEVSS.

B. The camera assemblies are installed in the ceiling above the flight compartment, and aft of the flight deck security door.

TASK 23-75-02-000-804

2. Video Camera - Removal

(Figure 401 or Figure 402 or Figure 403)

A. General

LOM 412, 415, 416, 420, 423, 424

(1) This removal task is for these cameras:

(a) Camera 1, M3002, installed on the back-side of the forward lowered ceiling close-out.

(b) Camera 2, M3003, installed on the appearance-side of the forward entry ceiling assembly.

(c) Camera 3, M3004, installed on the appearance-side of the forward right-hand doorway liner panel.

NOTE: On the camera Control Panel (CP), position R is camera 3, position C is camera 1, and position L is camera 2.

LOM 427, 428, 437-439, 441, 443-445, 450, 458-460, 464-999

(2) This removal task is for these cameras:

(a) Camera 1, M3002, installed on the back-side of the forward lowered ceiling close-out.

(b) Camera 2, M3026, installed aft of door 1L.

(c) Camera 3, M3004, installed forward of door 1R, in the ceiling panel.

NOTE: On the camera CP, position R is camera 3, position C is camera 1, and position L is camera 2.

LOM 412, 415, 416, 420, 423, 424, 427, 428, 437-439, 441, 443-445, 450, 458-460, 464-999

B. References

Reference	Title
20-40-12-000-802	ESDS Handling for Metal Encased Unit Removal (P/B 201)
20-40-12-400-804	Conductive Dust Cap and Connector Cover Installation (P/B 201)
25-21-31-420-801	Forward Entry Doorway Sidewall Lining Panel - Removal (P/B 401)
25-21-71-000-801	Lowered Ceiling Removal (P/B 401)
25-21-71-000-805	Close Out Panel Removal, Forward Lowered Ceiling (P/B 401)
25-21-71-000-815	Lowered Ceiling Removal (P/B 401)
25-21-71-000-819	Close Out Ceiling Panel Removal (P/B 401)

ECCN 9E991 BOEING PROPRIETARY - See title page for details

C. Tools/Equipment

Reference	Description
STD-3733	Pliers - Long Nosed

D. Location Zones

Zone	Area
220	Subzone - Passenger Compartment - Body Station 259.50 to 360.00

E. Prepare for Removal

SUBTASK 23-75-02-865-006

(1) Open this circuit breaker and install safety tag:

F/O Electrical System Panel, P6-12

Row	Col	Number	Name
LOM 412, 415, 416, 423, 424, 427, 428, 437-439, 441, 443-445, 450, 458-460, 464-999			
B	1	C01641	SURVEILLANCE CAMERA

LOM 412, 415, 416, 420, 423, 424, 427, 428, 437-439, 441, 443-445, 450, 458-460, 464-999

SUBTASK 23-75-02-010-002

(2) Get access to the applicable camera:

(a) To get access to camera 1, do this task: Close Out Panel Removal, Forward Lowered Ceiling, TASK 25-21-71-000-805 or Close Out Ceiling Panel Removal, TASK 25-21-71-000-819.

(b) If it is necessary, open the applicable ceiling panels, and doorway liner, do these tasks: Forward Entry Doorway Sidewall Lining Panel - Removal, TASK 25-21-31-420-801 or Lowered Ceiling Removal, TASK 25-21-71-000-801 or Lowered Ceiling Removal, TASK 25-21-71-000-815.

F. Video Camera Removal

SUBTASK 23-75-02-020-005

CAUTION DO NOT TOUCH THE CONNECTOR PINS OR OTHER CONDUCTORS ON THE UNIT. IF YOU TOUCH THESE CONDUCTORS, ELECTROSTATIC DISCHARGE CAN CAUSE DAMAGE TO THE UNIT.

CAUTION DO NOT PULL, TWIST, OR BEND THE CAMERA CABLE MORE THAN THE MINIMUM RADIUS OF 1 INCH (25 MM). IF YOU BEND, PULL, OR TWIST THE CABLE TOO MUCH, DAMAGE TO THE CABLE CAN OCCUR.

(1) Before you touch the camera, do this task: ESDS Handling for Metal Encased Unit Removal, TASK 20-40-12-000-802.

LOM 412, 415, 416, 420, 423, 424, 437, 438, 443-445, 458-460, 465-999

SUBTASK 23-75-02-020-007

(2) For the cameras 2 or 3 with the shroud [6] mounted on the outside of the panel, do these steps:

(a) Remove the screws [3] that hold the shroud [6] to the panel.

(b) Use long-nosed pliers, STD-3733, to remove the camera snap ring [5].

(c) Carefully remove the camera assembly [1] from the shroud [6].

ECCN 9E991 BOEING PROPRIETARY - See title page for details

(d) Disconnect the electrical connector [7].

(e) Install a protective cover on the electrical connector [7] (TASK 20-40-12-400-804).

SUBTASK 23-75-02-020-006

(3) For the camera 1 and support [2] mounted inside the close-out panel, do these steps to remove the camera assembly [1]:

(a) Remove the screws [3] and washers [4] from the support [2].

(b) Use long-nosed pliers, STD-3733, to remove the camera snap ring [5].

(c) Carefully remove the camera assembly [1] from the support [2].

(d) Disconnect the electrical connector [7].

(e) Install a protective cover on the electrical connector [7] (TASK 20-40-12-400-804).

LOM 427, 428, 439, 441, 450, 464

SUBTASK 23-75-02-020-010

(4) For the camera 1 with the support [12] mounted inside the close-out panel, do these steps to remove the camera assembly [1]:

(a) Disconnect the electrical connector [7] from Camera Control Unit (CCU) 1, M3005.

(b) If it is necessary, remove the screws [15], washers [16], and support [12].

(c) Remove the screws [18] and washers [19] from support [12].

(d) Carefully remove the camera assembly [1] from the support [12].

SUBTASK 23-75-02-020-011-001

(5) For the cameras 2 or 3 with the support [12] mounted outside the close-out panel, do these steps to remove the camera assembly [1]:

(a) Disconnect the electrical connector [7] from CCU 2, M3007 or CCU 3, M3009.

(b) Remove the electrical connector [7] from the bonded retainer strap [10].

(c) If it is necessary, remove the screws [11], support [13], or support [17].

(d) Remove the screws [18] and washers [19] from support [13] or support [17].

(e) Carefully remove the camera assembly [1].

END OF TASK

ECCN 9E991 BOEING PROPRIETARY - See title page for details

U67586 S0000212995_V2

FDEVSS Camera Installations
Figure 401/23-75-02-990-805 (Sheet 1 of 2)

ECCN 9E991 BOEING PROPRIETARY - See title page for details

CAMERA 3

C

U67642 S0000213467_V3

FDEVSS Camera Installations
Figure 401/23-75-02-990-805 (Sheet 2 of 2)

ECCN 9E991 BOEING PROPRIETARY - See title page for details

1583058 S0000296334_V3

FDEVSS Camera Installations
Figure 402/23-75-02-990-807 (Sheet 1 of 2)

ECCN 9E991 BOEING PROPRIETARY - See title page for details

CAMERA 3

C

U67642 S0000213467_V3

FDEVSS Camera Installations
Figure 402/23-75-02-990-807 (Sheet 2 of 2)

ECCN 9E991 BOEING PROPRIETARY - See title page for details

FDEVSS Camera Installation
Figure 403/23-75-02-990-808

ECCN 9E991 BOEING PROPRIETARY - See title page for details

TASK 23-75-02-400-804

3. Video Camera - Installation

(Figure 401 or Figure 402 or Figure 403)

A. References

Reference	Title
20-40-12-400-802	ESDS Handling for Metal Encased Unit Installation (P/B 201)
23-75-00-730-804	Flight Deck Entry Video Surveillance System - System Test (P/B 501)
25-21-31-420-802	Forward Entry Doorway Sidewall Lining Panel - Installation (P/B 401)
25-21-71-400-801	Lowered Ceiling Installation (P/B 401)
25-21-71-400-805	Close Out Panel Installation, Forward Lowered Ceiling (P/B 401)
25-21-71-400-815	Lowered Ceiling Installation (P/B 401)
25-21-71-400-819	Close Out Ceiling Panel Installation (P/B 401)

B. Tools/Equipment

Reference	Description
STD-3733	Pliers - Long Nosed

C. Consumable Materials

Reference	Description	Specification
C00039	Primer - Interior Decorative Urethane, White	BMS10-83 Type I
C50333	Coating - Interior Decorative Urethane Enamel, Color BAC702	BMS10-83 Type II
C50437	Coating - Interior Decorative Urethane Enamel, Color BAC870	BMS10-83 Type II

D. Expendables/Parts

AMM Item	Description	AIPC Reference	AIPC Effectivity
1	Camera assembly	23-75-02-01-005	LOM 437, 438, 443-445, 458-460, 465-999
		23-75-02-01-105	LOM 437, 438, 443-445, 458-460, 465-999
		23-75-02-01-205	LOM 437, 438, 443-445, 458-460, 465-999
		23-75-02-03-005	LOM 412, 415, 416, 420, 423, 424
		23-75-02-03-105	LOM 412, 415, 416, 420, 423, 424
		23-75-02-03-155	LOM 412, 415, 416, 420, 423, 424
14	Camera	23-75-11-01-050	LOM 427, 428, 439, 441, 450, 464
		23-75-11-01-145	LOM 427, 428, 439, 441, 450, 464
		23-75-11-01-250	LOM 427, 428, 439, 441, 450, 464

ECCN 9E991 BOEING PROPRIETARY - See title page for details

E. Location Zones

Zone	Area
220	Subzone - Passenger Compartment - Body Station 259.50 to 360.00

F. Video Camera Installation

SUBTASK 23-75-02-865-009

(1) Make sure that this circuit breaker is open and has safety tag:

F/O Electrical System Panel, P6-12

Row	Col	Number	Name
LOM 412, 415, 416, 423, 424, 427, 428, 437-439, 441, 443-445, 450, 458-460, 464-999			
B	1	C01641	SURVEILLANCE CAMERA

LOM 412, 415, 416, 420, 423, 424, 427, 428, 437-439, 441, 443-445, 450, 458-460, 464-999

SUBTASK 23-75-02-869-001

CAUTION DO NOT TOUCH THE CONNECTOR PINS, OR OTHER CONDUCTORS. IF YOU TOUCH THESE CONDUCTORS, ELECTROSTATIC DISCHARGE CAN CAUSE DAMAGE TO THE COMPONENTS.

CAUTION DO NOT PULL, TWIST, OR BEND THE CAMERA CABLE MORE THAN THE MINIMUM RADIUS OF 1 INCH (25 MM). IF YOU BEND, PULL, OR TWIST THE CABLE TOO MUCH, DAMAGE TO THE CABLE CAN OCCUR.

(2) Before you touch the component, do this task: ESDS Handling for Metal Encased Unit Installation, TASK 20-40-12-400-802.

LOM 412, 415, 416, 420, 423, 424, 437, 438, 443-445, 458-460, 465-999

SUBTASK 23-75-02-420-009

(3) To install the camera 1 where the support [2] on the non-appearance side of the liner or panel, do these steps:

(a) Put the camera assembly [1] into the support [2].

(b) Use long-nosed pliers, STD-3733, to install the snap ring [5].

1) Make sure that the camera assembly [1] is set in the correct position in the support [2].

2) Make sure that the camera assembly [1] is held firmly in place with the snap ring [5].

(c) Remove the protective cover from the electrical connector [7].

(d) Put the support [2] near to the mounting position.

(e) Connect the electrical connector [7] to the camera assembly [1].

(f) Put the support [2] in its correct mounting position on the panel.

NOTE: If the camera support is incorrect direction, it can cause the camera view angle at 180 degree opposite direction.

(g) Install the screws [3] that attach the support [2] to the ceiling panel.

SUBTASK 23-75-02-420-010

(4) To install the cameras 2 or 3, where the shroud [6] shroud is installed on the appearance-side of the liner, or panel, do these steps:

(a) Put the camera assembly [1] into the video camera shroud [6].

ECCN 9E991 BOEING PROPRIETARY - See title page for details

(b) Use long-nosed pliers, STD-3733, to install the snap ring [5].

(c) Remove the protective cover from the electrical connector [7].

(d) Put the shroud [6] near to the mounting position.

(e) Connect the electrical connector [7] to the video camera.

(f) Put the shroud [6] in its correct mounting position on the panel.

NOTE: If the camera shroud is incorrect direction, it can cause the camera view angle at 180 degree opposite direction.

(g) Install the screws [3] that attach the shroud [6] to the panel.

LOM 427, 428, 439, 441, 450, 464

SUBTASK 23-75-02-420-012

(5) To install camera 1, M3002, do these steps:

CAUTION DO NOT PULL, TWIST, OR BEND THE CAMERA CABLE MORE THAN THE MINIMUM RADIUS OF 1 IN. (25 MM). IF YOU BEND, PULL, OR TWIST THE CABLE TOO MUCH, DAMAGE TO THE CABLE CAN OCCUR.

(a) Attach the camera [14] to the support [12].

1) Make sure that the connector wire facing towards the FWD of the airplane.

NOTE: If the camera shroud is incorrect direction, it can cause the camera view angle at 180 degree opposite direction.

2) Install the screws [18] and washers [19].

NOTE: The two screws (M2 x 4), two metal, and two nylon washers (M2.5), are details of the camera assembly. Put the nylon washers adjacent to the plastic camera housing.

(b) If it is removed, attach the support [12] to the ceiling panel with screws [15] and washers [16].

(c) Connect the electrical connector [7] to Camera Control Unit (CCU) 1, M3005.

SUBTASK 23-75-02-420-011

(6) To install camera 2, M3003, do these steps:

CAUTION DO NOT PULL, TWIST, OR BEND THE CAMERA CABLE MORE THAN THE MINIMUM RADIUS OF 1 IN. (25 MM). IF YOU BEND, PULL, OR TWIST THE CABLE TOO MUCH, DAMAGE TO THE CABLE CAN OCCUR.

(a) Attach the camera [14] to the support [13].

1) Make sure that the connector wire facing towards the AFT of the airplane.

NOTE: If the camera shroud is incorrect direction, it can cause the camera view angle at 180 degree opposite direction.

2) Install the screws [18] and washers [19].

NOTE: The two screws (M2 x 4), two metal, and two nylon washers (M2.5), are details of the camera assembly. Put the nylon washers adjacent to the plastic camera housing.

(b) If it is removed, attach the support [13] to the ceiling panel with the screws [11].

ECCN 9E991 BOEING PROPRIETARY - See title page for details

LOM 427, 428, 439, 441, 450, 464 (Continued)

1) Apply primer, C00039, and coating, C50333, or coating, C50437, to the heads of the screws [11].

(c) Attach the electrical connector [7] to the bonded retainer strap [10].

(d) Install the electrical connector [7] to CCU 2, M3007.

SUBTASK 23-75-02-420-013

(7) To install camera 3, M3004, do these steps:

CAUTION	DO NOT PULL, TWIST, OR BEND THE CAMERA CABLE MORE THAN THE MINIMUM RADIUS OF 1 IN. (25 MM). IF YOU BEND, PULL, OR TWIST THE CABLE TOO MUCH, DAMAGE TO THE CABLE CAN OCCUR.

(a) From the appearance-side of the doorway liner, attach the camera [14] to the support [17].

1) Make sure that the connector wire facing towards the FWD of the airplane.

NOTE: If the camera shroud is incorrect direction, it can cause the camera view angle at 180 degree opposite direction.

2) Install the screws [18] and washers [19].

NOTE: The two screws (M2 x 4), two metal, and two nylon washers (M2.5), are details of the camera assembly. Put the nylon washers adjacent to the plastic camera housing.

(b) If it is removed, attach the support [17] to the doorway liner with screws [11].

1) Apply primer, C00039, and coating, C50333, or coating, C50437, to the heads of the screws [11].

(c) Attach the electrical connector [7] to the bonded retainer strap [10].

(d) Install the electrical connector [7] to CCU 3, M3009.

LOM 412, 415, 416, 420, 423, 424, 427, 428, 437-439, 441, 443-445, 450, 458-460, 464-999

G. Put the Airplane Back to Its Usual Condition

SUBTASK 23-75-02-860-002-001

(1) Remove the safety tag and close this circuit breaker:

F/O Electrical System Panel, P6-12

Row	Col	Number	Name
LOM 412, 415, 416, 423, 424, 427, 428, 437-439, 441, 443-445, 450, 458-460, 464-999			
B	1	C01641	SURVEILLANCE CAMERA

LOM 412, 415, 416, 420, 423, 424, 427, 428, 437-439, 441, 443-445, 450, 458-460, 464-999

SUBTASK 23-75-02-410-004

(2) For cameras installed from the non-appearance side of the panel, put the close-out panel back to the normal position, do this task: Close Out Panel Installation, Forward Lowered Ceiling, TASK 25-21-71-400-805 or Close Out Ceiling Panel Installation, TASK 25-21-71-400-819.

SUBTASK 23-75-02-410-005

(3) Put the applicable ceiling panels, and doorway liner back to their usual condition, do these tasks: Forward Entry Doorway Sidewall Lining Panel - Installation, TASK 25-21-31-420-802 and Lowered Ceiling Installation, TASK 25-21-71-400-801 or Lowered Ceiling Installation, TASK 25-21-71-400-815.

ECCN 9E991 BOEING PROPRIETARY - See title page for details

H. Video Camera Installation Test

SUBTASK 23-75-02-700-001

(1) Do this task: Flight Deck Entry Video Surveillance System - System Test, TASK 23-75-00-730-804.

END OF TASK

ECCN 9E991 BOEING PROPRIETARY - See title page for details

CAMERA CONTROL PANEL ASSEMBLY- REMOVAL/INSTALLATION

1. General

A. This procedure has the these tasks:

(1) Removal of the camera control panel.

(2) Installation of the camera control panel.

B. The camera control panel is installed on the aisle stand P8 panel, in the flight compartment.

LOM 412, 415, 416, 420, 423, 424, 437, 438, 443-445, 458-460, 465-999

TASK 23-75-03-000-802

2. Flight Deck Camera Select Panel - Removal

A. Location Zones

Zone	Area
210	Subzone - Control Compartment - Body Station 178.00 to Body Station 259.50

B. Prepare for Removal

SUBTASK 23-75-03-865-009

(1) Open this circuit breaker and install safety tag:

F/O Electrical System Panel, P6-12

Row	Col	Number	Name
LOM 412, 415, 416, 423, 424, 437, 438, 443-445, 458-460, 465-999			
B	1	C01641	SURVEILLANCE CAMERA

LOM 412, 415, 416, 420, 423, 424, 437, 438, 443-445, 458-460, 465-999

C. Removal Procedure

SUBTASK 23-75-03-020-004

(1) Remove the control panel [1].

(a) Loosen the captive fasteners [2] on the control panel [1].

(b) Remove the control panel [1] to get access to the electrical connector [3].

(c) Disconnect the electrical connector [3] from the control panel [1].

(d) Put protective cover on electrical connector.

END OF TASK

ECCN 9E991 BOEING PROPRIETARY - See title page for details

Flight Deck Camera Select Panel - Installation
Figure 401/23-75-03-990-802

ECCN 9E991 BOEING PROPRIETARY - See title page for details

TASK 23-75-03-400-802

3. Flight Deck Camera Select Panel - Installation

A. References

Reference	Title
23-75-00-730-804	Flight Deck Entry Video Surveillance System - System Test (P/B 501)
24-22-00-860-812	Remove Electrical Power (P/B 201)

B. Expendables/Parts

AMM Item	Description	AIPC Reference	AIPC Effectivity
1	Control panel	23-75-03-03-025	LOM 416, 420, 437, 438, 458-460
		23-75-03-04-025	LOM 443, 444
		23-75-03-10-010	LOM 412, 415, 423, 424, 445
		23-75-03-11-010	LOM 465-999
		31-11-91-82R-355	LOM 412, 415, 423, 424
		31-11-91-83H-405	LOM 416
		31-11-91-83M-355	LOM 420
		31-11-91-87T-655	LOM 437, 438
		31-11-91-88G-605	LOM 443, 444
		31-11-91-88L-655	LOM 465
		31-11-91-89R-655	LOM 445
		31-11-91-91G-755	LOM 466-999

C. Location Zones

Zone	Area
210	Subzone - Control Compartment - Body Station 178.00 to Body Station 259.50

D. Prepare for Installation

SUBTASK 23-75-03-865-007

(1) Make sure that this circuit breaker is open:

F/O Electrical System Panel, P6-12

Row	Col	Number	Name
LOM 412, 415, 416, 423, 424, 437, 438, 443-445, 458-460, 465-999			
B	1	C01641	SURVEILLANCE CAMERA

LOM 412, 415, 416, 420, 423, 424, 437, 438, 443-445, 458-460, 465-999

ECCN 9E991 BOEING PROPRIETARY - See title page for details

LOM 412, 415, 416, 420, 423, 424, 437, 438, 443-445, 458-460, 465-999 (Continued)

E. Installation Procedure

SUBTASK 23-75-03-430-001

> **CAUTION** DO NOT TOUCH THE CONNECTOR PINS OR OTHER CONDUCTORS ON THE UNIT. IF YOU TOUCH THESE CONDUCTORS, ELECTROSTATIC DISCHARGE CAN CAUSE DAMAGE TO THE UNIT.

(1) Connect the electrical connector to the control panel.

SUBTASK 23-75-03-420-004

(2) Install the control panel [1] into the aisle stand.

(a) Tighten the four captive fasteners [2] four quarter-turn fasteners.

SUBTASK 23-75-03-865-008

(3) Remove the safety tag and close this circuit breaker:

F/O Electrical System Panel, P6-12

Row	Col	Number	Name
LOM 412, 415, 416, 423, 424, 437, 438, 443-445, 458-460, 465-999			
B	1	C01641	SURVEILLANCE CAMERA

LOM 412, 415, 416, 420, 423, 424, 437, 438, 443-445, 458-460, 465-999

SUBTASK 23-75-03-710-003

(4) Do a check of the control panel functions.

Flight Deck Entry Video Surveillance System - System Test, TASK 23-75-00-730-804

F. Return the Aircraft to its Usual Condition

SUBTASK 23-75-03-840-003

(1) Remove electrical power, if it is not required for other tasks.

Remove Electrical Power, TASK 24-22-00-860-812.

END OF TASK

LOM 427, 428, 439, 441, 450, 464

TASK 23-75-03-000-803

4. Control Panel - Removal

Figure 402

A. General

(1) This task shows how to remove the camera control panel for the flight deck entry video surveillance system.

B. Location Zones

Zone	Area
210	Subzone - Control Compartment - Body Station 178.00 to Body Station 259.50

ECCN 9E991 BOEING PROPRIETARY - See title page for details

LOM 427, 428, 439, 441, 450, 464 (Continued)

C. Removal Procedure

SUBTASK 23-75-03-865-004

(1) Open this circuit breaker and install safety tag:

F/O Electrical System Panel, P6-12

Row	Col	Number	Name
B	1	C01641	SURVEILLANCE CAMERA

SUBTASK 23-75-03-030-001

(2) Loosen the captive fasteners [2] on the control panel [1].

SUBTASK 23-75-03-020-003

(3) Lift the control panel [1] to get access to the electrical connector [3].

SUBTASK 23-75-03-030-002

CAUTION

DO NOT TOUCH THE CONNECTOR PINS OR OTHER CONDUCTORS ON THE UNIT. IF YOU TOUCH THESE CONDUCTORS, ELECTROSTATIC DISCHARGE CAN CAUSE DAMAGE TO THE UNIT.

(4) Disconnect the electrical connector [3] from the control panel [1].

SUBTASK 23-75-03-869-001

(5) Put a protective cover on the electrical connector [3].

END OF TASK

ECCN 9E991 BOEING PROPRIETARY - See title page for details

Camera Control Panel
Figure 402/23-75-03-990-803

ECCN 9E991 BOEING PROPRIETARY - See title page for details

TASK 23-75-03-400-803

5. Camera Control Panel - Installation

A. General

(1) This task shows how to install the camera control panel for the flight deck entry video surveillance system.

B. References

Reference	Title
23-75-00-730-804	Flight Deck Entry Video Surveillance System - System Test (P/B 501)
24-22-00-860-812	Remove Electrical Power (P/B 201)

C. Expendables/Parts

AMM Item	Description	AIPC Reference	AIPC Effectivity
1	Control panel	23-75-03-06-010	LOM 464
		23-75-03-08-010	LOM 450
		23-75-03-10-010	LOM 439, 441
		23-75-03-11-010	LOM 427, 428
		31-11-91-87H-755	LOM 439, 441
		31-11-91-87J-605	LOM 427, 428
		31-11-91-89V-605	LOM 450

D. Location Zones

Zone	Area
210	Subzone - Control Compartment - Body Station 178.00 to Body Station 259.50

E. Installation Procedure

SUBTASK 23-75-03-865-005

(1) Make sure that this circuit breaker is open and has safety tag:

F/O Electrical System Panel, P6-12

Row	Col	Number	Name
B	1	C01641	SURVEILLANCE CAMERA

SUBTASK 23-75-03-420-002

(2) Install the camera control panel as follows:

(a) Remove the protective cover from the electrical connector [3].

(b) Examine the electrical connector [3] for dirt, broken pins, and damage.

(c) Connect the electrical connector [3] to the control panel [1].

(d) Lower the control panel [1] into the aisle stand.

(e) Tighten the captive fasteners [2] on the control panel [1].

ECCN 9E991 BOEING PROPRIETARY - See title page for details

LOM 427, 428, 439, 441, 450, 464 (Continued)

SUBTASK 23-75-03-865-006

(3) Remove the safety tag and close this circuit breaker:

F/O Electrical System Panel, P6-12

Row	Col	Number	Name
B	1	C01641	SURVEILLANCE CAMERA

SUBTASK 23-75-03-710-002

(4) Do this task: Flight Deck Entry Video Surveillance System - System Test, TASK 23-75-00-730-804.

F. Put the Airplane Back to Its Usual Condition

SUBTASK 23-75-03-840-002

(1) Remove electrical power if it is not necessary for other tasks. This is the task:

Remove Electrical Power, TASK 24-22-00-860-812.

——— END OF TASK ———

ECCN 9E991 BOEING PROPRIETARY - See title page for details

VIDEO SWITCH - REMOVAL/INSTALLATION

1. General

A. This procedure has these tasks:

(1) Removal of the video switch.

(2) Installation of the video switch.

B. The video switch, M3029, is installed in a frame, above the ceiling panel, at STA 390.

TASK 23-75-07-000-801

2. Video Switch - Removal

A. General

(1) The video switch, M3029, is a component of the Flight Deck Entry Video Surveillance System (FDEVSS).

B. References

Reference	Title
20-40-12-000-802	ESDS Handling for Metal Encased Unit Removal (P/B 201)
25-21-71-000-815	Lowered Ceiling Removal (P/B 401)

C. Location Zones

Zone	Area
222	Passenger Compartment - Aft of Control Compartment to Forward Entry Door - Right

D. Prepare for Removal

SUBTASK 23-75-07-865-002

(1) Open this circuit breaker and install safety tag:

F/O Electrical System Panel, P6-12

Row	Col	Number	Name
B	1	C01641	SURVEILLANCE CAMERA

SUBTASK 23-75-07-010-001

(2) Get access to the video switch.

NOTE: The lowered ceiling panel is located at STA 390.

(a) Do this task: Lowered Ceiling Removal, TASK 25-21-71-000-815.

E. Video Switch Removal

SUBTASK 23-75-07-865-001

(1) Make sure that this circuit breaker is open and has safety tag:

F/O Electrical System Panel, P6-12

Row	Col	Number	Name
B	1	C01641	SURVEILLANCE CAMERA

ECCN 9E991 BOEING PROPRIETARY - See title page for details

SUBTASK 23-75-07-800-001

CAUTION

DO NOT TOUCH THE CONNECTOR PINS, OR OTHER CONDUCTORS. IF YOU TOUCH THESE CONDUCTORS, ELECTROSTATIC DISCHARGE CAN CAUSE DAMAGE TO THE COMPONENTS.

(2) Before the video switch [1] is touched, do this task: ESDS Handling for Metal Encased Unit Removal, TASK 20-40-12-000-802.

SUBTASK 23-75-07-030-001

(3) On the video switch [1], disconnect the electrical connector from the J2 receptacle.

SUBTASK 23-75-07-030-002

(4) On the video switch [1], disconnect the electrical bond cable from the bond stud.

SUBTASK 23-75-07-020-003

(5) Remove the captive screws that attach the video switch [1] to the support, and remove the video switch.

(a) Put protective covers on the J2 receptacle, and electrical cable connector.

END OF TASK

ECCN 9E991 BOEING PROPRIETARY - See title page for details

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Video Switch Installation
Figure 401/23-75-07-990-802

ECCN 9E991 BOEING PROPRIETARY - See title page for details

TASK 23-75-07-400-801

3. Video Switch - Installation

A. General

(1) The video switch, M3029, is a component of the Flight Deck Entry Video Surveillance System (FDEVSS).

B. References

Reference	Title
20-40-12-400-802	ESDS Handling for Metal Encased Unit Installation (P/B 201)
23-75-00-730-804	Flight Deck Entry Video Surveillance System - System Test (P/B 501)
25-21-71-000-815	Lowered Ceiling Removal (P/B 401)
25-21-71-400-815	Lowered Ceiling Installation (P/B 401)

C. Location Zones

Zone	Area
222	Passenger Compartment - Aft of Control Compartment to Forward Entry Door - Right

D. Prepare for Installation

SUBTASK 23-75-07-865-003

(1) Open this circuit breaker:

F/O Electrical System Panel, P6-12

Row	Col	Number	Name
B	1	C01641	SURVEILLANCE CAMERA

SUBTASK 23-75-07-010-002

(2) Make sure that you have access to the installation area (TASK 25-21-71-000-815).

NOTE: The location is at STA 390 above the ceiling panel.

E. Video Switch Installation

SUBTASK 23-75-07-865-004

(1) Make sure that this circuit breaker is open and has safety tag:

F/O Electrical System Panel, P6-12

Row	Col	Number	Name
B	1	C01641	SURVEILLANCE CAMERA

SUBTASK 23-75-07-800-002

> **CAUTION**
> DO NOT TOUCH THE CONNECTOR PINS, OR OTHER CONDUCTORS. IF YOU TOUCH THESE CONDUCTORS, ELECTROSTATIC DISCHARGE CAN CAUSE DAMAGE TO THE COMPONENTS.

(2) Before the video switch [1] is touched, do this task: ESDS Handling for Metal Encased Unit Installation, TASK 20-40-12-400-802.

SUBTASK 23-75-07-420-001

(3) Put the video switch [1] in the support, and attach with the captive screws on the base.

SUBTASK 23-75-07-430-001

(4) On the video switch [1], connect the electrical bonding cable to the bonding stud.

ECCN 9E991 BOEING PROPRIETARY - See title page for details

SUBTASK 23-75-07-430-002

(5) On the video switch [1], connect the electrical connector to the 80-pin J2 receptacle.

SUBTASK 23-75-07-865-005

(6) Remove the safety tag and close this circuit breaker:

F/O Electrical System Panel, P6-12

Row	Col	Number	Name
B	1	C01641	SURVEILLANCE CAMERA

SUBTASK 23-75-07-710-001

(7) Do the FDEVSS system test (TASK 23-75-00-730-804).

F. Put the Airplane Back to its Usual Condition

SUBTASK 23-75-07-410-001

(1) Install the applicable ceiling panels (TASK 25-21-71-400-815).

END OF TASK

ECCN 9E991 BOEING PROPRIETARY - See title page for details

VIDEO INTERFACE UNIT - REMOVAL/INSTALLATION

1. General

A. This procedure has these tasks:

(1) A removal of the Video Interface Unit (VIU)

(2) An installation of the VIU.

B. The VIU is installed above the lower ceiling panel, in the forward galley area.

C. To make sure that the VIU is installed correctly, you must do a system test.

TASK 23-75-10-000-801

2. Video Interface Unit - Removal

(Figure 401)

A. References

Reference	Title
25-21-71-000-801	Lowered Ceiling Removal (P/B 401)
25-21-71-000-815	Lowered Ceiling Removal (P/B 401)

B. Location Zones

Zone	Area
220	Subzone - Passenger Compartment - Body Station 259.50 to 360.00

C. Video Interface Unit Removal

SUBTASK 23-75-10-865-003

(1) Open this circuit breaker and install safety tag:

F/O Electrical System Panel, P6-12

Row	Col	Number	Name
LOM 412, 415, 416, 423, 424, 437, 438, 443-445, 458-460, 465-999			
B	1	C01641	SURVEILLANCE CAMERA

LOM 412, 415, 416, 420, 423, 424, 437, 438, 443-445, 458-460, 465-999

SUBTASK 23-75-10-010-001

(2) Get access to the video interface unit [1] at STA 344, WL 250, do this task: Lowered Ceiling Removal, TASK 25-21-71-000-801 or Lowered Ceiling Removal, TASK 25-21-71-000-815.

SUBTASK 23-75-10-020-001

CAUTION

DO NOT TOUCH THE ELECTRICAL CONNECTOR CONTACT PINS. STATIC ELECTRICAL CHARGES THAT COLLECT ON THE SKIN CAN CAUSE DAMAGE TO THE ELECTROSTATIC SENSITIVE COMPONENTS INSTALLED IN THIS DEVICE.

(3) To remove the video interface unit [1], do these steps:

(a) Disconnect the electrical connectors [2] from the video interface unit [1].

(b) Disconnect the bonding jumper [4] from the video interface unit [1].

1) Remove the nut [6] and washer [5] that attach the bonding jumper [4] to the video interface unit [1].

2) Remove the bonding jumper [4] from the video interface unit [1].

(c) Loosen the captive screws [3] that hold the video interface unit [1] to the frame assembly.

ECCN 9E991 BOEING PROPRIETARY - See title page for details

(d) Remove the video interface unit [1].

SUBTASK 23-75-10-420-002

(4) Install the protective caps on the video interface unit [1] and the electrical connectors [2].

——— END OF TASK ———

ECCN 9E991 BOEING PROPRIETARY - See title page for details

PASSENGER COMPARTMENT

VIDEO INTERFACE UNIT (VIU)

A

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Video Interface Unit Installation
Figure 401/23-75-10-990-801

ECCN 9E991 BOEING PROPRIETARY - See title page for details

TASK 23-75-10-400-801

3. Video Interface Unit - Installation

(Figure 401)

A. References

Reference	Title
23-75-00-730-804	Flight Deck Entry Video Surveillance System - System Test (P/B 501)
25-21-71 P/B 401	FORWARD AND AFT LOWERED CEILING PANELS - REMOVAL/INSTALLATION
25-21-71-400-801	Lowered Ceiling Installation (P/B 401)
25-21-71-400-815	Lowered Ceiling Installation (P/B 401)
SWPM 20-20-00	ELECTRICAL BONDING PROCESSES

B. Tools/Equipment

NOTE: When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

Reference	Description
COM-614	Bonding Meters - Non-Intrinsically Safe (For use in outside Class I, Divisions I & II non-hazardous locations. For hazardous locations, use COM-1550). Part #: 247000 Supplier: 00426 Part #: 620LK Supplier: 1CRL2 Part #: BLR-0003-XX Supplier: KC432 Part #: BT51 Supplier: 00426 Part #: M1 Supplier: 3AD17 Part #: M1B Supplier: 3AD17 Part #: T477W (C15292) Supplier: 06659 Opt Part #: 247001 Supplier: 00426

C. Consumable Materials

Reference	Description	Specification
B00184	Solvent - Presealing, Cleaning Solvent	BMS11-7
G00034	Cotton Wiper - Process Cleaning Absorbent Wiper (Cheesecloth, Gauze)	AMS3819 Class 1 Grade A or B Form 1 (Supersede BMS15-5 CL A)

D. Location Zones

Zone	Area
220	Subzone - Passenger Compartment - Body Station 259.50 to 360.00

E. Video Interface Unit Installation

SUBTASK 23-75-10-865-001

(1) Open this circuit breaker and install safety tag:

F/O Electrical System Panel, P6-12

Row	Col	Number	Name
LOM 412, 415, 416, 423, 424, 437, 438, 443-445, 458-460, 465-999			
B	1	C01641	SURVEILLANCE CAMERA

ECCN 9E991 BOEING PROPRIETARY - See title page for details

LOM 412, 415, 416, 420, 423, 424, 437, 438, 443-445, 458-460, 465-999

SUBTASK 23-75-10-010-002

(2) Make sure that the lower ceiling panel is opened (PAGEBLOCK 25-21-71/401).

SUBTASK 23-75-10-420-001

CAUTION	DO NOT TOUCH THE CONNECTOR PINS OR OTHER CONDUCTORS ON THE UNIT. IF YOU TOUCH THESE CONDUCTORS, ELECTROSTATIC DISCHARGE CAN CAUSE DAMAGE TO THE UNIT.

(3) Do these steps to install the video interface unit [1]:

(a) Install the video interface unit [1] onto the VIU bracket assembly.

(b) Hand tighten the captive screws [3].

(c) Connect the bonding jumper [4] to the video interface unit [1], do these steps:

1) Use cotton wiper, G00034, moist in solvent, B00184, to clean the mating surfaces of the airplane structure, nut [6], bonding jumper [4], and washer [5].

2) Install the nut [6] and washer [5] that attach the bonding jumper [4] to the video interface unit [1].

a) Tighten the nut [6] to 28 in-lb (3.2 N·m) - 35 in-lb (4.0 N·m).

3) Measure the electrical bonding resistance between the bonding jumper [4] and airplane structure (SWPM 20-20-00).

a) Use a non-intrinsically safe bonding meter, COM-614.

b) Make sure that the electrical bonding resistance is 0.001 ohm (1.0 milliohm) or less.

(d) Connect the electrical connectors [2].

SUBTASK 23-75-10-410-001

(4) Close the ceiling panel, do this task: Lowered Ceiling Installation, TASK 25-21-71-400-801 or Lowered Ceiling Installation, TASK 25-21-71-400-815.

SUBTASK 23-75-10-865-002

(5) Remove the safety tag and close this circuit breaker:

F/O Electrical System Panel, P6-12

Row	Col	Number	Name
LOM 412, 415, 416, 423, 424, 437, 438, 443-445, 458-460, 465-999			
B	1	C01641	SURVEILLANCE CAMERA

LOM 412, 415, 416, 420, 423, 424, 437, 438, 443-445, 458-460, 465-999

SUBTASK 23-75-10-700-001

(6) Do this task: Flight Deck Entry Video Surveillance System - System Test, TASK 23-75-00-730-804.

END OF TASK

ECCN 9E991 BOEING PROPRIETARY - See title page for details

CAMERA CONTROL UNIT - REMOVAL/INSTALLATION

1. General

A. This procedure has these tasks:

(1) Removal of the video switch.

(2) Installation of the video switch.

TASK 23-75-11-000-801

2. Camera Control Unit - Removal

(Figure 401)

A. General

(1) The camera control units are components of the flight deck entry video surveillance system.

B. References

Reference	Title
20-40-12-000-802	ESDS Handling for Metal Encased Unit Removal (P/B 201)
25-21-31-420-801	Forward Entry Doorway Sidewall Lining Panel - Removal (P/B 401)
25-21-34-000-801	Forward Galley Door Doorway Header Panel - Removal (P/B 401)
25-21-71-000-819	Close Out Ceiling Panel Removal (P/B 401)

C. Location Zones

Zone	Area
220	Subzone - Passenger Compartment - Body Station 259.50 to 360.00
222	Passenger Compartment - Aft of Control Compartment to Forward Entry Door - Right

D. Prepare for Camera Control Unit Removal

SUBTASK 23-75-11-860-001

(1) Open this circuit breaker and install safety tag:

F/O Electrical System Panel, P6-12

Row	Col	Number	Name
B	1	C01641	SURVEILLANCE CAMERA

SUBTASK 23-75-11-010-003

(2) Get access to each camera control unit to be removed. These are the tasks:

- Close Out Ceiling Panel Removal, TASK 25-21-71-000-819
- Forward Entry Doorway Sidewall Lining Panel - Removal, TASK 25-21-31-420-801
- Forward Galley Door Doorway Header Panel - Removal, TASK 25-21-34-000-801

E. Camera Control Unit Removal

SUBTASK 23-75-11-860-002

(1) Make sure that this circuit breaker is open and has safety tag:

F/O Electrical System Panel, P6-12

Row	Col	Number	Name
B	1	C01641	SURVEILLANCE CAMERA

ECCN 9E991 BOEING PROPRIETARY - See title page for details

SUBTASK 23-75-11-860-003

CAUTION

DO NOT TOUCH THE CONNECTOR PINS, OR OTHER CONDUCTORS. IF YOU TOUCH THESE CONDUCTORS, ELECTROSTATIC DISCHARGE CAN CAUSE DAMAGE TO THE COMPONENTS.

(2) Before you touch the component, do this task ESDS Handling for Metal Encased Unit Removal, TASK 20-40-12-000-802.

SUBTASK 23-75-11-020-002

(3) Disconnect the camera electrical connector from the camera control unit [1].

SUBTASK 23-75-11-020-003

(4) Disconnect connector D12491 from the camera control unit [1]

SUBTASK 23-75-11-020-004

(5) Remove the two pan head screws [2] and two washers [3], and then remove the camera control unit [1] from the panel.

(a) Put protective covers on the wire connectors, and CCU receptacles.

END OF TASK

ECCN 9E991 BOEING PROPRIETARY - See title page for details

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Camera Control Unit Installation
Figure 401/23-75-11-990-802

ECCN 9E991 BOEING PROPRIETARY - See title page for details

TASK 23-75-11-400-801

3. Camera Control Unit - Installation

Figure 401

A. General

(1) The three camera control units, M3005, M3007, and M3009, are components of the flight deck entry video surveillance system.

B. References

Reference	Title
20-40-12-000-802	ESDS Handling for Metal Encased Unit Removal (P/B 201)
23-75-00-730-804	Flight Deck Entry Video Surveillance System - System Test (P/B 501)
25-21-30-420-801	Forward Entry Door Doorway Header Panel - Installation (P/B 401)
25-21-34-400-801	Forward Galley Door Doorway Header Panel - Installation (P/B 401)
25-21-71-400-819	Close Out Ceiling Panel Installation (P/B 401)

C. Location Zones

Zone	Area
220	Subzone - Passenger Compartment - Body Station 259.50 to 360.00
222	Passenger Compartment - Aft of Control Compartment to Forward Entry Door - Right

D. Prepare for Camera Control Unit Installation

SUBTASK 23-75-11-860-007

(1) Make sure that this circuit breaker is open:

F/O Electrical System Panel, P6-12

Row	Col	Number	Name
B	1	C01641	SURVEILLANCE CAMERA

E. Camera Control Unit Installation

SUBTASK 23-75-11-860-005

> **CAUTION** DO NOT TOUCH THE CONNECTOR PINS, OR OTHER CONDUCTORS. IF YOU TOUCH THESE CONDUCTORS, ELECTROSTATIC DISCHARGE CAN CAUSE DAMAGE TO THE COMPONENTS.

(1) Before you touch the electrical components, do this task: ESDS Handling for Metal Encased Unit Removal, TASK 20-40-12-000-802.

SUBTASK 23-75-11-420-002

> **CAUTION** DO NOT PULL, TWIST, OR BEND THE CAMERA CABLE MORE THAN THE MINIMUM RADIUS OF 1 IN. (25 MM). IF YOU BEND, PULL, OR TWIST THE CABLE TOO MUCH, DAMAGE TO THE CABLE CAN OCCUR.

(2) Install the camera control unit [1], as follows:

(a) Put the camera control unit [1] against the far-side of the applicable panel, and align with the insert holes.

ECCN 9E991 BOEING PROPRIETARY - See title page for details

(b) Attach the camera control unit [1] with two pan head screws [2] and two washers [3].

SUBTASK 23-75-11-420-003

(3) Connect the camera electrical connector to the camera control unit [1].

SUBTASK 23-75-11-420-004

(4) Connect the applicable electrical connector, D12491, D12493, or D12495, to the camera control unit [1].

SUBTASK 23-75-11-860-006

(5) Remove the safety tag and close this circuit breaker:

F/O Electrical System Panel, P6-12

Row	Col	Number	Name
B	1	C01641	SURVEILLANCE CAMERA

SUBTASK 23-75-11-710-002

(6) Make sure that all three camera control units operate correctly. Do this task: Flight Deck Entry Video Surveillance System - System Test, TASK 23-75-00-730-804.

F. Put the Airplane Back to its Usual Condition

SUBTASK 23-75-11-410-002

(1) If access for additional tasks is not required, install the applicable panels. These are the tasks:

- Close Out Ceiling Panel Installation, TASK 25-21-71-400-819
- Forward Entry Door Doorway Header Panel - Installation, TASK 25-21-30-420-801
- Forward Galley Door Doorway Header Panel - Installation, TASK 25-21-34-400-801.

END OF TASK

ECCN 9E991 BOEING PROPRIETARY - See title page for details

ILLUMINATOR - REMOVAL/INSTALLATION

1. General

A. This procedure has these tasks:

(1) Removal of the three infrared illuminators.

(2) Installation of the three infrared illuminators.

B. One illuminator is installed adjacent to each video camera. These are the locations:

(1) Illuminator 1, M3006, is above the ceiling panel at approximately STA 292, RBL 2, WL 285.

(2) Illuminator 2, M3008, is surface -mounted to the ceiling panel, at approximately STA 340, LBL2, WL 289.

(3) Illuminator 3, M3010, is surface-mounted to the door liner, at approximately STA 301, RBL 21, WL 286.

TASK 23-75-12-000-801

2. Illuminator - Removal

(Figure 401)

A. General

(1) The illuminators are components of the flight deck entry video surveillance system.

(2) To remove the illuminator from the support, you must cut the wires on the aircraft-side of the splice.

B. References

Reference	Title
20-40-12-000-802	ESDS Handling for Metal Encased Unit Removal (P/B 201)
25-21-31-420-801	Forward Entry Doorway Sidewall Lining Panel - Removal (P/B 401)
25-21-71-000-815	Lowered Ceiling Removal (P/B 401)

C. Location Zones

Zone	Area
220	Subzone - Passenger Compartment - Body Station 259.50 to 360.00
222	Passenger Compartment - Aft of Control Compartment to Forward Entry Door - Right

D. Prepare for Removal

SUBTASK 23-75-12-865-001

(1) Open this circuit breaker and install safety tag:

F/O Electrical System Panel, P6-12

Row	Col	Number	Name
B	1	C01641	SURVEILLANCE CAMERA

SUBTASK 23-75-12-010-001

(2) Make sure you have access to the applicable illuminator, support, and connector splice. These are the tasks:

Lowered Ceiling Removal, TASK 25-21-71-000-815, and

Forward Entry Doorway Sidewall Lining Panel - Removal, TASK 25-21-31-420-801.

ECCN 9E991 BOEING PROPRIETARY - See title page for details

E. Removal Procedure

SUBTASK 23-75-12-869-001

> **CAUTION** DO NOT TOUCH THE CONNECTOR PINS, OR OTHER CONDUCTORS. IF YOU TOUCH THESE CONDUCTORS, ELECTROSTATIC DISCHARGE CAN CAUSE DAMAGE TO THE COMPONENTS.

(1) Before you touch the component, do this task:

ESDS Handling for Metal Encased Unit Removal, TASK 20-40-12-000-802.

SUBTASK 23-75-12-030-001

(2) To remove the illuminator adjacent to camera 1, do the steps that follow:

(a) From above the ceiling panel, remove two self-locking nuts [2] and two washers [3] that attach the illuminator to the support [6].

(b) Cut the illuminator cable on each side of the splice connector.

1) Discard the splice connector.

(c) From below the support, remove the illuminator with the attached wire.

SUBTASK 23-75-12-030-002

(3) To remove the illuminator adjacent to camera 2, do the steps that follow:

(a) Remove two screws [8] that attach the support [9] to the panel.

(b) Remove two self-locking nuts [2] and two washers [3] that attach the illuminator to the support [9].

(c) Cut the illuminator cable on each side of the splice.

1) Discard the splice connector.

(d) Remove the illuminator [1] and wire from the support [9].

SUBTASK 23-75-12-030-003

(4) To remove the illuminator adjacent to camera 3, do the steps that follow:

(a) Remove two screws [8] that attach the support [10] to the panel.

(b) Remove two self-locking nuts [2] and two washers [3] that attach the illuminator to the support [10].

(c) Cut the illuminator cable on each side of the splice.

1) Discard the splice connector.

(d) Remove the illuminator [1] and wire from the support [10].

——— END OF TASK ———

ECCN 9E991 BOEING PROPRIETARY - See title page for details

Illuminator Installation
Figure 401/23-75-12-990-801

ECCN 9E991 BOEING PROPRIETARY - See title page for details

TASK 23-75-12-400-801

3. Illuminator - Installation

(Figure 401)

A. General

(1) The three illuminators, M3006, M3008, and M3010, are components of the flight deck entry video surveillance system.

(2) You must install a new electrical splice on the illuminator after the cable is fed through the support.

B. References

Reference	Title
20-40-12-000-802	ESDS Handling for Metal Encased Unit Removal (P/B 201)
23-75-00-730-804	Flight Deck Entry Video Surveillance System - System Test (P/B 501)
25-21-31-420-801	Forward Entry Doorway Sidewall Lining Panel - Removal (P/B 401)
25-21-31-420-802	Forward Entry Doorway Sidewall Lining Panel - Installation (P/B 401)
25-21-71-000-815	Lowered Ceiling Removal (P/B 401)
25-21-71-400-815	Lowered Ceiling Installation (P/B 401)
SWPM 20-30-12	Assembly of Splices

C. Location Zones

Zone	Area
220	Subzone - Passenger Compartment - Body Station 259.50 to 360.00
222	Passenger Compartment - Aft of Control Compartment to Forward Entry Door - Right

D. Prepare for Installation

SUBTASK 23-75-12-865-004

(1) Open this circuit breaker:

F/O Electrical System Panel, P6-12

Row	Col	Number	Name
B	1	C01641	SURVEILLANCE CAMERA

SUBTASK 23-75-12-010-002

(2) Make sure you have access to the illuminator splice connector, behind the applicable ceiling panel or door liner, for each illuminator to be installed. These are the tasks:

Lowered Ceiling Removal, TASK 25-21-71-000-815,

Forward Entry Doorway Sidewall Lining Panel - Removal, TASK 25-21-31-420-801.

E. Installation Procedure

SUBTASK 23-75-12-865-003

(1) Make sure that this circuit breaker is open and has safety tag:

F/O Electrical System Panel, P6-12

Row	Col	Number	Name
B	1	C01641	SURVEILLANCE CAMERA

ECCN 9E991 BOEING PROPRIETARY - See title page for details

SUBTASK 23-75-12-869-002

> **CAUTION** DO NOT TOUCH THE CONNECTOR PINS, OR OTHER CONDUCTORS. IF YOU TOUCH THESE CONDUCTORS, ELECTROSTATIC DISCHARGE CAN CAUSE DAMAGE TO THE COMPONENTS.

(2) Before you touch the component, do this task:

ESDS Handling for Metal Encased Unit Removal, TASK 20-40-12-000-802.

SUBTASK 23-75-12-420-001

> **CAUTION** DO NOT PULL, TWIST, OR BEND THE CAMERA CABLE MORE THAN THE MINIMUM RADIUS OF 1 IN. (25 MM). IF YOU BEND, PULL, OR TWIST THE CABLE TOO MUCH, DAMAGE TO THE CABLE CAN OCCUR.

(3) Install the illuminator. These are the steps:

(a) From the appearance-side of the support, insert the illuminator cable through center hole, and seat the illuminator [1] completely against the support, with the two mounting studs inserted through the attachment holes.

(b) From the far-side of the support, attach the illuminator [1] to the support with two washers [3] and self-locking nuts [2].

(c) Connect the illuminator wires to the aircraft wiring with two splices [4], (SWPM 20-30-12).

NOTE: 24V dc (volts direct current) from the VS goes to RED.

(d) If applicable, install the support to the ceiling panel.

SUBTASK 23-75-12-865-005

(4) Remove the safety tag and close this circuit breaker:

F/O Electrical System Panel, P6-12

Row	Col	Number	Name
B	1	C01641	SURVEILLANCE CAMERA

SUBTASK 23-75-12-710-001

(5) Make sure that all three illuminators operate correctly. Do this task: Flight Deck Entry Video Surveillance System - System Test, TASK 23-75-00-730-804.

F. Put the Airplane Back to its Usual Condition

SUBTASK 23-75-12-410-001

(1) If access for additional tasks is not required, install the applicable ceiling and close-out panels, or door liners. These are the tasks:

Lowered Ceiling Installation, TASK 25-21-71-400-815 and

Forward Entry Doorway Sidewall Lining Panel - Installation, TASK 25-21-31-420-802.

END OF TASK

ECCN 9E991 BOEING PROPRIETARY - See title page for details

PC POWER SYSTEM - ADJUSTMENT/TEST

1. General

A. This procedure contains an operational test for the PC Power System. Do this test when you replace a PC Power System component.

TASK 23-81-00-710-803

2. PC Power System - Operational Test

A. References

Reference	Title
24-22-00-860-813	Supply External Power (P/B 201)
24-22-00-860-814	Remove External Power (P/B 201)

B. Location Zones

Zone	Area
200	Upper Half of Fuselage

C. Procedure

SUBTASK 23-81-00-865-001

(1) Make sure that these circuit breakers are closed:

F/O Electrical System Panel, P6-12

Row	Col	Number	Name
A	5	C01602	PC POWER 1
LOM 432			
A	8	C01603	PC POWER 2

LOM 429-432, 437, 438, 445, 465

SUBTASK 23-81-00-860-004

(2) Do this task: Supply External Power, TASK 24-22-00-860-813.

SUBTASK 23-81-00-860-005

(3) Make sure that the PC Power System has electrical power:

(a) Make sure that the IFE/PASS SEAT switch in the flight compartment is ON.

(b) At the forward attendant control panel, select Passenger Services menu and make sure that the PC Power soft button is set to ON.

SUBTASK 23-81-00-710-003

(4) Monitor the Master Control Unit (MCU) LED indicators.

SUBTASK 23-81-00-710-004

(5) After 15 seconds, make sure that the MCU seat column comes on GREEN, this shows that no faults occurred during BIT.

SUBTASK 23-81-00-710-005

(6) Make sure that each Outlet Unit LED comes on GREEN.

SUBTASK 23-81-00-710-006

(7) Make sure that each system Outlet Unit LED shows a pass condition.

LOM 465

SUBTASK 23-81-00-710-017

(8) Do a test of the USB ports:

ECCN 9E991 BOEING PROPRIETARY - See title page for details

LOM 465 (Continued)

(a) Plug a portable electronic device (PED) with a USB cable into the USB port.

(b) Make sure the PED is receiving power.

LOM 429-432, 437, 438, 445, 465

SUBTASK 23-81-00-710-008

(9) Turn off the power to PC Power system:

(a) At the forward attendant control panel, select Passenger Services menu and set the PC Power soft button to OFF.

SUBTASK 23-81-00-710-009

(10) Make sure that system Outlet Unit LED at each seat go off.

SUBTASK 23-81-00-860-006

(11) Do this task: Remove External Power, TASK 24-22-00-860-814.

——— END OF TASK ———

TASK 23-81-00-730-801

3. PC Power System - System Test

A. General

(1) The system test includes these tests:

(a) The operational test

(b) The Master Control Unit (MCU) LED test

(c) The decompression test.

B. References

Reference	Title
25-21-45-000-803-001	Main Ceiling Panel - Removal (P/B 401)
25-21-45-400-803-001	Main Ceiling Panel - Installation (P/B 401)

C. Location Zones

Zone	Area
200	Upper Half of Fuselage

D. Test Preparation

SUBTASK 23-81-00-860-008

(1) Make sure that these circuit breakers are closed:

F/O Electrical System Panel, P6-11

Row	Col	Number	Name
A	8	C01627	CABIN UTIL RLY PWR

F/O Electrical System Panel, P6-12

Row	Col	Number	Name
A	5	C01602	PC POWER 1
LOM 432			
A	8	C01603	PC POWER 2

LOM 429-432, 437, 438, 445, 465

ECCN 9E991 BOEING PROPRIETARY - See title page for details

SUBTASK 23-81-00-860-009

(2) Make sure that the PC Power System has electrical power:

(a) Make sure that the IFE/PASS SEAT switch in the flight compartment is ON.

(b) At the forward attendant control panel, select Passenger Services menu and make sure that the PC Power soft button is set to ON.

E. Operational Test

SUBTASK 23-81-00-710-010

(1) Do this task: PC Power System - Operational Test, TASK 23-81-00-710-803.

F. MCU LED Test

SUBTASK 23-81-00-010-001

(1) Open the ceiling panel to get access to the master control unit.

(a) Do this task: Main Ceiling Panel - Removal, TASK 25-21-45-000-803-001

SUBTASK 23-81-00-710-011

(2) Apply power to the PC Power system and look at the status LEDs on the MCU.

NOTE: The MCU power up BITE test starts when you apply power. The test needs approximately 15 seconds to complete. Give sufficient time for the BITE test to complete.

(a) Make sure that all the LED indicators show green. This shows that there were no faults during the MCU power up BITE test.

SUBTASK 23-81-00-410-001

(3) Close the ceiling panel.

(a) Do this task: Main Ceiling Panel - Installation, TASK 25-21-45-400-803-001.

G. Decompression Test

SUBTASK 23-81-00-860-010

CAUTION

OPEN THESE CIRCUIT BREAKERS. IF YOU DO NOT OPEN THE CIRCUIT BREAKERS, THE OXYGEN MASKS WILL RELEASE INTO THE PASSENGER COMPARTMENT.

(1) Make sure that these circuit breakers are open and have safety tags:

CAPT Electrical System Panel, P18-3

Row	Col	Number	Name
F	9	C00784	OXYGEN PASS RIGHT
F	10	C00783	OXYGEN PASS LEFT

SUBTASK 23-81-00-860-011

(2) Make sure that these circuit breakers are closed:

CAPT Electrical System Panel, P18-3

Row	Col	Number	Name
F	7	C00156	OXYGEN IND
F	8	C00785	OXYGEN MAN CONT

SUBTASK 23-81-00-710-012

(3) Set the MANUAL OXYGEN switch on the P5 overhead panel in the flight deck to ON.

ECCN 9E991 BOEING PROPRIETARY - See title page for details

SUBTASK 23-81-00-710-013

(4) Examine all the OU LEDs in the cabin.

(a) Make sure the LEDs are off.

SUBTASK 23-81-00-710-014

(5) Set the MANUAL OXYGEN switch to OFF.

SUBTASK 23-81-00-710-015

(6) Open and close this circuit breaker:

CAPT Electrical System Panel, P18-3

Row	Col	Number	Name
F	7	C00156	OXYGEN IND

(a) Make sure the PASS OXY ON light on the P5-14 panel goes out.

SUBTASK 23-81-00-860-012

(7) Remove the safety tags and close these circuit breakers:

CAPT Electrical System Panel, P18-3

Row	Col	Number	Name
F	9	C00784	OXYGEN PASS RIGHT
F	10	C00783	OXYGEN PASS LEFT

H. Put the Airplane Back to its Usual Condition

SUBTASK 23-81-00-860-013

(1) Put the airplane back to its usual condition if necessary.

——— END OF TASK ———

ECCN 9E991 BOEING PROPRIETARY - See title page for details

MASTER CONTROL UNIT - REMOVAL/INSTALLATION

1. General

A. This procedure has these tasks:

(1) The removal of a Master Control Unit.

(2) The installation of a Master Control Unit.

B. The master control unit (MCU) is attached to the cabin ceiling ladder assembly. Four screws attach the unit to the ladder assembly. You must remove the main ceiling panel to get access to the master control unit.

C. A configuration module is attached to J7 of the master control unit. The configuration module is not a part of the MCU.

TASK 23-81-01-000-801

2. Master Control Unit Removal

(Figure 401)

A. References

Reference	Title
23-81-07-000-801	Configuration Module Removal (P/B 401)
25-21-45-000-803-001	Main Ceiling Panel - Removal (P/B 401)

B. Location Zones

Zone	Area
234	Area Above Passenger Compartment Ceiling, Right - Section 43

C. Removal Procedure

SUBTASK 23-81-01-860-001

(1) Open these circuit breakers and install safety tags:

F/O Electrical System Panel, P6-3

Row	Col	Number	Name
B	2	C01605	PC POWER CONTROL

F/O Electrical System Panel, P6-11

Row	Col	Number	Name
A	8	C01627	CABIN UTIL RLY PWR

F/O Electrical System Panel, P6-12

Row	Col	Number	Name
A	5	C01602	PC POWER 1
LOM 432			
A	8	C01603	PC POWER 2

LOM 429-432, 437, 438, 445, 465

SUBTASK 23-81-01-010-001

(2) To get access to the master control unit, do this task Main Ceiling Panel - Removal, TASK 25-21-45-000-803-001

SUBTASK 23-81-01-020-003

(3) Do these steps to remove the master control unit (MCU) [1]:

ECCN 9E991 BOEING PROPRIETARY - See title page for details

(a) Disconnect the electrical connectors [2] from the MCU [1].

NOTE: Tag the connectors for identification.

(b) Disconnect the bonding jumper [6] from the MCU [1]

1) Remove the nut [7] and washer [8] that attach the bonding jumper to the MCU.

(c) Remove all the screws [3] and washers [4] that attach the MCU [1] to the mounting bracket.

(d) Remove the MCU [1].

(e) Put protective covers on the electrical connectors [2].

SUBTASK 23-81-01-020-005

(4) Remove the configuration module [5] from J7 on the master control unit:

(a) Do this task: Configuration Module Removal, TASK 23-81-07-000-801

(b) Keep the configuration module for the installation.

END OF TASK

ECCN 9E991 BOEING PROPRIETARY - See title page for details

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MASTER CONTROL UNIT INSTALLATION
Figure 401/23-81-01-990-801

ECCN 9E991 BOEING PROPRIETARY - See title page for details

TASK 23-81-01-400-801

3. Master Control Unit Installation

Figure 401

A. References

Reference	Title
23-81-00-710-803	PC Power System - Operational Test (P/B 501)
23-81-07-400-801	Configuration Module Installation (P/B 401)
25-21-45-400-803-001	Main Ceiling Panel - Installation (P/B 401)

B. Location Zones

Zone	Area
234	Area Above Passenger Compartment Ceiling, Right - Section 43

C. Installation Procedure

SUBTASK 23-81-01-860-002

(1) Make sure that these circuit breakers are open and have safety tags:

F/O Electrical System Panel, P6-3

Row	Col	Number	Name
B	2	C01605	PC POWER CONTROL

F/O Electrical System Panel, P6-11

Row	Col	Number	Name
A	8	C01627	CABIN UTIL RLY PWR

F/O Electrical System Panel, P6-12

Row	Col	Number	Name
A	5	C01602	PC POWER 1

LOM 432

A	8	C01603	PC POWER 2

LOM 429-432, 437, 438, 445, 465

SUBTASK 23-81-01-420-006

(2) Install the configuration module [5] you kept from the removal on the master control unit:

(a) Do this task:Configuration Module Installation, TASK 23-81-07-400-801.

SUBTASK 23-81-01-420-003

(3) Do these steps to install the MCU:

(a) Place the MCU [1] into its mounting bracket.

(b) Install the screws [3] and washers [4] you kept from the removal.

(c) Connect the bonding jumper [6] to the MCU [1]:

1) Install the nut [7] and washer [8].

(d) Connect the electrical connectors [2].

1) Make sure that the connectors are on the correct jacks.

ECCN 9E991 BOEING PROPRIETARY - See title page for details

SUBTASK 23-81-01-860-003

(4) Remove the safety tags and close these circuit breakers:

F/O Electrical System Panel, P6-3

Row	Col	Number	Name
B	2	C01605	PC POWER CONTROL

F/O Electrical System Panel, P6-11

Row	Col	Number	Name
A	8	C01627	CABIN UTIL RLY PWR

F/O Electrical System Panel, P6-12

Row	Col	Number	Name
A	5	C01602	PC POWER 1
LOM 432			
A	8	C01603	PC POWER 2

LOM 429-432, 437, 438, 445, 465

D. Installation Test

SUBTASK 23-81-01-710-001

(1) Do a test of the PC Power System:

PC Power System - Operational Test, TASK 23-81-00-710-803

SUBTASK 23-81-01-410-001

(2) Install the main ceiling panel:

Do this task: Main Ceiling Panel - Installation, TASK 25-21-45-400-803-001.

END OF TASK

ECCN 9E991 BOEING PROPRIETARY - See title page for details

OUTLET UNIT - REMOVAL/INSTALLATION

1. General

A. This procedure has these tasks:

(1) A removal of the outlet unit

(2) An installation of the outlet unit.

B. The outlet units are installed in these areas:

(1) At the seat.

C. The removal and installation procedures are the same for all of the outlet units.

TASK 23-81-04-000-801

2. Outlet Unit Removal

(Figure 401)

A. Location Zones

Zone	Area
200	Upper Half of Fuselage

B. Outlet Unit Removal

SUBTASK 23-81-04-860-001

(1) Open these circuit breakers and install safety tags:

F/O Electrical System Panel, P6-3

Row	Col	Number	Name
B	2	C01605	PC POWER CONTROL

F/O Electrical System Panel, P6-11

Row	Col	Number	Name
A	8	C01627	CABIN UTIL RLY PWR

F/O Electrical System Panel, P6-12

Row	Col	Number	Name
A	5	C01602	PC POWER 1
LOM 432			
A	8	C01603	PC POWER 2

LOM 429-432, 437, 438, 445, 465

SUBTASK 23-81-04-020-001

(2) Do these steps to remove the outlet unit [1]:

(a) Remove the covers from the front and rear seat tracks.

(b) Disconnect the outlet unit electrical cable from the In-Seat Power Supply (ISPS).

NOTE: Do not let the electrical connector fall back into the arm rest assembly.

(c) Remove the screws [2] from the front panel.

(d) Remove the outlet unit [1].

(e) Put a protective cover on the electrical connector.

END OF TASK

ECCN 9E991 BOEING PROPRIETARY - See title page for details

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OUTLET UNIT INSTALLATION
Figure 401/23-81-04-990-801 (Sheet 1 of 2)

ECCN 9E991 BOEING PROPRIETARY - See title page for details

2304057 S0000523032_V2

OUTLET UNIT INSTALLATION
Figure 401/23-81-04-990-801 (Sheet 2 of 2)

ECCN 9E991 BOEING PROPRIETARY - See title page for details

TASK 23-81-04-400-801

3. Outlet Unit Installation

(Figure 401)

A. Location Zones

Zone	Area
200	Upper Half of Fuselage

B. Outlet Unit Installation

SUBTASK 23-81-04-860-002

(1) Make sure that these circuit breakers are open and have safety tags:

F/O Electrical System Panel, P6-3

Row	Col	Number	Name
B	2	C01605	PC POWER CONTROL

F/O Electrical System Panel, P6-11

Row	Col	Number	Name
A	8	C01627	CABIN UTIL RLY PWR

F/O Electrical System Panel, P6-12

Row	Col	Number	Name
A	5	C01602	PC POWER 1
LOM 432			
A	8	C01603	PC POWER 2

LOM 429-432, 437, 438, 445, 465

SUBTASK 23-81-04-410-001

(2) Do these steps to install the outlet unit [1]:

(a) Remove the electrical connector covers.

(b) Examine the electrical connectors for bent or broken pins, dirt, and damage.

(c) Push the outlet unit [1] through the seat armrest opening.

(d) Install the backing plate screws in the outlet unit backing plate.

(e) Install the screws [2] for the outlet unit front panel.

(f) Connect the electrical connector.

SUBTASK 23-81-04-860-003

(3) Remove the safety tags and close these circuit breakers:

F/O Electrical System Panel, P6-3

Row	Col	Number	Name
B	2	C01605	PC POWER CONTROL

F/O Electrical System Panel, P6-11

Row	Col	Number	Name
A	8	C01627	CABIN UTIL RLY PWR

ECCN 9E991 BOEING PROPRIETARY - See title page for details

F/O Electrical System Panel, P6-12

Row	Col	Number	Name
A	5	C01602	PC POWER 1
LOM 432			
A	8	C01603	PC POWER 2

LOM 429-432, 437, 438, 445, 465

C. Installation Test

SUBTASK 23-81-04-860-004

(1) Make sure power is applied to the PC power system:

(a) Select Passenger Services menu and make sure that the PC Power soft button, at the forward attendant control panel, is set to the ON position.

SUBTASK 23-81-04-710-001

(2) At the outlet unit [1], do this step:

(a) Make sure that the LED on the applicable outlet unit [1] shows green.

END OF TASK

ECCN 9E991 BOEING PROPRIETARY - See title page for details

IN-SEAT POWER SUPPLY - REMOVAL/INSTALLATION

1. General

A. This procedure has these tasks:

(1) A removal of the In-Seat Power Supply (ISPS)

(2) An installation of the ISPS.

TASK 23-81-05-000-801

2. In-Seat Power Supply - Removal

(Figure 401)

A. Location Zones

Zone	Area
200	Upper Half of Fuselage

B. In-Seat Power Supply Removal

SUBTASK 23-81-05-865-001

(1) Open these circuit breakers and install safety tags:

F/O Electrical System Panel, P6-12

Row	Col	Number	Name
A	5	C01602	PC POWER 1
LOM 432			
A	8	C01603	PC POWER 2

LOM 429-432, 437, 438, 445

SUBTASK 23-81-05-020-001

(2) Do these steps to remove the In-Seat Power Supply (ISPS) [1]:

(a) Remove the covers from the front and rear seat tracks.

> **CAUTION** DO NOT TOUCH THE ELECTRICAL CONNECTOR CONTACT PINS. STATIC ELECTRICAL CHARGES THAT COLLECT ON THE SKIN CAN CAUSE DAMAGE TO THE ELECTROSTATIC SENSITIVE COMPONENTS INSTALLED IN THIS DEVICE.

(b) Disconnect the electrical connector(s) from the In-Seat Power Supply (ISPS) [1].

(c) Remove the nut [4], washers [2], and bonding jumper [3].

(d) Loosen the screws [5] that attach the In-Seat Power Supply (ISPS) [1] to the seat.

(e) Remove the In-Seat Power Supply (ISPS) [1].

(f) Put protective covers on the electrical connector(s).

LOM 465

SUBTASK 23-81-05-020-002

(3) Do these steps to remove the USB Power Supply (USBPS) [1]:

(a) Remove the covers from the front and rear seat tracks.

ECCN 9E991 BOEING PROPRIETARY - See title page for details

LOM 465 (Continued)

CAUTION	DO NOT TOUCH THE ELECTRICAL CONNECTOR CONTACT PINS. STATIC ELECTRICAL CHARGES THAT COLLECT ON THE SKIN CAN CAUSE DAMAGE TO THE ELECTROSTATIC SENSITIVE COMPONENTS INSTALLED IN THIS DEVICE.

(b) Disconnect the electrical connector(s) from the USB Power Supply (USBPS) [1].

(c) Remove the nut [4], washers [2], and bonding jumper [3].

(d) Loosen the screws [5] that attach the USB Power Supply (USBPS) [1] to the seat.

(e) Remove the USB Power Supply (USBPS) [1].

(f) Put protective covers on the electrical connector(s).

LOM 429-432, 437, 438, 445, 465

END OF TASK

ECCN 9E991 BOEING PROPRIETARY - See title page for details

FIRST/BUSINESS CLASS (EXAMPLE)

ECONOMY CLASS (EXAMPLE)

IN-SEAT POWER SUPPLY (EXAMPLE)

A

3019410 S0000791863_V1

In-Seat Power Supply Installation
Figure 401/23-81-05-990-801 (Sheet 1 of 2)

ECCN 9E991 BOEING PROPRIETARY - See title page for details

FIRST/BUSINESS CLASS (EXAMPLE)

ECONOMY CLASS (EXAMPLE)

USB POWER SUPPLY (EXAMPLE)

A

3024396 S0000796110_V1

In-Seat Power Supply Installation
Figure 401/23-81-05-990-801 (Sheet 2 of 2)

ECCN 9E991 BOEING PROPRIETARY - See title page for details

TASK 23-81-05-400-801

3. In-Seat Power Supply - Installation

(Figure 401)

A. References

Reference	Title
23-81-00-710-803	PC Power System - Operational Test (P/B 501)

B. Location Zones

Zone	Area
200	Upper Half of Fuselage

C. In-Seat Power Supply Installation

SUBTASK 23-81-05-865-002

(1) Make sure that these circuit breakers are open:

F/O Electrical System Panel, P6-12

Row	Col	Number	Name
A	5	C01602	PC POWER 1
LOM 432			
A	8	C01603	PC POWER 2

LOM 429-432, 437, 438, 445

SUBTASK 23-81-05-420-001

(2) Do these steps to install the In-Seat Power Supply (ISPS) [1]:

> **CAUTION** DO NOT TOUCH THE CONNECTOR PINS, OR OTHER CONDUCTORS. IF YOU TOUCH THESE CONDUCTORS, ELECTROSTATIC DISCHARGE CAN CAUSE DAMAGE TO THE COMPONENTS.

(a) Remove the electrical connector covers.

(b) Examine the electrical connector(s) for bent or broken pins, dirt, and damage.

(c) Put the In-Seat Power Supply (ISPS) [1] on its mounting surface below the seat.

(d) Tighten the screws [5] that attach the In-Seat Power Supply (ISPS) [1] to the mounting surface.

(e) Install the washers [2], bonding jumper [3], and nut [4].

(f) Connect the electrical connector(s) to the In-Seat Power Supply (ISPS) [1].

1) Make sure that the outlet/usb unit connector(s) are on the correct jacks.

(g) Install the covers on the front and rear seat tracks.

LOM 465

SUBTASK 23-81-05-420-002

(3) Do these steps to install the USB Power Supply (USBPS) [1]:

> **CAUTION** DO NOT TOUCH THE CONNECTOR PINS, OR OTHER CONDUCTORS. IF YOU TOUCH THESE CONDUCTORS, ELECTROSTATIC DISCHARGE CAN CAUSE DAMAGE TO THE COMPONENTS.

(a) Remove the electrical connector covers.

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LOM 465 (Continued)

(b) Examine the electrical connector(s) for bent or broken pins, dirt, and damage.

(c) Put the USB Power Supply (USBPS) [1] on its mounting surface below the seat.

(d) Tighten the screws [5] that attach the USB Power Supply (USBPS) [1] to the mounting surface.

(e) Install the washers [2], bonding jumper [3], and nut [4].

(f) Connect the electrical connector(s) to the USB Power Supply (USBPS) [1].

1) Make sure that the outlet/usb unit connector(s) are on the correct jacks.

(g) Install the covers on the front and rear seat tracks.

LOM 429-432, 437, 438, 445, 465

SUBTASK 23-81-05-865-003

(4) Close these circuit breakers:

F/O Electrical System Panel, P6-12

Row	Col	Number	Name
A	5	C01602	PC POWER 1
LOM 432			
A	8	C01603	PC POWER 2

LOM 429-432, 437, 438, 445, 465

SUBTASK 23-81-05-710-001

(5) Do this task: PC Power System - Operational Test, TASK 23-81-00-710-803.

——— END OF TASK ———

ECCN 9E991 BOEING PROPRIETARY - See title page for details

CONFIGURATION MODULE - REMOVAL/INSTALLATION

1. General

A. This procedure has these tasks:

(1) The removal of a configuration module

(2) The installation of a configuration module.

B. The configuration module is installed on the connector J7 of the master control unit.

C. You must remove the ceiling panel to get access to the power select module.

TASK 23-81-07-000-801

2. Configuration Module Removal

A. References

Reference	Title
25-21-45-000-803-001	Main Ceiling Panel - Removal (P/B 401)

B. Location Zones

Zone	Area
234	Area Above Passenger Compartment Ceiling, Right - Section 43

C. Removal Procedure

SUBTASK 23-81-07-860-001

(1) Open these circuit breakers and install safety tags:

F/O Electrical System Panel, P6-12

Row	Col	Number	Name
A	5	C01602	PC POWER 1
LOM 432			
A	8	C01603	PC POWER 2

LOM 429-432, 437, 438, 445, 465

SUBTASK 23-81-07-010-001

(2) To get access to the master control unit, do this task: Main Ceiling Panel - Removal, TASK 25-21-45-000-803-001.

SUBTASK 23-81-07-020-001

(3) Do these steps to remove the configuration module:

(a) Remove the captive fasteners that attach the configuration module [2] to the master control unit [1], connector J7.

(b) Remove the configuration module [2].

(c) Put protective covers on the electrical connectors.

END OF TASK

ECCN 9E991 BOEING PROPRIETARY - See title page for details

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Configuration Module Installation
Figure 401/23-81-07-990-801

ECCN 9E991 BOEING PROPRIETARY - See title page for details

TASK 23-81-07-400-801

3. Configuration Module Installation

A. References

Reference	Title
25-21-45-400-803-001	Main Ceiling Panel - Installation (P/B 401)

B. Location Zones

Zone	Area
234	Area Above Passenger Compartment Ceiling, Right - Section 43

C. Installation Procedure

SUBTASK 23-81-07-860-002

(1) Open these circuit breakers and install safety tags:

F/O Electrical System Panel, P6-12

Row	Col	Number	Name
A	5	C01602	PC POWER 1
LOM 432			
A	8	C01603	PC POWER 2

LOM 429-432, 437, 438, 445, 465

SUBTASK 23-81-07-420-001

(2) Do these steps to install a power select module:

> **CAUTION** DO NOT TOUCH THE CONNECTOR PINS OR OTHER CONDUCTORS ON THE UNIT. IF YOU TOUCH THESE CONDUCTORS, ELECTROSTATIC DISCHARGE CAN CAUSE DAMAGE TO THE UNIT.

(a) Remove protective covers from the electrical connectors.

(b) Examine the electrical connectors for bent or broken pins, dirt, and damage.

(c) Connect the configuration module [2] to the connector J7 of the master control unit [1].

1) Turn the captive fasteners to attach the configuration module to the master control unit.

NOTE: No tools are required to operate the fasteners.

SUBTASK 23-81-07-860-003

(3) Remove the safety tags and close these circuit breakers:

F/O Electrical System Panel, P6-12

Row	Col	Number	Name
A	5	C01602	PC POWER 1
LOM 432			
A	8	C01603	PC POWER 2

LOM 429-432, 437, 438, 445, 465

SUBTASK 23-81-07-410-001

(4) Close the main ceiling panel, do this task: Main Ceiling Panel - Installation, TASK 25-21-45-400-803-001.

END OF TASK

ECCN 9E991 BOEING PROPRIETARY - See title page for details

FLIGHT COMPARTMENT PC POWER SYSTEM - ADJUSTMENT/TEST

1. **General**

   A. This procedure contains an operational test for the Flight Compartment PC Power System. Do this test when you replace a PC Power System component.

TASK 23-82-00-710-801

2. **Flight Compartment PC Power System - Operational Test**

   A. General

   (1) This task has instructions to do a operational test of the Flight Compartment PC Power System.

   B. Location Zones

Zone	Area
211	Flight Compartment - Left
212	Flight Compartment - Right

   C. Flight Compartment PC Power Operational Test

SUBTASK 23-82-00-860-001

(1) Set the overhead panel P5-13, IFE/PASS SEATS switch to ON.

SUBTASK 23-82-00-865-001

(2) Make sure that these circuit breakers are closed:

F/O Electrical System Panel, P6-11

Row	Col	Number	Name
A	8	C01627	CABIN UTIL RLY PWR

F/O Electrical System Panel, P6-12

Row	Col	Number	Name
A	3	C01643	FD - PC POWER

LOM 427, 428, 443, 444

SUBTASK 23-82-00-200-002

(3) Do the steps that follow:

(a) Lift up the Outlet unit LED cover.

(b) Examine the outlet unit LEDs on the P6 and P18 panels.

(c) Make sure that the outlet unit status LEDs are on and green in color.

NOTE: This shows that there were no faults during the BITE test.

LOM 427, 428, 443, 444, 450

SUBTASK 23-82-00-200-001

(4) Connect a Portable Electronic Device (PED) to the outlet units on the P6 and P18 panels.

(a) Make sure that each outlet unit does have power.

ECCN 9E991 BOEING PROPRIETARY - See title page for details

SUBTASK 23-82-00-860-002

(5) Open this circuit breaker and install safety tag:

F/O Electrical System Panel, P6-12

Row	Col	Number	Name
A	3	C01643	FD - PC POWER

SUBTASK 23-82-00-210-002

(6) Make sure that each outlet unit does not have power.

SUBTASK 23-82-00-860-003

(7) Close this circuit breaker:

F/O Electrical System Panel, P6-12

Row	Col	Number	Name
A	3	C01643	FD - PC POWER

SUBTASK 23-82-00-210-003

(8) Make sure that each outlet unit does have power.

SUBTASK 23-82-00-020-001

(9) Disconnect the PED from each outlet unit.

SUBTASK 23-82-00-860-004

(10) Set the overhead panel P5-13, IFE/PASS SEATS switch to OFF.

END OF TASK

ECCN 9E991 BOEING PROPRIETARY - See title page for details

OUTLET UNIT - REMOVAL/INSTALLATION

1. General

A. This procedure has these tasks:

(1) The removal of an outlet unit.

(2) The installation of an outlet unit.

B. The outlet units are installed on the P6 and P18 panels, behind the captain and first officer seats.

TASK 23-82-01-000-801

2. Outlet Unit Removal

Figure 401 or Figure 402

A. Location Zones

Zone	Area
211	Flight Compartment - Left
212	Flight Compartment - Right

B. Removal Procedure

SUBTASK 23-82-01-865-001

(1) Open this circuit breaker and install safety tag:

F/O Electrical System Panel, P6-12

Row	Col	Number	Name
A	3	C01643	FD - PC POWER

SUBTASK 23-82-01-020-001

(2) Do these steps to remove the outlet unit [1] from the P6 or P18 panel:

(a) Remove the cover plate from the panel:

1) Remove the screws [2] that attach the cover plate to the panel.

2) Pull the outlet unit [1] out of the panel surface.

NOTE: Do not pull out too hard, the wires are still attached to the back of the outlet.

(b) Disconnect the electrical connectors.

(c) Put protective covers on the electrical connectors.

LOM 427, 428, 443, 444

(d) Lift the outlet unit LED cover flap.

LOM 450

(e) Loosen the screw [4] that attaches the outlet unit front plate [3] to the outlet unit [1].

(f) Remove the outlet unit front plate [3] from the outlet unit [1].

LOM 427, 428, 443, 444, 450

(g) Loosen the screws [2] on the front panel of the outlet unit [1].

(h) Remove the outlet unit [1] from the cover plate.

END OF TASK

ECCN 9E991 BOEING PROPRIETARY - See title page for details

1341893 S0000237864_V2

Outlet Unit Installation
Figure 401/23-82-01-990-801

ECCN 9E991 BOEING PROPRIETARY - See title page for details

1560353 S0000288773_V2

Outlet Unit Installation
Figure 402/23-82-01-990-802

ECCN 9E991 BOEING PROPRIETARY - See title page for details

TASK 23-82-01-400-801

3. Outlet Unit Installation

Figure 401 or Figure 402

A. References

Reference	Title
23-82-00-710-801	Flight Compartment PC Power System - Operational Test (P/B 501)

B. Location Zones

Zone	Area
211	Flight Compartment - Left
212	Flight Compartment - Right

C. Installation Procedure

SUBTASK 23-82-01-865-002

(1) Make sure that this circuit breaker is open and has safety tag:

F/O Electrical System Panel, P6-12

Row	Col	Number	Name
A	3	C01643	FD - PC POWER

SUBTASK 23-82-01-400-001

(2) Do the steps that follow to install the outlet unit [1] to the P6 or P18 panel:

(a) Attach the outlet unit [1] to the cover plate:

LOM 427, 428, 443, 444

1) Lift the outlet unit LED cover flap.

LOM 427, 428, 443, 444, 450

2) Put the outlet unit [1] into the cutout in the cover plate.

LOM 427, 428, 443, 444

3) Tighten the screws [2] on the front panel of the outlet unit [1] to 5 ±1 in-lb (1 ±1 N·m).

LOM 450

4) Tighten the screws [2] on the front panel of the outlet unit [1] to 8.0 ±2.0 in-lb (0.9 ±0.2 N·m).

5) Attach the outlet unit front plate [3] to the outlet unit [1].

a) Tighten the screw [4] to 6.0 ±2.0 in-lb (0.7 ±0.2 N·m).

LOM 427, 428, 443, 444, 450

CAUTION

DO NOT TOUCH THE CONNECTOR PINS OR OTHER CONDUCTORS ON THE UNIT. IF YOU TOUCH THESE CONDUCTORS, ELECTROSTATIC DISCHARGE CAN CAUSE DAMAGE TO THE UNIT.

(b) Remove the electrical connector covers.

(c) Connect the electrical connectors to the outlet unit [1].

(d) Install the cover plate to the panel.

1) Install the fasteners.

ECCN 9E991 BOEING PROPRIETARY - See title page for details

SUBTASK 23-82-01-865-003

(3) Remove the safety tag and close this circuit breaker:

F/O Electrical System Panel, P6-12

Row	Col	Number	Name
A	3	C01643	FD - PC POWER

D. Installation Test

SUBTASK 23-82-01-710-001

(1) Do an operational test of the PC power system:

(a) Do this task: Flight Compartment PC Power System - Operational Test, TASK 23-82-00-710-801.

END OF TASK

ECCN 9E991 BOEING PROPRIETARY - See title page for details

IN-SEAT POWER SUPPLY - REMOVAL/INSTALLATION

1. General

A. This procedure has these tasks:

(1) A removal of an In-Seat Power Supply (ISPS)

(2) An installation of an ISPS.

B. The ISPS is installed in the EE bay.

TASK 23-82-02-000-801

2. In-Seat Power Supply Removal

(Figure 401)

A. Location Zones

Zone	Area
118	Electrical and Electronics Compartment - Right

B. ISPS Removal

SUBTASK 23-82-02-865-001

(1) Open this circuit breaker and install safety tag:

F/O Electrical System Panel, P6-12

Row	Col	Number	Name
A	3	C01643	FD - PC POWER

SUBTASK 23-82-02-010-001

(2) Remove the floor panel in the EE compartment to get access to the in-seat power supply [1].

(a) Remove the fasteners.

(b) Remove the floor panel.

SUBTASK 23-82-02-020-001

(3) Do the steps that follow to remove the in-seat power supply [1]:

CAUTION

DO NOT TOUCH THE ELECTRICAL CONNECTOR CONTACT PINS. STATIC ELECTRICAL CHARGES THAT COLLECT ON THE SKIN CAN CAUSE DAMAGE TO THE ELECTROSTATIC SENSITIVE COMPONENTS INSTALLED IN THIS DEVICE.

(a) Disconnect the electrical connectors [6] from the in-seat power supply [1].

(b) Disconnect the bonding jumper [5] from the in-seat power supply [1].

1) Remove the nut [4] and washer [3] that attach the bonding jumper [5] to the in-seat power supply [1].

2) Keep the nut [4] and washer [3] for the in-seat power supply [1] installation.

(c) Hold the in-seat power supply [1] and pull the quick release fasteners [2].

(d) Remove the in-seat power supply [1] from the mounting bracket.

(e) If the termination plugs are installed, remove and keep the termination plugs.

(f) Put the protective covers on the electrical connectors [6].

END OF TASK

ECCN 9E991 BOEING PROPRIETARY - See title page for details

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ISPS Installation
Figure 401/23-82-02-990-801

ECCN 9E991 BOEING PROPRIETARY - See title page for details

TASK 23-82-02-400-801

3. In-Seat Power Supply Installation

(Figure 401)

A. References

Reference	Title
23-82-00-710-801	Flight Compartment PC Power System - Operational Test (P/B 501)
SWPM 20-20-00	ELECTRICAL BONDING PROCESSES

B. Tools/Equipment

NOTE: When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

Reference	Description
COM-1550	Bonding Meter - Approved, Intrinsically Safe (Approved for use in Class I, Divisions I & II hazardous (classified) locations. Outside these hazardous locations, COM-614 can be used in lieu of COM-1550). Part #: 620LK Supplier: 1CRL2 Part #: M1 Supplier: 3AD17 Part #: M1B Supplier: 3AD17 Part #: T477W (C15292) Supplier: 06659

C. Expendables/Parts

AMM Item	Description	AIPC Reference	AIPC Effectivity
1	In-seat power supply	23-82-02-01-085	LOM 427, 428, 443, 444

D. Location Zones

Zone	Area
118	Electrical and Electronics Compartment - Right

E. ISPS Installation

SUBTASK 23-82-02-865-002

(1) Make sure that this circuit breaker is open and has safety tag:

F/O Electrical System Panel, P6-12

Row	Col	Number	Name
A	3	C01643	FD - PC POWER

SUBTASK 23-82-02-420-001

(2) Do the steps that follow to install the in-seat power supply [1]:

> **CAUTION** DO NOT TOUCH THE CONNECTOR PINS, OR OTHER CONDUCTORS. IF YOU TOUCH THESE CONDUCTORS, ELECTROSTATIC DISCHARGE CAN CAUSE DAMAGE TO THE COMPONENTS.

(a) Remove the electrical connector covers.

(b) Examine the electrical connectors [6] for bent or broken pins, dirt, and damage.

(c) If the termination plugs were removed, install the termination plugs.

(d) Put the in-seat power supply [1] in the correct position and lock the quick release fasteners [2].

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(e) Connect the electrical connectors [6] to the in-seat power supply [1].

(f) Connect the bonding jumper [5] to the in-seat power supply [1].

1) Install the washer [3] and nut [4].

2) Use a intrinsically safe approved bonding meter, COM-1550, to measure the resistance between the in-seat power supply [1] and the airplane structure (SWPM 20-20-00).

a) Make sure that the resistance is 0.0025 ohms (2.5 milliohms) or less.

SUBTASK 23-82-02-865-003

(3) Remove the safety tag and close this circuit breaker:

F/O Electrical System Panel, P6-12

Row	Col	Number	Name
A	3	C01643	FD - PC POWER

F. Installation Test

SUBTASK 23-82-02-710-001

(1) Do this task: Flight Compartment PC Power System - Operational Test, TASK 23-82-00-710-801.

G. Put the Airplane Back to Its Usual Condition

SUBTASK 23-82-02-410-001

(1) Install the floor panel that was removed for access.

(a) Install the fasteners.

END OF TASK

ECCN 9E991 BOEING PROPRIETARY - See title page for details

IN-SEAT POWER CONVERTER - REMOVAL/INSTALLATION

1. General

A. This procedure has these tasks:

(1) The removal of an In-Seat Power Converter (ISPC).

(2) The installation of an In-Seat Power Converter (ISPC).

B. The ISPC is installed in the EE bay.

TASK 23-82-03-000-801

2. In-Seat Power Converter Removal

(Figure 401)

A. Location Zones

Zone	Area
118	Electrical and Electronics Compartment - Right

B. ISPC Removal

SUBTASK 23-82-03-865-001

(1) Open this circuit breaker and install safety tag:

F/O Electrical System Panel, P6-12

Row	Col	Number	Name
A	3	C01643	FD - PC POWER

SUBTASK 23-82-03-010-001

(2) Remove the floor panel in the EE compartment to get access to the in-seat power converter [1]:

(a) Remove the fasteners.

(b) Remove the floor panel.

SUBTASK 23-82-03-020-001

(3) Do the steps that follow to remove the in-seat power converter [1]:

> **CAUTION** DO NOT TOUCH THE ELECTRICAL CONNECTOR CONTACT PINS. STATIC ELECTRICAL CHARGES THAT COLLECT ON THE SKIN CAN CAUSE DAMAGE TO THE ELECTROSTATIC SENSITIVE COMPONENTS INSTALLED IN THIS DEVICE.

(a) Disconnect the electrical connectors [6] from the in-seat power converter [1].

(b) Disconnect the bonding jumper [5] from the in-seat power converter [1].

1) Remove the nut [4] and washer [3] that attach the bonding jumper [5] to the in-seat power converter [1].

2) Keep the nut [4] and washer [3] for the in-seat power converter [1] installation.

(c) Hold the in-seat power converter [1] and pull the quick release fasteners [2].

(d) Remove the in-seat power converter [1] from the mounting bracket.

(e) If the termination plugs are installed, remove and keep the termination plugs.

(f) Put the protective covers on the electrical connectors [6].

END OF TASK

ECCN 9E991 BOEING PROPRIETARY - See title page for details

IN-SEAT POWER CONVERTER

A

1560332 S0000288718_V3

ISPC Installation
Figure 401/23-82-03-990-801

ECCN 9E991 BOEING PROPRIETARY - See title page for details

TASK 23-82-03-400-801

3. In-Seat Power Converter Installation

(Figure 401)

A. References

Reference	Title
23-82-00-710-801	Flight Compartment PC Power System - Operational Test (P/B 501)

B. Tools/Equipment

NOTE: When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

Reference	Description
COM-1550	Bonding Meter - Approved, Intrinsically Safe (Approved for use in Class I, Divisions I & II hazardous (classified) locations. Outside these hazardous locations, COM-614 can be used in lieu of COM-1550). Part #: 620LK Supplier: 1CRL2 Part #: M1 Supplier: 3AD17 Part #: M1B Supplier: 3AD17 Part #: T477W (C15292) Supplier: 06659

C. Expendables/Parts

AMM Item	Description	AIPC Reference	AIPC Effectivity
1	In-seat power converter	25-29-11-01-060	LOM 450

D. Location Zones

Zone	Area
118	Electrical and Electronics Compartment - Right

E. ISPC Installation

SUBTASK 23-82-03-865-002

(1) Make sure that this circuit breaker is open and has safety tag:

F/O Electrical System Panel, P6-12

Row	Col	Number	Name
A	3	C01643	FD - PC POWER

SUBTASK 23-82-03-420-001

(2) Do the steps that follow to install the in-seat power converter [1]:

> **CAUTION** DO NOT TOUCH THE CONNECTOR PINS OR OTHER CONDUCTORS ON THE UNIT. IF YOU TOUCH THESE CONDUCTORS, ELECTROSTATIC DISCHARGE CAN CAUSE DAMAGE TO THE UNIT.

(a) Remove the electrical connector covers.

(b) Examine the electrical connectors [6] for bent or broken pins, dirt, and damage.

(c) If the termination plugs were removed, install the termination plugs.

(d) Put the in-seat power converter [1] in the correct position and lock the quick release fasteners [2].

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(e) Connect the electrical connectors [6] to the in-seat power converter [1].

(f) Connect the bonding jumper [5] to the in-seat power converter [1]:

1) Install the washer [3] and nut [4].

2) Use a intrinsically safe approved bonding meter, COM-1550, to measure the resistance between the in-seat power converter [1] and airplane structure.

a) Make sure that the resistance is 0.0025 ohms (2.5 milliohms) or less.

SUBTASK 23-82-03-865-003

(3) Remove the safety tag and close this circuit breaker:

F/O Electrical System Panel, P6-12

Row	Col	Number	Name
A	3	C01643	FD - PC POWER

F. Installation Test

SUBTASK 23-82-03-710-001

(1) Do this task: Flight Compartment PC Power System - Operational Test, TASK 23-82-00-710-801.

G. Put the Airplane Back to Its Usual Condition

SUBTASK 23-82-03-410-001

(1) Install the floor panel that was removed for access.

(a) Install the fasteners.

——— END OF TASK ———

ECCN 9E991 BOEING PROPRIETARY - See title page for details