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HIGHLIGHTS

REVISION NO. 54 May 01/08

Pages which have been revised are outlined below, together with the Highlights of the Revision

CH/SE/SU C REASON FOR CHANGE **EFFECTIVITY PAGES** CHAPTER 73 L.E.P. 1- 7 REVISED TO REFLECT THIS REVISION INDICATING NEW, REVISED, AND/OR DELETED PAGES REVISED TO REFLECT THIS REVISION T. OF C. 2- 4, 6-7 201-201, 203-204, 206-225, 73-CFDS SB 36-1057 INCORPORATED 101 PNEUMATIC - ENGINE BLEED AIR SUPPLY SYSTEM -227-227, 229-231, 233-244, 254-275, 278-279, 281-281, INSTALL BMC STD 9 CAPABLE OF A318 PW. 283-283, 286-299, 701-749, 73-00-00 **EFFECTIVITY UPDATED** 210, 215- CORRECTION/ADDITION/AMPLIFICATION ALL 220, 229- REVISED WRITING 230, 243- EFFECTIVITY UPDATED (THROUGHOUT THE TEXT) 201-225, 227-227, 229-282, 284-299, 426-499, 503-549, 246 551-599, 701-749, 73-10-00 EFFECTIVITY UPDATED 201-225, 227-227, 229-299, 206- 208, EFFECTIVITY UPDATED (THROUGHOUT THE TEXT) 211- 213, 426-499, 503-549, 551-599, 216-217, 701-749, 220- 221, 245- 264, 267-268, 272- 273, 277- 279, 283- 285, 291- 296 73-20-00 **EFFECTIVITY UPDATED** A228-A229, EFFECTIVITY UPDATED (THROUGHOUT THE TEXT) ALL A232-A233, A235-A248, A250-A251, A253-A254, B202-B203, B206-B207,

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CH/SE/SU C PAGES	REASON FOR CHANGE	EFFECTIVITY
B209-B210, B212-B213		
73-25-00 224, 226, 228, 230, 244, 246, 264, 266, 269, 272, 280, 282, A210,A212, A232,A234, A236,A238	EFFECTIVITY UPDATED (THROUGHOUT THE TEXT)	201-225, 227-227, 229-299, 426-455, 476-499, 503-549, 551-599, 701-749,
221, 223, 227, 229,	CORRECTION/ADDITION/AMPLIFICATION CORRECTED WRONG RESISTANCE VALUES PINS 16-34 EFFECTIVITY UPDATED (THROUGHOUT THE TEXT)	ALL 201-225, 227-227, 229-299, 426-499, 503-549, 551-599, 701-749,

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CHAPTER 73

ENGINE FUEL AND CONTROL

LIST OF EFFECTIVE PAGES

N, R or D indicates pages which are New, Revised or Deleted respectively Remove and insert the affected pages and complete the Record of Revisions and the Record of Temporary Revisions as necessary

CH/SE/SU	С	PAGE	DATE	CH/SE/SU	С	PAGE	DATE	CH/SE/SU	С	PAGE	DATE
RECORD				73-CFDS		109	Feb01/07	73-00-00		224	May01/07
OF TEMP.				73-CFDS			Feb01/07	73-00-00			Feb01/05
REVISION				73-CFDS			Nov01/07	73-00-00			Aug01/03
				73-CFDS			Aug01/05	73-00-00			Aug01/03
L.E.P.	R	1- 7	May01/08	73-CFDS			Aug01/05	73-00-00			Nov01/07
T. of C.		1	•	73-CFDS			Aug01/05	73-00-00	R		May01/08
T. of C.	R		May01/08	73-CFDS			Aug01/05	73-00-00	R		May01/08
T. of C.	R		May01/08	73-CFDS			Nov01/06	73-00-00			Feb01/08
T. of C.	R		May01/08	73-CFDS		117	Nov01/06	73-00-00		232	Feb01/08
T. of C.		5	Feb01/08	73-CFDS		118	Aug01/05	73-00-00		233	Nov01/07
T. of C.	R	6	May01/08	73-CFDS		119	Aug01/05	73-00-00		234	Nov01/07
T. of C.	R	7	May01/08	73-CFDS		120	Feb01/07	73-00-00		235	Nov01/07
T. of C.		8	Feb01/08	73-CFDS		121	Nov01/07	73-00-00		236	Nov01/07
T. of C.		9	Feb01/08	73-CFDS		122	Aug01/05	73-00-00		237	Nov01/07
T. of C.		10	Feb01/08	73-CFDS		123	Aug01/05	73-00-00		238	Aug01/03
T. of C.		11	Feb01/08	73-CFDS		124	Aug01/05	73-00-00		239	Aug01/03
T. of C.		12	Feb01/08	73-CFDS		125	Aug01/05	73-00-00		240	Nov01/07
T. of C.		13	Feb01/08	73-CFDS		126	Feb01/08	73-00-00		241	Nov01/07
T. of C.		14	Feb01/08					73-00-00		242	Nov01/07
T. of C.		15	Feb01/08	73-00-00		201	Nov01/02	73-00-00	R	243	May01/08
T. of C.		16	Feb01/08	73-00-00		202	Nov01/02	73-00-00	R	244	May01/08
T. of C.		17	Feb01/08	73-00-00		203	Nov01/02	73-00-00	R	245	May01/08
T. of C.		18	Feb01/08	73-00-00		204	May01/96	73-00-00	R	246	May01/08
T. of C.		19	Feb01/08	73-00-00		205	Nov01/02				
T. of C.		20	Feb01/08	73-00-00		206	Nov01/02	73-10-00		201	May01/96
T. of C.		21	Feb01/08	73-00-00		207	Aug01/98	73-10-00		202	May01/96
T. of C.		22	Feb01/08	73-00-00		208	Aug01/98	73-10-00			May01/96
T. of C.		23	Feb01/08	73-00-00		209	Aug01/04	73-10-00		204	May01/96
T. of C.		24	Feb01/08	73-00-00	R	210	May01/08	73-10-00		205	Feb01/07
				73-00-00			Feb01/08	73-10-00	R		May01/08
73-0BSV			Nov01/07	73-00-00		212	Nov01/05	73-10-00	R		May01/08
73-0BSV			Nov01/07	73-00-00			Aug01/03	73-10-00	R		May01/08
73-0BSV		103	Aug01/04	73-00-00			Feb01/08	73-10-00			May01/05
				73-00-00	R		May01/08	73-10-00		210	Feb01/07
73-CFDS	R	101	May01/08	73-00-00	R	216	May01/08	73-10-00	R	211	May01/08
73-CFDS			Feb01/06	73-00-00	R		May01/08	73-10-00	R		May01/08
73-CFDS			Feb01/06	73-00-00	R		May01/08	73-10-00	R		May01/08
73-CFDS			Aug01/05	73-00-00	R		May01/08	73-10-00			May01/05
73-CFDS			Aug01/05	73-00-00	R		May01/08	73-10-00			Aug01/05
73-CFDS			Nov01/06	73-00-00			Feb01/07	73-10-00	R		May01/08
73-CFDS			Aug01/05	73-00-00			Aug01/03	73-10-00	R		May01/08
73-CFDS		108	Aug01/05	73-00-00		223	Aug01/03	73-10-00		218	May01/05

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CH/SE/SU	C	PAGE	DATE	CH/SE/SU	C	PAGE	DATE	CH/SE/SU	C	PAGE	DATE
73-10-00		219	Aug01/05	73-10-00		270	Aug01/05	73-10-00	D	A221	
73-10-00	R	220	May01/08	73-10-00			Aug01/05				
73-10-00	R	221	May01/08	73-10-00	R	272	May01/08	73-20-00			Aug01/99
73-10-00		222	May01/05	73-10-00	R	273	May01/08	73-20-00		202	May01/00
73-10-00			May01/02	73-10-00			Aug01/05	73-20-00			May01/00
73-10-00			May01/02	73-10-00			Feb01/07	73-20-00			May01/00
73-10-00			Feb01/01	73-10-00		276	Feb01/07	73-20-00			Aug01/99
73-10-00			Feb01/01	73-10-00	R		May01/08	73-20-00			May01/00
73-10-00			Feb01/01	73-10-00	R		May01/08	73-20-00		207	•
73-10-00			Feb01/01	73-10-00	R		May01/08	73-20-00			May01/00
73-10-00			Feb01/01	73-10-00			Feb01/07	73-20-00			Aug01/04
73-10-00			Feb01/01	73-10-00			Feb01/07	73-20-00			Aug01/04
73-10-00			Nov01/07	73-10-00	_		Feb01/07	73-20-00			Aug01/05
73-10-00			Nov01/07	73-10-00	R		,	73-20-00			Aug01/05
73-10-00			Nov01/07	73-10-00	R		May01/08	73-20-00			Aug01/05
73-10-00			Nov01/07	73-10-00	R		May01/08	73-20-00			Aug01/05
73-10-00			Nov01/07	73-10-00			Feb01/07	73-20-00			Aug01/04
73-10-00			Nov01/07	73-10-00		287	May01/05	73-20-00			Aug01/04
73-10-00		237		73-10-00		288		73-20-00			Aug01/04
73-10-00			Nov01/07	73-10-00		289	May01/05	73-20-00			Aug01/04
73-10-00		239	-	73-10-00	_	290	May01/05	73-20-00			Aug01/04
73-10-00			Nov01/07	73-10-00	R		May01/08	73-20-00			Aug01/04
73-10-00			Feb01/01	73-10-00	R		•	73-20-00			Aug01/01
73-10-00			Feb01/01	73-10-00	R		,	73-20-00			Aug01/01
73-10-00			Feb01/01	73-10-00	R		May01/08	73-20-00			Aug01/01
73-10-00	_		Feb01/01	73-10-00	R		May01/08	73-20-00			Aug01/01
73-10-00	R		May01/08	73-10-00	R		May01/08	73-20-00			Aug01/01
73-10-00 73-10-00	R		May01/08	73-10-00 73-10-00		297	-	73-20-00 73-20-00			Aug01/01
73-10-00 73-10-00	R R		May01/08	73-10-00		299	Feb01/07 Feb01/07	73-20-00			Aug01/01
73-10-00 73-10-00	R		May01/08 May01/08	73-10-00		A200		73-20-00			Aug01/01 Aug01/01
73-10-00 73-10-00	R	250	•	73-10-00		A200	May01/05	73-20-00			Aug01/01 Aug01/01
73-10-00	R		May01/08	73-10-00			May01/05	73-20-00			Aug01/01 Aug01/01
73-10-00	R		May01/08	73-10-00			Feb01/07	73-20-00			Aug01/01
73-10-00	R		May01/08	73-10-00			May01/05	73-20-00			Aug01/01
73-10-00	R		May01/08	73-10-00			May01/05	73-20-00			Aug01/01
73-10-00	R		May01/08	73-10-00			Feb01/07	73-20-00			Aug01/01
73-10-00	R		May01/08	73-10-00			May01/05	73-20-00			Aug01/01
73-10-00	R		May01/08	73-10-00			May01/05	73-20-00			Aug01/01
73-10-00	R		May01/08	73-10-00			May01/05	73-20-00			Aug01/01
73-10-00	R		May01/08	73-10-00			May01/05	73-20-00			Aug01/01
73-10-00	R		May01/08	73-10-00			May01/05	73-20-00			Aug01/01
73-10-00	R		May01/08	73-10-00			May01/05	73-20-00			Aug01/01
73-10-00	R		May01/08	73-10-00			May01/05	73-20-00			Aug01/01
73-10-00	R		May01/08	73-10-00			May01/05	73-20-00			Aug01/01
73-10-00	R		May01/08	73-10-00			May01/05	73-20-00			Aug01/01
73-10-00			May01/05	73-10-00			May01/05	73-20-00			Aug01/05
73-10-00			May01/05	73-10-00			May01/05	73-20-00			Aug01/05
73-10-00	R		May01/08	73-10-00			May01/05	73-20-00			Aug01/05
73-10-00	R		May01/08	73-10-00			May01/05	73-20-00			Aug01/05
73-10-00			May01/05	73-10-00			May01/05	73-20-00			Aug01/05
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CH/SE/SU C P	AGE DATE	CH/SE/SU	C PAGE	DATE	CH/SE/SU	С	PAGE	DATE
73-20-00	250 Aug01/05	73-20-00	A201	Aug01/05	73-20-00		A252	Aug01/05
	251 Aug01/05	73-20-00		Aug01/05	73-20-00	R		May01/08
	252 Aug01/05	73-20-00		Aug01/05	73-20-00			May01/08
	253 Aug01/05	73-20-00	A204	Aug01/05	73-20-00			May01/07
	254 Aug01/05	73-20-00	A205	Aug01/05	73-20-00			May01/07
73-20-00	255 Aug01/05	73-20-00	A206	Aug01/05	73-20-00		A257	May01/07
73-20-00	256 Aug01/05	73-20-00	A207	Aug01/05	73-20-00		A258	May01/07
73-20-00	257 Aug01/05	73-20-00	A208	Aug01/05	73-20-00		A259	Aug01/05
73-20-00	258 Aug01/05	73-20-00	A209	Aug01/05	73-20-00		A260	Aug01/05
73-20-00	259 Aug01/05	73-20-00	A210	Aug01/05	73-20-00		A261	May01/07
73-20-00	260 Aug01/05	73-20-00	A211	Aug01/05	73-20-00		A262	May01/07
73-20-00	261 Aug01/05	73-20-00	A212	Aug01/05	73-20-00		A263	Aug01/05
73-20-00	262 Aug01/05	73-20-00	A213	Aug01/05	73-20-00		A264	Aug01/05
73-20-00	263 Aug01/05	73-20-00	A214	Aug01/05	73-20-00		A265	Aug01/05
73-20-00	264 Aug01/05	73-20-00	A215	Aug01/05	73-20-00		A266	Aug01/05
73-20-00	265 Aug01/05	73-20-00	A216	Aug01/05	73-20-00		A267	Aug01/05
73-20-00	266 Aug01/05	73-20-00	A217	Aug01/05	73-20-00		A268	Aug01/05
73-20-00	267 Aug01/05	73-20-00	A218	Aug01/05	73-20-00			Aug01/05
73-20-00	268 Aug01/05	73-20-00	A219	Aug01/05	73-20-00			Aug01/05
73-20-00	269 Aug01/05	73-20-00	A220	Aug01/05	73-20-00			Aug01/05
73-20-00	270 Aug01/05	73-20-00	A221	Aug01/05	73-20-00		A272	Aug01/05
73-20-00	271 Aug01/05	73-20-00	A222	Aug01/05	73-20-00			Aug01/05
73-20-00	272 Aug01/05	73-20-00	A223	Aug01/05	73-20-00			Aug01/05
	273 Aug01/05	73-20-00		Aug01/05	73-20-00			Aug01/05
73-20-00	274 Aug01/05	73-20-00	A225	Aug01/05	73-20-00		A276	Aug01/05
	275 Aug01/05	73-20-00		Aug01/05	73-20-00			Aug01/05
	276 Aug01/05	73-20-00		Aug01/05	73-20-00			Aug01/05
	277 Aug01/05	73-20-00		May01/08	73-20-00			Aug01/05
	278 Aug01/05	73-20-00		May01/08	73-20-00			Aug01/05
	279 Aug01/05	73-20-00		Aug01/05	73-20-00			Aug01/05
	280 Aug01/05	73-20-00		Aug01/05	73-20-00			Aug01/05
	281 Aug01/05	73-20-00		May01/08	73-20-00			Aug01/05
	282 Aug01/05	73-20-00		May01/08	73-20-00			Aug01/05
	283 Aug01/05	73-20-00		Aug01/05	73-20-00			Aug01/05
	284 Aug01/05	73-20-00		May01/08	73-20-00			Aug01/05
	285 Aug01/05	73-20-00		May01/08	73-20-00			Aug01/05
	286 Aug01/05	73-20-00		May01/08	73-20-00			Aug01/05
	287 Aug01/05	73-20-00		May01/08	73-20-00			Aug01/05
	288 Aug01/05	73-20-00		May01/08	73-20-00			Aug01/05
	289 Aug01/05	73-20-00		May01/08	73-20-00			Aug01/05
	290 Aug01/05	73-20-00		May01/08	73-20-00			Aug01/05
	291 Aug01/05	73-20-00		May01/08	73-20-00			Aug01/05
	292 Aug01/05	73-20-00		May01/08	73-20-00			Aug01/05
	293 Aug01/05	73-20-00		May01/08	73-20-00			Aug01/05
	294 Aug01/05	73-20-00		May01/08	73-20-00			Aug01/05
	295 Aug01/05	73-20-00		May01/08	73-20-00			Aug01/05
	296 Aug01/05	73-20-00		May01/08	73-20-00			Aug01/05
	297 Aug01/05	73-20-00		May01/08	73-20-00			Aug01/05
	298 Aug01/05	73-20-00		Aug01/05	73-20-00			Aug01/05
	299 Aug01/05	73-20-00		May01/08	73-20-00	_		Aug01/05
73-20-00 A	200 Aug01/05	73-20-00	K A251	May01/08	73-20-00	R	R202	May01/08

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L				,				
CH/SE/SU C PAGE	DATE	CH/SE/SU	C PAGE	DATE	CH/SE/SU	С	PAGE	DATE
73-20-00 R B203	May01/08	73-20-00	B254	Aug01/05	73-20-81		246	May01/99
	Aug01/05	73-20-00		Aug01/05	73-20-81			May01/99
	Aug01/05	73-20-00		Aug01/05	73-20-81			May01/99
	May01/08	73-20-00		Aug01/05	73-20-81			May01/99
	May01/08	73-20-00		Aug01/05	73-20-81			May01/99
	Aug01/05	73-20-00		Aug01/05	73-20-81			May01/99
	May01/08	73-20-81		May01/99	73-20-81			May01/99
	May01/08	73-20-81		May01/99	73-20-81			May01/99
	Aug01/05	73-20-81		May01/99	73-20-81			May01/99
73-20-00 R B212	May01/08	73-20-81	204	May01/99	73-20-81		255	Aug01/99
73-20-00 R B213	May01/08	73-20-81	205	May01/99	73-20-81		256	Aug01/99
73-20-00 B214	Aug01/05	73-20-81	206	May01/99	73-20-81		257	May01/99
73-20-00 B215	Aug01/05	73-20-81	207	May01/99	73-20-81		258	May01/99
73-20-00 B216	Aug01/05	73-20-81	208	May01/99	73-20-81		259	May01/99
73-20-00 B217	Aug01/05	73-20-81	209	Aug01/07	73-20-81		260	May01/99
73-20-00 B218	Aug01/05	73-20-81	210	Aug01/07	73-20-81		261	May01/99
73-20-00 B219	Aug01/05	73-20-81	211	May01/99	73-20-81		262	May01/99
73-20-00 B220	Aug01/05	73-20-81	212	May01/99	73-20-81		263	May01/99
73-20-00 B221	Aug01/05	73-20-81	213	May01/99	73-20-81		264	May01/99
73-20-00 B222	Aug01/05	73-20-81	214	May01/99	73-20-81		265	May01/99
73-20-00 B223	Aug01/05	73-20-81	215	May01/99	73-20-81		266	May01/99
73-20-00 B224	Aug01/05	73-20-81	216	May01/99	73-20-81		267	May01/99
73-20-00 B225	Aug01/05	73-20-81	217	May01/99	73-20-81		268	May01/99
73-20-00 B226	Aug01/05	73-20-81	218	May01/99	73-20-81		269	May01/99
73-20-00 B227	Aug01/05	73-20-81	219	May01/99	73-20-81		270	May01/99
73-20-00 B228	Aug01/05	73-20-81	220	May01/99	73-20-81		271	May01/99
73-20-00 B229	Aug01/05	73-20-81	221	May01/99	73-20-81		272	May01/99
73-20-00 B230	Aug01/05	73-20-81	222	May01/99	73-20-81		273	Aug01/07
73-20-00 B231	Aug01/05	73-20-81	223	May01/99	73-20-81		274	Aug01/07
73-20-00 B232	Aug01/05	73-20-81	224	May01/99	73-20-81		275	May01/99
73-20-00 B233	Aug01/05	73-20-81	225	May01/99	73-20-81		276	May01/99
	Aug01/05	73-20-81	226	May01/99	73-20-81		277	May01/99
	Aug01/05	73-20-81	227	•	73-20-81		278	Aug01/00
	Aug01/05	73-20-81		May01/99	73-20-81		279	May01/99
	Aug01/05	73-20-81		May01/99	73-20-81		280	May01/99
	Aug01/05	73-20-81		May01/99	73-20-81			May01/99
	Aug01/05	73-20-81		May01/99	73-20-81			May01/99
	Aug01/05	73-20-81		May01/99	73-20-81			May01/99
	Aug01/05	73-20-81		May01/99	73-20-81			May01/99
	Aug01/05	73-20-81		May01/99	73-20-81		285	May01/99
	Aug01/05	73-20-81		Nov01/04	73-20-81			May01/99
	Aug01/05	73-20-81		Nov01/04	73-20-81			May01/99
	Aug01/05	73-20-81		May01/99	73-20-81			May01/99
	Aug01/05	73-20-81		May01/99	73-20-81			May01/99
	Aug01/05	73-20-81		May01/99	73-20-81			May01/99
	Aug01/05	73-20-81		May01/99	73-20-81			May01/99
	Aug01/05	73-20-81		May01/99	73-20-81			May01/99
	Aug01/05	73-20-81		May01/99	73-20-81			May01/99
	Aug01/05	73-20-81		May01/99	73-20-81			May01/99
	Aug01/05	73-20-81		May01/99	73-20-81			May01/99
73-20-00 B253	Aug01/05	73-20-81	245	May01/99	73-20-81		296	May01/99

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73-20-81 2	297 May01/99	73-25-00		249	Nov01/06	73-25-00		A200	Feb01/07
73-20-81 2	298 May01/99	73-25-00		250	Nov01/06	73-25-00			Feb01/07
	,	73-25-00		251	Nov01/06	73-25-00			Feb01/07
73-25-00 2	201 Aug01/95	73-25-00		252	Nov01/06	73-25-00		A203	Feb01/07
	202 Aug01/94	73-25-00		253	Aug01/94	73-25-00		A204	Feb01/07
73-25-00 2	203 Aug01/94	73-25-00		254	Nov01/06	73-25-00		A205	Feb01/07
73-25-00 2	204 Aug01/94	73-25-00		255	Aug01/94	73-25-00		A206	Feb01/07
73-25-00 2	205 Aug01/94	73-25-00		256	Nov01/06	73-25-00		A207	Feb01/07
73-25-00 2	206 Aug01/94	73-25-00		257	Feb01/05	73-25-00		A208	Feb01/07
73-25-00 2	207 Aug01/94	73-25-00		258	Nov01/06	73-25-00		A209	Feb01/07
73-25-00 2	208 Aug01/95	73-25-00		259	Nov01/06	73-25-00	R	A210	May01/08
73-25-00 2	209 Aug01/95	73-25-00		260	Nov01/06	73-25-00		A211	Feb01/08
73-25-00 2	210 Aug01/95	73-25-00		261	Nov01/06	73-25-00	R	A212	May01/08
73-25-00 2	211 Aug01/95	73-25-00		262	Nov01/06	73-25-00		A213	Feb01/08
73-25-00 2	212 Aug01/94	73-25-00		263	Nov01/06	73-25-00		A214	Feb01/07
73-25-00 2	213 Aug01/94	73-25-00	R	264	May01/08	73-25-00		A215	Feb01/07
73-25-00 2	214 May01/99	73-25-00		265	Nov01/06	73-25-00		A216	Feb01/07
73-25-00 2	215 May01/99	73-25-00	R	266	May01/08	73-25-00		A217	Feb01/07
	216 May01/99	73-25-00			Nov01/06	73-25-00		A218	Feb01/07
73-25-00 2	217 May01/99	73-25-00		268	Nov01/06	73-25-00		A219	Feb01/07
73-25-00 2	218 Aug01/94	73-25-00	R	269	May01/08	73-25-00		A220	Feb01/07
	219 Aug01/94	73-25-00		270	Nov01/06	73-25-00		A221	Feb01/07
	220 Aug01/05	73-25-00		271	Nov01/06	73-25-00		A222	Feb01/07
	221 Aug01/05	73-25-00	R		May01/08	73-25-00			Feb01/07
	222 Aug01/94	73-25-00			Nov01/06	73-25-00			Feb01/07
	223 Aug01/94	73-25-00			Nov01/06	73-25-00			Aug01/05
	224 May01/08	73-25-00			Nov01/06	73-25-00			Feb01/07
	225 Nov01/06	73-25-00			Nov01/06	73-25-00			Nov01/06
	226 May01/08	73-25-00		277	-	73-25-00			Feb01/07
	227 Nov01/06	73-25-00			Nov01/06	73-25-00			Feb01/07
	228 May01/08	73-25-00		279	-	73-25-00			Feb01/07
	229 Nov01/06	73-25-00	R	280	May01/08	73-25-00			Feb01/07
	230 May01/08	73-25-00			Nov01/06	73-25-00	R		May01/08
	231 Nov01/06	73-25-00	R		May01/08	73-25-00			Feb01/07
	232 Nov01/06	73-25-00			Feb01/07	73-25-00	R		May01/08
	233 Nov01/06	73-25-00			Feb01/07	73-25-00			Feb01/07
	234 Feb01/07	73-25-00			Feb01/07	73-25-00	R		May01/08
	235 Feb01/07	73-25-00			Feb01/07	73-25-00			Feb01/07
	236 Feb01/07	73-25-00			Feb01/07	73-25-00	R		May01/08
	237 Feb01/07	73-25-00			Feb01/07	73-25-00			Feb01/07
	238 Nov01/06	73-25-00			Aug01/94	73-25-00			Feb01/07
	239 Nov01/06	73-25-00			Feb01/07	73-25-00			Feb01/07
	240 Nov01/06	73-25-00			Aug01/05	73-25-00			Feb01/07
	241 Feb01/05	73-25-00			Feb01/07	73-25-00			Feb01/07
	242 Nov01/06	73-25-00			Nov01/06	73-25-00			Feb01/07
	243 Nov01/06	73-25-00			Feb01/07	73-25-00			Feb01/07
	244 May01/08	73-25-00			Feb01/07	73-25-00			Feb01/07
	245 Feb01/07	73-25-00			Feb01/07	73-25-00			Feb01/07
	246 May01/08	73-25-00			Feb01/07	73-25-00			Feb01/07
	247 Feb01/07	73-25-00			Feb01/07	73-25-00			Feb01/07
73-25-00 2	248 Nov01/06	73-25-00		299	Feb01/07	73-25-00		AZDU	Feb01/07

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73-25-00			Feb01/07	73-29-00			May01/05	73-29-00			May01/05
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73-29-00		201	Aug01/94	73-29-00			May01/05	73-29-00			May01/05
73-29-00			May01/96	73-29-00			May01/05	73-29-00			May01/05
73-29-00			Aug01/95	73-29-00			May01/05	73-29-00			May01/05
73-29-00			Aug01/94	73-29-00			May01/05	73-29-00			May01/05
73-29-00			Aug01/94	73-29-00			May01/05	73-29-00			May01/05
73-29-00			May01/96	73-29-00	R		May01/08	73-29-00			May01/05
73-29-00			Aug01/95	73-29-00			May01/05	73-29-00			May01/05
73-29-00			Aug01/94	73-29-00	R		May01/08	73-29-00			May01/05
73-29-00			Aug01/94	73-29-00			May01/05	73-29-00			May01/05
73-29-00			Aug01/94	73-29-00			May01/05	73-29-00			Aug01/07
73-29-00			Aug01/94	73-29-00			May01/05	73-29-00			Aug01/07
73-29-00			Aug01/94	73-29-00			May01/05	73-29-00			May01/05
73-29-00			May01/96	73-29-00			Feb01/05	73-29-00			Aug01/07
73-29-00			May01/96	73-29-00			May01/05	73-29-00			Aug01/07
73-29-00			May01/96	73-29-00			May01/05	73-29-00			May01/05
73-29-00			May01/96	73-29-00			May01/05	73-29-00			Aug01/07
73-29-00			May01/96	73-29-00			Feb01/05	73-29-00			Aug01/07
73-29-00			May01/96	73-29-00			May01/05	73-29-00			May01/05
73-29-00			Feb01/99	73-29-00			May01/05	73-29-00			Aug01/07
73-29-00			Feb01/99	73-29-00			May01/05	73-29-00			Aug01/07
73-29-00			May01/08	73-29-00			Feb01/05	73-29-00			May01/05
73-29-00			Feb01/05	73-29-00		273	May01/05	73-29-00			May01/05
73-29-00	R	223	May01/08	73-29-00		274	May01/05	73-29-00		A225	May01/05
73-29-00		224	Feb01/05	73-29-00		275	May01/05	73-29-00		A226	May01/05
73-29-00		225	Feb01/05	73-29-00		276	May01/05	73-29-00		A227	May01/05
73-29-00		226	Feb01/05	73-29-00	R	277	May01/08	73-29-00		A228	May01/05
73-29-00	R	227	May01/08	73-29-00	R	278	May01/08	73-29-00		A229	May01/05
73-29-00			May01/05	73-29-00		279	May01/05	73-29-00			May01/05
73-29-00			May01/08	73-29-00		280	•	73-29-00			May01/05
73-29-00			May01/05	73-29-00			May01/05	73-29-00			May01/05
73-29-00			May01/08	73-29-00	R		May01/08	73-29-00			May01/05
73-29-00			May01/05	73-29-00	R		May01/08	73-29-00			May01/05
73-29-00			May01/08	73-29-00			May01/05	73-29-00			May01/05
73-29-00			May01/05	73-29-00			May01/05	73-29-00			May01/05
73-29-00			May01/08	73-29-00			May01/05	73-29-00			May01/05
73-29-00			May01/05	73-29-00			May01/05	73-29-00			May01/05
73-29-00			May01/08	73-29-00			May01/05	73-29-00			May01/05
73-29-00			May01/05	73-29-00			May01/05	73-29-00			May01/05
73-29-00			May01/05	73-29-00			May01/05	73-29-00			May01/05
73-29-00			May01/05	73-29-00			May01/05	73-29-00			May01/05
73-29-00			May01/08	73-29-00			May01/05	73-29-00			May01/05
73-29-00			May01/05	73-29-00			May01/05	73-29-00			May01/05
73-29-00			May01/08	73-29-00			May01/05	73-29-00			May01/05
73-29-00			May01/05	73-29-00			May01/05	73-29-00			May01/05
73-29-00			May01/05	73-29-00			Feb01/05	73-29-00			May01/05
73-29-00			May01/05	73-29-00			May01/05	73-29-00			May01/05
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73-29-00	R	A251	May01/08	73-29-00		B202	Feb01/05				
73-29-00			May01/08	73-29-00		B203	May01/05				
73-29-00	R	A253	May01/08	73-29-00		B204	May01/05				
73-29-00		A254	May01/06								
73-29-00	R	A255	May01/08	73-31-00		201	May01/96				
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73-29-00	R		May01/08	73-31-00		203	May01/96				
73-29-00			May01/05	73-31-00			Aug01/94				
73-29-00			May01/05	73-31-00			May01/96				
73-29-00			May01/05	73-31-00			May01/96				
73-29-00			May01/05	73-31-00			May01/96				
73-29-00			May01/05	73-31-00		208	May01/96				
73-29-00			May01/05								
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SUBJECT FAULT SYMPTOMS	CH/SE/SU 73-OBSV 73-CFDS	<u>C</u>	101	EFFECTIVITY ALL ALL
FAULT ISOLATION PROCEDURES Disagree between the Fuel-Flow Indication and the ECU Output on Engine 1	73-00-00		_	ALL ALL
Disagree between the Fuel-Flow Indication and the ECU Output on Engine 2			203	ALL
Disagree between the Fuel-Flow Indication and the ECU Output on Engine 1			205	ALL
Disagree between the Fuel-Flow Indication and the ECU Output on Engine 2			206	ALL
Low N1 on Engine 1			207	ALL
Low N1 on Engine 2				ALL
Engine 1 or 2 Stall/Surge				ALL
Stall of the engine 1 or 2 /				ALL
Audible stall / Engine surge			Z 17	ALL
			224	
Slow Acceleration to Idle on			221	ALL
Engine 1 or 2				
Disagree between the Idle			223	ALL
Positions of the Two Engines				
Loss of the Fuel Flow or/and Fuel			224	ALL
Used Indication on Engine 1 or 2				
Flexible Temperature not Entered			226	ALL
				ALL
Autothrust Deactivation in Flight				
Idle Speed Difference between			228	ALL
Engine 1 and Engine 2				
Incorrect Power after Take off on			234	ALL
Engine 1 or 2				
Engine Acceleration on Ground with			236	ALL
no Order, on Engine 1 or 2				
Fuel Filter Clogged Indication on			237	ALL
Engine 1				
Fuel Filter Clogged Indication on			240	ALL
Engine 2				
Engine 1 does not stop during shut			243	ALL
down sequence with FIRE Pushbutton			243	ALL
Switch				
			2/5	A1.1
Engine 2 does not stop during shut			24 0	ALL
down sequence with FIRE Pushbutton				
Switch				

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Failure of the HMU Fuel Metering			201	ALL
Valve on Engine 1				
Failure of the HMU Fuel Metering			203	ALL
Valve on Engine 2 Failure of the BSV Valve on Engine			205	ALL
1			203	ALL
Failure of the BSV Valve on Engine			210	ALL
2				
Feedback Disagree between the			215	ALL
Signals of the Two Channels of the				
BSV on Engine 1				
Feedback Disagree between the			219	ALL
Signals of the Two Channels of the				
BSV on Engine 2 Failure of the FRV of the Engine 1			227	ALL
in the Open Position, on Channel A			223	ALL
Failure of the FRV of the Engine 2			225	ALL
in the Open Position, on Channel A				
Failure of the FRV of the Engine 1			227	ALL
in the Open Position, on Channel B				
Failure of the FRV of the Engine 2			229	ALL
in the Open Position, on Channel B			274	
Failure of the FRV of the Engine 1 in the Closed Position, on Channel			231	ALL
A				
Failure of the FRV of the Engine 2			233	ALL
in the Closed Position, on Channel				
A				
Failure of the FRV of the Engine 1			235	ALL
in the Closed Position, on Channel				
B			277	A
Failure of the FRV of the Engine 2			237	ALL
in the Closed Position, on Channel B				
Failure of the Feedback of the			239	ALL
Fuel Return Valve on Engine 1			_0,	
Failure of the Feedback of the			242	ALL
Fuel Return Valve on Engine 2				
Loss of the Feedback Signal from			245	201-225, 227-227
the Burner Selection Valve Through				229-239, 241-253
Channel A on Engine 1				276-282, 284-299 426-499, 503-549
				551-599, 701-749
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				551-599, 701-749
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the Burner Selection Valve Through Channel B on Engine 2				229-239, 241-253 276-282, 284-299
Channet B on Engine 2				426-499, 503-549
				551-599, 701-749
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				426-499, 503-549
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the two Channels on Engine 2				276-282, 284-299 426-499, 503-549
				551-599, 701-749
Feedback Disagree between the			265	ALL
Signals of the Two Channels of the				
BSV on Engine 1 Feedback Disagree between the			270	ALL
Signals of the Two Channels of the			210	ALL
BSV on Engine 2				
Failure of the BSV Valve on Engine			275	ALL
<pre>1 Failure of the BSV Valve on Engine</pre>			281	ALL
2			20-	•••
Failure of the HMU Fuel Metering			287	ALL

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1		A200	ALL
Failure of the BSV Open on Engine 2		AZUU	ALL
Failure of the BSV Closed on Engine 1		A203	ALL
Failure of the BSV Closed on		A206	ALL
Engine 2 Feedback Disagree on Channel A of		A209	ALL
the BSV on engine 1 Feedback Disagree on Channel A of		A212	ALL
the BSV on engine 2		A245	A1.1
<pre>Feedback Disagree on Channel B of the BSV on engine 1</pre>		A215	ALL
Feedback Disagree on Channel B of the BSV on engine 2		A218	ALL
CONTROLLING	73-20-00		
FAULT ISOLATION PROCEDURES	13 20 00		ALL
Loss of the HMU Overspeed Governor - Engine 1 - Channel A		201	ALL
Loss of the HMU Overspeed Governor		205	ALL
 Engine 2 - Channel A Loss of the Signal of the Channel 		209	ALL
A TCC-Sensor on Engine 1 Loss of the Signal of the Channel		215	ALL
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Loss of the Output B Bus on EIU 1			ALL
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Loss of the T25 Sensor Signal through the Channel A on Engine 2			248	ALL
Loss of the T25 Sensor Signal through the Channel B on Engine 1			251	ALL
Loss of the T25 Sensor Signal through the Channel B on Engine 2			254	ALL
Loss of T25 Sensor Signal through the Two Channels on Engine 1			257	
Loss of T25 Sensor Signal through the Two Channels on Engine 2				ALL
Loss of T12 Sensor Signal through the Two Channels on Engine 1				ALL
Loss of T12 Sensor Signal through the Two Channels on Engine 2 Loss of T12 Sensor Signal through				ALL
the Channel A on Engine 1 Loss of T12 Sensor Signal through			272	
the Channel A on Engine 2 Loss of T12 Sensor Signal through			275	ALL
the Channel B on Engine 1 Loss of T12 Sensor Signal through			278	ALL
the Channel B on Engine 2 Failure of the PS12 Signal on			281	ALL
Engine 1 Failure of the PS12 Signal on			282	ALL
Engine 2 Failure of the ECU PS3 Pressure Sensor - Engine 1 - Channel A			283	ALL
Failure of the ECU PS3 Pressure Sensor - Engine 2 - Channel A			285	ALL
PS3 Sensors Disagree Between Both Channels on Engine 1			287	ALL
PS3 Sensors Disagree Between Both Channels on Engine 2			288	ALL
Loss of the T25 Sensor Signal on Engine 1			289	ALL

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Engine 2 Failure of the High Pressure Shut				ALL
Off Valve Switch of the HMU on Engine 1 Failure of the High Pressure Shut			207	ALL
Off Valve Switch of the HMU on Engine 2			271	ALL
Loss of the PS13 Sensor Signal on Engine 1			299	ALL
Loss of the PS13 Sensor Signal on Engine 2			A201	ALL
Failure of the Control of the Solenoid 1 of the Fuel Return			A203	ALL
Valve on Channel A, Engine 1 Failure of the Control of the			A206	ALL
Solenoid 1 of the Fuel Return Valve on Channel A, Engine 2				
Failure of the Control of the Solenoid 1 of the Fuel Return			A209	ALL
Valve on Channel B, Engine 1 Failure of the Control of the			A212	ALL
Solenoid 1 of the Fuel Return Valve on Channel B, Engine 2 Failure of the Control of the			A215	A. I.
Solenoid 2 of the Fuel Return Valve on Channel A, Engine 1			MZ IJ	ALL
Failure of the Control of the Solenoid 2 of the Fuel Return			A218	ALL
Valve on Channel A, Engine 2 Failure of the Control of the			A221	ALL
Solenoid 2 of the Fuel Return Valve on Channel B, Engine 1				
Failure of the Control of the Solenoid 2 of the Fuel Return			A224	ALL
Valve on Channel B, Engine 2 Loss of all Engine 1			A227	ALL
Identification Connector Data Loss of all Engine 2			A231	ALL
Identification Connector Data Loss of the Burner Selection Valve Torque Motor Control through			A235	201-225, 227-227 229-239, 241-253
Channel A on Engine 1				276-282, 284-299 426-499, 503-549
Loss of the Burner Selection Valve			A238	551-599, 701-749
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Loss of the Burner Selection Valve			A241	/
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Channel B on Engine 1				276-282, 284-299 426-499, 503-549
				551-599, 701-749
Loss of the Burner Selection Valve			A244	/
Torque Motor Control through				229-239, 241-253
Channel B on Engine 2				276-282, 284-299 426-499, 503-549
				551-599, 701-749
Loss of the ADIRU input Data			A247	ALL
through the Channel A or disagree				
between Aircraft and Engine sensors on Engine 1				
Loss of the ADIRU input Data			A250	ALL
through the Channel A or disagree				
between Aircraft and Engine				
sensors on Engine 2 Loss of the Burner Selection Valve			A253	201-225, 227-227
Torque Motor Control through the			ALJJ	229-239, 241-253
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				426-499, 503-549
Loss of the Burner Selection Valve			A254	551-599, 701-749 201-225, 227-227
Torque Motor Control through the			ALJT	229-239, 241-253
two Channels on Engine 2				276-282, 284-299
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loss of the T12 Sensor Signal			A255	551-599, 701-749 254-275, 282-299
through the two Channels on Engine			ALJJ	433-475, 481-499
1				565-599,
loss of the T12 Sensor Signal			A256	254-275, 282-299
through the two Channels on Engine 2				433-475, 481-499 565-599,
Loss of the T25 Sensor Signal			A257	•
through the two Channels on Engine				433-475, 481-499
1				565-599,
Loss of the T25 Sensor Signal through the two Channels on Engine			A258	254-275, 282-299 433-475, 481-499
2				565-599,
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Solenoid 1 of the Fuel Return				

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Solenoid 1 of the Fuel Return				
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Engine 1 Failure of the Control of the			A262	254-275, 282-299
Solenoid 2 of the Fuel Return			ALUL	433-475, 481-499
Valve through the two Channels on				565-599,
Engine 2 Failure of the High Pressure Shut			A263	ALI
Off Valve Switch of the HMU on			AZUJ	ALL
Engine 1				
Failure of the High Pressure Shut Off Valve Switch of the HMU on			A266	ALL
Engine 2				
Loss of the HMU Overspeed Governor			A268	ALL
- Engine 1 - Channel B				
Loss of the HMU Overspeed Governor - Engine 2 - Channel B			A273	ALL
Failure of the PS12 Signal on			A278	ALL
Engine 1				
Failure of the PS12 Signal on Engine 2			A279	ALL
Loss of the Signal of the Channel			A280	ALL
B TCC-Sensor on Engine 1				
Loss of the Signal of the Channel			A286	ALL
B TCC-Sensor on Engine 2 Failure of the ECU PS3 Pressure			A292	ALL
Sensor - Engine 1 - Channel B				
Failure of the ECU PS3 Pressure			A294	ALL
<pre>Sensor - Engine 2 - Channel B Loss of the P25 Sensor Signal on</pre>			A296	ALL
Engine 1			ALIG	ALL.
Loss of the P25 Sensor Signal on			A298	ALL
Engine 2 Loss of all Engine 2 Indication			B200	ALL
Plug Data			BEGG	ALL
Loss of all Engine 1			B201	ALL
Identification Connector Data Loss of all Engine 2			B205	ALL
Identification Connector Data			BEUJ	ALL

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between Aircraft and Engine sensors on Engine 1				
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through the Channel B or disagree				
between Aircraft and Engine				
sensors on Engine 2			D245	ALI
Loss of the T25 Sensor Signal on Engine 1			B215	ALL
Loss of the T25 Sensor Signal on			B218	ALL
Engine 2				
PS3 Sensors Disagree Between Both			B221	ALL
Channels on Engine 1			B222	ALL
PS3 Sensors Disagree Between Both Channels on Engine 2			DZZZ	ALL
Loss of the Signal of the Channel			B223	ALL
A and Channel B of the TCC Sensors				
on Engine 1				
Loss of the Signal of the Channel			B230	ALL
A and Channel B of the TCC Sensors on Engine 2				
Loss of all Identification			B237	ALL
Connector Data				
Loss of all Identification			B239	ALL
Connector Data for SAC engines				
Loss of all Identification			B241	ALL
Connector Data for DAC engines Core Exhaust Nozzle Type			B243	ALL
Discrepancy on Engine 1			B243	ALL
Core Exhaust Nozzle Type			B245	ALL
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Loss of Thrust Control Malfunction			B247	ALL
Accomodation Protection Spurious TCMA Arming on Engine 1			B248	ALL
Spurious TCMA Arming on Engine 2			B251	
Spurious TCMA Arming on Engine 1			B254	ALL
Spurious TCMA Arming on Engine 2			B256	ALL
Loss of TCM information between			B258	
EIU and ECU			D2 70	ALL
CONTROLLING	73-20-81			
FAULT ISOLATION PROCEDURES	13 20-01		201	ALL
Loss of the PO Sensor Signal on			201	ALL
Engine 1			2U I	MLL
Loss of the PO Sensor Signal on			202	ALL
Engine 2				

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Engine 1 Internal	Failure	οf	the	ECU	on			204	ALL
Engine 2		٠.			U			_0.	
Internal	Failure	of	the	ECU	on			205	ALL
Engine 1 Internal	Failure	οf	the	FCII	on			206	ALL
Engine 1	Tartar c	٠.	CIIC		011			200	722
Internal	Failure	of	the	ECU	on			207	ALL
Engine 2 Internal	Failure	٥f	the	FCII	on			208	ALL
Engine 2	Tartart	0.	CIIC		On			200	ALL
Internal	Failure	of	the	ECU	on			209	ALL
Engine 1 Internal	Failure	٥f	the	FCII	00			210	ALL
Engine 2	rarcure	01	CIIC	LUU	On			210	ALL
Internal	Failure	of	the	ECU	on			211	ALL
Engine 1 Internal	Failure	٥f	the	ECII	00			212	ALL
Engine 2	raituie	O I	CITE	LCU	OH			212	ALL
Internal	Failure	of	the	ECU	on			213	ALL
Engine 1 Internal	Failusa	- f	+ h a	ECII				214	ALL
Engine 2	raiture	01	tne	EUU	On			214	ALL
Internal	Failure	of	the	ECU	on			215	ALL
Engine 1 Internal	Failusa		46.	E C I I				216	A1.1
Engine 1	raiture	01	tne	EUU	OH			210	ALL
Internal	Failure	of	the	ECU	on			217	ALL
Engine 2	Failus		46.	- C				240	A1.1
Internal Engine 2	raiture	ОТ	tne	ECU	on			218	ALL
Internal	Failure	of	the	ECU	on			219	ALL
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Internal Engine 1	Failure	ОТ	tne	ECU	on			220	ALL
Internal	Failure	of	the	ECU	on			221	ALL
Engine 2	F - 11		41	5011				222	
Internal Engine 2	Failure	OΤ	the	ECU	on			222	ALL
Internal	Failure	of	the	ECU	on			223	ALL
Engine 1		,						22.4	
Internal Engine 1	railure	οt	the	ECU	on			224	ALL
Internal	Failure	of	the	ECU	on			225	ALL
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Engine 2 Internal Failure	of the ECIL on			227 ALL
Engine 1	of the Eco on			ZZI ALL
Internal Failure	of the ECU on			228 ALL
Engine 1				
Internal Failure	of the ECU on			229 ALL
Engine 2 Internal Failure	of the FCII on			230 ALL
Engine 2	or the 200 on			LJO ALL
Internal Failure	of the ECU on			231 ALL
Engine 1				
Internal Failure	of the ECU on			232 ALL
Engine 2 Internal Failure	of the FCII on			233 ALL
Engine 1	or the LCG on			233 ALL
Internal Failure	of the ECU on			234 ALL
Engine 2				
	of the ECU - CPU			235 ALL
FAULT - Engine 1	of the ECU - CPU			236 ALL
FAULT - Engine 2				236 ALL
Internal Failure				237 ALL
Engine 1	of the ECO on			Z31 ALL
Internal Failure	of the ECU on			238 ALL
Engine 2				
Internal Failure	of the ECU on			239 ALL
Engine 1	- f			2/0 411
Internal Failure Engine 1	of the ELU on			240 ALL
Internal Failure	of the ECU on			241 ALL
Engine 2				
Internal Failure	of the ECU on			242 ALL
Engine 2	C			2/7 411
Internal Failure Engine 1	of the EUU on			243 ALL
Internal Failure	of the ECU on			244 ALL
Engine 1				
Internal Failure	of the ECU on			245 ALL
Engine 2				
Internal Failure	of the ECU on			246 ALL
Engine 2 Internal Failure	of the FCII on			247 ALL
Engine 1	5. ciic 200 oii			eti neb
Internal Failure	of the ECU on			248 ALL
Engine 2				

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Internal Failure of the ECU on			250 ALL
Engine 2 Internal Failure of the ECU on			251 ALL
Engine 1			
Internal Failure of the ECU on Engine 2			252 ALL
Internal Failure of the ECU on			253 ALL
Engine 1 Internal Failure of the ECU on			254 ALL
Engine 2			255
Internal Failure of the ECU - NVM			255 ALL
FAULT - Engine 1 - Channel A			2
Internal Failure of the ECU - NVM			256 ALL
FAULT - Engine 2 - Channel A			
Internal Failure of the ECU on Engine 1			257 ALL
Internal Failure of the ECU on			258 ALL
Engine 2			050
Internal Failure of the ECU on Engine 1			259 ALL
Internal Failure of the ECU on			260 ALL
Engine 2 Internal Failure of the ECU on			261 ALL
Engine 1			ZOT ALL
Internal Failure of the ECU on			262 ALL
Engine 2 Internal Failure of the ECU on			263 ALL
Engine 1			
Internal Failure of the ECU on Engine 1			264 ALL
Internal Failure of the ECU on			265 ALL
Engine 2			2// 411
Internal Failure of the ECU on Engine 2			266 ALL
Internal Failure of the ECU on			267 ALL
Engine 1 Internal Failure of the ECU on			268 ALL
Engine 2			200 ALL
Internal Failure of the ECU on			269 ALL
Engine 1 Internal Failure of the ECU on			270 ALL
Engine 2			LIU ALL
Loss of the PO Sensor Signal on Engine 1			271 ALL

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Engine 2			ZIZ MLL
Internal Failure of the ECU on			273 ALL
Engine 1			
Internal Failure of the ECU on			274 ALL
Engine 2			
Internal Failure of the ECU on			275 ALL
Engine 1			
Internal Failure of the ECU on			276 ALL
Engine 2 Internal Failure of the ECU on			277 ALL
Engine 1			277 ALL
Internal Failure of the ECU on			278 ALL
Engine 2			ETO REE
Internal Failure of the ECU - CPU			279 ALL
FAULT - Engine 1 - Channel B			
Internal Failure of the ECU - CPU			280 ALL
FAULT - Engine 2 - Channel B			
Internal Failure of the ECU on			281 ALL
Engine 1			202 411
Internal Failure of the ECU on			282 ALL
Engine 2 Internal Failure of the ECU on			283 ALL
Engine 1			205 ALL
Internal Failure of the ECU on			284 ALL
Engine 2			
Internal Failure of the ECU on			285 ALL
Engine 1			
Internal Failure of the ECU on			286 ALL
Engine 2			207
Internal Failure of the ECU on			287 ALL
Engine 1 Internal Failure of the ECU on			288 ALL
Engine 2			200 ALL
Internal Failure of the ECU on			289 ALL
Engine 1			
Internal Failure of the ECU on			290 ALL
Engine 2			
Internal Failure of the ECU - NVM			291 ALL
FAULT - Engine 1 - Channel B			202 411
Internal Failure of the ECU - NVM FAULT - Engine 2 - Channel B			292 ALL
Internal Failure of the ECU on			293 ALL
Engine 1			L/J ALL
Internal Failure of the ECU on			294 ALL
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Engine 1 Internal Failure of the ECU on Engine 2			296	ALL
Internal Failure of the ECU on Engine 1			297	ALL
Internal Failure of the ECU on Engine 2			298	ALL
FUNCTIONAL INTERFACES	73-25-00			
FAULT ISOLATION PROCEDURES				ALL
Failure of the ECU Power Supply on			201	ALL
Engine 2 Loss of Channel A Data from the ECU on Engine 1			203	ALL
Failure of the ECU Power Supply on Engine 1			204	ALL
Loss of Channel A Data from the ECU on Engine 2			205	ALL
Loss of Channel B Data from the ECU on Engine 1			206	ALL
Loss of Channel B Data from the ECU on Engine 2			207	ALL
Failure of the Oil Low Pressure			208	ALL
and Ground Relays on Engine 1 Failure of the Oil Low Pressure			209	ALL
and Ground Relays on Engine 2 Failure of the Oil Low Pressure			210	ALL
and Ground Relay on Engine 1 Failure of the Low Oil Pressure			211	ALL
and Ground Relay on Engine 2 Failure of the Relay 15KS1 Control			212	ALL
on the EIU 1 Failure of the Relay 15KS1 Control			213	ALL
on the EIU 2 Failure of the EIU on Engine 1			21/	ALL
Failure of the EIU on Engine 2			216	ALL
Failure of the EIU on Engine 1			218	
Failure of the EIU on Engine 2			219	
Failure of the Annunciator Light			220	
Test and Interface Board for Engine 1			220	MLL
Failure of the Annunciator Light Test and Interface Board for Engine 2			221	ALL
Failure of the N1 Speed Condition			222	ALL

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Relay for Engine 1 Failure of the N2 Speed Condition			223	ALL
Relay for Engine 2 Failure of the HP Fuel SOV Closed			224	ALL
Discrete Output on the EIU 1 Failure of the HP Fuel SOV Closed			226	ALL
Discrete Output on the EIU 2 Failure of the N2 Higher than the Minimum TO Discrete Output on the			228	ALL
EIU 1 Failure of the N2 Higher than the Minimum TO Discrete Output on the			230	ALL
EIU 2 Failure of the Pack Valve Output			232	ALL
for Engine 1 Failure of the Pack Valve Output on Engine 2			233	ALL
Failure of the APU Boost on Engine 1			234	ALL
Failure of the APU Boost on Engine 2			236	ALL
Failure of the T/R Inhibition System on Engine 1			238	ALL
Failure of the T/R Inhibition System on Engine 2			239	ALL
Disagree between Data Received from the LGCIU 1			240	ALL
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Loss of Data on the Second and Primary ECS Buses to the EIU 1			244	ALL
Loss of Data on the Second and Primary ECS Buses to the EIU 2			246	ALL
Loss of FCU Data on the EIU 1			248	ALL
Loss of FCU Data on the EIU 2			249	ALL
Loss of Data on ARINC Bus from the CFDIU for Engine 1			250	ALL
Loos of Data on ARINC Bus from the CFDIU for Engine 2			251	ALL
Loss of Data on Bus to FWC, CFDIU and BMC for Engine 1			252	ALL
Loss of Data on Bus to FWC, CFDIU and BMC for Engine 2			254	ALL
Loss of Data on EIU to FADEC Bus for Engine 1			256	ALL
Loss of Data on EIU to FADEC Bus			258	ALL

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for Engine 2 Loss of the A/THR Control on			260	ALL
Engine 1 Loss of the A/THR Control on Engine 2			262	ALL
Loss of Data on the ARINC Bus from the EIU to the FADEC on Engine 1			264	ALL
Loss of Data on the ARING Bus from the EIU to the FADEC on Engine 2			266	ALL
Loss of Data on the ARING Bus from the EIU to the FADEC on Engine 1			268	ALL
Loss of Data on the ARINC Bus from the EIU to the FADEC on Engine 2			271	ALL
Loss of Data on the ARINC Bus from the EIU to the FADEC on Engine 1			274	ALL
Loss of Data on the ARINC Bus from the EIU to the FADEC on Engine 2			276	ALL
Loss of Data on the ARINC Bus from the EIU to the FADEC on Engine 1			278	ALL
Loss of Data on the ARINC Bus from the EIU to the FADEC on Engine 2			279	ALL
Loss of Data on the ARINC Bus from the EIU to the FADEC on Engine 1			280	ALL
Loss of Data on the ARINC Bus from the EIU to the FADEC on Engine 2			282	ALL
Loss of the GMT Data on the ARINC Bus from the EIU to the FADEC on			284	ALL
Engine 1 Loss of the GMT Data on the ARINC Bus from the EIU to the FADEC on			286	ALL
Engine 2 Loss of the Date Data on the ARINC Bus from the EIU to the FADEC on			288	ALL
Engine 1 Loss of the Date Data on the ARINC Bus from the EIU to the FADEC on Engine 2			290	ALL
Loss of the Flight Data on the ARINC Bus from the EIU to the FADEC on Engine 1			292	ALL
Loss of the Flight Data on the ARINC Bus from the EIU to the			294	ALL
FADEC on Engine 2 Loss of the 28VDC Power Supply of the ECU on the Engine 1			296	ALL
Loss of the 28VDC Power Supply of			299	ALL

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the System 1			
Loss of Weight on Wheels Signal on the System 2			A204 ALL
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ECU on the Engine 1 Loss of 28VDC Power Supply of the			A208 ALL
ECU on the Engine 2			4240 ALL
Loss of the Zone Controller Data on the ARINC Bus from the EIU to			A210 ALL
the FADEC on Engine 1			A242 ALI
Loss of the Zone Controller Data on the ARINC Bus from the EIU to			A212 ALL
the FADEC on Engine 2			A214 ALL
Loss of the A/THR Control on Engine 1			AZI4 ALL
Loss of the A/THR Control on Engine 2			A216 ALL
Loss of the GMT Data on the ARINC			A218 ALL
Bus from the EIU to the FADEC on Engine 1			
Loss of the GMT Data on the ARINC			A220 ALL
Bus from the EIU to the FADEC on Engine 2			
Loss of the GMT Data on the ARINC			A222 ALL
Bus from the EIU to the FADEC on Engine 1			
Loss of the GMT Data on the ARINC			A224 ALL
Bus from the EIU to the FADEC on Engine 2			
Loss of the Flight Data on the			A226 ALL
ARINC Bus from the EIU to the FADEC on Engine 1			
Loss of the Flight Data on the			A228 ALL
ARINC Bus from the EIU to the FADEC on Engine 2			
Loss of Data on the ARINC Bus from the EIU to the FADEC on Engine 1			A230 ALL
Loss of Data on the ARING Bus from			A231 ALL
the EIU to the FADEC on Engine 2 Loss of Data on the ARINC Bus from			A232 ALL
the EIU to the FADEC on Engine 1			
Loss of Data on the ARINC Bus from the EIU to the FADEC on Engine 2			A234 ALL
Loss of Data on the ARING Bus from			A236 ALL

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the EIU to the Fadec on Engine 2 Loss of Data on the ARINC Bus from the EIU to the Fadec on Engine 1			A240	ALL
Loss of Data on the ARINC Bus from the EIU to the Fadec on Engine 2			A242	ALL
Loss of the 28VDC Power Supply of the ECU on the Engine 1			A244	ALL
Loss of the 28VDC Power Supply of the ECU on the Engine 2			A247	ALL
Loss of 28VDC Power Supply of the ECU on the Engine 1			A250	ALL
Loss of 28VDC Power Supply of the ECU on the Engine 2			A252	ALL
FADEC SYSTEM	73-29-00			
FAULT ISOLATION PROCEDURES				ALL
All engine 1 parameters are XX on the upper ECAM DU on ground at starting.			201	ALL
All engine 2 parameters are XX on the upper ECAM DU on ground at starting.			205	ALL
No engine 1 parameters are not XX on the upper ECAM DU after an engine shutdown time on the ground			209	ALL
of 5 minutes minimum. No engine 2 parameters are not XX on the upper ECAM DU after an engine shutdown time on the ground			211	ALL
of 5 minutes minimum. All engine 1 parameters are XX on the upper ECAM DU on the ground with the FADEC GND PWR pushbutton			213	ALL
<pre>switch set to ON. All engine 2 parameters are XX on the upper ECAM DU on the ground with the FADEC GND PWR pushbutton</pre>			216	ALL
switch set to ON. Loss of the Output 1 Bus of the ECU 2 Channel B			219	ALL
Loss of the Output 1 Bus of the ECU 2 Channel B			220	ALL
Loss of the Output 1 Bus of the ECU 2 Channel B			221	ALL

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Loss of the Output 1 Bus of the ECU 2 Channel B			223 ALL
Loss of the Output 1 Bus of the			225 ALL
ECU 2 Channel B			
Loss of the Output 1 Bus of the ECU 2 Channel B			226 ALL
Loss of the Output 2 Bus of the			227 ALL
ECU Channel A on Engine 1 or 2 Loss of the Output 2 Bus of the			229 ALL
ECU 1 Channel A			ZZ7 ALL
Loss of the Output 2 Bus of the			231 ALL
ECU 1 Channel B Loss of the Output 2 Bus of the			233 ALL
ECU 2 Channel A			
Loss of the Output 2 Bus of the ECU Channel B on Engine 1 or 2			235 ALL
Loss of the Output 2 Bus of the			237 ALL
ECU 2 Channel B			
Loss of the Output 1 Bus of the ECU 1 Channel A			239 ALL
Loss of the Output 1 Bus of the			240 ALL
ECU 1 Channel A			241 ALL
Loss of the Output 1 Bus of the ECU 1 Channel A			Z41 ALL
Loss of the Output 1 Bus of the			243 ALL
ECU 1 Channel A Loss of the Output 1 Bus of the			245 ALL
ECU 1 Channel A			L-17 NEL
Loss of the Output 1 Bus of the ECU 1 Channel A			246 ALL
Loss of the Output 1 Bus of the			247 ALL
ECU 1 Channel B			
Loss of the Output 1 Bus of the ECU 1 Channel B			248 ALL
Loss of the Output 1 Bus of the			249 ALL
ECU 1 Channel B Loss of the Output 1 Bus of the			251 ALL
ECU 1 Channel B			ZJI ALL
Loss of the Output 1 Bus of the			253 ALL
ECU 1 Channel B Loss of the Output 1 Bus of the			254 ALL
ECU 1 Channel B			
Loss of the Output 1 Bus of the ECU 2 Channel A			255 ALL
Loss of the Output 1 Bus of the			256 ALL
ECU 2 Channel A			

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Loss of the Output 1 Bus of the ECU 2 Channel A			257	ALL
Loss of the Output 1 Bus of the			259	ALL
ECU 2 Channel A Loss of the Output 1 Bus of the			261	ALL
ECU 2 Channel A			242	ALL
Loss of the Output 1 Bus of the ECU 2 Channel A			262	ALL
Loss of Outputs 1 and 2 on Engine 1 J3 Connector			263	ALL
Loss of Outputs 1 and 2 on Engine			265	ALL
<pre>2 J3 Connector Loss of the HPTC Torque Motor</pre>			267	ALL
Control through the two Channels			_	
on Engine 1 Loss of the HPTC Torque Motor			269	ALL
Control through the two Channels on Engine 2				
Loss of the BSV Solenoid Control			271	ALL
through the two Channels on Engine 1				
Loss of the BSV Solenoid Control			273	ALL
through the two Channels on Engine 2				
Loss of the Feedback Signal from the FMV Resolver through the Two			275	ALL
Channels on Engine 1				
Loss of the Feedback Signal from the FMV Resolver through the Two			280	ALL
Channels on Engine 2			205	
Loss of the FMV Torque Motor Control through the Two Channels			285	ALL
on Engine 1 Loss of the FMV Torque Motor			290	ALL
Control through the Two Channels			270	ALL
on Engine 2 Loss of the RAC SB Torque Motor			295	ALL
Control through the Two Channels				
on Engine 1 Loss of the RAC SB Torque Motor			297	ALL
Control through the Two Channels on Engine 2				
Loss of the VSV Torque Motor			299	ALL
Control through the Two Channels on Engine 1				
Loss of the VSV Torque Motor			A201	ALL

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Control through the Two Channels on Engine 2				
Loss of the VBV Torque Motor			A203	ALL
Control - Engine 1 - Channel A and Channel B				
Loss of the VBV Torque Motor			A207	ALL
Control - Engine 2 - Channel A and Channel B				
Loss of the Feedback Signal from			A211	ALL
the FMV Resolver through the Channel A on Engine 1				
Loss of the Feedback Signal from			A214	ALL
the FMV Resolver through the Channel B on Engine 1				
Loss of the Feedback Signal from			A217	ALL
the FMV Resolver through the Channel A on Engine 2				
Loss of the Feedback Signal from			A220	ALL
the FMV Resolver through the Channel B on Engine 2				
Loss of the FMV Torque Motor			A223	ALL
Control through the Channel A on Engine 1				
Loss of the FMV Torque Motor			A226	ALL
Control through the Channel B on Engine 1				
Loss of the FMV Torque Motor			A229	ALL
Control through the Channel A on Engine 2				
Loss of the FMV Torque Motor			A232	ALL
Control through the Channel B on Engine 2				
Loss of the HPTC Torque Motor			A235	ALL
Control through the Channel A on Engine 1				
Loss of the HPTC Torque Motor			A237	ALL
Control through the Channel B on Engine 1				
Loss of the HPTC Torque Motor			A239	ALL
Control through the Channel A on Engine 2				
Loss of the HPTC Torque Motor			A241	ALL
Control through the Channel B on Engine 2				
Loss of the BSV Solenoid Control			A243	ALL
through the Channel A on Engine 1				

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through the Channel B on Engine 1			10/7
Loss of the BSV Solenoid Control through the Channel A on Engine 2			A247 ALL
Loss of the BSV Solenoid Control			A249 ALL
through the Channel B on Engine 2			7.2.17 X.2.2
Loss of the RAC Torque Motor			A251 ALL
Control through the Channel A on			
Engine 1			A357 ALL
Loss of the RAC Torque Motor Control through the Channel B on			A253 ALL
Engine 1			
Loss of the RAC Torque Motor			A255 ALL
Control through the Channel A on			
Engine 2			
Loss of the RAC Torque Motor			A257 ALL
Control through the Channel B on Engine 2			
Loss of the VSV Torque Motor			A259 ALL
Control through the Channel A on			ALJ) ALL
Engine 1			
Loss of the VSV Torque Motor			A261 ALL
Control through the Channel B on			
Engine 1			A2/7 ALL
Loss of the VSV Torque Motor Control through the Channel A on			A263 ALL
Engine 2			
Loss of the VSV Torque Motor			A265 ALL
Control through the Channel B on			
Engine 2			_
Loss of the VBV Torque Motor			A267 ALL
Control - Engine 1 - Channel A Loss of the VBV Torque Motor			A270 ALL
Control - Engine 1 - Channel B			AZTO ALL
Loss of the VBV Torque Motor			A273 ALL
Control - Engine 2 - Channel A			
Loss of the VBV Torque Motor			A276 ALL
Control - Engine 2 - Channel B			1070
Loss of LPTC Torque Motor Control through the Channel A on Engine 1			A279 ALL
Loss of LPTC Torque Motor Control			A281 ALL
through the Channel B on Engine 1			ALUI ALL
Loss of LPTC Torque Motor Control			A283 ALL
through the Channel A on Engine 2			
Loss of LPTC Torque Motor Control			A285 ALL
through the Channel B on Engine 2			

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Loss of the VSV Torque Motor		_	A287	ALL
Control through the Channel A on				
Engine 1 and Channel A on Engine 2 Loss of the VSV Torque Motor			A288	Δ1 1
Control through the Channel A on			ALOO	ALL
Engine 1 and Channel B on Engine 2				
Loss of the VSV Torque Motor			A289	ALL
Control through the Channel B on Engine 1 and Channel A on Engine 2				
Loss of the VSV Torque Motor			A290	ALL
Control through the Channel B on				
Engine 1 and Channel B on Engine 2				
Loss of the VBV Torque Motor			A291	ALL
Control through the Channel A on Engine 2				
Loss of the VBV Torque Motor			A292	ALL
Control through the Channel A on				
Engine 1 and Channel B on Engine 2				
Loss of the VBV Torque Motor			A293	ALL
Control through the Channel B on Engine 1 and Channel A on Engine 2				
Loss of the VBV Torque Motor			A294	ALL
Control through the Channel B on				
Engine 1 and Channel B on Engine 2				25/ 275 282 200
Loss of the RAC Torque Motor Control through the two Channels			A295	254-275, 282-299 433-475, 481-499
on Engine 1				565-599,
Loss of the RAC Torque Motor			A296	-
Control through the two Channels				433-475, 481-499
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Loss of the LPTC Torque Motor Control through the two Channels			A297	254-275, 282-299 433-475, 481-499
on Engine 1				565-599,
Loss of the LPTC Torque Motor			A298	•
Control through the two Channels				433-475, 481-499
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Control through the two Channels			AL	433-475, 481-499
on Engine 1				565-599,
Loss of the HPTC Torque Motor			B200	254-275, 282-299
Control through the two Channels				433-475, 481-499
on Engine 2 Loss of Outputs 1 and 2 on Engine			B201	565-599, ALL
1 J3 Connector			0.	=
Loss of Outputs 1 and 2 on Engine			B203	ALL
2 J3 Connector				

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FUEL FLOW INDICATING FAULT ISOLATION PROCEDURES	73-31-00		201 ALL
Failure of the Fuel Flow Transmitter on Engine 1			201 ALL
Failure of the Fuel Flow Transmitter on Engine 2			203 ALL
Failure of the Fuel Flow			205 ALL
Transmitter on Engine 1 Failure of the Fuel Flow Transmitter on Engine 2			207 ALL

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ENGINE FUEL AND CONTROL - FAULT SYMPTOMS

HARNITHCC /MAL FUNCTIONS	CFDS FAULT MESSAGES					FAULT ISOLATION	
WARNINGS/MALFUNCTIONS -	SOURCE	MES	SAGE	ATA	С	PROCEDURE	
AUTO THRUST - Auto thrust deactivation in flight						730000 P 22 T 810 871	
ENG - Differential acceleration between ENG1 and ENG2						710000 P 20 T 810 807	
ENG - One engine is at APPR idle, the other at MOD idle during descent						730000 P 22 T 810 868	
ENG - Slow acceleration						710000 P 20 T 810 807	
ENG 1 - "CHECK" message is shown near engine 1 FF indication						730000 P 20 T 810 861	
ENG 1 - engine acceleration on ground with no order						730000 P 23 T 810 874	
ENG 1 - Fuel filter clog						730000 P 23 T 810 875	
ENG 1 - fuel flow indication stays at zero	EIU1FAD	J7/J8, HMU ENG1A	(SOV SW)	732150	3	732000 P 29 T 810 899	
ENG 1 - fuel flow indication stays at zero	EIU1FAD	J7/J8, HMU ENG1B	(SOV SW)	732150	3	732000 P 29 T 810 899	
ENG 1 - fuel flow indication stays at zero	EIU1FAD	J7/J8, HMU ENG1A	(SOV SW)*	732150	S	732000 P 29 T 810 899	
ENG 1 - fuel flow indication stays at zero	EIU1FAD	J7/J8, HMU ENG1B	(SOV SW)*	732150	S	732000 P 29 T 810 899	
ENG 1 - fuel flow replaced by XX on the upper ECAM						730000 P 22 T 810 869	

FF:	ALL	
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	WARNINGS/MALFUNCTIONS		FAULT - ISOLATION		
	WARNINGS/MALFUNCTIONS	SOURCE	MESSAGE	ATA C	!
	ENG 1 - Fuel used replaced by XX on the lower ECAM				730000 P 224 T 810 869
	ENG 1 - Hung start with slow acceleration to idle after light off				730000 P 221 T 810 867
	ENG 1 - Slow start acceleration to idle after light off				730000 P 221 T 810 867
	ENG 1 or 2 - Uncommanded engine to idle in flight or on ground				700000 P 201 T 810 801
	ENG 2 - "CHECK" message is shown near engine 2 FF indication				730000 P 206 T 810 862
?	ENG 2 - engine accelerationon ground with no order				730000 P 236 T 810 874
₹	ENG 2 - Fuel filter clog				730000 P 240 T 810 876
	ENG 2 - fuel flow indication stays at zero	!	J7/J8, HMU (SOV SW) ENG2A	732150 3	732000 P 297 T 810 900
	ENG 2 - fuel flow indication stays at zero	!	J7/J8, HMU (SOV SW) ENG2B	732150 3	732000 P 297 T 810 900
	ENG 2 - fuel flow indication stays at zero	!	J7/J8, HMU (SOV SW)* ENG2A	732150 S	732000 P 297 T 810 900
	ENG 2 - fuel flow indication stays at zero		J7/J8, HMU (SOV SW)* ENG2B	732150 S	732000 P 297 T 810 900
	ENG 2 - fuel flow replaced by XX on the upper ECAM				730000 P 224 T 810 869
	ENG 2 - Fuel used replaced by XX on the lower ECAM				730000 P 224 T 810 869

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WARNINGS/MALFUNCTIONS	CFDS FAULT MESSAGES				FAULT ISOLATION
	SOURCE	MESSAGE	ATA	C	! !
ENG 2 - Hung start with slow acceleration to idle after light off					730000 P 221 T 810 867
ENG 2 - Slow start acceleration to idle after light off				 	730000 P 221 T 810 867

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ENGINE FUEL AND CONTROL - FAULT SYMPTOMS

	WARNINGS/MALFUNCTIONS		CFDS FAULT MESSAGES	3		FAULT ISOLATION
	WARNINGS/ MALFORE TIONS	SOURCE	MESSAGE	ATA	С	
R		AC GEN	ECU (E1-4000KS)/GCU1 (1XU1)	732160	3	242000 PB275 T 810 912
R		AC GEN	ECU (E2-4000KS)/GCU2 (1XU2)	732160	3	242000 PB277 T 810 913
		AEVC	CHECK EIU-AEVC INTFC	732500	3	212600 P 257 T 810 822
		AFS	AFS: FADEC1	732160	1	223100 P 218 T 810 808
		AFS	AFS: FADEC2	732160	1	223100 P 220 T 810 809
		AFS	AFS: FADEC2	732160	1	732900 P 227 T 810 814
		IDENT: A				
		AFS	AFS: FADEC2	732160	1	732900 P 235 T 810 818
		IDENT: A	AFS, EIS 3	_		
R		BMC 1	EIU1 ENG FAMILY DISAGREE	732500	3	361100 PA251 T 810 859
R		BMC 2	EIU2 ENG FAMILY DISAGREE	732500	3	361100 PA252 T 810 860
		CFDS	NO EIU1 DATA	732534	1	313200 PA227 T 810 890
		CFDS	NO EIU2 DATA	732534	1	313200 PA229 T 810 892
		CPC 1	EIU SIGNAL REPLACED (XX)	732534	3	213100 P 242 T 810 816
		CPC 2	EIU SIGNAL REPLACED (XX)	732534	3	213100 P 242 T 810 816
 		DMU	ECU1 (4000) / FDIMU (10TV)	732160	3	313600 P 274 Т 810 903

EFF:	ALL		
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	WARNINGS/MALFUNCTIONS		CFDS FAULT MESSAGES	S	FAULT ISOLATION
	WARNINGS/ MALFONCTIONS	SOURCE	MESSAGE	ATA C	!
		DMU	ECU1 (4000KS) / DMU (1TV)	732160 3	313600 P 218 T 810 822
		DMU	ECU2 (4000) / FDIMU (10TV)	732160 3	313600 P 274 T 810 903
		DMU	ECU2 (4000KS) / DMU (1TV)	732160 3	313600 P 218 T 810 822
R		ECAM 1	FWC1 : NO DATA FROM ECU1A	732160 1	315300 P 260 T 810 852
R		ECAM 1	FWC1 : NO DATA FROM ECU1B	732160 1	315300 P 262 T 810 854
R		ECAM 1	FWC1 : NO DATA FROM ECU2A	732160 1	315300 P 264 T 810 856
R		ECAM 1	FWC1 : NO DATA FROM ECU2B	732160 1	315300 P 266 T 810 858
R		ECAM 1	FWC1 : NO DATA FROM EIU1	732534 1	315300 P 268 T 810 860
R		ECAM 1	FWC1 : NO DATA FROM EIU2	732534 1	315300 P 270 T 810 862
R		ECAM 1	FWC2 : NO DATA FROM ECU1A	732160 1	315300 P 261 T 810 853
R		ECAM 1	FWC2 : NO DATA FROM ECU1B	732160 1	315300 P 263 T 810 855
R		ECAM 1	FWC2 : NO DATA FROM ECU2A	732160 1	315300 P 265 T 810 857
R		ECAM 1	FWC2 : NO DATA FROM ECU2B	732160 1	315300 P 267 T 810 859
R		ECAM 1	FWC2 : NO DATA FROM EIU1	732534 1	315300 P 269 T 810 861
R		ECAM 1	FWC2 : NO DATA FROM EIU2	732534 1	315300 P 271 T 810 863

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	HADNINGS /MALTHNOTIONS	 	CFDS FAULT MESSAGES			FAULT ISOLATION
	WARNINGS/MALFUNCTIONS	SOURCE	MESSAGE	ATA	C	PROCEDURE
R		ECAM 2	FWC1 : NO DATA FROM ECU1A	732160	1	315300 P 260 T 810 852
R		ECAM 2	FWC1 : NO DATA FROM ECU1B	732160	1	315300 P 262 T 810 854
R		ECAM 2	FWC1 : NO DATA FROM ECU2A	732160	1	315300 P 264 T 810 856
R		ECAM 2	FWC1 : NO DATA FROM ECU2B	732160	1	315300 P 266 T 810 858
R		ECAM 2	FWC1 : NO DATA FROM EIU1	732534	1	315300 P 268 T 810 860
R		ECAM 2	FWC1 : NO DATA FROM EIU2	732534	1	315300 P 270 T 810 862
R		ECAM 2	FWC2 : NO DATA FROM ECU1A	732160	1	315300 P 261 T 810 853
R		ECAM 2	FWC2 : NO DATA FROM ECU1B	732160	1	315300 P 263 T 810 855
R		ECAM 2	FWC2 : NO DATA FROM ECU2B	732160	1	315300 P 267 T 810 859
R		ECAM 2	FWC2 : NO DATA FROM EIU1	732534	1	315300 P 269 T 810 861
R		ECAM 2	FWC2 : NO DATA FROM EIU2	732534	1	315300 P 271 T 810 863
R		ECAM 2	FWC2: NO DATA FROM ECU2A	732160	1	315300 P 265 T 810 857
		EIS 1	DMC 1 : NO ECU 1 A DATA	732160	1	316300 P 294 T 810 870
		EIS 1	DMC 1 : NO ECU 1 B DATA	732160	1	316300 P 295 T 810 871
		EIS 1	DMC 1 : NO ECU 2 A DATA	732160	1	316300 P 296 T 810 872

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	WARNINGS/MALFUNCTIONS	CFDS FAULT MESSAGES			FAULT		
	WARNINGS/ MALI ONC LIONS	SOURCE	MESSAGE	ATA	С	PROCEDURE	
R		EIS 1	DMC 1 : NO ECU 2 B DATA	732160	1	316300 P 297 T 810 873	
R R		EIS 1	DMC 1 : NO EEC1 A DATA	732234	1	316300 P 298 T 810 874	
R R		EIS 1	DMC 1 : NO EEC1 B DATA	732234	1	316300 P 299 T 810 875	
R R		EIS 1	DMC 1 : NO EEC2 A DATA	732234	1	316300 PA200 T 810 876	
R R		EIS 1	DMC1 : NO EEC2 B DATA	732234	1	316300 PA201 T 810 877	
R		EIS 2	DMC2 : NO ECU1A DATA	732160	1	316300 PA202 T 810 878	
		EIS 2	DMC2 : NO ECU1A DATA	732160	1	732900 P 229 T 810 815	
		IDENT: /	AFS, EIS 2				
R		EIS 2	DMC2 : NO ECU1B DATA	732160	1	316300 PA204 T 810 879	
R		EIS 2	DMC2 : NO ECU2A DATA	732160	1	316300 PA205 T 810 880	
		EIS 2	DMC2 : NO ECU2A DATA	732160	1	732900 P 233 T 810 817	
		IDENT: /	AFS, EIS 2				
R		EIS 2	DMC2 : NO ECU2B DATA	732160	1	316300 PA206 T 810 881	
R R		EIS 2	DMC2 : NO EEC1A DATA	732234	2	316300 PA207 T 810 882	
R R		EIS 2	DMC2 : NO EEC1B DATA	732234	2	316300 PA208 T 810 883	
R R		EIS 2	DMC2 : NO EEC2A DATA	732234	2	316300 PA209 T 810 884	
R R		EIS 2	DMC2 : NO EEC2B DATA	732234	2	316300 PA210 T 810 885	

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	WARNINGS/MALFUNCTIONS	CFDS FAULT MESSAGES			FAULT ISOLATION	
	WARNINGS/ MALI UNCTIONS	SOURCE	MESSAGE	ATA	С	PROCEDURE
R		EIS 3	DMC3 : NO ECU1A DATA	732160	1	316300 PA211 T 810 886
R		EIS 3	DMC3 : NO ECU1B DATA	732160	1	316300 PA213 T 810 887
		EIS 3	DMC3 : NO ECU1B DATA	732160	1	732900 P 231 T 810 816
		IDENT: /	AFS, EIS 3			
R		EIS 3	DMC3 : NO ECU2A DATA	732160	1	316300 PA214 T 810 888
R		EIS 3	DMC3 : NO ECU2B DATA	732160	1	316300 PA215 T 810 889
		EIS 3	DMC3 : NO ECU2B DATA	732160	1	732900 P 237 T 810 819
		IDENT: A	AFS, EIS 3			
R R		EIS 3	DMC3: NO EEC1A DATA	732234	1	316300 PA216 T 810 890
R R		EIS 3	DMC3: NO EEC1B DATA	732234	1	316300 PA217 T 810 891
R R		EIS 3	DMC3 : NO EEC2A DATA	732234	1	316300 PA218 T 810 892
R R		EIS 3	DMC3 : NO EEC2B DATA	732234	1	316300 PA219 T 810 893
		EIU1FAD	BSV (VLV CLSD), HMU ENG1A	731170	1	731000 P 205 T 810 805
		EIU1FAD	BSV (VLV CLSD), HMU ENG1B	731170	1	731000 P 275 T 810 833
		EIU1FAD	BSV(CL), J14(WRONG)	731170	1	731000 PA203 T 810 847
		EIU1FAD	BSV(OP), J14(WRONG)	731170	1	731000 P 297 T 810 845
		EIU1FAD	BSV, HMU ENG1A	731170	1	731000 P 257 T 810 827

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	LIADNINGS /MALEUNGITONS		CFDS FAULT MESSAGES			FAULT ISOLATION	
	WARNINGS/MALFUNCTIONS	SOURCE	MESSAGE	ATA	С	!	
		EIU1FAD	BSV, HMU ENG1B	731170	1	731000 P 291 T 810 841	
		EIU1FAD	BSV, J11, ECU	731170	S	731000 P 245 T 810 823	
		EIU1FAD	BSV, J11, J14(WRONG) ENG1A	731170	1	731000 PA209 T 810 849	
		EIU1FAD	BSV, J11, J14(WRONG) ENG1A	731170	2	731000 PA209 T 810 849	
		EIU1FAD	BSV, J12, ECU	731170	S	731000 P 251 T 810 825	
		EIU1FAD	BSV, J12, J14(WRONG) ENG1B	731170	1	731000 PA215 T 810 851	
		EIU1FAD	BSV, J12, J14(WRONG) ENG1B	731170	2	731000 PA215 T 810 851	
R		EIU1FAD	CHECK ECB (59KD)/EIU1 CIRCUIT OR EIU1	732534	1	732500 P 234 T 810 867	
		EIU1FAD	CHECK ECU1 A1 AND B1 BUS OR EIU1	732534	1	732500 P 204 T 810 843	
R		EIU1FAD	CHECK EIU1 ARINC OUTPUT CIRCUIT TO FADEC OR EIU1		1	732500 P 256 T 810 885	
R		EIU1FAD	CHECK EIU1 ARINC OUTPUT CIRCUIT TO 199VC OR EIU1		1	732500 P 252 T 810 883	
R		EIU1FAD	CHECK 14KS1 RELAY CIRCUIT OR EIU1	732534	1	732500 P 238 T 810 869	
		EIU1FAD	CHECK 15KS1 RELAY CIRCUIT OR EIU1	732534	3	732500 P 212 T 810 851	
R		EIU1FAD	CHECK 17HB RELAY CIRCUIT OR EIU1	732534	1	732500 P 232 T 810 865	
		EIU1FAD	CHECK 8LP RELAY CIRCUIT OR EIU1	732534	1	732500 P 220 T 810 857	

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LIADNINGS / MALEUNGTIONS	T	FAULT - ISOLATION		
WARNINGS/MALFUNCTIONS 	SOURCE	MESSAGE	ATA (!
	EIU1FAD	ECU (ACI FAULT) ENG1A	732160	732081 P 249 T 810 855
	EIU1FAD	ECU (ACI FAULT) ENG1B	732160	732081 P 283 T 810 894
	EIU1FAD	ECU (ADC1 INTFC) ENG1A	732160	732081 P 251 T 810 857
	EIU1FAD	ECU (ADC1 INTFC) ENG1B	732160	732081 P 287 T 810 898
	EIU1FAD	ECU (ADC2 INTFC) ENG1A	732160	732081 P 253 T 810 859
	EIU1FAD	ECU (ADC2 INTFC) ENG1B	732160	732081 P 289 T 810 900
	EIU1FAD	ECU (CPU FAULT) ENG1A	732160	732081 P 235 T 810 835
	EIU1FAD	ECU (CPU FAULT) ENG1B	732160	732081 P 279 T 810 886
	EIU1FAD	ECU (DATA ACQN) ENG1A	732160	732081 P 247 T 810 853
	EIU1FAD	ECU (DATA ACQN) ENG1B	732160	732081 P 281 T 810 892
	EIU1FAD	ECU (EIU INTFC) ENG1A	732160	732081 P 259 T 810 865
	EIU1FAD	ECU (EIU INTFC) ENG1B	732160	732081 P 294 T 810 905
	EIU1FAD	ECU (EIU INTFC) ENG1B	732160	732081 P 295 T 810 906
	EIU1FAD	ECU (PO SENSOR) ENG1A	732160	732081 P 201 T 810 801
	EIU1FAD	ECU (PO SENSOR) ENG1A	732160	732081 P 201 T 810 801

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	WARNINGS/MALFUNCTIONS		CFDS FAULT MESSAGES	 S		FAULT ISOLATION
	WARNINGS/ MALFONCTIONS	SOURCE	MESSAGE	ATA	C	PROCEDURE
		EIU1FAD	ECU (PO SENSOR) ENG1B	732160	S	732081 P 271 T 810 878
R		EIU1FAD	ECU (PS12 SENSOR) ENG1A	732160	S	732000 P 281 T 810 865
R		EIU1FAD	ECU (PS12 SENSOR) ENG1A	732160	1	732000 P 281 T 810 865
		IDENT:	EIU1FAD			
R		EIU1FAD	ECU (PS12 SENSOR) ENG1B	732160	S	732000 PA278 T 810 947
R		EIU1FAD	ECU (PS12 SENSOR) ENG1B	732160	1	732000 PA278 T 810 947
		IDENT: 6	EIU1FAD			1 6 10 747
R		EIU1FAD	ECU (PS3 DISAGREE) ENG1A	732160	3	732000 P 287 T 810 869
R		EIU1FAD	ECU (PS3 DISAGREE) ENG1B	732160	3	732000 PB221 T 810 965
R		EIU1FAD	ECU (PS3 DISAGREE)* ENG1A	732160	S	732000 P 287 T 810 869
R		EIU1FAD	ECU (PS3 DISAGREE)* ENG1B	732160	S	732000 PB221 T 810 965
		EIU1FAD	ECU (PO SENSOR) ENG1B	732160	1	732081 P 271 T 810 878
		IDENT:	EIU1FAD			010 010
R		EIU1FAD	ECU (TCMA RELAY) ENG1A	732160	1	732000 PB247 T 810 979
R		EIU1FAD	ECU (TCMA RELAY) ENG1A	732160	2	732000 PB247 T 810 979
R		EIU1FAD	ECU (TCMA RELAY) ENG1A	732160	3	732000 PB247 T 810 979
R		EIU1FAD	ECU (TCMA RELAY) ENG1B	732160	1	732000 PB247 T 810 979

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LIADNINGS /MALEUNGTIONS	[CFDS FAULT MESSAGES			
WARNINGS/MALFUNCTIONS	SOURCE	MESSAGE	ATA	С	ISOLATION PROCEDURE
	EIU1FAD	ECU (TCMA RELAY) ENG1B	732160	2	732000 PB247 T 810 979
	EIU1FAD	ECU (TCMA RELAY) ENG1B	732160	3	732000 PB247 T 810 979
	EIU1FAD	ECU, EIU-28V, J1	732160	1	732000 P 236 T 810 850
	EIU1FAD	ECU, EIU-28V, J2	732160	1	732000 P 233 T 810 849
	EIU1FAD	ECU, PS13 SNSR LINE ENG1A	732160	3	732000 P 299 T 810 901
	EIU1FAD	ECU, PS13 SNSR LINE ENG1B	732160	3	732000 P 299 T 810 901
	EIU1FAD	ECU, PS13 SNSR LINE* ENG1A	732160	S	732000 P 299 T 810 901
	EIU1FAD	ECU, PS13 SNSR LINE* ENG1B	732160	S	732000 P 299 T 810 901
	EIU1FAD	ECU, PS3 SNSR LINE ENG1A	732160	S	732000 P 283 T 810 867
	EIU1FAD	ECU, PS3 SNSR LINE ENG1A	732160		732000 P 283 T 810 867
	IDENT: E	EIU1FAD			
	EIU1FAD	ECU, PS3 SNSR LINE ENG1B	732160		732000 PA292 T 810 951
	EIU1FAD	ECU, PS3 SNSR LINE ENG1B	732160	1	732000 PA292 T 810 951
	IDENT: EIU1FAD				010 751
	EIU1FAD	EIU (ARINC), J3 ENG1A	732534	1	715000 P 241 T 810 811
	EIU1FAD	EIU (ARINC), J3 ENG1B	732534	1	715000 P 277 T 810 832
	EIU1FAD	EIU (031), J3 ENG1A	732534	s	732500 P 278 T 810 897

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	WARNINGS/MALFUNCTIONS		CFDS FAULT MESSAGES			FAULT ISOLATION	
	WARNINGS/MALFONCTIONS	SOURCE	MESSAGE	ATA	С		
		EIU1FAD	EIU (031), J3 ENG1A	732534	1	732500 P 278 T 810 897	
		IDENT: I	EIU1FAD				
R		EIU1FAD	EIU (031), J3 ENG1B	732534	S	732500 PA230 T 810 936	
R		EIU1FAD	EIU (031), J3 ENG1B	732534	1	732500 PA230 T 810 936	
		IDENT: I	EIU1FAD				
		EIU1FAD	EIU (150), J3 ENG1A	732534	3	732000 PB258 T 810 984	
		EIU1FAD	EIU (150), J3 ENG1B	732534	3	732000 PB258 T 810 984	
		EIU1FAD	EIU, HCU ENG1A	732534	1	783100 PA234 T 810 871	
		EIU1FAD	EIU, HCU ENG1A	732534	1	783100 PA238 T 810 875	
		EIU1FAD	EIU, HCU ENG1B	732534	1	783100 PA234 T 810 871	
		EIU1FAD	EIU, HCU ENG1B	732534	1	783100 PA238 T 810 875	
		EIU1FAD	EIU1	732534	3	732500 P 218 T 810 855	
		EIU1FAD	FLOW SNSR, J13, ECU ENG1A	733110	S	733100 P 201 T 810 805	
		EIU1FAD	FLOW SNSR, J13, ECU ENG1A	733110	1	733100 P 201 T 810 805	
		IDENT: I	EIU1FAD				
		EIU1FAD	FLOW SNSR, J13, ECU ENG1B	733110	s	733100 P 205 T 810 807	

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	WARNINGS/MALFUNCTIONS	1	CFDS FAULT MESSAGES			
	WARNINGS/MALFONCTIONS	SOURCE	MESSAGE	ATA	С	ISOLATION PROCEDURE
		EIU1FAD	FLOW SNSR, J13, ECU ENG1B	733110	1	733100 P 205 T 810 807
		IDENT: E	EIU1FAD			
		EIU1FAD	FRV (CLOSED), J7, ECU	731150	1	731000 P 231 T 810 817
R		EIU1FAD	FRV (CLOSED), J8, ECU	731150	1	731000 P 235 T 810 819
		EIU1FAD	FRV (OPEN), J7, ECU	731150	1	731000 P 223 T 810 813
		EIU1FAD	FRV (OPEN), J8, ECU	731150	1	731000 P 227 T 810 815
		EIU1FAD	HMU (FMV) ENG1A	731110	1	731000 P 201 T 810 801
		EIU1FAD	HMU (FMV) ENG1A	732110	1	731000 P 201 T 810 801
		EIU1FAD	HMU (FMV) ENG1B	731110	1	731000 P 287 T 810 835
		EIU1FAD	HMU (FMV) ENG1B	732110	1	731000 P 287 T 810 835
		EIU1FAD	HMU (OSG), J7 ENG1A	732110	S	732000 P 201 T 810 837
		EIU1FAD	HMU (OSG), J7 ENG1A	732110	1	732000 P 201 T 810 837
		EIU1FAD	HMU (OSG), J7 ENG1A	732110	3	732000 P 201 T 810 837
		EIU1FAD	HMU (OSG), J7 ENG1B	732110	S	732000 PA268 T 810 941
	_	EIU1FAD	HMU (OSG), J7 ENG1B	732110	1	732000 PA268 T 810 941
		EIU1FAD	HMU (OSG), J7 ENG1B	732110	3	732000 PA268 T 810 941

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	WARNINGS/MALFUNCTIONS		CFDS FAULT MESSAGES			FAULT ISOLATION
	WARNINGS/MALFORCTIONS	SOURCE	MESSAGE	ATA	С	PROCEDURE
R		EIU1FAD	J14(ID FAULT), ECU	732150	1	732000 PB237 T 810 973
R		EIU1FAD	J14(WRONG), BSV(CL)	732150	1	732000 PB241 T 810 976
R		EIU1FAD	J14(WRONG), BSV, ECU	732150	1	732000 PB239 T 810 974
R		EIU1FAD	J14, ECU (ENG IDENT) ENG1A	732150	1	732000 PA227 T 810 913
R		EIU1FAD	J14, ECU (ENG IDENT) ENG1B	732150	1	732000 PB201 T 810 957
R		EIU1FAD	J14WRONG, ECU ENTRY	732100	1	732000 PB243 T 810 977
R		EIU1FAD	J7/J8, HMU (SOV SW) ENG1A	732150	3	732000 P 295 T 810 899
R		EIU1FAD	J7/J8, HMU (SOV SW) ENG1B	732150	3	732000 PA263 T 810 931
R		EIU1FAD	J7/J8, HMU (SOV SW)* ENG1A	732150	S	732000 P 295 T 810 899
R		EIU1FAD	J7/J8, HMU (SOV SW)* ENG1B	732150	S	732000 PA263 T 810 931
R		EIU1FAD	J7, BSV, ECU	732150	S	732000 PA235 T 810 915
R		EIU1FAD	J7, FRV(SOL 1), ECU	732150	S	732000 PA203 T 810 905
R		EIU1FAD	J7, FRV(SOL 2), ECU	732150	S	732000 PA215 T 810 909
		EIU1FAD	J7, HMU (NAC TM), ECU ENG1A	732150	S	752500 P 201 T 810 819
		EIU1FAD	J7, HMU(BSVSOL), ECU	732150	S	732900 PA243 T 810 876

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WARNINGS/MALFUNCTIONS		FAULT ISOLATION			
WARNINGS/ MALFUNCTIONS	SOURCE	MESSAGE	ATA	С	!
	EIU1FAD	J7, HMU(BSVSOL), ECU	732150	1	732900 PA243 T 810 876
	IDENT:	IDENT: EIU1FAD			
	EIU1FAD	J7, HMU(FMVRES), ECU	732150	S	732900 PA211 T 810 864
	EIU1FAD	J7, HMU(FMVRES), ECU	732150	1	732900 PA211 T 810 864
	IDENT:	EIU1FAD			610 664
	EIU1FAD	J7, HMU(HPTCTM), ECU	732150	S	732900 PA235 T 810 872
	EIU1FAD	J7, HMU(LPTCTM), ECU	732150	S	732900 PA279 T 810 892
	EIU1FAD	J7, HMU(RAC TM), ECU	732150	S	732900 PA251 T 810 880
	EIU1FAD	J7,HMU (TBV TM),ECU ENG1A	732150	S	752600 P 213 T 810 805
	EIU1FAD	J8, BSV, ECU	732150	S	732000 PA241 T 810 917
	EIU1FAD	J8, FRV(SOL 1), ECU	732150	S	732000 PA209 T 810 907
	EIU1FAD	J8, FRV(SOL 2), ECU	732150	S	732000 PA221 T 810 911
	EIU1FAD	J8, HMU (NAC TM), ECU ENG1B	732150	S	752500 P 205 T 810 820
	EIU1FAD	J8, HMU(BSVSOL), ECU	732150	S	732900 PA245 T 810 877
	EIU1FAD	J8, HMU(BSVSOL), ECU	732150	1	732900 PA245 T 810 877
	IDENT: EIU1FAD				
	EIU1FAD	J8, HMU(FMVRES), ECU	732150	S	732900 PA214 T 810 865

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	WARNINGS/MALFUNCTIONS		CFDS FAULT MESSAGES			
	WARNINGS/MALFONCTIONS	SOURCE	MESSAGE	ATA	С	ISOLATION PROCEDURE
		EIU1FAD	J8, HMU(FMVRES), ECU	732150	1	732900 PA214 T 810 865
		IDENT: E	EIU1FAD			
		EIU1FAD	J8, HMU(HPTCTM), ECU	732150	S	732900 PA237 T 810 873
		EIU1FAD	J8, HMU(LPTCTM), ECU	732150	S	732900 PA281 T 810 893
		EIU1FAD	J8, HMU(RAC TM), ECU	732150	S	732900 PA253 T 810 881
		EIU1FAD	J8,HMU (TBV TM),ECU ENG1B	732150	S	752600 P 215 T 810 806
R		EIU1FAD	PO/P12/T12, ADC, ECU* ENG1A	732100	S	732000 PA247 T 810 919
R		EIU1FAD	PO/P12/T12, ADC, ECU* ENG1B	732100	S	732000 PB209 T 810 961
R R		EIU1FAD	PS13 SENS LINE, ECU ENG1A	732160	3	732000 P 299 T 810 901
R R		EIU1FAD	PS13 SENS LINE, ECU ENG1B	732160	3	732000 P 299 T 810 901
R		EIU1FAD	PO/P12/T12, ADC, ECU ENG1A	732100	3	732000 PA247 T 810 919
R		EIU1FAD	PO/P12/T12, ADC, ECU ENG1B	732100	3	732000 PB209 T 810 961
R		EIU1FAD	P25 SNSR LINE, ECU ENG1B	732160	3	732000 PA296 T 810 953
R		EIU1FAD	P25 SNSR LINE, ECU* ENG1B	732160	S	732000 PA296 T 810 953
		EIU1FAD	TCC SNSR, J13, ECU ENG1A	732170	S	732000 P 209 T 810 841
R		EIU1FAD	TCC SNSR, J13, ECU ENG1B	732170	S	732000 PA280 T 810 949

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	WARNINGS/MALFUNCTIONS		CFDS FAULT MESSAGES				
	WARNINGS/MALFORCTIONS	SOURCE	MESSAGE	ATA	С	ISOLATION PROCEDURE	
R		EIU1FAD	T12 SNSR, J10, ECU	732140	S	732000 P 275 T 810 863	
R		EIU1FAD	T12 SNSR, J10, ECU	732140	1	732000 P 275 T 810 863	
		IDENT: E	EIU1FAD			010 005	
R		EIU1FAD	T12 SNSR, J9, ECU	732140	S	732000 P 269 T 810 861	
R		EIU1FAD	T12 SNSR, J9, ECU	732140	1	732000 P 269 T 810 861	
		IDENT: E	EIU1FAD				
		EIU1FAD	T25 SNSR, J11, ECU	732120	S	732000 P 245 T 810 853	
		EIU1FAD	T25 SNSR, J11, ECU	732120	1	732000 P 245 T 810 853	
		IDENT: E	EIU1FAD			L	
R		EIU1FAD	T25 SNSR, J11, ECU ENG1A	732120	3	732000 P 289 T 810 897	
R		EIU1FAD	T25 SNSR, J11, ECU* ENG1A	732120	S	732000 P 289 T 810 897	
R		EIU1FAD	T25 SNSR, J12, ECU	732120	S	732000 P 251 T 810 855	
R		EIU1FAD	T25 SNSR, J12, ECU	732120	1	732000 P 251 T 810 855	
		IDENT: E	EIU1FAD				
R		EIU1FAD	T25 SNSR, J12, ECU ENG1B	732120	3	732000 PB215 T 810 963	
R		EIU1FAD	T25 SNSR, J12, ECU* ENG1B	732120	S	732000 PB215 T 810 963	
 		EIU2FAD	BSV (VLV CLSD), HMU ENG2A	731170	1	731000 P 210 T 810 806	
		EIU2FAD	BSV (VLV CLSD), HMU ENG2B	731170	1	731000 P 281 T 810 834	

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LIADNINGS / MALEUNGITONS		CFDS FAULT MESSAGES	 S		FAULT	
WARNINGS/MALFUNCTIONS	SOURCE	MESSAGE	ATA	С	ISOLATION PROCEDURE	
	EIU2FAD	BSV(CL), J14(WRONG)	731170	1	731000 PA206 T 810 848	
	EIU2FAD	BSV(OP), J14(WRONG)	731170	1	731000 PA200 T 810 846	
	EIU2FAD	BSV, HMU ENG2A	731170	1	731000 P 260 T 810 828	
	EIU2FAD	BSV, HMU ENG2B	731170	1	731000 P 294 T 810 842	
	EIU2FAD	BSV, J11, ECU	731170	S	731000 P 248 T 810 824	
	EIU2FAD	BSV, J11, J14(WRONG) ENG2A	731170	1	731000 PA212 T 810 850	
	EIU2FAD	BSV, J11, J14(WRONG) ENG2A	731170	2	731000 PA212 T 810 850	
	EIU2FAD	BSV, J12, ECU	731170	S	731000 P 254 T 810 826	
	EIU2FAD	BSV, J12, J14(WRONG) ENG2B	731170	1	731000 PA218 T 810 852	
	EIU2FAD	BSV, J12, J14(WRONG) ENG2B	731170	2	731000 PA218 T 810 852	
	EIU2FAD	CHECK ECB (59KD)/EIU 2 CIRCUIT OR EIU2	732534	1	732500 P 236 T 810 868	
	EIU2FAD	CHECK ECU2 A1 AND B1 BUS OR EIU2	732534	1	732500 P 201 T 810 816	
	EIU2FAD	CHECK EIU2 ARINC OUTPUT CIRCUIT TO FADEC OR EIU2		1	732500 P 258 T 810 886	
	EIU2FAD	CHECK EIU2 ARINC OUTPUT CIRCUIT TO 198VC OR EIU2		1	732500 P 254 T 810 884	
	EIU2FAD	CHECK 14KS2 RELAY CIRCUIT OR EIU2	732534	1	732500 P 239 T 810 870	

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	WARNINGS/MALFUNCTIONS		CFDS FAULT MESSAGES	S		FAULT ISOLATION
	WARNINGS/ MALFONCTIONS	SOURCE	MESSAGE	ATA	С	
		EIU2FAD	CHECK 15KS2 RELAY CIRCUIT OR EIU2	732534	3	732500 P 213 T 810 852
R		EIU2FAD	CHECK 16HB RELAY CIRCUIT OR EIU2	732534	1	732500 P 233 T 810 866
		EIU2FAD	CHECK 19LP RELAY CIRCUIT OR EIU2	732534	1	732500 P 221 T 810 858
		EIU2FAD	ECU (ACI FAULT) ENG2A	732160	1	732081 P 250 T 810 856
		EIU2FAD	ECU (ACI FAULT) ENG2B	732160	1	732081 P 284 T 810 895
		EIU2FAD	ECU (ADC1 INTFC) ENG2A	732160	S	732081 P 252 T 810 858
		EIU2FAD	ECU (ADC1 INTFC) ENG2B	732160	S	732081 P 288 T 810 899
		EIU2FAD	ECU (ADC2 INTFC) ENG2A	732160	S	732081 P 254 T 810 860
		EIU2FAD	ECU (ADC2 INTFC) ENG2B	732160	S	732081 P 290 T 810 901
		EIU2FAD	ECU (CPU FAULT) ENG2A	732160	1	732081 P 236 T 810 836
		EIU2FAD	ECU (CPU FAULT) ENG2B	732160	1	732081 P 280 T 810 887
		EIU2FAD	ECU (DATA ACQN) ENG2A	732160	1	732081 P 248 T 810 854
		EIU2FAD	ECU (DATA ACQN) ENG2B	732160	1	732081 P 282 T 810 893
		EIU2FAD	ECU (EIU INTFC) ENG2A	732160	S	732081 P 260 T 810 866
		EIU2FAD	ECU (EIU INTFC) ENG2B	732160	s	732081 P 295 T 810 906

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	WARNINGS/MALFUNCTIONS		CFDS FAULT MESSAGES	S		FAULT ISOLATION
	WARNINGS/ PIACT ONC LIONS	SOURCE	MESSAGE	ATA	С	PROCEDURE
		EIU2FAD	ECU (EIU INTFC) ENG2B	732160	S	732081 P 296 T 810 907
ļ		EIU2FAD	ECU (PO SENSOR) ENG2A	732160	S	732081 P 202 T 810 802
		EIU2FAD	ECU (PO SENSOR) ENG2A	732160	1	732081 P 202 T 810 802
		IDENT: 6	EIU2FAD			
		EIU2FAD	ECU (PO SENSOR) ENG2B	732160	s	732081 P 272 T 810 879
R		EIU2FAD	ECU (PS12 SENSOR) ENG2A	732160	S	732000 P 282 T 810 866
R		EIU2FAD	ECU (PS12 SENSOR) ENG2A	732160	1	732000 P 282 T 810 866
		IDENT:	EIU2FAD		-	
R		EIU2FAD	ECU (PS12 SENSOR) ENG2B	732160	S	732000 PA279 T 810 948
R		EIU2FAD	ECU (PS12 SENSOR) ENG2B	732160	1	732000 PA279 T 810 948
		IDENT: E	EIU2FAD	_		
R		EIU2FAD	ECU (PS3 DISAGREE) ENG2A	732160	3	732000 P 288 T 810 870
R		EIU2FAD	ECU (PS3 DISAGREE) ENG2B	732160	3	732000 PB222 T 810 966
R		EIU2FAD	ECU (PS3 DISAGREE)* ENG2A	732160	S	732000 P 288 T 810 870
R		EIU2FAD	ECU (PS3 DISAGREE)* ENG2B	732160	S	732000 PB222 T 810 966
		EIU2FAD	ECU (PO SENSOR) ENG2B	732160	1	732081 P 272 T 810 879
		IDENT:	IDENT: EIU2FAD			
R		EIU2FAD	ECU (TCMA RELAY) ENG2A	732160	1	732000 PB247 T 810 979

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	WARNINGS/MALFUNCTIONS	CFDS FAULT MESSAGES			FAULT ISOLATION	
	WARNINGS/ MALFORCTIONS	SOURCE	MESSAGE	ATA	С	!
R		EIU2FAD	ECU (TCMA RELAY) ENG2A	732160	2	732000 PB247 T 810 979
R		EIU2FAD	ECU (TCMA RELAY) ENG2A	732160	3	732000 PB247 T 810 979
R		EIU2FAD	ECU (TCMA RELAY) ENG2B	732160	1	732000 PB247 T 810 979
R		EIU2FAD	ECU (TCMA RELAY) ENG2B	732160	2	732000 PB247 T 810 979
R		EIU2FAD	ECU (TCMA RELAY) ENG2B	732160	3	732000 PB247 T 810 979
		EIU2FAD	ECU, EIU-28V, J1	732160	1	732000 P 242 T 810 852
		EIU2FAD	ECU, EIU-28V, J2	732160	1	732000 P 239 T 810 851
R R		EIU2FAD	ECU, PS13 SNSR LINE ENG2A	732160	3	732000 PA201 T 810 902
R R		EIU2FAD	ECU, PS13 SNSR LINE ENG2B	732160	3	732000 PA201 T 810 902
R R		EIU2FAD	ECU, PS13 SNSR LINE* ENG2A	732160	S	732000 PA201 T 810 902
R R		EIU2FAD	ECU, PS13 SNSR LINE* ENG2B	732160	S	732000 PA201 T 810 902
R		EIU2FAD	ECU, PS3 SNSR LINE ENG2A	732160	S	732000 P 285 T 810 868
R		EIU2FAD	ECU, PS3 SNSR LINE ENG2A	732160	1	732000 P 285 T 810 868
		IDENT: E	EIU2FAD			
R		EIU2FAD	ECU, PS3 SNSR LINE ENG2B	732160	S	732000 PA294 T 810 952
R		EIU2FAD	ECU, PS3 SNSR LINE ENG2B	732160	1	732000 PA294 T 810 952
		IDENT: E	EIU2FAD			

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	WARNINGS/MALFUNCTIONS		CFDS FAULT MESSAGES	 S		FAULT ISOLATION
	WARNINGS/ MALFONCTIONS	SOURCE	MESSAGE	ATA	С	
		EIU2FAD	EIU (ARINC), J3 ENG2A	732534	1	715000 P 243 T 810 812
		EIU2FAD	EIU (ARINC), J3 ENG2B	732534	1	715000 P 279 T 810 833
		EIU2FAD	EIU (031), J3 ENG2A	732534	S	732500 P 279 T 810 898
		EIU2FAD	EIU (031), J3 ENG2A	732534	1	732500 P 279 T 810 898
		IDENT:	EIU2FAD			
R		EIU2FAD	EIU (031), J3 ENG2B	732534	S	732500 PA231 T 810 937
R		EIU2FAD	EIU (031), J3 ENG2B	732534	1	732500 PA231 T 810 937
		IDENT: E	EIU2FAD			
		EIU2FAD	EIU (150), J3 ENG2A	732534	3	732000 PB258 T 810 984
		EIU2FAD	EIU (150), J3 ENG2B	732534	3	732000 PB258 T 810 984
		EIU2FAD	EIU, HCU ENG2A	732534	1	783100 PA236 T 810 872
		EIU2FAD	EIU, HCU ENG2A	732534	1	783100 PA240 T 810 876
		EIU2FAD	EIU, HCU ENG2B	732534	1	783100 PA236 T 810 872
		EIU2FAD	EIU, HCU ENG2B	732534	1	783100 PA240 T 810 876
		EIU2FAD	EIU2	732534	3	732500 P 219 T 810 856
		EIU2FAD	FLOW SNSR, J13, ECU ENG2A	733110	S	733100 P 203 T 810 806

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	WARNINGS/MALFUNCTIONS		CFDS FAULT MESSAGES			FAULT ISOLATION
	WARNINGS/ MALFONCTIONS	SOURCE	MESSAGE	ATA	С	
		EIU2FAD	FLOW SNSR, J13, ECU ENG2A	733110	1	733100 P 203 T 810 806
		IDENT:	EIU2FAD			
		EIU2FAD	FLOW SNSR, J13, ECU ENG2B	733110	S	733100 P 207 T 810 808
		EIU2FAD	FLOW SNSR, J13, ECU ENG2B	733110	1	733100 P 207 T 810 808
		IDENT:	EIU2FAD			
R		EIU2FAD	FRV (CLOSED), J7, ECU	731150	1	731000 P 233 T 810 818
R		EIU2FAD	FRV (CLOSED), J8, ECU	731150	1	731000 P 237 T 810 820
		EIU2FAD	FRV (OPEN), J7, ECU	731150	1	731000 P 225 T 810 814
		EIU2FAD	FRV (OPEN), J8, ECU	731150	1	731000 P 229 T 810 816
		EIU2FAD	HMU (FMV) ENG2A	731110	1	731000 P 203 T 810 802
		EIU2FAD	HMU (FMV) ENG2A	732110	1	731000 P 203 T 810 802
		EIU2FAD	HMU (FMV) ENG2B	731110	1	731000 P 289 T 810 836
		EIU2FAD	HMU (FMV) ENG2B	732110	1	731000 P 289 T 810 836
		EIU2FAD	HMU (OSG), J7 ENG2A	732110	S	732000 P 205 T 810 838
		EIU2FAD	HMU (OSG), J7 ENG2A	732110	1	732000 P 205 T 810 838
		EIU2FAD	HMU (OSG), J7 ENG2A	732110	3	732000 P 205 T 810 838

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	WARNINGS/MALFUNCTIONS	L	CFDS FAULT MESSAGES			FAULT ISOLATION	
	WARNINGS/ MALFONCTIONS	SOURCE	MESSAGE	ATA	С	PROCEDURE	
R		EIU2FAD	HMU (OSG), J7 ENG2B	732110	S	732000 PA273 T 810 942	
R		EIU2FAD	HMU (OSG), J7 ENG2B	732110	1	732000 PA273 T 810 942	
R		EIU2FAD	HMU (OSG), J7 ENG2B	732110	3	732000 PA273 T 810 942	
R		EIU2FAD	J14(ID FAULT), ECU	732150	1	732000 PB237 T 810 973	
R		EIU2FAD	J14(WRONG), BSV(CL)	732150	1	732000 PB241 T 810 976	
R		EIU2FAD	J14(WRONG), BSV, ECU	732150	1	732000 PB239 T 810 974	
R		EIU2FAD	J14, ECU (ENG IDENT) ENG2A	732150	1	732000 PA231 T 810 914	
R		EIU2FAD	J14, ECU (ENG IDENT) ENG2B	732150	1	732000 PB205 T 810 958	
R		EIU2FAD	J14, ECU (ENG IDENT) ENG2B	732150	3	732000 PB200 T 810 956	
R		EIU2FAD	J14WRONG, ECU ENTRY	732100	1	732000 PB245 T 810 978	
R		EIU2FAD	J7/J8, HMU (SOV SW) ENG2A	732150	3	732000 P 297 T 810 900	
R		EIU2FAD	J7/J8, HMU (SOV SW) ENG2B	732150	3	732000 PA266 T 810 932	
R		EIU2FAD	J7/J8, HMU (SOV SW)* ENG2A	732150	S	732000 P 297 T 810 900	
R		EIU2FAD	J7/J8, HMU (SOV SW)* ENG2B	732150	S	732000 PA266 T 810 932	
R		EIU2FAD	J7, BSV, ECU	732150	s	732000 PA238 T 810 916	

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	HADNINGS /MALEUNGITONS		CFDS FAULT MESSAGES			FAULT ISOLATION	
	WARNINGS/MALFUNCTIONS	SOURCE	MESSAGE	ATA	С	ii i	
R		EIU2FAD	J7, FRV(SOL 1), ECU	732150	S	732000 PA206 T 810 906	
R		EIU2FAD	J7, FRV(SOL 2), ECU	732150	S	732000 PA218 T 810 910	
		EIU2FAD	J7, HMU (NAC TM), ECU ENG2A	732150	S	752500 P 209 T 810 821	
		EIU2FAD	J7, HMU(BSVSOL), ECU	732150	S	732900 PA247 T 810 878	
		EIU2FAD	J7, HMU(BSVSOL), ECU	732150	1	732900 PA247 T 810 878	
		IDENT: I	EIU2FAD				
		EIU2FAD	J7, HMU(FMVRES), ECU	732150	S	732900 PA217 T 810 866	
		EIU2FAD	J7, HMU(FMVRES), ECU	732150	1	732900 PA217 T 810 866	
		IDENT: I	EIU2FAD				
		EIU2FAD	J7, HMU(HPTCTM), ECU	732150	S	732900 PA239 T 810 874	
		EIU2FAD	J7, HMU(LPTCTM), ECU	732150	S	732900 PA283 T 810 894	
		EIU2FAD	J7, HMU(RAC TM), ECU	732150	S	732900 PA255 T 810 882	
		EIU2FAD	J7,HMU (TBV TM),ECU ENG2A	732150	S	752600 P 217 T 810 807	
R		EIU2FAD	J8, BSV, ECU	732150	S	732000 PA244 T 810 918	
R		EIU2FAD	J8, FRV(SOL 1), ECU	732150	S	732000 PA212 T 810 908	
R		EIU2FAD	J8, FRV(SOL 2), ECU	732150	S	732000 PA224 T 810 912	
		EIU2FAD	J8, HMU (NAC TM), ECU ENG2B	732150	S	752500 P 213 T 810 822	

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WARNINGS/MALFUNCTIONS	CFDS FAULT MESSAGES			FAULT ISOLATION	
	SOURCE	MESSAGE	ATA	С	!
	EIU2FAD	J8, HMU(BSVSOL), ECU	732150	S	732900 PA249 T 810 879
	EIU2FAD	J8, HMU(BSVSOL), ECU	732150	1	732900 PA249 T 810 879
	IDENT: I	EIU2FAD			
	EIU2FAD	J8, HMU(FMVRES), ECU	732150	S	732900 PA220 T 810 867
	EIU2FAD	J8, HMU(FMVRES), ECU	732150	1	732900 PA220 T 810 867
	IDENT: I	EIU2FAD			
	EIU2FAD	J8, HMU(HPTCTM), ECU	732150	S	732900 PA241 T 810 875
	EIU2FAD	J8, HMU(LPTCTM), ECU	732150	S	732900 PA285 T 810 895
	EIU2FAD	J8, HMU(RAC TM), ECU	732150	S	732900 PA257 T 810 883
	EIU2FAD	J8,HMU (TBV TM),ECU ENG2B	732150	S	752600 P 219 T 810 808
	EIU2FAD	PO/P12/T12, ADC, ECU* ENG2A	732100	S	732000 PA250 T 810 920
	EIU2FAD	PO/P12/T12, ADC, ECU* ENG2B	732100	S	732000 PB212 T 810 962
	EIU2FAD	PS13 SENS LINE, ECU ENG2A	732160	3	732000 PA201 T 810 902
	EIU2FAD	PS13 SENS LINE, ECU ENG2B	732160	3	732000 PA201 T 810 902
	EIU2FAD	PO/P12/T12, ADC, ECU ENG2A	732100	3	732000 PA250 T 810 920
	EIU2FAD	PO/P12/T12, ADC, ECU ENG2B	732100	3	732000 PB212 T 810 962
	EIU2FAD	P25 SNSR LINE, ECU ENG2B	732160	3	732000 PA298 T 810 954

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	WARNINGS/MALFUNCTIONS		CFDS FAULT MESSAGES			FAULT ISOLATION
	WARNINGS/ MALFUNCTIONS	SOURCE	MESSAGE	ATA	С	!
R		EIU2FAD	P25 SNSR LINE, ECU* ENG2B	732160	S	732000 PA298 T 810 954
		EIU2FAD	TCC SNSR, J13, ECU ENG2A	732170	S	732000 P 215 T 810 842
R		EIU2FAD	TCC SNSR, J13, ECU ENG2B	732170	S	732000 PA286 T 810 950
R		EIU2FAD	T12 SNSR, J10, ECU	732140	S	732000 P 278 T 810 864
R		EIU2FAD	T12 SNSR, J10, ECU	732140	1	732000 P 278 T 810 864
		IDENT: E	EIU2FAD			
R		EIU2FAD	T12 SNSR, J9, ECU	732140	S	732000 P 272 T 810 862
R		EIU2FAD	T12 SNSR, J9, ECU	732140	1	732000 P 272 T 810 862
		IDENT: EIU2FAD				
R		EIU2FAD	T25 SNS, J12, ECU ENG2B	732120	3	732000 PB218 T 810 964
R		EIU2FAD	T25 SNSR, J11, ECU	732120	S	732000 P 248 T 810 854
R		EIU2FAD	T25 SNSR, J11, ECU	732120	1	732000 P 248 T 810 854
		IDENT: E	EIU2FAD			
R		EIU2FAD	T25 SNSR, J11, ECU ENG2A	732120	3	732000 P 292 T 810 898
R		EIU2FAD	T25 SNSR, J11, ECU* ENG2A	732120	S	732000 P 292 T 810 898
R		EIU2FAD	T25 SNSR, J12, ECU	732120	S	732000 P 254 T 810 856
R		EIU2FAD	T25 SNSR, J12, ECU	732120	1	732000 P 254 T 810 856
	IDENT: EIU2FAD					

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WARNINGS/MALFUNCTIONS		FAULT - ISOLATION		
WARNINGS/MALFUNCTIONS	SOURCE	MESSAGE	ATA	PROCEDURE
	EIU2FAD	T25 SNSR, J12, ECU ENG2B	732120	732000 PB218 T 810 964
	EIU2FAD	T25 SNSR, J12, ECU* ENG2B	732120	T 810 964
	PHC 1	CHECK EIU-PHC1 INTERFACE	732500	3 303100 P 270 T 810 835
	PHC 2	CHECK EIU-PHC2 INTERFACE	732500	3 303100 P 272 T 810 836
	PHC 3	CHECK EIU-PHC3 INTERFACE	732500	3 303100 P 274 T 810 837
	WHC 1	CHECK EIU-WHC1 INTERFACE	732500	3 304200 P 268 T 810 823
	WHC 2	CHECK EIU-WHC2 INTERFACE	732500	3 304200 P 270 T 810 824

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ENGINE FUEL AND CONTROL - GENERAL - FAULT ISOLATION PROCEDURES

TASK 73-00-00-810-859

Disagree between the Fuel-Flow Indication and the ECU Output on Engine 1

- 1. Possible Causes
 - DMC-1 (1WT1)
 - DMC-2 (1WT2)
 - DMC-3 (1WT3)
 - FWC-1 (1WW1)
 - FWC-2 (1WW2)
- 2. Job Set-up Information
 - A. Referenced Information

	REFERENCE		DESIGNATION		
	AMM	31-53-34-000-001	Removal of the Flight Warning Computer (FWC)		
R	AMM	31-53-34-400-001	(1WW1,1WW2) Installation of the Flight Warning Computer (FWC)		
		31-63-34-000-001 31-63-34-400-001 71-00-00-710-006	(1WW1,1WW2) Removal of the DMC (1WT1,1WT2,1WT3) Installation of the DMC (1WT1,1WT2,1WT3) Minimum Idle Check		

- 3. Fault Confirmation
 - A. Test

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- (1) Not applicable, the fault is evident.
- 4. Fault Isolation
 - A. If the fault symptom is identified by the ECAM warning message ENG1 FF DISCREPANCY:
 - replace the DMC-1 (1WT1) (Ref. AMM TASK 31-63-34-000-001) and (Ref. AMM TASK 31-63-34-400-001).
 - (1) If the fault continues:
 - replace the DMC-2 (1WT2).
 - (2) If the fault continues:
 - replace the DMC-3 (1WT3).
 - (3) If the fault continues:
 - replace the FWC-1 (1WW1) (Ref. AMM TASK 31-53-34-000-001) and (Ref. AMM TASK 31-53-34-400-001).

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- (4) If the fault continues:
 - replace the FWC-2 (1WW2) (Ref. AMM TASK 31-53-34-000-001) and (Ref. AMM TASK 31-53-34-400-001).

B. Test

(1) Do a minimum idle check (Ref. AMM TASK 71-00-00-710-006).

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TASK 73-00-00-810-860

Disagree between the Fuel-Flow Indication and the ECU Output on Engine 2

- 1. Possible Causes
 - DMC-1 (1WT1)
 - DMC-2 (1WT2)
 - DMC-3 (1WT3)
 - FWC-1 (1WW1)
 - FWC-2 (1WW2)
- 2. Job Set-up Information
 - A. Referenced Information

	REFERENCE		DESIGNATION		
	AMM	31-53-34-000-001	Removal of the Flight Warning Computer (FWC) (1WW1,1WW2)		
R	AMM	31-53-34-400-001	Installation of the Flight Warning Computer (FWC) (1WW1,1WW2)		
	AMM	31-63-34-000-001	Removal of the DMC (1WT1,1WT2,1WT3)		
	AMM	31-63-34-400-001	Installation of the DMC (1WT1,1WT2,1WT3)		
	AMM	71-00-00-710-006	Minimum Idle Check		

- 3. Fault Confirmation
 - A. Test
 - (1) Not applicable, the fault is evident.
- 4. Fault Isolation
 - A. If the fault symptom is identified by the ECAM warning message ENG2 FF **DISCREPANCY:**
 - replace the DMC-1 (1WT1) (Ref. AMM TASK 31-63-34-000-001) and (Ref. AMM TASK 31-63-34-400-001).
 - (1) If the fault continues: - replace the DMC-2 (1WT2).
 - (2) If the fault continues: - replace the DMC-3 (1WT3).
 - (3) If the fault continues:
 - replace the FWC-1 (1WW1) (Ref. AMM TASK 31-53-34-000-001) and (Ref. AMM TASK 31-53-34-400-001).

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(4) If the fault continues:

- replace the FWC-2 (1WW2) (Ref. AMM TASK 31-53-34-000-001) and (Ref. AMM TASK 31-53-34-400-001).

B. Test

(1) Do a minimum idle check (Ref. AMM TASK 71-00-00-710-006).

EFF: ALL
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TROUBLE SHOOTING MANUAL

TASK 73-00-00-810-861

Disagree between the Fuel-Flow Indication and the ECU Output on Engine 1

- 1. Possible Causes
 - FWC-1 (1WW1)
 - FWC-2 (1WW2)
- 2. Job Set-up Information
 - A. Referenced Information

	REFERENCE		DESIGNATION		
	AMM	31-53-34-000-001	Removal of the Flight Warning Computer (FWC)		
R	AMM	31-53-34-400-001	(1WW1,1WW2) Installation of the Flight Warning Computer (FWC)		
	AMM	71-00-00-710-006	(1WW1,1WW2) Minimum Idle Check		

- 3. Fault Confirmation
 - A. Test
 - (1) Not applicable, the fault is evident.
- 4. Fault Isolation
 - A. If the fault symptom is identified by the ECAM warning message ENG1 FF DISCREPANCY and CHECK message near the FF indication on the upper ECAM display unit:
 - replace the FWC-1 (1WW1) (Ref. AMM TASK 31-53-34-000-001) and (Ref. AMM TASK 31-53-34-400-001).
 - B. Test
 - (1) Do a minimum idle check (Ref. AMM TASK 71-00-00-710-006).

EFF: ALL 73-00-00

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TASK 73-00-00-810-862

Disagree between the Fuel-Flow Indication and the ECU Output on Engine 2

- 1. Possible Causes
 - FWC-1 (1WW1)
 - FWC-2 (1WW2)
- 2. Job Set-up Information
 - A. Referenced Information

	REFERENCE		DESIGNATION		
	AMM	31-53-34-000-001	Removal of the Flight Warning Computer (FWC)		
R	AMM	31-53-34-400-001	(1WW1,1WW2) Installation of the Flight Warning Computer (FWC) (1WW1,1WW2)		
	AMM	71-00-00-710-006	Minimum Idle Check		

- 3. Fault Confirmation
 - A. Test
 - (1) Not applicable, the fault is evident.
- 4. Fault Isolation
 - A. If the fault symptom is identified by the ECAM warning message ENG2 FF DISCREPANCY and CHECK message near the FF indication on the upper ECAM display unit:
 - replace the FWC-1 (1WW1) (Ref. AMM TASK 31-53-34-000-001) and (Ref. AMM TASK 31-53-34-400-001).
 - B. Test
 - (1) Do a minimum idle check (Ref. AMM TASK 71-00-00-710-006).

EFF: ALL 73-00-00

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TASK 73-00-00-810-863

Low N1 on Engine 1

- 1. Possible Causes
 - ECU (4000KS)
- 2. Job Set-up Information
 - A. Referenced Information

	70-00-00-810-801		DESIGNATION Engine Failure(s)
	AMM	71-00-00-710-006	Minimum Idle Check
R	AMM	73-21-60-000-001	Removal of the Electronic Control Unit (ECU)(4000KS)
	AMM	73-21-60-400-001	Installation of the Electronic Control Unit
R			(ECU)(4000KS)
	AMM	73-29-00-710-040	Operational Test of the FADEC on the ground (with Engine Motoring)

- 3. Fault Confirmation
 - A. Do a minimum idle check (Ref. AMM TASK 71-00-00-710-006).
- 4. Fault Isolation
 - A. If the check confirms the fault:
 - (1) Do a check of the PS3 and PS12 sense lines to make sure that there are no leaks.
 - (2) Do an operational test of the FADEC on the ground (with engine motoring) to do a check of the VSV/VBV position (Ref. AMM TASK 73-29-00-710-040).
 - (3) Replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).
 - (4) Do the trouble shooting procedure (Ref. TASK 70-00-00-810-801).
 - B. Do the test given in Para. 3.A.

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TROUBLE SHOOTING MANUAL

TASK 73-00-00-810-864

Low N1 on Engine 2

- 1. Possible Causes
 - ECU (4000KS)
- 2. Job Set-up Information
 - A. Referenced Information

	70-00-00-810-801		DESIGNATION	
			Engine Failure(s)	
	AMM	71-00-00-710-006	Minimum Idle Check	
R	AMM	73-21-60-000-001	Removal of the Electronic Control Unit (ECU)(4000KS)	
	AMM	73-21-60-400-001	Installation of the Electronic Control Unit	
R			(ECU)(4000KS)	
	AMM	73-29-00-710-040	Operational Test of the FADEC on the ground (with Engine Motoring)	

- 3. Fault Confirmation
 - A. Do a minimum idle check (Ref. AMM TASK 71-00-00-710-006).
- 4. Fault Isolation
 - A. If the check confirms the fault:
 - (1) Do a check of the PS3 and PS12 sense lines to make sure that there are no leaks.
 - (2) Do an operational test of the FADEC on the ground (with engine motoring) to do a check of the VSV/VBV position (Ref. AMM TASK 73-29-00-710-040).
 - (3) Replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).
 - (4) Do the trouble shooting procedure (Ref. TASK 70-00-00-810-801).
 - B. Do the test given in Para. 3.A.

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TASK 73-00-00-810-865

Engine 1 or 2 Stall/Surge

1. Possible Causes

- VSV
- N2 SNSR
- T12
- T25
- IP check valve
- VBV
- HMU
- ECU (4000KS)

2. Job Set-up Information

A. Referenced Information

REFE	RENCE	DESIGNATION
70-0	0-00-810-801	Engine Failure(s)
AMM	36-11-41-000-040	Removal of the Intermediate Pressure (IP) Bleed Check Valve (7110HM)
AMM	36-11-41-200-001	Inspection/Check of the IP Bleed Check Valve
AMM	36-11-41-400-040	<pre>Installation of the Intermediate Pressure (IP) Bleed Check Valve (7110HM)</pre>
AMM	72-00-00-200-008	<pre>Inspection/Check After the Engine has Exceeded the Operational Limits</pre>
AMM	73-21-10-000-002	Removal of the Hydromechanical Unit (HMU)
AMM	73-21-10-400-002	Installation of the Hydromechanical Unit (HMU)
AMM	73-21-60-000-001	Removal of the Electronic Control Unit (ECU)
AMM	73-21-60-400-001	Installation of the Electronic Control Unit (ECU)
AMM	73-21-60-740-007	Correct Time Limited Faults (Non Asterisked) of the Engine Scheduled Maintenance Report
AMM	73-21-60-740-026	Read the CLASS 3 REPORT
AMM	73-29-00-710-040	Operational Test of the FADEC on the Ground (with Engine Motoring)
AMM	75-32-10-210-002	Inspection of the Variable Stator Vane Actuator

3. Fault Confirmation

A. Not applicable (confirmation could cause additional damage to the engine).

NOTE: The ECAM warning is set if N2 speed is between 50 per cent and 58 per cent and a stall condition is detected by the ECU. The setting of this ECAM warning indicates that the engine went into subidle speed.

R R

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NOTE: This ECAM warning can be set in the air or on the ground.

- 4. Fault Isolation
- R **ON A/C 201-225, 227-227, 229-239, 241-282, 284-299, 426-499, 503-549, R 551-599, 701-749,
 - A. If physical stall was confirmed (Felt/heard by the crew):
 - NOTE : Refer to CFM SB 72-0391 and if necessary, do a borescope inspection of the stage 5 booster blades and the abradable.
 - (1) do the engine post stall inspection (Ref. AMM TASK 72-00-00-200-008) (Inspection after exceedance of the operational limits).
 - (2) Accomplish the Troubleshooting in step 4.C.
 - B. If no physical stall condition was confirmed or reported by the crew:
 - (1) Ten (10) cycles are allowed before accomplishing the engine post stall inspection (Ref. AMM TASK 72-00-00-200-008) (Inspection after exceedance of the operational limits).
 - (2) Accomplish the Troubleshooting in step 4.C.
 - C. Troubleshooting operational limits).
 - (1) do a check of the post flight report and of the FADEC scheduled maintenance (Ref. AMM TASK 73-21-60-740-007) and Class 3 Reports (Ref. AMM TASK 73-21-60-740-026) for fault messages including the following words: VSV, N2 SNSR, T12, T25, HMU.
 - (a) If one of those fault messages is present:
 - do the applicable trouble shooting (Ref. TASK 70-00-00-810-801).
 - (b) If no message is found:
 - do an inspection of the IP check valve for correct operation and condition (Ref. AMM TASK 36-11-41-200-001),
 - replace the valve as required (Ref. AMM TASK 36-11-41-000-040) and (Ref. AMM TASK 36-11-41-400-040).
 - (c) If nothing is found:
 - do a detailed visual inspection of the VSV system control linkages (Ref. AMM TASK 75-32-10-210-002) and look for any broken or loose components,
 - repair or replace damaged parts.
 - 1 If nothing is found:
 - do a FADEC motoring test (Ref. AMM TASK 73-29-00-710-040) and check for VBV doors operation during the test with reverser cowls opened,

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- visually check that all doors move together smoothly and freely.
- <u>a</u> If trouble is found:repair or replace damaged parts.
 - <u>NOTE</u>: The VBV doors may be found in any position with the engine being stopped. If the VBV doors are not found in the fully closed position, this is not indicating an abnormal condition or a system failure. However, all doors must be set at the same angular position.
- b If nothing is found:
 - replace the HMU (Ref. AMM TASK 73-21-10-000-002) and (Ref. AMM TASK 73-21-10-400-002)
- 2 If the fault continues:
 - check again the Post Flight Report (PFR), Scheduled
 Maintenance Report (SMR) and Class 3 Report (Ref. AMM TASK 73-21-60-740-026).
 - a If any message is present:
 - do the applicable trouble shooting (Ref. TASK 70-00-00-810-801).
 - <u>b</u> If none of the above listed fault messages is present: - replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).

**ON A/C 240-240, 283-283,

- A. If physical stall was confirmed (Felt/heard by the crew):
 - NOTE : Refer to CFM SB 72-0391 and if necessary, do a borescope inspection of the stage 5 booster blades and the abradable.
 - (1) do the engine post stall inspection (Ref. AMM TASK 72-00-00-200-008) (Inspection after exceedance of the operational limits).
 - (2) Accomplish the Troubleshooting in step 4.C.
- B. If no physical stall condition was confirmed or reported by the crew:
 - (1) Ten (10) cycles are allowed before accomplishing the engine post stall inspection (Ref. AMM TASK 72-00-00-200-008) (Inspection after exceedance of the operational limits).
 - (2) Accomplish the Troubleshooting in step 4.C.

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C. Troubleshooting

- (1) do a check of the post flight report and of the FADEC scheduled maintenance (Ref. AMM TASK 73-21-60-740-007) for fault messages including the following words: VSV, N2 SNSR, T12, T25, HMU.
 - (a) If one of those fault messages is present:
 - do the applicable trouble shooting procedure (Ref. TASK 70-00-00-810-801).
 - (b) If no message is found:
 - do an inspection of the IP check valve for correct operation and condition (Ref. AMM TASK 36-11-41-200-001),
 - replace the valve as required (Ref. AMM TASK 36-11-41-000-040) and (Ref. AMM TASK 36-11-41-400-040).
 - (c) If nothing is found:
 - do a detailed visual inspection of the VSV system control linkages (Ref. AMM TASK 75-32-10-210-002) and look for any broken or loose components,
 - repair or replace damaged parts.
 - 1 If nothing is found:
 - do a FADEC motoring test (Ref. AMM TASK 73-29-00-710-040) and check for VBV doors operation during the test with reverser cowls opened,
 - visually check that all doors move together smoothly and freely.
 - a If trouble is found:
 - repair or replace damaged parts.
 - NOTE: The VBV doors may be found in any position with the engine being stopped. If the VBV doors are not found in the fully closed position, this is not indicating an abnormal condition or a system failure. However, all doors must be set at the same angular position.
 - b If nothing is found:
 - replace the HMU (Ref. AMM TASK 73-21-10-000-002) and (Ref. AMM TASK 73-21-10-400-002)
 - 2 If the fault continues:
 - check again the Post Flight Report (PFR), Scheduled Maintenance Report (SMR).
 - a If any message is present:
 - do the applicable trouble shooting procedure (Ref. TASK 70-00-00-810-801).

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<u>b</u> If none of the above listed fault messages is present: - replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).

**ON A/C ALL

- D. Repair Confirmation
 - (1) Do one of these two optional procedures:
 - (a) Option 1 Operate the engine at the thrust levels and engine loads at which the stall/surge occurred and look for operational problems. If the test is satisfactory, then interrogate the PFR and the SMR Report, if no internal VSV, VBV, T25 or N2 maintenance message shows, then you corrected the problem.
 - (b) Option 2
 Record the maintenance procedures that have been performed during the inspection/trouble shooting procedure, monitor the engine/airplane on subsequent flights.

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TASK 73-00-00-810-866

Stall of the engine 1 or 2 / Audible stall / Engine surge

1. Possible Causes

- engine
- VSV
- T12
- T25
- PS3
- VBV
- RACSB
- TBV
- NACTB
- IP check valve
- HMU
- ECU

2. Job Set-up Information

A. Referenced Information

	REFE	RENCE	DESIGNATION
	70-0	0-00-810-801	Engine Failure(s)
	80-0	0-00-810-833	Stall of the Engine 1 or 2
	AMM	36-11-41-200-001	Inspection/Check of the IP Bleed Check Valve
R	AMM	72-00-00-100-026	Washing of the Engine Gas Path with Pure Water
	AMM	72-00-00-200-006	<pre>Inspection/Check of Foreign Object Damage (FOD) (Bird Strike Included)</pre>
	AMM	72-21-00-290-003	Borescope Inspection of the Booster Rotor Blades, Stages 2,3,4 and 5 through the Booster Inlet and Borescope Ports SO3 and SO5
	AMM	72-31-00-290-002	Inspection of the High Pressure Compressor Rotor Assembly
	AMM	72-52-00-290-001	Borescope Inspection of the High-Pressure Turbine Blades (from the rear)
	AMM	72-54-00-290-005	Inspection of the Stage 1-3 Blades
	AMM	73-21-10-000-002	Removal of the Hydromechanical Unit (HMU)
	AMM	73-21-10-400-002	Installation of the Hydromechanical Unit (HMU)
	AMM	73-21-60-000-001	Removal of the Electronic Control Unit (ECU)
	AMM	73-21-60-400-001	Installation of the Electronic Control Unit (ECU)
	AMM	73-21-60-740-007	Correct Time Limited Faults (Non Asterisked) of the Engine Scheduled Maintenance Report
	AMM	79-00-00-281-002	Check of the Electrical Master Chip Detector for Particles

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3. Fault Confirmation

A. Not applicable, the confirmation can cause damage to the engine.

4. Fault Isolation

R **ON A/C 201-225, 227-227, 229-239, 241-282, 284-299, 426-499, 503-549, R 551-599, 701-749,

A. Do the following Trouble Shooting

R SB CFM 72-0391

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(1) If engine affected by SB CFM 72-0391, do a borescope inspection of the stage 5 booster blades (borescope port S05) (Ref. AMM TASK 72-21-00-290-003) at first maintenance opportunity within 25 hours or 10 cycles (whichever comes first), then proceed with the following procedure.

NOTE: Refer to CFM SB 72-0391 and if necessary, do a borescope inspection of the stage 5 booster blades and the abradable.

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END OF SB CFM 72-0391

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(2) If the engine stalled during taxi or during descent (on throttle reduction) or during an accel with recovery of engine parameters to normal:

R R R

Following trouble shooting procedure should be carried out if crew reported audible engine stall/surge while no ECAM warning ENG 1(2) STALL was set. This procedure covers engine stall conditions that occurred at N2 speed at or above idle. For engine stall during start, refer to (Ref. TASK 80-00-00-810-833).

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NOTE: Specific trouble shooting is required whether the stall occurred during an accel or decel with the engine fully recovered or not after the stall(s) with no noticeable parameter shift.

R R R

- (a) Do a check of the engine for Foreign Object Damage (FOD) or bird strike (Ref. AMM TASK 72-00-00-200-006).
- (b) Check the Post Flight Report of the leg corresponding to the stall occurance and FADEC Scheduled Maintenance Report and Class 3 Report (Ref. AMM TASK 73-21-60-740-007) for failure messages including the following words: VSV, T12, T25, PS3, HMU (FMV) VBV, RACSB or TBV or NACTB from the day the stall occured.

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- (c) If one of those messages is present:
 - do the applicable trouble shooting procedure (Ref. TASK 70-00-00-810-801),
- (d) If none of those messages is present:
 - Do a visual check of the VSV cinematic system (actuators linkage, bolting, bellcranks, etc)
- (e) If nothing is found:
 - remove and check the IP check valve for correct condition and operation (Ref. AMM TASK 36-11-41-200-001).
- (f) If the IP check valve is not faulty:
 - replace the HMU (Ref. AMM TASK 73-21-10-000-002) and (Ref. AMM TASK 73-21-10-400-002).
- (g) If the fault continues:
 - replace the ECU (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).
- R (3) If the engine stalled during an accel with no recovery or with recovery but abnormal engine parameters for the remaining of the flight:
 - (a) Do a check of the engine for Foreign Object Damage (FOD) or bird strike (Ref. AMM TASK 72-00-00-200-006).
 - (b) Do a check of the engine exhaust and stage 4 LPT blades for metallic debris presence.
 - (c) do an inspection of the Electrical Magnetic Chip Detectors (EMCD) (Ref. AMM TASK 79-00-00-281-002),
 - (d) Do a borescope inspection of the stage 4 booster blades (borescope port SO) (Ref. AMM TASK 72-21-00-290-003) and stage 1, 3, 8 HP Compressor blades (borescope ports S1, S3, S8) (Ref. AMM TASK 72-31-00-290-002)
 - (e) Do a borescope inspection of the HPT blades and stage 1 LPT blades (borescope port \$17) (Ref. AMM TASK 72-52-00-290-001) and (Ref. AMM TASK 72-54-00-290-005).
 - (f) If nothing is found:
 - Check the Post Flight Report of the leg corresponding to the stall occurance and FADEC Scheduled Maintenance Report and Class 3 Report (Ref. AMM TASK 73-21-60-740-007) for failure messages including the following words: VSV, T12, T25, PS3, HMU (FMV) from the day the stall occured.
 - (g) If one of those messages is present:
 - do the applicable trouble shooting procedure (Ref. TASK 70-00-00-810-801),

EFF: 201-225, 227-227, 229-239, 241-282, 284-299, 426-499, 503-549, 551-599, 701-749,

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- (h) If none of those messages is present:
 - Do a visual check of the VSV cinematic system (actuators linkage, bolting, bellcranks, etc)
- R (4) If the engine stalled during Take off at thrust reduction to Climb or on ground during decel from high thrust:
 - (a) Check the Post Flight Report of the leg corresponding to the stall occurance and FADEC Scheduled Maintenance Report and Class 3 Report (Ref. AMM TASK 73-21-60-740-007) for failure messages including the following words: VSV, T25, PS3, HMU (FMV), VBV from the day the stall occurred.
 - 1 If one of those messages is present:
 - do the applicable trouble shooting procedure (Ref. TASK 70-00-00-810-801),
 - 2 If none of those messages is present:
 - Do a visual check of the VSV cinematic system (actuators linkage, bolting, bellcranks, etc)
 - 3 If nothing is found:
 - remove and check the IP check valve for correct condition and operation (Ref. AMM TASK 36-11-41-200-001).
 - 4 If the IP check valve is not faulty:
 - Do an engine gas path washing with pure water (Ref. AMM TASK 72-00-00-100-026).

<u>NOTE</u>: Deceleration stall margin on CFM56-5B engines may be adversely affected by contamination of HP compressor flowpath hardware. Accomplishing an engine core wash has shown to be very efficient in restoring adequate deceleration stall margin.

**ON A/C 240-240, 283-283,

A. Do the following Trouble Shooting

SB CFM 72-0391

(1) If engine is affected by SB CFM 72-0391, do a borescope inspection of the stage 5 booster blades (borescope port S05) (Ref. AMM TASK 72-21-00-290-003) at first maintenance opportunity within 25 hours or 10 cycles (whichever comes first), then proceed with the following procedure.

<u>NOTE</u>: Refer to CFM SB 72-0391 and if necessary, do a borescope inspection of the stage 5 booster blades and the abradable.

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R R

END OF SB CFM 72-0391

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(2) If the engine stalled during taxi or during descent (on throttle reduction) or during an accel with recovery of engine parameters to normal:

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Following trouble shooting procedure should be carried out if crew reported audible engine stall/surge while no ECAM warning ENG 1(2) STALL was set. This procedure covers engine stall conditions that occurred at N2 speed at or above idle. For engine stall during start, refer to (Ref. TASK 80-00-00-810-833).

R R R

- NOTE: Specific trouble shooting is required whether the stall occurred during an accel or decel with the engine fully recovered or not after the stall(s) with no noticeable parameter shift.
- (a) Do a check of the engine for Foreign Object Damage (FOD) or bird strike (Ref. AMM TASK 72-00-00-200-006).
- (b) Check the Post Flight Report of the leg corresponding to the stall occurance and FADEC Scheduled Maintenance Report (Ref. AMM TASK 73-21-60-740-007) for failure messages including the following words: VSV, T12, T25, PS3, HMU (FMV) VBV, RACSB or TBV or NACTB from the day the stall occured.
- (c) If one of those messages is present:
 - do the applicable trouble shooting procedure (Ref. TASK 70-00-00-810-801),
- (d) If none of those messages is present:
 - Do a visual check of the VSV cinematic system (actuators linkage, bolting, bellcranks, etc)
- (e) If nothing is found:
 - remove and check the IP check valve for correct condition and operation (Ref. AMM TASK 36-11-41-200-001).
- (f) If the IP check valve is not faulty:
 - replace the HMU (Ref. AMM TASK 73-21-10-000-002) and (Ref. AMM TASK 73-21-10-400-002).
- (q) If the fault continues:
 - replace the ECU (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).

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- (3) If the engine stalled during an accel with no recovery or with recovery but abnormal engine parameters for the remaining of the flight:
 - (a) Do a check of the engine for Foreign Object Damage (FOD) or bird strike (Ref. AMM TASK 72-00-00-200-006).
 - (b) Do a check of the engine exhaust and stage 4 LPT blades for metallic debris presence.
 - (c) do an inspection of the Electrical Magnetic Chip Detectors (EMCD) (Ref. AMM TASK 79-00-00-281-002),
 - (d) Do a borescope inspection of the stage 4 booster blades (borescope port SO) (Ref. AMM TASK 72-21-00-290-003) and stage 1, 3, 8 HP Compressor blades (borescope ports S1, S3, S8) (Ref. AMM TASK 72-31-00-290-002)
 - (e) Do a borescope inspection of the HPT blades and stage 1 LPT blades (borescope port \$17) (Ref. AMM TASK 72-52-00-290-001) and (Ref. AMM TASK 72-54-00-290-005).
 - (f) If nothing is found:
 - Check the Post Flight Report of the leg corresponding to the stall occurance and FADEC Scheduled Maintenance Report (Ref. AMM TASK 73-21-60-740-007) for failure messages including the following words: VSV, T12, T25, PS3, HMU (FMV) from the day the stall occured.
 - (g) If one of those messages is present:
 - do the applicable trouble shooting procedure (Ref. TASK 70-00-00-810-801),
 - (h) If none of those messages is present:
 - Do a visual check of the VSV cinematic system (actuators linkage, bolting, bellcranks, etc)
- R (4) If the engine stalled during Take off at thrust reduction to Climb or on ground during decel from high thrust:
 - (a) Check the Post Flight Report of the leg corresponding to the stall occurance and FADEC Scheduled Maintenance Report (Ref. AMM TASK 73-21-60-740-007) for failure messages including the following words: VSV, T25, PS3, HMU (FMV), VBV from the day the stall occurred.
 - 1 If one of those messages is present:
 - do the applicable trouble shooting procedure (Ref. TASK 70-00-00-810-801),

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- 2 If none of those messages is present:
 - Do a visual check of the VSV cinematic system (actuators linkage, bolting, bellcranks, etc)
- 3 If nothing is found:
 - remove and check the IP check valve for correct condition and operation (Ref. AMM TASK 36-11-41-200-001).
- 4 If the IP check valve is not faulty:
 - Do an engine gas path washing with pure water (Ref. AMM TASK 72-00-00-100-026).

<u>NOTE</u>: Deceleration stall margin on CFM56-5B engines may be adversely affected by contamination of HP compressor flowpath hardware. Accomplishing an engine core wash has shown to be very efficient in restoring adequate deceleration stall margin.

**ON A/C ALL

- B. No additional maintenance action is required if the fault is not confirmed
 - (1) Repeat the fault isolation procedure if the fault continues.

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TASK 73-00-00-810-867

Slow Acceleration to Idle on Engine 1 or 2

- 1. Possible Causes
 - Hydromechanical Unit (HMU)
- 2. Job Set-up Information
 - A. Referenced Information

REFERENCE		DESIGNATION	
AMM	28-24-00-710-002	Operational Test of the ENG 1(2) LP Fuel Valve 12QM (13QM)	
AMM	28-24-00-720-001	Functional Test of the LP Fuel Shut Off Valves	
AMM	71-00-00-710-006	Minimum Idle Check	
AMM	71-00-00-710-025	Accel Check	
AMM	72-21-00-210-006	Inspect Fan Rotor Blades Removed from the Fan Disk.	
AMM	72-21-00-290-003	Borescope Inspection of the Booster Rotor Blades, Stages 2,3,4 and 5 through the Booster Inlet and Borescope Ports S03 and S05	
AMM	72-31-00-290-002	Inspection of the High Pressure Compressor Rotor Assembly	
AMM	72-41-00-290-001	Borescope Inspection of the Combustion Chamber Liners, Dome Areas, HPT Nozzle Vanes and Shrouds (as far as visible through two opposite ports)	
AMM	72-51-00-290-004	Borescope Inspection of High-Pressure Turbine Nozzle Assembly	
AMM	72-54-00-210-005	Inspection of the Turbine Case	
AMM	72-54-00-290-005	Inspection of the Stage 1-3 Blades	
AMM	72-54-00-290-006	Inspection of the Stage 4 Blades	
AMM	72-54-00-290-007	Inspection of the Stage 2-4 Nozzle Segments	
AMM	72-54-00-290-008	Inspection of the Stage 1-4 Stationary Air Seals	
AMM	73-11-10-210-002	Visual Inspection of the Impeller Rotation	
AMM	73-11-10-280-002	Check of the Engine Fuel Pump Discharge Pressure	
AMM	73-21-10-000-002	Removal of the Hydromechanical Unit (HMU)	
AMM	73-21-10-400-002	Installation of the Hydromechanical Unit (HMU)	
AMM	73-29-00-710-040	Operational Test of the FADEC on the ground (with Engine Motoring)	
AMM	75-31-00-210-002	Visual Inspection of the Variable Bleed Valve System	

3. Fault Confirmation

A. Not applicable, the fault is evident.

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4. Fault Isolation

- A. If the fault symptom is identified by the crew observation: slow acceleration to idle after light off:
 - (1) Do a check of the engine inlet and exhaust areas for damage.
 - (2) In case of acceleration problem from idle, do an acceleration check to confirm the fault (Ref. AMM TASK 71-00-00-710-025).
 - (3) Do a check for aircraft bleed system malfunction (pack valve/engine air intake anti ice/wing anti ice/bleed leakage).
 - (4) Do a check of the PS3 line to make sure that there is no blockage or leakage.
 - (5) Do an operational test of the FADEC on the ground (with engine motoring) to do a check of the VSV/VBV position (Ref. AMM TASK 73-29-00-710-040).
 - (6) Do a visual inspection of the VBV system (Ref. AMM TASK 75-31-00-210-002).
 - (7) Do a check of the fuel pump impeller rotation and discharge pressure (Ref. AMM TASK 73-11-10-210-002) and (Ref. AMM TASK 73-11-10-280-002).
 - (8) Do a check of the LP fuel valve for malfunction (Ref. AMM TASK 28-24-00-710-002) and (Ref. AMM TASK 28-24-00-720-001).
 - (9) Replace the Hydromechanical Unit (HMU) (Ref. AMM TASK 73-21-10-000-002) and (Ref. AMM TASK 73-21-10-400-002).
 - (10) Do a borescope inspection of the fan and booster assembly (Ref. AMM TASK 72-21-00-210-006) and (Ref. AMM TASK 72-21-00-290-003).
 - (11) Do a borescope inspection of the high pressure compressor rotor assembly (Ref. AMM TASK 72-31-00-290-002).
 - (12) Do a borescope inspection of the combustion chambers (Ref. AMM TASK 72-41-00-290-001).
 - (13) Do a borescope inspection of the high-pressure turbine-nozzle assembly (Ref. AMM TASK 72-51-00-290-004).
 - (14) Do a borescope inspection of the low pressure turbine (Ref. AMM TASK 72-54-00-290-005) and (Ref. AMM TASK 72-54-00-290-006) and (Ref. AMM TASK 72-54-00-290-008) and (Ref. AMM TASK 72-54-00-290-008) and (Ref. AMM TASK 72-54-00-210-005).
- B. Do a minimum idle check (Ref. AMM TASK 71-00-00-710-006).

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TASK 73-00-00-810-868

Disagree between the Idle Positions of the Two Engines

- 1. Possible Causes
 - aircraft wiring and connectors
- 2. Job Set-up Information
 - A. Referenced Information

REFERENCE	DESIGNATION

ASM 73-25/08 ASM 73-25/10

- 3. Fault Confirmation
 - A. Not applicable, you cannot confirm this fault on the ground.
- 4. Fault Isolation
 - A. If the fault symptom is identified by the crew observation: one engine is at approach idle while the other one is at modulated idle during descent:
 - (1) Do a check to make sure that the EIU of the engine which is at approach idle is not faulty.
 - (2) Do a check of the aircraft wiring and connectors between the SFCC (21CV) (22CV)/EIU (1KS1) (1KS2)/and the ECU (4000KS) of the engine which is at approach idle (Ref. ASM 73-25/08) and (Ref. ASM 73-25/10).
 - B. After the subsequent flight, make sure that the fault does not continue.

EFF: ALL

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TASK 73-00-00-810-869

Loss of the Fuel Flow or/and Fuel Used Indication on Engine 1 or 2

1. Possible Causes

- DMC-2 (1WT2)
- DMC-1 (1WT1)
- harness J13
- ECU (4000KS)
- fuel flow transmitter

2. Job Set-up Information

A. Referenced Information

REFE	RENCE	DESIGNATION
AMM	31-63-34-000-001	Removal of the DMC (1WT1,1WT2,1WT3)
AMM	31-63-34-400-001	Installation of the DMC (1WT1,1WT2,1WT3)
AMM	73-21-50-000-046	Removal of the HJ13 Harness
AMM	73-21-50-400-046	Installation of the HJ13 Harness
AMM	73-21-60-000-001	Removal of the Electronic Control Unit (ECU)(4000KS)
AMM	73-21-60-400-001	<pre>Installation of the Electronic Control Unit (ECU)(4000KS)</pre>
AMM	73-31-10-000-002	Removal of the Fuel Flow Transmitter
AMM	73-31-10-400-002	Installation of the Fuel Flow Transmitter
ASM	73-25/17	

3. Fault Confirmation

R

R

R

A. Check for the fuel flow or/and the fuel used indication

NOTE: During descent with engine normal operation, HMU P/N 1348M79P07, R 1348M79P08, 1348M79P09, 1348M79P10, 1348M79P11, and 1348M79P12, associated with ECU post SB 73-1077 (5BK), the Fuel Flow R indication can be lost for a few minutes. In this case if no R faults linked with the fuel system is recorded in the PFR then no R maintenance action is requeried. R

> (1) Do a check for the fuel flow or/and the fuel used XX indication on the ECAM display unit with the DMC3 switched on.

4. Fault Isolation

- A. If the fuel used indication is not XX on the lower ECAM display unit with the DMC3 switched on:
 - (1) Replace the DMC-2 (1WT2) (Ref. AMM TASK 31-63-34-000-001) (Ref. AMM TASK 31-63-34-400-001).

EFF: ALL **SROS**

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- B. If the fuel flow indication is not XX on the upper ECAM display unit with the DMC3 switched on:
 - (1) Replace the DMC-1 (1WT1) (Ref. AMM TASK 31-63-34-000-001) and (Ref. AMM TASK 31-63-34-400-001).
- C. If the fuel flow or/and fuel used indication is XX on the ECAM display unit with the DMC3 switched on:
 - (1) Do a check for open or short to ground at pins J13/1, 2, 3, 6 of the harness J13 between the ECU (4000KS) and the fuel flow transmitter (Ref. ASM 73-25/17).
 - (a) If the wiring is not correct:
 - repair the above wiring.
 - (b) If the wiring is correct:
 - disconnect the harness J13 from the ECU (4000KS) and do a check of the ECU cable resistance between:
 - . pins 2 and 3 (250 to 350 ohms)
 - . pins 3 and 6 (250 to 350 ohms)
 - pins 1 and 2 (> 10 megohms)
 - . pin 2 and the ground (> 10 megohms).
 - 1 If the resistance values are in the specified limits:
 - replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).
 - 2 If the resistance values are out of the specified limits:
 - disconnect the harness J13 from the fuel flow transmitter and do a check of the transmitter resistance between:
 - . pins 1 and 2 (250 to 350 ohms)
 - . pins 2 and 3 (250 to 350 ohms)
 - pins 1 and 4 (> 10 megohms)
 - . pin 1 and the ground (> 10 megohms).
 - a If the resistance values are in the specified limits:
 - replace the harness J13 (Ref. AMM TASK 73-21-50-000-046) and (Ref. AMM TASK 73-21-50-400-046).
 - b If the resistance values are out of the specified limits:
 - replace the fuel flow transmitter (Ref. AMM TASK 73-31-10-000-002) and (Ref. AMM TASK 73-31-10-400-002).
- D. Do the test given in Para. 3.A.

EFF: ALL

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TASK 73-00-00-810-870

Flexible Temperature not Entered

- 1. Possible Causes
 - aircraft wiring
- 2. Job Set-up Information
 - A. Referenced Information

REFERENCE DESIGNATION

ASM 73-25/06

- 3. Fault Confirmation
 - A. Test
 - (1) On the MCDU, make sure that the FLEX TEMP value is correctly entered.
- 4. Fault Isolation
 - A. If the fault symptom is identified by the ECAM warning message FLEX TEMP NOT SET:

NOTE: Do this procedure on the two engines.

- do a check and repair the aircraft wiring between the MCDU (3CA1) (3CA2)/FCU (2CA)/FMGC (1CA1) (1CA2)/EIU (1KS1) (1KS2) and the ECU (4000KS) (Ref. ASM 73-25/06).
- B. After the subsequent flight, make sure that the fault does not continue.

EFF: ALL

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TASK 73-00-00-810-871

Autothrust Deactivation in Flight

- 1. Possible Causes
 - aircraft wiring
- 2. Job Set-up Information

Not Applicable

- 3. Fault Confirmation
 - A. Test
 - (1) Not applicable, you cannot confirm this fault on the ground.
- 4. Fault Isolation
 - A. If the fault symptom is identified by the crew observation: AUTOTHRUST-deactivation in flight:

NOTE: Do this procedure on the two engines.

- (1) Do a check and repair the aircraft wiring between the FMGC (1CA1) (1CA2), FCU (2CA), EIU (1KS1) (1KS2) and ECU (4000KS).
- B. After the subsequent flight, make sure that the fault does not continue.

EFF: ALL

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TASK 73-00-00-810-872

Idle Speed Difference between Engine 1 and Engine 2

1. Possible Causes

- IDG, FRV (Oil temp)
 SFCC-1(2) (21CV(22CV))
 EIU-1(2) (1KS1(1KS2))

 R L (R) OUT TEMP SENSOR (30QJ1(30QJ2))

 R L (R) INN TEMP SENSOR (29QJ1(29QJ2))

 R L (R) LO LEVEL SENSOR (38QJ1(38QJ2))

 R L(R) SURGE SENSOR (28QJ1(28QJ2))

 R FLSCU-1 (2) (7QJ (9QJ))
 P/BSW-ANTI ICE/ENG 1 (2DN1)
 P/BSW-ANTI ICE/ENG 2 (2DN2)
 wing anti-ice valve L
 wing anti-ice valve R
 PO/P12/T12
 - 2. Job Set-up Information

- ECU (4000KS)

- BMC-1(2) (1HA1(2))

A. Referenced Information

	REFE	RENCE	DESIGNATION
R	28-4	6-00-810-812	L(R) Surge Tank Overflow Sensor 28QJ1(2)
R	28-4	6-00-810-813	L(R) Inner Temperature Sensor 29QJ1(2)
R	28-4	6-00-810-814	L(R) Outer Temperature Sensor 30QJ1(2)
R	28-4	6-00-810-815	L(R) IDG Shut Off Sensor 38QJ1(2)
R	28-4	6-00-810-818	FLSCU1(2) 7QJ(9QJ)
	AMM	27-51-34-000-001	Removal of the SFCC (21CV,22CV)
	AMM	27-51-34-400-001	Installation of the SFCC (21CV,22CV)
R	AMM	30-21-51-000-040	Removal of the Engine Air-Intake Anti-Ice Valve
R			(4000DN)
R	AMM	30-21-51-400-041	Installation of the Engine Air-Intake Anti-Ice Valve
R			(4000DN)
	AMM	36-11-34-000-001	Removal of the BMC (1HA1, 1HA2)
	AMM	36-11-34-400-001	Installation of the BMC (1HA1, 1HA2)
	AMM	71-00-00-710-006	Minimum Idle Check
	AMM	73-21-60-000-001	Removal of the Electronic Control Unit (ECU)
	AMM	73-21-60-400-001	Installation of the Electronic Control Unit (ECU)
	ASM	27-51/02	
	ASM	30-21/02	
	ASM	73-25/08	
	AWM	30-21-01	
	AWM	30-21-02	

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3. Fault Confirmation

- A. Test
 - (1) Not applicable.
- 4. Fault Isolation
- R **ON A/C 201-225, 227-227, 229-275, 426-475, 551-599, 701-749,
 - A. If the failure occurred:
 - (1) Only in flight and idle speed was correct during ground operation:

 do a check of the PFR and of the SMR for failure messages IDG, FRV
 (0il temp).
 - (a) If there is a failure message:
 - do the applicable trouble shooting procedure (TSM CFDS chapter 79).
 - (b) If there is no message:
 - replace the SFCC-1(2) (21CV(22CV)) (Ref. AMM TASK 27-51-34-000-001) and (Ref. AMM TASK 27-51-34-400-001) if the abnormal idle speed (lowest idle after slat/flap extension) was on engine 1(2).
 - (c) If the fault continues:
 - check the electrical wiring between the SFCC1(2) and the EIU-1(2) (1KS1(1KS2)) (Ref. ASM 27-51/02),
 - repair as required.
 - (2) Either during flight or ground operation:
 - do a check of the PFR and the SMR for ECAM status EIU and/or for failure messages :
 - (a) If the failure message IDG, FRV (Oil temp) is displayed:
 - do the applicable trouble shooting procedure (TSM CFDS chapter 79)
 - (b) If one of those failure messages EIU (031), J3 or ZC, EIU(ECSD), J3 or ZC, EIU(030), J3 or NO EIU 1(2) DATA is displayed:
 - do the applicable trouble shooting procedure (TSM CFDS chapter 73 and 21).
 - (c) If one of the following failure messages relative to fuel system elements is displayed:
 - _____ FUEL LEVEL SENSING L OUT TEMP SENSOR 30QJ1 or FUEL LEVEL SENSING R OUT TEMP SENSOR 30QJ2
 - do the applicable trouble shooting procedure for L (R) OUT TEMP SENSOR (30QJ1(30QJ2)) (Ref. TASK 28-46-00-810-814).

EFF: ALL

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- FUEL LEVEL SENSING L INN TEMP SENSOR 29QJ1 or FUEL LEVEL SENSING R INN TEMP SENSOR 29QJ2
 - do the applicable trouble shooting procedure for L (R) INN TEMP SENSOR (29QJ1(29QJ2)) (Ref. TASK 28-46-00-810-813).
- <u>3</u> FUEL LEVEL SENSING L LO LEVEL SENSOR 38QJ1 or FUEL LEVEL SENSING R LO LEVEL SENSOR 38QJ2
 - do the applicable trouble shooting procedure for L (R) L0 LEVEL SENSOR (38QJ1(38QJ2)) (Ref. TASK 28-46-00-810-815).
- 4 FUEL LEVEL SENSING L SURGE SENSOR 28QJ1 or FUEL LEVEL SENSING R SURGE SENSOR 28QJ2
 - do the applicable trouble shooting procedure for L(R) SURGE SENSOR (28QJ1(28QJ2)) (Ref. TASK 28-46-00-810-812).
- FUEL LEVEL SENSING FLSCU1 7QJ or FUEL LEVEL SENSING FLSCU2 9QJ do the applicable trouble shooting procedure for FLSCU-1 (2) (7QJ (9QJ)) (Ref. TASK 28-46-00-810-818).
- (d) If none of those messages is present:
 - do a check of the nacelle anti-ice pushbutton switch (2DN1(2DN2)) on the engine which has the highest idle speed as follows:
 - Check that with pushbutton switch selected OFF, ground is present at pin AA/B2 (Ref. ASM 73-25/08).
 - a If there is no ground:
 - replace the P/BSW-ANTI ICE/ENG 1 (2DN1) (Ref. AWM 30-21-01) (P/BSW-ANTI ICE/ENG 2 (2DN2) (Ref. AWM 30-21-02)).
 - b If ground is present:
 - check that there is no ground at wire connected to pin AA/C2 of the pushbutton switch (Ref. ASM 30-21/02).
 - c If ground is present:
 - replace associated nacelle anti-ice valve 4000DN (Ref. AMM TASK 30-21-51-000-040) and (Ref. AMM TASK 30-21-51-400-041) or repair wiring.
- (e) If nothing is found:
 - look for warning failure message including the following words
 TEMP CTL WAI or WING A.ICE in the PFR.
 - 1 If message or warning is present:
 - do the trouble shooting procedure of relevant wing anti-ice valve L (wing anti-ice valve R) (TSM CFDS chapter 30).
 - 2 If none of those warnings or messages is present:
 - do a check of the PFR and of the SMR for failure message PO/P12/T12, ADC, ECU.

EFF: 201-225, 227-227, 229-275, 426-475, 551-599, 701-749,

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- a If message is present:
 - do the applicable trouble shooting procedure (TSM CFDS chapter 73).
- (f) If nothing is found or if the fault continues after application of the above steps:
 - replace the BMC-1(2) (1HA1(2)) (Ref. AMM TASK 36-11-34-000-001) and (Ref. AMM TASK 36-11-34-400-001).
- (g) If the fault continues:
 - replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).

**ON A/C 276-299, 476-499, 503-549,

- A. If the failure occurred:
 - (1) Only in flight and idle speed was correct during ground operation:

 do a check of the PFR and of the SMR for failure messages IDG, FRV
 (0il temp).
 - (a) If there is a failure message:
 - do the applicable trouble shooting procedure (TSM CFDS chapter 79).
 - (b) If there is no message:
 - replace the SFCC-1(2) (21CV(22CV)) (Ref. AMM TASK 27-51-34-000-001) and (Ref. AMM TASK 27-51-34-400-001) if the abnormal idle speed (lowest idle after slat/flap extension) was on engine 1(2).
 - (c) If the fault continues:
 - check the electrical wiring between the SFCC1(2) and the EIU-1(2) (1KS1(1KS2)) (Ref. ASM 27-51/02),
 - repair as required.
 - (2) Either during flight or ground operation:
 - do a check of the PFR and the SMR for ECAM status EIU and/or for failure messages :
 - (a) If the failure message IDG, FRV (Oil temp) is displayed:
 - do the applicable trouble shooting procedure (TSM CFDS chapter 79)
 - (b) If one of those failure messages EIU (031), J3 or ZC, EIU(ECSD), J3 or ZC, EIU(030), J3 or NO EIU 1(2) DATA is displayed:
 - do the applicable trouble shooting procedure (TSM CFDS chapter 73 and 21).

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- (c) If one of the following failure messages relative to fuel system elements is displayed:
 - _1 FUEL LEVEL SENSING L TEMP SENSOR 29QJ1 or FUEL LEVEL SENSING R TEMP SENSOR 29QJ2
 - do the applicable trouble shooting procedure for L (R) INN TEMP SENSOR (29QJ1(29QJ2)) (Ref. TASK 28-46-00-810-813).
 - FUEL LEVEL SENSING L LO LEVEL SENSOR 38QJ1 or FUEL LEVEL SENSING R LO LEVEL SENSOR 38QJ2
 - do the applicable trouble shooting procedure for L (R) LO LEVEL SENSOR (38QJ1(38QJ2)) (Ref. TASK 28-46-00-810-815).
 - 3 FUEL LEVEL SENSING L SURGE SENSOR 28QJ1 or FUEL LEVEL SENSING R SURGE SENSOR 28QJ2
 - do the applicable trouble shooting procedure for L(R) SURGE SENSOR (28QJ1(28QJ2)) (Ref. TASK 28-46-00-810-812).
 - FUEL LEVEL SENSING FLSCU1 7QJ or FUEL LEVEL SENSING FLSCU2 9QJ do the applicable trouble shooting procedure for FLSCU-1 (2) (7QJ (9QJ)) (Ref. TASK 28-46-00-810-818).
- (d) If none of those messages is present:
 - do a check of the nacelle anti-ice pushbutton switch (2DN1(2DN2)) on the engine which has the highest idle speed as follows:
 - Check that with pushbutton switch selected OFF, ground is present at pin AA/B2 (Ref. ASM 73-25/08).
 - a If there is no ground:
 - replace the P/BSW-ANTI ICE/ENG 1 (2DN1) (Ref. AWM 30-21-01) (P/BSW-ANTI ICE/ENG 2 (2DN2) (Ref. AWM 30-21-02)).
 - b If ground is present:
 - check that there is no ground at wire connected to pin AA/C2 of the pushbutton switch (Ref. ASM 30-21/02).
 - c If ground is present:
 - replace associated nacelle anti-ice valve 4000DN (Ref. AMM TASK 30-21-51-000-040) and (Ref. AMM TASK 30-21-51-400-041) or repair wiring.
- (e) If nothing is found:
 - look for warning failure message including the following words
 TEMP CTL WAI or WING A.ICE in the PFR.

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R R R	 If message or warning is present: do the trouble shooting procedure of relevant wing anti-ice valve L (wing anti-ice valve R) (TSM CFDS chapter 30).
R R R	 If none of those warnings or messages is present: do a check of the PFR and of the SMR for failure message PO/P12/T12, ADC, ECU.
R R R	 <u>a</u> If message is present: do the applicable trouble shooting procedure (TSM CFDS chapter 73).
R R R	 (f) If nothing is found or if the fault continues after application of the above steps: replace the BMC-1(2) (1HA1(2)) (Ref. AMM TASK 36-11-34-000-001) and (Ref. AMM TASK 36-11-34-400-001).
R R R	(g) If the fault continues: - replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).
_	ON A /O ALL

- R **ON A/C ALL
 - B. Do a minimum idle check (Ref. AMM TASK 71-00-00-710-006).
 - (1) Repeat the fault isolation procedure if the fault continues.

EFF : ALL
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TASK 73-00-00-810-873

Incorrect Power after Take off on Engine 1 or 2

- 1. Possible Causes
 - Hydromechanical Unit (HMU)
- 2. Job Set-up Information
 - A. Referenced Information

REFERENCE	DESIGNATION

AMM 73-21-10-000-002 AMM 73-21-10-400-002 Removal of the Hydromechanical Unit (HMU)
Installation of the Hydromechanical Unit (HMU)

- 3. Fault Confirmation
 - A. Test
 - (1) Not applicable, you cannot confirm this fault on the ground.
- 4. Fault Isolation
 - A. If the fault symptom is identified by the crew observation: ENG 1 or 2 Incorrect power after take off (N1 mismatch):
 - (1) Make sure that the PO fitting on the ECU (4000KS) is clear and not clogged.
 - (2) After the flight crew report, if the mismatch occurs at take off:
 - (a) Do the trouble shooting procedure on the engine with the lowest N1 actual.
 - (b) On this engine, do a check of the PS12 line to make sure that it is not cracked and/or broken.
 - (c) Do a PS12 line pressure check.
 - (3) After the flight crew report, if the mismatch occurs at climb:
 - (a) Do the trouble shooting procedure on the engine with the highest N1 actual.
 - (b) On this engine, do a check of the PS12 line to make sure that it is not cracked and/or broken.
 - (c) Do a PS12 line pressure check.

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- (4) Replace the Hydromechanical Unit (HMU) (Ref. AMM TASK 73-21-10-000-002) and (Ref. AMM TASK 73-21-10-400-002).
- B. After the subsequent flight, make sure that the fault does not continue.

EFF: ALL

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TASK 73-00-00-810-874

Engine Acceleration on Ground with no Order, on Engine 1 or 2

- 1. Possible Causes
 - Hydromechanical Unit (HMU)
- 2. Job Set-up Information
 - A. Referenced Information

REFERENCE	DESIGNATION	
AMM 71-00-00-710-006 AMM 73-21-10-000-002	Minimum Idle Check Removal of the Hydromechanical Unit (HMU)	

AMM 73-21-10-400-002

Installation of the Hydromechanical Unit (HMU)

- 3. Fault Confirmation
 - A. Test Not applicable, the fault is evident.
- 4. Fault Isolation
 - A. If the fault symptom is identified by the crew observation: engine acceleration on ground with no order:
 - (1) Make sure that the throttle control lever was in idle position during the start.
 - (2) Replace the Hydromechanical Unit (HMU) (Ref. AMM TASK 73-21-10-000-002) and (Ref. AMM TASK 73-21-10-400-002).
 - B. Do a minimum idle check (Ref. AMM TASK 71-00-00-710-006).

73-00-00 EFF: ALL

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TASK 73-00-00-810-875

Fuel Filter Clogged Indication on Engine 1

1. Possible Causes

- SDAC-1 (1WV1)
- SDAC-2 (1WV2)
- fuel filter element
- SW-FUEL FILTER DIFF PRESS (4000EL)
- wiring
- DMC-1 (1WT1)
- DMC-2 (1WT2)

2. Job Set-up Information

A. Referenced Information

REFE	RENCE	DESIGNATION
AMM	31-55-34-000-001	Removal of the SDAC (1WV1,1WV2)
AMM	31-55-34-400-001	Installation of the SDAC (1WV1,1WV2)
AMM	31-63-34-000-001	Removal of the DMC (1WT1,1WT2,1WT3)
AMM	31-63-34-400-001	Installation of the DMC (1WT1,1WT2,1WT3)
AMM	71-00-00-710-006	Minimum Idle Check
AMM	73-11-10-000-004	Removal of the Fuel Filter Element
AMM	73-11-10-210-003	Visual Inspection of the Fuel Filter Cartridge
AMM	73-11-10-400-004	Installation of the Fuel Filter Element
AMM	73-34-15-000-041	Removal of the Fuel Filter Differential Pressure Switch
AMM	73-34-15-400-041	Installation of the Fuel Filter Differential Pressure Switch
ASM	73-34/02	

3. Fault Confirmation

A. Test

(1) Not applicable.

EFF: ALL 73-00-00

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4. Fault Isolation

- A. The ECAM warning is triggered if a clogging of the fuel filter is detected.
 - (1) Do the following checks:
 - (a) Remove the fuel filter element (Ref. AMM TASK 73-11-10-000-004):

CAUTION: YOU MUST DO THE MAINTENANCE OPERATION IF YOU FIND BRONZE PARTICLES IN THE FUEL FILTER ELEMENT.

BRONZE PARTICLES ARE A SIGN OF ENGINE DAMAGE. IF YOU DO NOT DO MAINTENANCE, MORE DAMAGE WILL OCCUR TO THE ENGINE. IT WILL THEN BE NECESSARY TO REPLACE THE FUEL SYSTEM COMPONENTS.

- do a visual inspection of the fuel filter element for signs of contamination (Ref. AMM TASK 73-11-10-210-003).
- (b) If nothing is found:
 - install a new fuel filter element (Ref. AMM TASK 73-11-10-400-004).
- (c) If the fault continues:
 - replace the SW-FUEL FILTER DIFF PRESS (4000EL) (Ref. AMM TASK 73-34-15-000-041) and (Ref. AMM TASK 73-34-15-400-041).
- (d) If the fault continues:
 - check the wiring between the fuel filter differential pressure switch 4000EL and SDAC1/SDAC2 for a short to ground (Ref. ASM 73-34/02),
 - repair or replace wiring as required.
- (e) If the fault continues:
 - replace SDAC-1 (1WV1) (Ref. AMM TASK 31-55-34-000-001) and (Ref. AMM TASK 31-55-34-400-001)
- (f) If the fault continues:
 - replace SDAC-2 (1WV2) (Ref. AMM TASK 31-55-34-000-001) and (Ref. AMM TASK 31-55-34-400-001)
- B. If there are no messages with the DMC3 switched on:
 - (1) Replace the DMC-1 (1WT1) for the upper ECAM display unit and/or the DMC-2 (1WT2) for the lower ECAM display unit (Ref. AMM TASK 31-63-34-000-001) and (Ref. AMM TASK 31-63-34-400-001).

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- C. Do a minimum idle check (Ref. AMM TASK 71-00-00-710-006).
 - (1) No additional maintenance action is required if the fault is not confirmed.
 - (2) Repeat the fault isolation procedure if the fault continues.

EFF: ALL

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TASK 73-00-00-810-876

Fuel Filter Clogged Indication on Engine 2

1. Possible Causes

- SDAC-1 (1WV1)
- SDAC-2 (1WV2)
- fuel filter element
- SW-FUEL FILTER DIFF PRESS (4000EL)
- wiring
- DMC-1 (1WT1)
- DMC-2 (1WT2)

2. Job Set-up Information

A. Referenced Information

REFE	RENCE	DESIGNATION
AMM	31-55-34-000-001	Removal of the SDAC (1WV1,1WV2)
AMM	31-55-34-400-001	Installation of the SDAC (1WV1,1WV2)
AMM	31-63-34-000-001	Removal of the DMC (1WT1,1WT2,1WT3)
AMM	31-63-34-400-001	Installation of the DMC (1WT1,1WT2,1WT3)
AMM	71-00-00-710-006	Minimum Idle Check
AMM	73-11-10-000-004	Removal of the Fuel Filter Element
AMM	73-11-10-210-003	Visual Inspection of the Fuel Filter Cartridge
AMM	73-11-10-400-004	Installation of the Fuel Filter Element
AMM	73-34-15-000-041	Removal of the Fuel Filter Differential Pressure Switch
AMM	73-34-15-400-041	Installation of the Fuel Filter Differential Pressure Switch
ASM	73-34/02	

3. Fault Confirmation

A. Test

(1) Not applicable.

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4. Fault Isolation

- A. The ECAM warning is triggered if a clogging of the fuel filter is detected.
 - (1) Do the following checks:
 - (a) Remove the fuel filter element (Ref. AMM TASK 73-11-10-000-004):

CAUTION: YOU MUST DO THE MAINTENANCE OPERATION IF YOU FIND BRONZE PARTICLES IN THE FUEL FILTER ELEMENT.
BRONZE PARTICLES ARE A SIGN OF ENGINE DAMAGE. IF YOU DO NOT DO MAINTENANCE, MORE DAMAGE WILL OCCUR TO THE ENGINE. IT WILL THEN BE NECESSARY TO REPLACE THE FUEL SYSTEM COMPONENTS.

- do a visual inspection of the fuel filter element for signs of contamination (Ref. AMM TASK 73-11-10-210-003).
- (b) If nothing is found:
 - install a new fuel filter element (Ref. AMM TASK 73-11-10-400-004).
- (c) If the fault continues:
 - replace the SW-FUEL FILTER DIFF PRESS (4000EL) (Ref. AMM TASK 73-34-15-000-041) and (Ref. AMM TASK 73-34-15-400-041).
- (d) If the fault continues:
 - check the wiring between the fuel filter differential pressure switch 4000EL and SDAC1/SDAC2 for a short to ground (Ref. ASM 73-34/02),
 - repair or replace wiring as required.
- (e) If the fault continues:
 - replace SDAC-1 (1WV1) (Ref. AMM TASK 31-55-34-000-001) and (Ref. AMM TASK 31-55-34-400-001)
- (f) If the fault continues:
 - replace SDAC-2 (1WV2) (Ref. AMM TASK 31-55-34-000-001) and (Ref. AMM TASK 31-55-34-400-001)
- B. If there are no messages with the DMC3 switched on:
 - (1) Replace the DMC-1 (1WT1) for the upper ECAM display unit and/or the DMC-2 (1WT2) for the lower ECAM display unit (Ref. AMM TASK 31-63-34-000-001) and (Ref. AMM TASK 31-63-34-400-001).

EFF: ALL

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- C. Do a minimum idle check (Ref. AMM TASK 71-00-00-710-006).
 - (1) No additional maintenance action is required if the fault is not confirmed.
 - (2) Repeat the fault isolation procedure if the fault continues.

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TROUBLE SHOOTING MANUAL

TASK 73-00-00-810-920

Engine 1 does not stop during shut down sequence with FIRE Pushbutton Switch

1. Possible Causes

- Actuator-LP Fuel Valve (9QG)
- LP Fuel Valve (12QM)
- Check Valve (122QM)
- aircraft wiring
- FIRE Pushbutton Switch (ENG/APU Fire Panel 1WD)

2. Job Set-up Information

A. Referenced Information

	REFERENCE		DESIGNATION
R	ΔΜΜ	26-12-12-000-004	Removal of the FIRE Pushbutton Switch (ENG/APU Fire
R	AIIII	20 12 12 000 004	Panel 1WD)
R R	AMM	26-12-12-400-004	<pre>Installation of the FIRE Pushbutton Switch (ENG/APU Fire Panel 1WD)</pre>
	AMM	28-16-00-710-002	Operational Check of Pylon Check Valve to Ensure Valve not Failed Open
	AMM	28-16-42-000-001	Removal of the Fuel Recirculation Check-valve
	AMM	28-16-42-400-001	Installation of the Fuel Recirculation Check-valve
	AMM	28-24-41-000-001	Removal of the LP Fuel Valve 12QM(13QM)
	AMM	28-24-41-400-001	Installation of the LP Fuel Valve 12QM(13QM)
	AMM	28-24-51-000-001	Removal of the LP Fuel Valve Actuator
	AMM	28-24-51-400-001	Installation of the LP Fuel Valve Actuator
	ASM	28-24/00	

3. Fault Confirmation

A. Test

(1) Not applicable, the fault is evident.

4. Fault Isolation

- A. If the fault symptom is identified by the crew observation "ENG 1 During ENG shut down sequence with FIRE P/B: ENG DOES NOT STOP"
 - disconnect the connectors AA and BB from Actuator-LP Fuel Valve (9QG) and make sure that, when the Fire push button is pushed, there is 28 VDC at pins C of the connectors AA and BB:

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- (1) If there is 28VDC:
 - replace the Actuator-LP Fuel Valve (9QG) (Ref. AMM TASK 28-24-51-000-001) and (Ref. AMM TASK 28-24-51-400-001)
 - (a) If the fault continues, replace the LP Fuel Valve (12QM) (Ref. AMM TASK 28-24-41-000-001) and (Ref. AMM TASK 28-24-41-400-001)
 - (b) If the fault continues, do an operational check of the Check Valve (Ref. AMM TASK 28-16-00-710-002):
 - 1 If the test is correct, no maintenance action is required
 - $\underline{2}$ If the test is not correct, replace the Check Valve (122QM) (Ref. AMM TASK 28-16-42-000-001) and (Ref. AMM TASK 28-16-42-400-001)
- (2) If there is no 28VDC:
 - do a check of the aircraft wiring between the Actuator-LP Valve and the ENG Fire panel (1WD) (Ref. ASM 28-24/00).
 - (a) If the wiring is not correct:
 - repair the above defective wirings.
 - (b) If the wiring is correct:
 - replace the FIRE Pushbutton Switch (ENG/APU Fire Panel 1WD) (Ref. AMM TASK 26-12-12-000-004) and (Ref. AMM TASK 26-12-12-400-004)

R R

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TROUBLE SHOOTING MANUAL

TASK 73-00-00-810-921

Engine 2 does not stop during shut down sequence with FIRE Pushbutton Switch

1. Possible Causes

- Actuator-LP Fuel Valve (10QG)
- LP Fuel Valve (13QM)
- Check Valve (123QM)
- aircraft wiring
- FIRE Pushbutton Switch (ENG/APU Fire Panel 1WD)

2. Job Set-up Information

A. Referenced Information

	REFERENCE		DESIGNATION
R	ΔΜΜ	26-12-12-000-004	Removal of the FIRE Pushbutton Switch (ENG/APU Fire
R	Ailii	20 12 12 000 004	Panel 1WD)
R R	AMM	26-12-12-400-004	Installation of the FIRE Pushbutton Switch (ENG/APU Fire Panel 1WD)
	AMM	28-16-00-710-002	Operational Check of Pylon Check Valve to Ensure Valve not Failed Open
	AMM	28-16-42-000-001	Removal of the Fuel Recirculation Check-valve
	AMM	28-16-42-400-001	Installation of the Fuel Recirculation Check-valve
	AMM	28-24-41-000-001	Removal of the LP Fuel Valve 12QM(13QM)
	AMM	28-24-41-400-001	Installation of the LP Fuel Valve 12QM(13QM)
	AMM	28-24-51-000-001	Removal of the LP Fuel Valve Actuator
	AMM	28-24-51-400-001	Installation of the LP Fuel Valve Actuator
	ASM	28-24/00	

3. Fault Confirmation

A. Test

(1) Not applicable, the fault is evident.

4. Fault Isolation

- A. If the fault symptom is identified by the crew observation "ENG 2 During ENG shut down sequence with FIRE P/B: ENG DOES NOT STOP"
 - disconnect the connectors AA and BB from Actuator-LP Fuel Valve (10QG) and make sure that, when the Fire push button is pushed, there is 28 VDC at pins C of the connectors AA and BB:

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- (1) If there is 28VDC:
 - replace the Actuator-LP Fuel Valve (10QG) (Ref. AMM TASK 28-24-51-000-001) and (Ref. AMM TASK 28-24-51-400-001)
 - (a) If the fault continues, replace the LP Fuel Valve (13QM) (Ref. AMM TASK 28-24-41-000-001) and (Ref. AMM TASK 28-24-41-400-001)
 - (b) If the fault continues, do an operational check of the Check Valve (Ref. AMM TASK 28-16-00-710-002):
 - 1 If the test is correct, no maintenance action is required
 - $\underline{2}$ If the test is not correct, replace the Check Valve (123QM) (Ref. AMM TASK 28-16-42-000-001) and (Ref. AMM TASK 28-16-42-400-001)
- (2) If there is no 28VDC:
 - do a check of the aircraft wiring between the Actuator-LP Valve and the ENG Fire panel (1WD) (Ref. ASM 28-24/00).
 - (a) If the wiring is not correct:
 repair the above defective wirings.
 - (b) If the wiring is correct:
 - replace the FIRE Pushbutton Switch (ENG/APU Fire Panel 1WD) (Ref. AMM TASK 26-12-12-000-004) and (Ref. AMM TASK 26-12-12-400-004)

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TROUBLE SHOOTING MANUAL

DISTRIBUTION - FAULT ISOLATION PROCEDURES

TASK 73-10-00-810-801

Failure of the HMU Fuel Metering Valve on Engine 1

- 1. Possible Causes
 - ECU (4000KS)
 - harness J7

R

R

- HMU
- 2. Job Set-up Information
 - A. Referenced Information

	REFE	RENCE	DESIGNATION
	AMM	73-21-10-000-002 73-21-10-400-002 73-21-50-000-040	Removal of the Hydromechanical Unit (HMU) Installation of the Hydromechanical Unit (HMU) Removal of the HJ7 Harness
R R	AMM	73-21-50-400-040	Installation of the HJ7 Harness
ĸ		73-21-60-000-001 73-21-60-400-001	Removal of the Electronic Control Unit (ECU)(4000KS) Installation of the Electronic Control Unit (ECU)(4000KS)
	AMM	73-29-00-710-040	Operational Test of the FADEC on the ground (with
	ASM	73-25/18	Engine Motoring)

- 3. Fault Confirmation
 - A. Do the operational test of the FADEC 1A on the ground (with engine motoring) (Ref. AMM TASK 73-29-00-710-040).
- 4. Fault Isolation
 - A. If the test gives the maintenance message HMU (FMV):
- do a check for line to line short circuit of the harness J7 between the ECU (4000KS) and the hydromechanical unit (HMU) pins J7/27, 28 (Ref. ASM 73-25/18).
 - (1) If the wiring is not correct:
 - repair the above defective wiring.

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R R

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- (2) If the wiring is correct:
 - disconnect the cable J7 from the ECU (4000KS) and do a check of the ECU cable resistance between:
 - . pins 27 and 28 (17 to 23 0hms).
 - (a) If the resistance values are in the specified limits:
 - replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).
 - (b) If the resistance values are out of the specified limits:
 - disconnect the cable J7 from the HMU and do a resistance check of the HMU between:
 - . pins 27 and 28 (17 to 23 0hms).
 - 1 If the resistance values are in the specified limits: - replace the defective harness J7 (Ref. AMM TASK 73-21-50-

000-040) and (Ref. AMM TASK 73-21-50-400-040).

- If the resistance values are out of the specified limits: - replace the HMU (Ref. AMM TASK 73-21-10-000-002) and (Ref. AMM TASK 73-21-10-400-002).
- B. Do the test given in Para. 3.A.

EFF: ALL

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TASK 73-10-00-810-802

Failure of the HMU Fuel Metering Valve on Engine 2

- 1. Possible Causes
 - ECU (4000KS)
 - harness J7

R

- HMU
- 2. Job Set-up Information
 - A. Referenced Information

	REFERENCE		DESIGNATION
R	AMM AMM AMM	73-21-10-000-002 73-21-10-400-002 73-21-50-000-040	Removal of the Hydromechanical Unit (HMU) Installation of the Hydromechanical Unit (HMU) Removal of the HJ7 Harness
R	AMM	73-21-50-400-040	Installation of the HJ7 Harness
	AMM AMM	73-21-60-000-001 73-21-60-400-001	Removal of the Electronic Control Unit (ECU)(4000KS) Installation of the Electronic Control Unit (ECU)(4000KS)
	AMM	73-29-00-710-040	Operational Test of the FADEC on the ground (with Engine Motoring)
	ASM	73-25/18	Engine motor mg/

- 3. Fault Confirmation
- A. Do the operational test of the FADEC 2A on the ground (with engine motoring) (Ref. AMM TASK 73-29-00-710-040). R

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4. Fault Isolation

R R

R

- A. If the test gives the maintenance message HMU (FMV):
- do a check for line to line short circuit of the harness J7 between the ECU (4000KS) and the hydromechanical unit (HMU) pins J7/27, 28 (Ref. ASM 73-25/18).
 - (1) If the wiring is not correct:
 - repair the above defective wiring.
 - (2) If the wiring is correct:
 - disconnect the cable J7 from the ECU (4000KS) and do a check of the ECU cable resistance between:
 - . pins 27 and 28 (17 to 23 0hms).

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- (a) If the resistance values are in the specified limits:
 - replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).
- (b) If the resistance values are out of the specified limits:
 - disconnect the cable J7 from the HMU and do a resistance check of the HMU between:
 - . pins 27 and 28 (17 to 23 0hms).
 - 1 If the resistance values are in the specified limits: - replace the defective harness J7 (Ref. AMM TASK 73-21-50-000-040) and (Ref. AMM TASK 73-21-50-400-040).
 - 2 If the resistance values are out of the specified limits: - replace the HMU (Ref. AMM TASK 73-21-10-000-002) and (Ref. AMM TASK 73-21-10-400-002).
- B. Do the test given in Para. 3.A.

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TROUBLE SHOOTING MANUAL

TASK 73-10-00-810-805

Failure of the BSV Valve on Engine 1

1. Possible Causes

- burner staging valve (BSV)
- harness J7

R

- Hydromechanical Unit (HMU)
- ECU (4000KS)
- burner selection valve (BSV)
- Burner Selection Valve (BSV)

2. Job Set-up Information

A. Referenced Information

	REFE	RENCE	DESIGNATION
	AMM	72-41-00-290-001	Borescope Inspection of the Combustion Chamber
₹			Liners, Dome Areas, HPT Nozzle Vanes and Shrouds (as
₹			far as visible through two opposite ports)
	AMM	72-51-00-290-004	Borescope Inspection of High-Pressure Turbine Nozzle Assembly
	AMM	73-11-70-000-002	Removal of the Burner Staging Valve (BSV)
	AMM	73-11-70-000-002	Removal of the Burner Selection Valve (BSV)
	AMM	73-11-70-400-002	Installation of the Burner Staging Valve (BSV)
	AMM	73-11-70-400-002	Installation of the Burner Selection Valve (BSV)
	AMM	73-21-10-000-002	Removal of the Hydromechanical Unit (HMU)
	AMM	73-21-10-400-002	Installation of the Hydromechanical Unit (HMU)
	AMM	73-21-50-000-040	Removal of the HJ7 Harness
	AMM	73-21-50-400-040	Installation of the HJ7 Harness
	AMM	73-21-60-000-001	Removal of the Electronic Control Unit (ECU)(4000KS)
	AMM	73-21-60-400-001	Installation of the Electronic Control Unit (ECU)(4000KS)
	AMM	73-29-00-710-040	Operational Test of the FADEC on the ground (with Engine Motoring)
	ASM	73-25/18	-

3. Fault Confirmation

A. Do the operational test of the FADEC 1A on the ground (with engine motoring) (Ref. AMM TASK 73-29-00-710-040).

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4. Fault Isolation

R **ON A/C 201-206, 227-227, 229-232, 240-240, 254-281, 283-283, 426-475,
R 479-499, 551-599,
R Post SB 72-1014 For A/C 227-227,229-232,
Post SB 72-1015 For A/C 276-281,
Post SB 72-1017 For A/C 201-206,551-599,
Post SB 72-1026 For A/C 426-450,
Post SB 72-1027 For A/C 479-499,

A. If the test gives the maintenance message BSV (VLV CLSD), HMU:

NOTE: If the ENG 1 CTL VALVE FAULT ECAM warning comes into view simultaneously with this fault message, you must do a borescope inspection of the combustion chambers (Ref. AMM TASK 72-41-00-290-001) and the high-pressure turbine-nozzle assembly (Ref. AMM TASK 72-51-00-290-004) before the next flight.

- disconnect the connector J7 from the ECU (4000KS) and do a check of the ECU cable resistance between:
 - . pins 6 and 7 (26 to 36 ohms) (Ref. ASM 73-25/18).
- (1) If the resistance values are in the specified limits:
 - replace the burner staging valve (BSV) (Ref. AMM TASK 73-11-70-000-002) and (Ref. AMM TASK 73-11-70-400-002).
- (2) If the resistance values are out of the specified limits:
 - disconnect the harness J7 from the HMU and do a check of the HMU resistance between:
 - . pins 6 and 7 (26 to 36 ohms).
 - (a) If the resistance values are in the specified limits:
 - replace the defective harness J7 (Ref. AMM TASK 73-21-50-000-040) and (Ref. AMM TASK 73-21-50-400-040) or
 - (b) If the resistance values are out of the specified limits:
 - replace the Hydromechanical Unit (HMU) (Ref. AMM TASK 73-21-10-000-002) and (Ref. AMM TASK 73-21-10-400-002).
- (3) If the fault continues after the replacement of the BSV and the harness J7 and if the resistance checks are correct, the cause of the fault can be the hydraulic pressure control:
 - replace the Hydromechanical Unit (HMU) (Ref. AMM TASK 73-21-10-000-002) and (Ref. AMM TASK 73-21-10-400-002).
- (4) If the fault continues:
 - replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).

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- B. If the test gives the maintenance message BSV (VLV OPEN), HMU:
 - disconnect the connector J7 from the ECU (4000KS) and do a check of the ECU cable resistance between:
 - pins 6 and 7 (26 to 36 ohms) (Ref. ASM 73-25/18).
 - (1) If the resistance values are in the specified limits:
 - replace the burner staging valve (BSV) (Ref. AMM TASK 73-11-70-000-002) and (Ref. AMM TASK 73-11-70-400-002).
 - (2) If the resistance values are out of the specified limits:
 - disconnect the harness J7 from the HMU and do a check of the HMU resistance between:
 - . pins 6 and 7 (26 to 36 ohms).
 - (a) If the resistance values are in the specified limits:
 - replace the defective harness J7 (Ref. AMM TASK 73-21-50-000-040) and (Ref. AMM TASK 73-21-50-400-040) or
 - (b) If the resistance values are out of the specified limits:
 - replace the Hydromechanical Unit (HMU) (Ref. AMM TASK 73-21-10-000-002) and (Ref. AMM TASK 73-21-10-400-002).
 - (3) If the fault continues after the replacement of the BSV and the harness J7 and if the resistance checks are correct, the cause of the fault can be the hydraulic pressure control:
 - replace the Hydromechanical Unit (HMU) (Ref. AMM TASK 73-21-10-000-002) and (Ref. AMM TASK 73-21-10-400-002).
 - (4) If the fault continues:
 - replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).
- R **ON A/C 201-225, 227-227, 229-239, 241-253, 276-282, 284-299, 426-499,
- R 503-549, 551-599, 701-749,
 - Post SB 72-1024 For A/C 451-475,
 - A. If the test gives the maintenance message BSV (VLV CLSD), HMU:
 - NOTE: If the ENG 1 CTL VALVE FAULT ECAM warning comes into view simultaneously with this fault message, you must do a borescope inspection of the combustion chambers (Ref. AMM TASK 72-41-00-290-001) and the high-pressure turbine-nozzle assembly (Ref. AMM TASK 72-51-00-290-004) before the next flight.
 - disconnect the connector J7 from the ECU (4000KS) and do a check of the ECU cable resistance between:
 - . pins 6 and 7 (26 to 36 ohms) (Ref. ASM 73-25/18).
 - (1) If the resistance values are in the specified limits:
 - replace the burner selection valve (BSV) (Ref. AMM TASK 73-11-70-000-002) and (Ref. AMM TASK 73-11-70-400-002).

EFF: ALL

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- (2) If the resistance values are out of the specified limits:
 - disconnect the harness J7 from the HMU and do a check of the HMU resistance between:
 - . pins 6 and 7 (26 to 36 ohms).
 - (a) If the resistance values are in the specified limits:
 - replace the defective harness J7 (Ref. AMM TASK 73-21-50-000-040) and (Ref. AMM TASK 73-21-50-400-040) or
 - (b) If the resistance values are out of the specified limits:
 - replace the Hydromechanical Unit (HMU) (Ref. AMM TASK 73-21-10-000-002) and (Ref. AMM TASK 73-21-10-400-002).
- (3) If the fault continues after the replacement of the BSV and the harness J7 and if the resistance checks are correct, the cause of the fault can be the hydraulic pressure control:
 - replace the Hydromechanical Unit (HMU) (Ref. AMM TASK 73-21-10-000-002) and (Ref. AMM TASK 73-21-10-400-002).
- (4) If the fault continues:
 - replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).
- B. If the test gives the maintenance message BSV (VLV OPEN), HMU:
 - disconnect the connector J7 from the ECU (4000KS) and do a check of the ECU cable resistance between:
 - . pins 6 and 7 (26 to 36 ohms) (Ref. ASM 73-25/18).
 - (1) If the resistance values are in the specified limits:
 - replace the Burner Selection Valve (BSV) (Ref. AMM TASK 73-11-70-000-002) and (Ref. AMM TASK 73-11-70-400-002).
 - (2) If the resistance values are out of the specified limits:
 - disconnect the harness J7 from the HMU and do a check of the HMU resistance between:
 - . pins 6 and 7 (26 to 36 ohms).
 - (a) If the resistance values are in the specified limits:
 - replace the defective harness J7 (Ref. AMM TASK 73-21-50-000-040) and (Ref. AMM TASK 73-21-50-400-040) or
 - (b) If the resistance values are out of the specified limits:
 - replace the Hydromechanical Unit (HMU) (Ref. AMM TASK 73-21-10-000-002) and (Ref. AMM TASK 73-21-10-400-002).
 - (3) If the fault continues after the replacement of the BSV and the harness J7 and if the resistance checks are correct, the cause of the fault can be the hydraulic pressure control:
 - replace the Hydromechanical Unit (HMU) (Ref. AMM TASK 73-21-10-000-002) and (Ref. AMM TASK 73-21-10-400-002).

EFF: 201-225, 227-227, 229-239, 241-253, 276-282, 284-299, 426-499, 503-549, 551-599, 701-749, SROS

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(4) If the fault continues:
- replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).

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C. Do the test given in Para. 3.A.

EFF: ALL
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TROUBLE SHOOTING MANUAL

TASK 73-10-00-810-806

Failure of the BSV Valve on Engine 2

1. Possible Causes

- burner staging valve (BSV)
- harness J7

R

- Hydromechanical Unit (HMU)
- ECU (4000KS)
- burner selection valve (BSV)

2. Job Set-up Information

A. Referenced Information

REFE	RENCE	DESIGNATION	
AMM	72-41-00-290-001	Borescope Inspection of the Combustion Chamber	
		Liners, Dome Areas, HPT Nozzle Vanes and Shrouds (as far as visible through two opposite ports)	
AMM	72-51-00-290-004	Borescope Inspection of High-Pressure Turbine Nozzle Assembly	
AMM	73-11-70-000-002	Removal of the Burner Staging Valve (BSV)	
AMM	73-11-70-000-002	Removal of the Burner Selection Valve (BSV)	
AMM	73-11-70-400-002	Installation of the Burner Staging Valve (BSV)	
AMM	73-11-70-400-002	Installation of the Burner Selection Valve (BSV)	
AMM	73-21-10-000-002	Removal of the Hydromechanical Unit (HMU)	
AMM	73-21-10-400-002	Installation of the Hydromechanical Unit (HMU)	
AMM	73-21-50-000-040	Removal of the HJ7 Harness	
AMM	73-21-50-400-040	Installation of the HJ7 Harness	
AMM	73-21-60-000-001	Removal of the Electronic Control Unit (ECU)(4000KS)	
AMM	73-21-60-400-001	<pre>Installation of the Electronic Control Unit (ECU)(4000KS)</pre>	
AMM	73-29-00-710-040	Operational Test of the FADEC on the ground (with Engine Motoring)	
ASM	73-25/18	- · ·	

3. Fault Confirmation

A. Do the operational test of the FADEC 2A on the ground (with engine motoring) (Ref. AMM TASK 73-29-00-710-040).

EFF: ALL
SROS

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4. Fault Isolation

R **ON A/C 201-206, 227-227, 229-232, 240-240, 254-281, 283-283, 426-475,
R 479-499, 551-599,
Post SB 72-1014 For A/C 227-227,229-232,
Post SB 72-1015 For A/C 276-281,
Post SB 72-1017 For A/C 201-206,551-599,
Post SB 72-1026 For A/C 426-450,
Post SB 72-1027 For A/C 479-499,

A. If the test gives the maintenance message BSV (VLV CLSD), HMU:

NOTE: If the ENG 2 CTL VALVE FAULT ECAM warning comes into view simultaneously with this fault message, you must do a borescope inspection of the combustion chambers (Ref. AMM TASK 72-41-00-290-001) and the high-pressure turbine-nozzle assembly (Ref. AMM TASK 72-51-00-290-004) before the next flight.

- disconnect the connector J7 from the ECU (4000KS) and do a check of the ECU cable resistance between:
 - . pins 6 and 7 (26 to 36 ohms) (Ref. ASM 73-25/18).
- (1) If the resistance values are in the specified limits:
 - replace the burner staging valve (BSV) (Ref. AMM TASK 73-11-70-000-002) and (Ref. AMM TASK 73-11-70-400-002).
- (2) If the resistance values are out of the specified limits:
 - disconnect the harness J7 from the HMU and do a check of the HMU resistance between:
 - . pins 6 and 7 (26 to 36 ohms).
 - (a) If the resistance values are in the specified limits:
 - replace the harness J7 (Ref. AMM TASK 73-21-50-000-040) and (Ref. AMM TASK 73-21-50-400-040) or
 - (b) If the resistance values are out of the specified limits:
 - replace the Hydromechanical Unit (HMU) (Ref. AMM TASK 73-21-10-000-002) and (Ref. AMM TASK 73-21-10-400-002).
- (3) If the fault continues after the replacement of the BSV and the harness J7 and if the resistance checks are correct, the cause of the fault can be the hydraulic pressure control:
 - replace the Hydromechanical Unit (HMU) (Ref. AMM TASK 73-21-10-000-002) and (Ref. AMM TASK 73-21-10-400-002).
- (4) If the fault continues:
 - replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).

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- B. If the test gives the maintenance message BSV (VLV OPEN), HMU:
 - disconnect the connector J7 from the ECU (4000KS) and do a check of the ECU cable resistance between:
 - . pins 6 and 7 (26 to 36 ohms) (Ref. ASM 73-25/18).
 - (1) If the resistance values are in the specified limits:
 - replace the burner staging valve (BSV) (Ref. AMM TASK 73-11-70-000-002) and (Ref. AMM TASK 73-11-70-400-002).
 - (2) If the resistance values are out of the specified limits:
 - disconnect the harness J7 from the HMU and do a check of the HMU resistance between:
 - . pins 6 and 7 (26 to 36 ohms).
 - (a) If the resistance values are in the specified limits:
 - replace the harness J7 (Ref. AMM TASK 73-21-50-000-040) and (Ref. AMM TASK 73-21-50-400-040) or
 - (b) If the resistance values are out of the specified limits:
 - replace the Hydromechanical Unit (HMU) (Ref. AMM TASK 73-21-10-000-002) and (Ref. AMM TASK 73-21-10-400-002).
 - (3) If the fault continues after the replacement of the BSV and the harness J7 and if the resistance checks are correct, the cause of the fault can be the hydraulic pressure control:
 - replace the Hydromechanical Unit (HMU) (Ref. AMM TASK 73-21-10-000-002) and (Ref. AMM TASK 73-21-10-400-002).
 - (4) If the fault continues:
 - replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).
- R **ON A/C 201-225, 227-227, 229-239, 241-253, 276-282, 284-299, 426-499,
- R 503-549, 551-599, 701-749,
 - Post SB 72-1024 For A/C 451-475,
 - A. If the test gives the maintenance message BSV (VLV CLSD), HMU:
 - NOTE: If the ENG 2 CTL VALVE FAULT ECAM warning comes into view simultaneously with this fault message, you must do a borescope inspection of the combustion chambers (Ref. AMM TASK 72-41-00-290-001) and the high-pressure turbine-nozzle assembly (Ref. AMM TASK 72-51-00-290-004) before the next flight.
 - disconnect the connector J7 from the ECU (4000KS) and do a check of the ECU cable resistance between:
 - . pins 6 and 7 (26 to 36 ohms) (Ref. ASM 73-25/18).
 - (1) If the resistance values are in the specified limits:
 - replace the burner selection valve (BSV) (Ref. AMM TASK 73-11-70-000-002) and (Ref. AMM TASK 73-11-70-400-002).

EFF: ALL

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- (2) If the resistance values are out of the specified limits:
 - disconnect the harness J7 from the HMU and do a check of the HMU resistance between:
 - . pins 6 and 7 (26 to 36 ohms).
 - (a) If the resistance values are in the specified limits:
 - replace the harness J7 (Ref. AMM TASK 73-21-50-000-040) and (Ref. AMM TASK 73-21-50-400-040) or
 - (b) If the resistance values are out of the specified limits:
 - replace the Hydromechanical Unit (HMU) (Ref. AMM TASK 73-21-10-000-002) and (Ref. AMM TASK 73-21-10-400-002).
- (3) If the fault continues after the replacement of the BSV and the harness J7 and if the resistance checks are correct, the cause of the fault can be the hydraulic pressure control:
 - replace the Hydromechanical Unit (HMU) (Ref. AMM TASK 73-21-10-000-002) and (Ref. AMM TASK 73-21-10-400-002).
- (4) If the fault continues:
 - replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).
- B. If the test gives the maintenance message BSV (VLV OPEN), HMU:
 - disconnect the connector J7 from the ECU (4000KS) and do a check of the ECU cable resistance between:
 - . pins 6 and 7 (26 to 36 ohms) (Ref. ASM 73-25/18).
 - (1) If the resistance values are in the specified limits:
 - replace the burner selection valve (BSV) (Ref. AMM TASK 73-11-70-000-002) and (Ref. AMM TASK 73-11-70-400-002).
 - (2) If the resistance values are out of the specified limits:
 - disconnect the harness J7 from the HMU and do a check of the HMU resistance between:
 - . pins 6 and 7 (26 to 36 ohms).
 - (a) If the resistance values are in the specified limits:
 - replace the harness J7 (Ref. AMM TASK 73-21-50-000-040) and (Ref. AMM TASK 73-21-50-400-040) or
 - (b) If the resistance values are out of the specified limits:
 - replace the Hydromechanical Unit (HMU) (Ref. AMM TASK 73-21-10-000-002) and (Ref. AMM TASK 73-21-10-400-002).
 - (3) If the fault continues after the replacement of the BSV and the harness J7 and if the resistance checks are correct, the cause of the fault can be the hydraulic pressure control:
 - replace the Hydromechanical Unit (HMU) (Ref. AMM TASK 73-21-10-000-002) and (Ref. AMM TASK 73-21-10-400-002).

EFF: 201-225, 227-227, 229-239, 241-253, 276-282, 284-299, 426-499, 503-549, 551-599, 701-749, SROS

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R (4) If the fault continues:
R - replace the ECU (4000

- replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).

**ON A/C ALL

R

C. Do the test given in Para. 3.A.

EFF: ALL
SROS

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TASK 73-10-00-810-807

Feedback Disagree between the Signals of the Two Channels of the BSV on Engine 1

1. Possible Causes

- burner staging valve (BSV)
- harness J11
- harness J12
- harness CJ11L
- harness CJ12L
- ECU (4000KS)
- burner selection valve (BSV)

2. Job Set-up Information

A. Referenced Information

REFE	RENCE	DESIGNATION
AMM	73-11-70-000-002	Removal of the Burner Staging Valve (BSV)
AMM	73-11-70-000-002	Removal of the Burner Selection Valve (BSV)
AMM	73-11-70-400-002	Installation of the Burner Staging Valve (BSV)
AMM	73-11-70-400-002	Installation of the Burner Selection Valve (BSV)
AMM	73-21-50-000-025	Removal of the CJ11L Harness
AMM	73-21-50-000-027	Removal of the CJ12L Harness
AMM	73-21-50-000-044	Removal of the HJ11 Harness
AMM	73-21-50-000-045	Removal of the HJ12 Harness
AMM	73-21-50-400-025	Installation of the CJ11L Harness
AMM	73-21-50-400-027	Installation of the CJ12L Harness
AMM	73-21-50-400-044	Installation of the HJ11 Harness
AMM	73-21-50-400-045	Installation of the HJ12 Harness
AMM	73-21-60-000-001	Removal of the Electronic Control Unit (ECU)(4000KS)
AMM	73-21-60-400-001	Installation of the Electronic Control Unit
		(ECU)(4000KS)
AMM	73-29-00-710-040	Operational Test of the FADEC on the ground (with
		Engine Motoring)
ASM	73-25/18	
AWM	71-51-08	

3. Fault Confirmation

A. Do the operational test of the FADEC 1A on the ground (with engine motoring) (Ref. AMM TASK 73-29-00-710-040).

EFF: ALL

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TROUBLE SHOOTING MANUAL

4. Fault Isolation

R **ON A/C 201-206, 227-227, 229-232, 240-240, 254-281, 283-283, 426-475,
R 479-499, 551-599,
R Post SB 72-1014 For A/C 227-227,229-232,
Post SB 72-1015 For A/C 276-281,
Post SB 72-1017 For A/C 201-206,551-599,
Post SB 72-1026 For A/C 426-450,
Post SB 72-1027 For A/C 479-499,

- A. If the test gives the maintenance message BSV, J11/J12, ECU:
 - do a check for open or short to ground of the harness J11 and J12 between the ECU (4000KS) and the 6 o'clock junction box, between the 6 o'clock junction box and the BSV pins J11 and J12/9, 23, 24 and pins CL11L and CL12L/1, 2 (Ref. ASM 73-25/18) (Ref. AWM 71-51-08).
 - (1) If the wiring is not correct:
 - repair the above defective wiring.
 - (2) If the wiring is correct:
 - disconnect the harness CJ11L and CJ12L from the BSV.

 Install a jumper wire between the pins 1 and 2 on the harness CJ11L and CJ12L.
 - disconnect the connector J11 and J12 from the ECU (4000KS) and do a check of theresistance of the harness J11 and J12 between:
 - . pins 9 and 23 (< 5 0hms)</pre>
 - pins 9 and 24 (> 10 Megohms)
 - . pin 9 and the ground (> 10 Megohms).
 - (a) If the resistance values are in the specified limits:
 - replace the burner staging valve (BSV) (Ref. AMM TASK 73-11-70-000-002) and (Ref. AMM TASK 73-11-70-400-002).
 - (b) If the resistance values are out of the specified limits:
 - disconnect the harness J11 and J12 from the junction box at the 6 o'clock strut and do a check of the resistance of the harness CJ11L and CJ12L between:

for the harness CJ11L

- . pins 8 and 10 (< 5 0hms)</pre>
- pins 8 and 9 (> 10 Megohms)
- pin 8 and the ground (> 10 Megohms)

for the harness CJ12L

- . pins 16 and 15 (< 5 0hms)</pre>
- pins 16 and 5 (> 10 Megohms)
- . pin 16 and the ground (> 10 Megohms).
- 1 If the resistance values are in the specified limits:
 - replace the harness J11 (Ref. AMM TASK 73-21-50-000-044) and (Ref. AMM TASK 73-21-50-400-044).
 - replace the harness J12 (Ref. AMM TASK 73-21-50-000-045) and (Ref. AMM TASK 73-21-50-400-045).

EFF: ALL

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- 2 If the resistance values are out of the specified limits:
 - replace the harness CJ11L (Ref. AMM TASK 73-21-50-000-025) and (Ref. AMM TASK 73-21-50-400-025).
 - replace the harness CJ12L (Ref. AMM TASK 73-21-50-000-027) and (Ref. AMM TASK 73-21-50-400-027).
- (3) If the fault continues:
 - replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).
- R **ON A/C 201-225, 227-227, 229-239, 241-253, 276-282, 284-299, 426-499,
 R 503-549, 551-599, 701-749,
 Post SB 72-1024 For A/C 451-475,
 - A. If the test gives the maintenance message BSV, J11/J12, ECU:
 - do a check for open or short to ground of the harness J11 and J12 between the ECU (4000KS) and the 6 o'clock junction box, between the 6 o'clock junction box and the BSV pins J11 and J12/9, 23, 24 and pins CL11L and CL12L/1, 2 (Ref. ASM 73-25/18) (Ref. AWM 71-51-08).
 - (1) If the wiring is not correct:
 - repair the above defective wiring.
 - (2) If the wiring is correct:
 - disconnect the harness CJ11L and CJ12L from the BSV.
 Install a jumper wire between the pins 1 and 2 on the harness CJ11L and CJ12L.
 - disconnect the connector J11 and J12 from the ECU (4000KS) and do a check of the resistance of the harness J11 and J12 between:
 - . pins 9 and 23 (< 5 0hms)
 - pins 9 and 24 (> 10 Megohms)
 - . pin 9 and the ground (> 10 Megohms).
 - (a) If the resistance values are in the specified limits:
 - replace the burner selection valve (BSV) (Ref. AMM TASK 73-11-70-000-002) and (Ref. AMM TASK 73-11-70-400-002).
 - (b) If the resistance values are out of the specified limits:
 - disconnect the harness J11 and J12 from the junction box at the 6 o'clock strut and do a check of the resistance of the harness CJ11L and CJ12L between:

for the harness CJ11L

- . pins 8 and 10 (< 5 0hms)
- pins 8 and 9 (> 10 Megohms)
- pin 8 and the ground (> 10 Megohms)

for the harness CJ12L

- pins 16 and 15 (< 5 0hms)</pre>
- pins 16 and 5 (> 10 Megohms)
- . pin 16 and the ground (> 10 Megohms).

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EFF: ALL

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,	1 If the resistance values are in the specified limits:
`	
₹	- replace the harness J11 (Ref. AMM TASK 73-21-50-000-044) an
₹	(Ref. AMM TASK 73-21-50-400-044).
₹	- replace the harness J12 (Ref. AMM TASK 73-21-50-000-045) an
₹	(Ref. AMM TASK 73-21-50-400-045).
₹	2 If the resistance values are out of the specified limits:
₹	- replace the harness CJ11L (Ref. AMM TASK 73-21-50-000-025)
₹	and (Ref. AMM TASK 73-21-50-400-025).
₹	- replace the harness CJ12L (Ref. AMM TASK 73-21-50-000-027)
₹	and (Ref. AMM TASK 73-21-50-400-027).
₹	(3) If the fault continues:
₹	- replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) and (Ref
₹	AMM TASK 73-21-60-400-001).

**ON A/C ALL

B. Do the test given in Para. 3.A.

EFF: ALL

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$\mathsf{C}\ \mathsf{F}\ \mathsf{M}$

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TROUBLE SHOOTING MANUAL

TASK 73-10-00-810-808

Feedback Disagree between the Signals of the Two Channels of the BSV on Engine 2

1. Possible Causes

- burner staging valve (BSV)
- harness J11
- harness J12
- harness CJ11L
- harness CJ12L
- ECU (4000KS)
- burner selection valve (BSV)

2. Job Set-up Information

A. Referenced Information

REFERENCE		DESIGNATION
AMM	73-11-70-000-002	Removal of the Burner Staging Valve (BSV)
AMM	73-11-70-000-002	Removal of the Burner Selection Valve (BSV)
AMM	73-11-70-400-002	Installation of the Burner Staging Valve (BSV)
AMM	73-11-70-400-002	Installation of the Burner Selection Valve (BSV)
AMM	73-21-50-000-025	Removal of the CJ11L Harness
AMM	73-21-50-000-027	Removal of the CJ12L Harness
AMM	73-21-50-000-044	Removal of the HJ11 Harness
AMM	73-21-50-000-045	Removal of the HJ12 Harness
AMM	73-21-50-400-025	Installation of the CJ11L Harness
AMM	73-21-50-400-027	Installation of the CJ12L Harness
AMM	73-21-50-400-044	Installation of the HJ11 Harness
AMM	73-21-50-400-045	Installation of the HJ12 Harness
AMM	73-21-60-000-001	Removal of the Electronic Control Unit (ECU)(4000KS)
AMM	73-21-60-400-001	Installation of the Electronic Control Unit
		(ECU)(4000KS)
AMM	73-29-00-710-040	Operational Test of the FADEC on the ground (with
		Engine Motoring)
ASM	73-25/18	
AWM	71-51-08	

3. Fault Confirmation

A. Do the operational test of the FADEC 2A on the ground (with engine motoring) (Ref. AMM TASK 73-29-00-710-040).

EFF: ALL

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4. Fault Isolation

R **ON A/C 201-206, 227-227, 229-232, 240-240, 254-281, 283-283, 426-475,
R 479-499, 551-599,
R Post SB 72-1014 For A/C 227-227,229-232,
Post SB 72-1015 For A/C 276-281,
Post SB 72-1017 For A/C 201-206,551-599,
Post SB 72-1026 For A/C 426-450,
Post SB 72-1027 For A/C 479-499,

- A. If the test gives the maintenance message BSV, J11/J12, ECU:
 - do a check for open or short to ground of the harness J11 and J12 between the ECU (4000KS) and the 6 o'clock junction box, between the 6 o'clock junction box and the BSV pins J11 and J12/9, 23, 24 and pins CJ11L and CJ12L/1, 2 (Ref. ASM 73-25/18) (Ref. AWM 71-51-08).
 - (1) If the wiring is not correct:
 - repair the above defective wiring.
 - (2) If the wiring is correct:
 - disconnect the harness CJ11L and CJ12L from the BSV.
 Install a jumper wire between the pins 1 and 2 on the harness CJ11L and CJ12L.
 - disconnect the connector J11 and J12 from the ECU 2 (4000KS) and do a check of the harness J11 and J12 resistance between:
 - . pins 9 and 23 (< 5 0hms)
 - pins 9 and 24 (> 10 Megohms)
 - . pin 9 and the ground (> 10 Megohms).
 - (a) If the resistance values are in the specified limits:
 - replace the burner staging valve (BSV) (Ref. AMM TASK 73-11-70-000-002) and (Ref. AMM TASK 73-11-70-400-002).
 - (b) If the resistance values are out of the specified limits:
 - disconnect the harness J11 and J12 from the junction box at the 6 o'clock strut and do a check of the harness CJ11L and CJ12L resistance between:

for the harness CJ11L

- . pins 8 and 10 (< 5 0hms)</pre>
- pins 8 and 9 (> 10 Megohms)
- pin 8 and the ground (> 10 Megohms)

for the harness CJ12L

- . pins 16 and 15 (< 5 0hms)</pre>
- pins 16 and 5 (> 10 Megohms)
- . pin 16 and the ground (> 10 Megohms).
- 1 If the resistance values are in the specified limits:
 - replace the harness J11 (Ref. AMM TASK 73-21-50-000-044) and (Ref. AMM TASK 73-21-50-400-044).
 - replace the harness J12 (Ref. AMM TASK 73-21-50-000-045) and (Ref. AMM TASK 73-21-50-400-045).

EFF: ALL

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- 2 If the resistance values are out of the specified limits:
 - replace the harness CJ11L (Ref. AMM TASK 73-21-50-000-025)
 and (Ref. AMM TASK 73-21-50-400-025).
 - replace the harness CJ12L (Ref. AMM TASK 73-21-50-000-027) and (Ref. AMM TASK 73-21-50-400-027).
- (3) If the fault continues:
 - replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).
- R **ON A/C 201-225, 227-227, 229-239, 241-253, 276-282, 284-299, 426-499,
 R 503-549, 551-599, 701-749,
 Post SB 72-1024 For A/C 451-475,
 - A. If the test gives the maintenance message BSV, J11/J12, ECU:
 - do a check for open or short to ground of the harness J11 and J12 between the ECU (4000KS) and the 6 o'clock junction box, between the 6 o'clock junction box and the BSV pins J11 and J12/9, 23, 24 and pins CJ11L and CJ12L/1, 2 (Ref. ASM 73-25/18) (Ref. AWM 71-51-08).
 - (1) If the wiring is not correct:
 - repair the above defective wiring.
 - (2) If the wiring is correct:
 - disconnect the harness CJ11L and CJ12L from the BSV.
 Install a jumper wire between the pins 1 and 2 on the harness CJ11L and CJ12L.
 - disconnect the connector J11 and J12 from the ECU 2 (4000KS) and do a check of the harness J11 and J12 resistance between:
 - . pins 9 and 23 (< 5 0hms)
 - pins 9 and 24 (> 10 Megohms)
 - . pin 9 and the ground (> 10 Megohms).
 - (a) If the resistance values are in the specified limits:
 - replace the burner selection valve (BSV) (Ref. AMM TASK 73-11-70-000-002) and (Ref. AMM TASK 73-11-70-400-002).
 - (b) If the resistance values are out of the specified limits:
 - disconnect the harness J11 and J12 from the junction box at the 6 o'clock strut and do a check of the harness CJ11L and CJ12L resistance between:

for the harness CJ11L

- . pins 8 and 10 (< 5 0hms)</pre>
- pins 8 and 9 (> 10 Megohms)
- pin 8 and the ground (> 10 Megohms)

for the harness CJ12L

- . pins 16 and 15 (< 5 0hms)</pre>
- pins 16 and 5 (> 10 Megohms)
- . pin 16 and the ground (> 10 Megohms).

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R R R R	If the resistance values are in the specified limits: replace the harness J11 (Ref. AMM TASK 73-21-50-000-044) and (Ref. AMM TASK 73-21-50-400-044). replace the harness J12 (Ref. AMM TASK 73-21-50-000-045) and (Ref. AMM TASK 73-21-50-400-045).
R R R R	If the resistance values are out of the specified limits: replace the harness CJ11L (Ref. AMM TASK 73-21-50-000-025) and (Ref. AMM TASK 73-21-50-400-025). replace the harness CJ12L (Ref. AMM TASK 73-21-50-000-027) and (Ref. AMM TASK 73-21-50-400-027).
R R R	(3) If the fault continues: - replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).

**ON A/C ALL

B. Do the test given in Para. 3.A.

EFF: ALL
SROS

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TROUBLE SHOOTING MANUAL

TASK 73-10-00-810-813

Failure of the FRV of the Engine 1 in the Open Position, on Channel A

- 1. Possible Causes
 - harness J7
 - fuel return valve
 - ECU (4000KS)
- 2. Job Set-up Information
 - A. Referenced Information

REFE	RENCE	DESIGNATION
AMM AMM	71-00-00-710-002 73-11-50-000-002	Wet Motoring Check Removal of the Fuel Return Valve (FRV)
AMM AMM AMM	73-11-50-400-002 73-21-50-000-040 73-21-50-400-040	Installation of the Fuel Return Valve Removal of the HJ7 Harness Installation of the HJ7 Harness
AMM AMM	73-21-60-000-001 73-21-60-400-001	Removal of the Electronic Control Unit (ECU)(4000KS) Installation of the Electronic Control Unit
ASM	73-25/18	(ECU)(4000KS)

- 3. Fault Confirmation
 - A. Not applicable.
- 4. Fault Isolation

R

- A. The fault is generated when the fuel return valve fails to reach the closed position when commanded by the ECU.
 - (1) Inspect the harness J7 and associated connector for sign of damage or contamination (Ref. ASM 73-25/18). Pay particular attention to pins 14 and 31 on the harness connector to the ECU and to pins 3 and 4 on the harness connector to the fuel return valve. Defective contacts on those connectors may give an erroneous indication of the fuel return valve position switches.
 - (2) If damage is found:
 - replace the harness J7 (Ref. AMM TASK 73-21-50-000-040) and (Ref. AMM TASK 73-21-50-400-040).
 - (3) If nothing is found:
 - replace the fuel return valve (Ref. AMM TASK 73-11-50-000-002) and (Ref. AMM TASK 73-11-50-400-002).

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- (4) If the fault continues:
 - replace the harness J7 (Ref. AMM TASK 73-21-50-000-040) and (Ref. AMM TASK 73-21-50-400-040).
- (5) If the fault continues:
 - replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).
- B. Do a wet motoring test of the engine (Ref. AMM TASK 71-00-00-710-002) and check that the fault does not duplicate.

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TROUBLE SHOOTING MANUAL

TASK 73-10-00-810-814

Failure of the FRV of the Engine 2 in the Open Position, on Channel A

1. Possible Causes

R

- harness J7
- fuel return valve R
- ECU (4000KS)

2. Job Set-up Information

A. Referenced Information

	REFERENCE		DESIGNATION
R		71-00-00-710-002 73-11-50-000-002	Wet Motoring Check Removal of the Fuel Return Valve (FRV)
R			
	AMM	73-11-50-400-002	Installation of the Fuel Return Valve
	AMM	73-21-50-000-040	Removal of the HJ7 Harness
	AMM	73-21-50-400-040	Installation of the HJ7 Harness
	AMM	73-21-60-000-001	Removal of the Electronic Control Unit (ECU)(4000KS)
	AMM	73-21-60-400-001	<pre>Installation of the Electronic Control Unit (ECU)(4000KS)</pre>
R			

ASM 73-25/18

3. Fault Confirmation

R A. Not applicable.

R

R

R R

R

R

R

4. Fault Isolation

- A. The fault is generated when the fuel return valve fails to reach the R closed position when commanded by the ECU. R
 - (1) Inspect the harness J7 and associated connector for sign of damage or contamination (Ref. ASM 73-25/18). Pay particular attention to pins 14 and 31 on the harness connector to the ECU and to pins 3 and 4 on the harness connector to the fuel return valve. Defective contacts on those connectors may give an

erroneous indication of the fuel return valve position switches.

- (2) If damage is found:
- replace the harness J7 (Ref. AMM TASK 73-21-50-000-040) and (Ref. AMM TASK 73-21-50-400-040).

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R (3) If nothing is found: R - replace the fuel re

- replace the fuel return valve (Ref. AMM TASK 73-11-50-000-002) and (Ref. AMM TASK 73-11-50-400-002).
- (4) If the fault continues:
 - replace the harness J7 (Ref. AMM TASK 73-21-50-000-040) and (Ref. AMM TASK 73-21-50-400-040).
- (5) If the fault continues:
 - replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).
- B. Do a wet motoring test of the engine (Ref. AMM TASK 71-00-00-710-002) and check that the fault does not duplicate.

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TROUBLE SHOOTING MANUAL

TASK 73-10-00-810-815

Failure of the FRV of the Engine 1 in the Open Position, on Channel B

1. Possible Causes

R

- harness J8
- fuel return valve R
- ECU (4000KS)

2. Job Set-up Information

A. Referenced Information

	KEFE	KENUE	DESIGNATION
R	AMM	71-00-00-710-002	Wet Motoring Check
	AMM	73-11-50-000-002	Removal of the Fuel Return Valve (FRV)
	AMM	73-11-50-400-002	Installation of the Fuel Return Valve
	AMM	73-21-50-000-041	Removal of the HJ8 Harness
	AMM	73-21-50-400-041	Installation of the HJ8 Harness
	AMM	73-21-60-000-001	Removal of the Electronic Control Unit (ECU)(4000KS)
	AMM	73-21-60-400-001	<pre>Installation of the Electronic Control Unit (ECU)(4000KS)</pre>
R			

ASM 73-25/18

- 3. Fault Confirmation
- R A. Not applicable.

R

R

R R

R R

R

R

R

4. Fault Isolation

- A. The fault is generated when the fuel return valve fails to reach the R closed position when commanded by the ECU. R
 - (1) Inspect the harness J8 and associated connector for sign of damage or contamination (Ref. ASM 73-25/18).

Pay particular attention to pins 14 and 31 on the harness connector to the ECU and to pins 3 and 4 on the harness connector to the fuel return valve. Defective contacts on those connectors may give an erroneous indication of the fuel return valve position switches.

- (2) If damage is found:
 - replace the harness J8 (Ref. AMM TASK 73-21-50-000-041) and (Ref. AMM TASK 73-21-50-400-041).

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(3) If nothing is found:

- replace the fuel return valve (Ref. AMM TASK 73-11-50-000-002) and (Ref. AMM TASK 73-11-50-400-002).
- (4) If the fault continues:
 - replace the harness J8 (Ref. AMM TASK 73-21-50-000-041) and (Ref. AMM TASK 73-21-50-400-041).
- (5) If the fault continues:
 - replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).
- B. Do a wet motoring test of the engine (Ref. AMM TASK 71-00-00-710-002) and check that the fault does not duplicate.

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TROUBLE SHOOTING MANUAL

TASK 73-10-00-810-816

Failure of the FRV of the Engine 2 in the Open Position, on Channel B

1. Possible Causes

R

- harness J8
- fuel return valve R
- ECU (4000KS)

2. Job Set-up Information

A. Referenced Information

	REFERENCE		DESIGNATION	
R		71-00-00-710-002	Wet Motoring Check	
R	AMM	73-11-50-000-002	Removal of the Fuel Return Valve (FRV)	
R	AMM	73-11-50-400-002	Installation of the Fuel Return Valve	
R	AMM	73-21-50-000-041	Removal of the HJ8 Harness	
R	AMM	73-21-50-400-041	Installation of the HJ8 Harness	
	AMM	73-21-60-000-001	Removal of the Electronic Control Unit (ECU)(4000KS)	
	AMM	73-21-60-400-001	<pre>Installation of the Electronic Control Unit (ECU)(4000KS)</pre>	
D				

ASM 73-25/18

3. Fault Confirmation

R A. Not applicable.

R

R

R

R

R R

R R

R

R

R

4. Fault Isolation

- A. The fault is generated when the fuel return valve fails to reach the closed position when commanded by the ECU.
 - (1) Inspect the harness J8 and associated connector for sign of damage or contamination (Ref. ASM 73-25/18). Pay particular attention to pins 14 and 31 on the harness connector

to the ECU and to pins 3 and 4 on the harness connector to the fuel return valve. Defective contacts on those connectors may give an erroneous indication of the fuel return valve position switches.

- (2) If damage is found:
 - replace the harness J8 (Ref. AMM TASK 73-21-50-000-041) and (Ref. AMM TASK 73-21-50-400-041).

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- (3) If nothing is found:
 - replace the fuel return valve (Ref. AMM TASK 73-11-50-000-002) and (Ref. AMM TASK 73-11-50-400-002).
- (4) If the fault continues:
 - replace the harness J8 (Ref. AMM TASK 73-21-50-000-041) and (Ref. AMM TASK 73-21-50-400-041).
- (5) If the fault continues:
 - replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).
- B. Do a wet motoring test of the engine (Ref. AMM TASK 71-00-00-710-002) and check that the fault does not duplicate.

EFF: ALL

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TROUBLE SHOOTING MANUAL

TASK 73-10-00-810-817

Failure of the FRV of the Engine 1 in the Closed Position, on Channel A

- 1. Possible Causes
 - harness J7
 - fuel return valve
 - ECU (4000KS)
- 2. Job Set-up Information
 - A. Referenced Information

	REFERENCE		DESIGNATION	
	AMM	73-11-50-000-002	Removal of the Fuel Return Valve (FRV)	
	AMM	73-11-50-400-002	Installation of the Fuel Return Valve	
	AMM	73-21-50-000-040	Removal of the HJ7 Harness	
	AMM	73-21-50-400-040	Installation of the HJ7 Harness	
	AMM	73-21-60-000-001	Removal of the Electronic Control Unit (ECU)(4000KS)	
	AMM	73-21-60-400-001	<pre>Installation of the Electronic Control Unit (ECU)(4000KS)</pre>	
R R	AMM	73-29-00-710-040	Operational Test of the FADEC on the ground (with Engine Motoring)	
D	ASM	73-25/18	gcg,	

- 3. Fault Confirmation
 - A. Not applicable.
- 4. Fault Isolation
 - A. The fault is generated when the fuel return valve fails to reach the opened position when commanded by the ECU.
 - (1) Inspect the J7 harness and associated connectors for sign of damage or contamination (Ref. ASM 73-25/18).
 - (2) If damage is found:
 - replace the harness J7 (Ref. AMM TASK 73-21-50-000-040) and (Ref. AMM TASK 73-21-50-400-040).
 - (3) If nothing is found:
 - replace the fuel return valve (Ref. AMM TASK 73-11-50-000-002) and (Ref. AMM TASK 73-11-50-400-002).

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- (4) If the fault continues:
 - replace the harness J7 (Ref. AMM TASK 73-21-50-000-040) and (Ref. AMM TASK 73-21-50-400-040).
- (5) If the fault continues:
 - replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).
- B. Test

R

R R (1) Perform an operational test with engine motoring (Ref. AMM TASK 73-29-00-710-040) and check that the fault does not duplicate.

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TASK 73-10-00-810-818

Failure of the FRV of the Engine 2 in the Closed Position, on Channel A

- 1. Possible Causes
 - harness J7
 - fuel return valve
 - ECU (4000KS)
- 2. Job Set-up Information
 - A. Referenced Information

	REFERENCE		DESIGNATION	
	AMM	73-11-50-000-002	Removal of the Fuel Return Valve (FRV)	
	AMM	73-11-50-400-002	Installation of the Fuel Return Valve	
	AMM	73-21-50-000-040	Removal of the HJ7 Harness	
	AMM	73-21-50-400-040	Installation of the HJ7 Harness	
	AMM	73-21-60-000-001	Removal of the Electronic Control Unit (ECU)(4000KS)	
	AMM	73-21-60-400-001	<pre>Installation of the Electronic Control Unit (ECU)(4000KS)</pre>	
R R	AMM	73-29-00-710-040	Operational Test of the FADEC on the ground (with Engine Motoring)	
R	ASM	73-25/18		

- 3. Fault Confirmation
 - A. Not applicable.
- 4. Fault Isolation
 - A. The fault is generated when the fuel return valve fails to reach the opened position when commanded by the ECU.
 - (1) Inspect the J7 harness and associated connectors for sign of damage or contamination (Ref. ASM 73-25/18).
 - (2) If damage is found:
 - replace the harness J7 (Ref. AMM TASK 73-21-50-000-040) and (Ref. AMM TASK 73-21-50-400-040).
 - (3) If nothing is found:
 - replace the fuel return valve (Ref. AMM TASK 73-11-50-000-002) and (Ref. AMM TASK 73-11-50-400-002).

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- (4) If the fault continues:
 - replace the harness J7 (Ref. AMM TASK 73-21-50-000-040) and (Ref. AMM TASK 73-21-50-400-040).
- (5) If the fault continues:
 - replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).
- B. Test

R

R R (1) Perform an operational test with engine motoring (Ref. AMM TASK 73-29-00-710-040) and check that the fault does not duplicate.

EFF: ALL

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TASK 73-10-00-810-819

Failure of the FRV of the Engine 1 in the Closed Position, on Channel B

- 1. Possible Causes
 - harness J8
 - fuel return valve
 - ECU (4000KS)
- 2. Job Set-up Information
 - A. Referenced Information

	REFERENCE		DESIGNATION	
	AMM	73-11-50-000-002	Removal of the Fuel Return Valve (FRV)	
	AMM	73-11-50-400-002	Installation of the Fuel Return Valve	
	AMM	73-21-50-000-041	Removal of the HJ8 Harness	
	AMM	73-21-50-400-041	Installation of the HJ8 Harness	
	AMM	73-21-60-000-001	Removal of the Electronic Control Unit (ECU)(4000KS)	
	AMM	73-21-60-400-001	<pre>Installation of the Electronic Control Unit (ECU)(4000KS)</pre>	
R R	AMM	73-29-00-710-040	Operational Test of the FADEC on the ground (with Engine Motoring)	
R	ASM	73-25/18		

3. Fault Confirmation

A. Not applicable.

4. Fault Isolation

- A. The fault is generated when the fuel return valve fails to reach the opened position when commanded by the ECU.
 - (1) Inspect the J8 harness and associated connectors for sign of damage or contamination (Ref. ASM 73-25/18).
 - (2) If damage is found:
 - replace the harness J8 (Ref. AMM TASK 73-21-50-000-041) and (Ref. AMM TASK 73-21-50-400-041).
 - (3) If nothing is found:
 - replace the fuel return valve (Ref. AMM TASK 73-11-50-000-002) and (Ref. AMM TASK 73-11-50-400-002).

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- (4) If the fault continues:
 - replace the harness J8 (Ref. AMM TASK 73-21-50-000-041) and (Ref. AMM TASK 73-21-50-400-041).
- (5) If the fault continues:
 - replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).
- B. Test sensor to force the opening of the fuel return valve.

R

R R R (1) Perform an operational test with engine motoring (Ref. AMM TASK 73-29-00-710-040) and check that the fault does not duplicate.

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TROUBLE SHOOTING MANUAL

TASK 73-10-00-810-820

Failure of the FRV of the Engine 2 in the Closed Position, on Channel B

- 1. Possible Causes
 - harness J8
 - fuel return valve
 - ECU (4000KS)
- 2. Job Set-up Information
 - A. Referenced Information

	REFERENCE		DESIGNATION	
	AMM	73-11-50-000-002	Removal of the Fuel Return Valve (FRV)	
	AMM	73-11-50-400-002	Installation of the Fuel Return Valve	
	AMM	73-21-50-000-041	Removal of the HJ8 Harness	
	AMM	73-21-50-400-041	Installation of the HJ8 Harness	
	AMM	73-21-60-000-001	Removal of the Electronic Control Unit (ECU)(4000KS)	
	AMM	73-21-60-400-001	<pre>Installation of the Electronic Control Unit (ECU)(4000KS)</pre>	
R R	AMM	73-29-00-710-040	Operational Test of the FADEC on the ground (with Engine Motoring)	
R	ASM	73-25/18		

- 3. Fault Confirmation
 - A. Not applicable.
- 4. Fault Isolation
 - A. The fault is generated when the fuel return valve fails to reach the opened position when commanded by the ECU.
 - (1) Inspect the J8 harness and associated connectors for sign of damage or contamination (Ref. ASM 73-25/18).
 - (2) If damage is found:
 - replace the harness J8 (Ref. AMM TASK 73-21-50-000-041) and (Ref. AMM TASK 73-21-50-400-041).
 - (3) If nothing is found:
 - replace the fuel return valve (Ref. AMM TASK 73-11-50-000-002) and (Ref. AMM TASK 73-11-50-400-002).

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- (4) If the fault continues:
 - replace the harness J8 (Ref. AMM TASK 73-21-50-000-041) and (Ref. AMM TASK 73-21-50-400-041).
- (5) If the fault continues:
 - replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).
- B. Test sensor to force the opening of the fuel return valve.

R

R R R (1) Perform an operational test with engine motoring (Ref. AMM TASK 73-29-00-710-040) and check that the fault does not duplicate.

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TROUBLE SHOOTING MANUAL

TASK 73-10-00-810-821

Failure of the Feedback of the Fuel Return Valve on Engine 1

1. Possible Causes

- ECU (4000KS)
- fuel return valve
- harness J7
- harness J8

2. Job Set-up Information

A. Referenced Information

REFERENCE		DESIGNATION	
AMM	73-11-50-000-002	Removal of the Fuel Return Valve (FRV)	
AMM	73-11-50-400-002	Installation of the Fuel Return Valve	
AMM	73-21-50-000-040	Removal of the HJ7 Harness	
AMM	73-21-50-000-041	Removal of the HJ8 Harness	
AMM	73-21-50-400-040	Installation of the HJ7 Harness	
AMM	73-21-50-400-041	Installation of the HJ8 Harness	
AMM	73-21-60-000-001	Removal of the Electronic Control Unit (ECU)(4000KS)	
AMM	73-21-60-400-001	<pre>Installation of the Electronic Control Unit (ECU)(4000KS)</pre>	
AMM	73-29-00-710-040	Operational Test of the FADEC on the Ground (with Engine non Motoring)	
ASM	73-25/18	-	

3. Fault Confirmation

A. Do the operational test of the FADEC 1A on the ground (with engine non motoring) (Ref. AMM TASK 73-29-00-710-040).

4. Fault Isolation

- A. The fault is generated when the ECU detects a disagreement in the indication of the fuel return valve position given by the switch of channel A compared with the switch of channel B.
 - (1) If the test does not give the maintenance message FRV (SW), J7/J8, ECU but the fault is repetitive:
 - (a) Inspect the J7 and J8 harnesses and associated connectors to the fuel return valve and ECU for sign of looseness, damage or contamination (Ref. ASM 73-25/18).
 - Re-tighten, clean or replace harness as required.
 If no defect is found either or on the harness or the connector no further action is due.

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(b) If the fault continues or is repetitive: R R - Replace the fuel return (Ref. AMM TASK 73-11-50-000-002) and (Ref. AMM TASK 73-11-50-400-002). R (c) If the Fault continues: R - Replace the harness J7 (Ref. AMM TASK 73-21-50-000-040) and R R (Ref. AMM TASK 73-21-50-400-040). (d) If the fault continues: R - Replace the harness J8 (Ref. AMM TASK 73-21-50-000-041) and R (Ref. AMM TASK 73-21-50-400-041). R (e) If the fault continues: R - Replace the ECU (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM R TASK 73-21-60-400-001); R R (2) If the test gives the maintenance message FRV (SW), J7/J8, ECU: - Disconnect the harnesses J7 and J8 from the ECU and do a resistance R check on the J7 and J8 harness between: R R pins 31 and 14 (< 5 ohms)</pre> R . pins 31 and 33 (> 10 megohms). pin 31 and the ground (> 10 megohms). R R (a) If the resistance values are in the specified limits: R - replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001). R (b) If the resistance values are out of the specified limits: R - Disconnect the harness J7 and J8 from the fuel return valve and R do a check of the resistance on the valve switch connectors on R each channel between: R . pins 3 and 4 (< 5 ohms)</pre> . pin 3 and the ground (> 10 megohms). If the resistance values are out of the specified limits: - replace the fuel return valve (Ref. AMM TASK 73-11-50-000-002) and (Ref. AMM TASK 73-11-50-400-002). If the resistance values are in the specified limits: - replace the harness J7 (Ref. AMM TASK 73-21-50-000-040) and R (Ref. AMM TASK 73-21-50-400-040) and/or the harness J8 (Ref. R AMM TASK 73-21-50-000-041) and (Ref. AMM TASK 73-21-50-400-R 041). B. Do the test given in Para. 3.A. R

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TROUBLE SHOOTING MANUAL

TASK 73-10-00-810-822

Failure of the Feedback of the Fuel Return Valve on Engine 2

- 1. Possible Causes
 - ECU (4000KS)
 - fuel return valve

R

- harness J7
- R harness J8
 - 2. Job Set-up Information
 - A. Referenced Information

	REFE	RENCE	DESIGNATION
	AMM	73-11-50-000-002	Removal of the Fuel Return Valve (FRV)
	AMM	73-11-50-400-002	Installation of the Fuel Return Valve
R			
	AMM	73-21-50-000-040	Removal of the HJ7 Harness
	AMM	73-21-50-000-041	Removal of the HJ8 Harness
R			
	AMM	73-21-50-400-040	Installation of the HJ7 Harness
	AMM	73-21-50-400-041	Installation of the HJ8 Harness
	AMM	73-21-60-000-001	Removal of the Electronic Control Unit (ECU)(4000KS)
	AMM	73-21-60-400-001	Installation of the Electronic Control Unit (ECU)(4000KS)
R R	AMM	73-29-00-710-040	Operational Test of the FADEC on the Ground (with Engine non Motoring)
R	ASM	73-25/18	- -

3. Fault Confirmation

R A. Do the operational test of the FADEC 2A on the ground (with engine non motoring) (Ref. AMM TASK 73-29-00-710-040).

EFF: ALL

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4. Fault Isolation

R R R	Α.	The fault is generated when the ECU detects a disagreement in the indication of the fuel return valve position given by the switch of channel A compared with the switch of channel B.
R R		(1) If the test does not give the maintenance message FRV (SW), J7/J8, ECU but the fault is repetitive:
R R R R R		 (a) Inspect the J7 and J8 harnesses and associated connectors to the fuel return valve and ECU for sign of looseness, damage or contamination (Ref. ASM 73-25/18). - Re-tighten, clean or replace harness as required. If no defect is found either or on the harness or the connector no further action is due.
R R R		(b) If the fault continues or is repetitive:Replace the fuel return (Ref. AMM TASK 73-11-50-000-002) and (Ref. AMM TASK 73-11-50-400-002).
R R R		(c) If the Fault continues:Replace the harness J7 (Ref. AMM TASK 73-21-50-000-040) and (Ref. AMM TASK 73-21-50-400-040).
R R R		<pre>(d) If the fault continues: - Replace the harness J8 (Ref. AMM TASK 73-21-50-000-041) and (Ref. AMM TASK 73-21-50-400-041).</pre>
R R		(e) If the fault continues:Replace the ECU (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001);
R R R R R		 (2) If the test gives the maintenance message FRV (SW), J7/J8, ECU: Disconnect the harnesses J7 and J8 from the ECU and do a resistance check on the J7 and J8 harness between: pins 31 and 14 (< 5 ohms) pins 31 and 33 (> 10 megohms). pin 31 and the ground (> 10 megohms).
R R R		(a) If the resistance values are in the specified limits: - replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).
R R R R R		 (b) If the resistance values are out of the specified limits: Disconnect the harness J7 and J8 from the fuel return valve and do a check of the resistance on the valve switch connectors on each channel between: pins 3 and 4 (< 5 ohms) pin 3 and the ground (> 10 megohms).

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R R R If the resistance values are out of the specified limits: - replace the fuel return valve (Ref. AMM TASK 73-11-50-000-002) and (Ref. AMM TASK 73-11-50-400-002).

R R R If the resistance values are in the specified limits: - replace the harness J7 (Ref. AMM TASK 73-21-50-000-040) and (Ref. AMM TASK 73-21-50-400-040) and/or the harness J8 (Ref. AMM TASK 73-21-50-000-041) and (Ref. AMM TASK 73-21-50-400-041).

R

R

B. Do the test given in Para. 3.A.

R R

EFF : ALL
SROS
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TROUBLE SHOOTING MANUAL

R **ON A/C 201-225, 227-227, 229-239, 241-253, 276-282, 284-299, 426-499, R 503-549, 551-599, 701-749,

TASK 73-10-00-810-823

Loss of the Feedback Signal from the Burner Selection Valve Through Channel A on Engine 1

- 1. Possible Causes
 - ECU (4000KS)
 - J11 harness
 - CJ11R harness
 - Burner Selection Valve (BSV)
- 2. Job Set-up Information
 - A. Referenced Information

REFERENCE		DESIGNATION
AMM	73-11-70-000-002	Removal of the Burner Selection Valve (BSV)
AMM	73-11-70-400-002	Installation of the Burner Selection Valve (BSV)
AMM	73-21-50-000-026	Removal of the CJ11R Harness
AMM	73-21-50-000-044	Removal of the HJ11 Harness
AMM	73-21-50-400-026	Installation of the CJ11R Harness
AMM	73-21-50-400-044	Installation of the HJ11 Harness
AMM	73-21-60-000-001	Removal of the Electronic Control Unit (ECU)(4000KS)
AMM	73-21-60-400-001	Installation of the Electronic Control Unit
		(ECU)(4000KS)
AMM	73-29-00-710-040	Operational Test of the FADEC on the ground (with
		Engine Motoring)
ASM	73-25/18	

3. Fault Confirmation

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R **ON A/C 201-225, 227-227, 229-239, 241-253, 276-282, 284-299, 426-499,
R 503-549, 551-599, 701-749,
Post SB 72-1024 For A/C 451-475,
```

A. Test

(1) Do the operational test of the FADEC 1A on the ground (with engine motoring) (Ref. AMM TASK 73-29-00-710-040).

R EFF: 201-225, 227-227, 229-239, 241-253, 276-282, 284-299, 426-499, 503-549, 551-599, 701-749, SROS

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TROUBLE SHOOTING MANUAL

R **ON A/C 201-225, 227-227, 229-239, 241-253, 276-282, 284-299, 426-499, R 503-549, 551-599, 701-749,

- 4. Fault Isolation
- R **ON A/C 201-225, 227-227, 229-239, 241-253, 276-282, 284-299, 426-499,
 R 503-549, 551-599, 701-749,
 Post SB 72-1024 For A/C 451-475,
 - A. If the test gives the maintenance message BSV, J11, ECU:
 - do a check for open or short to ground of the harness J11 between the ECU (4000KS) and the 6 o'clock junction box, between the 6 o'clock junction box and the BSV valve LVDT (Ref. ASM 73-25/18).
 - (1) If one of these wirings is not correct:
 - repair the defective above wiring.
 - (2) If these wirings are correct:
 - disconnect the J11 harness (channel A) from the ECU (4000KS) and do a resistance check of the J11 harness between:
 - pins 4 and 5 (72 to 89 0hms)
 - . pins 6 and 7 (42 to 52 0hms)
 - . pins 2 and 3 (42 to 52 0hms)
 - . pins 4 and 1 (more than 10 Megohms)
 - . pins 6 and 1 (more than 10 Megohms)
 - . pins 2 and 1 (more than 10 Megohms)
 - pin 4 and the ground (more than 10 Megohms)
 - pin 6 and the ground (more than 10 Megohms)
 - . pin 2 and the ground (more than 10 Megohms).
 - (a) If the resistance values are in the specified limits:
 - replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).
 - (b) If the resistance values are out of the specified limits:
 - disconnect the harness J11 from the cable CJ11R at the 6 o'clock junction box and do a resistance check of the CJ11R harness between:
 - . pins 20 and 21 (72 to 89 0hms)
 - . pins 7 and 19 (42 to 52 0hms)
 - . pins 2 and 9 (42 to 52 0hms)
 - . pins 20 and 8 (more than 10 Megohms)
 - . pins 7 and 8 (more than 10 Megohms)
 - pins 2 and 8 (more than 10 Megohms)
 - pin 20 and the ground (more than 10 Megohms)
 - pin 7 and the ground (more than 10 Megohms)
 - . pin 2 and the ground (more than 10 Megohms).
 - 1 If the resistance values are in the specified limits:
 - replace the J11 harness (Ref. AMM TASK 73-21-50-000-044) and (Ref. AMM TASK 73-21-50-400-044).

EFF: 201-225, 227-227, 229-239, 241-253, 276-282, 284-299, 426-499, 503-549, 551-599, 701-749, SROS

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- 2 If the resistance values are out of the specified limits:

 disconnect the harness CJ11R from the BSV valve and do a
 resistance check at the BSV valve between:
 - . pins 4 and 2 (72 to 89 0hms)
 - . pins 6 and 7 (42 to 52 0hms)
 - . pins 8 and 9 (42 to 52 0hms)
 - . pins 2 and 1 (more than 10 Megohms)
 - pins 6 and 1 (more than 10 Megohms)
 - pins 8 and 1 (more than 10 Megohms)
 - pins 2 and the ground (more than 10 Megohms)
 - pins 6 and the ground (more than 10 Megohms)
 - . pins 8 and the ground (more than 10 Megohms).
 - <u>a</u> If the resistance values are in the specified limits:
 replace the CJ11R harness (Ref. AMM TASK 73-21-50-000-
 - 026) and (Ref. AMM TASK 73-21-50-400-026).
 - <u>b</u> If the resistance values are out of the specified limits: - replace the Burner Selection Valve (BSV) (Ref. AMM TASK 73-11-70-000-002) and (Ref. AMM TASK 73-11-70-400-002).
- B. Do the test given in Para. 3.A.

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TROUBLE SHOOTING MANUAL

R **ON A/C 201-225, 227-227, 229-239, 241-253, 276-282, 284-299, 426-499, R 503-549, 551-599, 701-749,

TASK 73-10-00-810-824

Loss of the Feedback Signal from the Burner Selection Valve Through Channel A on Engine 2

- 1. Possible Causes
 - ECU (4000KS)
 - J11 harness
 - CJ11R harness
 - Burner Selection Valve (BSV)
- 2. Job Set-up Information
 - A. Referenced Information

REFERENCE		DESIGNATION
AMM	73-11-70-000-002	Removal of the Burner Selection Valve (BSV)
AMM	73-11-70-400-002	Installation of the Burner Selection Valve (BSV)
AMM	73-21-50-000-026	Removal of the CJ11R Harness
AMM	73-21-50-000-044	Removal of the HJ11 Harness
AMM	73-21-50-400-026	Installation of the CJ11R Harness
AMM	73-21-50-400-044	Installation of the HJ11 Harness
AMM	73-21-60-000-001	Removal of the Electronic Control Unit (ECU)(4000KS)
AMM	73-21-60-400-001	Installation of the Electronic Control Unit
		(ECU)(4000KS)
AMM	73-29-00-710-040	Operational Test of the FADEC on the ground (with
		Engine Motoring)
ASM	73-25/18	

3. Fault Confirmation

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R **ON A/C 201-225, 227-227, 229-239, 241-253, 276-282, 284-299, 426-499,
R 503-549, 551-599, 701-749,
Post SB 72-1024 For A/C 451-475,
```

A. Test

(1) Do the operational test of the FADEC 2A on the ground (with engine motoring) (Ref. AMM TASK 73-29-00-710-040).

R EFF: 201-225, 227-227, 229-239, 241-253, 276-282, 284-299, 426-499, 503-549, 551-599, 701-749, SROS

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R **ON A/C 201-225, 227-227, 229-239, 241-253, 276-282, 284-299, 426-499, R 503-549, 551-599, 701-749,

4. Fault Isolation

- R **ON A/C 201-225, 227-227, 229-239, 241-253, 276-282, 284-299, 426-499, R 503-549, 551-599, 701-749, Post SB 72-1024 For A/C 451-475,
 - A. If the test gives the maintenance message BSV, J11, ECU:
 - do a check for open or short to ground of the harness J11 between the ECU (4000KS) and the 6 o'clock junction box, between the 6 o'clock junction box and the BSV valve LVDT (Ref. ASM 73-25/18).
 - (1) If one of these wirings is not correct:
 - repair the defective above wiring.
 - (2) If these wirings are correct:
 - disconnect the J11 harness (channel A) from the ECU (4000KS) and do a resistance check of the J11 harness between:
 - pins 4 and 5 (72 to 89 0hms)
 - . pins 6 and 7 (42 to 52 0hms)
 - . pins 2 and 3 (42 to 52 0hms)
 - . pins 4 and 1 (more than 10 Megohms)
 - . pins 6 and 1 (more than 10 Megohms)
 - pins 2 and 1 (more than 10 Megohms)
 - pin 4 and the ground (more than 10 Megohms)
 - pin 6 and the ground (more than 10 Megohms)
 - . pin 2 and the ground (more than 10 Megohms).
 - (a) If the resistance values are in the specified limits:
 - replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).
 - (b) If the resistance values are out of the specified limits:
 - disconnect the harness J11 from the cable CJ11R at the 6 o'clock junction box and do a resistance check of the CJ11R harness between:
 - . pins 20 and 21 (72 to 89 0hms)
 - . pins 7 and 19 (42 to 52 0hms)
 - . pins 2 and 9 (42 to 52 0hms)
 - . pins 20 and 8 (more than 10 Megohms)
 - . pins 7 and 8 (more than 10 Megohms)
 - . pins 2 and 8 (more than 10 Megohms)
 - pin 20 and the ground (more than 10 Megohms)
 - pin 7 and the ground (more than 10 Megohms)
 - . pin 2 and the ground (more than 10 Megohms).
 - 1 If the resistance values are in the specified limits:
 - replace the J11 harness (Ref. AMM TASK 73-21-50-000-044) and (Ref. AMM TASK 73-21-50-400-044).

EFF: 201-225, 227-227, 229-239, 241-253, 276-282, 284-299, 426-499, 503-549, 551-599, 701-749, SROS

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- 2 If the resistance values are out of the specified limits:

 disconnect the harness CJ11R from the BSV valve and do a
 resistance check at the BSV valve between:
 - . pins 4 and 2 (72 to 89 0hms)
 - . pins 6 and 7 (42 to 52 0hms)
 - . pins 8 and 9 (42 to 52 0hms)
 - . pins 2 and 1 (more than 10 Megohms)
 - pins 6 and 1 (more than 10 Megohms)
 - pins 8 and 1 (more than 10 Megohms)
 - pins 2 and the ground (more than 10 Megohms)
 - pins 6 and the ground (more than 10 Megohms)
 - . pins 8 and the ground (more than 10 Megohms).
 - a If the resistance values are in the specified limits: - replace the CJ11R harness (Ref. AMM TASK 73-21-50-000-
 - 026) and (Ref. AMM TASK 73-21-50-400-026).
 - <u>b</u> If the resistance values are out of the specified limits:
 replace the Burner Selection Valve (BSV) (Ref. AMM TASK

73-11-70-000-002) and (Ref. AMM TASK 73-11-70-400-002).

B. Do the test given in Para. 3.A.

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R **ON A/C 201-225, 227-227, 229-239, 241-253, 276-282, 284-299, 426-499, R 503-549, 551-599, 701-749,

TASK 73-10-00-810-825

Loss of the Feedback Signal from the Burner Selection Valve Through Channel B on Engine 1

- 1. Possible Causes
 - ECU (4000KS)
 - J12 harness
 - CJ12R harness
 - Burner Selection Valve (BSV)
- 2. Job Set-up Information
 - A. Referenced Information

REFERENCE		DESIGNATION
AMM	73-11-70-000-002	Removal of the Burner Selection Valve (BSV)
AMM	73-11-70-400-002	Installation of the Burner Selection Valve (BSV)
AMM	73-21-50-000-028	Removal of the CJ12R Harness
AMM	73-21-50-000-045	Removal of the HJ12 Harness
AMM	73-21-50-400-028	Installation of the CJ12R Harness
AMM	73-21-50-400-045	Installation of the HJ12 Harness
AMM	73-21-60-000-001	Removal of the Electronic Control Unit (ECU)(4000KS)
AMM	73-21-60-400-001	Installation of the Electronic Control Unit
		(ECU)(4000KS)
AMM	73-29-00-710-040	Operational Test of the FADEC on the ground (with
		Engine Motoring)
ASM	73-25/18	

3. Fault Confirmation

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R **ON A/C 201-225, 227-227, 229-239, 241-253, 276-282, 284-299, 426-499,
R 503-549, 551-599, 701-749,
Post SB 72-1024 For A/C 451-475,
```

A. Test

(1) Do the operational test of the FADEC 1B on the ground (with engine motoring) (Ref. AMM TASK 73-29-00-710-040).

R | EFF : 201-225, 227-227, 229-239, 241-253, 276-282, 284-299, 426-499, 503-549, 551-599, 701-749, | SROS

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R **ON A/C 201-225, 227-227, 229-239, 241-253, 276-282, 284-299, 426-499, R 503-549, 551-599, 701-749,

4. Fault Isolation

- R **ON A/C 201-225, 227-227, 229-239, 241-253, 276-282, 284-299, 426-499, R 503-549, 551-599, 701-749, Post SB 72-1024 For A/C 451-475,
 - A. If the test gives the maintenance message BSV, J12, ECU:
 - do a check for open or short to ground of the harness J12 between the ECU (4000KS) and the 6 o'clock junction box, between the 6 o'clock junction box and the BSV valve LVDT (Ref. ASM 73-25/18).
 - (1) If one of these wirings is not correct:
 - repair the defective above wiring.
 - (2) If these wirings are correct:
 - disconnect the J12 harness (channel B) from the ECU (4000KS) and do a resistance check of the J12 harness between:
 - . pins 34 and 35 (72 to 89 0hms)
 - . pins 18 and 36 (42 to 52 0hms)
 - . pins 16 and 33 (42 to 52 0hms)
 - . pins 34 and 17 (more than 10 Megohms)
 - . pins 18 and 17 (more than 10 Megohms)
 - . pins 16 and 17 (more than 10 Megohms)
 - pin 34 and the ground (more than 10 Megohms)
 - pin 18 and the ground (more than 10 Megohms)
 - . pin 16 and the ground (more than 10 Megohms).
 - (a) If the resistance values are in the specified limits:
 - replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).
 - (b) If the resistance values are out of the specified limits:
 - disconnect the harness J12 from the cable CJ12R at the 6 o'clock junction box and do a resistance check of the CJ12R harness between:
 - . pins 17 and 6 (72 to 89 0hms)
 - pins 19 and 18 (42 to 52 0hms)
 - . pins 20 and 8 (42 to 52 0hms)
 - pins 17 and 7 (more than 10 Megohms)
 - . pins 19 and 7 (more than 10 Megohms)
 - . pins 20 and 7 (more than 10 Megohms)
 - pin 17 and the ground (more than 10 Megohms)
 - pin 19 and the ground (more than 10 Megohms)
 - . pin 20 and the ground (more than 10 Megohms).
 - 1 If the resistance values are in the specified limits:
 - replace the J12 harness (Ref. AMM TASK 73-21-50-000-045) and (Ref. AMM TASK 73-21-50-400-045).

EFF: 201-225, 227-227, 229-239, 241-253, 276-282, 284-299, 426-499, 503-549, 551-599, 701-749, SROS

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- If the resistance values are out of the specified limits:
 disconnect the harness CJ12R from the BSV valve and do a resistance check at the BSV valve between:
 - . pins 4 and 2 (72 to 89 0hms)
 - . pins 6 and 7 (42 to 52 0hms)
 - . pins 8 and 9 (42 to 52 0hms)
 - . pins 2 and 1 (more than 10 Megohms)
 - pins 6 and 1 (more than 10 Megohms)
 - pins 8 and 1 (more than 10 Megohms)
 - . pins 2 and the ground (more than 10 Megohms)
 - pins 6 and the ground (more than 10 Megohms)
 - . pins 8 and the ground (more than 10 Megohms).
 - <u>a</u> If the resistance values are in the specified limits:
 - replace the CJ12R harness (Ref. AMM TASK 73-21-50-000-028) and (Ref. AMM TASK 73-21-50-400-028).
 - <u>b</u> If the resistance values are out of the specified limits:
 replace the Burner Selection Valve (BSV) (Ref. AMM TASK

73-11-70-000-002) and (Ref. AMM TASK 73-11-70-400-002).

B. Do the test given in Para. 3.A.

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R **ON A/C 201-225, 227-227, 229-239, 241-253, 276-282, 284-299, 426-499, R 503-549, 551-599, 701-749,

TASK 73-10-00-810-826

Loss of the Feedback Signal from the Burner Selection Valve Through Channel B on Engine 2

- 1. Possible Causes
 - ECU (4000KS)
 - J12 harness
 - CJ12R harness
 - Burner Selection Valve (BSV)
- 2. Job Set-up Information
 - A. Referenced Information

REFERENCE		DESIGNATION
AMM	73-11-70-000-002	Removal of the Burner Selection Valve (BSV)
AMM	73-11-70-400-002	Installation of the Burner Selection Valve (BSV)
AMM	73-21-50-000-028	Removal of the CJ12R Harness
AMM	73-21-50-000-045	Removal of the HJ12 Harness
AMM	73-21-50-400-028	Installation of the CJ12R Harness
AMM	73-21-50-400-045	Installation of the HJ12 Harness
AMM	73-21-60-000-001	Removal of the Electronic Control Unit (ECU)(4000KS)
AMM	73-21-60-400-001	<pre>Installation of the Electronic Control Unit (ECU)(4000KS)</pre>
AMM	73-29-00-710-040	Operational Test of the FADEC on the ground (with Engine Motoring)
ASM	73-25/18	-

3. Fault Confirmation

R **ON A/C 201-225, 227-227, 229-239, 241-253, 276-282, 284-299, 426-499,
R 503-549, 551-599, 701-749,
Post SB 72-1024 For A/C 451-475,

A. Test

(1) Do the operational test of the FADEC 2B on the ground (with engine motoring) (Ref. AMM TASK 73-29-00-710-040).

R EFF: 201-225, 227-227, 229-239, 241-253, 276-282, 284-299, 426-499, 503-549, 551-599, 701-749, SROS

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R **ON A/C 201-225, 227-227, 229-239, 241-253, 276-282, 284-299, 426-499, 503-549, 551-599, 701-749,

4. Fault Isolation

- **ON A/C 201-225, 227-227, 229-239, 241-253, 276-282, 284-299, 426-499, 503-549, 551-599, 701-749, Post SB 72-1024 For A/C 451-475,
 - A. If the test gives the maintenance message BSV, J12, ECU:
 - do a check for open or short to ground of the harness J12 between the ECU (4000KS) and the 6 o'clock junction box, between the 6 o'clock junction box and the BSV valve LVDT (Ref. ASM 73-25/18).
 - (1) If one of these wirings is not correct:
 - repair the defective above wiring.
 - (2) If these wirings are correct:
 - disconnect the J12 harness (channel B) from the ECU (4000KS) and do a resistance check of the J12 harness between:
 - pins 34 and 35 (72 to 89 0hms)
 - . pins 18 and 36 (42 to 52 0hms)
 - . pins 16 and 33 (42 to 52 0hms)
 - pins 34 and 17 (more than 10 Megohms)
 - . pins 18 and 17 (more than 10 Megohms)
 - pins 16 and 17 (more than 10 Megohms)
 - pin 34 and the ground (more than 10 Megohms)
 - pin 18 and the ground (more than 10 Megohms)
 - . pin 16 and the ground (more than 10 Megohms).
 - (a) If the resistance values are in the specified limits:
 - replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).
 - (b) If the resistance values are out of the specified limits:
 - disconnect the harness J12 from the cable CJ12R at the 6 o'clock junction box and do a resistance check of the CJ12R harness between:
 - pins 17 and 6 (72 to 89 0hms)
 - . pins 19 and 18 (42 to 52 0hms)
 - . pins 20 and 8 (42 to 52 0hms)
 - . pins 17 and 7 (more than 10 Megohms)
 - . pins 19 and 7 (more than 10 Megohms)
 - . pins 20 and 7 (more than 10 Megohms)
 - pin 17 and the ground (more than 10 Megohms) pin 19 and the ground (more than 10 Megohms)

 - . pin 20 and the ground (more than 10 Megohms).
 - If the resistance values are in the specified limits:
 - replace the J12 harness (Ref. AMM TASK 73-21-50-000-045) and (Ref. AMM TASK 73-21-50-400-045).

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- If the resistance values are out of the specified limits:
 disconnect the harness CJ12R from the BSV valve and do a resistance check at the BSV valve between:
 - . pins 4 and 2 (72 to 89 0hms)
 - . pins 6 and 7 (42 to 52 0hms)
 - . pins 8 and 9 (42 to 52 0hms)
 - pins 2 and 1 (more than 10 Megohms)
 - pins 6 and 1 (more than 10 Megohms)
 - pins 8 and 1 (more than 10 Megohms)
 - . pins 2 and the ground (more than 10 Megohms)
 - pins 6 and the ground (more than 10 Megohms)
 - . pins 8 and the ground (more than 10 Megohms).
 - <u>a</u> If the resistance values are in the specified limits: - replace the CJ12R harness (Ref. AMM TASK 73-21-50-000-
 - 028) and (Ref. AMM TASK 73-21-50-400-028).
 - <u>b</u> If the resistance values are out of the specified limits: - replace the Burner Selection Valve (BSV) (Ref. AMM TASK 73-11-70-000-002) and (Ref. AMM TASK 73-11-70-400-002).
- B. Do the test given in Para. 3.A.

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TROUBLE SHOOTING MANUAL

R **ON A/C 201-225, 227-227, 229-239, 241-253, 276-282, 284-299, 426-499, R 503-549, 551-599, 701-749,

TASK 73-10-00-810-827

Failure of the Burner Selection Valve on Engine 1

1. Possible Causes

- Burner Selection Valve (BSV)
- J7 harness
- J11 harness

REFERENCE

- CJ11R harness
- Hydromechanical Unit (HMU)

2. Job Set-up Information

A. Referenced Information

AMM 73-11	-70-000-002	Removal of the Burner Selection Valve (BSV)
AMM 73-11	-70-400-002	Installation of the Burner Selection Valve (BSV)
AMM 73-21	-10-000-002	Removal of the Hydromechanical Unit (HMU)
AMM 73-21	-10-400-002	Installation of the Hydromechanical Unit (HMU)
AMM 73-21	-50-000-026	Removal of the CJ11R Harness
AMM 73-21	-50-000-040	Removal of the HJ7 Harness
AMM 73-21	-50-000-044	Removal of the HJ11 Harness
AMM 73-21	-50-400-026	Installation of the CJ11R Harness
AMM 73-21	-50-400-040	Installation of the HJ7 Harness
AMM 73-21	-50-400-044	Installation of the HJ11 Harness
AMM 73-29	-00-710-040	Operational Test of the FADEC on the ground (with
		Engine Motoring)
ASM 73-25	/ 18	-

DESIGNATION

3. Fault Confirmation

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R **ON A/C 201-225, 227-227, 229-239, 241-253, 276-282, 284-299, 426-499,
R 503-549, 551-599, 701-749,
Post SB 72-1024 For A/C 451-475,
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A. Test

(1) Do the operational test of the FADEC 1A on the ground (with engine motoring) (Ref. AMM TASK 73-29-00-710-040).

R EFF: 201-225, 227-227, 229-239, 241-253, 276-282, 284-299, 426-499, 503-549, 551-599, 701-749, SROS

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R **ON A/C 201-225, 227-227, 229-239, 241-253, 276-282, 284-299, 426-499, R 503-549, 551-599, 701-749,

4. Fault Isolation

- R **ON A/C 201-225, 227-227, 229-239, 241-253, 276-282, 284-299, 426-499,
 R 503-549, 551-599, 701-749,
 Post SB 72-1024 For A/C 451-475,
 - A. If the test gives the maintenance message BSV, HMU in channel 1A:
 do a check for line to line short circuit of the harness J7 between the ECU (4000KS) and the BSV torque motor (Ref. ASM 73-25/18).
 - (1) If the fault continues:
 - disconnect the cable J7 from the ECU and do a check of the ECU cable resistance between:
 - . pin 19 and 38 (12 to 38 0hms).
 - (a) If the resistance values are in the specified limits:
 - replace the Burner Selection Valve (BSV) (Ref. AMM TASK 73-11-70-000-002) and (Ref. AMM TASK 73-11-70-400-002).
 - (b) If the resistance values are out of the specified limits:
 - disconnect the cable J7 from the cable J11 and do a check of the J11 resistance between:
 - . pin 1 and pin 2 (12 to 38 0hms).
 - 1 If the resistance values are in the specified limits: - replace the J7 harness (Ref. AMM TASK 73-21-50-000-040) and (Ref. AMM TASK 73-21-50-400-040).
 - 2 If the resistance values are out of the specified limits:
 - disconnect the cable J11 from the CJ11R cable and do a check of the CJ11R harness between:
 - . pin 23 and pin 24 (12 to 38 Ohms).
 - <u>a</u> If the resistance values are in the specified limits: - replace the J11 harness (Ref. AMM TASK 73-21-50-000-044) and (Ref. AMM TASK 73-21-50-400-044).
 - <u>b</u> If the resistance values are out of the specified limits:
 disconnect the CJ11R harness from the BSV valve receptacle and do a resistance check between:
 pin 13 and pin 15 (12 to 38 0hms).
 - If the resistance values are in the specified limits:
 replace the CJ11R harness (Ref. AMM TASK 73-21-50-000-026) and (Ref. AMM TASK 73-21-50-400-026).
 - If the resistance values are out of the specified limits: replace the Burner Selection Valve (BSV) (Ref. AMM TASK 73-11-70-000-002) and (Ref. AMM TASK 73-11-70-400-002).

EFF: 201-225, 227-227, 229-239, 241-253, 276-282, 284-299, 426-499, 503-549, 551-599, 701-749, SROS

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- (2) If the resistance checks are correct or if the replacement of the BSV does not correct the fault:
 - replace the Hydromechanical Unit (HMU) (Ref. AMM TASK 73-21-10-000-002) and (Ref. AMM TASK 73-21-10-400-002).
- B. Do the test given in Para. 3.A.

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R **ON A/C 201-225, 227-227, 229-239, 241-253, 276-282, 284-299, 426-499, R 503-549, 551-599, 701-749,

TASK 73-10-00-810-828

Failure of the Burner Selection Valve on Engine 2

1. Possible Causes

- Burner Selection Valve (BSV)
- J7 harness
- J11 harness

REFERENCE

- CJ11R harness
- Hydromechanical Unit (HMU)

2. Job Set-up Information

A. Referenced Information

AMM	73-11-70-000-002	Removal of the Burner Selection Valve (BSV)
AMM	73-11-70-400-002	Installation of the Burner Selection Valve (BSV)
AMM	73-21-10-000-002	Removal of the Hydromechanical Unit (HMU)
AMM	73-21-10-400-002	Installation of the Hydromechanical Unit (HMU)
AMM	73-21-50-000-026	Removal of the CJ11R Harness
AMM	73-21-50-000-040	Removal of the HJ7 Harness
AMM	73-21-50-000-044	Removal of the HJ11 Harness
AMM	73-21-50-400-026	Installation of the CJ11R Harness
AMM	73-21-50-400-040	Installation of the HJ7 Harness
AMM	73-21-50-400-044	Installation of the HJ11 Harness
AMM	73-29-00-710-040	Operational Test of the FADEC on the ground (with
		Engine Motoring)
ASM	73-25/18	

DESIGNATION

3. Fault Confirmation

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R **ON A/C 201-225, 227-227, 229-239, 241-253, 276-282, 284-299, 426-499,
R 503-549, 551-599, 701-749,
Post SB 72-1024 For A/C 451-475,
```

A. Test

(1) Do the operational test of the FADEC 2A on the ground (with engine motoring) (Ref. AMM TASK 73-29-00-710-040).

R EFF: 201-225, 227-227, 229-239, 241-253, 276-282, 284-299, 426-499, 503-549, 551-599, 701-749, SROS

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R **ON A/C 201-225, 227-227, 229-239, 241-253, 276-282, 284-299, 426-499, R 503-549, 551-599, 701-749,

4. Fault Isolation

- R **ON A/C 201-225, 227-227, 229-239, 241-253, 276-282, 284-299, 426-499,
 R 503-549, 551-599, 701-749,
 Post SB 72-1024 For A/C 451-475,
 - A. If the test gives the maintenance message BSV, HMU in channel 2A:
 do a check for line to line short circuit of the harness J7 between the ECU (4000KS) and the BSV torque motor (Ref. ASM 73-25/18).
 - (1) If the fault continues:
 - disconnect the cable J7 from the ECU and do a check of the ECU cable resistance between:
 - . pin 19 and 38 (12 to 38 0hms).
 - (a) If the resistance values are in the specified limits:
 - replace the Burner Selection Valve (BSV) (Ref. AMM TASK 73-11-70-000-002) and (Ref. AMM TASK 73-11-70-400-002).
 - (b) If the resistance values are out of the specified limits:
 - disconnect the cable J7 from the cable J11 and do a check of the J11 resistance between:
 - . pin 1 and pin 2 (12 to 38 0hms).
 - If the resistance values are in the specified limits: - replace the J7 harness (Ref. AMM TASK 73-21-50-000-040) and (Ref. AMM TASK 73-21-50-400-040).
 - 2 If the resistance values are out of the specified limits:
 - disconnect the cable J11 from the CJ11R cable and do a check of the CJ11R harness between:
 - . pin 23 and pin 24 (12 to 38 Ohms).
 - <u>a</u> If the resistance values are in the specified limits: - replace the J11 harness (Ref. AMM TASK 73-21-50-000-044) and (Ref. AMM TASK 73-21-50-400-044).
 - <u>b</u> If the resistance values are out of the specified limits:
 disconnect the CJ11R harness from the BSV valve receptacle and do a resistance check between:
 - . pin 13 and pin 15 (12 to 38 0hms).
 - If the resistance values are in the specified limits: replace the CJ11R harness (Ref. AMM TASK 73-21-50-000-026) and (Ref. AMM TASK 73-21-50-400-026).
 - If the resistance values are out of the specified limits: replace the Burner Selection Valve (BSV) (Ref. AMM TASK 73-11-70-000-002) and (Ref. AMM TASK 73-11-70-400-002).

EFF: 201-225, 227-227, 229-239, 241-253, 276-282, 284-299, 426-499, 503-549, 551-599, 701-749, SROS

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- (2) If the resistance checks are correct or if the replacement of the BSV does not correct the fault:
 - replace the Hydromechanical Unit (HMU) (Ref. AMM TASK 73-21-10-000-002) and (Ref. AMM TASK 73-21-10-400-002).
- B. Do the test given in Para. 3.A.

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R **ON A/C 201-225, 227-227, 229-239, 241-253, 276-282, 284-299, 426-499, R 503-549, 551-599, 701-749,

TASK 73-10-00-810-829

Loss of the Feedback Signal from the Burner Selection Valve Through the two Channels on Engine 1

- 1. Possible Causes
- 2. Job Set-up Information
 - A. Referenced Information

REFERENCE	DESIGNATION
73-10-00-810-823	Loss of the Feedback Signal from the Burner Selection Valve Through Channel A on Engine 1
73-10-00-810-825	Loss of the Feedback Signal from the Burner Selection Valve Through Channel B on Engine 1
AMM 73-29-00-710-040	Operational Test of the FADEC on the ground (with Engine Motoring)

3. Fault Confirmation

R **ON A/C 201-225, 227-227, 229-239, 241-253, 276-282, 284-299, 426-499,
R 503-549, 551-599, 701-749,
Post SB 72-1024 For A/C 451-475,

A. Test

- (1) Do the operational test of the FADEC 1A and 1B on the ground (with engine motoring) (Ref. AMM TASK 73-29-00-710-040).
- R **ON A/C 201-225, 227-227, 229-239, 241-253, 276-282, 284-299, 426-499, R 503-549, 551-599, 701-749,
 - 4. Fault Isolation
- R **ON A/C 201-225, 227-227, 229-239, 241-253, 276-282, 284-299, 426-499,
 R 503-549, 551-599, 701-749,
 Post SB 72-1024 For A/C 451-475,
 - A. If the test gives the maintenance messages BSV, J11, ECU and BSV, J12, ECU:
 - do the following troubleshooting procedures (Ref. TASK 73-10-00-810-823) and (Ref. TASK 73-10-00-810-825).

EFF: 201-225, 227-227, 229-239, 241-253, 276-282, 284-299, 426-499, 503-549, 551-599, 701-749, SROS

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R **ON A/C 201-225, 227-227, 229-239, 241-253, 276-282, 284-299, 426-499, R 503-549, 551-599, 701-749,

TASK 73-10-00-810-830

Loss of the Feedback Signal from the Burner Selection Valve Through the two Channels on Engine 2

- 1. Possible Causes
- 2. Job Set-up Information
 - A. Referenced Information

REFERENCE	DESIGNATION
73-10-00-810-824	Loss of the Feedback Signal from the Burner Selection
73-10-00-810-826	Valve Through Channel A on Engine 2 Loss of the Feedback Signal from the Burner Selection
AMM 73-29-00-710-040	Valve Through Channel B on Engine 2 Operational Test of the FADEC on the ground (with Engine Motoring)

3. Fault Confirmation

R **ON A/C 201-225, 227-227, 229-239, 241-253, 276-282, 284-299, 426-499,
R 503-549, 551-599, 701-749,
Post SB 72-1024 For A/C 451-475,

A. Test

- (1) Do the operational test of the FADEC 2A and 2B on the ground (with engine motoring) (Ref. AMM TASK 73-29-00-710-040).
- R **ON A/C 201-225, 227-227, 229-239, 241-253, 276-282, 284-299, 426-499, R 503-549, 551-599, 701-749,
 - 4. Fault Isolation
- R **ON A/C 201-225, 227-227, 229-239, 241-253, 276-282, 284-299, 426-499, R 503-549, 551-599, 701-749, Post SB 72-1024 For A/C 451-475,
 - A. If the test gives the maintenance messages BSV, J11, ECU and BSV, J12, ECU:
 - do the following troubleshooting procedures (Ref. TASK 73-10-00-810-824) and (Ref. TASK 73-10-00-810-826).

R EFF: 201-225, 227-227, 229-239, 241-253, 276-282, 284-299, 426-499, 503-549, 551-599, 701-749, SROS

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**ON A/C ALL

TASK 73-10-00-810-831

Feedback Disagree between the Signals of the Two Channels of the BSV on Engine

1. Possible Causes

R

- burner staging valve (BSV)
- R - harness J11
- harness J12
- harness CJ11L
- harness CJ12L
- ECU (4000KS)
- burner selection valve (BSV)

2. Job Set-up Information

A. Referenced Information

REFERENCE		DESIGNATION
AMM	73-11-70-000-001	Removal of the Burner Staging Valve (BSV)
AMM	73-11-70-000-002	Removal of the Burner Staging Valve (BSV)
AMM	73-11-70-000-002	Removal of the Burner Selection Valve (BSV)
AMM	73-11-70-400-001	Installation of the Burner Staging Valve (BSV)
AMM	73-11-70-400-002	Installation of the Burner Staging Valve (BSV)
AMM	73-11-70-400-002	Installation of the Burner Selection Valve (BSV)
AMM	73-21-50-000-001	Removal of the CJ11L Harness
AMM	73-21-50-000-003	Removal of the CJ12L Harness
AMM	73-21-50-000-010	Removal of the J11 Harness
AMM	73-21-50-000-011	Removal of the J12 Harness
AMM	73-21-50-000-025	Removal of the CJ11L Harness
AMM	73-21-50-000-027	Removal of the CJ12L Harness
AMM	73-21-50-000-044	Removal of the HJ11 Harness
AMM	73-21-50-000-045	Removal of the HJ12 Harness
AMM	73-21-50-400-001	Installation of the CJ11L Harness
AMM	73-21-50-400-003	Installation of the CJ12L Harness
AMM	73-21-50-400-010	Installation of the J11 Harness
AMM	73-21-50-400-011	Installation of the J12 Harness
AMM	73-21-50-400-025	Installation of the CJ11L Harness
AMM	73-21-50-400-027	Installation of the CJ12L Harness
AMM	73-21-50-400-044	Installation of the HJ11 Harness
AMM	73-21-50-400-045	Installation of the HJ12 Harness
AMM	73-21-60-000-001	Removal of the Electronic Control Unit (ECU)(4000KS)
AMM	73-21-60-400-001	Installation of the Electronic Control Unit
		(ECU)(4000KS)

EFF:

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REFERENCE DESIGNATION

AMM 73-29-00-710-040

Operational Test of the FADEC on the ground (with Engine Motoring)

ASM 73-25/18

AWM 71-51-08

3. Fault Confirmation

- A. Do the operational test of the FADEC 1B on the ground (with engine motoring) (Ref. AMM TASK 73-29-00-710-040).
- 4. Fault Isolation

R

**ON A/C 240-240, 254-275, 283-283, 451-475,

- A. If the test gives the maintenance message BSV, J11/J12, ECU:
 - do a check for open or short to ground of the harness J11 and J12 between the ECU (4000KS) and the 6 o'clock junction box, between the 6 o'clock junction box and the BSV pins J11 and J12/9, 23, 24 and pins CL11L and CL12L/1, 2 (Ref. ASM 73-25/18) (Ref. AWM 71-51-08).
 - (1) If the wiring is not correct:
 - repair the above defective wiring.
 - (2) If the wiring is correct:
 - disconnect the harness CJ11L and CJ12L from the BSV.
 Install a jumper wire between the pins 1 and 2 on the harness CJ11L and CJ12L.
 - disconnect the connector J11 and J12 from the ECU (4000KS) and do a check of theresistance of the harness J11 and J12 between:
 - . pins 9 and 23 (< 5 0hms)
 - pins 9 and 24 (> 10 Megohms)
 - . pin 9 and the ground (> 10 Megohms).
 - (a) If the resistance values are in the specified limits:
 - replace the burner staging valve (BSV) (Ref. AMM TASK 73-11-70-000-002) and (Ref. AMM TASK 73-11-70-400-002).
 - (b) If the resistance values are out of the specified limits:
 - disconnect the harness J11 and J12 from the junction box at the 6 o'clock strut and do a check of the resistance of the harness CJ11L and CJ12L between:

for the harness CJ11L

- . pins 8 and 10 (< 5 0hms)
- . pins 8 and 9 (> 10 Megohms)
- pin 8 and the ground (> 10 Megohms)

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EFF: ALL

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for the harness CJ12L

- . pins 16 and 15 (< 5 0hms)</pre>
- . pins 16 and 5 (> 10 Megohms)
- . pin 16 and the ground (> 10 Megohms).
- 1 If the resistance values are in the specified limits:
 - replace the harness J11 (Ref. AMM TASK 73-21-50-000-044) and (Ref. AMM TASK 73-21-50-400-044).
 - replace the harness J12 (Ref. AMM TASK 73-21-50-000-045) and (Ref. AMM TASK 73-21-50-400-045).
- 2 If the resistance values are out of the specified limits:
 - replace the harness CJ11L (Ref. AMM TASK 73-21-50-000-025)
 and (Ref. AMM TASK 73-21-50-400-025).
 - replace the harness CJ12L (Ref. AMM TASK 73-21-50-000-027) and (Ref. AMM TASK 73-21-50-400-027).
- (3) If the fault continues:
 - replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).
- R **ON A/C 201-206, 227-227, 229-232, 276-281, 426-450, 479-499, 551-599,
- R Post SB 72-1014 For A/C 227-227,229-232,
 - Post SB 72-1015 For A/C 276-281,
 - Post SB 72-1017 For A/C 201-206,551-599,
 - Post SB 72-1026 For A/C 426-450,
 - Post SB 72-1027 For A/C 479-499,
 - A. If the test gives the maintenance message BSV, J11/J12, ECU:
 - do a check for open or short to ground of the harness J11 and J12 between the ECU (4000KS) and the 6 o'clock junction box, between the 6 o'clock junction box and the BSV pins J11 and J12/9, 23, 24 and pins CL11L and CL12L/1, 2 (Ref. ASM 73-25/18) (Ref. AWM 71-51-08).
 - (1) If the wiring is not correct:
 - repair the above defective wiring.
 - (2) If the wiring is correct:
 - disconnect the harness CJ11L and CJ12L from the BSV.

 Install a jumper wire between the pins 1 and 2 on the harness CJ11L and CJ12L.
 - disconnect the connector J11 and J12 from the ECU (4000KS) and do a check of the resistance of the harness J11 and J12 between:
 - . pins 9 and 23 (< 5 0hms)
 - . pins 9 and 24 (> 10 Megohms)
 - . pin 9 and the ground (> 10 Megohms).
 - (a) If the resistance values are in the specified limits:
 - replace the burner staging valve (BSV) (Ref. AMM TASK 73-11-70-000-001) and (Ref. AMM TASK 73-11-70-400-001).

EFF: 201-206, 227-227, 229-232, 240-240, 254-281, 283-283, 426-475, 479-499, 551-599,

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- (b) If the resistance values are out of the specified limits:
 - disconnect the harness J11 and J12 from the junction box at the 6 o'clock strut and do a check of the resistance of the harness CJ11L and CJ12L between:

for the harness CJ11L

- pins 8 and 10 (< 5 0hms)</pre>
- pins 8 and 9 (> 10 Megohms)
- pin 8 and the ground (> 10 Megohms)

for the harness CJ12L

- . pins 16 and 15 (< 5 0hms)</pre>
- pins 16 and 5 (> 10 Megohms)
- . pin 16 and the ground (> 10 Megohms).
- 1 If the resistance values are in the specified limits:
 - replace the harness J11 (Ref. AMM TASK 73-21-50-000-010) and (Ref. AMM TASK 73-21-50-400-010).
 - replace the harness J12 (Ref. AMM TASK 73-21-50-000-011) and (Ref. AMM TASK 73-21-50-400-011).
- 2 If the resistance values are out of the specified limits:
 - replace the harness CJ11L (Ref. AMM TASK 73-21-50-000-001) and (Ref. AMM TASK 73-21-50-400-001).
 - replace the harness CJ12L (Ref. AMM TASK 73-21-50-000-003) and (Ref. AMM TASK 73-21-50-400-003).
- (3) If the fault continues:
 - replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).
- R **ON A/C 201-225, 227-227, 229-239, 241-253, 276-282, 284-299, 426-499,
- R 503-549, 551-599, 701-749,

Post SB 72-1024 For A/C 451-475,

- A. If the test gives the maintenance message BSV, J11/J12, ECU:
 - do a check for open or short to ground of the harness J11 and J12 between the ECU (4000KS) and the 6 o'clock junction box, between the 6 o'clock junction box and the BSV pins J11 and J12/9, 23, 24 and pins CL11L and CL12L/1, 2 (Ref. ASM 73-25/18) (Ref. AWM 71-51-08).
 - (1) If the wiring is not correct:
 - repair the above defective wiring.
 - (2) If the wiring is correct:
 - disconnect the harness CJ11L and CJ12L from the BSV.
 Install a jumper wire between the pins 1 and 2 on the harness CJ11L and CJ12L.
 - disconnect the connector J11 and J12 from the ECU (4000KS) and do a check of theresistance of the harness J11 and J12 between:
 - . pins 9 and 23 (< 5 0hms)</pre>
 - pins 9 and 24 (> 10 Megohms)
 - . pin 9 and the ground (> 10 Megohms).

EFF: 201-225, 227-227, 229-239, 241-253, 276-282, 284-299, 426-499, 503-549, 551-599, 701-749, SROS

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R R R	(a) If the resistance values are in the specified limits:replace the burner selection valve (BSV) (Ref. AMM TASK 73-11-70-000-002).
R R R R R R	<pre>(b) If the resistance values are out of the specified limits: - disconnect the harness J11 and J12 from the junction box at the 6 o'clock strut and do a check of the resistance of the harness CJ11L and CJ12L between: for the harness CJ11L pins 8 and 10 (< 5 Ohms) pins 8 and 9 (> 10 Megohms) pin 8 and the ground (> 10 Megohms)</pre>
R	for the harness CJ12L
R	pins 16 and 15 (< 5 0hms)
R	pins 16 and 5 (> 10 Megohms)
R	pin 16 and the ground (> 10 Megohms).
R R R R	If the resistance values are in the specified limits: - replace the harness J11 (Ref. AMM TASK 73-21-50-000-044) and (Ref. AMM TASK 73-21-50-400-044). - replace the harness J12 (Ref. AMM TASK 73-21-50-000-045) and (Ref. AMM TASK 73-21-50-400-045).
R R R R	If the resistance values are out of the specified limits: replace the harness CJ11L (Ref. AMM TASK 73-21-50-000-025) and (Ref. AMM TASK 73-21-50-400-025). replace the harness CJ12L (Ref. AMM TASK 73-21-50-000-027) and (Ref. AMM TASK 73-21-50-400-027).
R R R	(3) If the fault continues: - replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).

**ON A/C ALL

B. Do the test given in Para. 3.A.

EFF: ALL SROS Printed in France 73-10-00

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TASK 73-10-00-810-832

Feedback Disagree between the Signals of the Two Channels of the BSV on Engine 2

1. Possible Causes

- burner staging valve (BSV)
- harness J11
- harness J12
- harness CJ11L
- harness CJ12L
- ECU (4000KS)

DEFEDENCE

- burner selection valve (BSV)

2. Job Set-up Information

A. Referenced Information

REFERENCE		DESIGNATION
AMM	73-11-70-000-001	Removal of the Burner Staging Valve (BSV)
AMM	73-11-70-000-002	Removal of the Burner Staging Valve (BSV)
AMM	73-11-70-000-002	Removal of the Burner Selection Valve (BSV)
AMM	73-11-70-400-001	Installation of the Burner Staging Valve (BSV)
AMM	73-11-70-400-002	Installation of the Burner Staging Valve (BSV)
AMM	73-11-70-400-002	Installation of the Burner Selection Valve (BSV)
AMM	73-21-50-000-001	Removal of the CJ11L Harness
AMM	73-21-50-000-003	Removal of the CJ12L Harness
AMM	73-21-50-000-010	Removal of the J11 Harness
AMM	73-21-50-000-011	Removal of the J12 Harness
AMM	73-21-50-000-025	Removal of the CJ11L Harness
AMM	73-21-50-000-027	Removal of the CJ12L Harness
AMM	73-21-50-000-044	Removal of the HJ11 Harness
AMM	73-21-50-000-045	Removal of the HJ12 Harness
AMM	73-21-50-400-001	Installation of the CJ11L Harness
AMM	73-21-50-400-003	Installation of the CJ12L Harness
AMM	73-21-50-400-010	Installation of the J11 Harness
AMM	73-21-50-400-011	Installation of the J12 Harness
AMM	73-21-50-400-025	Installation of the CJ11L Harness
AMM	73-21-50-400-027	Installation of the CJ12L Harness
AMM	73-21-50-400-044	Installation of the HJ11 Harness
AMM	73-21-50-400-045	Installation of the HJ12 Harness
AMM	73-21-60-000-001	Removal of the Electronic Control Unit (ECU)(4000KS)
AMM	73-21-60-400-001	Installation of the Electronic Control Unit
		(ECU)(4000KS)
AMM	73-29-00-710-040	Operational Test of the FADEC on the ground (with
		Engine Motoring)
ASM	73-25/18	
AWM	71-51-08	

DECTCHATION

EFF: ALL

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3. Fault Confirmation

A. Do the operational test of the FADEC 2B on the ground (with engine motoring) (Ref. AMM TASK 73-29-00-710-040).

4. Fault Isolation

**ON A/C 240-240, 254-275, 283-283, 451-475,

- A. If the test gives the maintenance message BSV, J11/J12, ECU:
 - do a check for open or short to ground of the harness J11 and J12 between the ECU (4000KS) and the 6 o'clock junction box, between the 6 o'clock junction box and the BSV pins J11 and J12/9, 23, 24 and pins CJ11L and CJ12L/1, 2 (Ref. ASM 73-25/18) (Ref. AWM 71-51-08).
 - (1) If the wiring is not correct:
 - repair the above defective wiring.
 - (2) If the wiring is correct:
 - disconnect the harness CJ11L and CJ12L from the BSV.
 Install a jumper wire between the pins 1 and 2 on the harness CJ11L and CJ12L.
 - disconnect the connector J11 and J12 from the ECU 2 (4000KS) and do a check of the harness J11 and J12 resistance between:
 - . pins 9 and 23 (< 5 0hms)
 - pins 9 and 24 (> 10 Megohms)
 - . pin 9 and the ground (> 10 Megohms).
 - (a) If the resistance values are in the specified limits:
 - replace the burner staging valve (BSV) (Ref. AMM TASK 73-11-70-000-002) and (Ref. AMM TASK 73-11-70-400-002).
 - (b) If the resistance values are out of the specified limits:
 - disconnect the harness J11 and J12 from the junction box at the 6 o'clock strut and do a check of the harness CJ11L and CJ12L resistance between:

for the harness CJ11L

- . pins 8 and 10 (< 5 0hms)</pre>
- pins 8 and 9 (> 10 Megohms)
- pin 8 and the ground (> 10 Megohms)

for the harness CJ12L

- . pins 16 and 15 (< 5 0hms)</pre>
- pins 16 and 5 (> 10 Megohms)
- pin 16 and the ground (> 10 Megohms).
- 1 If the resistance values are in the specified limits:
 - replace the harness J11 (Ref. AMM TASK 73-21-50-000-044) and (Ref. AMM TASK 73-21-50-400-044).
 - replace the harness J12 (Ref. AMM TASK 73-21-50-000-045) and (Ref. AMM TASK 73-21-50-400-045).

EFF: ALL

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- 2 If the resistance values are out of the specified limits:
 - replace the harness CJ11L (Ref. AMM TASK 73-21-50-000-025)
 and (Ref. AMM TASK 73-21-50-400-025).
 - replace the harness CJ12L (Ref. AMM TASK 73-21-50-000-027)
 and (Ref. AMM TASK 73-21-50-400-027).
- (3) If the fault continues:
 - replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).
- R **ON A/C 201-206, 227-227, 229-232, 276-281, 426-450, 479-499, 551-599,
- R Post SB 72-1014 For A/C 227-227,229-232,
 - Post SB 72-1015 For A/C 276-281,
 - Post SB 72-1017 For A/C 201-206,551-599,
 - Post SB 72-1026 For A/C 426-450,
 - Post SB 72-1027 For A/C 479-499,
 - A. If the test gives the maintenance message BSV, J11/J12, ECU:
 - do a check for open or short to ground of the harness J11 and J12 between the ECU (4000KS) and the 6 o'clock junction box, between the 6 o'clock junction box and the BSV pins J11 and J12/9, 23, 24 and pins CJ11L and CJ12L/1, 2 (Ref. ASM 73-25/18) (Ref. AWM 71-51-08).
 - (1) If the wiring is not correct:
 - repair the above defective wiring.
 - (2) If the wiring is correct:
 - disconnect the harness CJ11L and CJ12L from the BSV. Install a jumper wire between the pins 1 and 2 on the harness CJ11L and CJ12L.
 - disconnect the connector J11 and J12 from the ECU 2 (4000KS) and do a check of the harness J11 and J12 resistance between:
 - . pins 9 and 23 (< 5 0hms)
 - . pins 9 and 24 (> 10 Megohms)
 - pin 9 and the ground (> 10 Megohms).
 - (a) If the resistance values are in the specified limits:
 - replace the burner staging valve (BSV) (Ref. AMM TASK 73-11-70-000-001) and (Ref. AMM TASK 73-11-70-400-001).
 - (b) If the resistance values are out of the specified limits:
 - disconnect the harness J11 and J12 from the junction box at the 6 o'clock strut and do a check of the harness CJ11L and CJ12L resistance between:

for the harness CJ11L

- pins 8 and 10 (< 5 0hms)</pre>
- pins 8 and 9 (> 10 Megohms)
- pin 8 and the ground (> 10 Megohms)

for the harness CJ12L

- . pins 16 and 15 (< 5 0hms)</pre>
- . pins 16 and 5 (> 10 Megohms)

EFF: 201-206, 227-227, 229-232, 240-240, 254-281, 283-283, 426-475, 479-499, 551-599,

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- . pin 16 and the ground (> 10 Megohms).
- 1 If the resistance values are in the specified limits:
 - replace the harness J11 (Ref. AMM TASK 73-21-50-000-010) and (Ref. AMM TASK 73-21-50-400-010) or
 - replace the harness J12 (Ref. AMM TASK 73-21-50-000-011) and (Ref. AMM TASK 73-21-50-400-011).
- 2 If the resistance values are out of the specified limits:
 - replace the harness CJ11L (Ref. AMM TASK 73-21-50-000-001)
 and (Ref. AMM TASK 73-21-50-400-001)
 - replace the harness CJ12L (Ref. AMM TASK 73-21-50-000-003)
 and (Ref. AMM TASK 73-21-50-400-003).
- (3) If the fault continues:
 - replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).
- R **ON A/C 201-225, 227-227, 229-239, 241-253, 276-282, 284-299, 426-499,
- R 503-549, 551-599, 701-749,

Post SB 72-1024 For A/C 451-475,

- A. If the test gives the maintenance message BSV, J11/J12, ECU:
 - do a check for open or short to ground of the harness J11 and J12 between the ECU (4000KS) and the 6 o'clock junction box, between the 6 o'clock junction box and the BSV pins J11 and J12/9, 23, 24 and pins CJ11L and CJ12L/1, 2 (Ref. ASM 73-25/18) (Ref. AWM 71-51-08).
 - (1) If the wiring is not correct:
 - repair the above defective wiring.
 - (2) If the wiring is correct:
 - disconnect the harness CJ11L and CJ12L from the BSV.

 Install a jumper wire between the pins 1 and 2 on the harness CJ11L and CJ12L.
 - disconnect the connector J11 and J12 from the ECU 2 (4000KS) and do a check of the harness J11 and J12 resistance between:
 - pins 9 and 23 (< 5 0hms)</pre>
 - pins 9 and 24 (> 10 Megohms)
 - . pin 9 and the ground (> 10 Megohms).
 - (a) If the resistance values are in the specified limits:
 - replace the burner selection valve (BSV) (Ref. AMM TASK 73-11-70-000-002) and (Ref. AMM TASK 73-11-70-400-002).
 - (b) If the resistance values are out of the specified limits:
 - disconnect the harness J11 and J12 from the junction box at the 6 o'clock strut and do a check of the harness CJ11L and CJ12L resistance between:

for the harness CJ11L

- . pins 8 and 10 (< 5 0hms)</pre>
- pins 8 and 9 (> 10 Megohms)

EFF: 201-225, 227-227, 229-239, 241-253, 276-282, 284-299, 426-499, 503-549, 551-599, 701-749, SROS

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- pin 8 and the ground (> 10 Megohms)
 for the harness CJ12L
- . pins 16 and 15 (< 5 0hms)</pre>
- pins 16 and 5 (> 10 Megohms)
- . pin 16 and the ground (> 10 Megohms).
- 1 If the resistance values are in the specified limits:
 - replace the harness J11 (Ref. AMM TASK 73-21-50-000-044) and (Ref. AMM TASK 73-21-50-400-044).
 - replace the harness J12 (Ref. AMM TASK 73-21-50-000-045) and (Ref. AMM TASK 73-21-50-400-045).
- 2 If the resistance values are out of the specified limits:
 - replace the harness CJ11L (Ref. AMM TASK 73-21-50-000-025)
 and (Ref. AMM TASK 73-21-50-400-025).
 - replace the harness CJ12L (Ref. AMM TASK 73-21-50-000-027)
 and (Ref. AMM TASK 73-21-50-400-027).
- (3) If the fault continues:
 - replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).

**ON A/C ALL

B. Do the test given in Para. 3.A.

EFF: ALL

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TROUBLE SHOOTING MANUAL

TASK 73-10-00-810-833

Failure of the BSV Valve on Engine 1

1. Possible Causes

- burner staging valve (BSV)
- harness J8

R R

- Hydromechanical Unit (HMU)
- ECU (4000KS)
- burner selection valve (BSV)

2. Job Set-up Information

A. Referenced Information

	REFE	RENCE	DESIGNATION
?	AMM	72-41-00-290-001	Borescope Inspection of the Combustion Chamber Liners, Dome Areas, HPT Nozzle Vanes and Shrouds (as far as visible through two opposite ports)
•	AMM	72-51-00-290-002	Borescope Inspection of the High-Pressure Turbine-Nozzle Assembly
	AMM	72-51-00-290-004	Borescope Inspection of High-Pressure Turbine Nozzle Assembly
	AMM	73-11-70-000-001	Removal of the Burner Staging Valve (BSV)
	AMM	73-11-70-000-002	Removal of the Burner Staging Valve (BSV)
	AMM	73-11-70-000-002	Removal of the Burner Selection Valve (BSV)
	AMM	73-11-70-400-001	Installation of the Burner Staging Valve (BSV)
	AMM	73-11-70-400-002	Installation of the Burner Staging Valve (BSV)
	AMM	73-11-70-400-002	Installation of the Burner Selection Valve (BSV)
	AMM	73-21-10-000-001	Removal of the Hydromechanical Unit (HMU)
	AMM	73-21-10-000-002	Removal of the Hydromechanical Unit (HMU)
	AMM	73-21-10-400-001	Installation of the Hydromechanical Unit (HMU)
	AMM	73-21-10-400-002	Installation of the Hydromechanical Unit (HMU)
	AMM	73-21-50-000-007	Removal of J8 Harness
	AMM	73-21-50-000-041	Removal of the HJ8 Harness
	AMM	73-21-50-400-007	Installation of the J8 Harness
	AMM	73-21-50-400-041	Installation of the HJ8 Harness
	AMM	73-21-60-000-001	Removal of the Electronic Control Unit (ECU)(4000KS)
	AMM	73-21-60-400-001	<pre>Installation of the Electronic Control Unit (ECU)(4000KS)</pre>
	AMM	73-29-00-710-040	Operational Test of the FADEC on the ground (with Engine Motoring)
	ASM	73-25/18	

3. Fault Confirmation

A. Do the operational test of the FADEC 1B on the ground (with engine motoring) (Ref. AMM TASK 73-29-00-710-040).

EFF: ALL

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4. Fault Isolation

**ON A/C 240-240, 254-275, 283-283, 451-475,

- A. If the test gives the maintenance message BSV (VLV CLSD), HMU:
 - NOTE: If the ENG 1 CTL VALVE FAULT ECAM warning comes into view simultaneously with this fault message, you must do a borescope inspection of the combustion chambers (Ref. AMM TASK 72-41-00-290-001) and the high-pressure turbine-nozzle assembly (Ref. AMM TASK 72-51-00-290-004) before the next flight.
 - disconnect the connector J8 from the ECU (4000KS) and do a check of the ECU cable resistance between:
 - . pins 6 and 7 (26 to 36 ohms) (Ref. ASM 73-25/18).
 - (1) If the resistance values are in the specified limits:
 - replace the burner staging valve (BSV) (Ref. AMM TASK 73-11-70-000-002) and (Ref. AMM TASK 73-11-70-400-002).
 - (2) If the resistance values are out of the specified limits:
 - disconnect the harness J8 from the HMU and do a check of the HMU resistance between:
 - . pins 6 and 7 (26 to 36 ohms).
 - (a) If the resistance values are in the specified limits:
 - replace the defective harness J8 (Ref. AMM TASK 73-21-50-000-041) and (Ref. AMM TASK 73-21-50-400-041).
 - (b) If the resistance values are out of the specified limits:
 - replace the Hydromechanical Unit (HMU) (Ref. AMM TASK 73-21-10-000-002) and (Ref. AMM TASK 73-21-10-400-002).
 - (3) If the fault continues after the replacement of the BSV and the harness J8 and if the resistance checks are correct, the cause of the fault can be the hydraulic pressure control:
 - replace the Hydromechanical Unit (HMU) (Ref. AMM TASK 73-21-10-000-002) and (Ref. AMM TASK 73-21-10-400-002).
 - (4) If the fault continues:
 - replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).
- B. If the test gives the maintenance message BSV (VLV OPEN), HMU:
 - disconnect the connector J8 from the ECU (4000KS) and do a check of the ECU cable resistance between:
 - . pins 6 and 7 (26 to 36 ohms) (Ref. ASM 73-25/18).
 - (1) If the resistance values are in the specified limits:
 - replace the burner staging valve (BSV) (Ref. AMM TASK 73-11-70-000-002) and (Ref. AMM TASK 73-11-70-400-002).

EFF: ALL

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- (2) If the resistance values are out of the specified limits:
 - disconnect the harness J8 from the HMU and do a check of the HMU resistance between:
 - . pins 6 and 7 (26 to 36 ohms).
 - (a) If the resistance values are in the specified limits:
 - replace the defective harness J8 (Ref. AMM TASK 73-21-50-000-041) and (Ref. AMM TASK 73-21-50-400-041).
 - (b) If the resistance values are out of the specified limits:
 - replace the Hydromechanical Unit (HMU) (Ref. AMM TASK 73-21-10-000-002) and (Ref. AMM TASK 73-21-10-400-002).
- (3) If the fault continues after the replacement of the BSV and the harness J8 and if the resistance checks are correct, the cause of the fault can be the hydraulic pressure control:
 - replace the Hydromechanical Unit (HMU) (Ref. AMM TASK 73-21-10-000-002) and (Ref. AMM TASK 73-21-10-400-002).
- (4) If the fault continues:
 - replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).
- R **ON A/C 201-206, 227-227, 229-232, 276-281, 426-450, 479-499, 551-599,
- R Post SB 72-1014 For A/C 227-227,229-232,
 - Post SB 72-1015 For A/C 276-281,
 - Post SB 72-1017 For A/C 201-206,551-599,
 - Post SB 72-1026 For A/C 426-450,
 - Post SB 72-1027 For A/C 479-499,
 - A. If the test gives the maintenance message BSV (VLV CLSD), HMU:
 - NOTE: If the ENG 1 CTL VALVE FAULT ECAM warning comes into view simultaneously with this fault message, you must do a borescope inspection of the combustion chambers (Ref. AMM TASK 72-41-00-290-001) and the high-pressure turbine-nozzle assembly (Ref. AMM TASK 72-51-00-290-002) before the next flight.
 - disconnect the connector J8 from the ECU (4000KS) and do a check of the ECU cable resistance between:
 - . pins 6 and 7 (26 to 36 ohms) (Ref. ASM 73-25/18).
 - (1) If the resistance values are in the specified limits:
 - replace the burner staging valve (BSV) (Ref. AMM TASK 73-11-70-000-001) and (Ref. AMM TASK 73-11-70-400-001).
 - (2) If the resistance values are out of the specified limits:
 - disconnect the harness J8 from the HMU and do a check of the HMU resistance between:
 - . pins 6 and 7 (26 to 36 ohms).

EFF: 201-206, 227-227, 229-232, 240-240, 254-281, 283-283, 426-475, 479-499, 551-599,

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- (a) If the resistance values are in the specified limits:
 - replace the defective harness J8 (Ref. AMM TASK 73-21-50-000-007) and (Ref. AMM TASK 73-21-50-400-007).
- (b) If the resistance values are out of the specified limits:
 - replace the Hydromechanical Unit (HMU) (Ref. AMM TASK 73-21-10-000-001) and (Ref. AMM TASK 73-21-10-400-001).
- (3) If the fault continues after the replacement of the BSV and the harness J8 and if the resistance checks are correct, the cause of the fault can be the hydraulic pressure control:
 - replace the Hydromechanical Unit (HMU) (Ref. AMM TASK 73-21-10-000-001) and (Ref. AMM TASK 73-21-10-400-001).
- (4) If the fault continues:
 - replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).
- B. If the test gives the maintenance message BSV (VLV OPEN), HMU:
 - disconnect the connector J8 from the ECU (4000KS) and do a check of the ECU cable resistance between:
 - . pins 6 and 7 (26 to 36 ohms) (Ref. ASM 73-25/18).
 - (1) If the resistance values are in the specified limits:
 - replace the burner staging valve (BSV) (Ref. AMM TASK 73-11-70-000-001) and (Ref. AMM TASK 73-11-70-400-001).
 - (2) If the resistance values are out of the specified limits:
 - disconnect the harness J8 from the HMU and do a check of the HMU resistance between:
 - . pins 6 and 7 (26 to 36 ohms).
 - (a) If the resistance values are in the specified limits:
 - replace the defective harness J8 (Ref. AMM TASK 73-21-50-000-007) and (Ref. AMM TASK 73-21-50-400-007).
 - (b) If the resistance values are out of the specified limits:
 - replace the Hydromechanical Unit (HMU) (Ref. AMM TASK 73-21-10-000-001) and (Ref. AMM TASK 73-21-10-400-001).
 - (3) If the fault continues after the replacement of the BSV and the harness J8 and if the resistance checks are correct, the cause of the fault can be the hydraulic pressure control:
 - replace the Hydromechanical Unit (HMU) (Ref. AMM TASK 73-21-10-000-001) and (Ref. AMM TASK 73-21-10-400-001).
 - (4) If the fault continues:
 - replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).

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R **ON A/C 201-225, 227-227, 229-239, 241-253, 276-282, 284-299, 426-499,
R 503-549, 551-599, 701-749,
Post SB 72-1024 For A/C 451-475,

- A. If the test gives the maintenance message BSV (VLV CLSD), HMU:
 - NOTE: If the ENG 1 CTL VALVE FAULT ECAM warning comes into view simultaneously with this fault message, you must do a borescope inspection of the combustion chambers (Ref. AMM TASK 72-41-00-290-001) and the high-pressure turbine-nozzle assembly (Ref. AMM TASK 72-51-00-290-004) before the next flight.
 - disconnect the connector J8 from the ECU (4000KS) and do a check of the ECU cable resistance between:
 - . pins 6 and 7 (26 to 36 ohms) (Ref. ASM 73-25/18).
 - (1) If the resistance values are in the specified limits:
 - replace the burner selection valve (BSV) (Ref. AMM TASK 73-11-70-000-002) and (Ref. AMM TASK 73-11-70-400-002).
 - (2) If the resistance values are out of the specified limits:
 - disconnect the harness J8 from the HMU and do a check of the HMU resistance between:
 - pins 6 and 7 (26 to 36 ohms).
 - (a) If the resistance values are in the specified limits:
 - replace the defective harness J8 (Ref. AMM TASK 73-21-50-000-041) and (Ref. AMM TASK 73-21-50-400-041).
 - (b) If the resistance values are out of the specified limits:
 - replace the Hydromechanical Unit (HMU) (Ref. AMM TASK 73-21-10-000-002) and (Ref. AMM TASK 73-21-10-400-002).
 - (3) If the fault continues after the replacement of the BSV and the harness J8 and if the resistance checks are correct, the cause of the fault can be the hydraulic pressure control:
 - replace the Hydromechanical Unit (HMU) (Ref. AMM TASK 73-21-10-000-002) and (Ref. AMM TASK 73-21-10-400-002).
 - (4) If the fault continues:
 - replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).
- B. If the test gives the maintenance message BSV (VLV OPEN), HMU:
 - disconnect the connector J8 from the ECU (4000KS) and do a check of the ECU cable resistance between:
 - . pins 6 and 7 (26 to 36 ohms) (Ref. ASM 73-25/18).
 - (1) If the resistance values are in the specified limits:
 - replace the burner selection valve (BSV) (Ref. AMM TASK 73-11-70-000-002) and (Ref. AMM TASK 73-11-70-400-002).

EFF: 201-225, 227-227, 229-239, 241-253, 276-282, 284-299, 426-499, 503-549, 551-599, 701-749, SROS

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- (2) If the resistance values are out of the specified limits:
 - disconnect the harness J8 from the HMU and do a check of the HMU resistance between:
 - . pins 6 and 7 (26 to 36 ohms).
 - (a) If the resistance values are in the specified limits:
 - replace the defective harness J8 (Ref. AMM TASK 73-21-50-000-041) and (Ref. AMM TASK 73-21-50-400-041).
 - (b) If the resistance values are out of the specified limits:
 - replace the Hydromechanical Unit (HMU) (Ref. AMM TASK 73-21-10-000-002) and (Ref. AMM TASK 73-21-10-400-002).
- (3) If the fault continues after the replacement of the BSV and the harness J8 and if the resistance checks are correct, the cause of the fault can be the hydraulic pressure control:
 - replace the Hydromechanical Unit (HMU) (Ref. AMM TASK 73-21-10-000-002) and (Ref. AMM TASK 73-21-10-400-002).
- (4) If the fault continues:
 - replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).

**ON A/C ALL

C. Do the test given in Para. 3.A.

EFF: ALL

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TASK 73-10-00-810-834

Failure of the BSV Valve on Engine 2

1. Possible Causes

- burner staging valve (BSV)
- harness J8

R R

- Hydromechanical Unit (HMU)
- ECU (4000KS)
- burner selection valve (BSV)

2. Job Set-up Information

A. Referenced Information

REFE	RENCE	DESIGNATION
AMM	72-41-00-290-001	Borescope Inspection of the Combustion Chamber Liners, Dome Areas, HPT Nozzle Vanes and Shrouds (as far as visible through two opposite ports)
AMM	72-51-00-290-002	Borescope Inspection of the High-Pressure Turbine-Nozzle Assembly
AMM	72-51-00-290-004	Borescope Inspection of High-Pressure Turbine Nozzle Assembly
AMM	73-11-70-000-001	Removal of the Burner Staging Valve (BSV)
AMM	73-11-70-000-002	Removal of the Burner Staging Valve (BSV)
AMM	73-11-70-000-002	Removal of the Burner Selection Valve (BSV)
AMM	73-11-70-400-001	Installation of the Burner Staging Valve (BSV)
AMM	73-11-70-400-002	Installation of the Burner Staging Valve (BSV)
AMM	73-11-70-400-002	Installation of the Burner Selection Valve (BSV)
AMM	73-21-10-000-001	Removal of the Hydromechanical Unit (HMU)
AMM	73-21-10-000-002	Removal of the Hydromechanical Unit (HMU)
AMM	73-21-10-400-001	Installation of the Hydromechanical Unit (HMU)
AMM	73-21-10-400-002	Installation of the Hydromechanical Unit (HMU)
AMM	73-21-50-000-007	Removal of J8 Harness
AMM	73-21-50-000-041	Removal of the HJ8 Harness
AMM	73-21-50-400-007	Installation of the J8 Harness
AMM	73-21-50-400-041	Installation of the HJ8 Harness
AMM	73-21-60-000-001	Removal of the Electronic Control Unit (ECU)(4000KS)
AMM	73-21-60-400-001	Installation of the Electronic Control Unit (ECU)(4000KS)
AMM	73-29-00-710-040	Operational Test of the FADEC on the ground (with Engine Motoring)
ASM	73-25/18	•

3. Fault Confirmation

A. Do the operational test of the FADEC 2B on the ground (with engine motoring) (Ref. AMM TASK 73-29-00-710-040).

EFF: ALL SROS

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4. Fault Isolation

**ON A/C 240-240, 254-275, 283-283, 451-475,

- A. If the test gives the maintenance message BSV (VLV CLSD), HMU:
 - NOTE: If the ENG 2 CTL VALVE FAULT ECAM warning comes into view simultaneously with this fault message, you must do a borescope inspection of the combustion chambers (Ref. AMM TASK 72-41-00-290-001) and the high-pressure turbine-nozzle assembly (Ref. AMM TASK 72-51-00-290-004) before the next flight.
 - disconnect the connector J8 from the ECU (4000KS) and do a check of the ECU cable resistance between:
 - . pins 6 and 7 (26 to 36 ohms) (Ref. ASM 73-25/18).
 - (1) If the resistance values are in the specified limits:
 - replace the burner staging valve (BSV) (Ref. AMM TASK 73-11-70-000-002) and (Ref. AMM TASK 73-11-70-400-002).
 - (2) If the resistance values are out of the specified limits:
 - disconnect the harness J8 from the HMU and do a check of the HMU resistance between:
 - . pins 6 and 7 (26 to 36 ohms).
 - (a) If the resistance values are in the specified limits:
 - replace the harness J8 (Ref. AMM TASK 73-21-50-000-041) and (Ref. AMM TASK 73-21-50-400-041).
 - (b) If the resistance values are out of the specified limits:
 - replace the Hydromechanical Unit (HMU) (Ref. AMM TASK 73-21-10-000-002) and (Ref. AMM TASK 73-21-10-400-002).
 - (3) If the fault continues after the replacement of the BSV and the harness J8 and if the resistance checks are correct, the cause of the fault can be the hydraulic pressure control:
 - replace the Hydromechanical Unit (HMU) (Ref. AMM TASK 73-21-10-000-002) and (Ref. AMM TASK 73-21-10-400-002).
 - (4) If the fault continues:
 - replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).
- B. If the test gives the maintenance message BSV (VLV OPEN), HMU:
 - disconnect the connector J8 from the ECU (4000KS) and do a check of the ECU cable resistance between:
 - pins 6 and 7 (26 to 36 ohms) (Ref. ASM 73-25/18).
 - (1) If the resistance values are in the specified limits:
 - replace the burner staging valve (BSV) (Ref. AMM TASK 73-11-70-000-002) and (Ref. AMM TASK 73-11-70-400-002).

EFF: ALL

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- (2) If the resistance values are out of the specified limits:
 - disconnect the harness J8 from the HMU and do a check of the HMU resistance between:
 - . pins 6 and 7 (26 to 36 ohms).
 - (a) If the resistance values are in the specified limits:
 - replace the harness J8 (Ref. AMM TASK 73-21-50-000-041) and (Ref. AMM TASK 73-21-50-400-041).
 - (b) If the resistance values are out of the specified limits:
 - replace the Hydromechanical Unit (HMU) (Ref. AMM TASK 73-21-10-000-002) and (Ref. AMM TASK 73-21-10-400-002).
- (3) If the fault continues after the replacement of the BSV and the harness J8 and if the resistance checks are correct, the cause of the fault can be the hydraulic pressure control:
 - replace the Hydromechanical Unit (HMU) (Ref. AMM TASK 73-21-10-000-002) and (Ref. AMM TASK 73-21-10-400-002).
- (4) If the fault continues:
 - replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).
- R **ON A/C 201-206, 227-227, 229-232, 276-281, 426-450, 479-499, 551-599,
- R Post SB 72-1014 For A/C 227-227,229-232,
 - Post SB 72-1015 For A/C 276-281,
 - Post SB 72-1017 For A/C 201-206,551-599,
 - Post SB 72-1026 For A/C 426-450,
 - Post SB 72-1027 For A/C 479-499,
 - A. If the test gives the maintenance message BSV (VLV CLSD), HMU:
 - NOTE: If the ENG 2 CTL VALVE FAULT ECAM warning comes into view simultaneously with this fault message, you must do a borescope inspection of the combustion chambers (Ref. AMM TASK 72-41-00-290-001) and the high-pressure turbine-nozzle assembly (Ref. AMM TASK 72-51-00-290-002) before the next flight.
 - disconnect the connector J8 from the ECU (4000KS) and do a check of the ECU cable resistance between:
 - . pins 6 and 7 (26 to 36 ohms) (Ref. ASM 73-25/18).
 - (1) If the resistance values are in the specified limits:
 - replace the burner staging valve (BSV) (Ref. AMM TASK 73-11-70-000-001) and (Ref. AMM TASK 73-11-70-400-001).
 - (2) If the resistance values are out of the specified limits:
 - disconnect the harness J8 from the HMU and do a check of the HMU resistance between:
 - . pins 6 and 7 (26 to 36 ohms).

EFF: 201-206, 227-227, 229-232, 240-240, 254-281, 283-283, 426-475, 479-499, 551-599,

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- (a) If the resistance values are in the specified limits:
 - replace the harness J8 (Ref. AMM TASK 73-21-50-000-007) and (Ref. AMM TASK 73-21-50-400-007).
- (b) If the resistance values are out of the specified limits:
 - replace the Hydromechanical Unit (HMU) (Ref. AMM TASK 73-21-10-000-001) and (Ref. AMM TASK 73-21-10-400-001).
- (3) If the fault continues after the replacement of the BSV and the harness J8 and if the resistance checks are correct, the cause of the fault can be the hydraulic pressure control:
 - replace the Hydromechanical Unit (HMU) (Ref. AMM TASK 73-21-10-000-001) and (Ref. AMM TASK 73-21-10-400-001).
- (4) If the fault continues:
 - replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).
- B. If the test gives the maintenance message BSV (VLV OPEN), HMU:
 - disconnect the connector J8 from the ECU (4000KS) and do a check of the ECU cable resistance between:
 - . pins 6 and 7 (26 to 36 ohms) (Ref. ASM 73-25/18).
 - (1) If the resistance values are in the specified limits:
 - replace the burner staging valve (BSV) (Ref. AMM TASK 73-11-70-000-001) and (Ref. AMM TASK 73-11-70-400-001).
 - (2) If the resistance values are out of the specified limits:
 - disconnect the harness J8 from the HMU and do a check of the HMU resistance between:
 - . pins 6 and 7 (26 to 36 ohms).
 - (a) If the resistance values are in the specified limits:
 - replace the harness J8 (Ref. AMM TASK 73-21-50-000-007) and (Ref. AMM TASK 73-21-50-400-007).
 - (b) If the resistance values are out of the specified limits:
 - replace the Hydromechanical Unit (HMU) (Ref. AMM TASK 73-21-10-000-001) and (Ref. AMM TASK 73-21-10-400-001).
 - (3) If the fault continues after the replacement of the BSV and the harness J8 and if the resistance checks are correct, the cause of the fault can be the hydraulic pressure control:
 - replace the Hydromechanical Unit (HMU) (Ref. AMM TASK 73-21-10-000-001) and (Ref. AMM TASK 73-21-10-400-001).
 - (4) If the fault continues:
 - replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).

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R **ON A/C 201-225, 227-227, 229-239, 241-253, 276-282, 284-299, 426-499,
R 503-549, 551-599, 701-749,
Post SB 72-1024 For A/C 451-475,

- A. If the test gives the maintenance message BSV (VLV CLSD), HMU:
 - NOTE: If the ENG 2 CTL VALVE FAULT ECAM warning comes into view simultaneously with this fault message, you must do a borescope inspection of the combustion chambers (Ref. AMM TASK 72-41-00-290-001) and the high-pressure turbine-nozzle assembly (Ref. AMM TASK 72-51-00-290-004) before the next flight.
 - disconnect the connector J8 from the ECU (4000KS) and do a check of the ECU cable resistance between:
 - . pins 6 and 7 (26 to 36 ohms) (Ref. ASM 73-25/18).
 - (1) If the resistance values are in the specified limits:
 - replace the burner selection valve (BSV) (Ref. AMM TASK 73-11-70-000-002) and (Ref. AMM TASK 73-11-70-400-002).
 - (2) If the resistance values are out of the specified limits:
 - disconnect the harness J8 from the HMU and do a check of the HMU resistance between:
 - pins 6 and 7 (26 to 36 ohms).
 - (a) If the resistance values are in the specified limits:
 - replace the harness J8 (Ref. AMM TASK 73-21-50-000-041) and (Ref. AMM TASK 73-21-50-400-041).
 - (b) If the resistance values are out of the specified limits:
 - replace the Hydromechanical Unit (HMU) (Ref. AMM TASK 73-21-10-000-002) and (Ref. AMM TASK 73-21-10-400-002).
 - (3) If the fault continues after the replacement of the BSV and the harness J8 and if the resistance checks are correct, the cause of the fault can be the hydraulic pressure control:
 - replace the Hydromechanical Unit (HMU) (Ref. AMM TASK 73-21-10-000-002) and (Ref. AMM TASK 73-21-10-400-002).
 - (4) If the fault continues:
 - replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).
- B. If the test gives the maintenance message BSV (VLV OPEN), HMU:
 - disconnect the connector J8 from the ECU (4000KS) and do a check of the ECU cable resistance between:
 - . pins 6 and 7 (26 to 36 ohms) (Ref. ASM 73-25/18).
 - (1) If the resistance values are in the specified limits:
 - replace the burner selection valve (BSV) (Ref. AMM TASK 73-11-70-000-002) and (Ref. AMM TASK 73-11-70-400-002).

EFF: 201-225, 227-227, 229-239, 241-253, 276-282, 284-299, 426-499, 503-549, 551-599, 701-749, SROS

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- (2) If the resistance values are out of the specified limits:
 - disconnect the harness J8 from the HMU and do a check of the HMU resistance between:
 - . pins 6 and 7 (26 to 36 ohms).
 - (a) If the resistance values are in the specified limits:
 - replace the harness J8 (Ref. AMM TASK 73-21-50-000-041) and (Ref. AMM TASK 73-21-50-400-041).
 - (b) If the resistance values are out of the specified limits:
 - replace the Hydromechanical Unit (HMU) (Ref. AMM TASK 73-21-10-000-002) and (Ref. AMM TASK 73-21-10-400-002).
- (3) If the fault continues after the replacement of the BSV and the harness J8 and if the resistance checks are correct, the cause of the fault can be the hydraulic pressure control:
 - replace the Hydromechanical Unit (HMU) (Ref. AMM TASK 73-21-10-000-002) and (Ref. AMM TASK 73-21-10-400-002).
- (4) If the fault continues:
 - replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).

**ON A/C ALL

C. Do the test given in Para. 3.A.

EFF: ALL

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TASK 73-10-00-810-835

Failure of the HMU Fuel Metering Valve on Engine 1

1. Possible Causes

- ECU (4000KS)
- harness J8
- HMU

2. Job Set-up Information

A. Referenced Information

REFERENCE		DESIGNATION	
AMM	73-21-10-000-002	Removal of the Hydromechanical Unit (HMU)	
AMM	73-21-10-400-002	Installation of the Hydromechanical Unit (HMU)	
AMM	73-21-50-000-041	Removal of the HJ8 Harness	
AMM	73-21-50-400-041	Installation of the HJ8 Harness	
AMM	73-21-60-000-001	Removal of the Electronic Control Unit (ECU)(4000KS)	
AMM	73-21-60-400-001	<pre>Installation of the Electronic Control Unit (ECU)(4000KS)</pre>	
AMM	73-29-00-710-040	Operational Test of the FADEC on the ground (with Engine Motoring)	
ASM	73-25/18		

3. Fault Confirmation

A. Do the operational test of the FADEC 1B on the ground (with engine motoring) (Ref. AMM TASK 73-29-00-710-040).

4. Fault Isolation

- A. If the test gives the maintenance message HMU (FMV):
 - do a check for line to line short circuit of the harness J8 between the ECU (4000KS) and the hydromechanical unit (HMU) pins J8/27, 28. (Ref. ASM 73-25/18).
 - (1) If the wiring is not correct:
 - repair the above defective wiring.
 - (2) If the wiring is correct:
 - disconnect the cable J8 from the ECU (4000KS) and do a check of the ECU cable resistance between:
 - . pins 27 and 28 (17 to 23 0hms).
 - (a) If the resistance values are in the specified limits:
 - replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).

EFF: ALL

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- (b) If the resistance values are out of the specified limits:
 - disconnect the cable J8 from the HMU and do a resistance check of the HMU between:
 - . pins 27 and 28 (17 to 23 0hms).
 - If the resistance values are in the specified limits: - replace the defective harness J8 (Ref. AMM TASK 73-21-50-000-041) and (Ref. AMM TASK 73-21-50-400-041).
 - If the resistance values are out of the specified limits: - replace the HMU (Ref. AMM TASK 73-21-10-000-002) and (Ref. AMM TASK 73-21-10-400-002).
- B. Do the test given in Para. 3.A.

EFF: ALL SROS 73-10-00

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TASK 73-10-00-810-836

Failure of the HMU Fuel Metering Valve on Engine 2

1. Possible Causes

- ECU (4000KS)
- harness J8
- HMU

2. Job Set-up Information

A. Referenced Information

REFERENCE		DESIGNATION	
AMM	73-21-10-000-002	Removal of the Hydromechanical Unit (HMU)	
AMM	73-21-10-400-002	Installation of the Hydromechanical Unit (HMU)	
AMM	73-21-50-000-041	Removal of the HJ8 Harness	
AMM	73-21-50-400-041	Installation of the HJ8 Harness	
AMM	73-21-60-000-001	Removal of the Electronic Control Unit (ECU)(4000KS)	
AMM	73-21-60-400-001	<pre>Installation of the Electronic Control Unit (ECU)(4000KS)</pre>	
AMM	73-29-00-710-040	Operational Test of the FADEC on the ground (with Engine Motoring)	
ASM	73-25/18		

3. Fault Confirmation

A. Do the operational test of the FADEC 2B on the ground (with engine motoring) (Ref. AMM TASK 73-29-00-710-040).

4. Fault Isolation

- A. If the test gives the maintenance message HMU (FMV):
 - do a check for line to line short circuit of the harness J8 between the ECU (4000KS) and the hydromechanical unit (HMU) pins J8/27, 28 (Ref. ASM 73-25/18).
 - (1) If the wiring is not correct:
 - repair the above defective wiring.
 - (2) If the wiring is correct:
 - disconnect the cable J8 from the ECU (4000KS) and do a check of the ECU cable resistance between:
 - . pins 27 and 28 (17 to 23 0hms).
 - (a) If the resistance values are in the specified limits:
 - replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).

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EFF:

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- (b) If the resistance values are out of the specified limits:
 - disconnect the cable J8 from the HMU and do a resistance check of the HMU between:
 - . pins 27 and 28 (17 to 23 0hms).
 - If the resistance values are in the specified limits: - replace the defective harness J8 (Ref. AMM TASK 73-21-50-000-041) and (Ref. AMM TASK 73-21-50-400-041).
 - If the resistance values are out of the specified limits: - replace the HMU (Ref. AMM TASK 73-21-10-000-002) and (Ref. AMM TASK 73-21-10-400-002).
- B. Do the test given in Para. 3.A.

EFF: ALL

SROS

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R **ON A/C 201-225, 227-227, 229-239, 241-253, 276-282, 284-299, 426-499, R 503-549, 551-599, 701-749,

TASK 73-10-00-810-841

Failure of the Burner Selection Valve on engine 1

1. Possible Causes

- Burner Selection Valve (BSV)
- J8 harness
- J12 harness

- CJ12R harness
- Hydromechanical Unit (HMU)

2. Job Set-up Information

A. Referenced Information

REFERENCE		DESIGNATION
AMM	73-11-70-000-002	Removal of the Burner Selection Valve (BSV)
AMM	73-11-70-400-002	Installation of the Burner Selection Valve (BSV)
AMM	73-21-10-000-002	Removal of the Hydromechanical Unit (HMU)
AMM	73-21-10-400-002	Installation of the Hydromechanical Unit (HMU)
AMM	73-21-50-000-028	Removal of the CJ12R Harness
AMM	73-21-50-000-041	Removal of the HJ8 Harness
AMM	73-21-50-000-045	Removal of the HJ12 Harness
AMM	73-21-50-400-028	Installation of the CJ12R Harness
AMM	73-21-50-400-041	Installation of the HJ8 Harness
AMM	73-21-50-400-045	Installation of the HJ12 Harness
AMM	73-29-00-710-040	Operational Test of the FADEC on the ground (with Engine Motoring)

3. Fault Confirmation

```
R **ON A/C 201-225, 227-227, 229-239, 241-253, 276-282, 284-299, 426-499,
R 503-549, 551-599, 701-749,
  Post SB 72-1024 For A/C 451-475,
```

A. Test

(1) Do the operational test of the FADEC 1B on the ground (with engine motoring) (Ref. AMM TASK 73-29-00-710-040).

201-225, 227-227, 229-239, 241-253, 276-282, 284-299, 426-499, 503-549, 551-599, 701-749, **SROS**

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R **ON A/C 201-225, 227-227, 229-239, 241-253, 276-282, 284-299, 426-499, R 503-549, 551-599, 701-749,

4. Fault Isolation

- R **ON A/C 201-225, 227-227, 229-239, 241-253, 276-282, 284-299, 426-499,
 R 503-549, 551-599, 701-749,
 Post SB 72-1024 For A/C 451-475,
 - A. If the test gives the maintenance message BSV, HMU in channel 1B:
 do a check for line short circuit of the harness J8 between the ECU (4000KS) and the BSV torque motor.
 - (1) If the fault continues:
 - disconnect the cable J8 from the ECU and do a check of the ECU cable resistance between:
 - . pin 23 and 24 (12 to 28 0hms).
 - (a) If the resistance values are in the specified limits:
 - replace the Burner Selection Valve (BSV) (Ref. AMM TASK 73-11-70-000-002) and (Ref. AMM TASK 73-11-70-400-002).
 - (b) If the resistance values are out of the specified limits:
 - disconnect the cable J8 from the cable J12 and do a check of the J12 resistance between:
 - . pin 1 and pin 2 (12 to 28 0hms).
 - 1 If the resistance values are in the specified limits: - replace the J8 harness (Ref. AMM TASK 73-21-50-000-041) and (Ref. AMM TASK 73-21-50-400-041).
 - 2 If the resistance values are out of the specified limits:
 - disconnect the cable J12 from the CJ12R cable and do a check of the CJ12R harness between:
 - . pin 23 and pin 24 (12 to 28 Ohms).
 - <u>a</u> If the resistance values are in the specified limits: - replace the J12 harness (Ref. AMM TASK 73-21-50-000-045) and (Ref. AMM TASK 73-21-50-400-045).
 - <u>b</u> If the resistance values are out of the specified limits:
 disconnect the CJ12R harness from the BSV valve receptacle and do a resistance check between:
 pin 13 and pin 15 (12 to 28 0hms).
 - If the resistance values are in the specified limits:
 replace the CJ12R harness (Ref. AMM TASK 73-21-50-000-028) and (Ref. AMM TASK 73-21-50-400-028).
 - If the resistance values are out of the specified limits: replace the Burner Selection Valve (BSV) (Ref. AMM TASK 73-11-70-000-002) and (Ref. AMM TASK 73-11-70-400-002).

EFF: 201-225, 227-227, 229-239, 241-253, 276-282, 284-299, 426-499, 503-549, 551-599, 701-749, SROS

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- (2) If the resistance checks are correct or if the replacement of the BSV does not correct the fault:
 - replace the Hydromechanical Unit (HMU) (Ref. AMM TASK 73-21-10-000-002) and (Ref. AMM TASK 73-21-10-400-002).
- B. Do the test given in Para. 3.A.

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R **ON A/C 201-225, 227-227, 229-239, 241-253, 276-282, 284-299, 426-499, R 503-549, 551-599, 701-749,

TASK 73-10-00-810-842

Failure of the Burner Selection Valve on engine 2

1. Possible Causes

- Burner Selection Valve (BSV)
- J8 harness
- J12 harness
- CJ12R harness
- Hydromechanical Unit (HMU)

2. Job Set-up Information

A. Referenced Information

REFERENCE		DESIGNATION
AMM	73-11-70-000-002	Removal of the Burner Selection Valve (BSV)
AMM	73-11-70-400-002	Installation of the Burner Selection Valve (BSV)
AMM	73-21-10-000-002	Removal of the Hydromechanical Unit (HMU)
AMM	73-21-10-400-002	Installation of the Hydromechanical Unit (HMU)
AMM	73-21-50-000-028	Removal of the CJ12R Harness
AMM	73-21-50-000-041	Removal of the HJ8 Harness
AMM	73-21-50-000-045	Removal of the HJ12 Harness
AMM	73-21-50-400-028	Installation of the CJ12R Harness
AMM	73-21-50-400-041	Installation of the HJ8 Harness
AMM	73-21-50-400-045	Installation of the HJ12 Harness
AMM	73-29-00-710-040	Operational Test of the FADEC on the ground (with Engine Motoring)

3. Fault Confirmation

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R **ON A/C 201-225, 227-227, 229-239, 241-253, 276-282, 284-299, 426-499,
R 503-549, 551-599, 701-749,
Post SB 72-1024 For A/C 451-475,
```

A. Test

(1) Do the operational test of the FADEC 2B on the ground (with engine motoring) (Ref. AMM TASK 73-29-00-710-040).

R EFF: 201-225, 227-227, 229-239, 241-253, 276-282, 284-299, 426-499, 503-549, 551-599, 701-749, SROS

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R **ON A/C 201-225, 227-227, 229-239, 241-253, 276-282, 284-299, 426-499, R 503-549, 551-599, 701-749,

4. Fault Isolation

- R **ON A/C 201-225, 227-227, 229-239, 241-253, 276-282, 284-299, 426-499,
 R 503-549, 551-599, 701-749,
 Post SB 72-1024 For A/C 451-475,
 - A. If the test gives the maintenance message BSV, HMU on channel 2B:
 - do a check for line to line short circuit of the harness J8 between the ECU (4000KS) and the BSV torque motor.
 - (1) If the fault continues:
 - disconnect the cable J8 from the ECU and do a check of the ECU cable resistance between:
 - . pin 23 and 24 (12 to 28 0hms).
 - (a) If the resistance values are in the specified limits:
 - replace the Burner Selection Valve (BSV) (Ref. AMM TASK 73-11-70-000-002) and (Ref. AMM TASK 73-11-70-400-002).
 - (b) If the resistance values are out of the specified limits:
 - disconnect the cable J8 from the cable J12 and do a check of the J12 resistance between:
 - . pin 1 and pin 2 (12 to 28 0hms).
 - 1 If the resistance values are in the specified limits: - replace the J8 harness (Ref. AMM TASK 73-21-50-000-041) and
 - 2 If the resistance values are out of the specified limits:
 - disconnect the cable J12 from the CJ12R cable and do a check of the CJ12R harness between:
 - . pin 23 and pin 24 (12 to 28 Ohms).

(Ref. AMM TASK 73-21-50-400-041).

- a If the resistance values are in the specified limits: - replace the J12 harness (Ref. AMM TASK 73-21-50-000-045) and (Ref. AMM TASK 73-21-50-400-045).
- \underline{b} If the resistance values are out of the specified limits:
 - disconnect the CJ12R harness from the BSV valve receptacle and do a resistance check between:
 pin 13 and pin 15 (12 to 28 0hms).
 - If the resistance values are in the specified limits: replace the CJ12R harness (Ref. AMM TASK 73-21-50-000-028) and (Ref. AMM TASK 73-21-50-400-028).
 - If the resistance values are out of the specified limits: replace the Burner Selection Valve (BSV) (Ref. AMM TASK 73-11-70-000-002) and (Ref. AMM TASK 73-11-70-400-002).

EFF: 201-225, 227-227, 229-239, 241-253, 276-282, 284-299, 426-499, 503-549, 551-599, 701-749, SROS

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- (2) If the resistance checks are correct or if the replacement of the BSV does not correct the fault:
 - replace the Hydromechanical Unit (HMU) (Ref. AMM TASK 73-21-10-000-002) and (Ref. AMM TASK 73-21-10-400-002).
- B. Do the test given in Para. 3.A.

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TROUBLE SHOOTING MANUAL

**ON A/C ALL

TASK 73-10-00-810-845

Failure of the BSV Open on Engine 1

1. Possible Causes

- J14 Identification Connector
- BSV
- harness HJ7
- harness HJ8
- HMU
- ECU (4000KS)

2. Job Set-up Information

A. Referenced Information

REFE	RENCE	DESIGNATION
R	72-41-00-290-001	Borescope Inspection of the Combustion Chamber Liners, Dome Areas, HPT Nozzle Vanes and Shrouds (as
R AMM	72-51-00-290-004	<pre>far as visible through two opposite ports) Borescope Inspection of High-Pressure Turbine Nozzle Assembly</pre>
AMM	73-11-70-000-001	Removal of the Burner Staging Valve (BSV)
AMM	73-11-70-400-001	Installation of the Burner Staging Valve (BSV)
AMM	73-21-10-000-001	Removal of the Hydromechanical Unit (HMU)
AMM	73-21-10-400-001	Installation of the Hydromechanical Unit (HMU)
AMM	73-21-50-000-040	Removal of the HJ7 Harness
AMM	73-21-50-000-041	Removal of the HJ8 Harness
AMM	73-21-50-400-040	Installation of the HJ7 Harness
AMM	73-21-50-400-041	Installation of the HJ8 Harness
AMM	73-21-60-000-001	Removal of the Electronic Control Unit (ECU)(4000KS)
AMM	73-21-60-400-001	Installation of the Electronic Control Unit (ECU)(4000KS)
AMM	73-21-90-000-002	Removal of the Engine Identification Connector
AMM	73-21-90-400-002	Installation of the Engine Identification Connector
AMM	73-21-90-860-001	Programming of the Identification Plug (Push-Pull Design)
AMM	73-29-00-710-040	Operational Test of the FADEC on the Ground (with Engine Motoring)

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3. Fault Confirmation

A. Test

(1) Do the operational test of the FADEC on the ground (with engine motoring) (Ref. AMM TASK 73-29-00-710-040).

4. Fault Isolation

- A. If the test gives the maintenance message BSV(OP), J14(WRONG):
 - Verify the nameplate of the engine:
 - (1) If the nameplate is for a SAC engine:
 verify that a SAC ID plug is installed

NOTE: The ID plug can be checked on the MCDU screen. Access reporting functions, then select the LRU Idenfication screen.

Line 4 of the LRU Identification screen will display:

- "EGT MON" or "SAC CONFIG" for a SAC ID plug
- "DAC CONFIG" for a DAC ID plug
- (a) Replace the J14 Identification Connector (Ref. AMM TASK 73-21-90-000-002) (Ref. AMM TASK 73-21-90-400-002) or Do a Re-programming of the Identification Connector (Push-pull Design only) (Ref. AMM TASK 73-21-90-860-001).
- (2) If the nameplate is for a DAC engine:
 - (a) Do a borescope inspection of the combustion chamber (Ref. AMM TASK 72-41-00-290-001) and the high pressure turbine nozzle assembly (Ref. AMM TASK 72-51-00-290-004).
 - (b) Disconnect the cables HJ7 and HJ8 from the ECU and do a check of the cable resistance between:
 - pins 6 and 7 (26 to 36 ohms)
 - 1 If the resistance value are specified limits:
 - Replace the BSV (Ref. AMM TASK 73-11-70-000-001) and (Ref. AMM TASK 73-11-70-400-001)
 - 2 If the resistance value are out of specified limits:
 - Disconnect the cables HJ7 and HJ8 from the HMU and do a check of the HMU resistance between:
 - . pins 6 and 7 (26 to 36 ohms)
 - a If the resistance value are in specified limits:
 - replace harness HJ7 (Ref. AMM TASK 73-21-50-000-040)
 (Ref. AMM TASK 73-21-50-400-040) and/or harness HJ8 (Ref.
 AMM TASK 73-21-50-000-041) (Ref. AMM TASK 73-21-50-400041)

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- <u>b</u> If the resistance value are out of specified limits:
 Replace HMU (Ref. AMM TASK 73-21-10-000-001) (Ref. AMM TASK 73-21-10-400-001)
- (3) if the fault continues, replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) (Ref. AMM TASK 73-21-60-400-001).
- B. Do the test given in Para. 3.A.

EFF: ALL SROS 73-10-00

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TASK 73-10-00-810-846

Failure of the BSV Open on Engine 2

1. Possible Causes

- J14 Identification Connector
- BSV
- harness HJ7
- harness HJ8
- HMU
- ECU (4000KS)

2. Job Set-up Information

A. Referenced Information

REFE	RENCE	DESIGNATION
АММ	72-41-00-290-001	Borescope Inspection of the Combustion Chamber Liners, Dome Areas, HPT Nozzle Vanes and Shrouds (as far as visible through two opposite ports)
AMM	72-51-00-290-004	Borescope Inspection of High-Pressure Turbine Nozzle Assembly
AMM	73-11-70-000-001	Removal of the Burner Staging Valve (BSV)
AMM	73-11-70-400-001	Installation of the Burner Staging Valve (BSV)
AMM	73-21-10-000-001	Removal of the Hydromechanical Unit (HMU)
AMM	73-21-10-400-001	Installation of the Hydromechanical Unit (HMU)
AMM	73-21-50-000-040	Removal of the HJ7 Harness
AMM	73-21-50-000-041	Removal of the HJ8 Harness
AMM	73-21-50-400-040	Installation of the HJ7 Harness
AMM	73-21-50-400-041	Installation of the HJ8 Harness
AMM	73-21-60-000-001	Removal of the Electronic Control Unit (ECU)(4000KS)
AMM	73-21-60-400-001	<pre>Installation of the Electronic Control Unit (ECU)(4000KS)</pre>
AMM	73-21-90-000-002	Removal of the Engine Identification Connector
AMM	73-21-90-400-002	Installation of the Engine Identification Connector
AMM	73-21-90-860-001	<pre>Programming of the Identification Plug (Push-Pull Design)</pre>
AMM	73-29-00-710-040	Operational Test of the FADEC on the Ground (with Engine Motoring)

3. Fault Confirmation

A. Test

(1) Do the operational test of the FADEC on the ground (with engine motoring) (Ref. AMM TASK 73-29-00-710-040).

EFF: ALL
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4. Fault Isolation

- A. If the test gives the maintenance message BSV(OP), J14(WRONG):
 - Verify the nameplate of the engine:
 - (1) If the nameplate is for a SAC engine:
 verify that a SAC ID plug is installed

NOTE: The ID plug can be checked on the MCDU screen. Access reporting functions, then select the LRU Idenfication screen.

Line 4 of the LRU Identification screen will display:

- "EGT MON" or "SAC CONFIG" for a SAC ID plug
- "DAC CONFIG" for a DAC ID plug
- (a) Replace the J14 Identification Connector (Ref. AMM TASK 73-21-90-000-002) (Ref. AMM TASK 73-21-90-400-002) or Do a Re-programming of the Identification Connector (Push-pull Design only) (Ref. AMM TASK 73-21-90-860-001).
- (2) If the nameplate is for a DAC engine:
 - (a) Do a borescope inspection of the combustion chamber (Ref. AMM TASK 72-41-00-290-001) and the high pressure turbine nozzle assembly (Ref. AMM TASK 72-51-00-290-004).
 - (b) Disconnect the cables HJ7 and HJ8 from the ECU and do a check of the cable resistance between:
 - . pins 6 and 7 (26 to 36 ohms)
 - 1 If the resistance value are specified limits:
 - Replace the BSV (Ref. AMM TASK 73-11-70-000-001) and (Ref. AMM TASK 73-11-70-400-001)
 - 2 If the resistance value are out of specified limits:
 - Disconnect the cables HJ7 and HJ8 from the HMU and do a check of the HMU resistance between:
 - pins 6 and 7 (26 to 36 ohms)
 - a If the resistance value are in specified limits:
 - replace harness HJ7 (Ref. AMM TASK 73-21-50-000-040)
 (Ref. AMM TASK 73-21-50-400-040) and/or harness HJ8 (Ref.
 AMM TASK 73-21-50-000-041) (Ref. AMM TASK 73-21-50-400041)
 - b If the resistance value are out of specified limits:
 Replace HMU (Ref. AMM TASK 73-21-10-000-001) (Ref. AMM TASK 73-21-10-400-001)
- (3) if the fault continues, replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) (Ref. AMM TASK 73-21-60-400-001).

EFF: ALL

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B. Do the test given in Para. 3.A.

EFF: ALL
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TROUBLE SHOOTING MANUAL

TASK 73-10-00-810-847

Failure of the BSV Closed on Engine 1

1. Possible Causes

- J14 Identification Connector
- BSV
- harness HJ7
- harness HJ8
- HMU
- ECU (4000KS)

2. Job Set-up Information

A. Referenced Information

REFE	RENCE	DESIGNATION
AMM R	72-41-00-290-001	Borescope Inspection of the Combustion Chamber Liners, Dome Areas, HPT Nozzle Vanes and Shrouds (as
AMM	72-51-00-290-004	<pre>far as visible through two opposite ports) Borescope Inspection of High-Pressure Turbine Nozzle Assembly</pre>
AMM	73-11-70-000-001	Removal of the Burner Staging Valve (BSV)
AMM	73-11-70-400-001	Installation of the Burner Staging Valve (BSV)
AMM	73-21-10-000-001	Removal of the Hydromechanical Unit (HMU)
AMM	73-21-10-400-001	Installation of the Hydromechanical Unit (HMU)
AMM	73-21-50-000-040	Removal of the HJ7 Harness
AMM	73-21-50-000-041	Removal of the HJ8 Harness
AMM	73-21-50-400-040	Installation of the HJ7 Harness
AMM	73-21-50-400-041	Installation of the HJ8 Harness
AMM	73-21-60-000-001	Removal of the Electronic Control Unit (ECU)(4000KS)
AMM	73-21-60-400-001	<pre>Installation of the Electronic Control Unit (ECU)(4000KS)</pre>
AMM	73-21-90-000-002	Removal of the Engine Identification Connector
AMM	73-21-90-400-002	Installation of the Engine Identification Connector
AMM	73-21-90-860-001	Programming of the Identification Plug (Push-Pull Design)
AMM	73-29-00-710-040	Operational Test of the FADEC on the Ground (with Engine Motoring)

3. Fault Confirmation

A. Test

(1) Do the operational test of the FADEC on the ground (with engine motoring) (Ref. AMM TASK 73-29-00-710-040).

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4. Fault Isolation

- A. If the test gives the maintenance message BSV(CL), J14(WRONG):
 - Verify the nameplate of the engine:
 - (1) If the nameplate is for a DAC engine:
 verify that a DAC ID plug is installed

NOTE: The ID plug can be checked on the MCDU screen. Access reporting functions, then select the LRU Idenfication screen.

Line 4 of the LRU Identification screen will display:

- "EGT MON" or "SAC CONFIG" for a SAC ID plug
- "DAC CONFIG" for a DAC ID plug
- (a) Replace the J14 Identification Connector (Ref. AMM TASK 73-21-90-000-002) (Ref. AMM TASK 73-21-90-400-002) or Do a Re-programming of the Identification Connector (Push-pull Design only) (Ref. AMM TASK 73-21-90-860-001).
- (2) If the nameplate is for a SAC engine:
 - (a) Do a borescope inspection of the combustion chamber (Ref. AMM TASK 72-41-00-290-001) and the high pressure turbine nozzle assembly (Ref. AMM TASK 72-51-00-290-004).
 - (b) Disconnect the cables HJ7 and HJ8 from the ECU and do a check of the cable resistance between:
 - . pins 6 and 7 (26 to 36 ohms)
 - 1 If the resistance value is in specified limits:
 - Replace the BSV (Ref. AMM TASK 73-11-70-000-001) and (Ref. AMM TASK 73-11-70-400-001)
 - 2 If the resistance value are out of specified limits:
 - Disconnect the cables HJ7 and HJ8 from the HMU and do a check of the HMU resistance between:
 - pins 6 and 7 (26 to 36 ohms)
 - a If the resistance value are in specified limits:
 - replace harness HJ7 (Ref. AMM TASK 73-21-50-000-040)
 (Ref. AMM TASK 73-21-50-400-040) and/or harness HJ8 (Ref.
 AMM TASK 73-21-50-000-041) (Ref. AMM TASK 73-21-50-400041)
 - b If the resistance value are out of specified limits:
 - Replace HMU (Ref. AMM TASK 73-21-10-000-001) (Ref. AMM TASK 73-21-10-400-001)
- (3) if the fault continues, replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) (Ref. AMM TASK 73-21-60-400-001).

EFF: ALL

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B. Do the test given in Para. 3.A.

EFF: ALL
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TASK 73-10-00-810-848

Failure of the BSV Closed on Engine 2

1. Possible Causes

- J14 Identification Connector
- BSV
- harness HJ7
- harness HJ8
- HMU
- ECU (4000KS)

2. Job Set-up Information

A. Referenced Information

REFE	RENCE	DESIGNATION
АММ	72-41-00-290-001	Borescope Inspection of the Combustion Chamber Liners, Dome Areas, HPT Nozzle Vanes and Shrouds (as far as visible through two opposite ports)
AMM	72-51-00-290-004	Borescope Inspection of High-Pressure Turbine Nozzle Assembly
AMM	73-11-70-000-001	Removal of the Burner Staging Valve (BSV)
AMM	73-11-70-400-001	Installation of the Burner Staging Valve (BSV)
AMM	73-21-10-000-001	Removal of the Hydromechanical Unit (HMU)
AMM	73-21-10-400-001	Installation of the Hydromechanical Unit (HMU)
AMM	73-21-50-000-040	Removal of the HJ7 Harness
AMM	73-21-50-000-041	Removal of the HJ8 Harness
AMM	73-21-50-400-040	Installation of the HJ7 Harness
AMM	73-21-50-400-041	Installation of the HJ8 Harness
AMM	73-21-60-000-001	Removal of the Electronic Control Unit (ECU)(4000KS)
AMM	73-21-60-400-001	<pre>Installation of the Electronic Control Unit (ECU)(4000KS)</pre>
AMM	73-21-90-000-002	Removal of the Engine Identification Connector
AMM	73-21-90-400-002	Installation of the Engine Identification Connector
AMM	73-21-90-860-001	<pre>Programming of the Identification Plug (Push-Pull Design)</pre>
AMM	73-29-00-710-040	Operational Test of the FADEC on the Ground (with Engine Motoring)

3. Fault Confirmation

A. Test

(1) Do the operational test of the FADEC on the ground (with engine motoring) (Ref. AMM TASK 73-29-00-710-040).

EFF: ALL
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4. Fault Isolation

- A. If the test gives the maintenance message BSV(CL), J14(WRONG):
 - Verify the nameplate of the engine:
 - (1) If the nameplate is for a DAC engine:
 verify that a DAC ID plug is installed

NOTE: The ID plug can be checked on the MCDU screen. Access reporting functions, then select the LRU Idenfication screen.

Line 4 of the LRU Identification screen will display:

- "EGT MON" or "SAC CONFIG" for a SAC ID plug
- "DAC CONFIG" for a DAC ID plug
- (a) Replace the J14 Identification Connector (Ref. AMM TASK 73-21-90-000-002) (Ref. AMM TASK 73-21-90-400-002) or Do a Re-programming of the Identification Connector (Push-pull Design only) (Ref. AMM TASK 73-21-90-860-001).
- (2) If the nameplate is for a SAC engine:
 - (a) Do a borescope inspection of the combustion chamber (Ref. AMM TASK 72-41-00-290-001) and the high pressure turbine nozzle assembly (Ref. AMM TASK 72-51-00-290-004).
 - (b) Disconnect the cables HJ7 and HJ8 from the ECU and do a check of the cable resistance between:
 - . pins 6 and 7 (26 to 36 ohms)
 - 1 If the resistance value are in specified limits:
 - Replace the BSV (Ref. AMM TASK 73-11-70-000-001) and (Ref. AMM TASK 73-11-70-400-001)
 - 2 If the resistance value are out of specified limits:
 - Disconnect the cables HJ7 and HJ8 from the HMU and do a check of the HMU resistance between:
 - pins 6 and 7 (26 to 36 ohms)
 - $\underline{\underline{a}}$ If the resistance value are in specified limits:
 - replace harness HJ7 (Ref. AMM TASK 73-21-50-000-040)
 (Ref. AMM TASK 73-21-50-400-040) and/or harness HJ8 (Ref.
 AMM TASK 73-21-50-000-041) (Ref. AMM TASK 73-21-50-400041)
 - b If the resistance value are out of specified limits:
 - Replace HMU (Ref. AMM TASK 73-21-10-000-001) (Ref. AMM TASK 73-21-10-400-001)
- (3) if the fault continues, replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) (Ref. AMM TASK 73-21-60-400-001).

EFF: ALL

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B. Do the test given in Para. 3.A.

EFF: ALL
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TROUBLE SHOOTING MANUAL

TASK 73-10-00-810-849

Feedback Disagree on Channel A of the BSV on engine 1

1. Possible Causes

- J14 Identification connector
- HJ11 harness
- CJ11R harness
- BSV
- ECU (4000KS)

2. Job Set-up Information

A. Referenced Information

REFERENCE		DESIGNATION	
AMM	73-11-70-000-002	Removal of the Burner Staging Valve (BSV)	
AMM	73-11-70-400-002	Installation of the Burner Staging Valve (BSV)	
AMM	73-21-50-000-026	Removal of the CJ11R Harness	
AMM	73-21-50-000-044	Removal of the HJ11 Harness	
AMM	73-21-50-400-026	Installation of the CJ11R Harness	
AMM	73-21-50-400-044	Installation of the HJ11 Harness	
AMM	73-21-60-000-001	Removal of the Electronic Control Unit (ECU)(4000KS)	
AMM	73-21-60-400-001	Installation of the Electronic Control Unit	
		(ECU)(4000KS)	
AMM	73-21-90-000-002	Removal of the Engine Identification Connector	
AMM	73-21-90-400-002	Installation of the Engine Identification Connector	
AMM	73-21-90-860-001	Programming of the Identification Plug (Push-Pull	
		Design)	
AMM	73-29-00-710-040	Operational Test of the FADEC on the Ground (with	
		Engine Motoring)	
ASM	73-25/18		

3. Fault Confirmation

A. Do the operational test of the FADEC on the ground (with engine motoring) (Ref. AMM TASK 73-29-00-710-040).

4. Fault Isolation

- A. If the test gives the maintenance message BSV, J11, J14(WRONG):
 verify the nameplate of the engine:
 - (1) If the nameplate is for a SAC engine:
 - Replace J14 Identification connector (Ref. AMM TASK 73-21-90-000-002) (Ref. AMM TASK 73-21-90-400-002) or Do a Re-programming of the Identification Connector (Push-pull Design only) (Ref. AMM TASK 73-21-90-860-001).

EFF: ALL

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- NOTE: This fault will be set if a DAC ID plug is installed on a SAC engine. The engine nameplate and ID plug can be checked on the MCDU screen. Acces reporting functions, then select the LRU Identification Screen. Line 4 of the LRU Identification Screen will display.
 - "EGT MON" or "SAC CONFIG" for a SAC ID plug
 - "DAC CONFIG" for a DAC ID plug
- (2) If the nameplate is for a DAC engine:
 - Disconnect the HJ11 harness from the ECU (4000KS)
 - Do a resistance check of the HJ11 harness between (Ref. ASM 73
 - pins 4 and 5 (72 to 89 ohms)
 - . pins 6 and 7 (42 to 52 ohms)
 - pins 2 and 3 (42 to 52 ohms)
 - pins 4 and 1 (more than 10 megohms)
 - pins 6 and 1 (more than 10 megohms)
 - pins 2 and 1 (more than 10 megohms)
 - . pin 4 and the ground (more than 10 megohms)
 - pin 6 and the ground (more than 10 megohms)
 - pin 2 and the ground (more than 10 megohms)
 - (a) If the resistance values are out of the specified limits:
 - Disconnect the HJ11 harness from the cable CJ11R at the 6 o'clock junction box
 - Do a resistance check of the cable CJ11R between (Ref. ASM 73-25/18).
 - . pins 20 and 21 (72 to 89 ohms)
 - pins 7 and 19 (42 to 52 ohms)
 - . pins 2 and 9 (42 to 52 ohms)
 - pins 20 and 8 (more than 10 megohms)
 - pins 7 and 8 (more than 10 megohms)
 - pins 2 and 8 (more than 10 megohms)
 - pin 20 and the ground (more than 10 megohms)
 - pin 7 and the ground (more than 10 megohms)
 - . pin 2 and the ground (more than 10 megohms)
 - If the resistance value are in the specified limits:
 - replace the HJ11 harness (Ref. AMM TASK 73-21-50-000-044) (Ref. AMM TASK 73-21-50-400-044).
 - If the resistance value are out of the specified limits:
 - Disconnect the harness CJ11R from the BSV valve.
 - Do a resistance check at the BSV valve between (Ref. ASM 73-25/18).
 - . pins 4 and 2 (72 to 89 ohms)
 - pins 6 and 7 (42 to 52 ohms)
 - pins 8 and 9 (42 to 52 ohms)
 - pins 2 and 1 (more than 10 megohms)
 - pins 6 and 1 (more than 10 megohms)
 - pins 8 and 1 (more than 10 megohms)
 - . pin 2 and the ground (more than 10 megohms)

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- . pin 6 and the ground (more than 10 megohms)
- pin 8 and the ground (more than 10 megohms)
- If the resistance values are in the specified limits:
 replace the CJ11R harness (Ref. AMM TASK 73-21-50-000-026) (Ref. AMM TASK 73-21-50-400-026).
- b If the resistance values are out of the specified limits: - replace the BSV (Ref. AMM TASK 73-11-70-000-002) (Ref. AMM TASK 73-11-70-400-002).
- (b) If the resistance values are in the specified limits:
 replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) (Ref.
 AMM TASK 73-21-60-400-001)
- B. Do the test given in Para. 3.A.

EFF: ALL

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TASK 73-10-00-810-850

Feedback Disagree on Channel A of the BSV on engine 2

1. Possible Causes

- J14 Identification connector
- HJ11 harness
- CJ11R harness
- BSV
- ECU (4000KS)

2. Job Set-up Information

A. Referenced Information

REFERENCE		DESIGNATION	
AMM	73-11-70-000-002	Removal of the Burner Staging Valve (BSV)	
AMM	73-11-70-400-002	Installation of the Burner Staging Valve (BSV)	
AMM	73-21-50-000-026	Removal of the CJ11R Harness	
AMM	73-21-50-000-044	Removal of the HJ11 Harness	
AMM	73-21-50-400-026	Installation of the CJ11R Harness	
AMM	73-21-50-400-044	Installation of the HJ11 Harness	
AMM	73-21-60-000-001	Removal of the Electronic Control Unit (ECU)(4000KS)	
AMM	73-21-60-400-001	Installation of the Electronic Control Unit	
		(ECU)(4000KS)	
AMM	73-21-90-000-002	Removal of the Engine Identification Connector	
AMM	73-21-90-400-002	Installation of the Engine Identification Connector	
AMM	73-21-90-860-001	Programming of the Identification Plug (Push-Pull	
		Design)	
AMM	73-29-00-710-040	Operational Test of the FADEC on the Ground (with	
		Engine Motoring)	
ASM	73-25/18		

3. Fault Confirmation

A. Do the operational test of the FADEC on the ground (with engine motoring) (Ref. AMM TASK 73-29-00-710-040).

4. Fault Isolation

- A. If the test gives the maintenance message BSV, J11, J14(WRONG):
 verify the nameplate of the engine:
 - (1) If the nameplate is for a SAC engine:
 - Replace J14 Identification connector (Ref. AMM TASK 73-21-90-000-002) (Ref. AMM TASK 73-21-90-400-002) or Do a Re-programming of the Identification Connector (Push-pull Design only) (Ref. AMM TASK 73-21-90-860-001).

EFF: ALL

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- NOTE: This fault will be set if a DAC ID plug is installed on a SAC engine. The engine nameplate and ID plug can be checked on the MCDU screen. Acces reporting functions, then select the LRU Identification Screen. Line 4 of the LRU Identification Screen will display.
 - "EGT MON" or "SAC CONFIG" for a SAC ID plug
 - "DAC CONFIG" for a DAC ID plug
- (2) If the nameplate is for a DAC engine:
 - Disconnect the HJ11 harness from the ECU (4000KS)
 - Do a resistance check of the HJ11 harness between (Ref. ASM 73
 - pins 4 and 5 (72 to 89 ohms)
 - . pins 6 and 7 (42 to 52 ohms)
 - pins 2 and 3 (42 to 52 ohms)
 - pins 4 and 1 (more than 10 megohms)
 - pins 6 and 1 (more than 10 megohms)
 - pins 2 and 1 (more than 10 megohms)
 - . pin 4 and the ground (more than 10 megohms)
 - pin 6 and the ground (more than 10 megohms)
 - pin 2 and the ground (more than 10 megohms)
 - (a) If the resistance values are out of the specified limits:
 - Disconnect the HJ11 harness from the cable CJ11R at the 6 o'clock junction box
 - Do a resistance check of the cable CJ11R between (Ref. ASM 73-25/18).
 - . pins 20 and 21 (72 to 89 ohms)
 - pins 7 and 19 (42 to 52 ohms)
 - . pins 2 and 9 (42 to 52 ohms)
 - pins 20 and 8 (more than 10 megohms)
 - pins 7 and 8 (more than 10 megohms)
 - pins 2 and 8 (more than 10 megohms)
 - pin 20 and the ground (more than 10 megohms)
 - pin 7 and the ground (more than 10 megohms)
 - . pin 2 and the ground (more than 10 megohms)
 - If the resistance value are in the specified limits:
 - replace the HJ11 harness (Ref. AMM TASK 73-21-50-000-044) (Ref. AMM TASK 73-21-50-400-044).
 - If the resistance value are out of the specified limits:
 - Disconnect the harness CJ11R from the BSV valve.
 - Do a resistance check at the BSV valve between (Ref. ASM 73-25/18).
 - . pins 4 and 2 (72 to 89 ohms)
 - pins 6 and 7 (42 to 52 ohms)
 - pins 8 and 9 (42 to 52 ohms)
 - pins 2 and 1 (more than 10 megohms)
 - pins 6 and 1 (more than 10 megohms)
 - pins 8 and 1 (more than 10 megohms)
 - . pin 2 and the ground (more than 10 megohms)

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- . pin 6 and the ground (more than 10 megohms)
- pin 8 and the ground (more than 10 megohms)
- If the resistance values are in the specified limits:
 replace the CJ11R harness (Ref. AMM TASK 73-21-50-000-026) (Ref. AMM TASK 73-21-50-400-026).
- b If the resistance values are out of the specified limits: - replace the BSV (Ref. AMM TASK 73-11-70-000-002) (Ref. AMM TASK 73-11-70-400-002).
- (b) If the resistance values are in the specified limits:
 replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) (Ref.
 AMM TASK 73-21-60-400-001)
- B. Do the test given in Para. 3.A.

EFF: ALL

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TROUBLE SHOOTING MANUAL

TASK 73-10-00-810-851

Feedback Disagree on Channel B of the BSV on engine 1

1. Possible Causes

- J14 Identification connector
- HJ11 harness
- CJ12R harness
- BSV
- ECU (4000KS)

2. Job Set-up Information

A. Referenced Information

REFERENCE		DESIGNATION	
AMM	73-11-70-000-002	Removal of the Burner Staging Valve (BSV)	
AMM	73-11-70-400-002	Installation of the Burner Staging Valve (BSV)	
AMM	73-21-50-000-026	Removal of the CJ11R Harness	
AMM	73-21-50-000-044	Removal of the HJ11 Harness	
AMM	73-21-50-400-026	Installation of the CJ11R Harness	
AMM	73-21-50-400-044	Installation of the HJ11 Harness	
AMM	73-21-60-000-001	Removal of the Electronic Control Unit (ECU)(4000KS)	
AMM	73-21-60-400-001	Installation of the Electronic Control Unit	
		(ECU)(4000KS)	
AMM	73-21-90-000-002	Removal of the Engine Identification Connector	
AMM	73-21-90-400-002	Installation of the Engine Identification Connector	
AMM	73-21-90-860-001	Programming of the Identification Plug (Push-Pull	
A	13 21 70 000 001	Design)	
AMM	73-29-00-710-040	Operational Test of the FADEC on the Ground (with	
Ailii	13 27 00 110 040	Engine Motoring)	
АСМ	77 25 / 10	Engine motor mg/	
ASM	73-25/18		

3. Fault Confirmation

A. Do the operational test of the FADEC on the ground (with engine motoring) (Ref. AMM TASK 73-29-00-710-040).

4. Fault Isolation

- A. If the test gives the maintenance message BSV, J12, J14(WRONG):
 verify the nameplate of the engine:
 - (1) If the nameplate is for a SAC engine:
 - Replace J14 Identification connector (Ref. AMM TASK 73-21-90-000-002) (Ref. AMM TASK 73-21-90-400-002) or Do a Re-programming of the Identification Connector (Push-pull Design only) (Ref. AMM TASK 73-21-90-860-001).

EFF: ALL

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NOTE: This fault will be set if a DAC ID plug is installed on a SAC engine. The engine nameplate and ID plug can be checked on the MCDU screen. Acces reporting functions, then select the LRU Identification Screen. Line 4 of the LRU Identification Screen will display.

- "EGT MON" or "SAC CONFIG" for a SAC ID plug
- "DAC CONFIG" for a DAC ID plug
- (2) If the nameplate is for a DAC engine:
 - Disconnect the HJ12 harness from the ECU (4000KS)
 - Do a resistance check of the HJ12 harness between (Ref. ASM 73
 - pins 34 and 35 (72 to 89 ohms)
 - pins 18 and 36 (42 to 52 ohms)
 - . pins 16 and 33 (42 to 52 ohms)
 - pins 34 and 17 (more than 10 megohms)
 - pins 18 and 17 (more than 10 megohms)
 - pins 16 and 17 (more than 10 megohms)
 - . pin 34 and the ground (more than 10 megohms)
 - pin 18 and the ground (more than 10 megohms)
 - pin 16 and the ground (more than 10 megohms)
 - (a) If the resistance values are out of the specified limits:
 - Disconnect the HJ12 harness from the cable CJ11R at the 6 o'clock junction box
 - Do a resistance check of the cable CJ12R between (Ref. ASM 73-25/18).
 - . pins 17 and 6 (72 to 89 ohms)
 - pins 19 and 18 (42 to 52 ohms)
 - . pins 20 and 8 (42 to 52 ohms)
 - . pins 17 and 7 (more than 10 megohms)
 - pins 19 and 7 (more than 10 megohms)
 - pins 20 and 7 (more than 10 megohms)
 - pin 17 and the ground (more than 10 megohms) pin 19 and the ground (more than 10 megohms)
 - pin 20 and the ground (more than 10 megohms)
 - If the resistance value are in the specified limits:
 - replace the HJ11 harness (Ref. AMM TASK 73-21-50-000-044) (Ref. AMM TASK 73-21-50-400-044).
 - If the resistance value are out of the specified limits:
 - Disconnect the harness CJ12R from the BSV valve.
 - Do a resistance check at the BSV valve between (Ref. ASM 73-25/18).
 - . pins 4 and 2 (72 to 89 ohms)
 - pins 6 and 7 (42 to 52 ohms)
 - pins 8 and 9 (42 to 52 ohms)
 - pins 2 and 1 (more than 10 megohms)
 - pins 6 and 1 (more than 10 megohms)
 - pins 8 and 1 (more than 10 megohms)
 - . pin 2 and the ground (more than 10 megohms)

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- . pin 6 and the ground (more than 10 megohms)
- . pin 8 and the ground (more than 10 megohms)
- If the resistance values are in the specified limits:
 replace the CJ12R harness (Ref. AMM TASK 73-21-50-000-026) (Ref. AMM TASK 73-21-50-400-026).
- <u>b</u> If the resistance values are out of the specified limits: replace the BSV (Ref. AMM TASK 73-11-70-000-002) (Ref. AMM TASK 73-11-70-400-002).
- (b) If the resistance values are in the specified limits:
 replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) (Ref.
 AMM TASK 73-21-60-400-001)
- B. Do the test given in Para. 3.A.

EFF: ALL

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TASK 73-10-00-810-852

Feedback Disagree on Channel B of the BSV on engine 2

1. Possible Causes

- J14 Identification connector
- HJ11 harness
- CJ12R harness
- BSV
- ECU (4000KS)

2. Job Set-up Information

A. Referenced Information

REFERENCE		DESIGNATION
AMM	73-11-70-000-002	Removal of the Burner Staging Valve (BSV)
AMM	73-11-70-400-002	Installation of the Burner Staging Valve (BSV)
AMM	73-21-50-000-026	Removal of the CJ11R Harness
AMM	73-21-50-000-044	Removal of the HJ11 Harness
AMM	73-21-50-400-026	Installation of the CJ11R Harness
AMM	73-21-50-400-044	Installation of the HJ11 Harness
AMM	73-21-60-000-001	Removal of the Electronic Control Unit (ECU)(4000KS)
AMM	73-21-60-400-001	Installation of the Electronic Control Unit
		(ECU)(4000KS)
AMM	73-21-90-000-002	Removal of the Engine Identification Connector
AMM	73-21-90-400-002	Installation of the Engine Identification Connector
AMM	73-21-90-860-001	Programming of the Identification Plug (Push-Pull
		Design)
AMM	73-29-00-710-040	Operational Test of the FADEC on the Ground (with
		Engine Motoring)
ASM	73-25/18	

3. Fault Confirmation

A. Do the operational test of the FADEC on the ground (with engine motoring) (Ref. AMM TASK 73-29-00-710-040).

4. Fault Isolation

- A. If the test gives the maintenance message BSV, J12, J14(WRONG):
 verify the nameplate of the engine:
 - (1) If the nameplate is for a SAC engine:
 - Replace J14 Identification connector (Ref. AMM TASK 73-21-90-000-002) (Ref. AMM TASK 73-21-90-400-002) or Do a Re-programming of the Identification Connector (Push-pull Design only) (Ref. AMM TASK 73-21-90-860-001).

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- NOTE: This fault will be set if a DAC ID plug is installed on a SAC engine. The engine nameplate and ID plug can be checked on the MCDU screen. Acces reporting functions, then select the LRU Identification Screen. Line 4 of the LRU Identification Screen will display.
 - "EGT MON" or "SAC CONFIG" for a SAC ID plug
 - "DAC CONFIG" for a DAC ID plug
- (2) If the nameplate is for a DAC engine:
 - Disconnect the HJ12 harness from the ECU (4000KS)
 - Do a resistance check of the HJ12 harness between (Ref. ASM 73-25/18):
 - . pins 34 and 35 (72 to 89 ohms)
 - . pins 18 and 36 (42 to 52 ohms)
 - . pins 16 and 33 (42 to 52 ohms)
 - pins 34 and 17 (more than 10 megohms)
 - . pins 18 and 17 (more than 10 megohms)
 - . pins 16 and 17 (more than 10 megohms)
 - . pin 34 and the ground (more than 10 megohms)
 - pin 18 and the ground (more than 10 megohms)
 - pin 16 and the ground (more than 10 megohms)
 - (a) If the resistance values are out of the specified limits:
 - Disconnect the HJ12 harness from the cable CJ11R at the 6 o'clock junction box
 - Do a resistance check of the cable CJ12R between (Ref. ASM 73-25/18).
 - . pins 17 and 6 (72 to 89 ohms)
 - pins 19 and 18 (42 to 52 ohms)
 - . pins 20 and 8 (42 to 52 ohms)
 - . pins 17 and 7 (more than 10 megohms)
 - pins 19 and 7 (more than 10 megohms)
 - pins 20 and 7 (more than 10 megohms)
 - pin 17 and the ground (more than 10 megohms)
 - pin 19 and the ground (more than 10 megohms)
 - pin 20 and the ground (more than 10 megohms)
 - 1 If the resistance value are in the specified limits:
 - replace the HJ11 harness (Ref. AMM TASK 73-21-50-000-044) (Ref. AMM TASK 73-21-50-400-044).
 - 2 If the resistance value are out of the specified limits:
 - Disconnect the harness CJ12R from the BSV valve.
 - Do a resistance check at the BSV valve between (Ref. ASM 73-25/18).
 - . pins 4 and 2 (72 to 89 ohms)
 - . pins 6 and 7 (42 to 52 ohms)
 - . pins 8 and 9 (42 to 52 ohms)
 - pins 2 and 1 (more than 10 megohms)
 - . pins 6 and 1 (more than 10 megohms)
 - pins 8 and 1 (more than 10 megohms)
 - . pin 2 and the ground (more than 10 megohms)

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- . pin 6 and the ground (more than 10 megohms)
- . pin 8 and the ground (more than 10 megohms)
- If the resistance values are in the specified limits:
 replace the CJ12R harness (Ref. AMM TASK 73-21-50-000-026) (Ref. AMM TASK 73-21-50-400-026).
- b If the resistance values are out of the specified limits: - replace the BSV (Ref. AMM TASK 73-11-70-000-002) (Ref. AMM TASK 73-11-70-400-002).
- (b) If the resistance values are in the specified limits:
 replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) (Ref.
 AMM TASK 73-21-60-400-001)
- B. Do the test given in Para. 3.A.

EFF: ALL

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TROUBLE SHOOTING MANUAL

CONTROLLING - FAULT ISOLATION PROCEDURES

TASK 73-20-00-810-837

Loss of the HMU Overspeed Governor - Engine 1 - Channel A

1. Possible Causes

R - Hydromechanical Unit (HMU)

- Main Fuel Pump (MFP)
- ECU (4000KS)
- HJ7 harness

2. Job Set-up Information

A. Referenced Information

REFERENCE		DESIGNATION	
AMM AMM AMM AMM	71-00-00-710-003 73-11-10-000-003 73-11-10-400-003 73-21-10-000-002 73-21-10-400-002 73-21-50-000-040 73-21-50-210-001 73-21-50-400-040	Engine Automatic Start Removal of the Fuel Pump and Filter Assembly Installation of the Fuel Pump and Filter Assembly Removal of the Hydromechanical Unit (HMU) Installation of the Hydromechanical Unit (HMU) Removal of the HJ7 Harness Visual Inspection of the Wiring Harness Installation of the HJ7 Harness Removal of the Electronic Control Unit (ECU) Installation of the Electronic Control Unit (ECU)	

3. Fault Confirmation

A. Perfom an engine start (Ref. AMM TASK 71-00-00-710-003).

4. Fault Isolation

R R

- A. This fault is generated if an Overspeed Governor (OSG) switch position fault is detected during an engine start. This fault can be caused by a failed switch in the HMU, an open or short circuit in the HJ7 harness, low fuel pressure to the HMU, or a failed main fuel pump shaft.
 - (1) If the failure message HMU (OSG), J7 occurs during an engine start: - restart the engine to confirm the fault (Ref. AMM TASK 71-00-00-710-003).
 - (a) If the fault does not repeat:
 - no maintenance action is required.

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- (2) If the failure message HMU (OSG), J7 is not confirmed after re-start, but is repetitive:
 - (a) Disconnect the HJ7 harness from the HMU receptacle (HMU-A) (located in the left core compartment).
 - Visually examine the HMU receptacle and the HJ7 harness connector for damaged pins, contamination and fuel wetting (Ref. AMM TASK 73-21-50-210-001).
 - <u>a</u> If harness connector or HMU receptacle is damaged: repair or replace as required.
 - <u>b</u> If no damage is found:reconnect the HJ7 harness.
 - (b) If the HMU part number is 8061-512 (GE SPEC 1348M79P07): - replace the main fuel pump (Ref. AMM TASK 73-11-10-000-003) and (Ref. AMM TASK 73-11-10-400-003).
 - If the fault continues during the subsequent flights: - replace the Hydromechanical Unit (HMU) (Ref. AMM TASK 73-21-10-000-002) and (Ref. AMM TASK 73-21-10-400-002).
 - 2 If the fault continues during the subsequent flights:
 replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001)
 and (Ref. AMM TASK 73-21-60-400-001).
 - If the fault continues during the subsequent flights: - replace the HJ7 harness (Ref. AMM TASK 73-21-50-000-040) and (Ref. AMM TASK 73-21-50-400-040).
 - (c) If the HMU part number is 8061-526 (GE SPEC 1348M79P08) or higher:
 - remove the HMU (Ref. AMM TASK 73-21-10-000-002).
 - 1 Inspect main fuel pump shaft.
 - a If damaged/broken or worn:
 - replace the Main Fuel Pump (MFP) (Ref. AMM TASK 73-11-10-000-003) and (Ref. AMM TASK 73-11-10-400-003).

 - c If the fault continues during the subsequent flights:
 - replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001)
 and (Ref. AMM TASK 73-21-60-400-001).

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- d If the fault continues during the subsequent flights:
 replace the HJ7 harness (Ref. AMM TASK 73-21-50-000-040)
 and (Ref. AMM TASK 73-21-50-400-040).
- (3) If the failure message HMU (OSG), J7 is confirmed:
 - (a) If the HMU part number is 8061-512 (GE SPEC 1348M79P07):
 remove the HMU (Ref. AMM TASK 73-21-10-000-002).
 - 1 Inspect main fuel pump shaft.
 - a If damaged/broken or worn:
 - replace the main fuel pump (Ref. AMM TASK 73-11-10-000-003) and (Ref. AMM TASK 73-11-10-400-003).
 - b If not damaged/broken or worn:
 - replace the HMU (Ref. AMM TASK 73-21-10-000-002) and (Ref. AMM TASK 73-21-10-400-002).
 - 2 If the fault continues during the subsequent flights:
 replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001)
 and (Ref. AMM TASK 73-21-60-400-001).
 - If the fault continues during the subsequent flights:

 replace the HJ7 harness (Ref. AMM TASK 73-21-50-000-040) and
 (Ref. AMM TASK 73-21-50-400-040).
 - (b) If the HMU part number is 8061-526 (GE SPEC 1348M79P08) or higher:
 - disconnect the HJ7 harness from the HMU receptacle (HMU-A) (located in the left core compartment)
 - visually examine the HMU receptacle and the HJ7 harness connector for damaged pins or contamination (Ref. AMM TASK 73-21-50-210-001).
 - 1 If harness connector or HMU receptacle is damaged:
 repair or replace as required.
 - 2 If no damage is found:
 - do an electrical resistance test through the HMU receptacle between:
 - . pins 21 and 41 (< 5 ohms)</pre>
 - pins 21 and 8 (> 10 megohms)
 - . pin 21 and the ground (> 10 megohms).
 - <u>a</u> If the resistance values are out of the specified limits: - replace the HMU (Ref. AMM TASK 73-21-10-000-002) and (Ref. AMM TASK 73-21-10-400-002).
 - <u>b</u> If the resistance values are in the specified limits:
 reconnect the HJ7 harness

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- disconnect the HJ7 harness from the ECU (4000KS) receptacle
- visually examine the ECU (4000KS) receptacle and the HJ7 harness connector for damaged pins or contamination (Ref. AMM TASK 73-21-50-210-001).
- <u>c</u> If harness connector or ECU receptacle is damaged:
 - repair or replace as required.
- d If no damage is found:
 - do an electrical resistance test through the HMU receptacle between:
 - pins 21 and 41 (< 5 ohms)</pre>
 - pins 21 and 8 (> 10 megohms)
 - . pin 21 and the ground (> 10 megohms).
- e If the resistance values are in the specified limits:
 - replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).
- f If the resistance values are out of the specified limits:
 - replace the HJ7 harness (Ref. AMM TASK 73-21-50-000-040) and (Ref. AMM TASK 73-21-50-400-040).
- 3 If the fault continues during the subsequent flights:
 - remove the HMU (Ref. AMM TASK 73-21-10-000-002)
 - inspect main fuel pump shaft.
 - a If damaged/broken or worn:
 - replace the main fuel pump (Ref. AMM TASK 73-11-10-000-003) and (Ref. AMM TASK 73-11-10-400-003).
 - b If not damaged/broken or worn:
 - replace the HMU (Ref. AMM TASK 73-21-10-000-002) and (Ref. AMM TASK 73-21-10-400-002).
- B. Do the test given in Para. 3.A.
 - (1) No additional maintenance action is required if the fault is not confirmed.
 - (2) Repeat the fault isolation procedure if the fault continues.

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TROUBLE SHOOTING MANUAL

TASK 73-20-00-810-838

Loss of the HMU Overspeed Governor - Engine 2 - Channel A

1. Possible Causes

- R - Hydromechanical Unit (HMU)
 - Main Fuel Pump (MFP)
 - ECU (4000KS)
 - HJ7 harness

2. Job Set-up Information

A. Referenced Information

REFERENCE		DESIGNATION
AMM	71-00-00-710-003	Engine Automatic Start
AMM	73-11-10-000-003	Removal of the Fuel Pump and Filter Assembly
AMM	73-11-10-400-003	Installation of the Fuel Pump and Filter Assembly
AMM	73-21-10-000-002	Removal of the Hydromechanical Unit (HMU)
AMM	73-21-10-400-002	Installation of the Hydromechanical Unit (HMU)
AMM	73-21-50-000-040	Removal of the HJ7 Harness
AMM	73-21-50-210-001	Visual Inspection of the Wiring Harness
AMM	73-21-50-400-040	Installation of the HJ7 Harness
AMM	73-21-60-000-001	Removal of the Electronic Control Unit (ECU)
AMM	73-21-60-400-001	Installation of the Electronic Control Unit (ECU)

3. Fault Confirmation

A. Perfom an engine start (Ref. AMM TASK 71-00-00-710-003).

4. Fault Isolation

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- A. This fault is generated if an Overspeed Governor (OSG) switch position fault is detected during an engine start. This fault can be caused by a failed switch in the HMU, an open or short circuit in the HJ7 harness, low fuel pressure to the HMU, or a failed main fuel pump shaft.
 - (1) If the failure message HMU (OSG), J7 occurs during an engine start: - restart the engine to confirm the fault (Ref. AMM TASK 71-00-00-710-003).
 - (a) If the fault does not repeat:
 - no maintenance action is required.

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- (2) If the failure message HMU (OSG), J7 is not confirmed after re-start, but is repetitive:
 - (a) Disconnect the HJ7 harness from the HMU receptacle (HMU-A) (located in the left core compartment).
 - Visually examine the HMU receptacle and the HJ7 harness connector for damaged pins, contamination and fuel wetting (Ref. AMM TASK 73-21-50-210-001).
 - <u>a</u> If harness connector or HMU receptacle is damaged:repair or replace as required.
 - <u>b</u> If no damage is found:reconnect the HJ7 harness.
 - (b) If the HMU part number is 8061-512 (GE SPEC 1348M79P07):replace the main fuel pump (Ref. AMM TASK 73-11-10-000-003) and (Ref. AMM TASK 73-11-10-400-003).
 - If the fault continues during the subsequent flights: - replace the Hydromechanical Unit (HMU) (Ref. AMM TASK 73-21-10-000-002) and (Ref. AMM TASK 73-21-10-400-002).
 - 2 If the fault continues during the subsequent flights:
 replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001)
 and (Ref. AMM TASK 73-21-60-400-001).
 - If the fault continues during the subsequent flights: - replace the HJ7 harness (Ref. AMM TASK 73-21-50-000-040) and (Ref. AMM TASK 73-21-50-400-040).
 - (c) If the HMU part number is 8061-526 (GE SPEC 1348M79P08) or higher:
 - remove the HMU (Ref. AMM TASK 73-21-10-000-002).
 - 1 Inspect main fuel pump shaft.
 - a If damaged/broken or worn:
 - replace the Main Fuel Pump (MFP) (Ref. AMM TASK 73-11-10-000-003) and (Ref. AMM TASK 73-11-10-400-003).

 - <u>c</u> If the fault continues during the subsequent flights: - replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).

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- d If the fault continues during the subsequent flights:
 replace the HJ7 harness (Ref. AMM TASK 73-21-50-000-040)
 and (Ref. AMM TASK 73-21-50-400-040).
- (3) If the failure message HMU (OSG), J7 is confirmed:
 - (a) If the HMU part number is 8061-512 (GE SPEC 1348M79P07): remove the HMU (Ref. AMM TASK 73-21-10-000-002).
 - 1 Inspect main fuel pump shaft.
 - a If damaged/broken or worn:
 - replace the main fuel pump (Ref. AMM TASK 73-11-10-000-003) and (Ref. AMM TASK 73-11-10-400-003).
 - b If not damaged/broken or worn:
 - replace the HMU (Ref. AMM TASK 73-21-10-000-002) and (Ref. AMM TASK 73-21-10-400-002).
 - 2 If the fault continues during the subsequent flights:
 replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001)
 and (Ref. AMM TASK 73-21-60-400-001).
 - If the fault continues during the subsequent flights:

 replace the HJ7 harness (Ref. AMM TASK 73-21-50-000-040) and
 (Ref. AMM TASK 73-21-50-400-040).
 - (b) If the HMU part number is 8061-526 (GE SPEC 1348M79P08) or higher:
 - disconnect the HJ7 harness from the HMU receptacle (HMU-A) (located in the left core compartment)
 - visually examine the HMU receptacle and the HJ7 harness connector for damaged pins or contamination (Ref. AMM TASK 73-21-50-210-001).
 - 1 If harness connector or HMU receptacle is damaged:

 repair or replace as required.
 - 2 If no damage is found:
 - do an electrical resistance test through the HMU receptacle between:
 - . pins 21 and 41 (< 5 ohms)</pre>
 - pins 21 and 8 (> 10 megohms)
 - . pin 21 and the ground (> 10 megohms).
 - <u>a</u> If the resistance values are out of the specified limits: - replace the HMU (Ref. AMM TASK 73-21-10-000-002) and (Ref. AMM TASK 73-21-10-400-002).
 - <u>b</u> If the resistance values are in the specified limits:
 reconnect the HJ7 harness

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- disconnect the HJ7 harness from the ECU (4000KS) receptacle
- visually examine the ECU (4000KS) receptacle and the HJ7 harness connector for damaged pins or contamination (Ref. AMM TASK 73-21-50-210-001).
- <u>c</u> If harness connector or ECU receptacle is damaged:
 - repair or replace as required.
- d If no damage is found:
 - do an electrical resistance test through the HMU receptacle between:
 - . pins 21 and 41 (< 5 ohms)</pre>
 - . pins 21 and 8 (> 10 megohms)
 - . pin 21 and the ground (> 10 megohms).
- e If the resistance values are in the specified limits:
 - replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).
- f If the resistance values are out of the specified limits:
 - replace the HJ7 harness (Ref. AMM TASK 73-21-50-000-040) and (Ref. AMM TASK 73-21-50-400-040).
- 3 If the fault continues during the subsequent flights:
 - remove the HMU (Ref. AMM TASK 73-21-10-000-002)
 - inspect main fuel pump shaft.
 - a If damaged/broken or worn:
 - replace the main fuel pump (Ref. AMM TASK 73-11-10-000-003) and (Ref. AMM TASK 73-11-10-400-003).
 - b If not damaged/broken or worn:
 - replace the HMU (Ref. AMM TASK 73-21-10-000-002) and (Ref. AMM TASK 73-21-10-400-002).
- B. Do the test given in Para. 3.A.
 - (1) No additional maintenance action is required if the fault is not confirmed.
 - (2) Repeat the fault isolation procedure if the fault continues.

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TROUBLE SHOOTING MANUAL

TASK 73-20-00-810-841

Loss of the Signal of the Channel A TCC-Sensor on Engine 1

- 1. Possible Causes
 - TCC sensor
 - harness CJ13
 - harness HJ13
 - ECU (4000KS)
- 2. Job Set-up Information
 - A. Fixtures, Tools, Test and Support Equipment

REFERENCE QTY DESIGNATION

bristle brush No specific No specific soft nose pliers

B. Consumable Materials

REFERENCE DESIGNATION

Material No. CP2011

stoddard solvent (Ref. 70-30-00)

C. Referenced Information

DESIGNATION ------

AMM 73-21-50-000-029 Removal of the CJ13 Harness

AMM 73-21-50-000-046 Removal of the HJ13 Harness AMM 73-21-50-210-002 Visual Inspection of the Wiring Harnesses

Installation of the CJ13 Harness AMM 73-21-50-400-029

AMM 73-21-50-400-046 Installation of the HJ13 Harness

AMM 73-21-60-000-001 Removal of the Electronic Control Unit (ECU) AMM 73-21-60-400-001 Installation of the Electronic Control Unit (ECU) AMM 73-21-70-000-002 Removal of the High Pressure Turbine Clearance

Control (HPTCC) Sensor

AMM 73-21-70-400-002 Installation of the High Pressure Turbine Clearance

Control (HPTCC) Sensor

AMM 73-29-00-710-040 Operational Test of the FADEC on the Ground (with

Engine non Motoring)

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3. Fault Confirmation

A. Do the operational test of the FADEC 1 on the ground (with engine non motoring) (Ref. AMM TASK 73-29-00-710-040).

4. Fault Isolation

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A. For configuration pre SB CFMI73-046

NOTE: The failure message is triggered if the TCC sensor channel A input is invalid (signal out of range) and the fault lasts for more than 20 seconds.

- (1) If the failure message TCC SNSR, J13, ECU is not confirmed:
 - (a) Do the following trouble shooting at next maintenance opportunity:
 - disconnect the CJ13 connector (TCC-A) from the TCC sensor (9 0'Clock).
 - visually examine the harness connector and sensor receptacle for damaged pins or contamination/oxidation.
 - if damage is found, repair or replace as required.
 - do a cleaning of the connector and receptacle using a bristle brush with stoddard solvent (Material No. CP2011) (Ref. AMM TASK 73-21-50-210-002).
 - connect the harness connector to the sensor. Tighten the connector by hand plus one eighth of a turn. If necessary use soft nose pliers.
- (2) If the failure message TCC SNSR, J13, ECU is not confirmed but is repetitive:
 - (a) Do the following trouble shooting at next maintenance opportunity:
 - disconnect the CJ13 connector (TCC-A) from the TCC sensor (9 O'Clock).
 - do a cleaning of the harness connector using a bristle brush with stoddard solvent (Material No. CP2011) (Ref. AMM TASK 73-21-50-210-002).
 - replace the TCC sensor (Ref. AMM TASK 73-21-70-000-002) and (Ref. AMM TASK 73-21-70-400-002).

NOTE: Tighten the connector by hand plus one eighth of a turn.

If necessary use soft nose pliers.

- 1 If the fault continues:
 - disconnect the harness HJ13 from the ECU (4000KS) connector and the 6 o'clock junction box.
 - visually examine the harness connectors for damaged pins or contamination/oxidation.
 - if damage is found, repair or replace as required.

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- do a cleaning of the connectors and receptacles using a bristle brush with stoddard solvent (Material No. CP2011) (Ref. AMM TASK 73-21-50-210-002).
- 2 If the fault continues:
 - replace the harness CJ13 (Ref. AMM TASK 73-21-50-000-029) and (Ref. AMM TASK 73-21-50-400-029).
- 3 If the fault continues:
 - replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).
- 4 If the fault continues:
 - replace the harness HJ13 (Ref. AMM TASK 73-21-50-000-046) and (Ref. AMM TASK 73-21-50-400-046).
- (3) If the failure message TCC SNSR, J13, ECU is confirmed:
 - (a) Disconnect the connector (TCC-A) on the harness CJ13 from the TCC sensor (9 O'Clock):
 - do a visual inspection of the harness connector and receptacle. Look for contamination or oxidation or pins that have damage.
 - if you find damage, repair or replace as required.
 - clean the connector and receptacle with a bristle brush and stoddard solvent (Material No. CP2011) (Ref. AMM TASK 73-21-50-210-002).
 - (b) Do a check of the resistance as follows:
 - place the positive (+) lead of an ohmmeter on the TCC sensor pin A and the negative (-) lead of the ohmmeter on the TCC sensor pin B. Record as r1.
 - place the positive (+) lead of an ohmmeter on the TCC sensor pin B and the negative (-) lead of the ohmmeter on the TCC sensor pin A. Record as r2.
 - find the average (r1+r2/2) (2.4 to 4.2 ohms).
 - If the resistance values are out of the specified limits: - replace the TCC sensor (Ref. AMM TASK 73-21-70-000-002) and (Ref. AMM TASK 73-21-70-400-002).

<u>NOTE</u>: Tighten the connector by hand plus one eighth of a turn. If necessary use soft nose pliers.

2 If the resistance values are in the specified limits:

NOTE: Tighten the connector by hand plus one eighth of a turn. If necessary use soft nose pliers.

- disconnect the harness CJ13 from the 6 o'clock junction box and do a check of the CJ13 resistance cable between:
 - pins 5 and 6 (2.4 to 4.2 0hms)
 - . pins 5 and 4 (> 10 Megohms)

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- . pin 5 and ground (> 10 Megohms).
- <u>a</u> If the resistance values are out of the specified limits: - replace the harness CJ13 (Ref. AMM TASK 73-21-50-000-029) and (Ref. AMM TASK 73-21-50-400-029).
- b If the resistance values are in the specified limits:
 - disconnect the harness HJ13 from the ECU receptacle and do a check of the resistance between:
 - . pins 7 and 8 (2.4 to 4.2 0hms)
 - . pins 7 and 17 (> 10 Megohms)
 - . pin 7 and ground (> 10 Megohms).
 - * If the resistance values are out of the specified limits:
 - replace the harness HJ13 (Ref. AMM TASK 73-21-50-000-046) and (Ref. AMM TASK 73-21-50-400-046).
 - * If the resistance values are in the specified limits: replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).
- B. For configuration post SB CFMI73-046.
 - NOTE: The failure message is triggered if the TCC sensor channel A input is invalid (signal out of range) and the fault lasts for more than 20 seconds.
 - (1) If the failure message TCC SNSR, J13, ECU is not confirmed:
 - (a) Do the following trouble shooting at next maintenance opportunity:
 - disconnect the CJ13 connector (TCC-B) from the TCC sensor (3 O'Clock).
 - visually examine the harness connector and sensor receptacle for damaged pins or contamination/oxidation.
 - if damage is found, repair or replace as required.
 - do a cleaning of the connector and receptacle using a bristle brush with stoddard solvent (Material No. CP2011) (Ref. AMM TASK 73-21-50-210-002).
 - connect the harness connector (TCC-B) to the sensor. Tighten the connector by hand plus one eighth of a turn. If necessary use soft nose pliers.
 - (2) If the failure message TCC SNSR, J13, ECU is not confirmed but is repetitive:
 - (a) Do the following trouble shooting at next maintenance opportunity:
 - disconnect the HJ13 connector from the ECU connector.
 - visually examine the harness connector and ECU receptacle for damaged pins or contamination/oxidation.

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- if damage is found, repair or replace as required.
- do a cleaning of the harness connectors and receptacles using a bristle brush with stoddard solvent (Material No. CP2011) (Ref. AMM TASK 73-21-50-210-002).
- 1 If the fault continues:
 - replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).
- 2 If the fault continues:
 - replace the harness HJ13 (Ref. AMM TASK 73-21-50-000-046) and (Ref. AMM TASK 73-21-50-400-046).
- 3 If the fault continues:
 - disconnect the CJ13 connector (TCC-B) from the TCC sensor (3 O'Clock).
 - do a cleaning of the harness connector using a bristle brush with stoddard solvent (Material No. CP2011) (Ref. AMM TASK 73-21-50-210-002).
 - replace the TCC sensor (Ref. AMM TASK 73-21-70-000-002) and (Ref. AMM TASK 73-21-70-400-002).

NOTE: Tighten the connector by hand plus one eighth of a turn. If necessary use soft nose pliers.

- 4 If the fault continues:
 - replace the harness CJ13 (Ref. AMM TASK 73-21-50-000-029) and (Ref. AMM TASK 73-21-50-400-029).
- (3) If the failure message TCC SNSR, J13, ECU is confirmed only on channel B:
 - (a) Disconnect the connector (TCC-B) on the harness CJ13 from the TCC sensor (3 0'Clock):
 - do a visual inspection of the harness connector and receptacle. Look for contamination or oxidation or pins that have damage.
 - if you find damage, repair or replace as required.
 - clean the connector and receptacle with a bristle brush and stoddard solvent (Material No. CP2011) (Ref. AMM TASK 73-21-50-210-002).
 - (b) Do a check of the resistance as follows:
 - place the positive (+) lead of an ohmmeter on the TCC sensor pin A and the negative (-) lead of the ohmmeter on the TCC sensor pin B. Record as r1.
 - place the positive (+) lead of an ohmmeter on the TCC sensor pin B and the negative (-) lead of the ohmmeter on the TCC sensor pin A. Record as r2.
 - find the average (r1+r2/2) (2.4 to 4.2 ohms).

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- If the resistance values are out of the specified limits: - replace the TCC sensor (Ref. AMM TASK 73-21-70-000-002) and (Ref. AMM TASK 73-21-70-400-002).
 - NOTE: Tighten the connector by hand plus one eighth of a turn. If necessary use soft nose pliers.
- 2 If the resistance values are in the specified limits:
 - disconnect the harness CJ13 from the 6 o'clock junction box and do a check of the CJ13 resistance cable between:
 - . pins 5 and 6 (2.4 to 4.2 0hms)
 - pins 5 and 4 (> 10 Megohms)
 - . pin 5 and ground (> 10 Megohms).
 - <u>a</u> If the resistance values are out of the specified limits: - replace the harness CJ13 (Ref. AMM TASK 73-21-50-000-029) and (Ref. AMM TASK 73-21-50-400-029).
 - b If the resistance values are in the specified limits:
 - disconnect the harness HJ13 from the ECU receptacle and do a check of the resistance between:
 - . pins 7 and 8 (2.4 to 4.2 0hms)
 - pins 7 and 17 (> 10 Megohms)
 - . pin 7 and ground (> 10 Megohms).
 - * If the resistance values are out of the specified limits:
 - replace the harness HJ13 (Ref. AMM TASK 73-21-50-000-046) and (Ref. AMM TASK 73-21-50-400-046).
 - * If the resistance values are in the specified limits: replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).
- C. Do the test given in Para. 3.A.
 - (1) No additional maintenance action is required if the fault is not confirmed.
 - (2) Repeat the fault isolation procedure if the fault continues.

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TROUBLE SHOOTING MANUAL

TASK 73-20-00-810-842

Loss of the Signal of the Channel A TCC-Sensor on Engine 2

- 1. Possible Causes
 - TCC sensor
 - harness CJ13
 - harness HJ13
 - ECU (4000KS)
- Job Set-up Information
 - A. Fixtures, Tools, Test and Support Equipment

REFERENCE QTY DESIGNATION

No specific bristle brush
No specific soft nose pliers

B. Consumable Materials

REFERENCE DESIGNATION

Material No. CP2011 *

stoddard solvent (Ref. 70-30-00)

C. Referenced Information

REFERENCE DESIGNATION

AMM 73-21-50-000-029 Removal of the CJ13 Harness

AMM 73-21-50-000-046 Removal of the HJ13 Harness

AMM 73-21-50-210-002 Visual Inspection of the Wiring Harnesses

AMM 73-21-50-400-029 Installation of the CJ13 Harness AMM 73-21-50-400-046 Installation of the HJ13 Harness

AMM 73-21-60-000-001 Removal of the Electronic Control Unit (ECU)
AMM 73-21-60-400-001 Installation of the Electronic Control Unit (ECU)

AMM 73-21-70-000-002 Removal of the High Pressure Turbine Clearance Control (HPTCC) Sensor

AMM 73-21-70-400-002 Installation of the High Pressure Turbine Clearance

Control (HPTCC) Sensor

AMM 73-29-00-710-040 Operational Test of the FADEC on the Ground (with

Engine non Motoring)

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3. Fault Confirmation

A. Do the operational test of the FADEC 2 on the ground (with engine non motoring) (Ref. AMM TASK 73-29-00-710-040).

4. Fault Isolation

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A. For configuration pre SB CFMI73-046

NOTE: The failure message is triggered if the TCC sensor channel A input is invalid (signal out of range) and the fault lasts for more than 20 seconds.

(1) If the failure message TCC SNSR, J13, ECU is not confirmed:

- (a) Do the following trouble shooting at next maintenance opportunity:
 - disconnect the CJ13 connector (TCC-A) from the TCC sensor (9 0'Clock).
 - visually examine the harness connector and sensor receptacle for damaged pins or contamination/oxidation.
 - if damage is found, repair or replace as required.
 - do a cleaning of the connector and receptacle using a bristle brush with stoddard solvent (Material No. CP2011) (Ref. AMM TASK 73-21-50-210-002).
 - connect the harness connector to the sensor. Tighten the connector by hand plus one eighth of a turn. If necessary use soft nose pliers.
- (2) If the failure message TCC SNSR, J13, ECU is not confirmed but is repetitive:
 - (a) Do the following trouble shooting at next maintenance opportunity:
 - disconnect the CJ13 connector (TCC-A) from the TCC sensor (9 O'Clock).
 - do a cleaning of the harness connector using a bristle brush with stoddard solvent (Material No. CP2011) (Ref. AMM TASK 73-21-50-210-002).
 - replace the TCC sensor (Ref. AMM TASK 73-21-70-000-002) and (Ref. AMM TASK 73-21-70-400-002).

NOTE: Tighten the connector by hand plus one eighth of a turn.

If necessary use soft nose pliers.

- 1 If the fault continues:
 - disconnect the harness HJ13 from the ECU (4000KS) connector and the 6 o'clock junction box.
 - visually examine the harness connectors for damaged pins or contamination/oxidation.
 - if damage is found, repair or replace as required.

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- do a cleaning of the connectors and receptacles using a bristle brush with stoddard solvent (Material No. CP2011) (Ref. AMM TASK 73-21-50-210-002).
- 2 If the fault continues:
 - replace the harness CJ13 (Ref. AMM TASK 73-21-50-000-029) and (Ref. AMM TASK 73-21-50-400-029).
- 3 If the fault continues:
 - replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).
- 4 If the fault continues:
 - replace the harness HJ13 (Ref. AMM TASK 73-21-50-000-046) and (Ref. AMM TASK 73-21-50-400-046).
- (3) If the failure message TCC SNSR, J13, ECU is confirmed:
 - (a) Disconnect the connector (TCC-A) on the harness CJ13 from the TCC sensor (9 O'Clock) and do a check of the resistance as follows:
 - place the positive (+) lead of an ohmmeter on the TCC sensor pin A and the negative (-) lead of the ohmmeter on the TCC sensor pin B. Record as r1.
 - place the positive (+) lead of an ohmmeter on the TCC sensor pin B and the negative (-) lead of the ohmmeter on the TCC sensor pin A. Record as r2.
 - find the average (r1+r2/2) (2.4 to 4.2 ohms).
 - If the resistance values are out of the specified limits: - replace the TCC sensor (Ref. AMM TASK 73-21-70-000-002) and (Ref. AMM TASK 73-21-70-400-002).
 - <u>NOTE</u>: Tighten the connector by hand plus one eighth of a turn. If necessary use soft nose pliers.
 - 2 If the resistance values are in the specified limits:
 - NOTE: Tighten the connector by hand plus one eighth of a turn. If necessary use soft nose pliers.
 - disconnect the harness CJ13 from the 6 o'clock junction box and do a check of the CJ13 resistance cable between:
 - . pins 5 and 6 (2.4 to 4.2 0hms)
 - . pins 5 and 4 (> 10 Megohms)
 - . pin 5 and ground (> 10 Megohms).
 - a If the resistance values are out of the specified limits: - replace the harness CJ13 (Ref. AMM TASK 73-21-50-000-029) and (Ref. AMM TASK 73-21-50-400-029).

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b If the resistance values are in the specified limits:

- disconnect the harness HJ13 from the ECU receptacle and do a check of the resistance between:
 - . pins 7 and 8 (2.4 to 4.2 0hms)
 - pins 7 and 17 (> 10 Megohms)
 - . pin 7 and ground (> 10 Megohms).
 - * If the resistance values are out of the specified limits:
 - replace the harness HJ13 (Ref. AMM TASK 73-21-50-000-046) and (Ref. AMM TASK 73-21-50-400-046).
 - * If the resistance values are in the specified limits: replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).
- B. For configuration post SB CFMI73-046.

NOTE: The failure message is triggered if the TCC sensor channel A input is invalid (signal out of range) and the fault lasts for more than 20 seconds.

- (1) If the failure message TCC SNSR, J13, ECU is not confirmed:
 - (a) Do the following trouble shooting at next maintenance opportunity:
 - disconnect the CJ13 connector (TCC-B) from the TCC sensor (3 O'Clock).
 - visually examine the harness connector and sensor receptacle for damaged pins or contamination/oxidation.
 - if damage is found, repair or replace as required.
 - do a cleaning of the connector and receptacle using a bristle brush with stoddard solvent (Material No. CP2011) (Ref. AMM TASK 73-21-50-210-002).
 - connect the harness connector (TCC-B) to the sensor. Tighten the connector by hand plus one eighth of a turn. If necessary use soft nose pliers.
- (2) If the failure message TCC SNSR, J13, ECU is not confirmed but is repetitive:
 - (a) Do the following trouble shooting at next maintenance opportunity:
 - disconnect the HJ13 connector from the ECU connector.
 - visually examine the harness connector and ECU receptacle for damaged pins or contamination/oxidation.
 - if damage is found, repair or replace as required.
 - do a cleaning of the harness connectors and receptacles using a bristle brush with stoddard solvent (Material No. CP2011) (Ref. AMM TASK 73-21-50-210-002).

EFF: ALL

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SROS

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- 1 If the fault continues:
 - replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).
- If the fault continues:
 - replace the harness HJ13 (Ref. AMM TASK 73-21-50-000-046) and (Ref. AMM TASK 73-21-50-400-046).
- If the fault continues:
 - disconnect the CJ13 connector (TCC-B) from the TCC sensor (3 O'Clock).
 - do a cleaning of the harness connector using a bristle brush with stoddard solvent (Material No. CP2011) (Ref. AMM TASK 73-21-50-210-002).
 - replace the TCC sensor (Ref. AMM TASK 73-21-70-000-002) and (Ref. AMM TASK 73-21-70-400-002).

NOTE: Tighten the connector by hand plus one eighth of a turn. If necessary use soft nose pliers.

- If the fault continues:
 - replace the harness CJ13 (Ref. AMM TASK 73-21-50-000-029) and (Ref. AMM TASK 73-21-50-400-029).
- (3) If the failure message TCC SNSR, J13, ECU is confirmed only on channel B:
 - (a) Disconnect the connector (TCC-B) on the harness CJ13 from the TCC sensor (3 o'clock) and do a check of the resistance as follows:
 - place the positive (+) lead of an ohmmeter on the TCC sensor pin A and the negative (-) lead of the ohmmeter on the TCC sensor pin B. Record as r1.
 - place the positive (+) lead of an ohmmeter on the TCC sensor pin B and the negative (-) lead of the ohmmeter on the TCC sensor pin A. Record as r2.
 - find the average (r1+r2/2) (2.4 to 4.2 ohms).
 - If the resistance values are out of the specified limits: - replace the TCC sensor (Ref. AMM TASK 73-21-70-000-002) and (Ref. AMM TASK 73-21-70-400-002).

NOTE: Tighten the connector by hand plus one eighth of a turn. If necessary use soft nose pliers.

- If the resistance values are in the specified limits:
 - disconnect the harness CJ13 from the 6 o'clock junction box and do a check of the CJ13 resistance cable between:
 - . pins 5 and 6 (2.4 to 4.2 0hms)
 - pins 5 and 4 (> 10 Megohms)
 - pin 5 and ground (> 10 Megohms).

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R R R	<u>a</u>	If the resistance values are out of the specified limits: - replace the harness CJ13 (Ref. AMM TASK 73-21-50-000-029) and (Ref. AMM TASK 73-21-50-400-029).
R R R R R	<u>b</u>	<pre>If the resistance values are in the specified limits: - disconnect the harness HJ13 from the ECU receptacle and do a check of the resistance between: . pins 7 and 8 (2.4 to 4.2 0hms) . pins 7 and 17 (> 10 Megohms) . pin 7 and ground (> 10 Megohms).</pre>
R R R		* If the resistance values are out of the specified limits: - replace the harness HJ13 (Ref. AMM TASK 73-21-50-000-046) and (Ref. AMM TASK 73-21-50-400-046).
R R		* If the resistance values are in the specified limits: - replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).

- C. Do the test given in Para. 3.A.
 - (1) No additional maintenance action is required if the fault is not confirmed.
 - (2) Repeat the fault isolation procedure if the fault continues.

EFF: ALL

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TROUBLE SHOOTING MANUAL

TASK 73-20-00-810-843

Loss of the Output B Bus on EIU 1

1. Possible Causes

- EIU-1 (1KS1)
- wiring from the EIU 1 (1KS1) pins AB/5H, 5K to the first terminal block
- ECU (4000KS)

2. Job Set-up Information

A. Referenced Information

REFERENCE		DESIGNATION	
AMM	31-50-00-710-001	Ground Scanning of the Central Warning System	
AMM	73-21-60-000-001	Removal of the Electronic Control Unit (ECU)(4000KS)	
AMM	73-21-60-400-001	<pre>Installation of the Electronic Control Unit (ECU)(4000KS)</pre>	
AMM	73-25-34-000-040	Removal of the Engine Interface Unit (EIU) (1KS1,1KS2)	
AMM	73-25-34-400-040	<pre>Installation of the Engine Interface Unit (EIU) (1KS1,1KS2)</pre>	
ASM	73-25/05		
ASM	73-25/06		

3. Fault Confirmation

A. Make sure that this(these) circuit breaker(s) is(are) closed:

PANEL	DESIGNATION	IDENT.	LOCATION
49VU	ENGINE/1/FADEC A/AND EIU 1	2K\$1	A04
12 1VU	ENGINE/ENG1/FADEC B/AND EIU 1	4KS1	R41

B. Do the operational test of the Central Warning Systems (FWC) (Ref. AMM TASK 31-50-00-710-001).

4. Fault Isolation

- A. If the test gives the maintenance message FWC1: NO DATA FROM EIU1: do a check for 28VDC at EIU 1 pins AC/9, 11.
 - (1) If there is 28VDC:
 - replace the EIU-1 (1KS1) (Ref. AMM TASK 73-25-34-000-040) and (Ref. AMM TASK 73-25-34-400-040) (Ref. ASM 73-25/05).

EFF: ALL

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- (2) If the fault continues:
 - do a check and repair the wiring from the EIU 1 (1KS1) pins AB/5H, 5K to the first terminal block (Ref. ASM 73-25/06).
- (3) If the fault continues:
 - replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).
- B. Do the test given in Para. 3.

EFF: ALL SROS

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TASK 73-20-00-810-844

Loss of the Output B Bus on EIU 1

1. Possible Causes

- EIU-1 (1KS1)
- wiring from the EIU 1 (1KS1) pins AB/5H, 5K to the first terminal block
- ECU (4000KS)

2. Job Set-up Information

A. Referenced Information

REFERENCE		DESIGNATION	
AMM	31-50-00-710-001	Ground Scanning of the Central Warning System	
AMM	73-21-60-000-001	Removal of the Electronic Control Unit (ECU)(4000KS)	
AMM	73-21-60-400-001	<pre>Installation of the Electronic Control Unit (ECU)(4000KS)</pre>	
AMM	73-25-34-000-040	Removal of the Engine Interface Unit (EIU) (1KS1,1KS2)	
AMM	73-25-34-400-040	Installation of the Engine Interface Unit (EIU) (1K\$1,1K\$2)	
ASM	73-25/05		
ASM	73-25/06		

3. Fault Confirmation

A. Make sure that this(these) circuit breaker(s) is(are) closed:

PANEL	DESIGNATION	IDENT.	LOCATION
49٧0	ENGINE/1/FADEC A/AND EIU 1	2K\$1	A04
121VU	ENGINE/ENG1/FADEC B/AND EIU 1	4KS1	R41

B. Do the operational test of the Central Warning Systems (FWC) (Ref. AMM TASK 31-50-00-710-001).

4. Fault Isolation

- A. If the test gives the maintenance message FWC2: NO DATA FROM EIU1: do a check for 28VDC at EIU 1 pins AC/9, 11.
 - (1) If there is 28VDC:
 - replace the EIU-1 (1KS1) (Ref. AMM TASK 73-25-34-000-040) and (Ref. AMM TASK 73-25-34-400-040) (Ref. ASM 73-25/05).

EFF: ALL

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- (2) If the fault continues:
 - do a check and repair the wiring from the EIU 1 (1KS1) pins AB/5H, 5K to the first terminal block (Ref. ASM 73-25/06).
- (3) If the fault continues:
 - replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).
- B. Do the test given in Para. 3.

EFF: ALL

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TASK 73-20-00-810-845

Loss of the Output B Bus on EIU 1

1. Possible Causes

- EIU-1 (1KS1)
- wiring from the EIU 1 (1KS1) pins AB/5H, 5K to the first terminal block
- ECU (4000KS)

2. Job Set-up Information

A. Referenced Information

REFERENCE		DESIGNATION	
AMM	31-32-00-869-002	Procedure for Class 3 Faults Reading	
AMM	73-21-60-000-001	Removal of the Electronic Control Unit (ECU)(4000KS)	
AMM	73-21-60-400-001	Installation of the Electronic Control Unit (ECU)(4000KS)	
AMM	73-25-34-000-040	Removal of the Engine Interface Unit (EIU) (1KS1,1KS2)	
AMM	73-25-34-400-040	Installation of the Engine Interface Unit (EIU) (1KS1,1KS2)	
ASM	73-25/05		
ASM	73-25/06		

3. Fault Confirmation

A. Make sure that this(these) circuit breaker(s) is(are) closed:

PANEL	DESIGNATION	IDENT.	LOCATION
49VU	ENGINE/1/FADEC A/AND EIU 1	2K\$1	A04
12 1VU	ENGINE/ENG1/FADEC B/AND EIU 1	4KS1	R41

B. Test

On the CFDS MENU page, get access to the AVIONICS STATUS page (Ref. AMM TASK 31-32-00-869-002).

4. Fault Isolation

- A. If the test gives the maintenance message NO EIU1 DATA:
 - do a check for 28VDC at EIU 1 pins AC/9, 11.
 - (1) If there is 28VDC:
 - replace the EIU-1 (1KS1) (Ref. AMM TASK 73-25-34-000-040) and (Ref. AMM TASK 73-25-34-400-040) (Ref. ASM 73-25/05).

EFF: ALL

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- (2) If the fault continues:
 - do a check and repair the wiring from the EIU 1 (1KS1) pins AB/5H, 5K to the first terminal block (Ref. ASM 73-25/06).
- (3) If the fault continues:
 - replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).
- B. Do the test given in Para. 3.

EFF: ALL 73-20-00

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TROUBLE SHOOTING MANUAL

TASK 73-20-00-810-846

Loss of the Output B Bus on EIU 2

1. Possible Causes

- EIU-2 (1KS2)
- wiring from the EIU 2 (1KS2) pins AB/5H, 5K to the first terminal block
- ECU (4000KS)

2. Job Set-up Information

A. Referenced Information

REFERENCE		DESIGNATION	
AMM	31-50-00-710-001	Ground Scanning of the Central Warning System	
AMM	73-21-60-000-001	Removal of the Electronic Control Unit (ECU)(4000KS)	
AMM	73-21-60-400-001	<pre>Installation of the Electronic Control Unit (ECU)(4000KS)</pre>	
AMM	73-25-34-000-040	Removal of the Engine Interface Unit (EIU) (1KS1,1KS2)	
AMM	73-25-34-400-040	Installation of the Engine Interface Unit (EIU) (1KS1,1KS2)	
ASM	73-25/05		
ASM	73-25/06		

3. Fault Confirmation

A. Make sure that this(these) circuit breaker(s) is(are) closed:

PANEL	DESIGNATION	IDENT.	LOCATION
	ENGINE/2/FADEC A/AND EIU 2	2K\$2	A05
12 1VU	ENGINE/ENG2/FADEC B	4KS2	Q4 0

B. Do the operational test of the Central Warning Systems (FWC) (Ref. AMM TASK 31-50-00-710-001).

4. Fault Isolation

- A. If the test gives the maintenance message FWC1: NO DATA FROM EIU2: do a check for 28VDC at EIU 2 pins AC/9, 11.
 - (1) If there is 28VDC:
 - replace the EIU-2 (1KS2) (Ref. AMM TASK 73-25-34-000-040) and (Ref. AMM TASK 73-25-34-400-040) (Ref. ASM 73-25/05).

EFF: ALL

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- (2) If the fault continues:
 - do a check and repair the wiring from the EIU 2 (1KS2) pins AB/5H, 5K to the first terminal block (Ref. ASM 73-25/06).
- (3) If the fault continues:
 - replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).
- B. Do the test given in Para. 3.

EFF: ALL SROS 73-20-00

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TROUBLE SHOOTING MANUAL

TASK 73-20-00-810-847

Loss of the Output B Bus on EIU 2

1. Possible Causes

- EIU-2 (1KS2)
- wiring from the EIU 2 (1KS2) pins AB/5H, 5K to the first terminal block
- ECU (4000KS)

2. Job Set-up Information

A. Referenced Information

REFERENCE		DESIGNATION	
AMM	31-50-00-710-001	Ground Scanning of the Central Warning System	
AMM	73-21-60-000-001	Removal of the Electronic Control Unit (ECU)(4000KS)	
AMM	73-21-60-400-001	<pre>Installation of the Electronic Control Unit (ECU)(4000KS)</pre>	
AMM	73-25-34-000-040	Removal of the Engine Interface Unit (EIU) (1KS1,1KS2)	
AMM	73-25-34-400-040	Installation of the Engine Interface Unit (EIU) (1KS1,1KS2)	
ASM	73-25/05		
ASM	73-25/06		

3. Fault Confirmation

A. Make sure that this(these) circuit breaker(s) is(are) closed:

PANEL	DESIGNATION	IDENT.	LOCATION
49VU	ENGINE/2/FADEC A/AND EIU 2	2K\$2	A05
121VU	ENGINE/ENG2/FADEC B	4KS2	Q40

B. Do the operational test of the Central Warning Systems (FWC) (Ref. AMM TASK 31-50-00-710-001).

4. Fault Isolation

- A. If the test gives the maintenance message FWC2: NO DATA FROM EIU2: do a check for 28VDC at EIU 2 pins AC/9, 11.
 - (1) If there is 28VDC:
 - replace the EIU-2 (1KS2) (Ref. AMM TASK 73-25-34-000-040) and (Ref. AMM TASK 73-25-34-400-040) (Ref. ASM 73-25/05).

EFF: ALL

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- (2) If the fault continues:
 - do a check and repair the wiring from the EIU 2 (1KS2) pins AB/5H, 5K to the first terminal block (Ref. ASM 73-25/06).
- (3) If the fault continues:
 - replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).
- B. Do the test given in Para. 3.

EFF: ALL SROS 73-20-00

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TROUBLE SHOOTING MANUAL

TASK 73-20-00-810-848

Loss of the Output B Bus on EIU 2

1. Possible Causes

- EIU-2 (1KS2)
- wiring from the EIU 2 (1KS2) pins AB/5H, 5K to the first terminal block
- ECU (4000KS)

2. Job Set-up Information

A. Referenced Information

REFERENCE		DESIGNATION
	74 70 00 040 000	
AMM	31-32-00-869-002	Procedure for Class 3 Faults Reading
AMM	73-21-60-000-001	Removal of the Electronic Control Unit (ECU)(4000KS)
AMM	73-21-60-400-001	<pre>Installation of the Electronic Control Unit (ECU)(4000KS)</pre>
AMM	73-25-34-000-040	Removal of the Engine Interface Unit (EIU) (1KS1,1KS2)
AMM	73-25-34-400-040	Installation of the Engine Interface Unit (EIU) (1KS1,1KS2)
ASM	73-25/05	
ASM	73-25/06	

3. Fault Confirmation

A. Make sure that this(these) circuit breaker(s) is(are) closed:

PANEL	DESIGNATION	IDENT.	LOCATION
49VU	ENGINE/2/FADEC A/AND EIU 2	2K\$2	A05
12 1VU	ENGINE/ENG2/FADEC B	4KS2	Q40

B. Test

On the CFDS MENU page, get access to the AVIONICS STATUS page (Ref. AMM TASK 31-32-00-869-002).

4. Fault Isolation

- A. If the test gives the maintenance message NO EIU2 DATA:
 - do a check for 28VDC at EIU 2 pins AC/9, 11.
 - (1) If there is 28VDC:
 - replace the EIU-2 (1KS2) (Ref. AMM TASK 73-25-34-000-040) and (Ref. AMM TASK 73-25-34-400-040) (Ref. ASM 73-25/05).

EFF: ALL

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- (2) If the fault continues:
 - do a check and repair the wiring from the EIU 2 (1KS2) pins AB/5H, 5K to the first terminal block (Ref. ASM 73-25/06).
- (3) If the fault continues:
 - replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).
- B. Do the test given in Para. 3.

EFF: ALL

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TROUBLE SHOOTING MANUAL

TASK 73-20-00-810-849

Loss of the Channel B on the Engine 1

- 1. Possible Causes
 - EIU-1 (1KS1)
 - ECU (4000KS)
 - harness J2
 - aircraft wiring
 - C/B-ENGINE/ENG 1/FADEC B/AND EIU 1 (4KS1)
- 2. Job Set-up Information
 - A. Referenced Information

REFERENCE		DESIGNATION
AMM	73-21-60-000-001	Removal of the Electronic Control Unit (ECU)(4000KS)
AMM	73-21-60-400-001	<pre>Installation of the Electronic Control Unit (ECU)(4000KS)</pre>
AMM	73-25-34-000-040	Removal of the Engine Interface Unit (EIU) (1KS1,1KS2)
AMM	73-25-34-400-040	<pre>Installation of the Engine Interface Unit (EIU) (1KS1,1KS2)</pre>
AMM	73-29-00-710-040	Operational Test of the FADEC on the ground (with Engine Motoring)
ASM	73-25/05	
ASM	73-25/08	

3. Fault Confirmation

A. Make sure that this(these) circuit breaker(s) is(are) closed:

PANEL DESIGNATION IDENT. LOCATION

121VU ENGINE/ENG1/FADEC B/AND EIU 1

4KS1

R41

B. Test

- (1) If the circuit breaker (4KS1) is open, refer to Para. 4.A.(2).
- (2) Do the operational test of the FADEC 1A and 1B on the ground (with engine motoring) (Ref. AMM TASK 73-29-00-710-040).

EFF: ALL

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4. Fault Isolation

- A. If the test gives the maintenance message ECU, EIU 28V, J2:
 do a check of the status of the circuit breaker (4KS1).
 - (1) If the circuit breaker is closed:
 - disconnect the connector J2 from the ECU (4000KS) and do a check for 28VDC at pin J2/13 with the FADEC GND PWR pushbutton switch released (the ON legend is on).
 - (a) If there is 28VDC:
 - replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).
 - (b) If there is no 28VDC:
 - do a check for 28VDC at EIU 1 (1KS1) pin AC/9 (Ref. ASM 73-25/05).
 - 1 If there is 28VDC:
 - do a check for open or short to ground at the harness J2 between the EIU 1 (1KS1) and the ECU (4000KS), pin AC/2 to pin J2/13. Replace the harness J2 if necessary.
 - a If the fault continues:
 - make sure that there is no ground signal at EIU 1 (1KS1) pin AA/5B (Ref. ASM 73-25/08).
 - b If the fault continues:
 - replace the EIU-1 (1KS1) (Ref. AMM TASK 73-25-34-000-040) and (Ref. AMM TASK 73-25-34-400-040).
 - 2 If there is no 28VDC:
 - do a check for open or short to ground at the aircraft wiring between the circuit breaker (4KS1) and EIU 1 (1KS1) pin AC/9.
 - <u>a</u> If there is a short to ground:
 - repair the above wiring.
 - b If there is no short to ground:
 - replace the C/B-ENGINE/ENG 1/FADEC B/AND EIU 1 (4KS1).
 - 3 Make sure that 28VDC supplies the BAT bus (Ref. ASM 73-25/05).
 - (2) If the circuit breaker (4KS1) is open:
 - close the circuit breaker.
 - (a) If the circuit breaker trips:
 - replace the EIU-1 (1KS1) (Ref. AMM TASK 73-25-34-000-040) and (Ref. AMM TASK 73-25-34-400-040)
 - replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).

EFF: ALL

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- (b) If the fault continues:
 - do a check for a short to ground at the harness J2 between the EIU 1 (1KS1) and the ECU (4000KS), pin AC/2 to pin J2/13.
 - 1 If there is a short to ground: - replace the harness J2.
 - 2 If there is no short to ground:
 - do a check for a short to ground at the aircraft wiring between EIU 1 (1KS1) pin AC/9 and the circuit breaker (4KS1).
 - <u>a</u> If there is a short to ground:repair the above wiring.
 - <u>b</u> If there is no short to ground:
 replace the C/B-ENGINE/ENG 1/FADEC B/AND EIU 1 (4KS1).
 - 3 Make sure that 28VDC supplies the BAT bus (Ref. ASM 73-25/05).
- B. Do the test given in Para. 3.B.

EFF: ALL

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TROUBLE SHOOTING MANUAL

TASK 73-20-00-810-850

Loss of the Channel A on the Engine 1

- 1. Possible Causes
 - EIU-1 (1KS1)
 - ECU (4000KS)
 - harness J1
 - aircraft wiring
 - C/B-ENGINE/1/FADEC A/AND EIU 1 (2KS1)
- 2. Job Set-up Information
 - A. Referenced Information

REFERENCE		DESIGNATION
AMM	73-21-60-000-001	Removal of the Electronic Control Unit (ECU)(4000KS)
AMM	73-21-60-400-001	<pre>Installation of the Electronic Control Unit (ECU)(4000KS)</pre>
AMM	73-25-34-000-040	Removal of the Engine Interface Unit (EIU) (1KS1,1KS2)
AMM	73-25-34-400-040	<pre>Installation of the Engine Interface Unit (EIU) (1KS1,1KS2)</pre>
AMM	73-29-00-710-040	Operational Test of the FADEC on the ground (with Engine Motoring)
ASM	73-25/05	-
ASM	73-25/08	

- 3. Fault Confirmation
 - A. Make sure that this(these) circuit breaker(s) is(are) closed:

PANEL	DESIGNATION	IDENT. LOCATION
_		

49VU ENGINE/1/FADEC A/AND EIU 1

2KS1 A04

- B. Test
 - (1) If the circuit breaker (2KS1) is open, refer to Para. 4.A.(2).
 - (2) Do the operational test of the FADEC 1A and 1B on the ground (with engine motoring) (Ref. AMM TASK 73-29-00-710-040).

EFF: ALL

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4. Fault Isolation

- A. If the test gives the maintenance message ECU, EIU 28V, J1:
 do a check of the status of the circuit breaker (2KS1).
 - (1) If the circuit breaker is closed:
 - disconnect the connector J1 from the ECU (4000KS) and do a check for 28VDC at pin J1/13 with the FADEC GND PWR pushbutton switch released (the ON legend is on).
 - (a) If there is 28VDC:
 - replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).
 - (b) If there is no 28VDC:
 - do a check for 28VDC at EIU 1 (1KS1) pin AC/11 (Ref. ASM 73-25/05).
 - 1 If there is 28VDC:
 - do a check for open or short to ground at the harness J1 between the EIU 1 (1KS1) and the ECU (4000KS), pin AC/7 to pin J1/13. Replace the harness J1 if necessary.
 - a If the fault continues:
 - make sure that there is no ground signal at EIU 1 (1KS1) pin AA/5B (Ref. ASM 73-25/08).
 - b If the fault continues:
 - replace the EIU-1 (1KS1) (Ref. AMM TASK 73-25-34-000-040) and (Ref. AMM TASK 73-25-34-400-040).
 - 2 If there is no 28VDC:
 - do a check for open or short to ground at the aircraft wiring between the circuit breaker (2KS1) and EIU 1 (1KS1) pin AC/11.
 - <u>a</u> If there is a short to ground:
 - repair the above wiring.
 - <u>b</u> If there is no short to ground:
 replace the C/B-ENGINE/1/FADEC A/AND EIU 1 (2KS1).
 - 3 Make sure that 28VDC supplies the ESS bus (Ref. ASM 73-25/05).
 - (2) If the circuit breaker (2KS1) is open:
 - close the circuit breaker.
 - (a) If the circuit breaker trips:
 - replace the EIU-1 (1KS1) (Ref. AMM TASK 73-25-34-000-040) and (Ref. AMM TASK 73-25-34-400-040)
 - replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).

EFF: ALL

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- (b) If the fault continues:
 - do a check for a short to ground at the harness J1 between the EIU 1 (1KS1) and the ECU (4000KS), pin AC/7 to pin J1/13.
 - 1 If there is a short to ground: - replace the harness J1.
 - 2 If there is no short to ground:
 - do a check for a short to ground at the aircraft wiring between EIU 1 (1KS1) pin AC/11 and the circuit breaker (2KS1).
 - <u>a</u> If there is a short to ground:repair the above wiring.
 - b If there is no short to ground:
 replace the C/B-ENGINE/1/FADEC A/AND EIU 1 (2KS1).
 - 3 Make sure that 28VDC supplies the ESS bus (Ref. ASM 73-25/05).
- B. Do the test given in Para. 3.B.

EFF: ALL

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TROUBLE SHOOTING MANUAL

TASK 73-20-00-810-851

Loss of the Channel B on the Engine 2

- 1. Possible Causes
 - EIU-2 (1KS2)
 - ECU (4000KS)
 - harness J2
 - aircraft wiring
 - C/B-ENGINE/ENG 2/FADEC B (4KS2)
- 2. Job Set-up Information
 - A. Referenced Information

REFERENCE		DESIGNATION
AMM	73-21-60-000-001	Removal of the Electronic Control Unit (ECU)(4000KS)
AMM	73-21-60-400-001	<pre>Installation of the Electronic Control Unit (ECU)(4000KS)</pre>
AMM	73-25-34-000-040	Removal of the Engine Interface Unit (EIU) (1KS1,1KS2)
AMM	73-25-34-400-040	<pre>Installation of the Engine Interface Unit (EIU) (1K\$1,1K\$2)</pre>
AMM	73-29-00-710-040	Operational Test of the FADEC on the ground (with Engine Motoring)
ASM	73-25/05	-
ASM	73-25/08	

- 3. Fault Confirmation
 - A. Make sure that this(these) circuit breaker(s) is(are) closed:

PANEL	DESIGNATION	IDENT.	LOCATION
121VU	ENGINE/ENG2/FADEC B	4KS2	Q40

- B. Test
 - (1) If the circuit breaker (4KS2) is open, refer to Para. 4.A.(2).
 - (2) Do the operational test of the FADEC 2A and 2B on the ground (with engine motoring) (Ref. AMM TASK 73-29-00-710-040).

EFF: ALL

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4. Fault Isolation

- A. If the test gives the maintenance message ECU, EIU 28V, J2:
 do a check of the status of the circuit breaker (4KS2).
 - (1) If the circuit breaker is closed:
 - disconnect the connector J2 from the ECU (4000KS) and do a check for 28VDC at pin J2/13 with the FADEC GND PWR pushbutton switch released (the ON legend is on).
 - (a) If there is 28VDC:
 - replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).
 - (b) If there is no 28VDC:
 - do a check for 28VDC at EIU 2 (1KS2) pin AC/9 (Ref. ASM 73-25/05).
 - 1 If there is 28VDC:
 - do a check for open or short to ground at the harness J2 between the EIU 2 (1KS2) and the ECU (4000KS), pin AC/2 to pin J2/13. Replace the harness J2 if necessary.
 - a If the fault continues:
 - make sure that there is no ground signal at EIU 2 (1KS2) pin AA/5B (Ref. ASM 73-25/08).
 - b If the fault continues:
 - replace the EIU-2 (1KS2) (Ref. AMM TASK 73-25-34-000-040) and (Ref. AMM TASK 73-25-34-400-040).
 - 2 If there is no 28VDC:
 - do a check for open or short to ground at the aircraft wiring between the circuit breaker (4KS2) and EIU 2 (1KS2) pin AC/9.
 - a If there is a short to ground:
 - repair the above wiring.
 - b If there is no short to ground:
 - replace the C/B-ENGINE/ENG 2/FADEC B (4KS2).
 - 3 Make sure that 28VDC supplies the BUS 2 (Ref. ASM 73-25/05).
 - (2) If the circuit breaker (4K\$2) is open:
 - close the circuit breaker.
 - (a) If the circuit breaker trips:
 - replace the EIU-2 (1KS2) (Ref. AMM TASK 73-25-34-000-040) and (Ref. AMM TASK 73-25-34-400-040)
 - replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).

EFF: ALL

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- (b) If the fault continues:
 - do a check for a short to ground at the harness J2 between the EIU 2 (1KS2) and the ECU (4000KS), pin AC/2 to pin J2/13.
 - 1 If there is a short to ground: - replace the harness J2.
 - 2 If there is no short to ground:
 - do a check for a short to ground at the aircraft wiring between EIU 2 (1KS2) pin AC/9 and the circuit breaker (4KS2).
 - <u>a</u> If there is a short to ground:repair the above wiring.
 - <u>b</u> If there is no short to ground:replace the C/B-ENGINE/ENG 2/FADEC B (4KS2).
 - 3 Make sure that 28VDC supplies the BUS 2 (Ref. ASM 73-25/05).
- B. Do the test given in Para. 3.B.

EFF: ALL

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TASK 73-20-00-810-852

Loss of the Channel A on the Engine 2

- 1. Possible Causes
 - EIU-2 (1KS2)
 - ECU (4000KS)
 - harness J1
 - aircraft wiring
 - C/B-ENGINE/2/FADEC A/AND EIU 2 (2KS2)
- 2. Job Set-up Information
 - A. Referenced Information

REFERENCE		DESIGNATION		
AMM	73-21-60-000-001	Removal of the Electronic Control Unit (ECU)(4000KS)		
AMM	73-21-60-400-001	<pre>Installation of the Electronic Control Unit (ECU)(4000KS)</pre>		
AMM	73-25-34-000-040	Removal of the Engine Interface Unit (EIU) (1KS1,1KS2)		
AMM	73-25-34-400-040	<pre>Installation of the Engine Interface Unit (EIU) (1K\$1,1K\$2)</pre>		
AMM	73-29-00-710-040	Operational Test of the FADEC on the ground (with Engine Motoring)		
ASM	73-25/05	-		
ASM	73-25/08			

- 3. Fault Confirmation
 - A. Make sure that this(these) circuit breaker(s) is(are) closed:

PANEL DESIGNATION IDENT. LOCATION

49VU ENGINE/2/FADEC A/AND EIU 2

2KS2 A05

- B. Test
 - (1) If the circuit breaker (2KS2) is open, refer to Para. 4.A.(2).
 - (2) Do the operational test of the FADEC 2A and 2B on the ground (with engine motoring) (Ref. AMM TASK 73-29-00-710-040).

EFF: ALL

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4. Fault Isolation

- A. If the test gives the maintenance message ECU, EIU 28V, J1:
 do a check of the status of the circuit breaker (2KS2).
 - (1) If the circuit breaker is closed:
 - disconnect the connector J1 from the ECU (4000KS) and do a check for 28VDC at pin J1/13 with the FADEC GND PWR pushbutton switch released (the ON legend is on).
 - (a) If there is 28VDC:
 - replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).
 - (b) If there is no 28VDC:
 - do a check for 28VDC at EIU 2 (1KS2) pin AC/11 (Ref. ASM 73-25/05).
 - 1 If there is 28VDC:
 - do a check for open or short to ground at the harness J1 between the EIU 2 (1KS2) and the ECU (4000KS), pin AC/7 to pin J1/13. Replace the harness J1 if necessary.
 - a If the fault continues:
 - make sure that there is no ground signal at EIU 2 (1KS2) pin AA/5B (Ref. ASM 73-25/08).
 - b If the fault continues:
 - replace the EIU-2 (1KS2) (Ref. AMM TASK 73-25-34-000-040) and (Ref. AMM TASK 73-25-34-400-040).
 - 2 If there is no 28VDC:
 - do a check for open or short to ground at the aircraft wiring between the circuit breaker (2KS2) and EIU 2 (1KS2) pin AC/11.
 - \underline{a} If there is a short to ground:
 - repair the above wiring.
 - b If there is no short to ground:
 - replace the C/B-ENGINE/2/FADEC A/AND EIU 2 (2KS2).
 - 3 Make sure that 28VDC supplies the ESS bus (Ref. ASM 73-25/05).
 - (2) If the circuit breaker (2KS2) is open:
 - close the circuit breaker.
 - (a) If the circuit breaker trips:
 - replace the EIU-2 (1KS2) (Ref. AMM TASK 73-25-34-000-040) and (Ref. AMM TASK 73-25-34-400-040)
 - replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).

EFF: ALL

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- (b) If the fault continues:
 - do a check for a short to ground at the harness J1 between the EIU 2 (1KS2) and the ECU (4000KS), pin AC/7 to pin J1/13.
 - 1 If there is a short to ground: - replace the harness J1.
 - 2 If there is no short to ground:
 - do a check for a short to ground at the aircraft wiring between EIU 2 (1KS2) pin AC/11 and the circuit breaker (2KS2).
 - <u>a</u> If there is a short to ground:repair the above wiring.
 - <u>b</u> If there is no short to ground:
 replace the C/B-ENGINE/2/FADEC A/AND EIU 2 (2KS2).
 - 3 Make sure that 28VDC supplies the ESS bus (Ref. ASM 73-25/05).
- B. Do the test given in Para. 3.B.

EFF: ALL

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TROUBLE SHOOTING MANUAL

TASK 73-20-00-810-853

Loss of the T25 Sensor Signal through the Channel A on Engine 1

- 1. Possible Causes
 - harness J11
 - ECU (4000KS)
 - harness CJ11R
 - T25 temperature sensor
- 2. Job Set-up Information
- R A. Fixtures, Tools, Test and Support Equipment

R ------

REFERENCE QTY DESIGNATION

No specific bristle brush

R B. Consumable Materials

R ------

R REFERENCE DESIGNATION R -----

R Material No. CP2011 *

R stoddard solvent (Ref. 70-30-00)

R C. Referenced Information

REFERENCE	DESIGNATION

	AMM	73-21-20-000-002	Removal of the T25 Temperature Sensor
	AMM	73-21-20-400-002	Installation of the T25 Temperature Sensor
	AMM	73-21-50-000-026	Removal of the CJ11R Harness
	AMM	73-21-50-000-044	Removal of the HJ11 Harness
R	AMM	73-21-50-210-002	Visual Inspection of the Wiring Harnesses
	AMM	73-21-50-400-026	Installation of the CJ11R Harness
	AMM	77 24 50 400 044	Tagtallation of the HIII Hannes

AMM 73-21-50-400-044 Installation of the HJ11 Harness

AMM 73-21-60-000-001 Removal of the Electronic Control Unit (ECU)(4000KS)

AMM 73-21-60-400-001 Installation of the Electronic Control Unit

(ECU)(4000KS)

AMM 73-29-00-710-040 Operational Test of the FADEC on the Ground (with Engine non Motoring)

ASM 73-25/18

EFF: ALL 73-20-00

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TROUBLE SHOOTING MANUAL

3. Fault Confirmation

A. Do the operational test of the FADEC 1A on the ground (with engine non motoring) (Ref. AMM TASK 73-29-00-710-040).

4. Fault Isolation

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- A. If the test gives the maintenance message T25 SNSR, J11, ECU:
 - do a check for open or short to ground of the harness J11 between the ECU (4000KS) and the 6 o'clock junction box, between the 6 o'clock junction box and the T25 temperature sensor pins J11/19, 37, 38 to pins J11/1, 2, 3 (Ref. ASM 73-25/18).
 - (1) If the wiring is not correct:
 - repair the above wiring.
 - (2) If the wiring is correct:
 - disconnect the harness J11 from the ECU (4000KS).
 - do a visual inspection of the harness connector and receptacle.
 Look for contamination or oxidation or pins that have damage.
 - if you find damage, repair or replace as required.
 - clean the connector and receptacle with a bristle brush and stoddard solvent (Material No. CP2011) (Ref. AMM TASK 73-21-50-210-002).
 - do a check of the ECU cable resistance between:
 - pins 37 and 38 (160 to 250 0hms)
 - pins 37 and 19 (> 10 Megohms)
 - . pin 37 and the ground (> 10 Megohms).
 - (a) If the resistance values are in the specified limits:
 - replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).
 - (b) If the resistance values are out of the specified limits:
 - disconnect the harness CJ11 at the 6 o'clock junction box.
 - do a visual inspection of the harness connector and receptacle. Look for contamination or oxidation or pins that have damage.
 - if you find damage, repair or replace as required.
 - clean the connector and receptacle with a bristle brush and stoddard solvent (Material No. CP2011) (Ref. AMM TASK 73-21-50-210-002).
 - do a check of the resistance of the cable CJ11R between:
 - . pins 25 and 26 (160 to 250 0hms)
 - pins 25 and 13 (> 10 Megohms)
 - . pin 25 and the ground (> 10 Megohms).
 - 1 If the resistance values are in the specified limits:
 - replace the harness J11 (Ref. AMM TASK 73-21-50-000-044) and (Ref. AMM TASK 73-21-50-400-044).

EFF: ALL

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2 If the resistance values are out of the specified limits:

- disconnect the harness CJ11R at the T25 temperature sensor.
- do a visual inspection of the harness connector and receptacle. Look for contamination or oxidation or pins that have damage.
- if you find damage, repair or replace as required.
- clean the connector and receptacle with a bristle brush and stoddard solvent (Material No. CP2011) (Ref. AMM TASK 73-21-50-210-002).
- do a check of the T25 sensor resistance between:
 - . pins 1 and 2 (160 to 250 0hms)
 - pin 1 and the ground (> 10 Megohms).
- a If the resistance values are in the specified limits: - replace the harness CJ11R (Ref. AMM TASK 73-21-50-000-026) and (Ref. AMM TASK 73-21-50-400-026).
- b If the resistance values are out of the specified limits: - replace the T25 temperature sensor (Ref. AMM TASK 73-21-20-000-002) and (Ref. AMM TASK 73-21-20-400-002).
- B. Do the test given in Para. 3.A.

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TROUBLE SHOOTING MANUAL

TASK 73-20-00-810-854

Loss of the T25 Sensor Signal through the Channel A on Engine 2

- 1. Possible Causes
 - harness J11
 - ECU (4000KS)
 - harness CJ11R
 - T25 temperature sensor
- 2. Job Set-up Information
- R A. Fixtures, Tools, Test and Support Equipment

R ------

REFERENCE QTY DESIGNATION

R No specific bristle brush

R B. Consumable Materials

R ------

R REFERENCE DESIGNATION R -----

R Material No. CP2011 *

R stoddard solvent (Ref. 70-30-00)

R C. Referenced Information

REFERENCE DESIGNATION

AMM 73-21-20-000-002 Removal of the T25 Temperature Sensor
AMM 73-21-20-400-002 Installation of the T25 Temperature Sensor
AMM 73-21-50-000-026 Removal of the CJ11R Harness

AMM 73-21-50-000-026 Removal of the CJ11R Harness AMM 73-21-50-000-044 Removal of the HJ11 Harness

R AMM 73-21-50-210-002 Visual Inspection of the Wiring Harnesses

AMM 73-21-50-400-026 Installation of the CJ11R Harness AMM 73-21-50-400-044 Installation of the HJ11 Harness

AMM 73-21-60-000-001 Removal of the Electronic Control Unit (ECU)(4000KS)

AMM 73-21-60-400-001 Installation of the Electronic Control Unit (ECU)(4000KS)

AMM 73-29-00-710-040 Operational Test of the FADEC on the Ground (with

Engine non Motoring)

ASM 73-25/18

EFF: ALL 73-20-00

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TROUBLE SHOOTING MANUAL

3. Fault Confirmation

A. Do the operational test of the FADEC 2A on the ground (with engine non motoring) (Ref. AMM TASK 73-29-00-710-040).

4. Fault Isolation

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- A. If the test gives the maintenance message T25 SNSR, J11, ECU:
 - do a check for open or short to ground of the harness J11 between the ECU (4000KS) and the 6 o'clock junction box, between the 6 o'clock junction box and the T25 temperature sensor pins J11/19, 37, 38 to pins J11/1, 2, 3 (Ref. ASM 73-25/18).
 - (1) If the wiring is not correct:
 - repair the above wiring.
 - (2) If the wiring is correct:
 - disconnect the harness J11 from the ECU (4000KS).
 - do a visual inspection of the harness connector and receptacle.
 Look for contamination or oxidation or pins that have damage.
 - if you find damage, repair or replace as required.
 - clean the connector and receptacle with a bristle brush and stoddard solvent (Material No. CP2011) (Ref. AMM TASK 73-21-50-210-002).
 - do a check of the ECU cable resistance between:
 - . pins 37 and 38 (160 to 250 0hms)
 - pins 37 and 19 (> 10 Megohms)
 - . pin 37 and the ground (> 10 Megohms).
 - (a) If the resistance values are in the specified limits:
 - replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).
 - (b) If the resistance values are out of the specified limits:
 - disconnect the harness CJ11 at the 6 o'clock junction box.
 - do a visual inspection of the harness connector and receptacle. Look for contamination or oxidation or pins that have damage.
 - if you find damage, repair or replace as required.
 - clean the connector and receptacle with a bristle brush and stoddard solvent (Material No. CP2011) (Ref. AMM TASK 73-21-50-210-002).
 - do a check of the resistance of the cable CJ11R between:
 - . pins 25 and 26 (160 to 250 0hms)
 - pins 25 and 13 (> 10 Megohms)
 - . pin 25 and the ground (> 10 Megohms).
 - 1 If the resistance values are in the specified limits:
 - replace the harness J11 (Ref. AMM TASK 73-21-50-000-044) and (Ref. AMM TASK 73-21-50-400-044).

EFF: ALL

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- 2 If the resistance values are out of the specified limits:
 - disconnect the harness CJ11R at the T25 temperature sensor.
 - do a visual inspection of the harness connector and receptacle. Look for contamination or oxidation or pins that have damage.
 - if you find damage, repair or replace as required.
 - clean the connector and receptacle with a bristle brush and stoddard solvent (Material No. CP2011) (Ref. AMM TASK 73-21-50-210-002).
 - do a check of the T25 sensor resistance between:
 - . pins 1 and 2 (160 to 250 0hms)
 - pin 1 and the ground (> 10 Megohms).
 - a If the resistance values are in the specified limits: - replace the harness CJ11R (Ref. AMM TASK 73-21-50-000-026) and (Ref. AMM TASK 73-21-50-400-026).
 - b If the resistance values are out of the specified limits: - replace the T25 temperature sensor (Ref. AMM TASK 73-21-20-000-002) and (Ref. AMM TASK 73-21-20-400-002).
- B. Do the test given in Para. 3.A.

EFF: ALL **SROS**

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TROUBLE SHOOTING MANUAL

TASK 73-20-00-810-855

Loss of the T25 Sensor Signal through the Channel B on Engine 1

- 1. Possible Causes
 - harness J12
 - ECU (4000KS)
 - harness CJ12R
 - T25 temperature sensor
- 2. Job Set-up Information

R A. Fixtures, Tools, Test and Support Equipment	R	Α.	Fixtures,	Tools,	Test an	d Support	Equipmen
--	---	----	-----------	--------	---------	-----------	----------

R -----R REFERENCE QTY DESIGNATION

R No specific bristle brush

R B. Consumable Materials

R ------

R REFERENCE DESIGNATION R -----

R Material No. CP2011 *

R stoddard solvent (Ref. 70-30-00)

C. Referenced Information

REFERENCE	DESIGNATION

AMM 73-21-20-000-002 Removal of the T25 Temperature Sensor
AMM 73-21-20-400-002 Installation of the T25 Temperature Sensor
AMM 73-21-50-000-028 Removal of the CJ12R Harness
AMM 73-21-50-000-045 Removal of the HJ12 Harness
R AMM 73-21-50-210-002 Visual Inspection of the Wiring Harnesses

AMM 73-21-50-210-002 Visual Inspection of the Wiring Harnesses

AMM 73-21-50-400-028 Installation of the CJ12R Harness

AMM 73-21-50-400-026 Installation of the CJIZK Harness
AMM 73-21-50-400-045 Installation of the HJ12 Harness

AMM 73-21-60-000-001 Removal of the Electronic Control Unit (ECU)(4000KS)

AMM 73-21-60-400-001 Installation of the Electronic Control Unit (ECU)(4000KS)

AMM 73-29-00-710-040 Operational Test of the FADEC on the Ground (with

Engine non Motoring)
ASM 73-25/18

EFF: ALL 73-20-00

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TROUBLE SHOOTING MANUAL

3. Fault Confirmation

A. Do the operational test of the FADEC 1B on the ground (with engine non motoring) (Ref. AMM TASK 73-29-00-710-040).

4. Fault Isolation

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- A. If the test gives the maintenance message T25 SNSR, J12, ECU:
 - do a check for open or short to ground of the harness J12 between the ECU (4000KS) and the 6 o'clock junction box, between the 6 o'clock junction box and the T25 temperature sensor pins J12/19, 37, 38 to pins J12/1, 2, 3 (Ref. ASM 73-25/18).
 - (1) If the wiring is not correct:
 - repair the above wiring.
 - (2) If the wiring is correct:
 - disconnect the harness J12 from the ECU (4000KS).
 - do a visual inspection of the harness connector and receptacle. Look for contamination or oxidation or pins that have damage.
 - if you find damage, repair or replace as required.
 - clean the connector and receptacle with a bristle brush and stoddard solvent (Material No. CP2011) (Ref. AMM TASK 73-21-50-210-002).
 - do a check of the ECU cable resistance between:
 - . pins 37 and 38 (160 to 250 0hms)
 - pins 37 and 19 (> 10 Megohms)
 - . pin 37 and the ground (> 10 Megohms).
 - (a) If the resistance values are in the specified limits:
 - replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).
 - (b) If the resistance values are out of the specified limits:
 - disconnect the harness CJ12 at the 6 o'clock junction box.
 - do a visual inspection of the harness connector and receptacle. Look for contamination or oxidation or pins that have damage.
 - if you find damage, repair or replace as required.
 - clean the connector and receptacle with a bristle brush and stoddard solvent (Material No. CP2011) (Ref. AMM TASK 73-21-50-210-002).
 - do a check of the resistance of the cable CJ12R between:
 - . pins 15 and 16 (160 to 250 0hms)
 - pins 15 and 5 (> 10 Megohms)
 - . pin 15 and the ground (> 10 Megohms).
 - 1 If the resistance values are in the specified limits:
 - replace the harness J12 (Ref. AMM TASK 73-21-50-000-045) and (Ref. AMM TASK 73-21-50-400-045).

EFF: ALL

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R R

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R R

- $\underline{2}$ If the resistance values are out of the specified limits:
 - disconnect the harness CJ12R at the T25 temperature sensor.
 - do a visual inspection of the harness connector and receptacle. Look for contamination or oxidation or pins that have damage.
 - if you find damage, repair or replace as required.
 - clean the connector and receptacle with a bristle brush and stoddard solvent (Material No. CP2011) (Ref. AMM TASK 73-21-50-210-002).
 - do a check of the T25 sensor resistance between:
 - .pins 1 and 2 (160 to 250 0hms)
 - . pin 1 and the ground (> 10 Megohms).
 - If the resistance values are in the specified limits:
 replace the harness CJ12R (Ref. AMM TASK 73-21-50-000-028) and (Ref. AMM TASK 73-21-50-400-028).
 - <u>b</u> If the resistance values are out of the specified limits:
 replace the T25 temperature sensor (Ref. AMM TASK 73-21-20-000-002)
 and (Ref. AMM TASK 73-21-20-400-002)
- B. Do the test given in Para. 3.A.

EFF: ALL

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TROUBLE SHOOTING MANUAL

TASK 73-20-00-810-856

Loss of the T25 Sensor Signal through the Channel B on Engine 2

- 1. Possible Causes
 - harness J12
 - ECU (4000KS)
 - harness CJ12R
 - T25 temperature sensor
- 2. Job Set-up Information
- R A. Fixtures, Tools, Test and Support Equipment

R ------

REFERENCE QTY DESIGNATION

R No specific bristle brush

R B. Consumable Materials

R ------

R REFERENCE DESIGNATION R -----

R Material No. CP2011 *

R stoddard solvent (Ref. 70-30-00)

R C. Referenced Information

REFERENCE DESIGNATION

AMM 73-21-20-000-002 Removal of the T25 Temperature Sensor
AMM 73-21-20-400-002 Installation of the T25 Temperature Sensor
AMM 73-21-50-000-028 Removal of the CJ12R Harness
AMM 73-21-50-000-045 Removal of the HJ12 Harness

R AMM 73-21-50-210-002 Visual Inspection of the Wiring Harnesses

AMM 73-21-50-400-028 Installation of the CJ12R Harness AMM 73-21-50-400-045 Installation of the HJ12 Harness

AMM 73-21-60-000-001 Removal of the Electronic Control Unit (ECU)(4000KS)

AMM 73-21-60-400-001 Installation of the Electronic Control Unit (ECU)(4000KS)

AMM 73-29-00-710-040 Operational Test of the FADEC on the Ground (with

Engine non Motoring)
ASM 73-25/18

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SROS

EFF:

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3. Fault Confirmation

A. Do the operational test of the FADEC 2B on the ground (with engine non motoring) (Ref. AMM TASK 73-29-00-710-040).

4. Fault Isolation

R

R

R

R

R R

R R

R R

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R

R

R R

R R

- A. If the test gives the maintenance message T25 SNSR, J12, ECU:
 - do a check for open or short to ground of the harness J12 between the ECU (4000KS) and the 6 o'clock junction bx, between the 6 o'clock junction box and the T25 temperature sensor pins J12/19, 37, 38 to pins J12/1, 2, 3 (Ref. ASM 73-25/18).
 - (1) If the wiring is not correct:
 - repair the above wiring.
 - (2) If the wiring is correct:
 - disconnect the harness J12 from the ECU (4000KS).
 - do a visual inspection of the harness connector and receptacle.
 Look for contamination or oxidation or pins that have damage.
 - if you find damage, repair or replace as required.
 - clean the connector and receptacle with a bristle brush and stoddard solvent (Material No. CP2011) (Ref. AMM TASK 73-21-50-210-002).
 - do a check of the ECU cable resistance between:
 - . pins 37 and 38 (160 to 250 0hms)
 - pins 37 and 19 (> 10 Megohms)
 - . pin 37 and the ground (> 10 Megohms).
 - (a) If the resistance values are in the specified limits:
 - replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).
 - (b) If the resistance values are out of the specified limits:
 - disconnect the harness CJ12 at the 6 o'clock junction box.
 - do a visual inspection of the harness connector and receptacle. Look for contamination or oxidation or pins that have damage.
 - if you find damage, repair or replace as required.
 - clean the connector and receptacle with a bristle brush and stoddard solvent (Material No. CP2011) (Ref. AMM TASK 73-21-50-210-002).
 - do a check of the resistance of the cable CJ12R between:
 - . pins 15 and 16 (160 to 250 0hms)
 - pins 15 and 5 (> 10 Megohms)
 - . pin 15 and the ground (> 10 Megohms).
 - 1 If the resistance values are in the specified limits:
 - replace the harness J12 (Ref. AMM TASK 73-21-50-000-045) and (Ref. AMM TASK 73-21-50-400-045).

EFF: ALL

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R R

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R R

- 2 If the resistance values are out of the specified limits:
 - disconnect the harness CJ12R at the T25 temperature sensor.
 - do a visual inspection of the harness connector and receptacle. Look for contamination or oxidation or pins that have damage.
 - if you find damage, repair or replace as required.
 - clean the connector and receptacle with a bristle brush and stoddard solvent (Material No. CP2011) (Ref. AMM TASK 73-21-50-210-002).
 - do a check of the T25 sensor resistance between:
 - . pins 1 and 2 (160 to 250 0hms)
 - pin 1 and the ground (> 10 Megohms).
 - a If the resistance values are in the specified limits: - replace the harness CJ12R (Ref. AMM TASK 73-21-50-000-028) and (Ref. AMM TASK 73-21-50-400-028).
 - b If the resistance values are out of the specified limits: - replace the T25 temperature sensor (Ref. AMM TASK 73-21-20-000-002) and (Ref. AMM TASK 73-21-20-400-002).
- B. Do the test given in Para. 3.A.

EFF: ALL **SROS**

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TROUBLE SHOOTING MANUAL

TASK 73-20-00-810-857

Loss of T25 Sensor Signal through the Two Channels on Engine 1

- 1. Possible Causes
 - ECU (4000KS)
 - harness J11
 - harness J12
 - harness CJ11R
 - harness CJ12R
 - engine 1 T25 temperature sensor
- 2. Job Set-up Information
- R A. Fixtures, Tools, Test and Support Equipment

REFERENCE QTY DESIGNATION

R No specific bristle brush

B. Consumable Materials R

REFERENCE DESIGNATION

Material No. CP2011 R

stoddard solvent (Ref. 70-30-00) R

C. Referenced Information

REFERENCE DESIGNATION

AMM 73-21-20-000-002 Removal of the T25 Temperature Sensor AMM 73-21-20-400-002 Installation of the T25 Temperature Sensor AMM 73-21-50-000-026 Removal of the CJ11R Harness

AMM 73-21-50-000-028 Removal of the CJ12R Harness AMM 73-21-50-000-044 Removal of the HJ11 Harness AMM 73-21-50-000-045 Removal of the HJ12 Harness

R AMM 73-21-50-210-002 Visual Inspection of the Wiring Harnesses

AMM 73-21-50-400-026 Installation of the CJ11R Harness Installation of the CJ12R Harness AMM 73-21-50-400-028 73-21-50-400-044 Installation of the HJ11 Harness AMM AMM 73-21-50-400-045 Installation of the HJ12 Harness

Removal of the Electronic Control Unit (ECU)(4000KS) AMM 73-21-60-000-001

AMM 73-21-60-400-001 Installation of the Electronic Control Unit

(ECU)(4000KS)

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REFERENCE DESIGNATION

AMM 73-29-00-710-040

Operational Test of the FADEC on the Ground (with Engine non Motoring)

3. Fault Confirmation

A. Do the operational test of the FADEC 1A and 1B on the ground (withe engine non motoring) (Ref. AMM TASK 73-29-00-710-040).

4. Fault Isolation

R

R R

R R

R R

R R

R

R

R R

R

R

R

R

R

- A. If the test gives the maintenance messages T25 SNSR, J11, ECU + T25 SNSR, J12, ECU:
 - do a check for open or short to ground of the harnesses J11 and J12 between the ECU (4000KS) and the 6 o'clock junction box, between the 6 o'clock junction box and the T25 temperature sensor pins J11 and J12/19, 37, 38 to pins J11 and J2/1, 2, 3.
 - (1) If one of these wirings is not correct:
 - repair the defective above wirings.
 - (2) If these wirings are correct:
 - disconnect the harnesses J11 and J2 from the ECU (4000KS).
 - do a visual inspection of the harness connector and receptacle.
 Look for contamination or oxidation or pins that have damage.
 - if you find damage, repair or replace as required.
 - clean the connector and receptacle with a bristle brush and stoddard solvent (Material No. CP2011) (Ref. AMM TASK 73-21-50-210-002).
 - do a check of each ECU cable resistance between:
 - . pins 37 and 38 (160 to 250 0hms)
 - pins 37 and 19 (> 10 Megohms)
 - pin 37 and ground (> 10 Megohms)
 - (a) If the resistance values are in the specified limits:
 - replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) (Ref. AMM TASK 73-21-60-400-001).
 - (b) If the resistance values are out of the specified limits:
 - disconnect the harnesses CJ11 and CJ12 at 6 o'clock junction box.
 - do a visual inspection of the harness connector and receptacle.
 Look for contamination or oxidation or pins that have damage.
 - if you find damage, repair or replace as required.
 - clean the connector and receptacle with a bristle brush and stoddard solvent (Material No. CP2011) (Ref. AMM TASK 73-21-50-210-002).
 - do a check of the resistance cables CJ11R and CJ12R between:

EFF: ALL

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R

R

R R

R R

R R

R

R R for cable CJ11R

- . pins 25 and 26 (160 to 250 0hms)
- . pins 25 and 13 (> 10 Megohms)
- . pin 25 and ground (> 10 Megohms)
 for cable CJ12R
- . pins 15 and 16 (160 to 250 0hms)
- . pins 15 and 13 (> 10 Megohms)
- pin 15 and ground (> 10 Megohms)
- 1 If the resistance values are in the specified limits:
 - replace the defective harness J11 (Ref. AMM TASK 73-21-50-000-044) (Ref. AMM TASK 73-21-50-400-044) or
 - replace the defective harness J12 (Ref. AMM TASK 73-21-50-000-045) (Ref. AMM TASK 73-21-50-400-045).
- 2 If the resistance values are out of the specified values:
 - disconnect the harnesses CJ11R and CJ12R at T25 sensor.
 - do a visual inspection of the harness connector and receptacle. Look for contamination or oxidation or pins that have damage.
 - if you find damage, repair or replace as required.
 - clean the connector and receptacle with a bristle brush and stoddard solvent (Material No. CP2011) (Ref. AMM TASK 73-21-50-210-002).
 - do a check of the T25 sensor resistance between:

for cable CJ11R

- . pins 1 and 2 (160 to 250 0hms)
- pin 1 and ground (> 10 Megohms)

for cable CJ12R

- . pins 1 and 2 (160 to 250 0hms)
- pin 1 and ground (> 10 Megohms)
- a If the resistance values are in the specified limits:
 - replace the defective harness CJ11R (Ref. AMM TASK 73-21-50-000-026) (Ref. AMM TASK 73-21-50-400-026) or
 - replace the defective harness CJ12R (Ref. AMM TASK 73-21-50-000-028) (Ref. AMM TASK 73-21-50-400-028).
- b If the resistance values are out of the specified limits:
 - replace the engine 1 T25 temperature sensor (Ref. AMM TASK 73-21-20-000-002) (Ref. AMM TASK 73-21-20-400-002).
- B. Do the test given in Para. 3.A.

EFF: ALL

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TROUBLE SHOOTING MANUAL

TASK 73-20-00-810-858

Loss of T25 Sensor Signal through the Two Channels on Engine 2

- 1. Possible Causes
 - ECU (4000KS)
 - harness J11
 - harness J12
 - harness CJ11R
 - harness CJ12R
 - engine 2 T25 temperature sensor
- 2. Job Set-up Information
- R A. Fixtures, Tools, Test and Support Equipment

REFERENCE QTY DESIGNATION

R No specific bristle brush

B. Consumable Materials R

REFERENCE DESIGNATION

Material No. CP2011 R

stoddard solvent (Ref. 70-30-00) R

C. Referenced Information R

AMM 73-21-20-000-002 Removal of the T25 Temperature Sensor Installation of the T25 Temperature Sensor AMM 73-21-20-400-002 AMM 73-21-50-000-026 Removal of the CJ11R Harness

AMM 73-21-50-000-028 Removal of the CJ12R Harness AMM 73-21-50-000-044 Removal of the HJ11 Harness AMM 73-21-50-000-045 Removal of the HJ12 Harness

R AMM 73-21-50-210-002 Visual Inspection of the Wiring Harnesses

AMM 73-21-50-400-026 Installation of the CJ11R Harness Installation of the CJ12R Harness AMM 73-21-50-400-028 73-21-50-400-044 Installation of the HJ11 Harness AMM AMM 73-21-50-400-045 Installation of the HJ12 Harness

Removal of the Electronic Control Unit (ECU)(4000KS) AMM 73-21-60-000-001

AMM 73-21-60-400-001 Installation of the Electronic Control Unit

(ECU)(4000KS)

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TROUBLE SHOOTING MANUAL

REFERENCE DESIGNATION

AMM 73-29-00-710-040

Operational Test of the FADEC on the Ground (with Engine non Motoring)

3. Fault Confirmation

A. Do the operational test of the FADEC 2A and 2B on the ground (with engine non motoring) (Ref. AMM TASK 73-29-00-710-040).

4. Fault Isolation

R

R R

R R

R R

R R

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R

R R

R

R

R

R

R

- A. If the test gives the maintenance messages T25 SNSR, J11, ECU + T25 SNSR, J12, ECU:
 - do a check for open or short to ground of the harnesses J11 and J12 between the ECU (4000KS) and the 6 o'clock junction box, between the 6 o'clock junction box and the T25 temperature sensor pins J11 and J12/19, 37, 38 to pins J11 and J2/1, 2, 3.
 - (1) If one of these wirings is not correct:
 - repair the defective above wirings.
 - (2) If these wirings are correct:
 - disconnect the harnesses J11 and J2 from the ECU (4000KS).
 - do a visual inspection of the harness connector and receptacle.
 Look for contamination or oxidation or pins that have damage.
 - if you find damage, repair or replace as required.
 - clean the connector and receptacle with a bristle brush and stoddard solvent (Material No. CP2011) (Ref. AMM TASK 73-21-50-210-002).
 - do a check of each ECU cable resistance between:
 - . pins 37 and 38 (160 to 250 0hms)
 - pins 37 and 19 (> 10 Megohms)
 - pin 37 and ground (> 10 Megohms)
 - (a) If the resistance values are in the specified limits:
 - replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) (Ref. AMM TASK 73-21-60-400-001).
 - (b) If the resistance values are out of the specified limits:
 - disconnect the harnesses CJ11 and CJ12 at 6 o'clock junction box.
 - do a visual inspection of the harness connector and receptacle.
 Look for contamination or oxidation or pins that have damage.
 - if you find damage, repair or replace as required.
 - clean the connector and receptacle with a bristle brush and stoddard solvent (Material No. CP2011) (Ref. AMM TASK 73-21-50-210-002).
 - do a check of the resistance cables CJ11R and CJ12R between:

EFF: ALL

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R R

R R

R R

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R R

- 1 If the resistance values are in the specified limits: for cable CJ11R
 - . pins 25 and 26 (160 to 250 0hms)
 - pins 25 and 13 (> 10 Megohms)
 - pin 25 and ground (>10 Megohms)

for cable CJ12R

- . pins 15 and 16 (160 to 250 0hms)
- . pins 15 and 13 (> 10 Megohms)
- pin 25 and ground (>10 Megohms)
- replace the defective harness J11 (Ref. AMM TASK 73-21-50-000-044) (Ref. AMM TASK 73-21-50-400-044) or
- replace the defective harness J12 (Ref. AMM TASK 73-21-50-000-045) (Ref. AMM TASK 73-21-50-400-045)
- 2 If the resistance values are out of the specified values:
 - disconnect the harnesses CJ11R and CJ12R at T25 sensor.
 - do a visual inspection of the harness connector and receptacle. Look for contamination or oxidation or pins that have damage.
 - if you find damage, repair or replace as required.
 - clean the connector and receptacle with a bristle brush and stoddard solvent (Material No. CP2011) (Ref. AMM TASK 73-21-50-210-002).
 - do a check of the T25 sensor resistance between:

for cable CJ11R

- pins 1 and 2 (160 to 250 ohms)
- . pin 1 and ground (> 10 Megohms)

for cable CJ12R

- . pins 1 and 2 (160 to 250 ohms)
- pin 1 and ground (> 10 Megohms)
- a If the resistance values are in the specified limits:
 - replace the defective harness CJ11R (Ref. AMM TASK 73-21-50-000-026) (Ref. AMM TASK 73-21-50-400-026) or
 - replace the defective harness CJ12R (Ref. AMM TASK 73-21-50-000-028) (Ref. AMM TASK 73-21-50-400-028).
- b If the resistance values are out of the specified limits:
 - replace the engine 2 T25 temperature sensor (Ref. AMM TASK 73-21-20-000-002) (Ref. AMM TASK 73-21-20-400-002).
- B. Do the test given in Para. 3.A.

EFF: ALL

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TROUBLE SHOOTING MANUAL

TASK 73-20-00-810-859

Loss of T12 Sensor Signal through the Two Channels on Engine 1

- 1. Possible Causes
 - ECU (4000KS)
 - harness J9
 - harness J10
 - engine 1 T12 temperature sensor
- 2. Job Set-up Information
- A. Fixtures, Tools, Test and Support Equipment R

R ______

REFERENCE **QTY DESIGNATION**

No specific bristle brush

R B. Consumable Materials

REFERENCE DESIGNATION

R Material No. CP2011

stoddard solvent (Ref. 70-30-00) R

C. Referenced Information R

REFERENCE **DESIGNATION**

AMM 73-21-40-000-001 Removal of the T12 Temperature Sensor AMM 73-21-40-400-001 Installation of the T12 Temperature Sensor AMM 73-21-50-000-042 Removal of the HJ9 Harness

Removal of the HJ10 Harness 73-21-50-000-043 AMM

R AMM 73-21-50-210-002 Visual Inspection of the Wiring Harnesses AMM 73-21-50-400-042 Installation of the HJ9 Harness

AMM 73-21-50-400-043 Installation of the HJ10 Harness Removal of the Electronic Control Unit (ECU)(4000KS) AMM 73-21-60-000-001

AMM 73-21-60-400-001 Installation of the Electronic Control Unit

(ECU)(4000KS) AMM 73-29-00-710-040 Operational Test of the FADEC on the Ground (with

Engine non Motoring)

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3. Fault Confirmation

A. Do the operational test of the FADEC 1A and 1B on the ground (with engine non motoring) (Ref. AMM TASK 73-29-00-710-040).

4. Fault Isolation

R R

R R

R R

R R

R R

R

R

R

R R

R R

R

R

R

- A. If the test gives the maintenance messages T12 SNSR, J9, ECU + T12 SNSR, J10, ECU:
 - do a check for open or short to ground at pins J9 and J10/7, 18, 19 to pins J9 and J10/1, 2, 3 of the harnesses J9 and J10 between the ECU (4000KS) and the T12 sensor, (Ref. ASM 73-25/18).
 - (1) If one of these wirings is not correct:
 - repair the defective harness J9 or J10.
 - (2) If these wirings are correct:
 - disconnect the harnesses J9 and J10 from the ECU (4000KS).
 - do a visual inspection of the harness connector and receptacle.
 Look for contamination or oxidation or pins that have damage.
 - if you find damage, repair or replace as required.
 - clean the connector and receptacle with a bristle brush and stoddard solvent (Material No. CP2011) (Ref. AMM TASK 73-21-50-210-002).
 - do a check of the ECU cables resistance between:
 - . pins 18 and 19 (160 to 250 0hms)
 - pins 18 and 7 (> 10 Megohms)
 - . pin 18 and the ground (> 10 Megohms).
 - (a) If the resistance values are in the specified limits:
 - replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) (Ref. AMM TASK 73-21-60-400-001).
 - (b) If the resistance values are out of the specified limits:
 - disconnect the harnesses J9 and J10 from the T12 sensor.
 - do a visual inspection of the harness connector and receptacle. Look for contamination or oxidation or pins that have damage.
 - if you find damage, repair or replace as required.
 - clean the connector and receptacle with a bristle brush and stoddard solvent (Material No. CP2011) (Ref. AMM TASK 73-21-50-210-002).
 - do a check of the T12 sensor resistance between:
 - . pins 1 and 2 (160 to 250 0hms)
 - . pin 1 and the ground (> 10 Megohms).
 - 1 If the resistance values are in the specified limits:
 - replace the defective harness J9 (Ref. AMM TASK 73-21-50-000-042) (Ref. AMM TASK 73-21-50-400-042) or replace the defective harness J10 (Ref. AMM TASK 73-21-50-000-043) (Ref. AMM TASK 73-21-50-400-043).

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- If the resistance values are out of the specified limits: - replace the engine 1 T12 temperature sensor (Ref. AMM TASK 73-21-40-000-001) (Ref. AMM TASK 73-21-40-400-001).
- B. Do the test given in Para. 3.A.

EFF: ALL
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TASK 73-20-00-810-860

Loss of T12 Sensor Signal through the Two Channels on Engine 2

- 1. Possible Causes
 - ECU (4000KS)
 - harness J9
 - harness J10
 - engine 2 T12 temperature sensor
- 2. Job Set-up Information

R	Α.	Fixtures,	Tools,	Test a	and S	Support	Equipment
---	----	-----------	--------	--------	-------	---------	-----------

REFERENCE QTY DESIGNATION

No specific bristle brush

B. Consumable Materials

DESIGNATION

Material No. CP2011

stoddard solvent (Ref. 70-30-00) R

R C. Referenced Information

EFERENCE	DESIGNATION	

	AMM	73-21-40-000-001	Removal of the T12 Temperature Sensor
	AMM	73-21-40-400-001	Installation of the T12 Temperature Sensor
	AMM	73-21-50-000-042	Removal of the HJ9 Harness
	AMM	73-21-50-000-043	Removal of the HJ10 Harness
R	AMM	73-21-50-210-002	Visual Inspection of the Wiring Harnesses
	AMM	73-21-50-400-042	Installation of the HJ9 Harness
	AMM	73-21-50-400-043	Installation of the HJ10 Harness
	AMM	73-21-60-000-001	Removal of the Electronic Control Unit (ECU)(4000KS)
	AMM	73-21-60-400-001	Installation of the Electronic Control Unit
			(ECU)(4000KS)
	AMM	73-29-00-710-040	Operational Test of the FADEC on the Ground (with

Engine non Motoring)

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TROUBLE SHOOTING MANUAL

3. Fault Confirmation

A. Do the operational test of the FADEC 2A and 2B on the ground (with engine non motoring) (Ref. AMM TASK 73-29-00-710-040).

4. Fault Isolation

R R

R R

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- A. If the test gives the maintenance messages T12 SNSR, J9, ECU + T12 SNSR, J10, ECU:
 - do a check for open or short to ground at pins J9 and J10/7, 18, 19 to pins J9 and J10/1, 2, 3 of the harnesses J9 and J10 between the ECU (4000KS) and the T12 sensor, (Ref. ASM 73-25/18).
 - (1) If one of these wirings is not correct:
 - repair the defective harness J9 or J10.
 - (2) If these wirings are correct:
 - disconnect the harnesses J9 and J10 from the ECU (4000KS).
 - do a visual inspection of the harness connector and receptacle.
 Look for contamination or oxidation or pins that have damage.
 - if you find damage, repair or replace as required.
 - clean the connector and receptacle with a bristle brush and stoddard solvent (Material No. CP2011) (Ref. AMM TASK 73-21-50-210-002).
 - do a check of the ECU cables resistance between:
 - . pins 18 and 19 (160 to 250 0hms)
 - pins 18 and 7 (> 10 Megohms)
 - . pin 18 and the ground (> 10 Megohms).
 - (a) If the resistance values are in the specified limits:
 - replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) (Ref. AMM TASK 73-21-60-400-001).
 - (b) If the resistance values are out of the specified limits:
 - disconnect the harnesses J9 and J10 from the T12 sensor.
 - do a visual inspection of the harness connector and receptacle. Look for contamination or oxidation or pins that have damage.
 - if you find damage, repair or replace as required.
 - clean the connector and receptacle with a bristle brush and stoddard solvent (Material No. CP2011) (Ref. AMM TASK 73-21-50-210-002).
 - do a check of the T12 sensor resistance between:
 - . pins 1 and 2 (160 to 250 0hms)
 - pin 1 and the ground (> 10 Megohms).
 - $\underline{\mathbf{1}}$ If the resistance values are in the specified limits:
 - replace the defective harness J9 (Ref. AMM TASK 73-21-50-000-042) (Ref. AMM TASK 73-21-50-400-042) or replace the defective harness J10 (Ref. AMM TASK 73-21-50-000-043) (Ref. AMM TASK 73-21-50-400-043).

EFF: ALL

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- 2 If the resistance values are out of the specified limits: - replace the engine 2 T12 temperature sensor (Ref. AMM TASK 73-21-40-000-001) (Ref. AMM TASK 73-21-40-400-001)
- B. Do the test given in Para. 3.A.

EFF: ALL
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TROUBLE SHOOTING MANUAL

TASK 73-20-00-810-861

Loss of T12 Sensor Signal through the Channel A on Engine 1

- 1. Possible Causes
 - T12 temperature sensor
 - ECU (4000KS)
 - harness HJ9
- Job Set-up Information
 - A. Fixtures, Tools, Test and Support Equipment

QTY DESIGNATION

No specific bristle brush

B. Consumable Materials

REFERENCE DESIGNATION

Material No. CP2011

stoddard solvent (Ref. 70-30-00)

C. Referenced Information

REFERENCE **DESIGNATION**

Removal of the T12 Temperature Sensor AMM 73-21-40-000-001 Installation of the T12 Temperature Sensor AMM 73-21-40-400-001 AMM 73-21-50-000-042 Removal of the HJ9 Harness AMM 73-21-50-210-002 Visual Inspection of the Wiring Harnesses AMM 73-21-50-400-042 Installation of the HJ9 Harness AMM 73-21-60-000-001 Removal of the Electronic Control Unit (ECU) AMM 73-21-60-400-001 Installation of the Electronic Control Unit (ECU) AMM 73-29-00-710-040 Operational Test of the FADEC on the Ground (with Engine non Motoring)

ASM 73-25/18

- 3. Fault Confirmation
 - A. Do the operational test of the FADEC 1A on the ground (with engine non motoring) (Ref. AMM TASK 73-29-00-710-040).

EFF: ALL 73-20-00

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4. Fault Isolation

- A. The failure message is generated if channel A input from the T12 temperature sensor is invalid or out of range.
 - (1) If the failure messsage T12 SNSR, J9, ECU is not confirmed:
 - replace the T12 temperature sensor (Ref. AMM TASK 73-21-40-000-001)
 and (Ref. AMM TASK 73-21-40-400-001).
 - NOTE: Such a failure can be intermittent and therefore requires the replacement of the T12 temperature sensor as a first maintenance action.
 - (2) If the failure message T12 SNSR, J9, ECU is not confirmed but is repetitive:
 - do the following procedure after the replacement of the T12 temperature sensor.
 - (a) Disconnect the harness HJ9 from the T12 temperature sensor (C92 connector) (Ref. ASM 73-25/18):
 - visually examine the receptacle and the connector for damaged pins and contamination (Ref. AMM TASK 73-21-50-210-002).
 - 1 If damage is found:
 - repair or replace as required.
 - 2 If no damage is found:
 - do a cleaning of the connectors using a bristle brush and stoddard solvent (Material No. CP2011) (Ref. AMM TASK 73-21-50-210-002).
 - If the fault continues during the subsequent flights:

 replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001)
 and (Ref. AMM TASK 73-21-60-400-001).
 - 4 If the fault continues during the subsequent flights:
 replace the harness HJ9 (Ref. AMM TASK 73-21-50-000-042) and
 (Ref. AMM TASK 73-21-50-400-042).
 - (3) If the failure message T12 SNSR, J9, ECU is confirmed:
 - replace the T12 temperature sensor (Ref. AMM TASK 73-21-40-000-001) and (Ref. AMM TASK 73-21-40-400-001).
 - (a) Disconnect the harness HJ9 from the T12 temperature sensor (C92 connector) (Ref. ASM 73-25/18):
 - visually examine the receptacle and the connector for damaged pins and contamination (Ref. AMM TASK 73-21-50-210-002).
 - 1 If damage is found:
 - repair or replace as required.

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2 If no damage is found:

- clean the connector and receptacle with a bristle brush and stoddard solvent (Material No. CP2011) (Ref. AMM TASK 73-21-50-210-002).
- do the electrical resistance test through the T12 temperature sensor between:
 - . pins 1 and 2 (160 to 250 ohms)
 - . pin 1 and the ground (>10 megohms).
- 3 If the resistance values are out of the specified limits:
 - replace the T12 temperature sensor (Ref. AMM TASK 73-21-40-000-001) and (Ref. AMM TASK 73-21-40-400-001).
- 4 If the resistance values are in the specified limits:
 - connect the harness HJ9 to the T12 temperature sensor (C92 connector),
 - disconnect the harness HJ9 from the ECU (4000KS) (Ref. ASM 73-25/18).
 - visually examine the receptacle and the connector for damaged pins and contamination (Ref. AMM TASK 73-21-50-210-002).
 - a If damage is found:
 - repair or replace as required.
 - b If no damage is found:
 - clean the connector and receptacle with a bristle brush and stoddard solvent (Material No. CP2011) (Ref. AMM TASK 73-21-50-210-002).
 - do the electrical resistance test through the harness HJ9 between:
 - . pins 18 and 19 (160 to 250 ohms)
 - . pins 18 and 7 (>10 megohms)
 - . pin 18 and the ground (>10 megohms).
 - c If the resistance values are in the specified limits:
 - replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001)
 and (Ref. AMM TASK 73-21-60-400-001).
 - d If the resistance values are out of the specified limits:
 - replace the harness HJ9 (Ref. AMM TASK 73-21-50-000-042) and (Ref. AMM TASK 73-21-50-400-042).
- B. Do the test given in Para. 3.
 - (1) No additional maintenance action is required if the fault is not confirmed.
 - (2) Repeat the fault isolation procedure if the fault continues.

EFF: ALL

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TROUBLE SHOOTING MANUAL

TASK 73-20-00-810-862

Loss of T12 Sensor Signal through the Channel A on Engine 2

- 1. Possible Causes
 - T12 temperature sensor
 - ECU (4000KS)
 - harness HJ9
- 2. Job Set-up Information
 - A. Fixtures, Tools, Test and Support Equipment

REFERENCE QTY DESIGNATION

No specific

bristle brush

B. Consumable Materials

DEFENCE DESTANTION

REFERENCE DESIGNATION

Material No. CP2011

stoddard solvent (Ref. 70-30-00)

C. Referenced Information

REFERENCE DESIGNATION

AMM	73-21-40-000-001	Removal of the T12 Temperature Sensor
AMM	73-21-40-400-001	Installation of the T12 Temperature Sensor
AMM	73-21-50-000-042	Removal of the HJ9 Harness
AMM	73-21-50-210-002	Visual Inspection of the Wiring Harnesses
AMM	73-21-50-400-042	Installation of the HJ9 Harness
AMM	73-21-60-000-001	Removal of the Electronic Control Unit (ECU)
AMM	73-21-60-400-001	Installation of the Electronic Control Unit (ECU)
AMM	73-29-00-710-040	Operational Test of the FADEC on the Ground (with
		Engine non Motoring)

ASM 73-25/18

- 3. Fault Confirmation
 - A. Do the operational test of the FADEC 2A on the ground (with engine non motoring) (Ref. AMM TASK 73-29-00-710-040).

EFF: ALL

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TROUBLE SHOOTING MANUAL

4. Fault Isolation

- A. The failure message is generated if channel A input from the T12 temperature sensor is invalid or out of range.
 - (1) If the failure messsage T12 SNSR, J9, ECU is not confirmed:
 - replace the T12 temperature sensor (Ref. AMM TASK 73-21-40-000-001)
 and (Ref. AMM TASK 73-21-40-400-001).
 - NOTE: Such a failure can be intermittent and therefore requires the replacement of the T12 temperature sensor as a first maintenance action.
 - (2) If the failure message T12 SNSR, J9, ECU is not confirmed but is repetitive:
 - do the following procedure after the replacement of the T12 temperature sensor.
 - (a) Disconnect the harness HJ9 from the T12 temperature sensor (C92 connector) (Ref. ASM 73-25/18):
 - visually examine the receptacle and the connector for damaged pins and contamination (Ref. AMM TASK 73-21-50-210-002).
 - 1 If damage is found:
 - repair or replace as required.
 - 2 If no damage is found:
 - do a cleaning of the connectors using a bristle brush and stoddard solvent (Material No. CP2011) (Ref. AMM TASK 73-21-50-210-002).
 - If the fault continues during the subsequent flights:

 replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001)
 and (Ref. AMM TASK 73-21-60-400-001).
 - 4 If the fault continues during the subsequent flights:
 replace the harness HJ9 (Ref. AMM TASK 73-21-50-000-042) and (Ref. AMM TASK 73-21-50-400-042).
 - (3) If the failure message T12 SNSR, J9, ECU is confirmed:
 - replace the T12 temperature sensor (Ref. AMM TASK 73-21-40-000-001) and (Ref. AMM TASK 73-21-40-400-001).
 - (a) Disconnect the harness HJ9 from the T12 temperature sensor (C92 connector) (Ref. ASM 73-25/18):
 - visually examine the receptacle and the connector for damaged pins and contamination (Ref. AMM TASK 73-21-50-210-002).
 - 1 If damage is found:
 - repair or replace as required.

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2 If no damage is found:

- clean the connector and receptacle with a bristle brush and stoddard solvent (Material No. CP2011) (Ref. AMM TASK 73-21-50-210-002).
- do the electrical resistance test through the T12 temperature sensor between:
 - . pins 1 and 2 (160 to 250 ohms)
 - . pin 1 and the ground (>10 megohms).
- 3 If the resistance values are out of the specified limits:
 - replace the T12 temperature sensor (Ref. AMM TASK 73-21-40-000-001) and (Ref. AMM TASK 73-21-40-400-001).
- 4 If the resistance values are in the specified limits:
 - connect the harness HJ9 to the T12 temperature sensor (C92 connector),
 - disconnect the harness HJ9 from the ECU (4000KS) (Ref. ASM 73-25/18),
 - visually examine the receptacle and the connector for damaged pins and contamination (Ref. AMM TASK 73-21-50-210-002).
 - a If damage is found:
 - repair or replace as required.
 - b If no damage is found:
 - clean the connector and receptacle with a bristle brush and stoddard solvent (Material No. CP2011) (Ref. AMM TASK 73-21-50-210-002).
 - do the electrical resistance test through the harness HJ9 between:
 - . pins 18 and 19 (160 to 250 ohms)
 - pins 18 and 7 (>10 megohms)
 - . pin 18 and the ground (>10 megohms).
 - c If the resistance values are in the specified limits:
 - replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001)
 and (Ref. AMM TASK 73-21-60-400-001).
 - d If the resistance values are out of the specified limits:
 - replace the harness HJ9 (Ref. AMM TASK 73-21-50-000-042) and (Ref. AMM TASK 73-21-50-400-042).
- B. Do the test given in Para. 3.
 - (1) No additional maintenance action is required if the fault is not confirmed.
 - (2) Repeat the fault isolation procedure if the fault continues.

EFF: ALL

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TROUBLE SHOOTING MANUAL

TASK 73-20-00-810-863

Loss of T12 Sensor Signal through the Channel B on Engine 1

- 1. Possible Causes
 - T12 temperature sensor
 - ECU (4000KS)
 - harness HJ10
- 2. Job Set-up Information
 - A. Fixtures, Tools, Test and Support Equipment

REFERENCE QTY DESIGNATION

No specific

bristle brush

B. Consumable Materials

DEFENCE DESTANTION

REFERENCE DESIGNATION

Material No. CP2011

stoddard solvent (Ref. 70-30-00)

C. Referenced Information

REFERENCE DESIGNATION ------

AMM	73-21-40-000-001	Removal of the T12 Temperature Sensor
AMM	73-21-40-400-001	Installation of the T12 Temperature Sensor
AMM	73-21-50-000-043	Removal of the HJ10 Harness
AMM	73-21-50-210-002	Visual Inspection of the Wiring Harnesses
AMM	73-21-50-400-043	Installation of the HJ10 Harness
AMM	73-21-60-000-001	Removal of the Electronic Control Unit (ECU)
AMM	73-21-60-400-001	Installation of the Electronic Control Unit (ECU)
AMM	73-29-00-710-040	Operational Test of the FADEC on the Ground (with
		Engine non Motoring)

ASM 73-25/18

- 3. Fault Confirmation
 - A. Do the operational test of the FADEC 1B on the ground (with engine non motoring) (Ref. AMM TASK 73-29-00-710-040).

EFF: ALL

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4. Fault Isolation

- A. The failure message is generated if channel B input from the T12 temperature sensor is invalid or out of range.
 - (1) If the failure messsage T12 SNSR, J10, ECU is not confirmed:
 - replace the T12 temperature sensor (Ref. AMM TASK 73-21-40-000-001) and (Ref. AMM TASK 73-21-40-400-001).
 - NOTE: Such a failure can be intermittent and therefore requires the replacement of the T12 temperature sensor as a first maintenance action.
 - (2) If the failure message T12 SNSR, J10, ECU is not confirmed but is repetitive:
 - do the following procedure after the replacement of the T12 temperature sensor.
 - (a) Disconnect the harness HJ10 from the T12 temperature sensor (C102 connector) (Ref. ASM 73-25/18):
 - visually examine the receptacle and the connector for damaged pins and contamination (Ref. AMM TASK 73-21-50-210-002).
 - $\underline{1}$ If damage is found:
 - repair or replace as required.
 - 2 If no damage is found:
 - do a cleaning of the connectors using a bristle brush and stoddard solvent (Material No. CP2011) (Ref. AMM TASK 73-21-50-210-002).
 - If the fault continues during the subsequent flights: - replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).
 - 4 If the fault continues during the subsequent flights:
 replace the harness HJ10 (Ref. AMM TASK 73-21-50-000-043)
 and (Ref. AMM TASK 73-21-50-400-043).
 - (3) If the failure message T12 SNSR, J10, ECU is confirmed:
 - replace the T12 temperature sensor (Ref. AMM TASK 73-21-40-000-001) and (Ref. AMM TASK 73-21-40-400-001).
 - (a) Disconnect the harness HJ10 from the T12 temperature sensor (C102 connector) (Ref. ASM 73-25/18):
 - visually examine the receptacle and the connector for damaged pins and contamination (Ref. AMM TASK 73-21-50-210-002).
 - 1 If damage is found:
 - repair or replace as required.

EFF: ALL

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 $\underline{2}$ If no damage is found:

- clean the connector and receptacle with a bristle brush and stoddard solvent (Material No. CP2011) (Ref. AMM TASK 73-21-50-210-002).
- do the electrical resistance test through the T12 temperature sensor between:
 - . pins 1 and 2 (160 to 250 ohms)
 - . pin 1 and the ground (>10 megohms).
- 3 If the resistance values are out of the specified limits:
 - replace the T12 temperature sensor (Ref. AMM TASK 73-21-40-000-001) and (Ref. AMM TASK 73-21-40-400-001).
- 4 If the resistance values are in the specified limits:
 - connect the harness HJ10 to the T12 temperature sensor (C102 connector),
 - disconnect the harness HJ10 from the ECU (4000KS) (Ref. ASM 73-25/18),
 - visually examine the receptacle and the connector for damaged pins and contamination (Ref. AMM TASK 73-21-50-210-002).
 - a If damage is found:
 - repair or replace as required.
 - b If no damage is found:
 - clean the connector and receptacle with a bristle brush and stoddard solvent (Material No. CP2011) (Ref. AMM TASK 73-21-50-210-002).
 - do the electrical resistance test through the harness HJ10 between:
 - pins 18 and 19 (160 to 250 ohms)
 - pins 18 and 7 (>10 megohms)
 - . pin 18 and the ground (>10 megohms).
 - c If the resistance values are in the specified limits:
 - replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001)
 and (Ref. AMM TASK 73-21-60-400-001).
 - d If the resistance values are out of the specified limits:
 - replace the harness HJ10 (Ref. AMM TASK 73-21-50-000-043) and (Ref. AMM TASK 73-21-50-400-043).
- B. Do the test given in Para. 3.
 - (1) No additional maintenance action is required if the fault is not confirmed.
 - (2) Repeat the fault isolation procedure if the fault continues.

EFF: ALL

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TROUBLE SHOOTING MANUAL

TASK 73-20-00-810-864

Loss of T12 Sensor Signal through the Channel B on Engine 2

- 1. Possible Causes
 - T12 temperature sensor
 - ECU (4000KS)
 - harness HJ10
- Job Set-up Information
 - A. Fixtures, Tools, Test and Support Equipment

REFERENCE QTY DESIGNATION

No specific

bristle brush

B. Consumable Materials

DEFENSE DESCRIPTION

REFERENCE DESIGNATION

Material No. CP2011

stoddard solvent (Ref. 70-30-00)

C. Referenced Information

REFERENCE DESIGNATION

AMM 73-21-40-000-001	Removal of the T12 Temperature Sensor
77 04 (0 (00 004	·
AMM 73-21-40-400-001	Installation of the T12 Temperature Sensor
	· ·

AMM 73-21-50-000-043
AMM 73-21-50-210-002
AMM 73-21-50-400-043
AMM 73-21-60-000-001
AMM 73-21-60-400-001
AMM 73-29-00-710-040

ASM 73-25/18

- 3. Fault Confirmation
 - A. Do the operational test of the FADEC 2B on the ground (with engine non motoring) (Ref. AMM TASK 73-29-00-710-040).

EFF: ALL

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TROUBLE SHOOTING MANUAL

4. Fault Isolation

- A. The failure message is generated if channel B input from the T12 temperature sensor is invalid or out of range.
 - (1) If the failure messsage T12 SNSR, J10, ECU is not confirmed:
 - replace the T12 temperature sensor (Ref. AMM TASK 73-21-40-000-001)
 and (Ref. AMM TASK 73-21-40-400-001).
 - NOTE: Such a failure can be intermittent and therefore requires the replacement of the T12 temperature sensor as a first maintenance action.
 - (2) If the failure message T12 SNSR, J10, ECU is not confirmed but is repetitive:
 - do the following procedure after the replacement of the T12 temperature sensor.
 - (a) Disconnect the harness HJ10 from the T12 temperature sensor (C102 connector) (Ref. ASM 73-25/18):
 - visually examine the receptacle and the connector for damaged pins and contamination (Ref. AMM TASK 73-21-50-210-002).
 - 1 If damage is found:
 - repair or replace as required.
 - 2 If no damage is found:
 - do a cleaning of the connectors using a bristle brush and stoddard solvent (Material No. CP2011) (Ref. AMM TASK 73-21-50-210-002).
 - If the fault continues during the subsequent flights: - replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).
 - 4 If the fault continues during the subsequent flights:
 replace the harness HJ10 (Ref. AMM TASK 73-21-50-000-043)
 and (Ref. AMM TASK 73-21-50-400-043).
 - (3) If the failure message T12 SNSR, J10, ECU is confirmed:
 - replace the T12 temperature sensor (Ref. AMM TASK 73-21-40-000-001) and (Ref. AMM TASK 73-21-40-400-001).
 - (a) Disconnect the harness HJ10 from the T12 temperature sensor (C102 connector) (Ref. ASM 73-25/18):
 - visually examine the receptacle and the connector for damaged pins and contamination (Ref. AMM TASK 73-21-50-210-002).
 - 1 If damage is found:
 - repair or replace as required.

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2 If no damage is found:

- clean the connector and receptacle with a bristle brush and stoddard solvent (Material No. CP2011) (Ref. AMM TASK 73-21-50-210-002).
- do the electrical resistance test through the T12 temperature sensor between:
 - . pins 1 and 2 (160 to 250 ohms)
 - . pin 1 and the ground (>10 megohms).
- 3 If the resistance values are out of the specified limits:
 - replace the T12 temperature sensor (Ref. AMM TASK 73-21-40-000-001) and (Ref. AMM TASK 73-21-40-400-001).
- 4 If the resistance values are in the specified limits:
 - connect the harness HJ10 to the T12 temperature sensor (C102 connector),
 - disconnect the harness HJ10 from the ECU (4000KS) (Ref. ASM 73-25/18),
 - visually examine the receptacle and the connector for damaged pins and contamination (Ref. AMM TASK 73-21-50-210-002).
 - a If damage is found:
 - repair or replace as required.
 - b If no damage is found:
 - clean the connector and receptacle with a bristle brush and stoddard solvent (Material No. CP2011) (Ref. AMM TASK 73-21-50-210-002).
 - do the electrical resistance test through the harness HJ10 between:
 - pins 18 and 19 (160 to 250 ohms)
 - pins 18 and 7 (>10 megohms)
 - . pin 18 and the ground (>10 megohms).
 - c If the resistance values are in the specified limits:
 - replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).
 - d If the resistance values are out of the specified limits:
 - replace the harness HJ10 (Ref. AMM TASK 73-21-50-000-043) and (Ref. AMM TASK 73-21-50-400-043).
- B. Do the test given in Para. 3.
 - (1) No additional maintenance action is required if the fault is not confirmed.
 - (2) Repeat the fault isolation procedure if the fault continues.

EFF: ALL

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TROUBLE SHOOTING MANUAL

TASK 73-20-00-810-865

Failure of the PS12 Signal on Engine 1

- 1. Possible Causes
 - PS12 Sense Line
 - ECU (4000KS)
- 2. Job Set-up Information
 - A. Referenced Information

REFERENCE	DESIGNATION
AMM 72-23-00-000-040 AMM 72-23-00-280-002 AMM 72-23-00-400-040 AMM 73-21-60-000-001 AMM 73-21-60-400-001	Removal of the PS12 Line Inspection/Check of the PS12 line Installation of the PS12 Line Removal of the Electronic Control Unit (ECU)(4000KS) Installation of the Electronic Control Unit (ECU)(4000KS)

- 3. Fault Confirmation
 - A. Test
 - (1) Not applicable, the fault is evident.
- 4. Fault Isolation
 - A. Test
 - (1) Inspect the PS12 Sense Line for loose connections, broken tubes and brackets or blocked ports (Ref. AMM TASK 72-23-00-280-002).
 - (a) If damage is found:
 - replace, retighten or repair PS12 Sense Line (Ref. AMM TASK 72-23-00-000-040), (Ref. AMM TASK 72-23-00-400-040).
 - (b) If nothing is found:
 - continue the troubleshooting as follows.
 - (2) Do an operational test of the ECU (4000KS)
 - (a) If the test gives the maintenance message ECU (PS12 SENSOR):
 replace the ECU (Ref. AMM TASK 73-21-60-000-001) (Ref. AMM TASK 73-21-60-400-001).
 - (b) If the test does not give the maintenance message:no action is required.

EFF: ALL

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TROUBLE SHOOTING MANUAL

TASK 73-20-00-810-866

Failure of the PS12 Signal on Engine 2

- 1. Possible Causes
 - PS12 Sense Line
 - ECU (4000KS)
- 2. Job Set-up Information
 - A. Referenced Information

REFERENCE	DESIGNATION		
AMM 72-23-00-000-040 AMM 72-23-00-280-002 AMM 72-23-00-400-040 AMM 73-21-60-000-001 AMM 73-21-60-400-001	Removal of the PS12 Line Inspection/Check of the PS12 line Installation of the PS12 Line Removal of the Electronic Control Unit (ECU)(4000KS) Installation of the Electronic Control Unit (ECU)(4000KS)		

- 3. Fault Confirmation
 - A. Test
 - (1) Not applicable, the fault is evident.
- 4. Fault Isolation
 - A. Test
 - (1) Inspect the PS12 Sense Line for loose connections, broken tubes and brackets or blocked ports (Ref. AMM TASK 72-23-00-280-002).
 - (a) If damage is found:
 - replace, retighten or repair PS12 Sense Line (Ref. AMM TASK 72-23-00-000-040), (Ref. AMM TASK 72-23-00-400-040).
 - (b) If nothing is found:
 - continue the troubleshooting as follows.
 - (2) Do an operational test of the ECU (4000KS)
 - (a) If the test gives the maintenance message ECU (PS12 SENSOR):
 replace the ECU (Ref. AMM TASK 73-21-60-000-001) (Ref. AMM TASK 73-21-60-400-001).
 - (b) If the test does not give the maintenance message:no action is required.

EFF: ALL

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TASK 73-20-00-810-867

Failure of the ECU PS3 Pressure Sensor - Engine 1 - Channel A

1. Possible Causes

- ECU (4000KS)
- PS3 line

2. Job Set-up Information

A. Referenced Information

REFERENCE	DESIGNATION
AMM 72-00-00-200-026 AMM 72-00-00-220-001 AMM 73-21-60-000-001 AMM 73-21-60-400-001 AMM 73-29-00-710-040	Inspection/Check of the PS3 Line Inspection of the PS3 Line Connections Removal of the Electronic Control Unit (ECU) Installation of the Electronic Control Unit (ECU) Operational Test of the FADEC on the Ground (with Engine non Motoring)

3. Fault Confirmation

A. Do the operational test of the FADEC 1A on the ground (with engine non motoring) (Ref. AMM TASK 73-29-00-710-040).

4. Fault Isolation

- A. This failure message is generated if the PS3 line is leaking, blocked or an internal ECU processing error has occurred.
 - (1) If the failure message ECU, PS3 SNSR LINE is not confirmed:
 - (a) Inspect PS3 line:
 - do a visual check of the PS3 line for dents, cracks, wear and weep holes free from obstruction (Ref. AMM TASK 72-00-00-200-026) and to make sure connections are properly tightened and in place (Ref. AMM TASK 72-00-00-220-001).
 - 1 If damage is found:
 - replace or retighten PS3 line (Ref. AMM TASK 72-00-00-220-001).
 - 2 If no damage is found:
 - no maintenance action is required.

EFF: ALL

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- (2) If the failure message ECU, PS3 SNSR LINE is not confirmed, but is repetitive:
 - (a) Replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).
 - (b) If the fault continues:
 inspect PS3 line.
 - Do a visual check of the PS3 line for dents, cracks, wear and weep holes free from obstruction (Ref. AMM TASK 72-00-00-200-026) and to make sure connections are properly tightened and in place (Ref. AMM TASK 72-00-00-220-001).
 - replace or retighten PS3 line (Ref. AMM TASK 72-00-00-220-001) as required.
- (3) If the failure message ECU, PS3 SNSR LINE is confirmed:
 - replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).
- B. Do the test given in Para. 3.A.
 - (1) No additional maintenance action is required if the fault is not confirmed.
 - (2) Repeat the fault isolation procedure if the fault continues.

EFF: ALL

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TROUBLE SHOOTING MANUAL

TASK 73-20-00-810-868

Failure of the ECU PS3 Pressure Sensor - Engine 2 - Channel A

1. Possible Causes

- ECU (4000KS)
- PS3 line

2. Job Set-up Information

A. Referenced Information

REFERENCE	DESIGNATION
AMM 72-00-00-200-026 AMM 72-00-00-220-001 AMM 73-21-60-000-001 AMM 73-21-60-400-001 AMM 73-29-00-710-040	Inspection/Check of the PS3 Line Inspection of the PS3 Line Connections Removal of the Electronic Control Unit (ECU) Installation of the Electronic Control Unit (ECU) Operational Test of the FADEC on the Ground (with Engine non Motoring)

3. Fault Confirmation

A. Do the operational test of the FADEC 2A on the ground (with engine non motoring) (Ref. AMM TASK 73-29-00-710-040).

4. Fault Isolation

- A. This failure message is generated if the PS3 line is leaking, blocked or an internal ECU processing error has occurred.
 - (1) If the failure message ECU, PS3 SNSR LINE is not confirmed:
 - (a) Inspect PS3 line:
 - do a visual check of the PS3 line for dents, cracks, wear and weep holes free from obstruction (Ref. AMM TASK 72-00-00-200-026) and to make sure connections are properly tightened and in place (Ref. AMM TASK 72-00-00-220-001).
 - 1 If damage is found:
 - replace or retighten PS3 line (Ref. AMM TASK 72-00-00-220-001).
 - 2 If no damage is found:
 - no maintenance action is required.

EFF: ALL

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- (2) If the failure message ECU, PS3 SNSR LINE is not confirmed, but is repetitive:
 - (a) Replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).
 - (b) If the fault continues:
 inspect PS3 line.
 - Do a visual check of the PS3 line for dents, cracks, wear and weep holes free from obstruction (Ref. AMM TASK 72-00-00-200-026) and to make sure connections are properly tightened and in place (Ref. AMM TASK 72-00-00-220-001).
 - replace or retighten PS3 line (Ref. AMM TASK 72-00-00-220-001) as required.
- (3) If the failure message ECU, PS3 SNSR LINE is confirmed:
 - replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).
- B. Do the test given in Para. 3.A.
 - (1) No additional maintenance action is required if the fault is not confirmed.
 - (2) Repeat the fault isolation procedure if the fault continues.

EFF: ALL

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TROUBLE SHOOTING MANUAL

TASK 73-20-00-810-869

PS3 Sensors Disagree Between Both Channels on Engine 1

- 1. Possible Causes
 - ECU (4000KS)
- 2. Job Set-up Information
 - A. Referenced Information

REFE	RENCE	DESIGNATION
	73-21-60-000-001 73-21-60-400-001	Removal of the Electronic Control Unit (ECU)(4000KS) Installation of the Electronic Control Unit
AMM	73-29-00-710-040	(ECU)(4000KS) Operational Test of the FADEC on the Ground (with Engine non Motoring)

- 3. Fault Confirmation
 - A. Test
 - (1) Do the operational test of the FADEC 1A on the ground (with engine non motoring) (Ref. AMM TASK 73-29-00-710-040).
- 4. Fault Isolation
 - A. If the test gives the maintenance message ECU (PS3 DISAGREE) or ECU (PS3 DISAGREE)*:
 - replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) (Ref. AMM TASK 73-21-60-400-001).

EFF: ALL

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TROUBLE SHOOTING MANUAL

TASK 73-20-00-810-870

PS3 Sensors Disagree Between Both Channels on Engine 2

- 1. Possible Causes
 - ECU (4000KS)
- 2. Job Set-up Information
 - A. Referenced Information

REFERENCE	DESIGNATION
AMM 73-21-60-000-001	Removal of the Electronic Control Unit (ECU)(4000KS)
AMM 73-21-60-400-001	<pre>Installation of the Electronic Control Unit (ECU)(4000KS)</pre>
AMM 73-29-00-710-040	Operational Test of the FADEC on the Ground (with Engine non Motoring)

- 3. Fault Confirmation
 - A. Test
 - (1) Do the operational test of the FADEC 2A on the ground (with engine non motoring) (Ref. AMM TASK 73-29-00-710-040).
- 4. Fault Isolation
 - A. If the test gives the maintenance message ECU (PS3 DISAGREE) or ECU (PS3 DISAGREE)*:
 - replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) (Ref. AMM TASK 73-21-60-400-001).

EFF: ALL

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TROUBLE SHOOTING MANUAL

TASK 73-20-00-810-897

Loss of the T25 Sensor Signal on Engine 1

- 1. Possible Causes
 - ECU (4000KS)
 - harness J11
 - harness CJ11R
 - T25 temperature sensor
- 2. Job Set-up Information
- R A. Fixtures, Tools, Test and Support Equipment

R ------

REFERENCE QTY DESIGNATION

R No specific bristle brush

R B. Consumable Materials

R ------

R REFERENCE DESIGNATION
R ------

R Material No. CP2011 *

R stoddard solvent (Ref. 70-30-00)

C. Referenced Information

REFERENCE DESIGNATION

AMM 73-21-20-000-002 Removal of the T25 Temperature Sensor
AMM 73-21-20-400-002 Installation of the T25 Temperature Sensor
AMM 73-21-50-000-026 Removal of the CJ11R Harness
AMM 73-21-50-000-044 Removal of the HJ11 Harness

R AMM 73-21-50-210-002 Visual Inspection of the Wiring Harnesses

AMM 73-21-50-400-026 Installation of the CJ11R Harness AMM 73-21-50-400-044 Installation of the HJ11 Harness

AMM 73-21-60-000-001 Removal of the Electronic Control Unit (ECU)(4000KS)

AMM 73-21-60-400-001 Installation of the Electronic Control Unit (ECU)(4000KS)

AMM 73-29-00-710-040 Operational Test of the FADEC on the Ground (with

Engine non Motoring)

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3. Fault Confirmation

A. Test

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(1) Do the operational test of the FADEC 1A on the ground (with engine non motoring) (Ref. AMM TASK 73-29-00-710-040).

4. Fault Isolation

- A. If the test of the channel A gives the maintenance message T25 SNSR, J12,
 - do a check for open or short to ground of the harness J11 between the ECU (4000KS) and the 6 o' clock junction box, between the 6 o'clock junction box and the T25 temperature sensor pins J11/19, 37, 38 to pins J11/1, 2, 3 (Ref. ASM 73-25/18).
 - (1) If the wiring is not correct:
 - repair the above wiring.
 - (2) If the wiring is correct:
 - disconnect the harness J11 from the ECU (4000KS).
 - do a visual inspection of the harness connector and receptacle. Look for contamination or oxidation or pins that have damage.
 - if you find damage, repair or replace as required.
 - clean the connector and receptacle with a bristle brush and stoddard solvent (Material No. CP2011) (Ref. AMM TASK 73-21-50-210-002).
 - do a check of the ECU cable resistance between:
 - . pins 37 and 38 (160 to 250 0hms)
 - pins 37 and 19 (> 10 Megohms)
 - pin 37 and the ground (> 10 Megohms).
 - (a) If the resistance values are in the specified limits:
 - replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).
 - (b) If the resistance values are out of the specified limits:
 - disconnect the harness CJ11 at the 6 o'clock junction box.
 - do a visual inspection of the harness connector and receptacle. Look for contamination or oxidation or pins that have damage.
 - if you find damage, repair or replace as required.
 - clean the connector and receptacle with a bristle brush and stoddard solvent (Material No. CP2011) (Ref. AMM TASK 73-21-50-210-002).
 - do a check of the resistance of the cable CJ11R between:
 - . pins 25 and 26 (160 to 250 0hms)
 - pins 25 and 13 (> 10 Megohms)
 - . pin 25 and the ground (> 10 Megohms).

EFF: ALL **SROS**

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- 1 If the resistance values are in the specified limits:
 - replace the harness J11 (Ref. AMM TASK 73-21-50-000-044) and (Ref. AMM TASK 73-21-50-400-044).
- 2 If the resistance values are out of the specified limits:
 - disconnect the harness CJ11R at the T25 temperature sensor.
 - do a visual inspection of the harness connector and receptacle. Look for contamination or oxidation or pins that have damage.
 - if you find damage, repair or replace as required.
 - clean the connector and receptacle with a bristle brush and stoddard solvent (Material No. CP2011) (Ref. AMM TASK 73-21-50-210-002).
 - do a check of the T25 sensor resistance between:
 - . pins 1 and 2 (160 to 250 0hms)
 - . pin 1 and the ground (> 10 Megohms).
 - \underline{a} If the resistance values are in the specified limits:
 - replace the harness CJ11R (Ref. AMM TASK 73-21-50-000-026) and (Ref. AMM TASK 73-21-50-400-026).
 - b If the resistance values are out of the specified limits:
 - replace the T25 temperature sensor (Ref. AMM TASK 73-21-20-000-002) and (Ref. AMM TASK 73-21-20-400-002).
- B. Do the test given in Para. 3.A.

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TROUBLE SHOOTING MANUAL

TASK 73-20-00-810-898

Loss of the T25 Sensor Signal on Engine 2

- 1. Possible Causes
 - ECU (4000KS)
 - harness J11
 - harness CJ11R
 - T25 temperature sensor
- 2. Job Set-up Information

R A	۱ ـ	Fixtures,	Tools,	Test	and	Support	Equipment
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R -----R REFERENCE QTY DESIGNATION

REFERENCE QIT DESIGNATION

R No specific bristle brush

R B. Consumable Materials

R -----R REFERENCE DESIGNATION

R ------R PESIGNALION

R Material No. CP2011 *

R stoddard solvent (Ref. 70-30-00)

R C. Referenced Information

REFERENCE	DESIGNATION

	AMM	73-21-20-000-002	Removal of the T25 Temperature Sensor
	AMM	73-21-20-400-002	Installation of the T25 Temperature Sensor
	AMM	73-21-50-000-026	Removal of the CJ11R Harness
	AMM	73-21-50-000-044	Removal of the HJ11 Harness
R	AMM	73-21-50-210-002	Visual Inspection of the Wiring Harnesses
	AMM	73-21-50-400-026	Installation of the CJ11R Harness
	AMM	73-21-50-400-044	Installation of the HJ11 Harness
	AMM	73-21-60-000-001	Removal of the Electronic Control Unit (ECU)(4000KS)
	AMM	73-21-60-400-001	Installation of the Electronic Control Unit
			(ECU)(4000KS)
	AMM	73-29-00-710-040	Operational Test of the FADEC on the Ground (with

AMM 73-29-00-710-040 Operational Test of the FADEC on the Ground (with

Engine non Motoring)

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3. Fault Confirmation

A. Test

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(1) Do the operational test of the FADEC 2A on the ground (with engine non motoring) (Ref. AMM TASK 73-29-00-710-040).

4. Fault Isolation

- A. If the test of the channel A gives the maintenance message T25 SNSR, J12,
 - do a check for open or short to ground of the harness J11 between the ECU (4000KS) and the 6 o'clock junction box, between the 6 o'clock junction box and the T25 temperature sensor pins J11/19, 37, 38 to pins J11/1, 2, 3 (Ref. ASM 73-25/18).
 - (1) If the wiring is not correct:
 - repair the above wiring.
 - (2) If the wiring is correct:
 - disconnect the harness J11 from the ECU (4000KS).
 - do a visual inspection of the harness connector and receptacle. Look for contamination or oxidation or pins that have damage.
 - if you find damage, repair or replace as required.
 - clean the connector and receptacle with a bristle brush and stoddard solvent (Material No. CP2011) (Ref. AMM TASK 73-21-50-210-002).
 - do a check of the ECU cable resistance between:
 - . pins 37 and 38 (160 to 250 0hms)
 - pins 37 and 19 (> 10 Megohms)
 - pin 37 and the ground (> 10 Megohms).
 - (a) If the resistance values are in the specified limits:
 - replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).
 - (b) If the resistance values are out of the specified limits:
 - disconnect the harness CJ11 at the 6 o'clock junction box.
 - do a visual inspection of the harness connector and receptacle. Look for contamination or oxidation or pins that have damage.
 - if you find damage, repair or replace as required.
 - clean the connector and receptacle with a bristle brush and stoddard solvent (Material No. CP2011) (Ref. AMM TASK 73-21-50-210-002).
 - do a check of the resistance of the cable CJ11R between:
 - . pins 25 and 26 (160 to 250 0hms)
 - pins 25 and 13 (> 10 Megohms)
 - . pin 25 and the ground (> 10 Megohms).

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R

R R

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- 1 If the resistance values are in the specified limits:
 - replace the harness J11 (Ref. AMM TASK 73-21-50-000-044) and (Ref. AMM TASK 73-21-50-400-044).
- 2 If the resistance values are out of the specified limits:
 - disconnect the harness CJ11R at the T25 temperature sensor.
 - do a visual inspection of the harness connector and receptacle. Look for contamination or oxidation or pins that have damage.
 - if you find damage, repair or replace as required.
 - clean the connector and receptacle with a bristle brush and stoddard solvent (Material No. CP2011) (Ref. AMM TASK 73-21-50-210-002).
 - do a check of the T25 sensor resistance between:
 - . pins 1 and 2 (160 to 250 0hms)
 - pin 1 and the ground (> 10 Megohms).
 - a If the resistance values are in the specified limits:
 - replace the harness CJ11R (Ref. AMM TASK 73-21-50-000-026) and (Ref. AMM TASK 73-21-50-400-026).
 - b If the resistance values are out of the specified limits:
 - replace the T25 temperature sensor (Ref. AMM TASK 73-21-20-000-002) and (Ref. AMM TASK 73-21-20-400-002).
- B. Do the test given in Para. 3.A.

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TROUBLE SHOOTING MANUAL

TASK 73-20-00-810-899

Failure of the High Pressure Shut Off Valve Switch of the HMU on Engine 1

- 1. Possible Causes
 - hydromechanical unit (HMU)
 - harness J7
 - harness J8
 - ECU (4000KS)
- 2. Job Set-up Information
- R A. Fixtures, Tools, Test and Support Equipment

R ------

R REFERENCE QTY DESIGNATION

R No specific bristle brush

R B. Consumable Materials

R -----R REFERENCE DESIGNATION

R REFERENCE DESIGNATION
R ------

R Material No. CP2011 *

R stoddard solvent (Ref. 70-30-00)

R C. Referenced Information

REFERENCE DESIGNATION

AMM 71-00-00-710-002 Wet Motoring Check
AMM 73-21-10-000-002 Removal of the Hydromechanical Unit (HMU)

AMM 73-21-10-400-002 Installation of the Hydromechanical Unit (HMU)

AMM 73-21-50-000-040 Removal of the HJ7 Harness AMM 73-21-50-000-041 Removal of the HJ8 Harness

AMM 73-21-50-210-002 Visual Inspection of the Wiring Harnesses

AMM 73-21-50-400-040 Installation of the HJ7 Harness
AMM 73-21-50-400-041 Installation of the HJ8 Harness

AMM 73-21-60-000-001 Removal of the Electronic Control Unit (ECU)(4000KS)

AMM 73-21-60-400-001 Installation of the Electronic Control Unit

(ECU)(4000KS)

AMM 73-29-00-710-040 Operational Test of the FADEC on the Ground (with

Engine non Motoring)

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3. Fault Confirmation

A. Test

- (1) Do the Wet Motoring Check (Ref. AMM TASK 71-00-00-710-002).
- (2) Do the operational test of the FADEC 1A on the ground (with engine non motoring) (Ref. AMM TASK 73-29-00-710-040).

4. Fault Isolation

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R R

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- A. If the test gives the maintenance message J7/J8, HMU (SOV SW)*:
 - do a check for open or short to ground of the harnesses J7 and J8 between the ECU (4000KS) and the HMU pins J7 and J8/9, 22 to pins J7 and J8/9, 22 (Ref. ASM 73-25/18).
 - (1) If one of these wirings is not correct:
 - repair the defective above wiring.
 - (2) If these wirings are correct:
 - disconnect the cables J7 and J8 from the HMU.
 - install a jumper wire between the pins 9 and 22 on the cables J7
 - disconnect the cables J7 and J8 from the ECU (4000KS).
 - do a visual inspection of the harness connector and receptacle. Look for contamination or oxidation or pins that have damage.
 - if you find damage, repair or replace as required.
 - clean the connector and receptacle with a bristle brush and stoddard solvent (Material No. CP2011) (Ref. AMM TASK 73-21-50-210-002).
 - do a resistance check of the cable J7 then J8 at the ECU connectors between:
 - pins 9 and 22 (< 5 ohms)</pre>
 - pins 8 and 9 (> 10 megohms)
 - . pins 9 and the ground (> 10 megohms).
 - (a) If the resistance values are in the specified limits:
 - replace the hydromechanical unit (HMU) (Ref. AMM TASK 73-21-10-000-002) and (Ref. AMM TASK 73-21-10-400-002).
 - (b) If the resistance values are out of the specified limits:
 - replace the defective harness J7 (Ref. AMM TASK 73-21-50-000-040) and (Ref. AMM TASK 73-21-50-400-040) or the defective harness J8 (Ref. AMM TASK 73-21-50-000-041) and (Ref. AMM TASK 73-21-50-400-041).
 - (3) If the fault continues:
 - replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).

EFF: ALL **SROS**

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TROUBLE SHOOTING MANUAL

TASK 73-20-00-810-900

Failure of the High Pressure Shut Off Valve Switch of the HMU on Engine 2

- 1. Possible Causes
 - hydromechanical unit (HMU)
 - harness J7
 - harness J8
 - ECU (4000KS)
- 2. Job Set-up Information
- A. Fixtures, Tools, Test and Support Equipment R

______ R

REFERENCE **QTY DESIGNATION**

No specific bristle brush

R B. Consumable Materials

REFERENCE DESIGNATION

R Material No. CP2011

stoddard solvent (Ref. 70-30-00) R

C. Referenced Information R

REFERENCE **DESIGNATION**

AMM 71-00-00-710-002 Wet Motoring Check AMM 73-21-10-000-002 Removal of the Hydromechanical Unit (HMU) Installation of the Hydromechanical Unit (HMU) AMM 73-21-10-400-002

73-21-50-000-040 Removal of the HJ7 Harness AMM Removal of the HJ8 Harness AMM 73-21-50-000-041

AMM 73-21-50-210-002 Visual Inspection of the Wiring Harnesses

73-21-50-400-040 Installation of the HJ7 Harness AMM Installation of the HJ8 Harness AMM 73-21-50-400-041

Removal of the Electronic Control Unit (ECU)(4000KS) AMM 73-21-60-000-001

AMM 73-21-60-400-001 Installation of the Electronic Control Unit

(ECU)(4000KS)

AMM 73-29-00-710-040 Operational Test of the FADEC on the Ground (with

Engine non Motoring)

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3. Fault Confirmation

A. Test

- (1) Do the Wet Motoring Check (Ref. AMM TASK 71-00-00-710-002).
- (2) Do the operational test of the FADEC 2A on the ground (with engine non motoring) (Ref. AMM TASK 73-29-00-710-040).

4. Fault Isolation

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R R

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R R

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- A. If the test gives the maintenance message J7/J8, HMU (SOV SW)*:
 - do a check for open or short to ground of the harnesses J7 and J8 between the ECU (4000KS) and the HMU pins J7 and J8/9, 22 to pins J7 and J8/9, 22 (Ref. ASM 73-25/18).
 - (1) If one of these wirings is not correct:
 - repair the defective above wiring.
 - (2) If these wirings are correct:
 - disconnect the cables J7 and J8 from the HMU.
 - install a jumper wire between the pins 9 and 22 on the cables J7
 - disconnect the cables J7 and J8 from the ECU (4000KS).
 - do a visual inspection of the harness connector and receptacle. Look for contamination or oxidation or pins that have damage.
 - if you find damage, repair or replace as required.
 - clean the connector and receptacle with a bristle brush and stoddard solvent (Material No. CP2011) (Ref. AMM TASK 73-21-50-210-002).
 - do a resistance check of the cable J7 then J8 at the ECU connectors between:
 - pins 9 and 22 (< 5 ohms)</pre>
 - pins 8 and 9 (> 10 megohms)
 - . pin 9 and the ground (> 10 megohms).
 - (a) If the resistance values are in the specified limits:
 - replace the hydromechanical unit (HMU) (Ref. AMM TASK 73-21-10-000-002) and (Ref. AMM TASK 73-21-10-400-002).
 - (b) If the resistance values are out of the specified limits:
 - replace the defective harness J7 (Ref. AMM TASK 73-21-50-000-040) and (Ref. AMM TASK 73-21-50-400-040) or the defective harness J8 (Ref. AMM TASK 73-21-50-000-041) and (Ref. AMM TASK 73-21-50-400-041).
 - (3) If the fault continues:
 - replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).

EFF: ALL **SROS**

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TROUBLE SHOOTING MANUAL

TASK 73-20-00-810-901

Loss of the PS13 Sensor Signal on Engine 1

- 1. Possible Causes
 - ECU (4000KS)
 - PS13 line
- 2. Job Set-up Information
 - A. Referenced Information

REFERENCE	DESIGNATION
AMM 72-23-00-280-0 AMM 73-21-60-000-0 AMM 73-21-60-400-0 AMM 73-29-00-710-0	O1 Removal of the Electronic Control Unit (ECU) O1 Installation of the Electronic Control Unit (ECU)

- 3. Fault Confirmation
 - A. Test

(1) Do the operational test of the FADEC 1 on the ground (with engine non motoring) (Ref. AMM TASK 73-29-00-710-040).

- 4. Fault Isolation
 - A. The PS13 signal is part of the PMUX option only used for Engine Condition Monitoring.
 - NOTE: If the engine is not equipped in a PMUX configuration, you have two options:
 - replace the engine Identification Connector by a connector configured as Non PMUX to definitively avoid further generation of this fault message,
 - ignore this fault message.

<u>NOTE</u>: The fault message is generated if the PS13 sensor signal is invalid or out of range.

- (1) If the maintenance message ECU, PS13 SNSR LINE or ECU, PS13 SNSR LINE* is not confirmed:
 - (a) No maintenance is required.

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- (2) If the maintenance message ECU, PS13 SNSR LINE or ECU, PS13 SNSR LINE* is not confirmed but is repetitive:
 - do a check for leak or blocked PS13 line or loose fittings (Ref. AMM TASK 72-23-00-280-001).
 - (a) If nothing is found or if the fault continues:
 - replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).
- B. Do the test given in Para. 3.A.
 - (1) No additional maintenance action is required if the fault is not confirmed.
 - (2) Repeat the fault isolation procedure if the fault continues.

EFF: ALL

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TROUBLE SHOOTING MANUAL

TASK 73-20-00-810-902

Loss of the PS13 Sensor Signal on Engine 2

- 1. Possible Causes
 - ECU (4000KS)
 - PS13 line
- 2. Job Set-up Information
 - A. Referenced Information

REFERENCE	DESIGNATION
AMM 72-23-00-280-001 AMM 73-21-60-000-001 AMM 73-21-60-400-001 AMM 73-29-00-710-040	Inspection/Check of the PS13 Line Removal of the Electronic Control Unit (ECU) Installation of the Electronic Control Unit (ECU) Operational Test of the FADEC on the Ground (with Engine Non motoring)

- 3. Fault Confirmation
 - A. Test

(1) Do the operational test of the FADEC 2 on the ground (with engine non motoring) (Ref. AMM TASK 73-29-00-710-040).

4. Fault Isolation

A. The PS13 signal is part of the PMUX option only used for Engine Condition Monitoring.

NOTE: If the engine is not equipped in a PMUX configuration, you have two options:

- replace the engine Identification Connector by a connector configured as Non PMUX to definitively avoid further generation of this fault message,
- ignore this fault message.

<u>NOTE</u>: The fault message is generated if the PS13 sensor signal is invalid or out of range.

- (1) If the maintenance message ECU, PS13 SNSR LINE or ECU, PS13 SNSR LINE* is not confirmed:
 - (a) No maintenance is required.

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- (2) If the maintenance message ECU, PS13 SNSR LINE or ECU, PS13 SNSR LINE* is not confirmed but is repetitive:
 - do a check for leak or blocked PS13 line or loose fittings (Ref. AMM TASK 72-23-00-280-001).
 - (a) If nothing is found or if the fault continues:
 - replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).
- B. Do the test given in Para. 3.A.
 - (1) No additional maintenance action is required if the fault is not confirmed.
 - (2) Repeat the fault isolation procedure if the fault continues.

EFF: ALL

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TROUBLE SHOOTING MANUAL

TASK 73-20-00-810-905

Failure of the Control of the Solenoid 1 of the Fuel Return Valve on Channel A, Engine 1

- 1. Possible Causes
 - ECU (4000KS)
 - fuel return valve
 - harness J7
- 2. Job Set-up Information
- R A. Fixtures, Tools, Test and Support Equipment

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R REFERENCE QTY DESIGNATION

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R No specific bristle brush

R B. Consumable Materials

R -----R REFERENCE DESIGNATION

R REFERENCE DESIGNATION R -----

R Material No. CP2011 *

R stoddard solvent (Ref. 70-30-00)

R C. Referenced Information

REFERENCE DESIGNATION

AMM 73-11-50-000-002 Removal of the Fuel Return Valve (FRV)
AMM 73-11-50-400-002 Installation of the Fuel Return Valve
AMM 73-21-50-000-040 Removal of the HJ7 Harness

R AMM 73-21-50-210-002 Visual Inspection of the Wiring Harnesses

AMM 73-21-50-400-040 Installation of the HJ7 Harness

AMM 73-21-60-000-001 Removal of the Electronic Control Unit (ECU)(4000KS)

AMM 73-21-60-400-001 Installation of the Electronic Control Unit

(ECU)(4000KS)

AMM 73-29-00-710-040 Operational Test of the FADEC on the Ground (with

Engine non Motoring)

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EFF: ALL

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TROUBLE SHOOTING MANUAL

3. Fault Confirmation

A. Test

(1) Do the operational test of the FADEC 1A on the ground (with engine non motoring) (Ref. AMM TASK 73-29-00-710-040).

4. Fault Isolation

- A. The fault is generated when the ECU detects an open circuit or a short to ground on the fuel return valve solenoid for first level cooling or on associated electrical harness.
 - (1) If the test does not give the maintenance message J7, FRV(SOL 1), ECU or if the fault is repetitive:
 - Inspect the harness J7 and associated connectors to the fuel return valve and ECU for sign of looseness, damage or contamination (Ref. ASM 78-25/18).

Pay particular attention on pins 4 and 5 at the connector to the ECU and at pins 1 and 2 at the connector to the fuel return valve.

- Re-tighten, clean or replace harness as required.
- (a) If no defect is found either or on the harness or the connector no further action is due.
- (b) If the fault continues or is repetitive:
 - Replace the fuel return valve (Ref. AMM TASK 73-11-50-000-002) and (Ref. AMM TASK 73-11-50-400-002).
- (c) If the fault continues:
 - Replace the harness J7 (Ref. AMM TASK 73-21-50-000-040) and (Ref. AMM TASK 73-21-50-400-040).
- (d) If the fault continues:
 - Replace the ECU (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).
- (2) If the test gives the maintenance message J7, FRV(SOL 1), ECU:
 - disconnect the harness J7 from the ECU.
 - do a visual inspection of the harness connector and receptacle. Look for contamination or oxidation or pins that have damage.
 - if you find damage, repair or replace as required.
 - clean the connector and receptacle with a bristle brush and stoddard solvent (Material No. CP2011) (Ref. AMM TASK 73-21-50-210-002).
 - do a resistance check on the harness J7 between:
 - pins 4 and 5 (18 to 38 ohms)
 - pins 4 and 1 (> 10 megohms)
 - . pin 4 and the ground (> 10 megohms).

_____ EFF: ALL 73-20-00

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- (a) If the resistance values are in the specified limits:
 - replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).
- (b) If the resistance values are out of the specified limits:
 - disconnect the harness J7 from the fuel return valve.
 - do a visual inspection of the harness connector and receptacle. Look for contamination or oxidation or pins that have damage.
 - if you find damage, repair or replace as required.
 - clean the connector and receptacle with a bristle brush and stoddard solvent (Material No. CP2011) (Ref. AMM TASK 73-21-50-210-002).
 - do a resistance check between:
 - . pins 1 and 2 (18 to 38 ohms)
 - pin 1 and the ground (> 10 megohms)
 - 1 If the resistance values are out of the specified limits:
 - replace the fuel return valve (Ref. AMM TASK 73-11-50-000-002) and (Ref. AMM TASK 73-11-50-400-002).
 - 2 If the resistance values are in the specified limits:
 - replace the harness J7 (Ref. AMM TASK 73-21-50-000-040) and (Ref. AMM TASK 73-21-50-400-040).
- B. Do the test given in Para. 3.A.

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TROUBLE SHOOTING MANUAL

TASK 73-20-00-810-906

Failure of the Control of the Solenoid 1 of the Fuel Return Valve on Channel A, Engine 2

- 1. Possible Causes
 - ECU (4000KS)
 - fuel return valve
 - harness J7
- 2. Job Set-up Information
- R A. Fixtures, Tools, Test and Support Equipment

R ------

R REFERENCE QTY DESIGNATION

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R No specific bristle brush

B. Consumable Materials

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R REFERENCE DESIGNATION R -----

R Material No. CP2011 *

R stoddard solvent (Ref. 70-30-00)

R C. Referenced Information

REFERENCE DESIGNATION

AMM 73-11-50-000-002 Removal of the Fuel Return Valve (FRV)

AMM 73-11-50-400-002 Installation of the Fuel Return Valve
AMM 73-21-50-000-040 Removal of the HJ7 Harness

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AMM 73-21-50-210-002 Visual Inspection of the Wiring Harnesses

AMM 73-21-50-400-040 Installation of the HJ7 Harness

AMM 73-21-60-000-001 Removal of the Electronic Control Unit (ECU)(4000KS)

AMM 73-21-60-400-001 Installation of the Electronic Control Unit

(ECU)(4000KS)

AMM 73-29-00-710-040 Operational Test of the FADEC on the Ground (with

Engine non Motoring)

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TROUBLE SHOOTING MANUAL

3. Fault Confirmation

A. Test

(1) Do the operational test of the FADEC 2A on the ground (with engine non motoring) (Ref. AMM TASK 73-29-00-710-040).

4. Fault Isolation

- A. The fault is generated when the ECU detects an open circuit or a short to ground on the fuel return valve solenoid for first level cooling or on associated electrical harness.
 - (1) If the test does not give the maintenance message J7, FRV(SOL 1), ECU or if the fault is repetitive:
 - Inspect the harness J7 and associated connectors to the fuel return valve and ECU for sign of looseness, damage or contamination (Ref. ASM 78-25/18).

Pay particular attention on pins 4 and 5 at the connector to the ECU and at pins 1 and 2 at the connector to the fuel return valve.

- Re-tighten, clean or replace harness as required.
- (a) If no defect is found either or on the harness or the connector no further action is due.
- (b) If the fault continues or is repetitive:
 - Replace the fuel return valve (Ref. AMM TASK 73-11-50-000-002) and (Ref. AMM TASK 73-11-50-400-002).
- (c) If the fault continues:
 - Replace the harness J7 (Ref. AMM TASK 73-21-50-000-040) and (Ref. AMM TASK 73-21-50-400-040).
- (d) If the fault continues:
 - Replace the ECU (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).
- (2) If the test gives the maintenance message J7, FRV(SOL 1), ECU:
 - disconnect the harness J7 from the ECU.
 - do a visual inspection of the harness connector and receptacle. Look for contamination or oxidation or pins that have damage.
 - if you find damage, repair or replace as required.
 - clean the connector and receptacle with a bristle brush and stoddard solvent (Material No. CP2011) (Ref. AMM TASK 73-21-50-210-002).
 - do a resistance check of the harness J7 between:
 - pins 4 and 5 (18 to 38 ohms)
 - pins 4 and 1 (> 10 megohms)
 - . pin 4 and the ground (> 10 megohms).

EFF: ALL

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TROUBLE SHOOTING MANUAL

- (a) If the resistance values are in the specified limits:
 - replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).
- (b) If the resistance values are out of the specified limits:
 - disconnect the harness J7 from the fuel return valve.
 - do a visual inspection of the harness connector and receptacle. Look for contamination or oxidation or pins that have damage.
 - if you find damage, repair or replace as required.
 - clean the connector and receptacle with a bristle brush and stoddard solvent (Material No. CP2011) (Ref. AMM TASK 73-21-50-210-002).
 - do a resistance check between:
 - pins 1 and 2 (18 to 38 ohms)
 - . pin 1 and the ground (> 10 megohms)
 - 1 If the resistance values are out of the specified limits:
 - replace the fuel return valve (Ref. AMM TASK 73-11-50-000-002) and (Ref. AMM TASK 73-11-50-400-002).
 - 2 If the resistance values are in the specified limits:
 - replace the harness J7 (Ref. AMM TASK 73-21-50-000-040) and (Ref. AMM TASK 73-21-50-400-040).
- B. Do the test given in Para. 3.A.

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TROUBLE SHOOTING MANUAL

TASK 73-20-00-810-907

Failure of the Control of the Solenoid 1 of the Fuel Return Valve on Channel B, Engine 1

- 1. Possible Causes
 - ECU (4000KS)
 - fuel return valve
 - harness J8
- 2. Job Set-up Information
- A. Fixtures, Tools, Test and Support Equipment R

______ R

REFERENCE QTY DESIGNATION

No specific bristle brush

B. Consumable Materials

R

______ REFERENCE

DESIGNATION

R Material No. CP2011

stoddard solvent (Ref. 70-30-00) R

C. Referenced Information R

DESIGNATION REFERENCE ______

AMM 73-11-50-000-002 Removal of the Fuel Return Valve (FRV) AMM 73-11-50-400-002 Installation of the Fuel Return Valve AMM 73-21-50-000-041 Removal of the HJ8 Harness 73-21-50-210-002 Visual Inspection of the Wiring Harnesses AMM

AMM 73-21-50-400-041 Installation of the HJ8 Harness AMM 73-21-60-000-001 Removal of the Electronic Control Unit (ECU)(4000KS)

AMM 73-21-60-400-001 Installation of the Electronic Control Unit

(ECU)(4000KS)

AMM 73-29-00-710-040 Operational Test of the FADEC on the Ground (with Engine non Motoring)

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TROUBLE SHOOTING MANUAL

3. Fault Confirmation

A. Test

(1) Do the operational test of the FADEC 1B on the ground (with engine non motoring) (Ref. AMM TASK 73-29-00-710-040).

4. Fault Isolation

- A. The fault is generated when the ECU detects an open circuit or a short to ground on the fuel return valve solenoid for first level cooling or on associated electrical harness.
 - (1) If the test does not give the maintenance message J8, FRV(SOL 1), ECU or if the fault is repetitive:
 - Inspect the harness J8 and associated connectors to the fuel return valve and ECU for sign of looseness, damage or contamination (Ref. ASM 78-25/18).

Pay particular attention on pins 4 and 5 at the connector to the ECU and at pins 1 and 2 at the connector to the fuel return valve.

- Re-tighten, clean or replace harness as required.
- (a) If no defect is found either or on the harness or the connector no further action is due.
- (b) If the fault continues or is repetitive:
 - Replace the fuel return valve (Ref. AMM TASK 73-11-50-000-002)
 and (Ref. AMM TASK 73-11-50-400-002).
- (c) If the fault continues:
 - Replace the harness J8 (Ref. AMM TASK 73-21-50-000-041) and (Ref. AMM TASK 73-21-50-400-041).
- (d) If the fault continues:
 - Replace the ECU (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).
- (2) If the test gives the maintenance message J8, FRV(SOL 1), ECU:
 - disconnect the harness J8 from the ECU.
 - do a visual inspection of the harness connector and receptacle.
 Look for contamination or oxidation or pins that have damage.
 - if you find damage, repair or replace as required.
 - clean the connector and receptacle with a bristle brush and stoddard solvent (Material No. CP2011) (Ref. AMM TASK 73-21-50-210-002).
 - do a resistance check on the harness J8 between:
 - pins 4 and 5 (18 to 38 ohms)
 - pins 4 and 1 (> 10 megohms)
 - . pin 4 and the ground (> 10 megohms).

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- (a) If the resistance values are in the specified limits:
 - replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).
- (b) If the resistance values are out of the specified limits:
 - disconnect the harness J8 from the fuel return valve.
 - do a visual inspection of the harness connector and receptacle. Look for contamination or oxidation or pins that have damage.
 - if you find damage, repair or replace as required.
 - clean the connector and receptacle with a bristle brush and stoddard solvent (Material No. CP2011) (Ref. AMM TASK 73-21-50-210-002).
 - do a resistance check between:
 - pins 1 and 2 (18 to 38 ohms)
 - pin 1 and the ground (> 10 megohms)
 - 1 If the resistance values are out of the specified limits:
 - replace the fuel return valve (Ref. AMM TASK 73-11-50-000-002) and (Ref. AMM TASK 73-11-50-400-002).
 - 2 If the resistance values are in the specified limits:
 - replace the harness J8 (Ref. AMM TASK 73-21-50-000-041) and (Ref. AMM TASK 73-21-50-400-041).
- B. Do the test given in Para. 3.A.

EFF: ALL

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TROUBLE SHOOTING MANUAL

TASK 73-20-00-810-908

Failure of the Control of the Solenoid 1 of the Fuel Return Valve on Channel B, Engine 2

- 1. Possible Causes
 - ECU (4000KS)
 - fuel return valve
 - harness J8
- 2. Job Set-up Information
- R A. Fixtures, Tools, Test and Support Equipment

R ------

R REFERENCE QTY DESIGNATION

R ------

R No specific bristle brush

R B. Consumable Materials

R -----R REFERENCE DESIGNATION

R ------

R Material No. CP2011 *

R stoddard solvent (Ref. 70-30-00)

R C. Referenced Information

REFERENCE DESIGNATION

AMM 73-11-50-000-002 Removal of the Fuel Return Valve (FRV)

AMM 73-11-50-400-002 Installation of the Fuel Return Valve

AMM 73-21-50-000-041 Removal of the HJ8 Harness

R AMM 73-21-50-210-002 Visual Inspection of the Wiring Harnesses

AMM 73-21-50-400-041 Installation of the HJ8 Harness

AMM 73-21-60-000-001 Removal of the Electronic Control Unit (ECU)(4000KS)

AMM 73-21-60-400-001 Installation of the Electronic Control Unit

(ECU)(4000KS)

AMM 73-29-00-710-040 Operational Test of the FADEC on the Ground (with

Engine non Motoring)

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TROUBLE SHOOTING MANUAL

3. Fault Confirmation

A. Test

(1) Do the operational test of the FADEC 2B on the ground (with engine non motoring) (Ref. AMM TASK 73-29-00-710-040).

4. Fault Isolation

- A. The fault is generated when the ECU detects an open circuit or a short to ground on the fuel return valve solenoid for first level cooling or on associated electrical harness.
 - (1) If the test does not give the maintenance message J8, FRV(SOL 1), ECU or if the fault is repetitive:
 - Inspect the harness J8 and associated connectors to the fuel return valve and ECU for sign of looseness, damage or contamination (Ref. ASM 78-25/18).

Pay particular attention on pins 4 and 5 at the connector to the ECU and at pins 1 and 2 at the connector to the fuel return valve.

- Re-tighten, clean or replace harness as required.
- (a) If no defect is found either or on the harness or the connector no further action is due.
- (b) If the fault continues or is repetitive:
 - Replace the fuel return valve (Ref. AMM TASK 73-11-50-000-002) and (Ref. AMM TASK 73-11-50-400-002).
- (c) If the fault continues:
 - Replace the harness J8 (Ref. AMM TASK 73-21-50-000-041) and (Ref. AMM TASK 73-21-50-400-041).
- (d) If the fault continues:
 - Replace the ECU (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).
- (2) If the test gives the maintenance message J8, FRV(SOL 1), ECU:
 - disconnect the harness J8 from the ECU.
 - do a visual inspection of the harness connector and receptacle.
 Look for contamination or oxidation or pins that have damage.
 - if you find damage, repair or replace as required.
 - clean the connector and receptacle with a bristle brush and stoddard solvent (Material No. CP2011) (Ref. AMM TASK 73-21-50-210-002).
 - do a resistance check on the harness J8 between:
 - pins 4 and 5 (18 to 38 ohms)
 - pins 4 and 1 (> 10 megohms)
 - . pin 4 and the ground (> 10 megohms).

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- (a) If the resistance values are in the specified limits:
 - replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).
- (b) If the resistance values are out of the specified limits:
 - disconnect the harness J8 from the fuel return valve.
 - do a visual inspection of the harness connector and receptacle. Look for contamination or oxidation or pins that have damage.
 - if you find damage, repair or replace as required.
 - clean the connector and receptacle with a bristle brush and stoddard solvent (Material No. CP2011) (Ref. AMM TASK 73-21-50-210-002).
 - do a resistance check between:
 - pins 1 and 2 (18 to 38 ohms)
 - pin 1 and the ground (> 10 megohms)
 - 1 If the resistance values are out of the specified limits:
 - replace the fuel return valve (Ref. AMM TASK 73-11-50-000-002) and (Ref. AMM TASK 73-11-50-400-002).
 - 2 If the resistance values are in the specified limits:
 - replace the harness J8 (Ref. AMM TASK 73-21-50-000-041) and (Ref. AMM TASK 73-21-50-400-041).
- B. Do the test given in Para. 3.A.

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TROUBLE SHOOTING MANUAL

TASK 73-20-00-810-909

Failure of the Control of the Solenoid 2 of the Fuel Return Valve on Channel A, Engine 1

- 1. Possible Causes
 - ECU (4000KS)
 - fuel return valve
 - harness J7
- 2. Job Set-up Information
- A. Fixtures, Tools, Test and Support Equipment R

______ R

REFERENCE QTY DESIGNATION

No specific bristle brush

B. Consumable Materials

R

REFERENCE DESIGNATION

R Material No. CP2011

stoddard solvent (Ref. 70-30-00) R

C. Referenced Information R

REFERENCE **DESIGNATION**

Installation of the Fuel Return Valve

______ AMM 73-11-50-000-002 Removal of the Fuel Return Valve (FRV)

AMM 73-21-50-000-040 Removal of the HJ7 Harness 73-21-50-210-002 Visual Inspection of the Wiring Harnesses AMM

AMM 73-21-50-400-040 Installation of the HJ7 Harness

AMM 73-21-60-000-001 Removal of the Electronic Control Unit (ECU)(4000KS)

AMM 73-21-60-400-001 Installation of the Electronic Control Unit

(ECU)(4000KS)

AMM 73-29-00-710-040 Operational Test of the FADEC on the Ground (with

Engine non Motoring)

ASM 78-25/18

AMM 73-11-50-400-002

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TROUBLE SHOOTING MANUAL

3. Fault Confirmation

A. Test

(1) Do the operational test of the FADEC 1A on the ground (with engine non-motoring) (Ref. AMM TASK 73-29-00-710-040).

4. Fault Isolation

- A. The fault is generated when the ECU detects an open circuit or a short to ground on the fuel return valve solenoid for second level cooling or on associated electrical harness.
 - (1) If the test does not give the maintenance message J7, FRV(SOL 2), ECU or if the fault is repetitive:
 - Inspect the harness J7 and associated connectors to the fuel return valve and ECU for sign of looseness, damage or contamination (Ref. ASM 78-25/18).

Pay particular attention on pins 32 and 15 at the connector to the ECU and at pins 5 and 6 at the connector to the fuel return valve.

- Re-tighten, clean or replace harness as required.
- (a) If no defect is found either or on the harness or the connector no further action is due.
- (b) If the fault continues or is repetitive:
 - Replace the fuel return valve (Ref. AMM TASK 73-11-50-000-002) and (Ref. AMM TASK 73-11-50-400-002).
- (c) If the fault continues:
 - Replace the harness J7 (Ref. AMM TASK 73-21-50-000-040) and (Ref. AMM TASK 73-21-50-400-040).
- (d) If the fault continues:
 - Replace the ECU (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).
- (2) If the test gives the maintenance message J7, FRV(SOL 2), ECU:
 - disconnect the harness J7 from the ECU.
 - do a visual inspection of the harness connector and receptacle. Look for contamination or oxidation or pins that have damage.
 - if you find damage, repair or replace as required.
 - clean the connector and receptacle with a bristle brush and stoddard solvent (Material No. CP2011) (Ref. AMM TASK 73-21-50-210-002).
 - do a resistance check on the harness J7 between:
 - pins 32 and 15 (18 to 38 ohms)
 - pins 32 and 33 (> 10 megohms)
 - . pin 32 and the ground (> 10 megohms).

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- (a) If the resistance values are in the specified limits:
 - replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).
- (b) If the resistance values are out of the specified limits:
 - disconnect the harness J7 from the fuel return valve.
 - do a visual inspection of the harness connector and receptacle. Look for contamination or oxidation or pins that have damage.
 - if you find damage, repair or replace as required.
 - clean the connector and receptacle with a bristle brush and stoddard solvent (Material No. CP2011) (Ref. AMM TASK 73-21-50-210-002).
 - do a resistance check between:
 - . pins 5 and 6 (18 to 38 ohms)
 - pin 5 and the ground (> 10 megohms)
 - 1 If the resistance values are out of the specified limits:
 - replace the fuel return valve (Ref. AMM TASK 73-11-50-000-002) and (Ref. AMM TASK 73-11-50-400-002).
 - 2 If the resistance values are in the specified limits:
 - replace the harness J7 (Ref. AMM TASK 73-21-50-000-040) and (Ref. AMM TASK 73-21-50-400-040).
- B. Do the test given in Para. 3.A.

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TROUBLE SHOOTING MANUAL

TASK 73-20-00-810-910

Failure of the Control of the Solenoid 2 of the Fuel Return Valve on Channel A, Engine 2

- 1. Possible Causes
 - ECU (4000KS)
 - fuel return valve
 - harness J7
- 2. Job Set-up Information
- A. Fixtures, Tools, Test and Support Equipment R

______ R

REFERENCE QTY DESIGNATION

No specific bristle brush

B. Consumable Materials

R

______ REFERENCE

DESIGNATION

R Material No. CP2011

stoddard solvent (Ref. 70-30-00) R

C. Referenced Information R

REFERENCE **DESIGNATION** ______

AMM 73-11-50-000-002 Removal of the Fuel Return Valve (FRV) AMM 73-11-50-400-002 Installation of the Fuel Return Valve AMM 73-21-50-000-040 Removal of the HJ7 Harness

73-21-50-210-002 Visual Inspection of the Wiring Harnesses AMM

AMM 73-21-50-400-040 Installation of the HJ7 Harness

AMM 73-21-60-000-001 Removal of the Electronic Control Unit (ECU)(4000KS)

AMM 73-21-60-400-001 Installation of the Electronic Control Unit (ECU)(4000KS)

AMM 73-29-00-710-040

Operational Test of the FADEC on the Ground (with Engine non Motoring)

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TROUBLE SHOOTING MANUAL

3. Fault Confirmation

A. Test

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(1) Do the operational test of the FADEC 2A on the ground (with engine non motoring) (Ref. AMM TASK 73-29-00-710-040).

4. Fault Isolation

- A. The fault is generated when the ECU detects an open circuit or a short to ground on the fuel return valve solenoid for second level cooling or on associated electrical harness.
 - (1) If the test does not give the maintenance message J7, FRV(SOL 2), ECU or if the fault is repetitive:
 - Inspect the harness J7 and associated connectors to the fuel return valve and ECU for sign of looseness, damage or contamination (Ref. ASM 78-25/18).

Pay particular attention on pins 32 and 15 at the connector to the ECU and at pins 5 and 6 at the connector to the fuel return valve.

- Re-tighten, clean or replace harness as required.
- (a) If no defect is found either or on the harness or the connector no further action is due.
- (b) If the fault continues or is repetitive:
 - Replace the fuel return valve (Ref. AMM TASK 73-11-50-000-002) and (Ref. AMM TASK 73-11-50-400-002).
- (c) If the fault continues:
 - Replace the harness J7 (Ref. AMM TASK 73-21-50-000-040) and (Ref. AMM TASK 73-21-50-400-040).
- (d) If the fault continues:
 - Replace the ECU (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).
- (2) If the test gives the maintenance message J7, FRV(SOL 2), ECU:
 - disconnect the harness J7 from the ECU.
 - do a visual inspection of the harness connector and receptacle. Look for contamination or oxidation or pins that have damage.
 - if you find damage, repair or replace as required.
 - clean the connector and receptacle with a bristle brush and stoddard solvent (Material No. CP2011) (Ref. AMM TASK 73-21-50-210-002).
 - do a resistance check on the harness J7 between:
 - . pins 32 and 15 (18 to 38 ohms)
 - pins 32 and 33 (> 10 megohms)
 - . pin 32 and the ground (> 10 megohms).

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TROUBLE SHOOTING MANUAL

- (a) If the resistance values are in the specified limits:
 - replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).
- (b) If the resistance values are out of the specified limits:
 - disconnect the harness J7 from the fuel return valve.
 - do a visual inspection of the harness connector and receptacle. Look for contamination or oxidation or pins that have damage.
 - if you find damage, repair or replace as required.
 - clean the connector and receptacle with a bristle brush and stoddard solvent (Material No. CP2011) (Ref. AMM TASK 73-21-50-210-002).
 - do a resistance check between:
 - pins 5 and 6 (18 to 38 ohms)
 - pin 5 and the ground (> 10 megohms)
 - 1 If the resistance values are out of the specified limits:
 - replace the fuel return valve (Ref. AMM TASK 73-11-50-000-002) and (Ref. AMM TASK 73-11-50-400-002).
 - 2 If the resistance values are in the specified limits:
 - replace the harness J7 (Ref. AMM TASK 73-21-50-000-040) and (Ref. AMM TASK 73-21-50-400-040).
- B. Do the test given in Para. 3.A.

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TROUBLE SHOOTING MANUAL

TASK 73-20-00-810-911

Failure of the Control of the Solenoid 2 of the Fuel Return Valve on Channel B, Engine 1

- 1. Possible Causes
 - ECU (4000KS)
 - fuel return valve
 - harness J8
- 2. Job Set-up Information
- R A. Fixtures, Tools, Test and Support Equipment

R REFERENCE QIY DESIGNALION

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R No specific bristle brush

B. Consumable Materials

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R REFERENCE DESIGNATION R -----

R Material No. CP2011 *

R stoddard solvent (Ref. 70-30-00)

R C. Referenced Information

REFERENCE DESIGNATION

AMM 73-11-50-000-002 Removal of the Fuel Return Valve (FRV)
AMM 73-11-50-400-002 Installation of the Fuel Return Valve

AMM 73-11-30-400-002 Installation of the rule Return Valv

AMM 73-21-50-210-002 Visual Inspection of the Wiring Harnesses

AMM 73-21-50-400-041 Installation of the HJ8 Harness

AMM 73-21-60-000-001 Removal of the Electronic Control Unit (ECU)(4000KS)

AMM 73-21-60-400-001 Installation of the Electronic Control Unit

(ECU)(4000KS)

AMM 73-29-00-710-040 Operational Test of the FADEC on the Ground (with

Engine non Motoring)

ASM 78-25/18

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TROUBLE SHOOTING MANUAL

3. Fault Confirmation

A. Test

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(1) Do the operational test of the FADEC 1B on the ground (with engine non motoring) (Ref. AMM TASK 73-29-00-710-040).

4. Fault Isolation

- A. The fault is generated when the ECU detects an open circuit or a short to ground on the fuel return valve solenoid for second level cooling or on associated electrical harness.
 - (1) If the test does not give the maintenance message J8, FRV(SOL 2), ECU or if the fault is repetitive:
 - Inspect the harness J8 and associated connectors to the fuel return valve and ECU for sign of looseness, damage or contamination (Ref. ASM 78-25/18).

Pay particular attention on pins 32 and 15 at the connector to the ECU and at pins 5 and 6 at the connector to the fuel return valve.

- Re-tighten, clean or replace harness as required.
- (a) If no defect is found either or on the harness or the connector no further action is due.
- (b) If the fault continues or is repetitive:
 - Replace the fuel return valve (Ref. AMM TASK 73-11-50-000-002) and (Ref. AMM TASK 73-11-50-400-002).
- (c) If the fault continues:
 - Replace the harness J8 (Ref. AMM TASK 73-21-50-000-041) and (Ref. AMM TASK 73-21-50-400-041).
- (d) If the fault continues:
 - Replace the ECU (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).
- (2) If the test gives the maintenance message J8, FRV(SOL 2), ECU:
 - disconnect the harness J8 from the ECU.
 - do a visual inspection of the harness connector and receptacle. Look for contamination or oxidation or pins that have damage.
 - if you find damage, repair or replace as required.
 - clean the connector and receptacle with a bristle brush and stoddard solvent (Material No. CP2011) (Ref. AMM TASK 73-21-50-210-002).
 - do a resistance check on the harness J8 between:

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- . pins 32 and 15 (18 to 38 ohms)
- pins 32 and 33 (> 10 megohms)
- pin 32 and the ground (> 10 megohms).

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- (a) If the resistance values are in the specified limits:
 - replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).
- (b) If the resistance values are out of the specified limits:
 - disconnect the harness J8 from the fuel return valve.
 - do a visual inspection of the harness connector and receptacle. Look for contamination or oxidation or pins that have damage.
 - if you find damage, repair or replace as required.
 - clean the connector and receptacle with a bristle brush and stoddard solvent (Material No. CP2011) (Ref. AMM TASK 73-21-50-210-002).
 - do a resistance check between:
 - pins 5 and 6 (18 to 38 ohms)
 - pin 5 and the ground (> 10 megohms)
 - 1 If the resistance values are out of the specified limits:
 - replace the fuel return valve (Ref. AMM TASK 73-11-50-000-002) and (Ref. AMM TASK 73-11-50-400-002).
 - 2 If the resistance values are in the specified limits:
 - replace the harness J8 (Ref. AMM TASK 73-21-50-000-041) and (Ref. AMM TASK 73-21-50-400-041).
- B. Do the test given in Para. 3.A.

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TROUBLE SHOOTING MANUAL

TASK 73-20-00-810-912

Failure of the Control of the Solenoid 2 of the Fuel Return Valve on Channel B, Engine 2

- 1. Possible Causes
 - ECU (4000KS)
 - fuel return valve
 - harness J8
- 2. Job Set-up Information
- R A. Fixtures, Tools, Test and Support Equipment

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R REFERENCE QTY DESIGNATION

R No specific bristle brush

B. Consumable Materials

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R REFERENCE DESIGNATION R ------

R Material No. CP2011 *

R stoddard solvent (Ref. 70-30-00)

C. Referenced Information

REFERENCE DESIGNATION

AMM 73-11-50-000-002 Removal of the Fuel Return Valve (FRV)
AMM 73-11-50-400-002 Installation of the Fuel Return Valve

AMM 73-21-50-000-041 Removal of the HJ8 Harness

R AMM 73-21-50-210-002 Visual Inspection of the Wiring Harnesses

AMM 73-21-50-400-041 Installation of the HJ8 Harness

AMM 73-21-60-000-001 Removal of the Electronic Control Unit (ECU)(4000KS)

AMM 73-21-60-400-001 Installation of the Electronic Control Unit

(ECU)(4000KS)

AMM 73-29-00-710-040 Operational Test of the FADEC on the Ground (with

Engine non Motoring)

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TROUBLE SHOOTING MANUAL

3. Fault Confirmation

A. Test

(1) Do the operational test of the FADEC 2B on the ground (with engine non motoring) (Ref. AMM TASK 73-29-00-710-040).

4. Fault Isolation

- A. The fault is generated when the ECU detects an open circuit or a short to ground on the fuel return valve solenoid for second level cooling or on associated electrical harness.
 - (1) If the test does not give the maintenance message J8, FRV(SOL 2), ECU or if the fault is repetitive:
 - Inspect the harness J8 and associated connectors to the fuel return valve and ECU for sign of looseness, damage or contamination (Ref. ASM 78-25/18).

Pay particular attention on pins 32 and 15 at the connector to the ECU and at pins 5 and 6 at the connector to the fuel return valve.

- Re-tighten, clean or replace harness as required.
- (a) If no defect is found either or on the harness or the connector no further action is due.
- (b) If the fault continues or is repetitive:
 - Replace the fuel return valve (Ref. AMM TASK 73-11-50-000-002) and (Ref. AMM TASK 73-11-50-400-002).
- (c) If the fault continues:
 - Replace the harness J8 (Ref. AMM TASK 73-21-50-000-041) and (Ref. AMM TASK 73-21-50-400-041).
- (d) If the fault continues:
 - Replace the ECU (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).
- (2) If the test gives the maintenance message J8, FRV(SOL 2), ECU:
 - disconnect the harness J8 from the ECU.
 - do a visual inspection of the harness connector and receptacle. Look for contamination or oxidation or pins that have damage.
 - if you find damage, repair or replace as required.
 - clean the connector and receptacle with a bristle brush and stoddard solvent (Material No. CP2011) (Ref. AMM TASK 73-21-50-210-002).
 - do a resistance check on the harness J8 between:
 - pins 32 and 15 (18 to 38 ohms)
 - pins 32 and 33 (> 10 megohms)
 - . pin 32 and the ground (> 10 megohms).

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TROUBLE SHOOTING MANUAL

- (a) If the resistance values are in the specified limits:
 - replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).
- (b) If the resistance values are out of the specified limits:
 - disconnect the harness J8 from the fuel return valve.
 - do a visual inspection of the harness connector and receptacle. Look for contamination or oxidation or pins that have damage.
 - if you find damage, repair or replace as required.
 - clean the connector and receptacle with a bristle brush and stoddard solvent (Material No. CP2011) (Ref. AMM TASK 73-21-50-210-002).
 - do a resistance check between:
 - . pins 5 and 6 (18 to 38 ohms)
 - pin 5 and the ground (> 10 megohms)
 - 1 If the resistance values are out of the specified limits:
 - replace the fuel return valve (Ref. AMM TASK 73-11-50-000-002) and (Ref. AMM TASK 73-11-50-400-002).
 - 2 If the resistance values are in the specified limits:
 - replace the harness J8 (Ref. AMM TASK 73-21-50-000-041) and (Ref. AMM TASK 73-21-50-400-041).
- B. Do the test given in Para. 3.A.

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TROUBLE SHOOTING MANUAL

TASK 73-20-00-810-913

Loss of all Engine 1 Identification Connector Data

1. Possible Causes

- J14 engine identification connector
- ECU1 (4000KS)

2. Job Set-up Information

A. Referenced Information

REFERENCE		DESIGNATION
4 MM	77 24 (0 000 004	Benevel of the Floringia Control Hoit (FCH)
AMM	73-21-60-000-001	Removal of the Electronic Control Unit (ECU)
AMM	73-21-60-400-001	Installation of the Electronic Control Unit (ECU)
AMM	73-21-60-740-006	Read the LRU Identification Report and the Thrust Reverser Shut-off Valve Status
	77 04 00 000 000	
AMM	73-21-90-000-002	Removal of the Engine Identification Connector
AMM	73-21-90-400-002	Installation of the Engine Identification Connector
AMM	73-29-00-710-040	Operational Test of the FADEC on the Ground (with Engine non Motoring)

3. Fault Confirmation

A. Test

- (1) Do the operational test of the FADEC 1A on the ground (with engine non motoring) (Ref. AMM TASK 73-29-00-710-040).
- (2) Do the LRU identification through the MCDU (Ref. AMM TASK 73-21-60-740-006) and check that the data corresponds to the engine configuration.

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TROUBLE SHOOTING MANUAL

4. Fault Isolation

R **ON A/C 201-206, 227-227, 229-232, 240-240, 254-281, 283-283, 426-475,
R 479-499, 551-564,
R Post SB 72-1014 For A/C 227-227,229-232,
Post SB 72-1015 For A/C 276-281,
Post SB 72-1017 For A/C 201-206,551-564,
Post SB 72-1026 For A/C 426-450,
Post SB 72-1027 For A/C 479-499,

- A. If the test gives the maintenance message J14, ECU (ENG IDENT):
 - do a check for the loose or missing identification connector at the ECU1 connector J14 receptacle.
 - (1) If the Service Bulletin 72-0340 is not incorporated, and if the fault continues:
 - reset the ECU1 (4000KS) as follows:
 - (a) On the panel 115VU, set the ENG/MASTER 1 control switch (3KC) to OFF.
 - (b) After 30 seconds, set the ENG/MASTER 1 control switch (3KC) to ON.
 - 1 If the fault continues:
 - replace the J14 engine identification connector (Ref. AMM TASK 73-21-90-000-002) and (Ref. AMM TASK 73-21-90-400-002).
 - a If the fault continues:
 - replace the ECU1 (4000KS) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).
 - (2) If the Service Bulletin 72-0340 is incorporated, and if the fault continues:
 - read the LRU IDENTIFICATION report of the engine 1 (Ref. AMM TASK 73-21-60-740-006),
 - check that the engine identification connector installed on the engine meets the specific engine configuration (rating, N1 trim, system configuration, etc...).
 - (a) If the rating identified on the LRU IDENTIFICATION report is incorrect:
 - replace the J14 engine identification connector (Ref. AMM TASK 73-21-90-000-002) and (Ref. AMM TASK 73-21-90-400-002).
 - (b) If other parameters than the rating identified on the LRU IDENTIFICATION report is (are) incorrect:
 - check for correct programming of the J14 engine identification connector (Ref. AMM TASK 73-21-90-000-002) and (Ref. AMM TASK 73-21-90-400-002).

EFF: ALL

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- 1 If the fault continues:
 - replace the J14 engine identification connector (Ref. AMM TASK 73-21-90-000-002) and (Ref. AMM TASK 73-21-90-400-002).
 - a If the fault continues:
 - replace the ECU1 (4000KS) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).
- R **ON A/C 201-225, 227-227, 229-239, 241-253, 276-282, 284-299, 426-499,
- R 503-549, 551-599, 701-749,

Post SB 72-1024 For A/C 451-475,

- A. If the test gives the maintenance message J14, ECU (ENG IDENT):
 - do a check for the loose or missing identification connector at the ECU connector J14 receptacle.
 - (1) If the Service Bulletin 72-0340 is not incorporated, and if the fault continues:
 - reset the ECU1 (4000KS) as follows:
 - (a) On the panel 115VU, set the ENG/MASTER 1 control switch (3KC) to OFF.
 - (b) After 30 seconds, set the ENG/MASTER 1 control (3KC) switch to ON.
 - 1 If the fault continues:
 - replace the J14 engine identification connector (Ref. AMM TASK 73-21-90-000-002) and (Ref. AMM TASK 73-21-90-400-002).
 - a If the fault continues:
 - replace the ECU1 (4000KS) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).
 - (2) If the Service Bulletin 72-0340 is incorporated, and if the fault continues:
 - read the LRU IDENTIFICATION report of the engine 1 (Ref. AMM TASK 73-21-60-740-006),
 - check that the engine identification connector installed on the engine meets the specific engine configuration (rating, N1 trim, system configuration, etc...).
 - (a) If the rating identified on the LRU IDENTIFICATION report is incorrect:
 - replace the J14 engine identification connector (Ref. AMM TASK 73-21-90-000-002) and (Ref. AMM TASK 73-21-90-400-002).
 - (b) If other parameters than the rating identified on the LRU IDENTIFICATION report is (are) incorrect:
 - check for correct programming of the J14 engine identification connector (Ref. AMM TASK 73-21-90-000-002) and (Ref. AMM TASK 73-21-90-400-002).

EFF: ALL

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- 1 If the fault continues:
 - replace the J14 engine identification connector (Ref. AMM TASK 73-21-90-000-002) and (Ref. AMM TASK 73-21-90-400-002).
 - a If the fault continues:
 - replace the ECU1 (4000KS) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).

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B. Do the test given in Para. 3.

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TROUBLE SHOOTING MANUAL

TASK 73-20-00-810-914

Loss of all Engine 2 Identification Connector Data

1. Possible Causes

- J14 engine identification connector
- ECU2 (4000KS)

2. Job Set-up Information

A. Referenced Information

REFERENCE		DESIGNATION
	77 24 40 000 004	
AMM	73-21-60-000-001	Removal of the Electronic Control Unit (ECU)
AMM	73-21-60-400-001	Installation of the Electronic Control Unit (ECU)
AMM	73-21-60-740-006	Read the LRU Identification Report and the Thrust Reverser Shut-off Valve Status
AMM	73-21-90-000-002	Removal of the Engine Identification Connector
AMM	73-21-90-400-002	Installation of the Engine Identification Connector
AMM	73-29-00-710-040	Operational Test of the FADEC on the Ground (with Engine non Motoring)

3. Fault Confirmation

A. Test

- (1) Do the operational test of the FADEC 2A on the ground (with engine non motoring) (Ref. AMM TASK 73-29-00-710-040).
- (2) Do the LRU identification through the MCDU (Ref. AMM TASK 73-21-60- 740-006) and check that the data corresponds to the engine configuration.

EFF: ALL

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TROUBLE SHOOTING MANUAL

4. Fault Isolation

R **ON A/C 201-206, 227-227, 229-232, 240-240, 254-281, 283-283, 426-475,
R 479-499, 551-564,
Post SB 72-1014 For A/C 227-227,229-232,
Post SB 72-1015 For A/C 276-281,
Post SB 72-1017 For A/C 201-206,551-564,
Post SB 72-1026 For A/C 426-450,
Post SB 72-1027 For A/C 479-499,

- A. If the test gives the maintenance message J14, ECU (ENG IDENT):
 - do a check for the loose or missing identification connector at the ECU2 connector J14 receptacle.
 - (1) If the Service Bulletin 72-0340 is not incorporated, and if the fault continues:
 - reset the ECU2 (4000KS) as follows:
 - (a) On the panel 115VU, set the ENG/MASTER 2 control switch (2KC) to OFF.
 - (b) After 30 seconds, set the ENG/MASTER 2 control switch (2KC) to ON.
 - 1 If the fault continues:
 - replace the J14 engine identification connector (Ref. AMM TASK 73-21-90-000-002) and (Ref. AMM TASK 73-21-90-400-002).
 - a If the fault continues:
 - replace the ECU2 (4000KS) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).
 - (2) If the Service Bulletin 72-0340 is incorporated, and if the fault continues:
 - read the LRU IDENTIFICATION report of the engine 2 (Ref. AMM TASK 73-21-60-740-006),
 - check that the engine identification connector installed on the engine meets the specific engine configuration (rating, N1 trim, system configuration, etc...).
 - (a) If the rating identified on the LRU IDENTIFICATION report is incorrect:
 - replace the J14 engine identification connector (Ref. AMM TASK 73-21-90-000-002) and (Ref. AMM TASK 73-21-90-400-002).
 - (b) If other parameters than the rating identified on the LRU IDENTIFICATION report is (are) incorrect:
 - check for correct programming of the J14 engine identification connector (Ref. AMM TASK 73-21-90-000-002) and (Ref. AMM TASK 73-21-90-400-002).

EFF: ALL

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- 1 If the fault continues:
 - replace the J14 engine identification connector (Ref. AMM TASK 73-21-90-000-002) and (Ref. AMM TASK 73-21-90-400-002).
 - a If the fault continues:
 - replace the ECU2 (4000KS) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).
- R **ON A/C 201-225, 227-227, 229-239, 241-253, 276-282, 284-299, 426-499,
- R 503-549, 551-599, 701-749,

Post SB 72-1024 For A/C 451-475,

- A. If the test gives the maintenance message J14, ECU (ENG IDENT):
 - do a check for the loose or missing identification connector at the ECU2 connector J14 receptacle.
 - (1) If the Service Bulletin 72-0340 is not incorporated, and if the fault continues:
 - reset the ECU2 (4000KS) as follows:
 - (a) On the panel 115VU, set the ENG/MASTER 2 control switch (2KC) to OFF.
 - (b) After 30 seconds, set the ENG/MASTER 2 control switch (2KC) to ON.
 - 1 If the fault continues:
 - replace the J14 engine identification connector (Ref. AMM TASK 73-21-90-000-002) and (Ref. AMM TASK 73-21-90-400-002).
 - a If the fault continues:
 - replace the ECU2 (4000KS) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).
 - (2) If the Service Bulletin 72-0340 is incorporated, and if the fault continues:
 - read the LRU IDENTIFICATION report of the engine 2 (Ref. AMM TASK 73-21-60-740-006),
 - check that the engine identification connector installed on the engine meets the specific engine configuration (rating, N1 trim, system configuration, etc...).
 - (a) If the rating identified on the LRU IDENTIFICATION report is incorrect:
 - replace the J14 engine identification connector (Ref. AMM TASK 73-21-90-000-002) and (Ref. AMM TASK 73-21-90-400-002).
 - (b) If other parameters than the rating identified on the LRU IDENTIFICATION report is (are) incorrect:
 - check for correct programming of the J14 engine identification connector (Ref. AMM TASK 73-21-90-000-002) and (Ref. AMM TASK 73-21-90-400-002).

EFF: ALL

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- 1 If the fault continues:
 - replace the J14 engine identification connector (Ref. AMM TASK 73-21-90-000-002) and (Ref. AMM TASK 73-21-90-400-002).
 - a If the fault continues:
 - replace the ECU2 (4000KS) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).

**ON A/C ALL

B. Do the test given in Para. 3.A.

EFF: ALL
SROS

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R **ON A/C 201-225, 227-227, 229-239, 241-253, 276-282, 284-299, 426-499, R 503-549, 551-599, 701-749,

TASK 73-20-00-810-915

Loss of the Burner Selection Valve Torque Motor Control through Channel A on Engine 1

- 1. Possible Causes
 - ECU (4000KS)
 - J7 harness
 - J11 harness
 - CJ11R harness
 - Burner Selection Valve (BSV)
- 2. Job Set-up Information
 - A. Referenced Information

REFERENCE		DESIGNATION
AMM	73-11-70-000-002	Removal of the Burner Selection Valve (BSV)
AMM	73-11-70-400-002	Installation of the Burner Selection Valve (BSV)
AMM	73-21-50-000-026	Removal of the CJ11R Harness
AMM	73-21-50-000-040	Removal of the HJ7 Harness
AMM	73-21-50-000-044	Removal of the HJ11 Harness
AMM	73-21-50-400-026	Installation of the CJ11R Harness
AMM	73-21-50-400-040	Installation of the HJ7 Harness
AMM	73-21-50-400-044	Installation of the HJ11 Harness
AMM	73-21-60-000-001	Removal of the Electronic Control Unit (ECU)(4000KS)
AMM	73-21-60-400-001	<pre>Installation of the Electronic Control Unit (ECU)(4000KS)</pre>
AMM	73-29-00-710-040	Operational Test of the FADEC on the ground (with Engine Motoring)
ASM	73-25/18	

3. Fault Confirmation

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R **ON A/C 201-225, 227-227, 229-239, 241-253, 276-282, 284-299, 426-499,
R 503-549, 551-599, 701-749,
Post SB 72-1024 For A/C 451-475,
```

A. Test

(1) Do the operational test of the FADEC 1A on the ground (with engine motoring) (Ref. AMM TASK 73-29-00-710-040).

R EFF: 201-225, 227-227, 229-239, 241-253, 276-282, 284-299, 426-499, 503-549, 551-599, 701-749, SROS

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- R **ON A/C 201-225, 227-227, 229-239, 241-253, 276-282, 284-299, 426-499, R 503-549, 551-599, 701-749,
 - 4. Fault Isolation
- R **ON A/C 201-225, 227-227, 229-239, 241-253, 276-282, 284-299, 426-499, R 503-549, 551-599, 701-749,
 - Post SB 72-1024 For A/C 451-475,
 - A. If the test gives the maintenance message J7, BSV, ECU:
 - do a check for open or short to ground at pin J7/19, 38, 39 of the J7 harness between the ECU (4000KS) and the BSV torque motor in the BSV (Ref. ASM 73-25/18).
 - (1) If the wiring is not correct:
 - repair the above wiring.
 - (2) If the wiring is correct:
 - disconnect the harness J7 from the ECU and do a check of the ECU cable resistance between:
 - pins 19 and 38 (12 to 38 0hms)
 - pins 38 and 39 (> 10 Megohms)
 - . pin 19 and the ground (> 10 Megohms).
 - (a) If the resistance values are in the specified limits:
 - replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).
 - (b) If the resistance values are out of the specified limits:
 - disconnect the J7 harness from the J11 harness and do a check of the J11 cable resistance between:
 - . pins 1 and 2 (12 to 38 0hms)
 - pins 1 and 3 (> 10 Megohms)
 - . pin 1 and the ground (> 10 Megohms).
 - 1 If the resistance values are in the specified limits:
 - replace the J7 harness (Ref. AMM TASK 73-21-50-000-040) and (Ref. AMM TASK 73-21-50-400-040).
 - 2 If the resistance values are out of the specified limits:
 - disconnect the J11 harness from the CJ11R harness and do a check of the CJ11R receptacle resistance between:
 - . pins 23 and 24 (12 to 38 0hms)
 - . pins 23 and 22 (> 10 Megohms)
 - . pin 23 and the ground (> 10 Megohms).
 - a If the resistance values are in the specified limits:
 - replace the J11 harness (Ref. AMM TASK 73-21-50-000-044) and (Ref. AMM TASK 73-21-50-400-044).

EFF: 201-225, 227-227, 229-239, 241-253, 276-282, 284-299, 426-499, 503-549, 551-599, 701-749, SROS

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- b If the resistance values are out of the specified limits:
 - disconnect the CJ11R harness from the BSV and do a check of the BSV receptacle between:
 - . pins 13 and 15 (12 to 38 0hms)
 - pins 13 and 14 (> 10 Megohms)
 - . pin 13 and the ground (> 10 Megohms).

If the resistance values are in the specified limits:

- replace the CJ11R harness (Ref. AMM TASK 73-21-50-000-026) and (Ref. AMM TASK 73-21-50-400-026).
 - If the resistance values are out of the specified limits:
- replace the Burner Selection Valve (BSV) (Ref. AMM TASK 73-11-70-000-002) and (Ref. AMM TASK 73-11-70-400-002).
- B. Do the test given in Para. 3.A.

EFF: 201-225, 227-227, 229-239, 241-253, 276-282, 284-299, 426-499, 503-549, 551-599, 701-749, SROS

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R **ON A/C 201-225, 227-227, 229-239, 241-253, 276-282, 284-299, 426-499, R 503-549, 551-599, 701-749,

TASK 73-20-00-810-916

Loss of the Burner Selection Valve Torque Motor Control through Channel A on Engine 2

- 1. Possible Causes
 - ECU (4000KS)
 - J7 harness
 - J11 harness
 - CJ11R harness
 - Burner Selection Valve (BSV)
- 2. Job Set-up Information
 - A. Referenced Information

REFERENCE		DESIGNATION
AMM	73-11-70-000-002	Removal of the Burner Selection Valve (BSV)
AMM	73-11-70-400-002	Installation of the Burner Selection Valve (BSV)
AMM	73-21-50-000-026	Removal of the CJ11R Harness
AMM	73-21-50-000-040	Removal of the HJ7 Harness
AMM	73-21-50-000-044	Removal of the HJ11 Harness
AMM	73-21-50-400-026	Installation of the CJ11R Harness
AMM	73-21-50-400-040	Installation of the HJ7 Harness
AMM	73-21-50-400-044	Installation of the HJ11 Harness
AMM	73-21-60-000-001	Removal of the Electronic Control Unit (ECU)(4000KS)
AMM	73-21-60-400-001	<pre>Installation of the Electronic Control Unit (ECU)(4000KS)</pre>
AMM	73-29-00-710-040	Operational Test of the FADEC on the ground (with Engine Motoring)
ASM	73-25/18	

3. Fault Confirmation

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R **ON A/C 201-225, 227-227, 229-239, 241-253, 276-282, 284-299, 426-499,
R 503-549, 551-599, 701-749,
Post SB 72-1024 For A/C 451-475,
```

A. Test

(1) Do the operational test of the FADEC 2A on the ground (with engine motoring) (Ref. AMM TASK 73-29-00-710-040).

R EFF: 201-225, 227-227, 229-239, 241-253, 276-282, 284-299, 426-499, 503-549, 551-599, 701-749, SROS

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- R **ON A/C 201-225, 227-227, 229-239, 241-253, 276-282, 284-299, 426-499, R 503-549, 551-599, 701-749,
 - 4. Fault Isolation
- R **ON A/C 201-225, 227-227, 229-239, 241-253, 276-282, 284-299, 426-499, R 503-549, 551-599, 701-749, Boot SR 73-1024 For A/C 451-475
 - Post SB 72-1024 For A/C 451-475,
 - A. If the test gives the maintenance message J7, BSV, ECU:
 - do a check for open or short to ground at pin J7/19, 38, 39 of the J7 harness between the ECU (4000KS) and the BSV torque motor in the BSV (Ref. ASM 73-25/18).
 - (1) If the wiring is not correct:
 - repair the above wiring.
 - (2) If the wiring is correct:
 - disconnect the harness J7 from the ECU and do a check of the ECU cable resistance between:
 - pins 19 and 38 (12 to 38 0hms)
 - pins 38 and 39 (> 10 Megohms)
 - . pin 19 and the ground (> 10 Megohms).
 - (a) If the resistance values are in the specified limits:
 - replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).
 - (b) If the resistance values are out of the specified limits:
 - disconnect the J7 harness from the J11 harness and do a check of the J11 cable resistance between:
 - . pins 1 and 2 (12 to 38 0hms)
 - pins 1 and 3 (> 10 Megohms)
 - . pin 1 and the ground (> 10 Megohms).
 - 1 If the resistance values are in the specified limits:
 - replace the J7 harness (Ref. AMM TASK 73-21-50-000-040) and (Ref. AMM TASK 73-21-50-400-040).
 - 2 If the resistance values are out of the specified limits:
 - disconnect the J11 harness from the CJ11R harness and do a check of the CJ11R receptacle resistance between:
 - . pins 23 and 24 (12 to 38 0hms)
 - . pins 23 and 22 (> 10 Megohms)
 - . pin 23 and the ground (> 10 Megohms).
 - a If the resistance values are in the specified limits:
 - replace the J11 harness (Ref. AMM TASK 73-21-50-000-044)
 and (Ref. AMM TASK 73-21-50-400-044).

EFF: 201-225, 227-227, 229-239, 241-253, 276-282, 284-299, 426-499, 503-549, 551-599, 701-749, SROS

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- b If the resistance values are out of the specified limits:
 - disconnect the CJ11R harness from the BSV and do a check of the BSV receptacle between:
 - . pins 13 and 15 (12 to 38 0hms)
 - pins 13 and 14 (> 10 Megohms)
 - . pin 13 and the ground (> 10 Megohms).

If the resistance values are in the specified limits:

- replace the CJ11R harness (Ref. AMM TASK 73-21-50-000-026) and (Ref. AMM TASK 73-21-50-400-026).
 - If the resistance values are out of the specified limits:
- replace the Burner Selection Valve (BSV) (Ref. AMM TASK 73-11-70-000-002) and (Ref. AMM TASK 73-11-70-400-002).
- B. Do the test given in Para. 3.A.

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R **ON A/C 201-225, 227-227, 229-239, 241-253, 276-282, 284-299, 426-499, R 503-549, 551-599, 701-749,

TASK 73-20-00-810-917

Loss of the Burner Selection Valve Torque Motor Control through Channel B on Engine 1

- 1. Possible Causes
 - ECU (4000KS)
 - J8 harness
 - J12 harness
 - CJ12R harness
 - Burner Selection Valve (BSV)
- 2. Job Set-up Information
 - A. Referenced Information

REFERENCE		DESIGNATION
AMM	73-11-70-000-002	Removal of the Burner Selection Valve (BSV)
AMM	73-11-70-400-002	Installation of the Burner Selection Valve (BSV)
AMM	73-21-50-000-028	Removal of the CJ12R Harness
AMM	73-21-50-000-041	Removal of the HJ8 Harness
AMM	73-21-50-000-045	Removal of the HJ12 Harness
AMM	73-21-50-400-028	Installation of the CJ12R Harness
AMM	73-21-50-400-041	Installation of the HJ8 Harness
AMM	73-21-50-400-045	Installation of the HJ12 Harness
AMM	73-21-60-000-001	Removal of the Electronic Control Unit (ECU)(4000KS)
AMM	73-21-60-400-001	Installation of the Electronic Control Unit (ECU)(4000KS)
AMM	73-29-00-710-040	Operational Test of the FADEC on the ground (with Engine Motoring)
ASM	73-25/18	

3. Fault Confirmation

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R **ON A/C 201-225, 227-227, 229-239, 241-253, 276-282, 284-299, 426-499,
R 503-549, 551-599, 701-749,
Post SB 72-1024 For A/C 451-475,
```

A. Test

(1) Do the operational test of the FADEC 1B on the ground (with engine motoring) (Ref. AMM TASK 73-29-00-710-040).

R EFF: 201-225, 227-227, 229-239, 241-253, 276-282, 284-299, 426-499, 503-549, 551-599, 701-749, SROS

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- R **ON A/C 201-225, 227-227, 229-239, 241-253, 276-282, 284-299, 426-499, R 503-549, 551-599, 701-749,
 - 4. Fault Isolation
- R **ON A/C 201-225, 227-227, 229-239, 241-253, 276-282, 284-299, 426-499, R 503-549, 551-599, 701-749, Post SB 72-1024 For A/C 451-475,
 - A. If the test gives the maintenance message J8, BSV, ECU:
 - do a check for open or short to ground at pin J8/10, 23, 24 of the J8 harness between the ECU (4000KS) and the BSV torque motor in the BSV (Ref. ASM 73-25/18).
 - (1) If the wiring is not correct:
 - repair the above wiring.
 - (2) If the wiring is correct:
 - disconnect the harness J8 from the ECU and do a check of the ECU cable resistance between:
 - pins 23 and 24 (12 to 38 0hms)
 - pins 23 and 10 (> 10 Megohms)
 - . pin 23 and the ground (> 10 Megohms).
 - (a) If the resistance values are in the specified limits:
 - replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).
 - (b) If the resistance values are out of the specified limits:
 - disconnect the J8 harness from the J12 harness and do a check of the J12 cable resistance between:
 - . pins 1 and 2 (12 to 38 0hms)
 - pins 1 and 3 (> 10 Megohms)
 - . pin 1 and the ground (> 10 Megohms).
 - 1 If the resistance values are in the specified limits:
 - replace the J8 harness (Ref. AMM TASK 73-21-50-000-041) and (Ref. AMM TASK 73-21-50-400-041).
 - 2 If the resistance values are out of the specified limits:
 - disconnect the J12 harness from the CJ12R harness and do a check of the CJ12R receptacle resistance between:
 - . pins 23 and 24 (12 to 38 0hms)
 - . pins 23 and 22 (> 10 Megohms)
 - . pin 23 and the ground (> 10 Megohms).
 - a If the resistance values are in the specified limits:
 - replace the J12 harness (Ref. AMM TASK 73-21-50-000-045) and (Ref. AMM TASK 73-21-50-400-045).

EFF: 201-225, 227-227, 229-239, 241-253, 276-282, 284-299, 426-499, 503-549, 551-599, 701-749, SROS

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- b If the resistance values are out of the specified limits:
 - disconnect the CJ12R harness from the BSV and do a check of the BSV receptacle between:
 - . pins 13 and 15 (12 to 38 0hms)
 - pins 13 and 14 (> 10 Megohms)
 - . pin 13 and the ground (> 10 Megohms).

If the resistance values are in the specified limits:

- replace the CJ12R harness (Ref. AMM TASK 73-21-50-000-028) and (Ref. AMM TASK 73-21-50-400-028).
 - If the resistance values are out of the specified limits:
- replace the Burner Selection Valve (BSV) (Ref. AMM TASK 73-11-70-000-002) and (Ref. AMM TASK 73-11-70-400-002).
- B. Do the test given in Para. 3.A.

EFF: 201-225, 227-227, 229-239, 241-253, 276-282, 284-299, 426-499, 503-549, 551-599, 701-749, SROS

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R **ON A/C 201-225, 227-227, 229-239, 241-253, 276-282, 284-299, 426-499, R 503-549, 551-599, 701-749,

TASK 73-20-00-810-918

Loss of the Burner Selection Valve Torque Motor Control through Channel B on Engine 2

- 1. Possible Causes
 - ECU (4000KS)
 - J8 harness
 - J12 harness
 - CJ12R harness
 - Burner Selection Valve (BSV)
- 2. Job Set-up Information
 - A. Referenced Information

REFERENCE		DESIGNATION
AMM	73-11-70-000-002	Removal of the Burner Selection Valve (BSV)
AMM	73-11-70-400-002	Installation of the Burner Selection Valve (BSV)
AMM	73-21-50-000-028	Removal of the CJ12R Harness
AMM	73-21-50-000-041	Removal of the HJ8 Harness
AMM	73-21-50-000-045	Removal of the HJ12 Harness
AMM	73-21-50-400-028	Installation of the CJ12R Harness
AMM	73-21-50-400-041	Installation of the HJ8 Harness
AMM	73-21-50-400-045	Installation of the HJ12 Harness
AMM	73-21-60-000-001	Removal of the Electronic Control Unit (ECU)(4000KS)
AMM	73-21-60-400-001	Installation of the Electronic Control Unit (ECU)(4000KS)
AMM	73-29-00-710-040	Operational Test of the FADEC on the ground (with Engine Motoring)
ASM	73-25/18	

3. Fault Confirmation

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R **ON A/C 201-225, 227-227, 229-239, 241-253, 276-282, 284-299, 426-499,
R 503-549, 551-599, 701-749,
Post SB 72-1024 For A/C 451-475,
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A. Test

(1) Do the operational test of the FADEC 2B on the ground (with engine motoring) (Ref. AMM TASK 73-29-00-710-040).

R EFF: 201-225, 227-227, 229-239, 241-253, 276-282, 284-299, 426-499, 503-549, 551-599, 701-749, SROS

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- R **ON A/C 201-225, 227-227, 229-239, 241-253, 276-282, 284-299, 426-499, R 503-549, 551-599, 701-749,
 - 4. Fault Isolation
- R **ON A/C 201-225, 227-227, 229-239, 241-253, 276-282, 284-299, 426-499, R 503-549, 551-599, 701-749, Post SB 72-1024 For A/C 451-475,
 - A. If the test gives the maintenance message J8, BSV, ECU:
 - do a check for open or short to ground at pin J8/10, 23, 24 of the J8 harness between the ECU (4000KS) and the BSV torque motor in the BSV (Ref. ASM 73-25/18).
 - (1) If the wiring is not correct:
 - repair the above wiring.
 - (2) If the wiring is correct:
 - disconnect the harness J8 from the ECU and do a check of the ECU cable resistance between:
 - . pins 23 and 24 (12 to 38 0hms)
 - pins 23 and 10 (> 10 Megohms)
 - . pin 23 and the ground (> 10 Megohms).
 - (a) If the resistance values are in the specified limits:
 - replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).
 - (b) If the resistance values are out of the specified limits:
 - disconnect the J8 harness from the J12 harness and do a check of the J12 cable resistance between:
 - . pins 1 and 2 (12 to 38 0hms)
 - pins 1 and 3 (> 10 Megohms)
 - . pin 1 and the ground (> 10 Megohms).
 - 1 If the resistance values are in the specified limits:
 - replace the J8 harness (Ref. AMM TASK 73-21-50-000-041) and (Ref. AMM TASK 73-21-50-400-041).
 - 2 If the resistance values are out of the specified limits:
 - disconnect the J12 harness from the CJ12R harness and do a check of the CJ12R receptacle resistance between:
 - . pins 23 and 24 (12 to 38 0hms)
 - . pins 23 and 22 (> 10 Megohms)
 - . pin 23 and the ground (> 10 Megohms).
 - a If the resistance values are in the specified limits:
 - replace the J12 harness (Ref. AMM TASK 73-21-50-000-045)
 and (Ref. AMM TASK 73-21-50-400-045).

EFF: 201-225, 227-227, 229-239, 241-253, 276-282, 284-299, 426-499, 503-549, 551-599, 701-749, SROS

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- b If the resistance values are out of the specified limits:
 - disconnect the CJ12R harness from the BSV and do a check of the BSV receptacle between:
 - . pins 13 and 15 (12 to 38 0hms)
 - pins 13 and 14 (> 10 Megohms)
 - . pin 13 and the ground (> 10 Megohms).

If the resistance values are in the specified limits:

- replace the CJ12R harness (Ref. AMM TASK 73-21-50-000-028) and (Ref. AMM TASK 73-21-50-400-028).
 - If the resistance values are out of the specified limits:
- replace the Burner Selection Valve (BSV) (Ref. AMM TASK 73-11-70-000-002) and (Ref. AMM TASK 73-11-70-400-002).
- B. Do the test given in Para. 3.A.

EFF: 201-225, 227-227, 229-239, 241-253, 276-282, 284-299, 426-499, 503-549, 551-599, 701-749, SROS

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**ON A/C ALL

TASK 73-20-00-810-919

Loss of the ADIRU input Data through the Channel A or disagree between Aircraft and Engine sensors on Engine 1

1. Possible Causes

- PS12 Sensing Line
- T12 temperature sensor
- ADIRU-1 (1PF1)
- ADIRU-2 (1PF2)
- ADIRU-3 (1PF3)
- pitot or static probes
- ECU (4000KS)
- PO inlet port

2. Job Set-up Information

A. Referenced Information

REFERENCE		DESIGNATION	
AMM	72-23-00-000-040	Removal of the PS12 Line	
AMM	72-23-00-280-003	Inspection/Check of the PS12 Line	
AMM	72-23-00-400-040	Installation of the PS12 Line	
AMM	73-21-40-000-001		
		Removal of the T12 Temperature Sensor	
AMM	73-21-40-400-001	Installation of the T12 Temperature Sensor	
AMM	73-21-50-000-042	Removal of the HJ9 Harness	
AMM	73-21-50-000-043	Removal of the HJ10 Harness	
AMM	73-21-50-210-001	Visual Inspection of the Wiring Harness	
AMM	73-21-50-400-042	Installation of the HJ9 Harness	
AMM	73-21-50-400-043	Installation of the HJ10 Harness	
AMM	73-21-60-000-001	Removal of the Electronic Control Unit (ECU)(4000KS)	
AMM	73-21-60-400-001	Installation of the Electronic Control Unit	
		(ECU)(4000KS)	
AMM	73-21-60-740-007	Correct Time Limited Faults (Non Asterisked) of the Engine Scheduled Maintenance Report	

3. Fault Confirmation

**ON A/C ALL

Post SB 72-1017 For A/C 201-206, R Post SB 73-1052 For A/C 227-227,229-229,231-239,241-244,276-281,

A. Not applicable

EFF: ALL

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TROUBLE SHOOTING MANUAL

**ON A/C ALL

4. Fault Isolation

**ON A/C ALL

Post SB 72-1017 For A/C 201-206, R Post SB 73-1052 For A/C 227-227,229-229,231-239,241-244,276-281,

- A. The fault is triggered by the ECU if the ADIRU inputs data to the ECU (TAT, Total Pressure and Altitude) disagree with the engine sensor inputs (PS12 Sensing Line, T12 temperature sensor, PO).
 - (1) If the failure message PO/P12/T12, ADC, ECU* or PO/P12/T12, ADC, ECU is displayed and one or more failure message(s) linked to the ADIRU-1 (1PF1), ADIRU-2 (1PF2), ADIRU-3 (1PF3), pitot or static probes is (are) present:
 - do the trouble shooting procedures related to the ADC, pitot probes or static probes failure message.
- B. If the fault message PO/P12/T12, ADC, ECU* or PO/P12/T12, ADC, ECU is displayed and no failure message linked to the ADC, static probes or pitot probes is (are) present:
 - Check in the Schedule Maintenance Report (SMR) or in the Class 3 Report (Ref. AMM TASK 73-21-60-740-007) for presence of failure message(s): "ECU (PO SENSOR)", "T12 SNSR, J9, ECU", "T12 SNSR, J10, ECU", "ECU (PS12 SENSOR)".
 - (1) If a fault is present:
 - do the trouble shooting per applicable procedure.
 - (2) If no fault is found:
 - make sure there PO inlet port located on the Pressure plate of the ECU (4000KS) is open and free from obstruction,
 - (a) If damage is found:
 - clean the PO inlet port,
 - (b) If no fault is found:
 - do an inspection and check of the PS12 Sensor line (Ref. AMM TASK 72-23-00-280-003).
 - 1 if damage is found:
 - replace as required (Ref. AMM TASK 72-23-00-000-040) and (Ref. AMM TASK 72-23-00-400-040).
 - 2 if nothing is found, continue the troubleshooting as follows:

FFF: ALL 73-

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- (3) Disconnect the J9 and J10 harnesses from the ECU (4000KS), and visually examine the ECU receptacles and the harnesses connectors for damaged pins or contamination (Ref. AMM TASK 73-21-50-210-001),
 - (a) If damage is found:
 - Clean or repair damaged parts as required.
 - (b) If nothing is found:
 - replace the T12 temperature sensor (Ref. AMM TASK 73-21-40-000-001) and (Ref. AMM TASK 73-21-40-400-001).
 - 1 If the fault continues:
 - replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001)
 and (Ref. AMM TASK 73-21-60-400-001).
 - a If the fault continues:
 - replace the faulty harness: J9 harness (Ref. AMM TASK 73-21-50-000-042) and (Ref. AMM TASK 73-21-50-400-042), and J10 harness (Ref. AMM TASK 73-21-50-000-043) and (Ref. AMM TASK 73-21-50-400-043).
- C. No test is required for fault repair confirmation.
 - No additionnal maintenance action is required if the fault is not confirmed,
 - Repeat the fault isolation process if the fault continues.

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TROUBLE SHOOTING MANUAL

**ON A/C ALL

TASK 73-20-00-810-920

Loss of the ADIRU input Data through the Channel A or disagree between Aircraft and Engine sensors on Engine 2

1. Possible Causes

- PS12 Sensing Line
- T12 temperature sensor
- ADIRU-1 (1PF1)
- ADIRU-2 (1PF2)
- ADIRU-3 (1PF3)
- pitot or static probes
- ECU (4000KS)
- PO inlet port

2. Job Set-up Information

A. Referenced Information

REFERENCE		DESIGNATION
	72 27 22 22 242	
AMM	72-23-00-000-040	Removal of the PS12 Line
AMM	72-23-00-280-003	Inspection/Check of the PS12 Line
AMM	72-23-00-400-040	Installation of the PS12 Line
AMM	73-21-40-000-001	Removal of the T12 Temperature Sensor
AMM	73-21-40-400-001	Installation of the T12 Temperature Sensor
AMM	73-21-50-000-042	Removal of the HJ9 Harness
AMM	73-21-50-000-043	Removal of the HJ10 Harness
AMM	73-21-50-210-001	Visual Inspection of the Wiring Harness
AMM	73-21-50-400-042	Installation of the HJ9 Harness
AMM	73-21-50-400-043	Installation of the HJ10 Harness
AMM	73-21-60-000-001	Removal of the Electronic Control Unit (ECU)(4000KS)
AMM	73-21-60-400-001	Installation of the Electronic Control Unit
		(ECU)(4000KS)
AMM	73-21-60-740-007	Correct Time Limited Faults (Non Asterisked) of the Engine Scheduled Maintenance Report

3. Fault Confirmation

**ON A/C ALL

Post SB 72-1017 For A/C 201-206, R Post SB 73-1052 For A/C 227-227,229-229,231-239,241-244,276-281,

A. Not applicable

EFF : ALL

73-20-00

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TROUBLE SHOOTING MANUAL

**ON A/C ALL

4. Fault Isolation

**ON A/C ALL

Post SB 72-1017 For A/C 201-206, R Post SB 73-1052 For A/C 227-227,229-229,231-239,241-244,276-281,

- A. The fault is triggered by the ECU if the ADIRU inputs data to the ECU (TAT, Total Pressure and Altitude) disagree with the engine sensor inputs (PS12 Sensing Line, T12 temperature sensor, PO).
 - (1) If the failure message PO/P12/T12, ADC, ECU* or PO/P12/T12, ADC, ECU is displayed and one or more failure message(s) linked to the ADIRU-1 (1PF1), ADIRU-2 (1PF2), ADIRU-3 (1PF3), pitot or static probes is (are) present:
 - do the trouble shooting procedures related to the ADC, pitot probes or static probes failure message.
- B. If the fault message PO/P12/T12, ADC, ECU* or PO/P12/T12, ADC, ECU is displayed and no failure message linked to the ADC, static probes or pitot probes is (are) present:
 - Check in the Schedule Maintenance Report (SMR) or in the Class 3 Report (Ref. AMM TASK 73-21-60-740-007) for presence of failure message(s): "ECU (PO SENSOR)", "T12 SNSR, J9, ECU", "T12 SNSR, J10, ECU", "ECU (PS12 SENSOR)".
 - (1) If a fault is present:
 - do the trouble shooting per applicable procedure.
 - (2) If no fault is found:
 - make sure there PO inlet port located on the Pressure plate of the ECU (4000KS) is open and free from obstruction.
 - (a) If damage is found:
 - clean the PO inlet port,
 - (b) If nothing is found:
 - do an inspection and check of the PS12 Sensor line (Ref. AMM TASK 72-23-00-280-003).
 - 1 if damage is found:
 - replace as required (Ref. AMM TASK 72-23-00-000-040) and (Ref. AMM TASK 72-23-00-400-040).
 - 2 if nothing is found, continues the troubleshooting as follows:

EFF: ALL 73-20-00

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- (3) Disconnect the J9 and J10 harnesses from the ECU (4000KS), and visually examine the ECU receptacles and the harnesses connectors for damaged pins or contamination (Ref. AMM TASK 73-21-50-210-001),
 - (a) If damage is found:
 - clean or repair damaged parts as required.
 - (b) If nothing is found:
 - replace the T12 temperature sensor (Ref. AMM TASK 73-21-40-000-001) and (Ref. AMM TASK 73-21-40-400-001).
 - 1 If the fault continues:
 - replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).
 - a If the fault continues:
 - replace the faulty harness: J9 harness (Ref. AMM TASK 73-21-50-000-042) and (Ref. AMM TASK 73-21-50-400-042), and J10 harness (Ref. AMM TASK 73-21-50-000-043) and (Ref. AMM TASK 73-21-50-400-043).
- C. No test is required for fault repair confirmation.
 - No additionnal maintenance action is required if the fault is not confirmed,
 - Repeat the fault isolation process if the fault continues.

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R **ON A/C 201-225, 227-227, 229-239, 241-253, 276-282, 284-299, 426-499, R 503-549, 551-599, 701-749,

TASK 73-20-00-810-921

Loss of the Burner Selection Valve Torque Motor Control through the two Channels on Engine 1

- 1. Possible Causes
- 2. Job Set-up Information
 - A. Referenced Information

DESIGNATION
Loss of the Burner Selection Valve Torque Motor
Control through Channel A on Engine 1 Loss of the Burner Selection Valve Torque Motor
Control through Channel B on Engine 1 Operational Test of the FADEC on the ground (with Engine Motoring)

3. Fault Confirmation

R **ON A/C 201-225, 227-227, 229-239, 241-253, 276-282, 284-299, 426-499,
R 503-549, 551-599, 701-749,
Post SB 72-1024 For A/C 451-475,

A. Test

- (1) Do the operational test of the FADEC 1A and 1B on the ground (with engine motoring) (Ref. AMM TASK 73-29-00-710-040).
- R **ON A/C 201-225, 227-227, 229-239, 241-253, 276-282, 284-299, 426-499, R 503-549, 551-599, 701-749,
 - 4. Fault Isolation
- R **ON A/C 201-225, 227-227, 229-239, 241-253, 276-282, 284-299, 426-499,
 R 503-549, 551-599, 701-749,
 Post SB 72-1024 For A/C 451-475,
 - A. If the test gives the maintenance messages J7, BSV, ECU and J8, BSV, ECU:
 do the following troubleshooting procedures (Ref. TASK 73-20-00-810915) and (Ref. TASK 73-20-00-810-917).

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R **ON A/C 201-225, 227-227, 229-239, 241-253, 276-282, 284-299, 426-499, R 503-549, 551-599, 701-749,

TASK 73-20-00-810-922

Loss of the Burner Selection Valve Torque Motor Control through the two Channels on Engine 2

- 1. Possible Causes
- 2. Job Set-up Information
 - A. Referenced Information

DESIGNATION
Loss of the Burner Selection Valve Torque Motor
Control through Channel A on Engine 2 Loss of the Burner Selection Valve Torque Motor
Control through Channel B on Engine 2 Operational Test of the FADEC on the ground (with Engine Motoring)

3. Fault Confirmation

R **ON A/C 201-225, 227-227, 229-239, 241-253, 276-282, 284-299, 426-499,
R 503-549, 551-599, 701-749,
Post SB 72-1024 For A/C 451-475,

A. Test

- (1) Do the operational test of the FADEC 2A and 2B on the ground (with engine motoring) (Ref. AMM TASK 73-29-00-710-040).
- R **ON A/C 201-225, 227-227, 229-239, 241-253, 276-282, 284-299, 426-499, R 503-549, 551-599, 701-749,
 - 4. Fault Isolation
- R **ON A/C 201-225, 227-227, 229-239, 241-253, 276-282, 284-299, 426-499,
 R 503-549, 551-599, 701-749,
 Post SB 72-1024 For A/C 451-475,
 - A. If the test gives the maintenance messages J7, BSV, ECU and J8, BSV, ECU:
 do the following troubleshooting procedures (Ref. TASK 73-20-00-810916) and (Ref. TASK 73-20-00-810-918).

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R **ON A/C 254-275, 282-299, 433-475, 481-499, 565-599,

TASK 73-20-00-810-923

loss of the T12 Sensor Signal through the two Channels on Engine 1

- 1. Possible Causes
- 2. Job Set-up Information
 - A. Referenced Information

REFERENCE	DESIGNATION
73-20-00-810-861	Loss of T12 Sensor Signal through the Channel A on Engine 1
73-20-00-810-863	Loss of T12 Sensor Signal through the Channel B on Engine 1
AMM 73-29-00-710-040	Operational Test of the FADEC on the ground (with Engine Motoring)

3. Fault Confirmation

- A. Test
 - (1) Do the operational test of the FADEC 1A and 1B on the ground (with engine motoring) (Ref. AMM TASK 73-29-00-710-040).

4. Fault Isolation

- A. If the test gives the maintenance messages T12 SNSR, J9, ECU and T12 SNSR, J10, ECU:
 - do the following troubleshooting procedures (Ref. TASK 73-20-00-810-861) and (Ref. TASK 73-20-00-810-863).

254-275, 282-299, 433-475, 481-499, EFF: 565-599,

73-20-00

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TASK 73-20-00-810-924

loss of the T12 Sensor Signal through the two Channels on Engine 2

- 1. Possible Causes
- 2. Job Set-up Information
 - A. Referenced Information

REFERENCE	DESIGNATION
73-20-00-810-862	Loss of T12 Sensor Signal through the Channel A on Engine 2
73-20-00-810-864	Loss of T12 Sensor Signal through the Channel B on Engine 2
AMM 73-29-00-710-040	Operational Test of the FADEC on the ground (with Engine Motoring)

3. Fault Confirmation

- A. Test
 - (1) Do the operational test of the FADEC 2A and 2B on the ground (with engine motoring) (Ref. AMM TASK 73-29-00-710-040).
- 4. Fault Isolation
 - A. If the test gives the maintenance messages T12 SNSR, J9, ECU and T12 SNSR, J10, ECU:
 - do the following troubleshooting procedures (Ref. TASK 73-20-00-810-862) and (Ref. TASK 73-20-00-810-864).

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TASK 73-20-00-810-925

Loss of the T25 Sensor Signal through the two Channels on Engine 1

- 1. Possible Causes
- 2. Job Set-up Information
 - A. Referenced Information

REFERENCE	DESIGNATION
73-20-00-810-853	Loss of the T25 Sensor Signal through the Channel A on Engine 1
73-20-00-810-855	Loss of the T25 Sensor Signal through the Channel B on Engine 1
AMM 73-29-00-710-040	Operational Test of the FADEC on the ground (with Engine Motoring)

3. Fault Confirmation

- A. Test
 - (1) Do the operational test of the FADEC 1A and 1B on the ground (with engine motoring) (Ref. AMM TASK 73-29-00-710-040).

4. Fault Isolation

- A. If the test gives the maintenance messages T25 SNSR, J11, ECU and T25 SNSR, J12, ECU:
 - do the following troubleshooting procedures (Ref. TASK 73-20-00-810-853) and (Ref. TASK 73-20-00-810-855).

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TASK 73-20-00-810-926

Loss of the T25 Sensor Signal through the two Channels on Engine 2

- 1. Possible Causes
- 2. Job Set-up Information
 - A. Referenced Information

REFERENCE	DESIGNATION
73-20-00-810-854	Loss of the T25 Sensor Signal through the Channel A on Engine 2
73-20-00-810-856	Loss of the T25 Sensor Signal through the Channel B on Engine 2
AMM 73-29-00-710-040	Operational Test of the FADEC on the ground (with Engine Motoring)

3. Fault Confirmation

- A. Test
 - (1) Do the operational test of the FADEC 2A and 2B on the ground (with engine motoring) (Ref. AMM TASK 73-29-00-710-040).

4. Fault Isolation

- A. If the test gives the maintenance messages T25 SNSR, J11, ECU and T25 SNSR, J12, ECU:
 - do the following troubleshooting procedures (Ref. TASK 73-20-00-810-854) and (Ref. TASK 73-20-00-810-856).

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TROUBLE SHOOTING MANUAL

**ON A/C ALL

TASK 73-20-00-810-927

Failure of the Control of the Solenoid 1 of the Fuel Return Valve through the two Channels on Engine 1

- 1. Possible Causes
- 2. Job Set-up Information
 - A. Referenced Information

REFERENCE	DESIGNATION
73-20-00-810-905	Failure of the Control of the Solenoid 1 of the Fuel
73-20-00-810-907	Return Valve on Channel A, Engine 1 Failure of the Control of the Solenoid 1 of the Fuel
AMM 73-29-00-710-040	Return Valve on Channel B, Engine 1 Operational Test of the FADEC on the ground (with Engine Motoring)

- 3. Fault Confirmation
 - A. Test
 - (1) Do the operational test of the FADEC 1A and 1B on the ground (with engine motoring) (Ref. AMM TASK 73-29-00-710-040).
- 4. Fault Isolation
 - A. If the test gives the maintenance messages J7, FRV (SOL 1), ECU and J8, FRV (SOL 1), ECU:
 - do the following troubleshooting procedures (Ref. TASK 73-20-00-810-905) and (Ref. TASK 73-20-00-810-907).

EFF: ALL

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TROUBLE SHOOTING MANUAL

TASK 73-20-00-810-928

Failure of the Control of the Solenoid 1 of the Fuel Return Valve through the two Channels on Engine 2

- 1. Possible Causes
- 2. Job Set-up Information
 - A. Referenced Information

REFERENCE	DESIGNATION
73-20-00-810-906	Failure of the Control of the Solenoid 1 of the Fuel Return Valve on Channel A, Engine 2
73-20-00-810-908	Failure of the Control of the Solenoid 1 of the Fuel Return Valve on Channel B, Engine 2
AMM 73-29-00-710-040	Operational Test of the FADEC on the ground (with Engine Motoring)

- 3. Fault Confirmation
 - A. Test
 - (1) Do the operational test of the FADEC 2A and 2B on the ground (with engine motoring) (Ref. AMM TASK 73-29-00-710-040).
- 4. Fault Isolation
 - A. If the test gives the maintenance messages J7, FRV (SOL 1), ECU and J8, FRV (SOL 1), ECU:
 - do the following troubleshooting procedures (Ref. TASK 73-20-00-810-906) and (Ref. TASK 73-20-00-810-908).

EFF: ALL

73-20-00

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R **ON A/C 254-275, 282-299, 433-475, 481-499, 565-599,

TASK 73-20-00-810-929

Failure of the Control of the Solenoid 2 of the Fuel Return Valve through the two Channels on Engine 1

- 1. Possible Causes
- 2. Job Set-up Information
 - A. Referenced Information

REFERENCE	DESIGNATION
73-20-00-810-909	Failure of the Control of the Solenoid 2 of the Fuel
	Return Valve on Channel A, Engine 1
73-20-00-810-911	Failure of the Control of the Solenoid 2 of the Fuel Return Valve on Channel B, Engine 1
AMM 73-29-00-710-040	Operational Test of the FADEC on the ground (with Engine Motoring)

- 3. Fault Confirmation
 - A. Test
 - (1) Do the operational test of the FADEC 1A and 1B on the ground (with engine motoring) (Ref. AMM TASK 73-29-00-710-040).
- 4. Fault Isolation
 - A. If the test gives the maintenance messages J7, FRV (SOL 2), ECU and J8, FRV (SOL 2), ECU:
 - do the following troubleshooting procedures (Ref. TASK 73-20-00-810-909) and (Ref. TASK 73-20-00-810-911).

EFF: 254-275, 282-299, 433-475, 481-499, 565-599,

73-20-00

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TASK 73-20-00-810-930

Failure of the Control of the Solenoid 2 of the Fuel Return Valve through the two Channels on Engine 2

- 1. Possible Causes
- 2. Job Set-up Information
 - A. Referenced Information

REFERENCE	DESIGNATION
73-20-00-810-910	Failure of the Control of the Solenoid 2 of the Fuel
	Return Valve on Channel A, Engine 2
73-20-00-810-912	Failure of the Control of the Solenoid 2 of the Fuel
	Return Valve on Channel B, Engine 2
AMM 73-29-00-710-040	Operational Test of the FADEC on the ground (with Engine Motoring)

3. Fault Confirmation

- A. Test
 - (1) Do the operational test of the FADEC 2A and 2B on the ground (with engine motoring) (Ref. AMM TASK 73-29-00-710-040).
- 4. Fault Isolation
 - A. If the test gives the maintenance messages J7, FRV (SOL 2), ECU and J8, FRV (SOL 2), ECU:
 - do the following troubleshooting procedures (Ref. TASK 73-20-00-810-910) and (Ref. TASK 73-20-00-810-912).

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TROUBLE SHOOTING MANUAL

**ON A/C ALL

TASK 73-20-00-810-931

Failure of the High Pressure Shut Off Valve Switch of the HMU on Engine 1

- 1. Possible Causes
 - hydromechanical unit (HMU)
 - harness J7
 - harness J8
 - ECU (4000KS)
- 2. Job Set-up Information
- R A. Fixtures, Tools, Test and Support Equipment

QTY DESIGNATION

R No specific bristle brush

R B. Consumable Materials

DESIGNATION

Material No. CP2011

stoddard solvent (Ref. 70-30-00) R

C. Referenced Information R

REFERENCE **DESIGNATION**

AMM	71-00-00-710-002	Wet Motoring Check
AMM	73-21-10-000-002	Removal of the Hydromechanical Unit (HMU)
AMM	73-21-10-400-002	Installation of the Hydromechanical Unit (HMU)
AMM	73-21-50-000-040	Removal of the HJ7 Harness

AMM 73-21-50-000-041 Removal of the HJ8 Harness R AMM 73-21-50-210-002 Visual Inspection of the Wiring Harnesses

AMM 73-21-50-400-040 Installation of the HJ7 Harness Installation of the HJ8 Harness AMM 73-21-50-400-041

73-21-60-000-001 Removal of the Electronic Control Unit (ECU)(4000KS) AMM

Installation of the Electronic Control Unit AMM 73-21-60-400-001

(ECU)(4000KS)

AMM 73-29-00-710-040 Operational Test of the FADEC on the Ground (with Engine non Motoring)

EFF: ALL

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TROUBLE SHOOTING MANUAL

DEFENCE DESCRIPTION

REFERENCE DESIGNATION

ASM 73-25/18

3. Fault Confirmation

A. Test

- (1) Do the Wet Motoring Check (Ref. AMM TASK 71-00-00-710-002).
- (2) Do the operational test of the FADEC 1B on the ground (with engine non motoring) (Ref. AMM TASK 73-29-00-710-040).

4. Fault Isolation

R

R

R

R R

R

R

R R

R R

R

- A. If the test gives the maintenance message J7/J8, HMU (SOV SW) or J7/J8, HMU (SOV SW)*:
 - do a check for open or short to ground of the harnesses J7 and J8 between the ECU (4000KS) and the HMU pins J7 and J8/9, 22 to pins J7 and J8/9, 22 (Ref. ASM 73-25/18).
 - (1) If one of these wirings is not correct:
 - repair the defective above wiring.
 - (2) If these wirings are correct:
 - disconnect the cables J7 and J8 from the HMU.
 - install a jumper wire between the pins 9 and 22 on the cables J7 and J8.
 - disconnect the cables J7 and J8 from the ECU (4000KS).
 - do a visual inspection of the harness connector and receptacle.
 Look for contamination or oxidation or pins that have damage.
 - if you find damage, repair or replace as required.
 - clean the connector and receptacle with a bristle brush and stoddard solvent (Material No. CP2011) (Ref. AMM TASK 73-21-50-210-002).
 - do a resistance check of the cable J7 then J8 at the ECU connectors between:
 - . pins 9 and 22 (< 5 ohms)
 - . pins 8 and 9 (> 10 megohms)
 - pins 9 and the ground (> 10 megohms).
 - (a) If the resistance values are in the specified limits:
 - replace the hydromechanical unit (HMU) (Ref. AMM TASK 73-21-10-000-002) and (Ref. AMM TASK 73-21-10-400-002).

EFF: ALL

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R R R (b) If the resistance values are out of the specified limits:
- replace the defective harness J7 (Ref. AMM TASK 73-21-50-000-040) and (Ref. AMM TASK 73-21-50-400-040) or replace the defective harness J8 (Ref. AMM TASK 73-21-50-000-041) and (Ref. AMM TASK 73-21-50-400-041).

- (3) If the fault continues:
 - replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).

EFF: ALL
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TROUBLE SHOOTING MANUAL

TASK 73-20-00-810-932

Failure of the High Pressure Shut Off Valve Switch of the HMU on Engine 2

- 1. Possible Causes
 - hydromechanical unit (HMU)
 - harness J7
 - harness J8
 - ECU (4000KS)
- 2. Job Set-up Information
- A. Fixtures, Tools, Test and Support Equipment R

______ R

REFERENCE **QTY DESIGNATION**

No specific bristle brush

R B. Consumable Materials

REFERENCE DESIGNATION

R Material No. CP2011

stoddard solvent (Ref. 70-30-00) R

C. Referenced Information R

REFERENCE **DESIGNATION**

AMM 71-00-00-710-002 Wet Motoring Check AMM 73-21-10-000-002 Removal of the Hydromechanical Unit (HMU)

Installation of the Hydromechanical Unit (HMU) AMM 73-21-10-400-002

73-21-50-000-040 Removal of the HJ7 Harness AMM Removal of the HJ8 Harness AMM 73-21-50-000-041

AMM 73-21-50-210-002 Visual Inspection of the Wiring Harnesses

73-21-50-400-040 Installation of the HJ7 Harness AMM Installation of the HJ8 Harness AMM 73-21-50-400-041

Removal of the Electronic Control Unit (ECU)(4000KS) AMM 73-21-60-000-001

AMM 73-21-60-400-001 Installation of the Electronic Control Unit

(ECU)(4000KS) AMM 73-29-00-710-040

Operational Test of the FADEC on the Ground (with

Engine non Motoring)

ASM 73-25/18

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EFF: ALL

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3. Fault Confirmation

A. Test

- (1) Do the Wet Motoring Check (Ref. AMM TASK 71-00-00-710-002).
- (2) Do the operational test of the FADEC 2B on the ground (with engine non motoring) (Ref. AMM TASK 73-29-00-710-040).

4. Fault Isolation

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- A. If the test gives the maintenance message J7/J8, HMU (SOV SW) or J7/J8, HMU (SOV SW)*:
 - do a check for open or short to ground of the harnesses J7 and J8 between the ECU (4000KS) and the HMU pins J7 and J8/9, 22 to pins J7 and J8/9, 22 (Ref. ASM 73-25/18).
 - (1) If one of these wirings is not correct:
 - repair the defective above wiring.
 - (2) If these wirings are correct:
 - disconnect the cables J7 and J8 from the HMU.
 - install a jumper wire between the pins 9 and 22 on the cables J7 and J8.
 - disconnect the cables J7 and J8 from the ECU (4000KS).
 - do a visual inspection of the harness connector and receptacle. Look for contamination or oxidation or pins that have damage.
 - if you find damage, repair or replace as required.
 - clean the connector and receptacle with a bristle brush and stoddard solvent (Material No. CP2011) (Ref. AMM TASK 73-21-50-210-002).
 - do a resistance check of the cable J7 then J8 at the ECU connectors between:
 - . pins 9 and 22 (< 5 ohms)
 - pins 8 and 9 (> 10 megohms)
 - . pin 9 and the ground (> 10 megohms).
 - (a) If the resistance values are in the specified limits:
 - replace the hydromechanical unit (HMU) (Ref. AMM TASK 73-21-10-000-002) and (Ref. AMM TASK 73-21-10-400-002).
 - (b) If the resistance values are out of the specified limits:
 - replace the defective harness J7 (Ref. AMM TASK 73-21-50-000-040) and (Ref. AMM TASK 73-21-50-400-040) or replace the defective harness J8 (Ref. AMM TASK 73-21-50-000-041) and (Ref. AMM TASK 73-21-50-400-041).
 - (3) If the fault continues:
 - replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).

EFF: ALL

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TROUBLE SHOOTING MANUAL

TASK 73-20-00-810-941

Loss of the HMU Overspeed Governor - Engine 1 - Channel B

- 1. Possible Causes
 - Hydromechanical Unit (HMU)
 - Main Fuel Pump (MFP)
 - ECU (4000KS)
 - J7 harness
- 2. Job Set-up Information
- A. Fixtures, Tools, Test and Support Equipment R

R ______ R

REFERENCE **QTY DESIGNATION**

No specific bristle brush

R B. Consumable Materials

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REFERENCE DESIGNATION

R Material No. CP2011

stoddard solvent (Ref. 70-30-00) R

C. Referenced Information

REFERENCE **DESIGNATION** ______

AMM 71-00-00-710-003 Engine Automatic Start AMM 73-11-10-000-001 Removal of the Fuel Pump and Filter Assembly Installation of the Fuel Pump and Filter Assembly AMM 73-11-10-400-001 73-21-10-000-001 Removal of the Hydromechanical Unit (HMU) AMM

AMM 73-21-10-400-001 Installation of the Hydromechanical Unit (HMU)

AMM 73-21-50-000-006 Removal of J7 Harness

R AMM 73-21-50-210-002 Visual Inspection of the Wiring Harnesses

Installation of the J7 Harness AMM 73-21-50-400-006

AMM 73-21-60-000-001 Removal of the Electronic Control Unit (ECU)(4000KS)

AMM 73-21-60-400-001 Installation of the Electronic Control Unit

(ECU)(4000KS)

- 3. Fault Confirmation
 - A. Perfom an engine start (Ref. AMM TASK 71-00-00-710-003).

EFF: ALL

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TROUBLE SHOOTING MANUAL

4. Fault Isolation

- A. This fault is generated if an Overspeed Governor (OSG) switch position fault is detected during an engine start. This fault can be caused by a failed switch in the HMU, an open or short circuit in the J7 harness, low fuel pressure to the HMU, or a failed main fuel pump shaft.
 - (1) If the failure message HMU (OSG), J7 occurs during an engine start: - restart the engine to confirm the fault (Ref. AMM TASK 71-00-00-710-003).
 - (a) If the fault does not repeat:no maintenance action is required.
 - (2) If the failure message HMU (OSG), J7 is not confirmed after re-start, but is repetitive:
 - (a) Disconnect the J7 harness from the HMU receptacle (HMU-A) (located in the left core compartment).
 - Visually examine the HMU receptacle and the J7 harness connector for damaged pins, contamination and fuel wetting (Ref. AMM TASK 73-21-50-210-002).
 - <u>a</u> If harness connector or HMU receptacle is damaged:repair or replace as required.
 - \underline{b} If no damage is found:
 - clean the connector and receptacle with a bristle brush and stoddard solvent (Material No. CP2011) (Ref. AMM TASK 73-21-50-210-002).
 - reconnect the J7 harness.
 - (b) If the HMU part number is 8061-512 (GE SPEC 1348M79P07):
 - replace the main fuel pump (Ref. AMM TASK 73-11-10-000-001) and (Ref. AMM TASK 73-11-10-400-001).
 - 1 If the fault continues during the subsequent flights:
 - replace the Hydromechanical Unit (HMU) (Ref. AMM TASK 73-21-10-000-001) and (Ref. AMM TASK 73-21-10-400-001).
 - $\underline{2}$ If the fault continues during the subsequent flights:
 - replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).
 - 3 If the fault continues during the subsequent flights:
 - replace the J7 harness (Ref. AMM TASK 73-21-50-000-006) and (Ref. AMM TASK 73-21-50-400-006).
 - (c) If the HMU part number is 8061-526 (GE SPEC 1348M79P08) or higher:
 - remove the HMU (Ref. AMM TASK 73-21-10-000-001).

EFF: ALL

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- 1 Inspect main fuel pump shaft.
 - a If damaged/broken or worn:
 - replace the Main Fuel Pump (MFP) (Ref. AMM TASK 73-11-10-000-001) and (Ref. AMM TASK 73-11-10-400-001).
 - b If not damaged/broken or worn:
 - replace the HMU (Ref. AMM TASK 73-21-10-000-001) and (Ref. AMM TASK 73-21-10-400-001).
 - c If the fault continues during the subsequent flights:
 - replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001)
 and (Ref. AMM TASK 73-21-60-400-001).
 - d If the fault continues during the subsequent flights:
 replace the J7 harness (Ref. AMM TASK 73-21-50-000-006)
 and (Ref. AMM TASK 73-21-50-400-006).
- (3) If the failure message HMU (OSG), J7 is confirmed:
 - (a) If the HMU part number is 8061-512 (GE SPEC 1348M79P07): remove the HMU (Ref. AMM TASK 73-21-10-000-001).
 - 1 Inspect main fuel pump shaft.
 - a If damaged/broken or worn:
 - replace the main fuel pump (Ref. AMM TASK 73-11-10-000-001) and (Ref. AMM TASK 73-11-10-400-001).
 - b If not damaged/broken or worn:
 - replace the HMU (Ref. AMM TASK 73-21-10-000-001) and (Ref. AMM TASK 73-21-10-400-001).
 - 2 If the fault continues during the subsequent flights:
 - replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).
 - 3 If the fault continues during the subsequent flights:
 - replace the J7 harness (Ref. AMM TASK 73-21-50-000-006) and (Ref. AMM TASK 73-21-50-400-006).
 - (b) If the HMU part number is 8061-526 (GE SPEC 1348M79P08) or higher:
 - disconnect the J7 harness from the HMU receptacle (HMU-A) (located in the left core compartment)
 - visually examine the HMU receptacle and the J7 harness connector for damaged pins or contamination (Ref. AMM TASK 73-21-50-210-002).
 - 1 If harness connector or HMU receptacle is damaged:
 repair or replace as required.

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2 If no damage is found:

- clean the connector and receptacle with a bristle brush and stoddard solvent (Material No. CP2011) (Ref. AMM TASK 73-21-50-210-002).
- do an electrical resistance test through the HMU receptacle between:
 - pins 21 and 41 (< 5 ohms)</pre>
 - pins 21 and 8 (> 10 megohms)
 - . pin 21 and the ground (> 10 megohms).
- a If the resistance values are out of the specified limits:
 - replace the HMU (Ref. AMM TASK 73-21-10-000-001) and (Ref. AMM TASK 73-21-10-400-001).
- b If the resistance values are in the specified limits:
 - reconnect the J7 harness
 - disconnect the J7 harness from the ECU (4000KS) receptacle
 - visually examine the ECU (4000KS) receptacle and the J7 harness connector for damaged pins or contamination (Ref. AMM TASK 73-21-50-210-002).
- <u>c</u> If harness connector or ECU receptacle is damaged:
 repair or replace as required.
 - repair or reptace as required
- d If no damage is found:
 - clean the connector and receptacle with a bristle brush and stoddard solvent (Material No. CP2011) (Ref. AMM TASK 73-21-50-210-002).
 - do an electrical resistance test through the HMU receptacle between:
 - . pins 21 and 41 (< 5 ohms)</pre>
 - pins 21 and 8 (> 10 megohms)
 - . pin 21 and the ground (> 10 megohms).
- e If the resistance values are in the specified limits:
 - replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).
- f If the resistance values are out of the specified limits:
 - replace the J7 harness (Ref. AMM TASK 73-21-50-000-006) and (Ref. AMM TASK 73-21-50-400-006).
- 3 If the fault continues during the subsequent flights:
 - remove the HMU (Ref. AMM TASK 73-21-10-000-001)
 - inspect main fuel pump shaft.
 - a If damaged/broken or worn:
 - replace the main fuel pump (Ref. AMM TASK 73-11-10-000-001) and (Ref. AMM TASK 73-11-10-400-001).

EFF: ALL

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- \underline{b} If not damaged/broken or worn:
 - replace the HMU (Ref. AMM TASK 73-21-10-000-001) and (Ref. AMM TASK 73-21-10-400-001).
- B. Do the test given in Para. 3.A.
 - (1) No additional maintenance action is required if the fault is not confirmed.
 - (2) Repeat the fault isolation procedure if the fault continues.

EFF: ALL
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TROUBLE SHOOTING MANUAL

TASK 73-20-00-810-942

Loss of the HMU Overspeed Governor - Engine 2 - Channel B

- 1. Possible Causes
 - Hydromechanical Unit (HMU)
 - Main Fuel Pump (MFP)
 - ECU (4000KS)
 - J7 harness
- 2. Job Set-up Information
- R A. Fixtures, Tools, Test and Support Equipment

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R REFERENCE QTY DESIGNATION

₹ -----

R No specific bristle brush

R B. Consumable Materials

R ------

R REFERENCE DESIGNATION R -----

R Material No. CP2011 *

R stoddard solvent (Ref. 70-30-00)

C. Referenced Information

REFERENCE DESIGNATION

AMM 71-00-00-710-003 Engine Automatic Start

AMM 73-11-10-000-001 Removal of the Fuel Pump and Filter Assembly

AMM 73-11-10-400-001 Installation of the Fuel Pump and Filter Assembly

AMM 73-21-10-000-001 Removal of the Hydromechanical Unit (HMU)

AMM 73-21-10-400-001 Installation of the Hydromechanical Unit (HMU)

AMM 73-21-50-000-006 Removal of J7 Harness

R AMM 73-21-50-210-002 Visual Inspection of the Wiring Harnesses

AMM 73-21-50-400-006 Installation of the J7 Harness

AMM 73-21-60-000-001 Removal of the Electronic Control Unit (ECU)(4000KS)

AMM 73-21-60-400-001 Installation of the Electronic Control Unit

(ECU)(4000KS)

- 3. Fault Confirmation
 - A. Perfom an engine start (Ref. AMM TASK 71-00-00-710-003).

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4. Fault Isolation

- A. This fault is generated if an Overspeed Governor (OSG) switch position fault is detected during an engine start. This fault can be caused by a failed switch in the HMU, an open or short circuit in the J7 harness, low fuel pressure to the HMU, or a failed main fuel pump shaft.
 - (1) If the failure message HMU (OSG), J7 occurs during an engine start: - restart the engine to confirm the fault (Ref. AMM TASK 71-00-00-710-003).
 - (a) If the fault does not repeat:no maintenance action is required.
 - (2) If the failure message HMU (OSG), J7 is not confirmed after re-start, but is repetitive:
 - (a) Disconnect the J7 harness from the HMU receptacle (HMU-A) (located in the left core compartment).
 - Visually examine the HMU receptacle and the J7 harness connector for damaged pins, contamination and fuel wetting (Ref. AMM TASK 73-21-50-210-002).
 - <u>a</u> If harness connector or HMU receptacle is damaged:repair or replace as required.
 - \underline{b} If no damage is found:
 - clean the connector and receptacle with a bristle brush and stoddard solvent (Material No. CP2011) (Ref. AMM TASK 73-21-50-210-002).
 - reconnect the J7 harness.
 - (b) If the HMU part number is 8061-512 (GE SPEC 1348M79P07):
 - replace the main fuel pump (Ref. AMM TASK 73-11-10-000-001) and (Ref. AMM TASK 73-11-10-400-001).
 - 1 If the fault continues during the subsequent flights:
 - replace the Hydromechanical Unit (HMU) (Ref. AMM TASK 73-21-10-000-001) and (Ref. AMM TASK 73-21-10-400-001).
 - 2 If the fault continues during the subsequent flights:
 - replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).
 - 3 If the fault continues during the subsequent flights:
 - replace the J7 harness (Ref. AMM TASK 73-21-50-000-006) and (Ref. AMM TASK 73-21-50-400-006).
 - (c) If the HMU part number is 8061-526 (GE SPEC 1348M79P08) or higher:
 - remove the HMU (Ref. AMM TASK 73-21-10-000-001).

EFF: ALL

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- 1 Inspect main fuel pump shaft.
 - a If damaged/broken or worn:
 - replace the Main Fuel Pump (MFP) (Ref. AMM TASK 73-11-10-000-001) and (Ref. AMM TASK 73-11-10-400-001).
 - b If not damaged/broken or worn:
 - replace the HMU (Ref. AMM TASK 73-21-10-000-001) and (Ref. AMM TASK 73-21-10-400-001).
 - c If the fault continues during the subsequent flights:
 replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001)
 and (Ref. AMM TASK 73-21-60-400-001).
 - d If the fault continues during the subsequent flights:
 replace the J7 harness (Ref. AMM TASK 73-21-50-000-006)
 and (Ref. AMM TASK 73-21-50-400-006).
- (3) If the failure message HMU (OSG), J7 is confirmed:
 - (a) If the HMU part number is 8061-512 (GE SPEC 1348M79P07): remove the HMU (Ref. AMM TASK 73-21-10-000-001).
 - 1 Inspect main fuel pump shaft.
 - a If damaged/broken or worn:
 - replace the main fuel pump (Ref. AMM TASK 73-11-10-000-001) and (Ref. AMM TASK 73-11-10-400-001).
 - b If not damaged/broken or worn:
 - replace the HMU (Ref. AMM TASK 73-21-10-000-001) and (Ref. AMM TASK 73-21-10-400-001).
 - 2 If the fault continues during the subsequent flights:
 - replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001)
 - 3 If the fault continues during the subsequent flights:
 - replace the J7 harness (Ref. AMM TASK 73-21-50-000-006) and (Ref. AMM TASK 73-21-50-400-006).
 - (b) If the HMU part number is 8061-526 (GE SPEC 1348M79P08) or higher:

and (Ref. AMM TASK 73-21-60-400-001).

- disconnect the J7 harness from the HMU receptacle (HMU-A) (located in the left core compartment)
- visually examine the HMU receptacle and the J7 harness connector for damaged pins or contamination (Ref. AMM TASK 73-21-50-210-002).
- 1 If harness connector or HMU receptacle is damaged:
 repair or replace as required.

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2 If no damage is found:

- clean the connector and receptacle with a bristle brush and stoddard solvent (Material No. CP2011) (Ref. AMM TASK 73-21-50-210-002).
- do an electrical resistance test through the HMU receptacle between:
 - pins 21 and 41 (< 5 ohms)</pre>
 - pins 21 and 8 (> 10 megohms)
 - . pin 21 and the ground (> 10 megohms).
- a If the resistance values are out of the specified limits:
 - replace the HMU (Ref. AMM TASK 73-21-10-000-001) and (Ref. AMM TASK 73-21-10-400-001).
- b If the resistance values are in the specified limits:
 - reconnect the J7 harness
 - disconnect the J7 harness from the ECU (4000KS) receptacle
 - visually examine the ECU (4000KS) receptacle and the J7 harness connector for damaged pins or contamination (Ref. AMM TASK 73-21-50-210-002).
- <u>c</u> If harness connector or ECU receptacle is damaged:
 repair or replace as required.
- d If no damage is found:
 - clean the connector and receptacle with a bristle brush and stoddard solvent (Material No. CP2011) (Ref. AMM TASK 73-21-50-210-002).
 - do an electrical resistance test through the HMU receptacle between:
 - . pins 21 and 41 (< 5 ohms)</pre>
 - pins 21 and 8 (> 10 megohms)
 - . pin 21 and the ground (> 10 megohms).
- e If the resistance values are in the specified limits:
 replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001)
 and (Ref. AMM TASK 73-21-60-400-001).
- $\underline{\mathbf{f}}$ If the resistance values are out of the specified limits:
 - replace the J7 harness (Ref. AMM TASK 73-21-50-000-006) and (Ref. AMM TASK 73-21-50-400-006).
- 3 If the fault continues during the subsequent flights:
 - remove the HMU (Ref. AMM TASK 73-21-10-000-001)
 - inspect main fuel pump shaft.
 - a If damaged/broken or worn:
 - replace the main fuel pump (Ref. AMM TASK 73-11-10-000-001) and (Ref. AMM TASK 73-11-10-400-001).

EFF: ALL

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- B. Do the test given in Para. 3.A.
 - (1) No additional maintenance action is required if the fault is not confirmed.
 - (2) Repeat the fault isolation procedure if the fault continues.

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TROUBLE SHOOTING MANUAL

TASK 73-20-00-810-947

Failure of the PS12 Signal on Engine 1

- 1. Possible Causes
 - ECU (4000KS)
- 2. Job Set-up Information
 - A. Referenced Information

REFERENCE	DESIGNATION
AMM 73-21-60-000-001	Removal of the Electronic Control Unit (ECU)(4000KS)
AMM 73-21-60-400-001	<pre>Installation of the Electronic Control Unit (ECU)(4000KS)</pre>
AMM 73-29-00-710-040	Operational Test of the FADEC on the Ground (with Engine non Motoring)

3. Fault Confirmation

A. Do the operational test of the FADEC 1B on the ground (with engine non motoring) (Ref. AMM TASK 73-29-00-710-040).

4. Fault Isolation

A. If the test gives the maintenance message ECU (PS12 SENSOR):
 - replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) (Ref. AMM
 TASK 73-21-60-400-001).

EFF: ALL

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TROUBLE SHOOTING MANUAL

TASK 73-20-00-810-948

Failure of the PS12 Signal on Engine 2

- 1. Possible Causes
 - ECU (4000KS)
- 2. Job Set-up Information
 - A. Referenced Information

REFERENCE	DESIGNATION
AMM 73-21-60-000-001 AMM 73-21-60-400-001 AMM 73-29-00-710-040	Removal of the Electronic Control Unit (ECU)(4000KS) Installation of the Electronic Control Unit (ECU)(4000KS) Operational Test of the FADEC on the Ground (with Engine non Motoring)

3. Fault Confirmation

A. Do the operational test of the FADEC 2B on the ground (with engine non motoring) (Ref. AMM TASK 73-29-00-710-040).

4. Fault Isolation

A. If the test gives the maintenance message ECU (PS12 SENSOR):
 - replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) (Ref. AMM
 TASK 73-21-60-400-001).

EFF: ALL

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TROUBLE SHOOTING MANUAL

TASK 73-20-00-810-949

Loss of the Signal of the Channel B TCC-Sensor on Engine 1

- 1. Possible Causes
 - TCC sensor
 - harness CJ13
 - harness HJ13
 - ECU (4000KS)
- 2. Job Set-up Information
 - A. Fixtures, Tools, Test and Support Equipment

REFERENCE QTY DESIGNATION

No specific bristle brush
No specific soft nose pliers

B. Consumable Materials

REFERENCE DESIGNATION

Material No. CP2011 *

stoddard solvent (Ref. 70-30-00)

C. Referenced Information

REFERENCE DESIGNATION

AMM 73-21-50-000-029 Removal of the CJ13 Harness
AMM 73-21-50-000-046 Removal of the HJ13 Harness

AMM 73-21-50-210-002 Visual Inspection of the Wiring Harnesses

AMM 73-21-50-400-029 Installation of the CJ13 Harness AMM 73-21-50-400-046 Installation of the HJ13 Harness

AMM 73-21-60-000-001 Removal of the Electronic Control Unit (ECU)

AMM 73-21-60-400-001 Installation of the Electronic Control Unit (ECU)
AMM 73-21-70-000-002 Removal of the High Pressure Turbine Clearance

Control (HPTCC) Sensor

AMM 73-21-70-400-002 Installation of the High Pressure Turbine Clearance

Control (HPTCC) Sensor

AMM 73-29-00-710-040 Operational Test of the FADEC on the Ground (with

Engine non Motoring)

EFF: ALL

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3. Fault Confirmation

A. Do the operational test of the FADEC 1 on the ground (with engine non motoring) (Ref. AMM TASK 73-29-00-710-040).

4. Fault Isolation

- A. For configuration pre SB CFMI73-046
 - NOTE : The failure message is triggered if the TCC sensor channel B input is invalid (signal out of range) and the fault lasts for more than 20 seconds.
 - (1) If the failure message TCC SNSR, J13, ECU is not confirmed:
 - (a) Do the following trouble shooting at next maintenance opportunity:
 - disconnect the CJ13 connector (TCC-B) from the TCC sensor (3 O'Clock).
 - visually examine the harness connector and sensor receptacle for damaged pins or contamination/oxidation.
 - if damage is found, repair or replace as required.
 - do a cleaning of the connector and receptacle using a bristle brush with stoddard solvent (Material No. CP2011) (Ref. AMM TASK 73-21-50-210-002).
 - connect the harness connector to the sensor. Tighten the connector by hand plus one eighth of a turn. If necessary use soft nose pliers.
 - (2) If the failure message TCC SNSR, J13, ECU is not confirmed but is repetitive:
 - (a) Do the following trouble shooting at next maintenance opportunity:
 - disconnect the CJ13 connector (TCC-B) from the TCC sensor (3 O'Clock).
 - do a cleaning of the harness connector using a bristle brush with stoddard solvent (Material No. CP2011) (Ref. AMM TASK 73-21-50-210-002).
 - replace the TCC sensor (Ref. AMM TASK 73-21-70-000-002) and (Ref. AMM TASK 73-21-70-400-002).

NOTE : Tighten the connector by hand plus one eighth of a turn.

If necessary use soft nose pliers.

- 1 If the fault continues:
 - disconnect the harness HJ13 from the ECU (4000KS) connector and the 6 o'clock junction box.
 - visually examine the harness connectors for damaged pins or contamination/oxidation.
 - if damage is found, repair or replace as required.

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- do a cleaning of the connectors and receptacles using a bristle brush with stoddard solvent (Material No. CP2011) (Ref. AMM TASK 73-21-50-210-002).
- 2 If the fault continues:
 - replace the harness CJ13 (Ref. AMM TASK 73-21-50-000-029) and (Ref. AMM TASK 73-21-50-400-029).
- 3 If the fault continues:
 - replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001)
 and (Ref. AMM TASK 73-21-60-400-001).
- 4 If the fault continues:
 - replace the harness HJ13 (Ref. AMM TASK 73-21-50-000-046) and (Ref. AMM TASK 73-21-50-400-046).
- (3) If the failure message TCC SNSR, J13, ECU is confirmed:
 - (a) Disconnect the connector (TCC-B) on the harness CJ13 from the TCC sensor (3 O'Clock) and do a check of the resistance as follows:
 - place the positive (+) lead of an ohmmeter on the TCC sensor pin A and the negative (-) lead of the ohmmeter on the TCC sensor pin B. Record as r1.
 - place the positive (+) lead of an ohmmeter on the TCC sensor pin B and the negative (-) lead of the ohmmeter on the TCC sensor pin A. Record as r2.
 - find the average (r1+r2/2) (2.4 to 4.2 ohms).
 - If the resistance values are out of the specified limits: - replace the TCC sensor (Ref. AMM TASK 73-21-70-000-002) and (Ref. AMM TASK 73-21-70-400-002).
 - <u>NOTE</u>: Tighten the connector by hand plus one eighth of a turn. If necessary use soft nose pliers.
 - 2 If the resistance values are in the specified limits:
 - NOTE: Tighten the connector by hand plus one eighth of a turn. If necessary use soft nose pliers.
 - disconnect the harness CJ13 from the 6 o'clock junction box and do a check of the CJ13 resistance cable between:
 - . pins 14 and 15 (2.4 to 4.2 0hms)
 - . pins 14 and 4 (> 10 Megohms)
 - pin 14 and ground (> 10 Megohms).
 - a If the resistance values are out of the specified limits:
 - replace the harness CJ13 (Ref. AMM TASK 73-21-50-000-029) and (Ref. AMM TASK 73-21-50-400-029).

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- b If the resistance values are in the specified limits:
 - disconnect the harness HJ13 from the ECU receptacle and do a check of the resistance between:
 - . pins 18 and 19 (2.4 to 4.2 0hms)
 - . pins 18 and 17 (> 10 Megohms)
 - . pin 18 and ground (> 10 Megohms).
 - * If the resistance values are out of the specified limits:
 - replace the harness HJ13 (Ref. AMM TASK 73-21-50-000-046) and (Ref. AMM TASK 73-21-50-400-046).
 - * If the resistance values are in the specified limits: replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).
- B. For configuration post SB CFMI73-046.
 - NOTE : The failure message is triggered if the TCC sensor channel B input is invalid (signal out of range) and the fault lasts for more than 20 seconds.
 - (1) If the failure message TCC SNSR, J13, ECU is not confirmed:
 - (a) Do the following trouble shooting at next maintenance opportunity:
 - disconnect the CJ13 connector (TCC-B) from the TCC sensor (3 O'Clock).
 - visually examine the harness connector and sensor receptacle for damaged pins or contamination/oxidation.
 - if damage is found, repair or replace as required.
 - do a cleaning of the connector and receptacle using a bristle brush with stoddard solvent (Material No. CP2011) (Ref. AMM TASK 73-21-50-210-002).
 - connect the harness connector (TCC-B) to the sensor. Tighten the connector by hand plus one eighth of a turn. If necessary use soft nose pliers.
 - (2) If the failure message TCC SNSR, J13, ECU is not confirmed but is repetitive:
 - (a) Do the following trouble shooting at next maintenance opportunity:
 - disconnect the HJ13 connector from the ECU connector.
 - visually examine the harness connector and ECU receptacle for damaged pins or contamination/oxidation.
 - if damage is found, repair or replace as required.
 - do a cleaning of the harness connectors and receptacles using a bristle brush with stoddard solvent (Material No. CP2011) (Ref. AMM TASK 73-21-50-210-002).

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- 1 If the fault continues:
 - replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).
- 2 If the fault continues:
 - replace the harness HJ13 (Ref. AMM TASK 73-21-50-000-046) and (Ref. AMM TASK 73-21-50-400-046).
- 3 If the fault continues:
 - disconnect the CJ13 connector (TCC-B) from the TCC sensor (3 O'Clock).
 - do a cleaning of the harness connector using a bristle brush with stoddard solvent (Material No. CP2011) (Ref. AMM TASK 73-21-50-210-002).
 - replace the TCC sensor (Ref. AMM TASK 73-21-70-000-002) and (Ref. AMM TASK 73-21-70-400-002).

NOTE: Tighten the connector by hand plus one eighth of a turn. If necessary use soft nose pliers.

- 4 If the fault continues:
 - replace the harness CJ13 (Ref. AMM TASK 73-21-50-000-029) and (Ref. AMM TASK 73-21-50-400-029).
- (3) If the failure message TCC SNSR, J13, ECU is confirmed only on channel B:
 - (a) Disconnect the connector (TCC-B) on the harness CJ13 from the TCC sensor (3 O'Clock) and do a check of the resistance as follows:
 - place the positive (+) lead of an ohmmeter on the TCC sensor pin A and the negative (-) lead of the ohmmeter on the TCC sensor pin B. Record as r1.
 - place the positive (+) lead of an ohmmeter on the TCC sensor pin B and the negative (-) lead of the ohmmeter on the TCC sensor pin A. Record as r2.
 - find the average (r1+r2/2) (2.4 to 4.2 ohms).
 - If the resistance values are out of the specified limits: - replace the TCC sensor (Ref. AMM TASK 73-21-70-000-002) and (Ref. AMM TASK 73-21-70-400-002).

<u>NOTE</u>: Tighten the connector by hand plus one eighth of a turn. If necessary use soft nose pliers.

- 2 If the resistance values are in the specified limits:
 - disconnect the harness CJ13 from the 6 o'clock junction box and do a check of the CJ13 resistance cable between:
 - . pins 5 and 6 (2.4 to 4.2 0hms)
 - pins 5 and 4 (> 10 Megohms)
 - . pin 5 and ground (> 10 Megohms).

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- a If the resistance values are out of the specified limits: - replace the harness CJ13 (Ref. AMM TASK 73-21-50-000-029) and (Ref. AMM TASK 73-21-50-400-029).
- b If the resistance values are in the specified limits:
 - disconnect the harness HJ13 from the ECU receptacle and do a check of the resistance between:
 - . pins 7 and 8 (2.4 to 4.2 0hms)
 - pins 7 and 17 (> 10 Megohms)
 - . pin 7 and ground (> 10 Megohms).
 - * If the resistance values are out of the specified limits:
 - replace the harness HJ13 (Ref. AMM TASK 73-21-50-000-046) and (Ref. AMM TASK 73-21-50-400-046).
 - * If the resistance values are in the specified limits: replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).
- C. Do the test given in Para. 3.A.
 - (1) No additional maintenance action is required if the fault is not confirmed.
 - (2) Repeat the fault isolation procedure if the fault continues.

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TASK 73-20-00-810-950

Loss of the Signal of the Channel B TCC-Sensor on Engine 2

- 1. Possible Causes
 - TCC sensor
 - harness CJ13
 - harness HJ13
 - ECU (4000KS)
- 2. Job Set-up Information
 - A. Fixtures, Tools, Test and Support Equipment

REFERENCE QTY DESIGNATION

bristle brush No specific

No specific soft nose pliers

B. Consumable Materials

REFERENCE DESIGNATION

Material No. CP2011

stoddard solvent (Ref. 70-30-00)

C. Referenced Information

DESIGNATION ------

AMM 73-21-50-000-029 Removal of the CJ13 Harness AMM 73-21-50-000-046 Removal of the HJ13 Harness

AMM 73-21-50-210-002 Visual Inspection of the Wiring Harnesses

Installation of the CJ13 Harness AMM 73-21-50-400-029 AMM 73-21-50-400-046 Installation of the HJ13 Harness

AMM 73-21-60-000-001 Removal of the Electronic Control Unit (ECU)

AMM 73-21-60-400-001 Installation of the Electronic Control Unit (ECU) AMM 73-21-70-000-002 Removal of the High Pressure Turbine Clearance

Control (HPTCC) Sensor

AMM 73-21-70-400-002 Installation of the High Pressure Turbine Clearance

Control (HPTCC) Sensor

AMM 73-29-00-710-040 Operational Test of the FADEC on the Ground (with

Engine non Motoring)

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3. Fault Confirmation

A. Do the operational test of the FADEC 2 on the ground (with engine non motoring) (Ref. AMM TASK 73-29-00-710-040).

4. Fault Isolation

- A. For configuration pre SB CFMI73-046
 - NOTE : The failure message is triggered if the TCC sensor channel B input is invalid (signal out of range) and the fault lasts for more than 20 seconds.
 - (1) If the failure message TCC SNSR, J13, ECU is not confirmed:
 - (a) Do the following trouble shooting at next maintenance opportunity:
 - disconnect the CJ13 connector (TCC-B) from the TCC sensor (3 O'Clock).
 - visually examine the harness connector and sensor receptacle for damaged pins or contamination/oxidation.
 - if damage is found, repair or replace as required.
 - do a cleaning of the connector and receptacle using a bristle brush with stoddard solvent (Material No. CP2011) (Ref. AMM TASK 73-21-50-210-002).
 - connect the harness connector to the sensor. Tighten the connector by hand plus one eighth of a turn. If necessary use soft nose pliers.
 - (2) If the failure message TCC SNSR, J13, ECU is not confirmed but is repetitive:
 - (a) Do the following trouble shooting at next maintenance opportunity:
 - disconnect the CJ13 connector (TCC-B) from the TCC sensor (3 O'Clock).
 - do a cleaning of the harness connector using a bristle brush with stoddard solvent (Material No. CP2011) (Ref. AMM TASK 73-21-50-210-002).
 - replace the TCC sensor (Ref. AMM TASK 73-21-70-000-002) and (Ref. AMM TASK 73-21-70-400-002).

NOTE : Tighten the connector by hand plus one eighth of a turn.

If necessary use soft nose pliers.

- 1 If the fault continues:
 - disconnect the harness HJ13 from the ECU (4000KS) connector and the 6 o'clock junction box.
 - visually examine the harness connectors for damaged pins or contamination/oxidation.
 - if damage is found, repair or replace as required.

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- do a cleaning of the connectors and receptacles using a bristle brush with stoddard solvent (Material No. CP2011) (Ref. AMM TASK 73-21-50-210-002).
- 2 If the fault continues:
 - replace the harness CJ13 (Ref. AMM TASK 73-21-50-000-029) and (Ref. AMM TASK 73-21-50-400-029).
- 3 If the fault continues:
 - replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001)
 and (Ref. AMM TASK 73-21-60-400-001).
- 4 If the fault continues:
 - replace the harness HJ13 (Ref. AMM TASK 73-21-50-000-046)
 and (Ref. AMM TASK 73-21-50-400-046).
- (3) If the failure message TCC SNSR, J13, ECU is confirmed:
 - (a) Disconnect the connector (TCC-B) on the harness CJ13 from the TCC sensor (3 O'Clock) and do a check of the resistance as follows:
 - place the positive (+) lead of an ohmmeter on the TCC sensor pin A and the negative (-) lead of the ohmmeter on the TCC sensor pin B. Record as r1.
 - place the positive (+) lead of an ohmmeter on the TCC sensor pin B and the negative (-) lead of the ohmmeter on the TCC sensor pin A. Record as r2.
 - find the average (r1+r2/2) (2.4 to 4.2 ohms).
 - If the resistance values are out of the specified limits: - replace the TCC sensor (Ref. AMM TASK 73-21-70-000-002) and (Ref. AMM TASK 73-21-70-400-002).
 - <u>NOTE</u>: Tighten the connector by hand plus one eighth of a turn. If necessary use soft nose pliers.
 - 2 If the resistance values are in the specified limits:
 - NOTE: Tighten the connector by hand plus one eighth of a turn. If necessary use soft nose pliers.
 - disconnect the harness CJ13 from the 6 o'clock junction box and do a check of the CJ13 resistance cable between:
 - . pins 14 and 15 (2.4 to 4.2 0hms)
 - . pins 14 and 4 (> 10 Megohms)
 - pin 14 and ground (> 10 Megohms).
 - <u>a</u> If the resistance values are out of the specified limits: - replace the harness CJ13 (Ref. AMM TASK 73-21-50-000-029)
 - and (Ref. AMM TASK 73-21-50-400-029).

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- b If the resistance values are in the specified limits:
 - disconnect the harness HJ13 from the ECU receptacle and do a check of the resistance between:
 - . pins 18 and 19 (2.4 to 4.2 0hms)
 - . pins 18 and 17 (> 10 Megohms)
 - . pin 18 and ground (> 10 Megohms).
 - * If the resistance values are out of the specified limits:
 - replace the harness HJ13 (Ref. AMM TASK 73-21-50-000-046) and (Ref. AMM TASK 73-21-50-400-046).
 - * If the resistance values are in the specified limits: replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).
- B. For configuration post SB CFMI73-046.
 - NOTE : The failure message is triggered if the TCC sensor channel B input is invalid (signal out of range) and the fault lasts for more than 20 seconds.
 - (1) If the failure message TCC SNSR, J13, ECU is not confirmed:
 - (a) Do the following trouble shooting at next maintenance opportunity:
 - disconnect the CJ13 connector (TCC-B) from the TCC sensor (3 O'Clock).
 - visually examine the harness connector and sensor receptacle for damaged pins or contamination/oxidation.
 - if damage is found, repair or replace as required.
 - do a cleaning of the connector and receptacle using a bristle brush with stoddard solvent (Material No. CP2011) (Ref. AMM TASK 73-21-50-210-002).
 - connect the harness connector (TCC-B) to the sensor. Tighten the connector by hand plus one eighth of a turn. If necessary use soft nose pliers.
 - (2) If the failure message TCC SNSR, J13, ECU is not confirmed but is repetitive:
 - (a) Do the following trouble shooting at next maintenance opportunity:
 - disconnect the HJ13 connector from the ECU connector.
 - visually examine the harness connector and ECU receptacle for damaged pins or contamination/oxidation.
 - if damage is found, repair or replace as required.
 - do a cleaning of the harness connectors and receptacles using a bristle brush with stoddard solvent (Material No. CP2011) (Ref. AMM TASK 73-21-50-210-002).

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- 1 If the fault continues:
 - replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).
- 2 If the fault continues:
 - replace the harness HJ13 (Ref. AMM TASK 73-21-50-000-046) and (Ref. AMM TASK 73-21-50-400-046).
- 3 If the fault continues:
 - disconnect the CJ13 connector (TCC-B) from the TCC sensor (3 O'Clock).
 - do a cleaning of the harness connector using a bristle brush with stoddard solvent (Material No. CP2011) (Ref. AMM TASK 73-21-50-210-002).
 - replace the TCC sensor (Ref. AMM TASK 73-21-70-000-002) and (Ref. AMM TASK 73-21-70-400-002).

NOTE: Tighten the connector by hand plus one eighth of a turn. If necessary use soft nose pliers.

- 4 If the fault continues:
 - replace the harness CJ13 (Ref. AMM TASK 73-21-50-000-029) and (Ref. AMM TASK 73-21-50-400-029).
- (3) If the failure message TCC SNSR, J13, ECU is confirmed only on channel B:
 - (a) Disconnect the connector (TCC-B) on the harness CJ13 from the TCC sensor (3 O'Clock) and do a check of the resistance as follows:
 - place the positive (+) lead of an ohmmeter on the TCC sensor pin A and the negative (-) lead of the ohmmeter on the TCC sensor pin B. Record as r1.
 - place the positive (+) lead of an ohmmeter on the TCC sensor pin B and the negative (-) lead of the ohmmeter on the TCC sensor pin A. Record as r2.
 - find the average (r1+r2/2) (2.4 to 4.2 ohms).
 - If the resistance values are out of the specified limits: - replace the TCC sensor (Ref. AMM TASK 73-21-70-000-002) and (Ref. AMM TASK 73-21-70-400-002).

<u>NOTE</u>: Tighten the connector by hand plus one eighth of a turn. If necessary use soft nose pliers.

- 2 If the resistance values are in the specified limits:
 - disconnect the harness CJ13 from the 6 o'clock junction box and do a check of the CJ13 resistance cable between:
 - . pins 5 and 6 (2.4 to 4.2 0hms)
 - . pins 5 and 4 (> 10 Megohms)
 - . pin 5 and ground (> 10 Megohms).

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- a If the resistance values are out of the specified limits: - replace the harness CJ13 (Ref. AMM TASK 73-21-50-000-029) and (Ref. AMM TASK 73-21-50-400-029).
- b If the resistance values are in the specified limits:
 - disconnect the harness HJ13 from the ECU receptacle and do a check of the resistance between:
 - . pins 7 and 8 (2.4 to 4.2 0hms)
 - pins 7 and 17 (> 10 Megohms)
 - . pin 7 and ground (> 10 Megohms).
 - * If the resistance values are out of the specified limits:
 - replace the harness HJ13 (Ref. AMM TASK 73-21-50-000-046) and (Ref. AMM TASK 73-21-50-400-046).
 - * If the resistance values are in the specified limits: replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).
- C. Do the test given in Para. 3.A.
 - (1) No additional maintenance action is required if the fault is not confirmed.
 - (2) Repeat the fault isolation procedure if the fault continues.

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TROUBLE SHOOTING MANUAL

TASK 73-20-00-810-951

Failure of the ECU PS3 Pressure Sensor - Engine 1 - Channel B

1. Possible Causes

- ECU (4000KS)
- PS3 line

2. Job Set-up Information

A. Referenced Information

REFE	RENCE	DESIGNATION
AMM AMM	72-00-00-200-026 72-00-00-220-001 73-21-60-000-001 73-21-60-400-001 73-29-00-710-040	Inspection/Check of the PS3 Line Inspection of the PS3 Line Connections Removal of the Electronic Control Unit (ECU) Installation of the Electronic Control Unit (ECU) Operational Test of the FADEC on the Ground (with Engine non Motoring)

3. Fault Confirmation

A. Do the operational test of the FADEC 1B on the ground (with engine non motoring) (Ref. AMM TASK 73-29-00-710-040).

4. Fault Isolation

- A. This failure message is generated if the PS3 line is leaking, blocked or an internal ECU processing error has occurred.
 - (1) If the failure message ECU, PS3 SNSR LINE is not confirmed:
 - (a) Inspect PS3 line:
 - do a visual check of the PS3 line for dents, cracks, wear and weep holes free from obstruction (Ref. AMM TASK 72-00-00-200-026) and to make sure connections are properly tightened and in place (Ref. AMM TASK 72-00-00-220-001).
 - 1 If damage is found:
 - replace or retighten PS3 line (Ref. AMM TASK 72-00-00-220-001).
 - 2 If no damage is found:
 - no maintenance action is required.

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- (2) If the failure message ECU, PS3 SNSR LINE is not confirmed, but is repetitive:
 - (a) Replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).
 - (b) If the fault continues:
 inspect PS3 line.
 - Do a visual check of the PS3 line for dents, cracks, wear and weep holes free from obstruction (Ref. AMM TASK 72-00-00-200-026) and to make sure connections are properly tightened and in place (Ref. AMM TASK 72-00-00-220-001).
 - replace or retighten PS3 line (Ref. AMM TASK 72-00-00-220-001) as required.
- (3) If the failure message ECU, PS3 SNSR LINE is confirmed:
 - replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).
- B. Do the test given in Para. 3.A.
 - (1) No additional maintenance action is required if the fault is not confirmed.
 - (2) Repeat the fault isolation procedure if the fault continues.

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TROUBLE SHOOTING MANUAL

TASK 73-20-00-810-952

Failure of the ECU PS3 Pressure Sensor - Engine 2 - Channel B

- 1. Possible Causes
 - ECU (4000KS)
 - PS3 line
- 2. Job Set-up Information
 - A. Referenced Information

REFEREN	CE	DESIGNATION
AMM 72 AMM 73 AMM 73	-00-00-200-026 -00-00-220-001 -21-60-000-001 -21-60-400-001 -29-00-710-040	Inspection/Check of the PS3 Line Inspection of the PS3 Line Connections Removal of the Electronic Control Unit (ECU) Installation of the Electronic Control Unit (ECU) Operational Test of the FADEC on the Ground (with Engine non Motoring)

3. Fault Confirmation

A. Do the operational test of the FADEC 2B on the ground (with engine non motoring) (Ref. AMM TASK 73-29-00-710-040).

4. Fault Isolation

- A. This failure message is generated if the PS3 line is leaking, blocked or an internal ECU processing error has occurred.
 - (1) If the failure message ECU, PS3 SNSR LINE is not confirmed:
 - (a) Inspect PS3 line:
 - do a visual check of the PS3 line for dents, cracks, wear and weep holes free from obstruction (Ref. AMM TASK 72-00-00-200-026) and to make sure connections are properly tightened and in place (Ref. AMM TASK 72-00-00-220-001).
 - 1 If damage is found:
 - replace or retighten PS3 line (Ref. AMM TASK 72-00-00-220-001).
 - 2 If no damage is found:
 - no maintenance action is required.

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- (2) If the failure message ECU, PS3 SNSR LINE is not confirmed, but is repetitive:
 - (a) Replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).
 - (b) If the fault continues:
 inspect PS3 line.
 - Do a visual check of the PS3 line for dents, cracks, wear and weep holes free from obstruction (Ref. AMM TASK 72-00-00-200-026) and to make sure connections are properly tightened and in place (Ref. AMM TASK 72-00-00-220-001).
 - replace or retighten PS3 line (Ref. AMM TASK 72-00-00-220-001) as required.
- (3) If the failure message ECU, PS3 SNSR LINE is confirmed:
 - replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).
- B. Do the test given in Para. 3.A.
 - (1) No additional maintenance action is required if the fault is not confirmed.
 - (2) Repeat the fault isolation procedure if the fault continues.

EFF: ALL

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TROUBLE SHOOTING MANUAL

TASK 73-20-00-810-953

Loss of the P25 Sensor Signal on Engine 1

1. Possible Causes

- ECU (4000KS)
- P25 sensor and sense line

2. Job Set-up Information

A. Referenced Information

REFERENCE	DESIGNATION
AMM 73-21-60-000-001 AMM 73-21-60-400-001 AMM 73-21-80-210-002 AMM 73-29-00-710-040	Removal of the Electronic Control Unit (ECU) Installation of the Electronic Control Unit (ECU) Visual Inspection of the P25 Sensor Operational Test of the FADEC on the Ground (with Engine Non motoring)

3. Fault Confirmation

A. Test

(1) Do the operational test of the FADEC 1B on the ground (with engine non motoring) (Ref. AMM TASK 73-29-00-710-040).

4. Fault Isolation

A. The P25 signal is part of the PMUX option only used for Engine Condition Monitoring.

NOTE: If the engine is not equipped in a PMUX configuration, you have two options:

- replace the engine Identification Connector by a connector configured as Non PMUX to definitively avoid further generation of this fault message,
- ignore this fault message.

 ${\hbox{{\tt NOTE}}}$: The fault message is generated if the P25 sensor signal is invalid or out of range.

- (1) If the maintenance message P25 SNSR LINE, ECU or P25 SNSR LINE, ECU* is not confirmed:
 - (a) No maintenance is required.

EFF: ALL

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- (2) If the maintenance message P25 SNSR LINE, ECU or P25 SNSR LINE, ECU* is not confirmed but is repetitive:
 - do a check for leak or blocked P25 sensor and sense line or loose fittings in the fan cowl area.
 - (a) If nothing is found or if the fault continues:
 - replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).
 - (b) If the fault continues:
 - do a visual inspection of the P25 probe (Ref. AMM TASK 73-21-80-210-002).
- B. Do the test given in Para. 3.A.
 - (1) No additional maintenance action is required if the fault is not confirmed.
 - (2) Repeat the fault isolation procedure if the fault continues.

EFF: ALL

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TROUBLE SHOOTING MANUAL

TASK 73-20-00-810-954

Loss of the P25 Sensor Signal on Engine 2

1. Possible Causes

- ECU (4000KS)
- P25 sensor and sense line

2. Job Set-up Information

A. Referenced Information

REFE	RENCE	DESIGNATION
AMM AMM	73-21-60-000-001 73-21-60-400-001 73-21-80-210-002 73-29-00-710-040	Removal of the Electronic Control Unit (ECU) Installation of the Electronic Control Unit (ECU) Visual Inspection of the P25 Sensor Operational Test of the FADEC on the Ground (with Engine Non motoring)

3. Fault Confirmation

A. Test

(1) Do the operational test of the FADEC 2B on the ground (with engine non motoring) (Ref. AMM TASK 73-29-00-710-040).

4. Fault Isolation

A. The P25 signal is part of the PMUX option only used for Engine Condition Monitoring.

NOTE : If the engine is not equipped in a PMUX configuration, you have two options:

- replace the engine Identification Connector by a connector configured as Non PMUX to definitively avoid further generation of this fault message,
- ignore this fault message.

 ${\hbox{{\tt NOTE}}}$: The fault message is generated if the P25 sensor signal is invalid or out of range.

- (1) If the maintenance message P25 SNSR LINE, ECU or P25 SNSR LINE, ECU* is not confirmed:
 - (a) No maintenance is required.

EFF: ALL

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- (2) If the maintenance message P25 SNSR LINE, ECU or P25 SNSR LINE, ECU* is not confirmed but is repetitive:
 - do a check for leak or blocked P25 sensor and sense line or loose fittings in the fan cowl area.
 - (a) If nothing is found or if the fault continues:
 - replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).
 - (b) If the fault continues:
 - do a visual inspection of the P25 probe (Ref. AMM TASK 73-21-80-210-002).
- B. Do the test given in Para. 3.A.
 - (1) No additional maintenance action is required if the fault is not confirmed.
 - (2) Repeat the fault isolation procedure if the fault continues.

EFF: ALL

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TROUBLE SHOOTING MANUAL

TASK 73-20-00-810-956

Loss of all Engine 2 Indication Plug Data

- 1. Possible Causes
- 2. Job Set-up Information
 - A. Referenced Information

REFERENCE DESIGNATION

AMM 73-29-00-710-040 Operational Test of the FADEC on the Ground (with Engine non Motoring)

- 3. Fault Confirmation
 - A. Do the operational test of the FADEC 2B on the ground (with engine non motoring) (Ref. AMM TASK 73-29-00-710-040).
- 4. Fault Isolation
 - A. Do the test given in Para. 3.A.

EFF: ALL

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TROUBLE SHOOTING MANUAL

TASK 73-20-00-810-957

Loss of all Engine 1 Identification Connector Data

1. Possible Causes

- J14 engine identification connector
- ECU1 (4000KS)

2. Job Set-up Information

A. Referenced Information

REFE	RENCE	DESIGNATION
AMM	73-21-60-000-001	Removal of the Electronic Control Unit (ECU)
AMM	73-21-60-400-001	Installation of the Electronic Control Unit (ECU)
AMM	73-21-60-740-006	Read the LRU Identification Report and the Thrust
		Reverser Shut-off Valve Status
AMM	73-21-90-000-002	Removal of the Engine Identification Connector
AMM	73-21-90-400-002	Installation of the Engine Identification Connector
AMM	73-29-00-710-040	Operational Test of the FADEC on the Ground (with
		Engine non Motoring)

3. Fault Confirmation

A. Test

- (1) Do the operational test of the FADEC 1B on the ground (with engine non motoring) (Ref. AMM TASK 73-29-00-710-040).
- (2) Do the LRU identification through the MCDU (Ref. AMM TASK 73-21-60-740-006) and check that the data corresponds to the engine configuration.

EFF: ALL

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4. Fault Isolation

R **ON A/C 201-206, 227-227, 229-232, 240-240, 254-281, 283-283, 426-475,
R 479-499, 551-564,
R Post SB 72-1014 For A/C 227-227,229-232,
Post SB 72-1015 For A/C 276-281,
Post SB 72-1017 For A/C 201-206,551-564,
Post SB 72-1026 For A/C 426-450,
Post SB 72-1027 For A/C 479-499,

- A. If the test gives the maintenance message J14, ECU (ENG IDENT):
 - do a check for the loose or missing identification connector at the ECU1 connector J14 receptacle.
 - (1) If the Service Bulletin 72-0340 is not incorporated, and if the fault continues:
 - reset the ECU1 (4000KS) as follows:
 - (a) On the panel 115VU, set the ENG/MASTER 1 control switch (3KC) to OFF.
 - (b) After 30 seconds, set the ENG/MASTER 1 control switch (3KC) to ON.
 - 1 If the fault continues:
 - replace the J14 engine identification connector (Ref. AMM TASK 73-21-90-000-002) and (Ref. AMM TASK 73-21-90-400-002).
 - a If the fault continues:
 - replace the ECU1 (4000KS) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).
 - (2) If the Service Bulletin 72-0340 is incorporated, and if the fault continues:
 - read the LRU IDENTIFICATION report of the engine 1 (Ref. AMM TASK 73-21-60-740-006),
 - check that the engine identification connector installed on the engine meets the specific engine configuration (rating, N1 trim, system configuration, etc...).
 - (a) If the rating identified on the LRU IDENTIFICATION report is incorrect:
 - replace the J14 engine identification connector (Ref. AMM TASK 73-21-90-000-002) and (Ref. AMM TASK 73-21-90-400-002).
 - (b) If other parameters than the rating identified on the LRU IDENTIFICATION report is (are) incorrect:
 - check for correct programming of the J14 engine identification connector (Ref. AMM TASK 73-21-90-000-002) and (Ref. AMM TASK 73-21-90-400-002).

EFF: ALL

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- 1 If the fault continues:
 - replace the J14 engine identification connector (Ref. AMM TASK 73-21-90-000-002) and (Ref. AMM TASK 73-21-90-400-002).
 - a If the fault continues:
 - replace the ECU1 (4000KS) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).
- R **ON A/C 201-225, 227-227, 229-239, 241-253, 276-282, 284-299, 426-499,
- R 503-549, 551-599, 701-749,

Post SB 72-1024 For A/C 451-475,

- A. If the test gives the maintenance message J14, ECU (ENG IDENT):
 - do a check for the loose or missing identification connector at the ECU1 connector J14 receptacle.
 - (1) If the Service Bulletin 72-0340 is not incorporated, and if the fault continues:
 - reset the ECU1 (4000KS) as follows:
 - (a) On the panel 115VU, set the ENG/MASTER 1 control switch (3KC) to OFF.
 - (b) After 30 seconds, set the ENG/MASTER 1 control switch (3KC) to ON.
 - 1 If the fault continues:
 - replace the J14 engine identification connector (Ref. AMM TASK 73-21-90-000-002) and (Ref. AMM TASK 73-21-90-400-002).
 - a If the fault continues:
 - replace the ECU1 (4000KS) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).
 - (2) If the Service Bulletin 72-0340 is incorporated, and if the fault continues:
 - read the LRU IDENTIFICATION report of the engine 1 (Ref. AMM TASK 73-21-60-740-006),
 - check that the engine identification connector installed on the engine meets the specific engine configuration (rating, N1 trim, system configuration, etc...).
 - (a) If the rating identified on the LRU IDENTIFICATION report is incorrect:
 - replace the J14 engine identification connector (Ref. AMM TASK 73-21-90-000-002) and (Ref. AMM TASK 73-21-90-400-002).
 - (b) If other parameters than the rating identified on the LRU IDENTIFICATION report is (are) incorrect:
 - check for correct programming of the J14 engine identification connector (Ref. AMM TASK 73-21-90-000-002) and (Ref. AMM TASK 73-21-90-400-002).

EFF: ALL

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- 1 If the fault continues:
 - replace the J14 engine identification connector (Ref. AMM TASK 73-21-90-000-002) and (Ref. AMM TASK 73-21-90-400-002).
 - a If the fault continues:
 - replace the ECU1 (4000KS) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).

**ON A/C ALL

B. Do the test given in Para. 3.

EFF: ALL SROS 73-20-00

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TROUBLE SHOOTING MANUAL

TASK 73-20-00-810-958

Loss of all Engine 2 Identification Connector Data

1. Possible Causes

- J14 engine identification connector
- ECU2 (4000KS)

2. Job Set-up Information

A. Referenced Information

REFERENCE		DESIGNATION	
AMM	73-21-60-000-001	Removal of the Electronic Control Unit (ECU)	
AMM	73-21-60-400-001	Installation of the Electronic Control Unit (ECU)	
AMM	73-21-60-740-006	Read the LRU Identification Report and the Thrust	
		Reverser Shut-off Valve Status	
AMM	73-21-90-000-002	Removal of the Engine Identification Connector	
AMM	73-21-90-400-002	Installation of the Engine Identification Connector	
AMM	73-29-00-710-040	Operational Test of the FADEC on the Ground (with	
		Engine non Motoring)	

3. Fault Confirmation

A. Test

- (1) Do the operational test of the FADEC 2B on the ground (with engine non motoring) (Ref. AMM TASK 73-29-00-710-040).
- (2) Do the LRU identification through the MCDU (Ref. AMM TASK 73-21-60-740-006) and check that the data corresponds to the engine configuration.

EFF: ALL

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4. Fault Isolation

R **ON A/C 201-206, 227-227, 229-232, 240-240, 254-281, 283-283, 426-475,
R 479-499, 551-564,
R Post SB 72-1014 For A/C 227-227,229-232,
Post SB 72-1015 For A/C 276-281,
Post SB 72-1017 For A/C 201-206,551-564,
Post SB 72-1026 For A/C 426-450,
Post SB 72-1027 For A/C 479-499,

- A. If the test gives the maintenance message J14, ECU (ENG IDENT):
 - do a check for the loose or missing identification connector at the ECU2 connector J14 receptacle.
 - (1) If the Service Bulletin 72-0340 is not incorporated, and if the fault continues:
 - reset the ECU2 (4000KS) as follows:
 - (a) On the panel 115VU, set the ENG/MASTER 2 control switch (2KC) to OFF.
 - (b) After 30 seconds, set the ENG/MASTER 2 control switch (2KC) to ON.
 - 1 If the fault continues:
 - replace the J14 engine identification connector (Ref. AMM TASK 73-21-90-000-002) and (Ref. AMM TASK 73-21-90-400-002).
 - a If the fault continues:
 - replace the ECU2 (4000KS) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).
 - (2) If the Service Bulletin 72-0340 is incorporated, and if the fault continues:
 - read the LRU IDENTIFICATION report of the engine 2 (Ref. AMM TASK 73-21-60-740-006),
 - check that the engine identification connector installed on the engine meets the specific engine configuration (rating, N1 trim system configuration, etc...).
 - (a) If the rating identified on the LRU IDENTIFICATION report is incorrect:
 - replace the J14 engine identification connector (Ref. AMM TASK 73-21-90-000-002) and (Ref. AMM TASK 73-21-90-400-002).
 - (b) If other parameters than the rating identified on the LRU IDENTIFICATION report is (are) incorrect:
 - check for correct programming of the J14 engine identification connector (Ref. AMM TASK 73-21-90-000-002) and (Ref. AMM TASK 73-21-90-400-002).

EFF: ALL

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- 1 If the fault continues:
 - replace the J14 engine identification connector (Ref. AMM TASK 73-21-90-000-002) and (Ref. AMM TASK 73-21-90-400-002).
 - a If the fault continues:
 - replace the ECU2 (4000KS) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).
- R **ON A/C 201-225, 227-227, 229-239, 241-253, 276-282, 284-299, 426-499,
- R 503-549, 551-599, 701-749,

Post SB 72-1024 For A/C 451-475,

- A. If the test gives the maintenance message J14, ECU (ENG IDENT):
 - do a check for the loose or missing identification connector at the ECU2 connector J14 receptacle.
 - (1) If the Service Bulletin 72-0340 is not incorporated, and if the fault continues:
 - reset the ECU2 (4000KS) as follows:
 - (a) On the panel 115VU, set the ENG/MASTER 2 control switch (2KC) to OFF.
 - (b) After 30 seconds, set the ENG/MASTER 2 control switch (2KC) to ON.
 - 1 If the fault continues:
 - replace the J14 engine identification connector (Ref. AMM TASK 73-21-90-000-002) and (Ref. AMM TASK 73-21-90-400-002).
 - a If the fault continues:
 - replace the ECU2 (4000KS) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).
 - (2) If the Service Bulletin 72-0340 is incorporated, and if the fault continues:
 - read the LRU IDENTIFICATION report of the engine 2 (Ref. AMM TASK 73-21-60-740-006),
 - check that the engine identification connector installed on the engine meets the specific engine configuration (rating, N1 trim, system configuration, etc...).
 - (a) If the rating identified on the LRU IDENTIFICATION report is incorrect:
 - replace the J14 engine identification connector (Ref. AMM TASK 73-21-90-000-002) and (Ref. AMM TASK 73-21-90-400-002).
 - (b) If other parameters than the rating identified on the LRU IDENTIFICATION report is (are) incorrect:
 - check for correct programming of the J14 engine identification connector (Ref. AMM TASK 73-21-90-000-002) and (Ref. AMM TASK 73-21-90-400-002).

EFF: ALL

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- 1 If the fault continues:
 - replace the J14 engine identification connector (Ref. AMM TASK 73-21-90-000-002) and (Ref. AMM TASK 73-21-90-400-002).
 - a If the fault continues:
 - replace the ECU2 (4000KS) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).

**ON A/C ALL

B. Do the test given in Para. 3.A.

EFF: ALL
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TROUBLE SHOOTING MANUAL

TASK 73-20-00-810-961

Loss of the ADIRU input Data through the Channel B or disagree between Aircraft and Engine sensors on Engine 1

1. Possible Causes

- PS12 Sensing Line
- T12 temperature sensor
- ADIRU-1 (1PF1)
- ADIRU-2 (1PF2)
- ADIRU-3 (1PF3)
- pitot or static probes
- ECU (4000KS)
- PO inlet port

2. Job Set-up Information

A. Referenced Information

REFERENCE		DESIGNATION
AMM	72-23-00-000-040	Removal of the PS12 Line
AMM	72-23-00-280-003	Inspection/Check of the PS12 Line
AMM	72-23-00-400-040	Installation of the PS12 Line
AMM	73-21-40-000-001	Removal of the T12 Temperature Sensor
AMM	73-21-40-400-001	Installation of the T12 Temperature Sensor
AMM	73-21-50-000-042	Removal of the HJ9 Harness
AMM	73-21-50-000-043	Removal of the HJ10 Harness
AMM	73-21-50-210-001	Visual Inspection of the Wiring Harness
AMM	73-21-50-400-042	Installation of the HJ9 Harness
AMM	73-21-50-400-043	Installation of the HJ10 Harness
AMM	73-21-60-000-001	Removal of the Electronic Control Unit (ECU)(4000KS)
AMM	73-21-60-400-001	Installation of the Electronic Control Unit
		(ECU)(4000KS)
AMM	73-21-60-740-007	Correct Time Limited Faults (Non Asterisked) of the
		Engine Scheduled Maintenance Report

3. Fault Confirmation

**ON A/C ALL

Post SB 72-1017 For A/C 201-206, R Post SB 73-1052 For A/C 227-227,229-229,231-239,241-244,276-281,

A. Not applicable

EFF: ALL **SROS** Printed in France 73-20-00

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**ON A/C ALL

4. Fault Isolation

**ON A/C ALL

Post SB 72-1017 For A/C 201-206, R Post SB 73-1052 For A/C 227-227,229-229,231-239,241-244,276-281,

- A. The fault is triggered by the ECU if the ADIRU inputs data to the ECU (TAT, Total Pressure and Altitude) disagree with the engine sensor inputs (PS12 Sensing Line, T12 temperature sensor, PO).
 - (1) If the failure message PO/P12/T12, ADC, ECU* or PO/P12/T12, ADC, ECU is displayed and one or more failure message(s) linked to the ADIRU-1 (1PF1), ADIRU-2 (1PF2), ADIRU-3 (1PF3), pitot or static probes is (are) present:
 - do the trouble shooting procedures related to the ADC, pitot probes or static probes failure message.
- B. If the fault message PO/P12/T12, ADC, ECU* or PO/P12/T12, ADC, ECU is displayed and no failure message linked to the ADC, static probes or pitot probes is (are) present:
 - Check in the Schedule Maintenance Report (SMR) or in the Class 3 Report (Ref. AMM TASK 73-21-60-740-007) for presence of failure message(s): "ECU (PO SENSOR)", "T12 SNSR, J9, ECU", "T12 SNSR, J10, ECU", "ECU (PS12 SENSOR)".
 - (1) If a fault is present:
 - do the trouble shooting per applicable procedure.
 - (2) If no fault is found:
 - make sure there PO inlet port located on the Pressure plate of the ECU (4000KS) is open and free from obstruction.
 - (a) If damage is found:
 - clean the PO inlet port,
 - (b) If nothing is found:
 - do an inspection and check of the PS12 Sensor line (Ref. AMM TASK 72-23-00-280-003).
 - 1 if damage is found:
 - replace as required (Ref. AMM TASK 72-23-00-000-040) and (Ref. AMM TASK 72-23-00-400-040).
 - 2 if nothing is found, continues the troubleshooting as follows:

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- (3) disconnect the J9 and J10 harnesses from the ECU (4000KS), and visually examine the ECU receptacles and the harnesses connectors for damaged pins or contamination (Ref. AMM TASK 73-21-50-210-001):
 - (a) If damage is found:
 - clean or repair damaged parts as required.
 - (b) If nothing is found:
 - replace the T12 temperature sensor (Ref. AMM TASK 73-21-40-000-001) and (Ref. AMM TASK 73-21-40-400-001).
 - 1 If the fault continues:
 - replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).
 - a If the fault continues:
 - replace the faulty harness: J9 harness (Ref. AMM TASK 73-21-50-000-042) and (Ref. AMM TASK 73-21-50-400-042), and J10 harness (Ref. AMM TASK 73-21-50-000-043) and (Ref. AMM TASK 73-21-50-400-043).
- C. No test is required for fault repair confirmation.
 - No additionnal maintenance action is required if the fault is not confirmed,
 - Repeat the fault isolation process if the fault continues.

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TROUBLE SHOOTING MANUAL

**ON A/C ALL

TASK 73-20-00-810-962

Loss of the ADIRU input Data through the Channel B or disagree between Aircraft and Engine sensors on Engine 2

1. Possible Causes

- PS12 Sensing Line
- T12 temperature sensor
- ADIRU-1 (1PF1)
- ADIRU-2 (1PF2)
- ADIRU-3 (1PF3)
- pitot or static probes
- ECU (4000KS)
- PO inlet port

2. Job Set-up Information

A. Referenced Information

REFERENCE		DESIGNATION	
	72 27 22 22 242		
AMM	72-23-00-000-040	Removal of the PS12 Line	
AMM	72-23-00-280-003	Inspection/Check of the PS12 Line	
AMM	72-23-00-400-040	Installation of the PS12 Line	
AMM	73-21-40-000-001	Removal of the T12 Temperature Sensor	
AMM	73-21-40-400-001	Installation of the T12 Temperature Sensor	
AMM	73-21-50-000-042	Removal of the HJ9 Harness	
AMM	73-21-50-000-043	Removal of the HJ10 Harness	
AMM	73-21-50-210-001	Visual Inspection of the Wiring Harness	
AMM	73-21-50-400-042	Installation of the HJ9 Harness	
AMM	73-21-50-400-043	Installation of the HJ10 Harness	
AMM	73-21-60-000-001	Removal of the Electronic Control Unit (ECU)(4000KS)	
AMM	73-21-60-400-001	Installation of the Electronic Control Unit	
		(ECU)(4000KS)	
AMM	73-21-60-740-007	Correct Time Limited Faults (Non Asterisked) of the Engine Scheduled Maintenance Report	

3. Fault Confirmation

**ON A/C ALL

Post SB 72-1017 For A/C 201-206, R Post SB 73-1052 For A/C 227-227,229-229,231-239,241-244,276-281,

A. Not applicable

EFF: ALL

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**ON A/C ALL

4. Fault Isolation

**ON A/C ALL

Post SB 72-1017 For A/C 201-206, R Post SB 73-1052 For A/C 227-227,229-229,231-239,241-244,276-281,

- A. The fault is triggered by the ECU if the ADIRU inputs data to the ECU (TAT, Total Pressure and Altitude) disagree with the engine sensor inputs (PS12 Sensing Line, T12 temperature sensor, PO).
 - (1) If the failure message PO/P12/T12, ADC, ECU* or PO/P12/T12, ADC, ECU is displayed and one or more failure message(s) linked to the ADIRU-1 (1PF1), ADIRU-2 (1PF2), ADIRU-3 (1PF3), pitot or static probes is (are) present:
 - do the trouble shooting procedures related to the ADC, pitot probes or static probes failure message.
- B. If the fault message PO/P12/T12, ADC, ECU* or PO/P12/T12, ADC, ECU is displayed and no failure message linked to the ADC, static probes or pitot probes is (are) present:
 - Check in the Schedule Maintenance Report (SMR) or in the Class 3 Report (Ref. AMM TASK 73-21-60-740-007) for presence of failure message(s): "ECU (PO SENSOR)", "T12 SNSR, J9, ECU", "T12 SNSR, J10, ECU", "ECU (PS12 SENSOR)".
 - (1) If a fault is present:
 - do the trouble shooting per applicable procedure.
 - (2) If no fault is found:
 - make sure there PO inlet port located on the Pressure plate of the ECU (4000KS) is open and free from obstruction.
 - (a) If damage is found:
 - clean the PO inlet port.
 - (b) If nothing is found:
 - do an inspection and check of the PS12 Sensor line (Ref. AMM TASK 72-23-00-280-003).
 - 1 if damage is found:
 - replace as required (Ref. AMM TASK 72-23-00-000-040) and (Ref. AMM TASK 72-23-00-400-040).
 - 2 if nothing is found, continues the troubleshooting as follows:

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- (3) Disconnect the J9 and J10 harnesses from the ECU (4000KS), and visually examine the ECU receptacles and the harnesses connectors for damaged pins or contamination (Ref. AMM TASK 73-21-50-210-001).
 - (a) If damage is found:
 - clean or repair damaged parts as required.
 - (b) If nothing is found:
 - replace the T12 temperature sensor (Ref. AMM TASK 73-21-40-000-001) and (Ref. AMM TASK 73-21-40-400-001).
 - 1 If the fault continues:
 - replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).
 - a If the fault continues:
 - replace the faulty harness: J9 harness (Ref. AMM TASK 73-21-50-000-042) and (Ref. AMM TASK 73-21-50-400-042), and J10 harness (Ref. AMM TASK 73-21-50-000-043) and (Ref. AMM TASK 73-21-50-400-043).
- C. No test is required for fault repair confirmation.
 - No additionnal maintenance action is required if the fault is not confirmed,
 - Repeat the fault isolation process if the fault continues.

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TASK 73-20-00-810-963

Loss of the T25 Sensor Signal on Engine 1

- 1. Possible Causes
 - ECU (4000KS)
 - harness J12
 - harness CJ12R
 - T25 temperature sensor
- 2. Job Set-up Information
- R A. Fixtures, Tools, Test and Support Equipment

QTY DESIGNATION

No specific bristle brush

R B. Consumable Materials

DESIGNATION

Material No. CP2011

stoddard solvent (Ref. 70-30-00) R

C. Referenced Information R

REFERENCE DESIGNATION

	AMM	73-21-20-000-002	Removal of the T25 Temperature Sensor
	AMM	73-21-20-400-002	Installation of the T25 Temperature Sensor
	AMM	73-21-50-000-028	Removal of the CJ12R Harness
	AMM	73-21-50-000-045	Removal of the HJ12 Harness
R	AMM	73-21-50-210-002	Visual Inspection of the Wiring Harnesses
	AMM	73-21-50-400-028	Installation of the CJ12R Harness
	AMM	73-21-50-400-045	Installation of the HJ12 Harness
	AMM	73-21-60-000-001	Removal of the Electronic Control Unit (ECU)(4000KS)
	AMM	73-21-60-400-001	Installation of the Electronic Control Unit
			(ECU)(4000KS)
	AMM	73-29-00-710-040	Operational Test of the FADEC on the Ground (with
			For the control Makes the N

Engine non Motoring) ASM 73-25/18

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3. Fault Confirmation

A. Test

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R

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R R

R R

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R R

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(1) Do the operational test of the FADEC 1B on the ground (with engine non motoring) (Ref. AMM TASK 73-29-00-710-040).

4. Fault Isolation

- A. If the test of the channel B gives the maintenance message T25 SNSR, J12, ECU or T25 SNSR, J12, ECU*:
 - do a check for open or short to ground of the harness J12 between the ECU (4000KS) and the 6 o' clock junction box, between the 6 o'clock junction box and the T25 temperature sensor pins J12/19, 37, 38 to pins J12/1, 2, 3 (Ref. ASM 73-25/18).
 - (1) If the wiring is not correct:
 - repair the above wiring.
 - (2) If the wiring is correct:
 - disconnect the harness J12 from the ECU (4000KS).
 - do a visual inspection of the harness connector and receptacle. Look for contamination or oxidation or pins that have damage.
 - if you find damage, repair or replace as required.
 - clean the connector and receptacle with a bristle brush and stoddard solvent (Material No. CP2011) (Ref. AMM TASK 73-21-50-210-002).
 - do a check of the ECU cable resistance between:
 - . pins 37 and 38 (160 to 250 0hms)
 - pins 37 and 19 (> 10 Megohms)
 - pin 37 and the ground (> 10 Megohms).
 - (a) If the resistance values are in the specified limits:
 - replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).
 - (b) If the resistance values are out of the specified limits:
 - disconnect the harness CJ12 at the 6 o'clock junction box.
 - do a visual inspection of the harness connector and receptacle. Look for contamination or oxidation or pins that have damage.
 - if you find damage, repair or replace as required.
 - clean the connector and receptacle with a bristle brush and stoddard solvent (Material No. CP2011) (Ref. AMM TASK 73-21-50-210-002).
 - do a check of the resistance of the cable CJ12R between:
 - . pins 15 and 16 (160 to 250 0hms)
 - pins 15 and 5 (> 10 Megohms)
 - . pin 15 and the ground (> 10 Megohms).

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R R

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- 1 If the resistance values are in the specified limits:
 - replace the harness J12 (Ref. AMM TASK 73-21-50-000-045) and (Ref. AMM TASK 73-21-50-400-045).
- 2 If the resistance values are out of the specified limits:
 - disconnect the harness CJ12R at the T25 temperature sensor.
 - do a visual inspection of the harness connector and receptacle. Look for contamination or oxidation or pins that have damage.
 - if you find damage, repair or replace as required.
 - clean the connector and receptacle with a bristle brush and stoddard solvent (Material No. CP2011) (Ref. AMM TASK 73-21-50-210-002).
 - do a check of the T25 sensor resistance between:
 - pins 1 and 2 (160 to 250 0hms)
 - pin 1 and the ground (> 10 Megohms).
 - a If the resistance values are in the specified limits:
 - replace the harness CJ12R (Ref. AMM TASK 73-21-50-000-028) and (Ref. AMM TASK 73-21-50-400-028).
 - b If the resistance values are out of the specified limits:
 - replace the T25 temperature sensor (Ref. AMM TASK 73-21-20-000-002) and (Ref. AMM TASK 73-21-20-400-002).
- B. Do the test given in Para. 3.A.

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TROUBLE SHOOTING MANUAL

TASK 73-20-00-810-964

Loss of the T25 Sensor Signal on Engine 2

- 1. Possible Causes
 - ECU (4000KS)
 - harness J12
 - harness CJ12R
 - T25 temperature sensor
- 2. Job Set-up Information

R A		Fixtures,	Tools,	Test	and	Support	Equipment
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REFERENCE QTY DESIGNATION

No specific bristle brush

B. Consumable Materials

DESIGNATION

Material No. CP2011

stoddard solvent (Ref. 70-30-00) R

R C. Referenced Information

REFERENCE	DESIGNATION

	AMM	73-21-20-000-002	Removal of the T25 Temperature Sensor
	AMM	73-21-20-400-002	Installation of the T25 Temperature Sensor
	AMM	73-21-50-000-028	Removal of the CJ12R Harness
	AMM	73-21-50-000-045	Removal of the HJ12 Harness
R	AMM	73-21-50-210-002	Visual Inspection of the Wiring Harnesses
	AMM	73-21-50-400-028	Installation of the CJ12R Harness
	AMM	73-21-50-400-045	Installation of the HJ12 Harness
	AMM	73-21-60-000-001	Removal of the Electronic Control Unit (ECU)(4000KS)
	AMM	73-21-60-400-001	Installation of the Electronic Control Unit
			(ECU)(4000KS)
	AMM	73-29-00-710-040	Operational Test of the FADEC on the Ground (with
			- · · · · · · · · · · · · · · · · · · ·

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TROUBLE SHOOTING MANUAL

3. Fault Confirmation

A. Test

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R R

R R

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R R

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(1) Do the operational test of the FADEC 2B on the ground (with engine non motoring) (Ref. AMM TASK 73-29-00-710-040).

4. Fault Isolation

- A. If the test of the channel B gives the maintenance message T25 SNSR, J12, ECU or T25 SNSR, J12, ECU*
 - do a check for open or short to ground of the harness J12 between the ECU (4000KS) and the 6 o'clock junction box, between the 6 o'clock junction box and the T25 temperature sensor pins J12/19, 37, 38 to pins J12/1, 2, 3 (Ref. ASM 73-25/18).
 - (1) If the wiring is not correct:
 - repair the above wiring.
 - (2) If the wiring is correct:
 - disconnect the harness J12 from the ECU (4000KS).
 - do a visual inspection of the harness connector and receptacle. Look for contamination or oxidation or pins that have damage.
 - if you find damage, repair or replace as required.
 - clean the connector and receptacle with a bristle brush and stoddard solvent (Material No. CP2011) (Ref. AMM TASK 73-21-50-210-002).
 - do a check of the ECU cable resistance between:
 - . pins 37 and 38 (160 to 250 0hms)
 - pins 37 and 19 (> 10 Megohms)
 - pin 37 and the ground (> 10 Megohms).
 - (a) If the resistance values are in the specified limits:
 - replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).
 - (b) If the resistance values are out of the specified limits:
 - disconnect the harness CJ12 at the 6 o'clock junction box.
 - do a visual inspection of the harness connector and receptacle. Look for contamination or oxidation or pins that have damage.
 - if you find damage, repair or replace as required.
 - clean the connector and receptacle with a bristle brush and stoddard solvent (Material No. CP2011) (Ref. AMM TASK 73-21-50-210-002).
 - do a check of the resistance of the cable CJ12R between:
 - . pins 15 and 16 (160 to 250 0hms)
 - pins 15 and 5 (> 10 Megohms)
 - . pin 15 and the ground (> 10 Megohms).

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- 1 If the resistance values are in the specified limits:
 - replace the harness J12 (Ref. AMM TASK 73-21-50-000-045) and (Ref. AMM TASK 73-21-50-400-045).
- 2 If the resistance values are out of the specified limits:
 - disconnect the harness CJ12R at the T25 temperature sensor.
 - do a visual inspection of the harness connector and receptacle. Look for contamination or oxidation or pins that have damage.
 - if you find damage, repair or replace as required.
 - clean the connector and receptacle with a bristle brush and stoddard solvent (Material No. CP2011) (Ref. AMM TASK 73-21-50-210-002).
 - do a check of the T25 sensor resistance between:
 - . pins 1 and 2 (160 to 250 0hms)
 - pin 1 and the ground (> 10 Megohms).
 - a If the resistance values are in the specified limits:
 - replace the harness CJ12R (Ref. AMM TASK 73-21-50-000-028) and (Ref. AMM TASK 73-21-50-400-028).
 - b If the resistance values are out of the specified limits:
 - replace the T25 temperature sensor (Ref. AMM TASK 73-21-20-000-002) and (Ref. AMM TASK 73-21-20-400-002).
- B. Do the test given in Para. 3.A.

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TASK 73-20-00-810-965

PS3 Sensors Disagree Between Both Channels on Engine 1

- 1. Possible Causes
 - ECU (4000KS)
- 2. Job Set-up Information
 - A. Referenced Information

REFERENCE	DESIGNATION
AMM 73-21-60-000-001 AMM 73-21-60-400-001	Removal of the Electronic Control Unit (ECU)(4000KS) Installation of the Electronic Control Unit
AMM 73-29-00-710-040	(ECU)(4000KS) Operational Test of the FADEC on the Ground (with Engine non Motoring)

- 3. Fault Confirmation
 - A. Test
 - (1) Do the operational test of the FADEC 1B on the ground (with engine non motoring) (Ref. AMM TASK 73-29-00-710-040).
- 4. Fault Isolation
 - A. If the test gives the maintenance message ECU (PS3 DISAGREE) or ECU (PS3 DISAGREE)*
 - replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) (Ref. AMM TASK 73-21-60-400-001).

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TROUBLE SHOOTING MANUAL

TASK 73-20-00-810-966

PS3 Sensors Disagree Between Both Channels on Engine 2

- 1. Possible Causes
 - ECU (4000KS)
- 2. Job Set-up Information
 - A. Referenced Information

REFERENCE	DESIGNATION
AMM 73-21-60-000-001 AMM 73-21-60-400-001	Removal of the Electronic Control Unit (ECU)(4000KS) Installation of the Electronic Control Unit
AMM 73-29-00-710-040	(ECU)(4000KS) Operational Test of the FADEC on the Ground (with Engine non Motoring)

- 3. Fault Confirmation
 - A. Test
 - (1) Do the operational test of the FADEC 2B on the ground (with engine non motoring) (Ref. AMM TASK 73-29-00-710-040).
- 4. Fault Isolation
 - A. If the test gives the maintenance message ECU (PS3 DISAGREE) or ECU (PS3 DISAGREE)*:
 - replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) (Ref. AMM TASK 73-21-60-400-001).

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TROUBLE SHOOTING MANUAL

TASK 73-20-00-810-971

Loss of the Signal of the Channel A and Channel B of the TCC Sensors on Engine

- 1. Possible Causes
 - TCC sensor
 - harness CJ13
 - harness HJ13
 - ECU (4000KS)
- 2. Job Set-up Information
 - A. Fixtures, Tools, Test and Support Equipment

REFERENCE

QTY DESIGNATION

No specific bristle brush No specific soft nose pliers

B. Consumable Materials

REFERENCE DESIGNATION

Material No. CP2011

stoddard solvent (Ref. 70-30-00)

C. Referenced Information

REFERENCE	DESIGNATION

AMM	73-21-50-000-029	Demoved of the C147 Headen
AMM	73-21-30-000-029	Removal of the CJ13 Harness
AMM	73-21-50-000-046	Removal of the HJ13 Harness
AMM	73-21-50-210-002	Visual Inspection of the Wiring Harnesses
AMM	73-21-50-400-029	Installation of the CJ13 Harness
AMM	73-21-50-400-046	Installation of the HJ13 Harness
AMM	73-21-60-000-001	Removal of the Electronic Control Unit (ECU)
AMM	73-21-60-400-001	Installation of the Electronic Control Unit (ECU)
AMM	73-21-70-000-002	Removal of the High Pressure Turbine Clearance
		Control (HPTCC) Sensor
AMM	73-21-70-400-002	Installation of the High Pressure Turbine Clearance
		Control (HPTCC) Sensor
AMM	73-29-00-710-040	Operational Test of the FADEC on the Ground (with
		Engine non Motoring)

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3. Fault Confirmation

A. Do the operational test of the FADEC 1 on the ground (with engine non motoring) (Ref. AMM TASK 73-29-00-710-040).

4. Fault Isolation

- A. For configuration pre SB CFMI73-046
 - NOTE: The failure message is triggered if the TCC sensor channel A and channel B input is invalid (signal out of range) and the fault lasts for more than 20 seconds.
 - (1) If the failure message TCC SNSR, J13, ECU on both channels is not confirmed:
 - (a) Do the following trouble shooting at next maintenance opportunity:
 - disconnect the CJ13 connector (TCC-A & TCC-B) from both TCC sensors (3 and 9 0'Clock).
 - visually examine the harness connectors and sensor receptacles for damaged pins or contamination/oxidation.
 - if damage is found, repair or replace as required.
 - do a cleaning of the connectors and receptacles using a bristle brush with stoddard solvent (Material No. CP2011) (Ref. AMM TASK 73-21-50-210-002).
 - connect the harness connectors to the sensors. Tighten the connector by hand plus one eighth of a turn. If necessary use soft nose pliers.
 - (2) If the failure message TCC SNSR, J13, ECU on one or both channels is not confirmed but is repetitive:
 - (a) Do the following trouble shooting at next maintenance opportunity:
 - disconnect the CJ13 connector (TCC-A & TCC-B) from both TCC sensors (3 and 9 0'Clock).
 - do a cleaning of the harness connectors using a bristle brush with stoddard solvent (Material No. CP2011) (Ref. AMM TASK 73-21-50-210-002).
 - replace both TCC sensors (Ref. AMM TASK 73-21-70-000-002) and (Ref. AMM TASK 73-21-70-400-002).

NOTE: Tighten the connector by hand plus one eighth of a turn.

If necessary use soft nose pliers.

- 1 If the fault continues:
 - disconnect the harness HJ13 from the ECU (4000KS) connectors and the 6 o'clock junction box.
 - visually examine the harness connectors for damaged pins or contamination/oxidation.
 - if damage is found, repair or replace as required.

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- do a cleaning of the connectors and receptacles using a bristle brush with stoddard solvent (Material No. CP2011) (Ref. AMM TASK 73-21-50-210-002).
- 2 If the fault continues:
 - replace the harness CJ13 (Ref. AMM TASK 73-21-50-000-029) and (Ref. AMM TASK 73-21-50-400-029).
- 3 If the fault continues:
 - replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).
- 4 If the fault continues:
 - replace the harness harness HJ13 (Ref. AMM TASK 73-21-50-000-046) and (Ref. AMM TASK 73-21-50-400-046).
- (3) If the failure message TCC SNSR, J13, ECU on one or both channels is confirmed:
 - (a) Disconnect the connectors (TCC-A & TCC-B) on the harness CJ13 from each of the TCC sensors and do a check of the resistance as follows:
 - place the positive (+) lead of an ohmmeter on the TCC sensor pin A and the negative (-) lead of the ohmmeter on the TCC sensor pin B. Record as r1.
 - place the positive (+) lead of an ohmmeter on the TCC sensor pin B and the negative (-) lead of the ohmmeter on the TCC sensor pin A. Record as r2.
 - find the average (r1+r2/2) (2.4 to 4.2 ohms).
 - 1 If the resistance values are out of the specified limits: - replace the TCC sensor (Ref. AMM TASK 73-21-70-000-002) and (Ref. AMM TASK 73-21-70-400-002).
 - NOTE: Tighten the connector by hand plus one eighth of a turn. If necessary use soft nose pliers.
 - 2 If the resistance values are in the specified limits:
 - <u>NOTE</u>: Tighten the connector by hand plus one eighth of a turn. If necessary use soft nose pliers.
 - disconnect the harness CJ13 from the 6 o'clock junction box and do a check of the CJ13 resistance cable between:
 - pins 14 and 15 (2.4 to 4.2 0hms)
 - . pins 5 and 6 (2.4 to 4.2 0hms)
 - . pins 14 and 4 (> 10 Megohms)
 - pins 5 and 4 (> 10 Megohms)
 - pin 14 and ground (> 10 Megohms)
 - pin 5 and ground (> 10 Megohms).

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- a If the resistance values are out of the specified limits: - replace the harness CJ13 (Ref. AMM TASK 73-21-50-000-029) and (Ref. AMM TASK 73-21-50-400-029).
- b If the resistance values are in the specified limits:
 - disconnect the harness HJ13 from the ECU receptacle and do a check of the resistance between:
 - . pins 7 and 8 (2.4 to 4.2 0hms)
 - . pins 18 and 19 (2.4 to 4.2 0hms)
 - pins 7 and 17 (> 10 Megohms)
 - . pins 18 and 17 (> 10 Megohms)
 - . pin 7 and ground (> 10 Megohms)
 - . pin 18 and ground (> 10 Megohms).
 - * If the resistance values are out of the specified limits:
 - replace the harness HJ13 (Ref. AMM TASK 73-21-50-000-046) and (Ref. AMM TASK 73-21-50-400-046).
 - * If the resistance values are in the specified limits: replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).
- B. For configuration post SB CFMI73-046.
 - NOTE: The failure message is triggered if the TCC sensor channel A and channel B input is invalid (signal out of range) and the fault lasts for more than 20 seconds.
 - (1) If the failure message TCC SNSR, J13, ECU on both channels is not confirmed:
 - (a) Do the following trouble shooting at next maintenance opportunity:
 - disconnect the CJ13 connector (TCC-B) from the TCC sensor (3 O'Clock).
 - visually examine the harness connector and sensor receptacle for damaged pins or contamination/oxidation.
 - if damage is found, repair or replace as required.
 - do a cleaning of the connector and receptacle using a bristle brush with stoddard solvent (Material No. CP2011) (Ref. AMM TASK 73-21-50-210-002).
 - connect the harness connector (TCC-B) to the sensor. Tighten the connector by hand plus one eighth of a turn. If necessary use soft nose pliers.

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- (2) If the failure message TCC SNSR, J13, ECU on both channels is not confirmed but is repetitive:
 - (a) Do the following trouble shooting at next maintenance opportunity:
 - disconnect the CJ13 connector (TCC-B) from the TCC sensor (3 O'Clock).
 - do a cleaning of the harness connector using a bristle brush with stoddard solvent (Material No. CP2011) (Ref. AMM TASK 73-21-50-210-002).
 - replace the TCC sensor (Ref. AMM TASK 73-21-70-000-002) and (Ref. AMM TASK 73-21-70-400-002).

NOTE: Tighten the connector by hand plus one eighth of a turn.

If necessary use soft nose pliers.

- 1 If the fault continues:
 - disconnect the harness HJ13 from the ECU connector and the 6 o'clock junction box.
 - visually examine the harness connectors for damaged pins or contamination/oxidation.
 - if damage is found, repair or replace as required.
 - do a cleaning of the connectors and receptacles using a bristle brush with stoddard solvent (Material No. CP2011) (Ref. AMM TASK 73-21-50-210-002).
- 2 If the fault continues:
 - replace the harness CJ13 (Ref. AMM TASK 73-21-50-000-029) and (Ref. AMM TASK 73-21-50-400-029).
- 3 If the fault continues:
 - replace the harness HJ13 (Ref. AMM TASK 73-21-50-000-046)
 and (Ref. AMM TASK 73-21-50-400-046).
- 4 If the fault continues:
 - replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).
 - NOTE: It is extremely unlikely that the ECU can be faulty in the case the failure message TCC SNSR, J13, ECU is triggered on both channels A & B. Therefore, the replacement of the ECU should be attempted only when all recommended above trouble shooting has been performed and failed to fix the fault.

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- (3) If the failure message TCC SNSR, J13, ECU on one or both channels is confirmed:
 - (a) Disconnect the connector (TCC-B) on the harness CJ13 from the 3 O'Clock TCC sensor and do a check of the resistance as follows:
 - place the positive (+) lead of an ohmmeter on the TCC sensor pin A and the negative (-) lead of the ohmmeter on the TCC sensor pin B. Record as r1.
 - place the positive (+) lead of an ohmmeter on the TCC sensor pin B and the negative (-) lead of the ohmmeter on the TCC sensor pin A. Record as r2.
 - find the average (r1+r2/2) (2.4 to 4.2 ohms).
 - 1 If the resistance values are out of the specified limits: - replace the TCC sensor (Ref. AMM TASK 73-21-70-000-002) (Ref. AMM TASK 73-21-70-400-002).

NOTE: Tighten the connector by hand plus one eighth of a turn. If necessary use soft nose pliers.

2 If the resistance values are in the specified limits:

NOTE: Tighten the connector by hand plus one eighth of a turn. If necessary use soft nose pliers.

- disconnect the harness CJ13 from the 6 o'clock junction box and do a check of the CJ13 resistance cable between:
 - . pins 14 and 15 (2.4 to 4.2 0hms)
 - pins 14 and 4 (> 10 Megohms)
 - . pin 14 and ground (> 10 Megohms).
- <u>a</u> If the resistance values are out of the specified limits: - replace the harness CJ13 (Ref. AMM TASK 73-21-50-000-029) and (Ref. AMM TASK 73-21-50-400-029).
- b If the resistance values are in the specified limits:
 - disconnect the harness HJ13 from the ECU receptacle and do a check of the resistance between:
 - pins 7 and 8 (2.4 to 4.2 0hms)
 - pins 18 and 19 (2.4 to 4.2 0hms)
 - pins 7 and 17 (> 10 Megohms)
 - . pins 18 and 17 (> 10 Megohms)
 - . pin 7 and ground (> 10 Megohms)
 - . pin 18 and ground (> 10 Megohms).
 - * If the resistance values are out of the specified limits:
 - replace the harness HJ13 (Ref. AMM TASK 73-21-50-000-046) and (Ref. AMM TASK 73-21-50-400-046).
 - * If the resistance values are in the specified limits:

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- replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).

- C. Do the test given in Para. 3.A.
 - (1) No additional maintenance action is required if the fault is not confirmed.
 - (2) Repeat the fault isolation procedure if the fault continues.

EFF: ALL
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TASK 73-20-00-810-972

Loss of the Signal of the Channel A and Channel B of the TCC Sensors on Engine

- 1. Possible Causes
 - TCC sensor
 - harness CJ13
 - harness HJ13
 - ECU (4000KS)
- 2. Job Set-up Information
 - A. Fixtures, Tools, Test and Support Equipment

REFERENCE

QTY DESIGNATION

No specific bristle brush No specific soft nose pliers

B. Consumable Materials

REFERENCE DESIGNATION

Material No. CP2011

stoddard solvent (Ref. 70-30-00)

C. Referenced Information

REFERENCE	DESIGNATION

AMM	73-21-50-000-029	Removal of the CJ13 Harness
AMM	73-21-50-000-046	Removal of the HJ13 Harness
AMM	73-21-50-210-002	Visual Inspection of the Wiring Harnesses
AMM	73-21-50-400-029	Installation of the CJ13 Harness
AMM	73-21-50-400-046	Installation of the HJ13 Harness
AMM	73-21-60-000-001	Removal of the Electronic Control Unit (ECU)
AMM	73-21-60-400-001	Installation of the Electronic Control Unit (ECU)
AMM	73-21-70-000-002	Removal of the High Pressure Turbine Clearance
		Control (HPTCC) Sensor
AMM	73-21-70-400-002	Installation of the High Pressure Turbine Clearance
		Control (HPTCC) Sensor
AMM	73-29-00-710-040	Operational Test of the FADEC on the Ground (with

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Engine non Motoring)

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3. Fault Confirmation

A. Do the operational test of the FADEC 2 on the ground (with engine non motoring) (Ref. AMM TASK 73-29-00-710-040).

4. Fault Isolation

- A. For configuration pre SB CFMI73-046
 - NOTE: The failure message is triggered if the TCC sensor channel A and channel B input is invalid (signal out of range) and the fault lasts for more than 20 seconds.
 - (1) If the failure message TCC SNSR, J13, ECU on both channels is not confirmed:
 - (a) Do the following trouble shooting at next maintenance opportunity:
 - disconnect the CJ13 connector (TCC-A & TCC-B) from both TCC sensors (3 and 9 0'Clock).
 - visually examine the harness connectors and sensor receptacles for damaged pins or contamination/oxidation.
 - if damage is found, repair or replace as required.
 - do a cleaning of the connectors and receptacles using a bristle brush with stoddard solvent (Material No. CP2011) (Ref. AMM TASK 73-21-50-210-002).
 - connect the harness connectors to the sensors. Tighten the connector by hand plus one eighth of a turn. If necessary use soft nose pliers.
 - (2) If the failure message TCC SNSR, J13, ECU on one or both channels is not confirmed but is repetitive:
 - (a) Do the following trouble shooting at next maintenance opportunity:
 - disconnect the CJ13 connector (TCC-A & TCC-B) from both TCC sensors (3 and 9 0'Clock).
 - do a cleaning of the harness connectors using a bristle brush with stoddard solvent (Material No. CP2011) (Ref. AMM TASK 73-21-50-210-002).
 - replace both TCC sensors (Ref. AMM TASK 73-21-70-000-002) and (Ref. AMM TASK 73-21-70-400-002).

NOTE: Tighten the connector by hand plus one eighth of a turn.

If necessary use soft nose pliers.

- 1 If the fault continues:
 - disconnect the harness HJ13 from the ECU (4000KS) connectors and the 6 o'clock junction box.
 - visually examine the harness connectors for damaged pins or contamination/oxidation.
 - if damage is found, repair or replace as required.

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- do a cleaning of the connectors and receptacles using a bristle brush with stoddard solvent (Material No. CP2011) (Ref. AMM TASK 73-21-50-210-002).
- 2 If the fault continues:
 - replace the harness CJ13 (Ref. AMM TASK 73-21-50-000-029) and (Ref. AMM TASK 73-21-50-400-029).
- 3 If the fault continues:
 - replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).
- 4 If the fault continues:
 - replace the harness harness HJ13 (Ref. AMM TASK 73-21-50-000-046) and (Ref. AMM TASK 73-21-50-400-046).
- (3) If the failure message TCC SNSR, J13, ECU on one or both channels is confirmed:
 - (a) Disconnect the connectors (TCC-A & TCC-B) on the harness CJ13 from each of the TCC sensors and do a check of the resistance as follows:
 - place the positive (+) lead of an ohmmeter on the TCC sensor pin A and the negative (-) lead of the ohmmeter on the TCC sensor pin B. Record as r1.
 - place the positive (+) lead of an ohmmeter on the TCC sensor pin B and the negative (-) lead of the ohmmeter on the TCC sensor pin A. Record as r2.
 - find the average (r1+r2/2) (2.4 to 4.2 ohms).
 - 1 If the resistance values are out of the specified limits: - replace the TCC sensor (Ref. AMM TASK 73-21-70-000-002) and (Ref. AMM TASK 73-21-70-400-002).
 - NOTE: Tighten the connector by hand plus one eighth of a turn. If necessary use soft nose pliers.
 - 2 If the resistance values are in the specified limits:
 - <u>NOTE</u>: Tighten the connector by hand plus one eighth of a turn. If necessary use soft nose pliers.
 - disconnect the harness CJ13 from the 6 o'clock junction box and do a check of the CJ13 resistance cable between:
 - pins 14 and 15 (2.4 to 4.2 0hms)
 - . pins 5 and 6 (2.4 to 4.2 0hms)
 - . pins 14 and 4 (> 10 Megohms)
 - pins 5 and 4 (> 10 Megohms)
 - pin 14 and ground (> 10 Megohms)
 - pin 5 and ground (> 10 Megohms).

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- a If the resistance values are out of the specified limits: - replace the harness CJ13 (Ref. AMM TASK 73-21-50-000-029) and (Ref. AMM TASK 73-21-50-400-029).
- b If the resistance values are in the specified limits:
 - disconnect the harness HJ13 from the ECU receptacle and do a check of the resistance between:
 - . pins 7 and 8 (2.4 to 4.2 0hms)
 - . pins 18 and 19 (2.4 to 4.2 0hms)
 - pins 7 and 17 (> 10 Megohms)
 - . pins 18 and 17 (> 10 Megohms)
 - . pin 7 and ground (> 10 Megohms)
 - pin 18 and ground (> 10 Megohms).
 - * If the resistance values are out of the specified limits:
 - replace the harness HJ13 (Ref. AMM TASK 73-21-50-000-046) and (Ref. AMM TASK 73-21-50-400-046).
 - * If the resistance values are in the specified limits: replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).
- B. For configuration post SB CFMI73-046.
 - NOTE: The failure message is triggered if the TCC sensor channel A and channel B input is invalid (signal out of range) and the fault lasts for more than 20 seconds.
 - (1) If the failure message TCC SNSR, J13, ECU on both channels is not confirmed:
 - (a) Do the following trouble shooting at next maintenance opportunity:
 - disconnect the CJ13 connector (TCC-B) from the TCC sensor (3 O'Clock).
 - visually examine the harness connector and sensor receptacle for damaged pins or contamination/oxidation.
 - if damage is found, repair or replace as required.
 - do a cleaning of the connector and receptacle using a bristle brush with stoddard solvent (Material No. CP2011) (Ref. AMM TASK 73-21-50-210-002).
 - connect the harness connector (TCC-B) to the sensor. Tighten the connector by hand plus one eighth of a turn. If necessary use soft nose pliers.

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- (2) If the failure message TCC SNSR, J13, ECU on both channels is not confirmed but is repetitive:
 - (a) Do the following trouble shooting at next maintenance opportunity:
 - disconnect the CJ13 connector (TCC-B) from the TCC sensor (3 O'Clock).
 - do a cleaning of the harness connector using a bristle brush with stoddard solvent (Material No. CP2011) (Ref. AMM TASK 73-21-50-210-002).
 - replace the TCC sensor (Ref. AMM TASK 73-21-70-000-002) and (Ref. AMM TASK 73-21-70-400-002).

NOTE: Tighten the connector by hand plus one eighth of a turn.

If necessary use soft nose pliers.

- 1 If the fault continues:
 - disconnect the harness HJ13 from the ECU connector and the 6 o'clock junction box.
 - visually examine the harness connectors for damaged pins or contamination/oxidation.
 - if damage is found, repair or replace as required.
 - do a cleaning of the connectors and receptacles using a bristle brush with stoddard solvent (Material No. CP2011) (Ref. AMM TASK 73-21-50-210-002).
- 2 If the fault continues:
 - replace the harness CJ13 (Ref. AMM TASK 73-21-50-000-029) and (Ref. AMM TASK 73-21-50-400-029).
- 3 If the fault continues:
 - replace the harness HJ13 (Ref. AMM TASK 73-21-50-000-046) and (Ref. AMM TASK 73-21-50-400-046).
- 4 If the fault continues:
 - replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).
 - NOTE: It is extremely unlikely that the ECU can be faulty in the case the failure message TCC SNSR, J13, ECU is triggered on both channels A & B. Therefore, the replacement of the ECU should be attempted only when all recommended above trouble shooting has been performed and failed to fix the fault.

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- (3) If the failure message TCC SNSR, J13, ECU on one or both channels is confirmed:
 - (a) Disconnect the connector (TCC-B) on the harness CJ13 from the 3 O'Clock TCC sensor and do a check of the resistance as follows:
 - place the positive (+) lead of an ohmmeter on the TCC sensor pin A and the negative (-) lead of the ohmmeter on the TCC sensor pin B. Record as r1.
 - place the positive (+) lead of an ohmmeter on the TCC sensor pin B and the negative (-) lead of the ohmmeter on the TCC sensor pin A. Record as r2.
 - find the average (r1+r2/2) (2.4 to 4.2 ohms).
 - If the resistance values are out of the specified limits: - replace the TCC sensor (Ref. AMM TASK 73-21-70-000-002) (Ref. AMM TASK 73-21-70-400-002).

NOTE: Tighten the connector by hand plus one eighth of a turn. If necessary use soft nose pliers.

 $\underline{2}$ If the resistance values are in the specified limits:

NOTE: Tighten the connector by hand plus one eighth of a turn. if necessary use soft nose pliers.

- disconnect the harness CJ13 from the 6 o'clock junction box and do a check of the CJ13 resistance cable between:
 - . pins 14 and 15 (2.4 to 4.2 0hms)
 - pins 14 and 4 (> 10 Megohms)
 - . pin 14 and ground (> 10 Megohms).
- If the resistance values are out of the specified limits:
 replace the harness CJ13 (Ref. AMM TASK 73-21-50-000-029)
 - and (Ref. AMM TASK 73-21-50-400-029).
- b If the resistance values are in the specified limits:
 - disconnect the harness HJ13 from the ECU receptacle and do a check of the resistance between:
 - . pins 7 and 8 (2.4 to 4.2 0hms)
 - pins 18 and 19 (2.4 to 4.2 0hms)
 - pins 7 and 17 (> 10 Megohms)
 - . pins 18 and 17 (> 10 Megohms)
 - . pin 7 and ground (> 10 Megohms)
 - pin 18 and ground (> 10 Megohms).
 - * If the resistance values are out of the specified limits:
 - replace the harness HJ13 (Ref. AMM TASK 73-21-50-000-046) and (Ref. AMM TASK 73-21-50-400-046).
 - * If the resistance values are in the specified limits:

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- replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).

- C. Do the test given in Para. 3.A.
 - (1) No additional maintenance action is required if the fault is not confirmed.
 - (2) Repeat the fault isolation procedure if the fault continues.

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TROUBLE SHOOTING MANUAL

TASK 73-20-00-810-973

Loss of all Identification Connector Data

1. Possible Causes

- J14 Identification Connector
- ECU (4000KS)

2. Job Set-up Information

A. Referenced Information

REFERENCE	DESIGNATION
AMM 73-21-60-000-001 AMM 73-21-60-400-001 AMM 73-21-90-000-002 AMM 73-21-90-400-002 AMM 73-29-00-710-040	Removal of the Electronic Control Unit (ECU) Installation of the Electronic Control Unit (ECU) Removal of the Engine Identification Connector Installation of the Engine Identification Connector Operational Test of the FADEC on the Ground (with Engine Non motoring)

3. Fault Confirmation

- A. Test
 - (1) Do the operational test of the FADEC on the ground (with engine non motoring) (Ref. AMM TASK 73-29-00-710-040).

4. Fault Isolation

- A. If the test gives the maintenance message J14 (ID FAULT), ECU:
 - Verify that the J14 Identification Connector (ID plug) is installed:
 - (1) If an ID plug is not installed:
 - Install J14 Identification Connector (Ref. AMM TASK 73-21-90-400-002)
 - (2) If an ID plug is installed:
 - verify that the ID plug is correct:

NOTE: The ID plug can be checked on the MCDU screen. Access reporting functions, then select the LRU Identification screen.

Line 1 of the LRU Identification screen shows the engine model designation as "CFM56-5BX/ZZZ".

- The value of X represents the engine thrust rating
- If the value of X is equal to "X", the ID plug is invalid.

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- (a) If the ID plug is invalid:
 - replace the ID plug (Ref. AMM TASK 73-21-90-000-002) and (Ref. AMM TASK 73-21-90-400-002)
- (b) If the ID plug is valid:
 - remove, clean, and reinstall the ID plug (Ref. AMM TASK 73-21-90-000-002) and (Ref. AMM TASK 73-21-90-400-002)
 - If the fault continues, replace the ID plug (Ref. AMM TASK 73-21-90-000-002) and (Ref. AMM TASK 73-21-90-400-002).
- (3) If the fault continues:
 - replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).
- B. Do the test given in Para. 3.A.

EFF: ALL

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TROUBLE SHOOTING MANUAL

TASK 73-20-00-810-974

Loss of all Identification Connector Data for SAC engines

1. Possible Causes

- J14 Identification Connector
- ECU (4000KS)

2. Job Set-up Information

A. Referenced Information

REFERENCE		DESIGNATION
AMM	73-21-60-000-001	Removal of the Electronic Control Unit (ECU)(4000KS)
AMM	73-21-60-400-001	<pre>Installation of the Electronic Control Unit (ECU)(4000KS)</pre>
AMM	73-21-90-000-002	Removal of the Engine Identification Connector
AMM	73-21-90-400-002	Installation of the Engine Identification Connector
AMM	73-21-90-860-001	Programming of the Identification Plug (Push-Pull Design)
AMM	73-29-00-710-040	Operational Test of the FADEC on the Ground (with Engine Non motoring)

3. Fault Confirmation

- A. Test
 - (1) Do the operational test of the FADEC on the ground (with engine non motoring) (Ref. AMM TASK 73-29-00-710-040).

4. Fault Isolation

- A. If the test gives the maintenance message J14(WRONG), BSV, ECU:
 - Verify that the J14 Identification Connector configuration is correct (SAC ID plug):

NOTE: The ID plug can be checked on the MCDU screen. Access reporting functions, then select the LRU Idenfication screen.

Line 4 of the LRU Identification screen will display:

- "EGT MON" or "SAC CONFIG" for a SAC ID plug
- "DAC CONFIG" for a DAC ID plug

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EFF:

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- (1) If "DAC CONFIG" is displayed (ID plug is not correct):
 - (a) Replace the J14 Identification Connector (Ref. AMM TASK 73-21-90-000-002) (Ref. AMM TASK 73-21-90-400-002) or Do a Re-programming of the Identification Connector (Push-pull design only) (Ref. AMM TASK 73-21-90-860-001).
- (2) If "EGT MON" or "SAC CONFIG" is displayed (ID plug is correct):
 - (a) Remove, clean, and reinstall the ID plug (Ref. AMM TASK 73-21-90-000-002) (Ref. AMM TASK 73-21-90-400-002)
 - 1 If the fault continues:
 - Replace the Identification Connector (Ref. AMM TASK 73-21-90-000-002) and (Ref. AMM TASK 73-21-90-400-002)
- (3) If the fault continues:
 - Replace ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) (Ref. AMM TASK 73-21-60-400-001)
- B. Do the test given in Para. 3.A.

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TROUBLE SHOOTING MANUAL

TASK 73-20-00-810-976

Loss of all Identification Connector Data for DAC engines

1. Possible Causes

- J14 Identification Connector
- ECU (4000KS)

2. Job Set-up Information

A. Referenced Information

REFERENCE		DESIGNATION
AMM	73-21-60-000-001	Removal of the Electronic Control Unit (ECU)(4000KS)
AMM	73-21-60-400-001	<pre>Installation of the Electronic Control Unit (ECU)(4000KS)</pre>
AMM	73-21-90-000-002	Removal of the Engine Identification Connector
AMM	73-21-90-400-002	Installation of the Engine Identification Connector
AMM	73-21-90-860-001	<pre>Programming of the Identification Plug (Push-Pull Design)</pre>
AMM	73-29-00-710-040	Operational Test of the FADEC on the Ground (with Engine Non motoring)

3. Fault Confirmation

- A. Test
 - (1) Do the operational test of the FADEC on the ground (with engine non motoring) (Ref. AMM TASK 73-29-00-710-040).

4. Fault Isolation

- A. If the test gives the maintenance message J14(WRONG), BSV(CL):
 - Verify that the J14 Identification Connector configuration is correct (DAC ID plug):

<u>NOTE</u>: The ID plug can be checked on the MCDU screen. Access reporting functions, then select the LRU Idenfication screen.

Line 4 of the LRU Identification screen will display:

- "EGT MON" or "SAC CONFIG" for a SAC ID plug
- "DAC CONFIG" for a DAC ID plug

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EFF:

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- (1) If "EGT MON" or "SAC CONFIG" is displayed (ID plug is not correct):
 - (a) Replace the J14 Identification Connector (Ref. AMM TASK 73-21-90-000-002) (Ref. AMM TASK 73-21-90-400-002) or Do a Re-programming of the Identification Connector (Push-pull Design only) (Ref. AMM TASK 73-21-90-860-001).
- (2) If "DAC CONFIG" is displayed (ID plug is correct):
 - (a) Remove, clean, and reinstall the ID plug (Ref. AMM TASK 73-21-90-000-002) (Ref. AMM TASK 73-21-90-400-002)
 - 1 If the fault continues:
 - Replace the Identification Connector (Ref. AMM TASK 73-21-90-000-002) and (Ref. AMM TASK 73-21-90-400-002)
- (3) If the fault continues:
 - Replace ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) (Ref. AMM TASK 73-21-60-400-001)
- B. Do the test given in Para. 3.A.

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EFF:

ALL

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TROUBLE SHOOTING MANUAL

TASK 73-20-00-810-977

Core Exhaust Nozzle Type Discrepancy on Engine 1

- 1. Possible Causes
 - J14 Identification connector
 - ECU (4000KS)
- 2. Job Set-up Information
 - A. Referenced Information

REFERENCE		DESIGNATION
AMM	73-21-60-000-001	Removal of the Electronic Control Unit (ECU)
	73-21-60-400-001 73-21-60-740-005	Installation of the Electronic Control Unit (ECU) Entry of the Core Chevron Nozzle Status Through MCDU
	73-21-90-000-002 73-21-90-400-002	Removal of the Engine Identification Connector Installation of the Engine Identification Connector
	73-21-90-860-001	Programming of the Identification Plug (Push-Pull Design)
AMM	73-29-00-710-040	Operational Test of the FADEC on the Ground (with Engine Non motoring)

3. Fault Confirmation

- A. Test
 - (1) Do the operational test of the FADEC on the ground (with engine non motoring) (Ref. AMM TASK 73-29-00-710-040).
- 4. Fault Isolation
 - A. If the test gives the maintenance message J14WRONG, ECU ENTRY:
 - Visually verify the nozzle configuration:
 - NOTE: There are two configuration of core exhaust nozzle.
 - Standard nozzle configuration is identified by a smooth conical exit surface
 - Core chevron nozzle configuration is identified by 8 chevrons (triangular) around the circumference of the exit surface (SB RA32078-118).
 - (1) If a standard nozzle configuration is physically installed:
 - On the left or right MCDU, get access to the ENGINE MAIN MENU screen.
 - Push the line key (3L) adjacent to the LRU IDENT REPORT:

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- (a) If the MCDU screen indicates CCNECU N and CCNIDP Y:
 - Replace the J14 Identification connector (Ref. AMM TASK 73-21-90-000-002) and (Ref. AMM TASK 73-21-90-400-002) or Do Re-programming of the Identification Connector (Push-pull design only) to a standard nozzle configuration (Ref. AMM TASK 73-21-90-860-001).
- (b) If the MCDU screen indicates CCNECU Y and CCNIDP N:
 - Do a configuration change of the Core Chevron Nozzle status on LRU IDENT REPORT (Ref. AMM TASK 73-21-60-740-005).
- (c) If the MCDU screen indicates CCNECU N and CCNIDP N:
 - replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).
- (2) If a core chevron nozzle configuration is physically installed:
 - On the left or right MCDU, get access to the ENGINE MAIN MENU screen.
 - Push the line key (3L) agjacent to the LRU IDENT REPORT:
 - (a) If the MCDU screen indicates CCNECU Y and CCNIDP N:
 - Replace the J14 Identification connector (Ref. AMM TASK 73-21-90-000-002) and (Ref. AMM TASK 73-21-90-400-002) or Do Re-programming of the Identification Connector (Push-pull design only) to a core chevron nozzle configuration (Ref. AMM TASK 73-21-90-860-001).
 - (b) If the MCDU screen indicates CCNECU N and CCNIDP Y:
 - Do a configuration change of the Core Chevron Nozzle status on LRU IDENT REPORT (Ref. AMM TASK 73-21-60-740-005).
 - (c) If the MCDU screen indicates CCNECU Y and CCNIDP Y:
 - replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).
- B. Do the test given in Para. 3.A.

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TASK 73-20-00-810-978

Core Exhaust Nozzle Type Discrepancy on Engine 2

- 1. Possible Causes
 - J14 Identification connector
 - ECU (4000KS)
- 2. Job Set-up Information
 - A. Referenced Information

REFERENCE		DESIGNATION
AMM	73-21-60-000-001	Removal of the Electronic Control Unit (ECU)
	73-21-60-400-001 73-21-60-740-005	Installation of the Electronic Control Unit (ECU) Entry of the Core Chevron Nozzle Status Through MCDU
	73-21-90-000-002 73-21-90-400-002	Removal of the Engine Identification Connector Installation of the Engine Identification Connector
	73-21-90-860-001	Programming of the Identification Plug (Push-Pull Design)
AMM	73-29-00-710-040	Operational Test of the FADEC on the Ground (with Engine Non motoring)

3. Fault Confirmation

- A. Test
 - (1) Do the operational test of the FADEC on the ground (with engine non motoring) (Ref. AMM TASK 73-29-00-710-040).
- 4. Fault Isolation
 - A. If the test gives the maintenance message J14WRONG, ECU ENTRY:
 - Visually verify the nozzle configuration:
 - NOTE: There are two configuration of core exhaust nozzle.
 - Standard nozzle configuration is identified by a smooth conical exit surface
 - Core chevron nozzle configuration is identified by 8 chevrons (triangular) around the circumference of the exit surface (SB RA32078-118).
 - (1) If a standard nozzle configuration is physically installed:
 - On the left or right MCDU, get access to the ENGINE MAIN MENU screen.
 - Push the line key (3L) adjacent to the LRU IDENT REPORT :

EFF: ALL

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- (a) If the MCDU screen indicates CCNECU N and CCNIDP Y:
 - Replace the J14 Identification connector (Ref. AMM TASK 73-21-90-000-002) and (Ref. AMM TASK 73-21-90-400-002) or Do Re-programming of the Identification Connector (Push-pull design only) to a standard nozzle configuration (Ref. AMM TASK 73-21-90-860-001).
- (b) If the MCDU screen indicates CCNECU Y and CCNIDP N:
 - Do a configuration change of the Core Chevron Nozzle status change on LRU IDENT REPORT (Ref. AMM TASK 73-21-60-740-005).
- (c) If the MCDU screen indicates CCNECU N and CCNIDP N:
 - replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).
- (2) If a core chevron nozzle configuration is physically installed:
 - On the left or right MCDU, get access to the ENGINE MAIN MENU screen.
 - Push the line key (3L) adjacent to the LRU IDENT REPORT:
 - (a) If the MCDU screen indicates CCNECU Y and CCNIDP N:
 - Replace the J14 Identification connector (Ref. AMM TASK 73-21-90-000-002) and (Ref. AMM TASK 73-21-90-400-002) or Do Re-programming of the Identification Connector (Push-pull design only) to a core chevron nozzle configuration (Ref. AMM TASK 73-21-90-860-001).
 - (b) If the MCDU screen indicates CCNECU N and CCNIDP Y:
 - Do a configuration change of the Core Chevron Nozzle status on LRU IDENT REPORT (Ref. AMM TASK 73-21-60-740-005).
 - (c) If the MCDU screen indicates CCNECU Y and CCNIDP Y:
 - replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).
- B. Do the test given in Para. 3.A.

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TROUBLE SHOOTING MANUAL

TASK 73-20-00-810-979

Loss of Thrust Control Malfunction Accomodation Protection

- 1. Possible Causes
 - ECU (4000KS)
- 2. Job Set-up Information
 - A. Referenced Information

REFERENCE	DESIGNATION
AMM 73-21-60-000-001 AMM 73-21-60-400-001 AMM 73-29-00-710-040	Removal of the Electronic Control Unit (ECU) Installation of the Electronic Control Unit (ECU) Operational Test of the FADEC on the Ground (with Engine Motoring)

- 3. Fault Confirmation
 - A. Test
 - (1) Do the operational test of the FADEC on the ground (with engine motoring) (Ref. AMM TASK 73-29-00-710-040).
- 4. Fault Isolation
 - A. If the test gives the maintenance message ECU (TCMA RELAY):
 replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).
 - B. Do the test given in Para. 3.A.

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EFF:

ALL

CFM

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TROUBLE SHOOTING MANUAL

TASK 73-20-00-810-980

Spurious TCMA Arming on Engine 1

- 1. Possible Causes
 - Relay (28KS1)
 - EIU (1KS1)
 - Relay (27KS1)
- Job Set-up Information
 - A. Referenced Information

REFERENCE

DESIGNATION

Removal of the Engine Interface Unit (EIU)

AMM 73-25-34-000-040

AMM 73-25-34-400-040 Installation of the Engine Interface Unit (EIU)

ASM 73-25/08

ASM 73-25/23

3. Fault Confirmation

A. Test

NOTE: The landing gear must be correctly compressed without any tools or maintenance action.

- On the overhead panel 50VU, push the FADEC GND PWR 1 pushbutton switch.
- Put the throttle control levers in the idle position.
- On the left or right MCDU, get access to the ENGINE MAIN MENU screen.
- On the MCDU, push the line key (4R) adjacent to the applicable Specific tests indication.
- push the line key (5L) adjacent to the SEC RELAY STATUS:
- (1) If MCDU screen indicates SEC RELAY CLOSED, the failure is not confirmed.
 - No further action is required
- (2) If MCDU screen indicates SEC RELAY OPEN, the failure is confirmed.
 - Do the step 4. Fault Isolation

4. Fault Isolation

- A. If MCDU screen indicates SEC RELAY OPEN:
 - On the left or right MCDU, get access to the ENGINE MAIN MENU screen.
 - On the MCDU, push the line key (4R) adjacent to the applicable Specific tests indication.
 - Push the line key (2L) adjacent to the ECU RELAY 1+2 CTRL:

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- (1) If fault light located on the Engine Panel Unit (115VU) is illuminated:
 - Replace the Relay (28K\$1).
 - (a) If the fault continues:
 - Remove the EIU
 - Do a check for a ground signal at pin E2 of the EIU rack-connector AA:
 - 1 If there is a ground signal:
 - replace the EIU (1KS1) (Ref. AMM TASK 73-25-34-000-040) and (Ref. AMM TASK 73-25-34-400-040).
 - 2 If there is no ground signal:
 - Repair the wiring between EIU connector AA and 28KS1 (Ref. ASM 73-25/08).
- (2) If fault light located on the Engine Panel Unit (115VU) is not illuminated:
 - Replace the Relay (27KS1).
 - (a) If the fault continues:
 - Replace the Relay (28K\$1).
 - (b) If the fault continues:
 - Remove the EIU
 - Do a check for a ground signal at pin E2 of the EIU rack-connector AA:
 - 1 If there is a ground signal:
 - replace the EIU (1KS1) (Ref. AMM TASK 73-25-34-000-040) and (Ref. AMM TASK 73-25-34-400-040).
 - 2 If there is no ground signal:
 - Remove the 28KS1
 - Do a check for a ground signal:
 - . at pin C of the 28KS1 connector A:
 - at pin Z of the 28K\$1 connector A:
 - a If there is no ground signal:
 - repair the wiring as required
 - b If there is a ground signal:
 - Do a check of continuity between pin 6 of 28KS1 connector A and pin E2 of the EIU rack-connector AA:
 - * If there is no continuity:
 - repair the wiring between EIU and 28KS1 (Ref. ASM 73-25/08)
 - * If there is continuity:
 - remove 27KS1

EFF: ALL

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- do a check for a 28V at pin X of the 27KS1 connector A:

** If there is 28V:

- repair the wiring between SEC1/2 and 27KS1 (Ref. ASM 73-25/23)

** If there is not 28V:

- repair the wiring as required (Ref. ASM 73-25/23)

B. Do the test given in Para. 3.A.

EFF: ALL
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TROUBLE SHOOTING MANUAL

TASK 73-20-00-810-981

Spurious TCMA Arming on Engine 2

- 1. Possible Causes
 - Relay (28KS2)
 - EIU (1KS2)
 - Relay (27KS2)
- Job Set-up Information
 - A. Referenced Information

REFERENCE

DESIGNATION

AMM 73-25-34-000-040 Removal of the Engine Interface Unit (EIU) Installation of the Engine Interface Unit (EIU) AMM 73-25-34-400-040

ASM 73-25/08

ASM 73-25/23

3. Fault Confirmation

A. Test

NOTE: The landing gear must be correctly compressed without any tools or maintenance action.

- On the overhead panel 50VU, push the FADEC GND PWR 2 pushbutton switch.
- Put the throttle control levers in the idle position.
- On the left or right MCDU, get access to the ENGINE MAIN MENU screen.
- On the MCDU, push the line key (4R) adjacent to the applicable Specific tests indication.
- push the line key (5L) adjacent to the SEC RELAY STATUS:
- (1) If MCDU screen indicates SEC RELAY CLOSED, the failure is not confirmed.
 - No further action is required
- (2) If MCDU screen indicates SEC RELAY OPEN, the failure is confirmed.
 - Do the step 4. Fault Isolation

4. Fault Isolation

- A. If MCDU screen indicates SEC RELAY OPEN:
 - On the left or right MCDU, get access to the ENGINE MAIN MENU screen.
 - On the MCDU, push the line key (4R) adjacent to the applicable Specific tests indication.
 - Push the line key (2L) adjacent to the ECU RELAY 1+2 CTRL:

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- (1) If fault light located on the Engine Panel Unit (115VU) is illuminated:
 - Replace the Relay (28KS2).
 - (a) If the fault continues:
 - Remove the EIU
 - Do a check for a ground signal at pin E2 of the EIU rack-connector AA:
 - 1 If there is a ground signal:
 - replace the EIU (1KS2) (Ref. AMM TASK 73-25-34-000-040) and (Ref. AMM TASK 73-25-34-400-040).
 - 2 If there is no ground signal:
 - Repair the wiring between EIU connector AA and 28KS2 (Ref. ASM 73-25/08)
- (2) If fault light located on the Engine Panel Unit (115VU) is not illuminated:
 - Replace the Relay (27KS2).
 - (a) If the fault continues:
 - Replace the Relay (28K\$2).
 - (b) If the fault continues:
 - Remove the EIU
 - Do a check for a ground signal at pin E2 of the EIU rack-connector AA:
 - 1 If there is a ground signal:
 - replace the EIU (1KS2) (Ref. AMM TASK 73-25-34-000-040) and (Ref. AMM TASK 73-25-34-400-040).
 - 2 If there is no ground signal:
 - Remove the 28KS2
 - Do a check for a ground signal:
 - . at pin C of the 28KS2 connector A:
 - . at pin Z of the 28KS2 connector A:
 - a If there is no ground signal:
 - repair the wiring as required
 - b If there is a ground signal:
 - Do a check of continuity between pin 6 of 28KS2 connector
 A and pin E2 of the EIU rack-connector AA:
 - * If there is no continuity:
 - repair the wiring between EIU and 28KS2 (Ref. ASM 73-25/23)
 - * If there is continuity:
 - remove 27KS2

EFF: ALL

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- do a check for a 28V at pin X of the 27KS2 connector A:
- ** If there is 28V:
- repair the wiring between SEC1/2 and 27KS2 (Ref. ASM 73-25/23)
- ** If there is not 28V:
- repair the wiring as required (Ref. ASM 73-25/23)
- B. Do the test given in Para. 3.A.

EFF: ALL
SROS

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TROUBLE SHOOTING MANUAL

TASK 73-20-00-810-982

Spurious TCMA Arming on Engine 1

- 1. Possible Causes
 - Relay (28KS1)
 - EIU (1KS1)
 - Relay (27KS1)
 - SEC1
 - SEC2
- 2. Job Set-up Information
 - A. Referenced Information

REFERENCE		DESIGNATION
AMM	27-94-34-000-001	Removal of the SEC (1CE1,1CE2,1CE3)
AMM	27-94-34-400-001	Installation of the SEC (1CE1,1CE2,1CE3)
AMM	73-25-34-000-040	Removal of the Engine Interface Unit (EIU)
AMM	73-25-34-400-040	Installation of the Engine Interface Unit (EIU)
ASM	73-25/08	
ASM	73-25/23	

3. Fault Confirmation

- A. Test
 - On the overhead panel 50VU, push the FADEC GND PWR 1 pushbutton switch.
 - Put the throttle control levers in the TO/GA position.
 - On the left or right MCDU, get access to the ENGINE MAIN MENU screen.
 - On the MCDU, push the line key (4R) adjacent to the applicable Specific tests indication.
 - push the line key (5L) adjacent to the SEC RELAY STATUS:
 - (1) If MCDU screen indicates SEC RELAY OPEN, the failure is not confirmed.
 - No further action is required
 - (2) If MCDU screen indicates SEC RELAY CLOSED, the failure is confirmed.
 - Do the step 4. Fault Isolation

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4. Fault Isolation

- A. If MCDU screen indicates SEC RELAY CLOSED:
 - Pull C/B 24KS1
 - Push the line key (6L) adjacent to "RETURN" and re-select the SEC RELAY STATUS page:
 - (1) If MCDU screen indicates SEC RELAY CLOSED:
 - Replace the Relay (28K\$1).
 - (a) If the fault continues:
 - Remove the EIU
 - Do a check for a ground signal at pin E2 of the EIU rack-connector AA:
 - 1 If there is no ground signal:
 - replace the EIU (1K\$1) (Ref. AMM TASK 73-25-34-000-040) and (Ref. AMM TASK 73-25-34-400-040).
 - 2 If there is a ground signal:
 - Repair the wiring between EIU connector AA and 28KS1 (Ref. ASM 73-25/08).
 - (2) If MCDU screen indicates SEC RELAY OPEN:
 - Replace the Relay (27KS1).
 - (a) If the fault continues:
 - Pull C/B 21CE1 and 21CE2.
 - Push the line key (6L) adjacent to "RETURN" and re-select the SEC RELAY STATUS page:
 - 1 If SEC RELAY CLOSED is displayed:
 - Repair the wiring between SEC1/2 and 27KS1 (Ref. ASM 73-25/23).
 - 2 If SEC RELAY OPEN is displayed:
 - push back C/B 21CE1 and Re-select MCDU SEC RELAY STATUS page:
 - a If SEC RELAY CLOSED is displayed:
 - replace the SEC1 (Ref. AMM TASK 27-94-34-000-001) and (Ref. AMM TASK 27-94-34-400-001).
 - b If SEC RELAY OPEN is displayed:
 - replace the SEC2 (Ref. AMM TASK 27-94-34-000-001) and (Ref. AMM TASK 27-94-34-400-001).
- B. Do the test given in Para. 3.A.

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EFF:

ALL

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TROUBLE SHOOTING MANUAL

TASK 73-20-00-810-983

Spurious TCMA Arming on Engine 2

1. Possible Causes

- Relay (28KS2)
- EIU (1KS2)
- Relay (27KS2)
- SEC1
- SEC2

2. Job Set-up Information

A. Referenced Information

REFERENCE		DESIGNATION
AMM	27-94-34-000-001	Removal of the SEC (1CE1,1CE2,1CE3)
AMM	27-94-34-400-001	Installation of the SEC (1CE1,1CE2,1CE3)
AMM	73-25-34-000-040	Removal of the Engine Interface Unit (EIU)
AMM	73-25-34-400-040	Installation of the Engine Interface Unit (EIU)
ASM	73-25/08	<u>-</u>
ASM	73-25/23	

3. Fault Confirmation

A. Test

- On the overhead panel 50VU, push the FADEC GND PWR 2 pushbutton switch.
- Put the throttle control levers in the TO/GA position.
- On the left or right MCDU, get access to the ENGINE MAIN MENU screen.
- On the MCDU, push the line key (4R) adjacent to the applicable Specific tests indication.
- push the line key (5L) adjacent to the SEC RELAY STATUS:
- (1) If MCDU screen indicates SEC RELAY OPEN, the failure is not confirmed.
 - No further action is required
- (2) If MCDU screen indicates SEC RELAY CLOSED, the failure is confirmed.
 - Do the step 4. Fault Isolation

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4. Fault Isolation

- A. If MCDU screen indicates SEC RELAY CLOSED:
 - Pull C/B 24KS2
 - Push the line key (6L) adjacent to "RETURN" and re-select the SEC RELAY STATUS page:
 - (1) If MCDU screen indicates SEC RELAY CLOSED:
 - Replace the Relay (28KS2).
 - (a) If the fault continues:
 - Remove the EIU
 - Do a check for a ground signal at pin E2 of the EIU rack-connector AA:
 - 1 If there is no ground signal:
 - replace the EIU (1KS2) (Ref. AMM TASK 73-25-34-000-040) and (Ref. AMM TASK 73-25-34-400-040).
 - 2 If there is a ground signal:
 - Repair the wiring between EIU connector AA and 28KS2 (Ref. ASM 73-25/08).
 - (2) If MCDU screen indicates SEC RELAY OPEN:
 - Replace the Relay (27KS2).
 - (a) If the fault continues:
 - Pull C/B 21CE1 and 21CE2.
 - Push the line key (6L) adjacent to "RETURN" and re-select the SEC RELAY STATUS page:
 - 1 If SEC RELAY CLOSED is displayed:
 - Repair the wiring between SEC1/2 and 27KS2 (Ref. ASM 73-25/23).
 - 2 If SEC RELAY OPEN is displayed:
 - push back C/B 21CE1 and Re-select MCDU SEC RELAY STATUS page:
 - a If SEC RELAY CLOSED is displayed:
 - replace the SEC1 (Ref. AMM TASK 27-94-34-000-001) and (Ref. AMM TASK 27-94-34-400-001).
 - b If SEC RELAY OPEN is displayed:
 - replace the SEC2 (Ref. AMM TASK 27-94-34-000-001) and (Ref. AMM TASK 27-94-34-400-001).
- B. Do the test given in Para. 3.A.

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TROUBLE SHOOTING MANUAL

TASK 73-20-00-810-984

Loss of TCM information between EIU and ECU

- 1. Possible Causes
 - EIU (1KS1)
 - ECU (4000KS)
- 2. Job Set-up Information
 - A. Referenced Information

REFERENCE		DESIGNATION
A MM	77 24 (0 000 004	Paraul of the Floritaria Control Hoit (FCH)
	73-21-60-000-001	Removal of the Electronic Control Unit (ECU)
AMM	73-21-60-400-001	Installation of the Electronic Control Unit (ECU)
AMM	73-25-34-000-040	Removal of the Engine Interface Unit (EIU)
AMM	73-25-34-400-040	Installation of the Engine Interface Unit (EIU)
AMM	73-29-00-710-040	Operational Test of the FADEC on the Ground (with Engine Motoring)
ASM	73-25/08	

- 3. Fault Confirmation
 - A. Test
 - (1) Do the operational test of the FADEC on the ground (with engine motoring) (Ref. AMM TASK 73-29-00-710-040).
- 4. Fault Isolation
 - A. If the test gives the maintenance message EIU(150), J3:
 - Remove EIU
 - Disconnect J3 harness from ECU
 - Do a continuity check between:
 - pins 5C from EIU receptacle connector AB and 22 from J3 harness
 - . pins 5A from EIU receptacle connector AB and 23 from J3 harness
 - (1) If there is continuity:
 - Replace EIU (1KS1) (Ref. AMM TASK 73-25-34-000-040) (Ref. AMM TASK 73-25-34-400-040).
 - (a) If the fault continues:
 - Replace ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) (Ref. AMM TASK 73-21-60-400-001).
 - (2) If there is no continuity:
 - repair or replace the wiring as required (Ref. ASM 73-25/08).

EFF: ALL 73-20-00

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B. Do the test given in Para. 3.A.

EFF: ALL
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TROUBLE SHOOTING MANUAL

CONTROLLING - FAULT ISOLATION PROCEDURES

TASK 73-20-81-810-801

Loss of the PO Sensor Signal on Engine 1

- 1. Possible Causes
 - ECU (4000KS)
- 2. Job Set-up Information
 - A. Referenced Information

	REFERENCE		DESIGNATION
R	AMM	73-21-60-000-001	Removal of the Electronic Control Unit (ECU)(4000KS)
	AMM	73-21-60-400-001	Installation of the Electronic Control Unit
R			(ECU)(4000KS)
	AMM	73-29-00-710-040	Operational Test of the FADEC on the Ground (with Engine non Motoring)

3. Fault Confirmation

A. Do the operational test of the FADEC 1A on the ground (with engine non motoring) (Ref. AMM TASK 73-29-00-710-040).

4. Fault Isolation

- A. If the test gives the maintenance message ECU (PO SENSOR):
 - make sure that the PO nipple on the ECU (4000KS) is clear and not clogged.
 - (1) If the fault continues:
 - replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).

EFF: ALL 73-20-81

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TROUBLE SHOOTING MANUAL

TASK 73-20-81-810-802

Loss of the PO Sensor Signal on Engine 2

- 1. Possible Causes
 - ECU (4000KS)
- 2. Job Set-up Information
 - A. Referenced Information

REFERENCE		DESIGNATION
A MM	77 24 60 000 004	Paraval of the Floringia Control Hait (FCH)((000KS)
AMM	73-21-60-000-001	Removal of the Electronic Control Unit (ECU)(4000KS)
AMM	73-21-60-400-001	Installation of the Electronic Control Unit
		(ECU)(4000KS)
AMM	73-29-00-710-040	Operational Test of the FADEC on the Ground (with Engine non Motoring)
	AMM AMM	REFERENCE

3. Fault Confirmation

A. Do the operational test of the FADEC 2A on the ground (with engine non motoring) (Ref. AMM TASK 73-29-00-710-040).

4. Fault Isolation

- A. If the test gives the maintenance message ECU (PO SENSOR):
 - make sure that the PO nipple on the ECU (4000KS) is clear and not clogged.
 - (1) If the fault continues:
 - replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).

FFF: ALL 73-20-81

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TROUBLE SHOOTING MANUAL

TASK 73-20-81-810-803

Internal Failure of the ECU on Engine 1

- 1. Possible Causes
 - ECU (4000KS)
- 2. Job Set-up Information
 - A. Referenced Information

	REFERENCE		DESIGNATION	
_	A M M	77 24 (0 000 004	Paraul of the Floring's Control Hait (FCH)((000KC)	
К		73-21-60-000-001	Removal of the Electronic Control Unit (ECU)(4000KS)	
R	AMM	73-21-60-400-001	<pre>Installation of the Electronic Control Unit (ECU)(4000KS)</pre>	
	AMM	73-29-00-710-040	Operational Test of the FADEC on the Ground (with Engine non Motoring)	
	ASM	73-25/10		

- 3. Fault Confirmation
 - A. Do the operational test of the FADEC 1A on the ground (with engine non motoring) (Ref. AMM TASK 73-29-00-710-040).
- 4. Fault Isolation
 - A. If the test gives the maintenance message ECU (ARINC OUT):
 - do a check for a short to ground at the wiring and connectors between the ECU (4000KS) and the test receptacle of the aircraft computers:
 - . EIU1 (1KS1) DMC1 (1WT1)
 - _ DMC2 (1WT2) DMC3 (1WT3)
 - FMGC1 (1CA1) FWC1 (1WW1)
 - . FWC2 (1WW2) DMU (1TV)
 - (Ref. ASM 73-25/10).
 - (1) If there is a short to ground:
 - repair the defective wiring.
 - (2) If there is no short to ground:
 - replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).

EFF: ALL 73-20-81

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TASK 73-20-81-810-804

Internal Failure of the ECU on Engine 2

- 1. Possible Causes
 - ECU (4000KS)
- 2. Job Set-up Information
 - A. Referenced Information

	REFERENCE		DESIGNATION	
R	ΛММ	73-21-60-000-001	Removal of the Electronic Control Unit (ECU)(4000KS)	
••		73-21-60-400-001	Installation of the Electronic Control Unit	
R			(ECU)(4000KS)	
	AMM	73-29-00-710-040	Operational Test of the FADEC on the Ground (with Engine non Motoring)	
	ASM	73-25/10		

- 3. Fault Confirmation
 - A. Do the operational test of the FADEC 2A on the ground (with engine non motoring) (Ref. AMM TASK 73-29-00-710-040).
- 4. Fault Isolation
 - A. If the test gives the maintenance message ECU (ARINC OUT):
 - do a check for a short to ground at the wiring and connectors between the ECU (4000KS) and the test receptacle of the aircraft computers:
 - . EIU2 (1KS2) DMC1 (1WT1)
 - _ DMC2 (1WT2) DMC3 (1WT3)
 - FMGC1 (1CA1) FWC1 (1WW1)
 - . FWC2 (1WW2) DMU (1TV)
 - (Ref. ASM 73-25/10).
 - (1) If there is a short to ground:
 - repair the defective wiring.
 - (2) If there is no short to ground:
 - replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).

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TROUBLE SHOOTING MANUAL

TASK 73-20-81-810-805

Internal Failure of the ECU on Engine 1

- 1. Possible Causes
 - ECU (4000KS)
- 2. Job Set-up Information
 - A. Referenced Information

REFERENCE		DESIGNATION
AMM	73-21-60-000-001	Removal of the Electronic Control Unit (ECU)(4000KS)
AMM	73-21-60-400-001	Installation of the Electronic Control Unit
		(ECU)(4000KS)
AMM	73-29-00-710-040	Operational Test of the FADEC on the Ground (with Engine non Motoring)
	AMM AMM	REFERENCE

- 3. Fault Confirmation
 - A. Do the operational test of the FADEC 1A on the ground (with engine non motoring) (Ref. AMM TASK 73-29-00-710-040).
- 4. Fault Isolation
 - A. If the test gives the maintenance message ECU (25VDC FAULT):
 - replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).

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TASK 73-20-81-810-806

Internal Failure of the ECU on Engine 1

- 1. Possible Causes
 - ECU (4000KS)
- 2. Job Set-up Information
 - A. Referenced Information

	REFERENCE		
			DESIGNATION
_		77 24 (0 000 004	Barrard of the Electronic Control Unit (EQUIX/(000KG)
R	AMM	73-21-60-000-001	Removal of the Electronic Control Unit (ECU)(4000KS)
	AMM	73-21-60-400-001	Installation of the Electronic Control Unit
R			(ECU)(4000KS)
	AMM	73-29-00-710-040	Operational Test of the FADEC on the Ground (with Engine non Motoring)

- 3. Fault Confirmation
 - A. Do the operational test of the FADEC 1B on the ground (with engine non motoring) (Ref. AMM TASK 73-29-00-710-040).
- 4. Fault Isolation
 - A. If the test gives the maintenance message ECU (25VDC FAULT):
 - replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).

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TROUBLE SHOOTING MANUAL

TASK 73-20-81-810-807

Internal Failure of the ECU on Engine 2

- 1. Possible Causes
 - ECU (4000KS)
- 2. Job Set-up Information
 - A. Referenced Information

REFERENCE		DESIGNATION
AMM	73-21-60-000-001	Removal of the Electronic Control Unit (ECU)(4000KS)
AMM	73-21-60-400-001	Installation of the Electronic Control Unit
		(ECU)(4000KS)
AMM	73-29-00-710-040	Operational Test of the FADEC on the Ground (with Engine non Motoring)
	AMM AMM	REFERENCE

- 3. Fault Confirmation
 - A. Do the operational test of the FADEC 2A on the ground (with engine non motoring) (Ref. AMM TASK 73-29-00-710-040).
- 4. Fault Isolation
 - A. If the test gives the maintenance message ECU (25VDC FAULT):
 replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM
 - TASK 73-21-60-400-001).

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TROUBLE SHOOTING MANUAL

TASK 73-20-81-810-808

Internal Failure of the ECU on Engine 2

- 1. Possible Causes
 - ECU (4000KS)
- 2. Job Set-up Information
 - A. Referenced Information

REFERENCE		DESIGNATION
AMM	73-21-60-000-001	Removal of the Electronic Control Unit (ECU)(4000KS)
AMM	73-21-60-400-001	Installation of the Electronic Control Unit
		(ECU)(4000KS)
AMM	73-29-00-710-040	Operational Test of the FADEC on the Ground (with Engine non Motoring)
	AMM AMM	REFERENCE

- 3. Fault Confirmation
 - A. Do the operational test of the FADEC 2B on the ground (with engine non motoring) (Ref. AMM TASK 73-29-00-710-040).
- 4. Fault Isolation
 - A. If the test gives the maintenance message ECU (25VDC FAULT):
 - replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).

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TROUBLE SHOOTING MANUAL

TASK 73-20-81-810-809

Internal Failure of the ECU on Engine 1

1. Possible Causes

R

- ECU (4000KS)
- ECU air cooling system
- R anti-ice system ducts

2. Job Set-up Information

A. Referenced Information

	REFERENCE		DESIGNATION
R R	AMM	30-21-49-210-040	Visual Inspection of the Anti-Ice System Hoses, Tubes and Ducts
	AMM	73-21-60-000-001	Removal of the Electronic Control Unit (ECU)(4000KS)
	AMM	73-21-60-400-001	<pre>Installation of the Electronic Control Unit (ECU)(4000KS)</pre>
	AMM	73-29-00-710-040	Operational Test of the FADEC on the Ground (with Engine non Motoring)
	AMM	75-24-49-210-042	Visual Inspection of the ECU Air Cooling Tubes and Ducts

3. Fault Confirmation

A. Do the operational test of the FADEC 1A on the ground (with engine non motoring) (Ref. AMM TASK 73-29-00-710-040).

4. Fault Isolation

- R A. If the test gives the sage ECU (OVERTEMP):
- R (1) Remove the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001).
- R (2) Do a check of the ECU air cooling system to make sure that the inlet and outlet ports are not clogged (Ref. AMM TASK 75-24-49-210-042).
- R (3) Do a check for leakage on the anti-ice system ducts (Ref. AMM TASK 30-21-49-210-040).
- R (4) Install the new ECU (4000KS) (Ref. AMM TASK 73-21-60-400-001).

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TASK 73-20-81-810-810

Internal Failure of the ECU on Engine 2

1. Possible Causes

R

R

R

- ECU (4000KS)
- ECU air cooling system
- anti-ice system ducts

2. Job Set-up Information

A. Referenced Information

	REFERENCE		DESIGNATION
R R	AMM	30-21-49-210-040	Visual Inspection of the Anti-Ice System Hoses, Tubes and Ducts
	AMM	73-21-60-000-001	Removal of the Electronic Control Unit (ECU)(4000KS)
	AMM	73-21-60-400-001	Installation of the Electronic Control Unit (ECU)(4000KS)
	AMM	73-29-00-710-040	Operational Test of the FADEC on the Ground (with Engine non Motoring)
	AMM	75-24-49-210-042	Visual Inspection of the ECU Air Cooling Tubes and Ducts

3. Fault Confirmation

A. Do the operational test of the FADEC 2A on the ground (with engine non motoring) (Ref. AMM TASK 73-29-00-710-040).

4. Fault Isolation

A. If the test gives the maintenance message ECU (OVERTEMP):

R (1) Remove the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001).

- (2) Do a check of the ECU air cooling system to make sure that the inlet and outlet ports are not clogged (Ref. AMM TASK 75-24-49-210-042).
- R (3) Do a check for leakage on the anti-ice system ducts (Ref. AMM TASK 30-21-49-210-040).
- R (4) Install the new ECU (4000KS) (Ref. AMM TASK 73-21-60-400-001).

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TASK 73-20-81-810-811

Internal Failure of the ECU on Engine 1

- 1. Possible Causes
 - ECU (4000KS)
- 2. Job Set-up Information
 - A. Referenced Information

REFERENCE		DESIGNATION
AMM	73-21-60-000-001	Removal of the Electronic Control Unit (ECU)(4000KS)
AMM	73-21-60-400-001	Installation of the Electronic Control Unit
		(ECU)(4000KS)
AMM	73-29-00-710-040	Operational Test of the FADEC on the Ground (with Engine non Motoring)
	AMM AMM	REFERENCE

- 3. Fault Confirmation
 - A. Do the operational test of the FADEC 1A on the ground (with engine non motoring) (Ref. AMM TASK 73-29-00-710-040).
- 4. Fault Isolation
 - A. If the test gives the maintenance message ECU (TECU SENSOR):
 - replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).

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TROUBLE SHOOTING MANUAL

TASK 73-20-81-810-812

Internal Failure of the ECU on Engine 2

- 1. Possible Causes
 - ECU (4000KS)
- 2. Job Set-up Information
 - A. Referenced Information

REFERENCE		DESIGNATION
AMM	73-21-60-000-001	Removal of the Electronic Control Unit (ECU)(4000KS)
AMM	73-21-60-400-001	Installation of the Electronic Control Unit
		(ECU)(4000KS)
AMM	73-29-00-710-040	Operational Test of the FADEC on the Ground (with Engine non Motoring)
	AMM AMM	REFERENCE

- 3. Fault Confirmation
 - A. Do the operational test of the FADEC 2A on the ground (with engine non motoring) (Ref. AMM TASK 73-29-00-710-040).
- 4. Fault Isolation
 - A. If the test gives the maintenance message ECU (TECU SENSOR):
 - replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).

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TASK 73-20-81-810-813

Internal Failure of the ECU on Engine 1

- 1. Possible Causes
 - ECU (4000KS)
- 2. Job Set-up Information
 - A. Referenced Information

REFERENCE		DESIGNATION
AMM	73-21-60-000-001	Removal of the Electronic Control Unit (ECU)(4000KS)
AMM	73-21-60-400-001	Installation of the Electronic Control Unit
		(ECU)(4000KS)
AMM	73-29-00-710-040	Operational Test of the FADEC on the Ground (with Engine non Motoring)
	AMM AMM	REFERENCE

- 3. Fault Confirmation
 - A. Do the operational test of the FADEC 1A on the ground (with engine non motoring) (Ref. AMM TASK 73-29-00-710-040).
- 4. Fault Isolation
 - A. If the test gives the maintenance message ECU (CCDL):
 - replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).

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TASK 73-20-81-810-814

Internal Failure of the ECU on Engine 2

- 1. Possible Causes
 - ECU (4000KS)
- 2. Job Set-up Information
 - A. Referenced Information

REFERENCE		DESIGNATION
A MM	77 24 60 000 004	Paraval of the Floringia Control Hait (FCH)((000KS)
AMM	73-21-60-000-001	Removal of the Electronic Control Unit (ECU)(4000KS)
AMM	73-21-60-400-001	Installation of the Electronic Control Unit
		(ECU)(4000KS)
AMM	73-29-00-710-040	Operational Test of the FADEC on the Ground (with Engine non Motoring)
	AMM AMM	REFERENCE

3. Fault Confirmation

A. Do the operational test of the FADEC 2A on the ground (with engine non motoring) (Ref. AMM TASK 73-29-00-710-040).

4. Fault Isolation

- A. If the test gives the maintenance message ECU (CCDL):
 - replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).

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TASK 73-20-81-810-815

Internal Failure of the ECU on Engine 1

- 1. Possible Causes
 - ECU (4000KS)
- 2. Job Set-up Information
 - A. Referenced Information

REFERENCE		DESIGNATION
AMM	73-21-60-000-001	Removal of the Electronic Control Unit (ECU)(4000KS)
AMM	73-21-60-400-001	Installation of the Electronic Control Unit
		(ECU)(4000KS)
AMM	73-29-00-710-040	Operational Test of the FADEC on the Ground (with Engine non Motoring)
	AMM AMM	REFERENCE

- 3. Fault Confirmation
 - A. Do the operational test of the FADEC 1A on the ground (with engine non motoring) (Ref. AMM TASK 73-29-00-710-040).
- 4. Fault Isolation
 - A. If the test gives the maintenance message ECU (CCDL):
 - replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).

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TASK 73-20-81-810-816

Internal Failure of the ECU on Engine 1

- 1. Possible Causes
 - ECU (4000KS)
- 2. Job Set-up Information
 - A. Referenced Information

REFERENCE		DESIGNATION
A MM	77 24 60 000 004	Paraval of the Floringia Control Hait (FCH)((000KS)
AMM	73-21-60-000-001	Removal of the Electronic Control Unit (ECU)(4000KS)
AMM	73-21-60-400-001	Installation of the Electronic Control Unit
		(ECU)(4000KS)
AMM	73-29-00-710-040	Operational Test of the FADEC on the Ground (with Engine non Motoring)
	AMM AMM	REFERENCE

3. Fault Confirmation

A. Do the operational test of the FADEC 1B on the ground (with engine non motoring) (Ref. AMM TASK 73-29-00-710-040).

4. Fault Isolation

- A. If the test gives the maintenance message ECU (CCDL):
 - replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).

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TASK 73-20-81-810-817

Internal Failure of the ECU on Engine 2

- 1. Possible Causes
 - ECU (4000KS)
- 2. Job Set-up Information
 - A. Referenced Information

REFERENCE		DESIGNATION
AMM	73-21-60-000-001	Removal of the Electronic Control Unit (ECU)(4000KS)
AMM	73-21-60-400-001	Installation of the Electronic Control Unit
		(ECU)(4000KS)
AMM	73-29-00-710-040	Operational Test of the FADEC on the Ground (with Engine non Motoring)
	AMM AMM	REFERENCE

- 3. Fault Confirmation
 - A. Do the operational test of the FADEC 2A on the ground (with engine non motoring) (Ref. AMM TASK 73-29-00-710-040).
- 4. Fault Isolation
 - A. If the test gives the maintenance message ECU (CCDL):
 - replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).

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TASK 73-20-81-810-818

Internal Failure of the ECU on Engine 2

- 1. Possible Causes
 - ECU (4000KS)
- 2. Job Set-up Information
 - A. Referenced Information

REFERENCE		DESIGNATION
AMM	73-21-60-000-001	Removal of the Electronic Control Unit (ECU)(4000KS)
AMM	73-21-60-400-001	Installation of the Electronic Control Unit
		(ECU)(4000KS)
AMM	73-29-00-710-040	Operational Test of the FADEC on the Ground (with Engine non Motoring)
	AMM AMM	REFERENCE

- 3. Fault Confirmation
 - A. Do the operational test of the FADEC 2B on the ground (with engine non motoring) (Ref. AMM TASK 73-29-00-710-040).
- 4. Fault Isolation
 - A. If the test gives the maintenance message ECU (CCDL):
 - replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).

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TASK 73-20-81-810-819

Internal Failure of the ECU on Engine 1

- 1. Possible Causes
 - ECU (4000KS)
- 2. Job Set-up Information
 - A. Referenced Information

REFERENCE		DESIGNATION
AMM	73-21-60-000-001	Removal of the Electronic Control Unit (ECU)(4000KS)
AMM	73-21-60-400-001	Installation of the Electronic Control Unit
		(ECU)(4000KS)
AMM	73-29-00-710-040	Operational Test of the FADEC on the Ground (with Engine non Motoring)
	AMM AMM	REFERENCE

- 3. Fault Confirmation
 - A. Do the operational test of the FADEC 1A on the ground (with engine non motoring) (Ref. AMM TASK 73-29-00-710-040).
- 4. Fault Isolation
 - A. If the test gives the maintenance message ECU (TC JUNCTION):
 - replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).

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TASK 73-20-81-810-820

Internal Failure of the ECU on Engine 1

- 1. Possible Causes
 - ECU (4000KS)
- 2. Job Set-up Information
 - A. Referenced Information

REFERENCE		DESIGNATION
AMM	73-21-60-000-001	Removal of the Electronic Control Unit (ECU)(4000KS)
AMM	73-21-60-400-001	Installation of the Electronic Control Unit
		(ECU)(4000KS)
AMM	73-29-00-710-040	Operational Test of the FADEC on the Ground (with Engine non Motoring)
	AMM AMM	REFERENCE

- 3. Fault Confirmation
 - A. Do the operational test of the FADEC 1B on the ground (with engine non motoring) (Ref. AMM TASK 73-29-00-710-040).
- 4. Fault Isolation
 - A. If the test gives the maintenance message ECU (TC JUNCTION):
 - replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).

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TROUBLE SHOOTING MANUAL

TASK 73-20-81-810-821

Internal Failure of the ECU on Engine 2

- 1. Possible Causes
 - ECU (4000KS)
- 2. Job Set-up Information
 - A. Referenced Information

REFERENCE		DESIGNATION
AMM	73-21-60-000-001	Removal of the Electronic Control Unit (ECU)(4000KS)
AMM	73-21-60-400-001	Installation of the Electronic Control Unit
		(ECU)(4000KS)
AMM	73-29-00-710-040	Operational Test of the FADEC on the Ground (with Engine non Motoring)
	AMM AMM	REFERENCE

- 3. Fault Confirmation
 - A. Do the operational test of the FADEC 2A on the ground (with engine non motoring) (Ref. AMM TASK 73-29-00-710-040).
- 4. Fault Isolation
 - A. If the test gives the maintenance message ECU (TC JUNCTION):
 - replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).

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TASK 73-20-81-810-822

Internal Failure of the ECU on Engine 2

- 1. Possible Causes
 - ECU (4000KS)
- 2. Job Set-up Information
 - A. Referenced Information

REFERENCE		DESIGNATION
AMM	73-21-60-000-001	Removal of the Electronic Control Unit (ECU)(4000KS)
AMM	73-21-60-400-001	Installation of the Electronic Control Unit
		(ECU)(4000KS)
AMM	73-29-00-710-040	Operational Test of the FADEC on the Ground (with Engine non Motoring)
	AMM AMM	REFERENCE

- 3. Fault Confirmation
 - A. Do the operational test of the FADEC 2B on the ground (with engine non motoring) (Ref. AMM TASK 73-29-00-710-040).
- 4. Fault Isolation
 - A. If the test gives the maintenance message ECU (TC JUNCTION):
 - replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).

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TROUBLE SHOOTING MANUAL

TASK 73-20-81-810-823

Internal Failure of the ECU on Engine 1

- 1. Possible Causes
 - ECU (4000KS)
- 2. Job Set-up Information
 - A. Referenced Information

REFERENCE		DESIGNATION
A MM	77 24 60 000 004	Paraval of the Floringia Control Hait (FCH)((000KS)
AMM	73-21-60-000-001	Removal of the Electronic Control Unit (ECU)(4000KS)
AMM	73-21-60-400-001	Installation of the Electronic Control Unit
		(ECU)(4000KS)
AMM	73-29-00-710-040	Operational Test of the FADEC on the Ground (with Engine non Motoring)
	AMM AMM	REFERENCE

3. Fault Confirmation

A. Do the operational test of the FADEC 1A on the ground (with engine non motoring) (Ref. AMM TASK 73-29-00-710-040).

4. Fault Isolation

- A. If the test gives the maintenance message ECU (MASTER DISC):
 - replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).

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TROUBLE SHOOTING MANUAL

TASK 73-20-81-810-824

Internal Failure of the ECU on Engine 1

- 1. Possible Causes
 - ECU (4000KS)
- 2. Job Set-up Information
 - A. Referenced Information

REFERENCE		DESIGNATION
AMM	73-21-60-000-001	Removal of the Electronic Control Unit (ECU)(4000KS)
AMM	73-21-60-400-001	Installation of the Electronic Control Unit
		(ECU)(4000KS)
AMM	73-29-00-710-040	Operational Test of the FADEC on the Ground (with Engine non Motoring)
	AMM AMM	REFERENCE

- 3. Fault Confirmation
 - A. Do the operational test of the FADEC 1B on the ground (with engine non motoring) (Ref. AMM TASK 73-29-00-710-040).
- 4. Fault Isolation
 - A. If the test gives the maintenance message ECU (MASTER DISC):
 - replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).

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TROUBLE SHOOTING MANUAL

TASK 73-20-81-810-825

Internal Failure of the ECU on Engine 2

- 1. Possible Causes
 - ECU (4000KS)
- 2. Job Set-up Information
 - A. Referenced Information

REFERENCE		DESIGNATION
AMM	73-21-60-000-001	Removal of the Electronic Control Unit (ECU)(4000KS)
AMM	73-21-60-400-001	Installation of the Electronic Control Unit
		(ECU)(4000KS)
AMM	73-29-00-710-040	Operational Test of the FADEC on the Ground (with Engine non Motoring)
	AMM AMM	REFERENCE

- 3. Fault Confirmation
 - A. Do the operational test of the FADEC 2A on the ground (with engine non motoring) (Ref. AMM TASK 73-29-00-710-040).
- 4. Fault Isolation
 - A. If the test gives the maintenance message ECU (MASTER DISC):
 - replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).

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TROUBLE SHOOTING MANUAL

TASK 73-20-81-810-826

Internal Failure of the ECU on Engine 2

- 1. Possible Causes
 - ECU (4000KS)
- 2. Job Set-up Information
 - A. Referenced Information

REFERENCE		DESIGNATION
AMM	73-21-60-000-001	Removal of the Electronic Control Unit (ECU)(4000KS)
AMM	73-21-60-400-001	Installation of the Electronic Control Unit
		(ECU)(4000KS)
AMM	73-29-00-710-040	Operational Test of the FADEC on the Ground (with Engine non Motoring)
	AMM AMM	REFERENCE

- 3. Fault Confirmation
 - A. Do the operational test of the FADEC 2B on the ground (with engine non motoring) (Ref. AMM TASK 73-29-00-710-040).
- 4. Fault Isolation
 - A. If the test gives the maintenance message ECU (MASTER DISC):
 - replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).

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TROUBLE SHOOTING MANUAL

TASK 73-20-81-810-827

Internal Failure of the ECU on Engine 1

- 1. Possible Causes
 - ECU (4000KS)
- 2. Job Set-up Information
 - A. Referenced Information

REFERENCE		DESIGNATION
AMM	73-21-60-000-001	Removal of the Electronic Control Unit (ECU)(4000KS)
AMM	73-21-60-400-001	Installation of the Electronic Control Unit
		(ECU)(4000KS)
AMM	73-29-00-710-040	Operational Test of the FADEC on the Ground (with Engine non Motoring)
	AMM AMM	REFERENCE

- 3. Fault Confirmation
 - A. Do the operational test of the FADEC 1A on the ground (with engine non motoring) (Ref. AMM TASK 73-29-00-710-040).
- 4. Fault Isolation
 - A. If the test gives the maintenance message ECU (SYNCH W/A):
 - replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).

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TROUBLE SHOOTING MANUAL

TASK 73-20-81-810-828

Internal Failure of the ECU on Engine 1

- 1. Possible Causes
 - ECU (4000KS)
- 2. Job Set-up Information
 - A. Referenced Information

REFERENCE		DESIGNATION
AMM	73-21-60-000-001	Removal of the Electronic Control Unit (ECU)(4000KS)
AMM	73-21-60-400-001	Installation of the Electronic Control Unit
		(ECU)(4000KS)
AMM	73-29-00-710-040	Operational Test of the FADEC on the Ground (with Engine non Motoring)
	AMM AMM	REFERENCE

- 3. Fault Confirmation
 - A. Do the operational test of the FADEC 1B on the ground (with engine non motoring) (Ref. AMM TASK 73-29-00-710-040).
- 4. Fault Isolation
 - A. If the test gives the maintenance message ECU (SYNCH W/A):
 - replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).

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TROUBLE SHOOTING MANUAL

TASK 73-20-81-810-829

Internal Failure of the ECU on Engine 2

- 1. Possible Causes
 - ECU (4000KS)
- 2. Job Set-up Information
 - A. Referenced Information

REFERENCE		DESIGNATION
AMM	73-21-60-000-001	Removal of the Electronic Control Unit (ECU)(4000KS)
AMM	73-21-60-400-001	Installation of the Electronic Control Unit
		(ECU)(4000KS)
AMM	73-29-00-710-040	Operational Test of the FADEC on the Ground (with Engine non Motoring)
	AMM AMM	REFERENCE

- 3. Fault Confirmation
 - A. Do the operational test of the FADEC 2A on the ground (with engine non motoring) (Ref. AMM TASK 73-29-00-710-040).
- 4. Fault Isolation
 - A. If the test gives the maintenance message ECU (SYNCH W/A):
 - replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).

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TROUBLE SHOOTING MANUAL

TASK 73-20-81-810-830

Internal Failure of the ECU on Engine 2

- 1. Possible Causes
 - ECU (4000KS)
- 2. Job Set-up Information
 - A. Referenced Information

REFERENCE		DESIGNATION
AMM	73-21-60-000-001	Removal of the Electronic Control Unit (ECU)(4000KS)
AMM	73-21-60-400-001	Installation of the Electronic Control Unit
		(ECU)(4000KS)
AMM	73-29-00-710-040	Operational Test of the FADEC on the Ground (with Engine non Motoring)
	AMM AMM	REFERENCE

- 3. Fault Confirmation
 - A. Do the operational test of the FADEC 2B on the ground (with engine non motoring) (Ref. AMM TASK 73-29-00-710-040).
- 4. Fault Isolation
 - A. If the test gives the maintenance message ECU (SYNCH W/A):
 - replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).

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TROUBLE SHOOTING MANUAL

TASK 73-20-81-810-831

Internal Failure of the ECU on Engine 1

- 1. Possible Causes
 - ECU (4000KS)
- 2. Job Set-up Information
 - A. Referenced Information

REFERENCE		DESIGNATION
AMM	73-21-60-000-001	Removal of the Electronic Control Unit (ECU)(4000KS)
AMM	73-21-60-400-001	Installation of the Electronic Control Unit
		(ECU)(4000KS)
AMM	73-29-00-710-040	Operational Test of the FADEC on the Ground (with Engine non Motoring)
	AMM AMM	REFERENCE

- 3. Fault Confirmation
 - A. Do the operational test of the FADEC 1A on the ground (with engine non motoring) (Ref. AMM TASK 73-29-00-710-040).
- 4. Fault Isolation
 - A. If the test gives the maintenance message ECU (PRESS SYS A):
 replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).

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TROUBLE SHOOTING MANUAL

TASK 73-20-81-810-832

Internal Failure of the ECU on Engine 2

- 1. Possible Causes
 - ECU (4000KS)
- 2. Job Set-up Information
 - A. Referenced Information

REFERENCE		DESIGNATION
A MM	77 24 60 000 004	Paraval of the Floringia Control Hait (FCH)((000KS)
AMM	73-21-60-000-001	Removal of the Electronic Control Unit (ECU)(4000KS)
AMM	73-21-60-400-001	Installation of the Electronic Control Unit
		(ECU)(4000KS)
AMM	73-29-00-710-040	Operational Test of the FADEC on the Ground (with Engine non Motoring)
	AMM AMM	REFERENCE

3. Fault Confirmation

A. Do the operational test of the FADEC 2A on the ground (with engine non motoring) (Ref. AMM TASK 73-29-00-710-040).

4. Fault Isolation

- A. If the test gives the maintenance message ECU (PRESS SYS A):
 replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM
 - TASK 73-21-60-400-001).

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TASK 73-20-81-810-833

Internal Failure of the ECU on Engine 1

- 1. Possible Causes
 - ECU (4000KS)
- 2. Job Set-up Information
 - A. Referenced Information

REFERENCE		DESIGNATION
AMM	73-21-60-000-001	Removal of the Electronic Control Unit (ECU)(4000KS)
AMM	73-21-60-400-001	Installation of the Electronic Control Unit
		(ECU)(4000KS)
AMM	73-29-00-710-040	Operational Test of the FADEC on the Ground (with Engine non Motoring)
	AMM AMM	REFERENCE

- 3. Fault Confirmation
 - A. Do the operational test of the FADEC 1A on the ground (with engine non motoring) (Ref. AMM TASK 73-29-00-710-040).
- 4. Fault Isolation
 - A. If the test gives the maintenance message ECU (PRESS SYS B):
 - replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).

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TROUBLE SHOOTING MANUAL

TASK 73-20-81-810-834

Internal Failure of the ECU on Engine 2

- 1. Possible Causes
 - ECU (4000KS)
- 2. Job Set-up Information
 - A. Referenced Information

REFERENCE		DESIGNATION
AMM	73-21-60-000-001	Removal of the Electronic Control Unit (ECU)(4000KS)
AMM	73-21-60-400-001	Installation of the Electronic Control Unit
		(ECU)(4000KS)
AMM	73-29-00-710-040	Operational Test of the FADEC on the Ground (with Engine non Motoring)
	AMM AMM	REFERENCE

- 3. Fault Confirmation
 - A. Do the operational test of the FADEC 2A on the ground (with engine non motoring) (Ref. AMM TASK 73-29-00-710-040).
- 4. Fault Isolation
 - A. If the test gives the maintenance message ECU (PRESS SYS B):
 - replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).

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TROUBLE SHOOTING MANUAL

TASK 73-20-81-810-835

Internal Failure of the ECU - CPU FAULT - Engine 1 - Channel A

- 1. Possible Causes
 - ECU (4000KS)
- 2. Job Set-up Information
 - A. Referenced Information

	REFERENCE		DESIGNATION
R R R	AMM	73-21-60-000-001 73-21-60-400-001 73-29-00-710-040	Removal of the Electronic Control Unit (ECU) Installation of the Electronic Control Unit (ECU) Operational Test of the FADEC on the Ground (with Engine Non motoring)

- 3. Fault Confirmation
- R A. Do the operational test of the FADEC 1A on the ground (with engine non motoring) (Ref. AMM TASK 73-29-00-710-040).
 - 4. Fault Isolation

R

R R

R

R

R R

- R A. This failure message is generated when there is an internal ECU processing fault.
- - (2) If the failure message ECU (CPU FAULT) is not confirmed, but is repetitive:
 - replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).
 - (3) If the failure message ECU (CPU FAULT) is confirmed:
 - replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).
 - B. Do the test given in Para. 3.A.
 - (1) No additional maintenance action is required if the fault is not confirmed.
 - (2) Repeat the fault isolation procedure if the fault continues.

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TROUBLE SHOOTING MANUAL

TASK 73-20-81-810-836

Internal Failure of the ECU - CPU FAULT - Engine 2 - Channel A

- 1. Possible Causes
 - ECU (4000KS)
- 2. Job Set-up Information
 - A. Referenced Information

	REFERENCE		DESIGNATION
R	AMM	73-21-60-000-001 73-21-60-400-001 73-29-00-710-040	Removal of the Electronic Control Unit (ECU) Installation of the Electronic Control Unit (ECU) Operational Test of the FADEC on the Ground (with Engine Non motoring)

- 3. Fault Confirmation
- A. Do the operational test of the FADEC 2A on the ground (with engine non R R motoring) (Ref. AMM TASK 73-29-00-710-040).
 - 4. Fault Isolation

R

R R

R

R

R R

- A. This failure message is generated when there is an internal ECU R R processing fault.
- R (1) If the failure message ECU (CPU FAULT) is not confirmed: no maintenance action is required.
 - (2) If the failure message ECU (CPU FAULT) is not confirmed, but is repetitive:
 - replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).
 - (3) If the failure message ECU (CPU FAULT) is confirmed: - replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) and (Ref.
- B. Do the test given in Para. 3.A.

AMM TASK 73-21-60-400-001).

- (1) No additional maintenance action is required if the fault is not confirmed.
- (2) Repeat the fault isolation procedure if the fault continues.

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TASK 73-20-81-810-839

Internal Failure of the ECU on Engine 1

- 1. Possible Causes
 - ECU (4000KS)
- 2. Job Set-up Information
 - A. Referenced Information

REFERENCE		DESIGNATION
AMM	73-21-60-000-001	Removal of the Electronic Control Unit (ECU)(4000KS)
AMM	73-21-60-400-001	Installation of the Electronic Control Unit
		(ECU)(4000KS)
AMM	73-29-00-710-040	Operational Test of the FADEC on the Ground (with Engine non Motoring)
	AMM AMM	REFERENCE

- 3. Fault Confirmation
 - A. Do the operational test of the FADEC 1A on the ground (with engine non motoring) (Ref. AMM TASK 73-29-00-710-040).
- 4. Fault Isolation
 - A. If the test gives the maintenance message ECU (SCU, MUX FAULT):
 replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).

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TROUBLE SHOOTING MANUAL

TASK 73-20-81-810-840

Internal Failure of the ECU on Engine 2

- 1. Possible Causes
 - ECU (4000KS)
- 2. Job Set-up Information
 - A. Referenced Information

REFERENCE		DESIGNATION
A MM	77 24 60 000 004	Paraval of the Floringia Control Hait (FCH)((000KS)
AMM	73-21-60-000-001	Removal of the Electronic Control Unit (ECU)(4000KS)
AMM	73-21-60-400-001	Installation of the Electronic Control Unit
		(ECU)(4000KS)
AMM	73-29-00-710-040	Operational Test of the FADEC on the Ground (with Engine non Motoring)
	AMM AMM	REFERENCE

3. Fault Confirmation

A. Do the operational test of the FADEC 2A on the ground (with engine non motoring) (Ref. AMM TASK 73-29-00-710-040).

4. Fault Isolation

A. If the test gives the maintenance message ECU (SCU, MUX FAULT):
- replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).

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TASK 73-20-81-810-841

Internal Failure of the ECU on Engine 1

- 1. Possible Causes
 - ECU (4000KS)
- 2. Job Set-up Information
 - A. Referenced Information

REFERENCE		DESIGNATION
AMM	73-21-60-000-001	Removal of the Electronic Control Unit (ECU)(4000KS)
AMM	73-21-60-400-001	Installation of the Electronic Control Unit
		(ECU)(4000KS)
AMM	73-29-00-710-040	Operational Test of the FADEC on the Ground (with Engine non Motoring)
	AMM AMM	REFERENCE

- 3. Fault Confirmation
 - A. Do the operational test of the FADEC 1A on the ground (with engine non motoring) (Ref. AMM TASK 73-29-00-710-040).
- 4. Fault Isolation
 - A. If the test gives the maintenance message ECU (15VDC FAULT):
 - replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).

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TASK 73-20-81-810-842

Internal Failure of the ECU on Engine 1

- 1. Possible Causes
 - ECU (4000KS)
- 2. Job Set-up Information
 - A. Referenced Information

REFERENCE		DESIGNATION
AMM	73-21-60-000-001	Removal of the Electronic Control Unit (ECU)(4000KS)
AMM	73-21-60-400-001	Installation of the Electronic Control Unit
		(ECU)(4000KS)
AMM	73-29-00-710-040	Operational Test of the FADEC on the Ground (with Engine non Motoring)
	AMM AMM	REFERENCE

- 3. Fault Confirmation
 - A. Do the operational test of the FADEC 1B on the ground (with engine non motoring) (Ref. AMM TASK 73-29-00-710-040).
- 4. Fault Isolation
 - A. If the test gives the maintenance message ECU (15VDC FAULT):
 - replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).

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TASK 73-20-81-810-843

Internal Failure of the ECU on Engine 2

- 1. Possible Causes
 - ECU (4000KS)
- 2. Job Set-up Information
 - A. Referenced Information

REFERENCE		DESIGNATION
AMM	73-21-60-000-001	Removal of the Electronic Control Unit (ECU)(4000KS)
AMM	73-21-60-400-001	Installation of the Electronic Control Unit
		(ECU)(4000KS)
AMM	73-29-00-710-040	Operational Test of the FADEC on the Ground (with Engine non Motoring)
	AMM AMM	REFERENCE

- 3. Fault Confirmation
 - A. Do the operational test of the FADEC 2A on the ground (with engine non motoring) (Ref. AMM TASK 73-29-00-710-040).
- 4. Fault Isolation
 - A. If the test gives the maintenance message ECU (15VDC FAULT):
 - replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).

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TROUBLE SHOOTING MANUAL

TASK 73-20-81-810-844

Internal Failure of the ECU on Engine 2

- 1. Possible Causes
 - ECU (4000KS)
- 2. Job Set-up Information
 - A. Referenced Information

	REFERENCE		DESIGNATION	
_		77 24 (0 000 004	Barrard of the Electronic Control Unit (EQUIX/(000KG)	
R	AMM	73-21-60-000-001	Removal of the Electronic Control Unit (ECU)(4000KS)	
	AMM	73-21-60-400-001	Installation of the Electronic Control Unit	
R			(ECU)(4000KS)	
	AMM	73-29-00-710-040	Operational Test of the FADEC on the Ground (with Engine non Motoring)	

- 3. Fault Confirmation
 - A. Do the operational test of the FADEC 2B on the ground (with engine non motoring) (Ref. AMM TASK 73-29-00-710-040).
- 4. Fault Isolation
 - A. If the test gives the maintenance message ECU (15VDC FAULT):
 - replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).

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TROUBLE SHOOTING MANUAL

TASK 73-20-81-810-845

Internal Failure of the ECU on Engine 1

- 1. Possible Causes
 - ECU (4000KS)
- 2. Job Set-up Information
 - A. Referenced Information

	REFERENCE		
			DESIGNATION
_			
R	AMM	73-21-60-000-001	Removal of the Electronic Control Unit (ECU)(4000KS)
	AMM	73-21-60-400-001	Installation of the Electronic Control Unit
R			(ECU)(4000KS)
	AMM	73-29-00-710-040	Operational Test of the FADEC on the Ground (with Engine non Motoring)

3. Fault Confirmation

A. Do the operational test of the FADEC 1A on the ground (with engine non motoring) (Ref. AMM TASK 73-29-00-710-040).

4. Fault Isolation

- A. If the test gives the maintenance message ECU (CC DISCRETES):
 - replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).

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TASK 73-20-81-810-846

Internal Failure of the ECU on Engine 1

- 1. Possible Causes
 - ECU (4000KS)
- 2. Job Set-up Information
 - A. Referenced Information

	REFERENCE		
			DESIGNATION
_			
R	AMM	73-21-60-000-001	Removal of the Electronic Control Unit (ECU)(4000KS)
	AMM	73-21-60-400-001	Installation of the Electronic Control Unit
R			(ECU)(4000KS)
	AMM	73-29-00-710-040	Operational Test of the FADEC on the Ground (with Engine non Motoring)

3. Fault Confirmation

A. Do the operational test of the FADEC 1B on the ground (with engine non motoring) (Ref. AMM TASK 73-29-00-710-040).

4. Fault Isolation

- A. If the test gives the maintenance message ECU (CC DISCRETES):
 - replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).

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TROUBLE SHOOTING MANUAL

TASK 73-20-81-810-847

Internal Failure of the ECU on Engine 2

- 1. Possible Causes
 - ECU (4000KS)
- 2. Job Set-up Information
 - A. Referenced Information

REFERENCE		DESIGNATION
AMM	73-21-60-000-001	Removal of the Electronic Control Unit (ECU)(4000KS)
AMM	73-21-60-400-001	Installation of the Electronic Control Unit
		(ECU)(4000KS)
AMM	73-29-00-710-040	Operational Test of the FADEC on the Ground (with Engine non Motoring)
	AMM AMM	REFERENCE

- 3. Fault Confirmation
 - A. Do the operational test of the FADEC 2A on the ground (with engine non motoring) (Ref. AMM TASK 73-29-00-710-040).
- 4. Fault Isolation
 - A. If the test gives the maintenance message ECU (CC DISCRETES):
 - replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).

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TASK 73-20-81-810-848

Internal Failure of the ECU on Engine 2

- 1. Possible Causes
 - ECU (4000KS)
- 2. Job Set-up Information
 - A. Referenced Information

REFERENCE		DESIGNATION
AMM	73-21-60-000-001	Removal of the Electronic Control Unit (ECU)(4000KS)
AMM	73-21-60-400-001	Installation of the Electronic Control Unit
		(ECU)(4000KS)
AMM	73-29-00-710-040	Operational Test of the FADEC on the Ground (with Engine non Motoring)
	AMM AMM	REFERENCE

- 3. Fault Confirmation
 - A. Do the operational test of the FADEC 2B on the ground (with engine non motoring) (Ref. AMM TASK 73-29-00-710-040).
- 4. Fault Isolation
 - A. If the test gives the maintenance message ECU (CC DISCRETES):
 - replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).

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TASK 73-20-81-810-853

Internal Failure of the ECU on Engine 1

- 1. Possible Causes
 - ECU (4000KS)
- 2. Job Set-up Information
 - A. Referenced Information

REFERENCE		DESIGNATION
AMM	73-21-60-000-001	Removal of the Electronic Control Unit (ECU)(4000KS)
AMM	73-21-60-400-001	Installation of the Electronic Control Unit
		(ECU)(4000KS)
AMM	73-29-00-710-040	Operational Test of the FADEC on the Ground (with Engine non Motoring)
	AMM AMM	REFERENCE

- 3. Fault Confirmation
 - A. Do the operational test of the FADEC 1A on the ground (with engine non motoring) (Ref. AMM TASK 73-29-00-710-040).
- 4. Fault Isolation
 - A. If the test gives the maintenance message ECU (DATA ACQN):
 - replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).

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TASK 73-20-81-810-854

Internal Failure of the ECU on Engine 2

- 1. Possible Causes
 - ECU (4000KS)
- 2. Job Set-up Information
 - A. Referenced Information

REFERENCE		DESIGNATION
AMM	73-21-60-000-001	Removal of the Electronic Control Unit (ECU)(4000KS)
AMM	73-21-60-400-001	Installation of the Electronic Control Unit
		(ECU)(4000KS)
AMM	73-29-00-710-040	Operational Test of the FADEC on the Ground (with Engine non Motoring)
	AMM AMM	REFERENCE

- 3. Fault Confirmation
 - A. Do the operational test of the FADEC 2A on the ground (with engine non motoring) (Ref. AMM TASK 73-29-00-710-040).
- 4. Fault Isolation
 - A. If the test gives the maintenance message ECU (DATA ACQN):
 - replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).

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TROUBLE SHOOTING MANUAL

TASK 73-20-81-810-855

Internal Failure of the ECU on Engine 1

- 1. Possible Causes
 - ECU (4000KS)
- 2. Job Set-up Information
 - A. Referenced Information

REFERENCE		DESIGNATION
AMM	73-21-60-000-001	Removal of the Electronic Control Unit (ECU)(4000KS)
AMM	73-21-60-400-001	Installation of the Electronic Control Unit
		(ECU)(4000KS)
AMM	73-29-00-710-040	Operational Test of the FADEC on the Ground (with Engine non Motoring)
	AMM AMM	REFERENCE

- 3. Fault Confirmation
 - A. Do the operational test of the FADEC 1A on the ground (with engine non motoring) (Ref. AMM TASK 73-29-00-710-040).
- 4. Fault Isolation
 - A. If the test gives the maintenance message ECU (ACI FAULT):
 - replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).

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TASK 73-20-81-810-856

Internal Failure of the ECU on Engine 2

- 1. Possible Causes
 - ECU (4000KS)
- 2. Job Set-up Information
 - A. Referenced Information

REFERENCE		DESIGNATION
AMM	73-21-60-000-001	Removal of the Electronic Control Unit (ECU)(4000KS)
AMM	73-21-60-400-001	Installation of the Electronic Control Unit
		(ECU)(4000KS)
AMM	73-29-00-710-040	Operational Test of the FADEC on the Ground (with Engine non Motoring)
	AMM AMM	REFERENCE

- 3. Fault Confirmation
 - A. Do the operational test of the FADEC 2A on the ground (with engine non motoring) (Ref. AMM TASK 73-29-00-710-040).
- 4. Fault Isolation
 - A. If the test gives the maintenance message ECU (ACI FAULT):
 - replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).

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TASK 73-20-81-810-857

Internal Failure of the ECU on Engine 1

- 1. Possible Causes
 - ECU (4000KS)
- 2. Job Set-up Information
 - A. Referenced Information

	REFERENCE		DESIGNATION	
_		77 24 (0 000 004	Barrard of the Electronic Control Unit (EQUIX/(000KG)	
R	AMM	73-21-60-000-001	Removal of the Electronic Control Unit (ECU)(4000KS)	
	AMM	73-21-60-400-001	Installation of the Electronic Control Unit	
R			(ECU)(4000KS)	
	AMM	73-29-00-710-040	Operational Test of the FADEC on the Ground (with Engine non Motoring)	

- 3. Fault Confirmation
 - A. Do the operational test of the FADEC 1A on the ground (with engine non motoring) (Ref. AMM TASK 73-29-00-710-040).
- 4. Fault Isolation
 - A. If the test gives the maintenance message ECU (ADC 1 INTFC):
 replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).

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TASK 73-20-81-810-858

Internal Failure of the ECU on Engine 2

- 1. Possible Causes
 - ECU (4000KS)
- 2. Job Set-up Information
 - A. Referenced Information

REFERENCE		DESIGNATION
AMM	73-21-60-000-001	Removal of the Electronic Control Unit (ECU)(4000KS)
AMM	73-21-60-400-001	Installation of the Electronic Control Unit
		(ECU)(4000KS)
AMM	73-29-00-710-040	Operational Test of the FADEC on the Ground (with Engine non Motoring)
	AMM AMM	REFERENCE

- 3. Fault Confirmation
 - A. Do the operational test of the FADEC 2A on the ground (with engine non motoring) (Ref. AMM TASK 73-29-00-710-040).
- 4. Fault Isolation
 - A. If the test gives the maintenance message ECU (ADC 1 INTFC):
 - replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).

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TROUBLE SHOOTING MANUAL

TASK 73-20-81-810-859

Internal Failure of the ECU on Engine 1

- 1. Possible Causes
 - ECU (4000KS)
- 2. Job Set-up Information
 - A. Referenced Information

	REFERENCE		DESIGNATION	
_		77 24 (0 000 004	Barrard of the Electronic Control Unit (EQUIX/(000KG)	
R	AMM	73-21-60-000-001	Removal of the Electronic Control Unit (ECU)(4000KS)	
	AMM	73-21-60-400-001	Installation of the Electronic Control Unit	
R			(ECU)(4000KS)	
	AMM	73-29-00-710-040	Operational Test of the FADEC on the Ground (with Engine non Motoring)	

- 3. Fault Confirmation
 - A. Do the operational test of the FADEC 1A on the ground (with engine non motoring) (Ref. AMM TASK 73-29-00-710-040).
- 4. Fault Isolation
 - A. If the test gives the maintenance message ECU (ADC 2 INTFC):
 - replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).

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TASK 73-20-81-810-860

Internal Failure of the ECU on Engine 2

- 1. Possible Causes
 - ECU (4000KS)
- 2. Job Set-up Information
 - A. Referenced Information

REFERENCE		DESIGNATION
AMM	73-21-60-000-001	Removal of the Electronic Control Unit (ECU)(4000KS)
AMM	73-21-60-400-001	Installation of the Electronic Control Unit
		(ECU)(4000KS)
AMM	73-29-00-710-040	Operational Test of the FADEC on the Ground (with Engine non Motoring)
	AMM AMM	REFERENCE

- 3. Fault Confirmation
 - A. Do the operational test of the FADEC 2A on the ground (with engine non motoring) (Ref. AMM TASK 73-29-00-710-040).
- 4. Fault Isolation
 - A. If the test gives the maintenance message ECU (ADC 2 INTFC):
 - replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).

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TROUBLE SHOOTING MANUAL

TASK 73-20-81-810-861

Internal Failure of the ECU - NVM FAULT - Engine 1 - Channel A

- 1. Possible Causes
 - ECU (4000KS)
- 2. Job Set-up Information
 - A. Referenced Information

REFERENCE	DESIGNATION
AMM 73-21-60-000-001	Removal of the Electronic Control Unit (ECU)(4000KS)
AMM 73-21-60-400-001	<pre>Installation of the Electronic Control Unit (ECU)(4000KS)</pre>
AMM 73-29-00-710-040	Operational Test of the FADEC on the Ground (with Engine non Motoring)

3. Fault Confirmation

A. Do the operational test of the FADEC 1A on the ground (with engine non motoring) (Ref. AMM TASK 73-29-00-710-040).

4. Fault Isolation

- A. This failure message is generated when there is an internal ECU processing fault.
 - (1) If the failure message ECU (NVM FAULT) is not confirmed: - no maintenance action is required.
 - (2) If the failure message ECU (NVM FAULT) is not confirmed, but is repetitive:
 - replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).
 - (3) If the failure message ECU (NVM FAULT) is confirmed:
 replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).
- R B. Do the test given in Para. 3.A.
- R (1) No additional maintenance action is required if the fault is not confirmed.
- R (2) Repeat the fault isolation procedure if the fault continues.

EFF: ALL

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TASK 73-20-81-810-862

Internal Failure of the ECU - NVM FAULT - Engine 2 - Channel A

- 1. Possible Causes
 - ECU (4000KS)
- 2. Job Set-up Information
 - A. Referenced Information

REFERENCE	DESIGNATION
AMM 73-21-60-000-001 AMM 73-21-60-400-001	Removal of the Electronic Control Unit (ECU)(4000KS) Installation of the Electronic Control Unit
AMM 73-29-00-710-040	(ECU)(4000KS) Operational Test of the FADEC on the Ground (with Engine non Motoring)

3. Fault Confirmation

A. Do the operational test of the FADEC 2A on the ground (with engine non motoring) (Ref. AMM TASK 73-29-00-710-040).

4. Fault Isolation

- A. This failure message is generated when there is an internal ECU processing fault.
 - (1) If the failure message ECU (NVM FAULT) is not confirmed: - no maintenance action is required.
 - (2) If the failure message ECU (NVM FAULT) is not confirmed, but is repetitive:
 - replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).
 - (3) If the failure message ECU (NVM FAULT) is confirmed:
 - replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).
- B. Do the test given in Para. 3.A.
 - (1) No additional maintenance action is required if the fault is not confirmed.
 - (2) Repeat the fault isolation procedure if the fault continues.

EFF: ALL

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TASK 73-20-81-810-863

Internal Failure of the ECU on Engine 1

- 1. Possible Causes
 - ECU (4000KS)
- 2. Job Set-up Information
 - A. Referenced Information

REFERENCE		DESIGNATION
A MM	77 24 40 000 004	Paraval of the Floringia Control Hait (FCH)((000KS)
AMM	73-21-60-000-001	Removal of the Electronic Control Unit (ECU)(4000KS)
AMM	73-21-60-400-001	Installation of the Electronic Control Unit
		(ECU)(4000KS)
AMM	73-29-00-710-040	Operational Test of the FADEC on the Ground (with Engine non Motoring)
	AMM AMM	REFERENCE

3. Fault Confirmation

A. Do the operational test of the FADEC 1A on the ground (with engine non motoring) (Ref. AMM TASK 73-29-00-710-040).

4. Fault Isolation

- A. If the test gives the maintenance message ECU (SPEED CONV):
 - replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).

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TASK 73-20-81-810-864

Internal Failure of the ECU on Engine 2

- 1. Possible Causes
 - ECU (4000KS)
- 2. Job Set-up Information
 - A. Referenced Information

REFERENCE		DESIGNATION
AMM	73-21-60-000-001	Removal of the Electronic Control Unit (ECU)(4000KS)
AMM	73-21-60-400-001	Installation of the Electronic Control Unit
		(ECU)(4000KS)
AMM	73-29-00-710-040	Operational Test of the FADEC on the Ground (with Engine non Motoring)
	AMM AMM	REFERENCE

- 3. Fault Confirmation
 - A. Do the operational test of the FADEC 2A on the ground (with engine non motoring) (Ref. AMM TASK 73-29-00-710-040).
- 4. Fault Isolation
 - A. If the test gives the maintenance message ECU (SPEED CONV):
 replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM
 - TASK 73-21-60-400-001).

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TASK 73-20-81-810-865

Internal Failure of the ECU on Engine 1

- 1. Possible Causes
 - ECU (4000KS)
- 2. Job Set-up Information
 - A. Referenced Information

	REFERENCE		DESIGNATION	
_		77 24 (0 000 004	Barrard of the Electronic Control Unit (EQUIX/(QQQ)(C)	
R	AMM	73-21-60-000-001	Removal of the Electronic Control Unit (ECU)(4000KS)	
	AMM	73-21-60-400-001	Installation of the Electronic Control Unit	
R			(ECU)(4000KS)	
	AMM	73-29-00-710-040	Operational Test of the FADEC on the Ground (with Engine non Motoring)	

- 3. Fault Confirmation
 - A. Do the operational test of the FADEC 1A on the ground (with engine non motoring) (Ref. AMM TASK 73-29-00-710-040).
- 4. Fault Isolation
 - A. If the test gives the maintenance message ECU (EIU INTFC):
 - replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).

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TASK 73-20-81-810-866

Internal Failure of the ECU on Engine 2

- 1. Possible Causes
 - ECU (4000KS)
- 2. Job Set-up Information
 - A. Referenced Information

REFERENCE		DESIGNATION
AMM	73-21-60-000-001	Removal of the Electronic Control Unit (ECU)(4000KS)
AMM	73-21-60-400-001	Installation of the Electronic Control Unit
		(ECU)(4000KS)
AMM	73-29-00-710-040	Operational Test of the FADEC on the Ground (with Engine non Motoring)
	AMM AMM	REFERENCE

- 3. Fault Confirmation
 - A. Do the operational test of the FADEC 2A on the ground (with engine non motoring) (Ref. AMM TASK 73-29-00-710-040).
- 4. Fault Isolation
 - A. If the test gives the maintenance message ECU (EIU INTFC):
 - replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).

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TASK 73-20-81-810-868

Internal Failure of the ECU on Engine 1

- 1. Possible Causes
 - ECU (4000KS)
- 2. Job Set-up Information
 - A. Referenced Information

	REFERENCE		DESIGNATION
_			
R	AMM	73-21-60-000-001	Removal of the Electronic Control Unit (ECU)(4000KS)
	AMM	73-21-60-400-001	Installation of the Electronic Control Unit
R			(ECU)(4000KS)
	AMM	73-29-00-710-040	Operational Test of the FADEC on the Ground (with Engine non Motoring)

3. Fault Confirmation

A. Do the operational test of the FADEC 1A and 1B on the ground (with engine non motoring) (Ref. AMM TASK 73-29-00-710-040).

4. Fault Isolation

- A. If the test gives the maintenance message ECU (CHAN SYNCH):
 - replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).

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TASK 73-20-81-810-869

Internal Failure of the ECU on Engine 2

- 1. Possible Causes
 - ECU (4000KS)
- 2. Job Set-up Information
 - A. Referenced Information

	REFERENCE		DESIGNATION
_		77 04 40 000 004	
R	AMM	73-21-60-000-001	Removal of the Electronic Control Unit (ECU)(4000KS)
	AMM	73-21-60-400-001	Installation of the Electronic Control Unit
R			(ECU)(4000KS)
	AMM	73-29-00-710-040	Operational Test of the FADEC on the Ground (with Engine non Motoring)

3. Fault Confirmation

A. Do the operational test of the FADEC 2A and 2B on the ground (with engine non motoring) (Ref. AMM TASK 73-29-00-710-040).

4. Fault Isolation

- A. If the test gives the maintenance message ECU (CHAN SYNCH):
 - replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).

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TASK 73-20-81-810-870

Internal Failure of the ECU on Engine 1

- 1. Possible Causes
 - ECU (4000KS)
- 2. Job Set-up Information
 - A. Referenced Information

REFERENCE		DESIGNATION
AMM	73-21-60-000-001	Removal of the Electronic Control Unit (ECU)(4000KS)
AMM	73-21-60-400-001	Installation of the Electronic Control Unit
		(ECU)(4000KS)
AMM	73-29-00-710-040	Operational Test of the FADEC on the Ground (with Engine non Motoring)
	AMM AMM	REFERENCE

- 3. Fault Confirmation
 - A. Do the operational test of the FADEC 1A on the ground (with engine non motoring) (Ref. AMM TASK 73-29-00-710-040).
- 4. Fault Isolation
 - A. If the test gives the maintenance message ECU (CHAN SYNCH):
 - replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).

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TASK 73-20-81-810-871

Internal Failure of the ECU on Engine 1

- 1. Possible Causes
 - ECU (4000KS)
- 2. Job Set-up Information
 - A. Referenced Information

REFERENCE		DESIGNATION
AMM	73-21-60-000-001	Removal of the Electronic Control Unit (ECU)(4000KS)
AMM	73-21-60-400-001	Installation of the Electronic Control Unit
		(ECU)(4000KS)
AMM	73-29-00-710-040	Operational Test of the FADEC on the Ground (with Engine non Motoring)
	AMM AMM	REFERENCE

- 3. Fault Confirmation
 - A. Do the operational test of the FADEC 1B on the ground (with engine non motoring) (Ref. AMM TASK 73-29-00-710-040).
- 4. Fault Isolation
 - A. If the test gives the maintenance message ECU (CHAN SYNCH):
 - replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).

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TASK 73-20-81-810-872

Internal Failure of the ECU on Engine 2

- 1. Possible Causes
 - ECU (4000KS)
- 2. Job Set-up Information
 - A. Referenced Information

REFERENCE		DESIGNATION
AMM	73-21-60-000-001	Removal of the Electronic Control Unit (ECU)(4000KS)
AMM	73-21-60-400-001	Installation of the Electronic Control Unit
		(ECU)(4000KS)
AMM	73-29-00-710-040	Operational Test of the FADEC on the Ground (with Engine non Motoring)
	AMM AMM	REFERENCE

- 3. Fault Confirmation
 - A. Do the operational test of the FADEC 2A on the ground (with engine non motoring) (Ref. AMM TASK 73-29-00-710-040).
- 4. Fault Isolation
 - A. If the test gives the maintenance message ECU (CHAN SYNCH):
 - replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).

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TROUBLE SHOOTING MANUAL

TASK 73-20-81-810-873

Internal Failure of the ECU on Engine 2

- 1. Possible Causes
 - ECU (4000KS)
- 2. Job Set-up Information
 - A. Referenced Information

REFERENCE		DESIGNATION
AMM	73-21-60-000-001	Removal of the Electronic Control Unit (ECU)(4000KS)
AMM	73-21-60-400-001	Installation of the Electronic Control Unit
		(ECU)(4000KS)
AMM	73-29-00-710-040	Operational Test of the FADEC on the Ground (with Engine non Motoring)
	AMM AMM	REFERENCE

- 3. Fault Confirmation
 - A. Do the operational test of the FADEC 2B on the ground (with engine non motoring) (Ref. AMM TASK 73-29-00-710-040).
- 4. Fault Isolation
 - A. If the test gives the maintenance message ECU (CHAN SYNCH):
 - replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).

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TASK 73-20-81-810-874

Internal Failure of the ECU on Engine 1

- 1. Possible Causes
 - ECU (4000KS)
- 2. Job Set-up Information
 - A. Referenced Information

	REFERENCE		DESIGNATION	
R	AMM	73-21-60-000-001	Removal of the Electronic Control Unit (ECU)(4000KS)	
R	AMM	73-21-60-400-001	Installation of the Electronic Control Unit (ECU)(4000KS)	
.,	AMM	73-29-00-710-040	Operational Test of the FADEC on the Ground (with Engine non Motoring)	
	ASM	73-25/10	5	

- 3. Fault Confirmation
 - A. Do the operational test of the FADEC 1B on the ground (with engine non motoring) (Ref. AMM TASK 73-29-00-710-040).
- 4. Fault Isolation
 - A. If the test gives the maintenance message ECU (ARINC OUT):
 - do a check for a short to ground at the wiring and connectors between the ECU (4000KS) and the test receptacle of the aircraft computers:
 - . EIU1 (1KS1) DMC1 (1WT1)
 - _ DMC2 (1WT2) DMC3 (1WT3)
 - FMGC1 (1CA1) FWC1 (1WW1)
 - . FWC2 (1WW2) DMU (1TV)
 - (Ref. ASM 73-25/10).
 - (1) If there is a short to ground:
 - repair the defective wiring.
 - (2) If there is no short to ground:
 - replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).

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TASK 73-20-81-810-875

Internal Failure of the ECU on Engine 2

- 1. Possible Causes
 - ECU (4000KS)
- 2. Job Set-up Information
 - A. Referenced Information

	REFERENCE		DESIGNATION	
R	лмм	73-21-60-000-001	Removal of the Electronic Control Unit (ECU)(4000KS)	
••		73-21-60-400-001	Installation of the Electronic Control Unit	
R			(ECU)(4000KS)	
	AMM	73-29-00-710-040	Operational Test of the FADEC on the Ground (with Engine non Motoring)	
	ASM	73-25/10		

- 3. Fault Confirmation
 - A. Do the operational test of the FADEC 2B on the ground (with engine non motoring) (Ref. AMM TASK 73-29-00-710-040).
- 4. Fault Isolation
 - A. If the test gives the maintenance message ECU (ARINC OUT):
 - do a check for a short to ground at the wiring and connectors between the ECU (4000KS) and the test receptacle of the aircraft computers:
 - . EIU2 (1KS2) DMC1 (1WT1)
 - _ DMC2 (1WT2) DMC3 (1WT3)
 - FMGC1 (1CA1) FWC1 (1WW1)
 - . FWC2 (1WW2) DMU (1TV)
 - (Ref. ASM 73-25/10).
 - (1) If there is a short to ground:
 - repair the defective wiring.
 - (2) If there is no short to ground:
 - replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).

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TASK 73-20-81-810-876

Internal Failure of the ECU on Engine 1

- 1. Possible Causes
 - ECU (4000KS)
- 2. Job Set-up Information
 - A. Referenced Information

REFERENCE		
		DESIGNATION
A MM	77 24 40 000 004	Paraval of the Floringia Control Hait (FCH)((000KS)
AMM	73-21-60-000-001	Removal of the Electronic Control Unit (ECU)(4000KS)
AMM	73-21-60-400-001	Installation of the Electronic Control Unit
		(ECU)(4000KS)
AMM	73-29-00-710-040	Operational Test of the FADEC on the Ground (with Engine non Motoring)
	AMM AMM	REFERENCE

3. Fault Confirmation

A. Do the operational test of the FADEC 1B on the ground (with engine non motoring) (Ref. AMM TASK 73-29-00-710-040).

4. Fault Isolation

- A. If the test gives the maintenance message ECU (TECU SENSOR):
 - replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).

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TASK 73-20-81-810-877

Internal Failure of the ECU on Engine 2

- 1. Possible Causes
 - ECU (4000KS)
- 2. Job Set-up Information
 - A. Referenced Information

REFERENCE		DESIGNATION
AMM	73-21-60-000-001	Removal of the Electronic Control Unit (ECU)(4000KS)
AMM	73-21-60-400-001	Installation of the Electronic Control Unit
		(ECU)(4000KS)
AMM	73-29-00-710-040	Operational Test of the FADEC on the Ground (with Engine non Motoring)
	AMM AMM	REFERENCE

- 3. Fault Confirmation
 - A. Do the operational test of the FADEC 2B on the ground (with engine non motoring) (Ref. AMM TASK 73-29-00-710-040).
- 4. Fault Isolation
 - A. If the test gives the maintenance message ECU (TECU SENSOR):
 - replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).

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TROUBLE SHOOTING MANUAL

TASK 73-20-81-810-878

Loss of the PO Sensor Signal on Engine 1

- 1. Possible Causes
 - ECU (4000KS)
- 2. Job Set-up Information
 - A. Referenced Information

REFERENCE		
		DESIGNATION
A MM	77 24 40 000 004	Paraval of the Floringia Control Hait (FCH)((000KS)
AMM	73-21-60-000-001	Removal of the Electronic Control Unit (ECU)(4000KS)
AMM	73-21-60-400-001	Installation of the Electronic Control Unit
		(ECU)(4000KS)
AMM	73-29-00-710-040	Operational Test of the FADEC on the Ground (with Engine non Motoring)
	AMM AMM	REFERENCE

3. Fault Confirmation

A. Do the operational test of the FADEC 1B on the ground (with engine non motoring) (Ref. AMM TASK 73-29-00-710-040).

4. Fault Isolation

- A. If the test gives the maintenance message ECU (PO SENSOR):
 - make sure that the PO nipple on the ECU (4000KS) is clear and not clogged.
 - (1) If the fault continues:
 - replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).

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TROUBLE SHOOTING MANUAL

TASK 73-20-81-810-879

Loss of the PO Sensor Signal on Engine 2

- 1. Possible Causes
 - ECU (4000KS)
- 2. Job Set-up Information
 - A. Referenced Information

	REFERENCE		
			DESIGNATION
R	AMM	73-21-60-000-001	Removal of the Electronic Control Unit (ECU)(4000KS)
	AMM	73-21-60-400-001	Installation of the Electronic Control Unit
R			(ECU)(4000KS)
	AMM	73-29-00-710-040	Operational Test of the FADEC on the Ground (with Engine non Motoring)

3. Fault Confirmation

A. Do the operational test of the FADEC 2B on the ground (with engine non motoring) (Ref. AMM TASK 73-29-00-710-040).

4. Fault Isolation

- A. If the test gives the maintenance message ECU (PO SENSOR):
 - make sure that the PO nipple on the ECU (4000KS) is clear and not clogged.
 - (1) If the fault continues:
 - replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).

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TROUBLE SHOOTING MANUAL

TASK 73-20-81-810-880

Internal Failure of the ECU on Engine 1

1. Possible Causes

R

R

R

- ECU (4000KS)
- ECU air cooling system
- R anti-ice system ducts

2. Job Set-up Information

A. Referenced Information

	REFE	RENCE	DESIGNATION
R R	AMM	30-21-49-210-040	Visual Inspection of the Anti-Ice System Hoses, Tubes and Ducts
	AMM	73-21-60-000-001	Removal of the Electronic Control Unit (ECU)(4000KS)
	AMM	73-21-60-400-001	<pre>Installation of the Electronic Control Unit (ECU)(4000KS)</pre>
	AMM	73-29-00-710-040	Operational Test of the FADEC on the Ground (with Engine non Motoring)
	AMM	75-24-49-210-042	Visual Inspection of the ECU Air Cooling Tubes and Ducts

3. Fault Confirmation

A. Do the operational test of the FADEC 1B on the ground (with engine non motoring) (Ref. AMM TASK 73-29-00-710-040).

4. Fault Isolation

A. If the test gives the maintenance message ECU (OVERTEMP):

R (1) Remove the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001).

- (2) Do a check of the ECU air cooling system to make sure that the inlet and outlet ports are not clogged (Ref. AMM TASK 75-24-49-210-042).
- R (3) Do a check for leakage on the anti-ice system ducts (Ref. AMM TASK 30-21-49-210-040).
- R (4) Install the new ECU (4000KS) (Ref. AMM TASK 73-21-60-400-001).

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TROUBLE SHOOTING MANUAL

TASK 73-20-81-810-881

Internal Failure of the ECU on Engine 2

1. Possible Causes

R

R

R

- ECU (4000KS)
- ECU air cooling system
- anti-ice system ducts

2. Job Set-up Information

A. Referenced Information

	REFERENCE		DESIGNATION
R R	AMM	30-21-49-210-040	Visual Inspection of the Anti-Ice System Hoses, Tubes and Ducts
	AMM	73-21-60-000-001	Removal of the Electronic Control Unit (ECU)(4000KS)
	AMM	73-21-60-400-001	Installation of the Electronic Control Unit (ECU)(4000KS)
	AMM	73-29-00-710-040	Operational Test of the FADEC on the Ground (with Engine non Motoring)
	AMM	75-24-49-210-042	Visual Inspection of the ECU Air Cooling Tubes and Ducts

3. Fault Confirmation

A. Do the operational test of the FADEC 2B on the ground (with engine non motoring) (Ref. AMM TASK 73-29-00-710-040).

4. Fault Isolation

A. If the test gives the maintenance message ECU (OVERTEMP):

(1) Remove the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001). R

- (2) Do a check of the ECU air cooling system to make sure that the inlet and outlet ports are not clogged (Ref. AMM TASK 75-24-49-210-042).
- (3) Do a check for leakage on the anti-ice system ducts (Ref. AMM TASK R 30-21-49-210-040). R
- R (4) Install the new ECU (4000KS) (Ref. AMM TASK 73-21-60-400-001).

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TROUBLE SHOOTING MANUAL

TASK 73-20-81-810-882

Internal Failure of the ECU on Engine 1

- 1. Possible Causes
 - ECU (4000KS)
- 2. Job Set-up Information
 - A. Referenced Information

	REFERENCE		
			DESIGNATION
_		77 24 (0 000 004	Barrard of the Electronic Control Unit (EQUIX/(QQQ)(C)
R	AMM	73-21-60-000-001	Removal of the Electronic Control Unit (ECU)(4000KS)
	AMM	73-21-60-400-001	Installation of the Electronic Control Unit
R			(ECU)(4000KS)
	AMM	73-29-00-710-040	Operational Test of the FADEC on the Ground (with Engine non Motoring)

3. Fault Confirmation

A. Do the operational test of the FADEC 1B on the ground (with engine non motoring) (Ref. AMM TASK 73-29-00-710-040).

4. Fault Isolation

- A. If the test gives the maintenance message ECU (PRESS SYS A):
 - replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).

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TROUBLE SHOOTING MANUAL

TASK 73-20-81-810-883

Internal Failure of the ECU on Engine 2

- 1. Possible Causes
 - ECU (4000KS)
- 2. Job Set-up Information
 - A. Referenced Information

REFERENCE		DESIGNATION
AMM	73-21-60-000-001	Removal of the Electronic Control Unit (ECU)(4000KS)
AMM	73-21-60-400-001	Installation of the Electronic Control Unit
		(ECU)(4000KS)
AMM	73-29-00-710-040	Operational Test of the FADEC on the Ground (with Engine non Motoring)
	AMM AMM	REFERENCE

- 3. Fault Confirmation
 - A. Do the operational test of the FADEC 2B on the ground (with engine non motoring) (Ref. AMM TASK 73-29-00-710-040).
- 4. Fault Isolation
 - A. If the test gives the maintenance message ECU (PRESS SYS A):
 replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).

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TROUBLE SHOOTING MANUAL

TASK 73-20-81-810-884

Internal Failure of the ECU on Engine 1

- 1. Possible Causes
 - ECU (4000KS)
- 2. Job Set-up Information
 - A. Referenced Information

REFERENCE		
		DESIGNATION
A MM	77 24 40 000 004	Paraval of the Floringia Control Hait (FCH)((000KS)
AMM	73-21-60-000-001	Removal of the Electronic Control Unit (ECU)(4000KS)
AMM	73-21-60-400-001	Installation of the Electronic Control Unit
		(ECU)(4000KS)
AMM	73-29-00-710-040	Operational Test of the FADEC on the Ground (with Engine non Motoring)
	AMM AMM	REFERENCE

3. Fault Confirmation

A. Do the operational test of the FADEC 1B on the ground (with engine non motoring) (Ref. AMM TASK 73-29-00-710-040).

4. Fault Isolation

- A. If the test gives the maintenance message ECU (PRESS SYS B):
 - replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).

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TROUBLE SHOOTING MANUAL

TASK 73-20-81-810-885

- R Internal Failure of the ECU on Engine 2
 - 1. Possible Causes
 - ECU (4000KS)
 - 2. Job Set-up Information
 - A. Referenced Information

REFERENCE	DESIGNATION
AMM 73-21-60-000-001	Removal of the Electronic Control Unit (ECU)(4000KS)
AMM 73-21-60-400-001	<pre>Installation of the Electronic Control Unit (ECU)(4000KS)</pre>
AMM 73-29-00-710-040	Operational Test of the FADEC on the Ground (with Engine non Motoring)

- 3. Fault Confirmation
 - A. Do the operational test of the FADEC 2B on the ground (with engine non motoring) (Ref. AMM TASK 73-29-00-710-040).
- 4. Fault Isolation
 - A. If the test gives the maintenance message ECU (PRESS SYS B):
 - replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).

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TROUBLE SHOOTING MANUAL

TASK 73-20-81-810-886

R Internal Failure of the ECU - CPU FAULT - Engine 1 - Channel B

- 1. Possible Causes
- ECU (4000KS)

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R R

- 2. Job Set-up Information
 - A. Referenced Information

	REFE	RENCE	DESIGNATION
R R	AMM	73-21-60-000-001 73-21-60-400-001 73-29-00-710-040	Removal of the Electronic Control Unit (ECU)(4000KS) Installation of the Electronic Control Unit (ECU)(4000KS) Operational Test of the FADEC on the Ground (with Engine non Motoring)

- 3. Fault Confirmation
- A. Do the operational test of the FADEC 1B on the ground (with engine non R motoring) (Ref. AMM TASK 73-29-00-710-040).
 - 4. Fault Isolation
- A. This failure message is generated when there is an internal ECU R R processing fault.
 - (1) If the failure message ECU (CPU FAULT) is not confirmed: - no maintenance action is required.
 - (2) If the failure message ECU (CPU FAULT) is not confirmed, but is repetitive:
 - replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).
 - (3) If the failure message ECU (CPU FAULT) is confirmed:
 - replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).
- R B. Do the test given in Para. 3.A.
- (1) No additional maintenance action is required if the fault is not R confirmed. R
- (2) Repeat the fault isolation procedure if the fault continues. R

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TROUBLE SHOOTING MANUAL

TASK 73-20-81-810-887

R Internal Failure of the ECU - CPU FAULT - Engine 2 - Channel B

- 1. Possible Causes
- R ECU (4000KS)

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R R

- 2. Job Set-up Information
 - A. Referenced Information

	REFE	RENCE	DESIGNATION
R	ΔММ	73-21-60-000-001	Removal of the Electronic Control Unit (ECU)(4000KS)
r R		73-21-60-400-001	Installation of the Electronic Control Unit (ECU)(4000KS)
•	AMM	73-29-00-710-040	Operational Test of the FADEC on the Ground (with Engine non Motoring)

3. Fault Confirmation

A. Do the operational test of the FADEC 2B on the ground (with engine non motoring) (Ref. AMM TASK 73-29-00-710-040).

4. Fault Isolation

- R A. This failure message is generated when there is an internal ECU processing fault.
 - (1) If the failure message ECU (CPU FAULT) is not confirmed:

 no maintenance action is required.
 - (2) If the failure message ECU (CPU FAULT) is not confirmed, but is repetitive:
 - replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).
 - (3) If the failure message ECU (CPU FAULT) is confirmed:
 - replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).
- R B. Do the test given in Para. 3.A.
- R (1) No additional maintenance action is required if the fault is not confirmed.
- R (2) Repeat the fault isolation procedure if the fault continues.

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TROUBLE SHOOTING MANUAL

TASK 73-20-81-810-892

Internal Failure of the ECU on Engine 1

- 1. Possible Causes
 - ECU (4000KS)
- 2. Job Set-up Information
 - A. Referenced Information

REFERENCE		DESIGNATION
AMM	73-21-60-000-001	Removal of the Electronic Control Unit (ECU)(4000KS)
AMM	73-21-60-400-001	Installation of the Electronic Control Unit
		(ECU)(4000KS)
AMM	73-29-00-710-040	Operational Test of the FADEC on the Ground (with Engine non Motoring)
	AMM AMM	REFERENCE

- 3. Fault Confirmation
 - A. Do the operational test of the FADEC 1B on the ground (with engine non motoring) (Ref. AMM TASK 73-29-00-710-040).
- 4. Fault Isolation
 - A. If the test gives the maintenance message ECU (DATA ACQN):
 - replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).

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TROUBLE SHOOTING MANUAL

TASK 73-20-81-810-893

Internal Failure of the ECU on Engine 2

- 1. Possible Causes
 - ECU (4000KS)
- 2. Job Set-up Information
 - A. Referenced Information

REFERENCE		DESIGNATION
AMM	73-21-60-000-001	Removal of the Electronic Control Unit (ECU)(4000KS)
AMM	73-21-60-400-001	Installation of the Electronic Control Unit
		(ECU)(4000KS)
AMM	73-29-00-710-040	Operational Test of the FADEC on the Ground (with Engine non Motoring)
	AMM AMM	REFERENCE

- 3. Fault Confirmation
 - A. Do the operational test of the FADEC 2B on the ground (with engine non motoring) (Ref. AMM TASK 73-29-00-710-040).
- 4. Fault Isolation
 - A. If the test gives the maintenance message ECU (DATA ACQN):
 - replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).

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TROUBLE SHOOTING MANUAL

TASK 73-20-81-810-894

Internal Failure of the ECU on Engine 1

- 1. Possible Causes
 - ECU (4000KS)
- 2. Job Set-up Information
 - A. Referenced Information

	REFERENCE		DESIGNATION	
_		77 24 (0 000 004	Barrard of the Electronic Control Unit (EQUIX/(QQQ)(C)	
R	AMM	73-21-60-000-001	Removal of the Electronic Control Unit (ECU)(4000KS)	
	AMM	73-21-60-400-001	Installation of the Electronic Control Unit	
R			(ECU)(4000KS)	
	AMM	73-29-00-710-040	Operational Test of the FADEC on the Ground (with Engine non Motoring)	

- 3. Fault Confirmation
 - A. Do the operational test of the FADEC 1B on the ground (with engine non motoring) (Ref. AMM TASK 73-29-00-710-040).
- 4. Fault Isolation
 - A. If the test gives the maintenance message ECU (ACI FAULT):
 - replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).

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TROUBLE SHOOTING MANUAL

TASK 73-20-81-810-895

Internal Failure of the ECU on Engine 2

- 1. Possible Causes
 - ECU (4000KS)
- 2. Job Set-up Information
 - A. Referenced Information

	REFERENCE		DESIGNATION	
_		77 24 (0 000 004	Barrard of the Electronic Control Unit (EQUIX/(QQQ)(C)	
R	AMM	73-21-60-000-001	Removal of the Electronic Control Unit (ECU)(4000KS)	
	AMM	73-21-60-400-001	Installation of the Electronic Control Unit	
R			(ECU)(4000KS)	
	AMM	73-29-00-710-040	Operational Test of the FADEC on the Ground (with Engine non Motoring)	

- 3. Fault Confirmation
 - A. Do the operational test of the FADEC 2B on the ground (with engine non motoring) (Ref. AMM TASK 73-29-00-710-040).
- 4. Fault Isolation
 - A. If the test gives the maintenance message ECU (ACI FAULT):
 replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM
 - TASK 73-21-60-400-001).

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TROUBLE SHOOTING MANUAL

TASK 73-20-81-810-896

Internal Failure of the ECU on Engine 1

- 1. Possible Causes
 - ECU (4000KS)
- 2. Job Set-up Information
 - A. Referenced Information

REFERENCE		DESIGNATION
AMM	73-21-60-000-001	Removal of the Electronic Control Unit (ECU)(4000KS)
AMM	73-21-60-400-001	Installation of the Electronic Control Unit
		(ECU)(4000KS)
AMM	73-29-00-710-040	Operational Test of the FADEC on the Ground (with Engine non Motoring)
	AMM AMM	REFERENCE

- 3. Fault Confirmation
 - A. Do the operational test of the FADEC 1B on the ground (with engine non motoring) (Ref. AMM TASK 73-29-00-710-040).
- 4. Fault Isolation
 - A. If the test gives the maintenance message ECU (SCU, MUX FAULT):
 replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).

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TROUBLE SHOOTING MANUAL

TASK 73-20-81-810-897

Internal Failure of the ECU on Engine 2

- 1. Possible Causes
 - ECU (4000KS)
- 2. Job Set-up Information
 - A. Referenced Information

REFERENCE		DESIGNATION
AMM	73-21-60-000-001	Removal of the Electronic Control Unit (ECU)(4000KS)
AMM	73-21-60-400-001	Installation of the Electronic Control Unit
		(ECU)(4000KS)
AMM	73-29-00-710-040	Operational Test of the FADEC on the Ground (with Engine non Motoring)
	AMM AMM	REFERENCE

- 3. Fault Confirmation
 - A. Do the operational test of the FADEC 2B on the ground (with engine non motoring) (Ref. AMM TASK 73-29-00-710-040).
- 4. Fault Isolation
 - A. If the test gives the maintenance message ECU (SCU, MUX FAULT):
 replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).

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TROUBLE SHOOTING MANUAL

TASK 73-20-81-810-898

Internal Failure of the ECU on Engine 1

- 1. Possible Causes
 - ECU (4000KS)
- 2. Job Set-up Information
 - A. Referenced Information

	REFERENCE		DESIGNATION	
_		77 24 (0 000 004	Barrard of the Electronic Control Unit (EQUIX/(QQQ)(C)	
R	AMM	73-21-60-000-001	Removal of the Electronic Control Unit (ECU)(4000KS)	
	AMM	73-21-60-400-001	Installation of the Electronic Control Unit	
R			(ECU)(4000KS)	
	AMM	73-29-00-710-040	Operational Test of the FADEC on the Ground (with Engine non Motoring)	

- 3. Fault Confirmation
 - A. Do the operational test of the FADEC 1B on the ground (with engine non motoring) (Ref. AMM TASK 73-29-00-710-040).
- 4. Fault Isolation
 - A. If the test gives the maintenance message ECU (ADC 1 INTFC):
 replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).

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TROUBLE SHOOTING MANUAL

TASK 73-20-81-810-899

Internal Failure of the ECU on Engine 2

TASK 73-21-60-400-001).

- 1. Possible Causes
 - ECU (4000KS)
- 2. Job Set-up Information
 - A. Referenced Information

	REFERENCE		DESIGNATION	
_		77 24 (0 000 004	Barrard of the Electronic Control Unit (EQUIX/(QQQ)(C)	
R	AMM	73-21-60-000-001	Removal of the Electronic Control Unit (ECU)(4000KS)	
	AMM	73-21-60-400-001	Installation of the Electronic Control Unit	
R			(ECU)(4000KS)	
	AMM	73-29-00-710-040	Operational Test of the FADEC on the Ground (with Engine non Motoring)	

- 3. Fault Confirmation
 - A. Do the operational test of the FADEC 2B on the ground (with engine non motoring) (Ref. AMM TASK 73-29-00-710-040).
- 4. Fault Isolation
 - A. If the test gives the maintenance message ECU (ADC 1 INTFC):
 replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM

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TROUBLE SHOOTING MANUAL

TASK 73-20-81-810-900

Internal Failure of the ECU on Engine 1

- 1. Possible Causes
 - ECU (4000KS)
- 2. Job Set-up Information
 - A. Referenced Information

REFERENCE		DESIGNATION
AMM	73-21-60-000-001	Removal of the Electronic Control Unit (ECU)(4000KS)
AMM	73-21-60-400-001	Installation of the Electronic Control Unit
		(ECU)(4000KS)
AMM	73-29-00-710-040	Operational Test of the FADEC on the Ground (with Engine non Motoring)
	AMM AMM	REFERENCE

- 3. Fault Confirmation
 - A. Do the operational test of the FADEC 1B on the ground (with engine non motoring) (Ref. AMM TASK 73-29-00-710-040).
- 4. Fault Isolation
 - A. If the test gives the maintenance message ECU (ADC 2 INTFC):
 - replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).

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TROUBLE SHOOTING MANUAL

TASK 73-20-81-810-901

Internal Failure of the ECU on Engine 2

- 1. Possible Causes
 - ECU (4000KS)
- 2. Job Set-up Information
 - A. Referenced Information

REFERENCE		DESIGNATION
AMM	73-21-60-000-001	Removal of the Electronic Control Unit (ECU)(4000KS)
AMM	73-21-60-400-001	Installation of the Electronic Control Unit
		(ECU)(4000KS)
AMM	73-29-00-710-040	Operational Test of the FADEC on the Ground (with Engine non Motoring)
	AMM AMM	REFERENCE

- 3. Fault Confirmation
 - A. Do the operational test of the FADEC 2B on the ground (with engine non motoring) (Ref. AMM TASK 73-29-00-710-040).
- 4. Fault Isolation
 - A. If the test gives the maintenance message ECU (ADC 2 INTFC):
 - replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).

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TROUBLE SHOOTING MANUAL

TASK 73-20-81-810-902

R Internal Failure of the ECU - NVM FAULT - Engine 1 - Channel B

- 1. Possible Causes
- ECU (4000KS)

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R R

- 2. Job Set-up Information
 - A. Referenced Information

	REFERENCE		DESIGNATION
R	AMM	73-21-60-000-001	Removal of the Electronic Control Unit (ECU)(4000KS)
R	AMM	73-21-60-400-001	Installation of the Electronic Control Unit (ECU)(4000KS)
- •	AMM	73-29-00-710-040	Operational Test of the FADEC on the Ground (with Engine non Motoring)

- 3. Fault Confirmation
- A. Do the operational test of the FADEC 1B on the ground (with engine non R motoring) (Ref. AMM TASK 73-29-00-710-040).
 - 4. Fault Isolation
- A. This failure message is generated when there is an internal ECU R R processing fault.
 - (1) If the failure message ECU (NVM FAULT) is not confirmed: - no maintenance action is required.
 - (2) If the failure message ECU (NVM FAULT) is not confirmed, but is repetitive:
 - replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).
 - (3) If the failure message ECU (NVM FAULT) is confirmed:
 - replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).
- R B. Do the test given in Para. 3.A.
- (1) No additional maintenance action is required if the fault is not R confirmed. R
- (2) Repeat the fault isolation procedure if the fault continues. R

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TASK 73-20-81-810-903

R Internal Failure of the ECU - NVM FAULT - Engine 2 - Channel B

- 1. Possible Causes
- R ECU (4000KS)

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- 2. Job Set-up Information
 - A. Referenced Information

	REFERENCE		DESIGNATION
R	AMM	73-21-60-000-001	Removal of the Electronic Control Unit (ECU)(4000KS)
R	AMM	73-21-60-400-001	Installation of the Electronic Control Unit (ECU)(4000KS)
- •	AMM	73-29-00-710-040	Operational Test of the FADEC on the Ground (with Engine non Motoring)

- 3. Fault Confirmation
- A. Do the operational test of the FADEC 2B on the ground (with engine non motoring) (Ref. AMM TASK 73-29-00-710-040).
 - 4. Fault Isolation
- R A. This failure message is generated when there is an internal ECU processing fault.
 - (1) If the failure message ECU (NVM FAULT) is not confirmed:

 no maintenance action is required.
 - (2) If the failure message ECU (NVM FAULT) is not confirmed, but is repetitive:
 - replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).
 - (3) If the failure message ECU (NVM FAULT) is confirmed:
 - replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).
- R B. Do the test given in Para. 3.A.
- R (1) No additional maintenance action is required if the fault is not confirmed.
- R (2) Repeat the fault isolation procedure if the fault continues.

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TROUBLE SHOOTING MANUAL

TASK 73-20-81-810-904

Internal Failure of the ECU on Engine 1

- 1. Possible Causes
 - ECU (4000KS)
- 2. Job Set-up Information
 - A. Referenced Information

REFERENCE		DESIGNATION
AMM	73-21-60-000-001	Removal of the Electronic Control Unit (ECU)(4000KS)
AMM	73-21-60-400-001	Installation of the Electronic Control Unit
		(ECU)(4000KS)
AMM	73-29-00-710-040	Operational Test of the FADEC on the Ground (with Engine non Motoring)
	AMM AMM	REFERENCE

- 3. Fault Confirmation
 - A. Do the operational test of the FADEC 1B on the ground (with engine non motoring) (Ref. AMM TASK 73-29-00-710-040).
- 4. Fault Isolation
 - A. If the test gives the maintenance message ECU (SPEED CONV):
 - replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).

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TROUBLE SHOOTING MANUAL

TASK 73-20-81-810-905

Internal Failure of the ECU on Engine 2

- 1. Possible Causes
 - ECU (4000KS)
- 2. Job Set-up Information
 - A. Referenced Information

	REFERENCE		DESIGNATION	
_		77 24 (0 000 004	Barrard of the Electronic Control Unit (EQUIX/(000KG)	
R	AMM	73-21-60-000-001	Removal of the Electronic Control Unit (ECU)(4000KS)	
	AMM	73-21-60-400-001	Installation of the Electronic Control Unit	
R			(ECU)(4000KS)	
	AMM	73-29-00-710-040	Operational Test of the FADEC on the Ground (with Engine non Motoring)	

- 3. Fault Confirmation
 - A. Do the operational test of the FADEC 2B on the ground (with engine non motoring) (Ref. AMM TASK 73-29-00-710-040).
- 4. Fault Isolation
 - A. If the test gives the maintenance message ECU (SPEED CONV):
 - replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).

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TASK 73-20-81-810-906

Internal Failure of the ECU on Engine 1

- 1. Possible Causes
 - ECU (4000KS)
- 2. Job Set-up Information
 - A. Referenced Information

REFERENCE		DESIGNATION
AMM	73-21-60-000-001	Removal of the Electronic Control Unit (ECU)(4000KS)
AMM	73-21-60-400-001	Installation of the Electronic Control Unit
		(ECU)(4000KS)
AMM	73-29-00-710-040	Operational Test of the FADEC on the Ground (with Engine non Motoring)
	AMM AMM	REFERENCE

- 3. Fault Confirmation
 - A. Do the operational test of the FADEC 1B on the ground (with engine non motoring) (Ref. AMM TASK 73-29-00-710-040).
- 4. Fault Isolation
 - A. If the test gives the maintenance message ECU (EIU INTFC):
 - replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).

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TASK 73-20-81-810-907

Internal Failure of the ECU on Engine 2

- 1. Possible Causes
 - ECU (4000KS)
- 2. Job Set-up Information
 - A. Referenced Information

REFERENCE		DESIGNATION
AMM	73-21-60-000-001	Removal of the Electronic Control Unit (ECU)(4000KS)
AMM	73-21-60-400-001	Installation of the Electronic Control Unit
		(ECU)(4000KS)
AMM	73-29-00-710-040	Operational Test of the FADEC on the Ground (with Engine non Motoring)
	AMM AMM	REFERENCE

- 3. Fault Confirmation
 - A. Do the operational test of the FADEC 2B on the ground (with engine non motoring) (Ref. AMM TASK 73-29-00-710-040).
- 4. Fault Isolation
 - A. If the test gives the maintenance message ECU (EIU INTFC):
 - replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).

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TASK 73-20-81-810-908

Internal Failure of the ECU on Engine 1

- 1. Possible Causes
 - ECU (4000KS)
- 2. Job Set-up Information
 - A. Referenced Information

REFERENCE		DESIGNATION
AMM	73-21-60-000-001	Removal of the Electronic Control Unit (ECU)(4000KS)
AMM	73-21-60-400-001	Installation of the Electronic Control Unit
		(ECU)(4000KS)
AMM	73-29-00-710-040	Operational Test of the FADEC on the Ground (with Engine non Motoring)
	AMM AMM	REFERENCE

- 3. Fault Confirmation
 - A. Do the operational test of the FADEC 1B on the ground (with engine non motoring) (Ref. AMM TASK 73-29-00-710-040).
- 4. Fault Isolation
 - A. If the test gives the maintenance message ECU (CCDL):
 - replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).

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TASK 73-20-81-810-909

Internal Failure of the ECU on Engine 2

- 1. Possible Causes
 - ECU (4000KS)
- 2. Job Set-up Information
 - A. Referenced Information

REFERENCE		DESIGNATION
AMM	73-21-60-000-001	Removal of the Electronic Control Unit (ECU)(4000KS)
AMM	73-21-60-400-001	Installation of the Electronic Control Unit
		(ECU)(4000KS)
AMM	73-29-00-710-040	Operational Test of the FADEC on the Ground (with Engine non Motoring)
	AMM AMM	REFERENCE

- 3. Fault Confirmation
 - A. Do the operational test of the FADEC 2B on the ground (with engine non motoring) (Ref. AMM TASK 73-29-00-710-040).
- 4. Fault Isolation
 - A. If the test gives the maintenance message ECU (CCDL):
 - replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).

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TROUBLE SHOOTING MANUAL

FUNCTIONAL INTERFACES - FAULT ISOLATION PROCEDURES

TASK 73-25-00-810-816

Failure of the ECU Power Supply on Engine 2

- 1. Possible Causes
 - EIU-2 (1KS2)
 - ECU (4000KS)
 - wiring from the ECU 2 (4000KS) to the EIU 2 (1KS2)
- 2. Job Set-up Information
 - A. Referenced Information

REFERENCE		DESIGNATION	
AMM	73-21-60-000-001	Removal of the Electronic Control Unit (ECU)(4000KS)	
AMM	73-21-60-400-001	<pre>Installation of the Electronic Control Unit (ECU)(4000KS)</pre>	
AMM	73-25-34-000-040	Removal of the Engine Interface Unit (EIU) (1KS1,1KS2)	
AMM	73-25-34-400-040	<pre>Installation of the Engine Interface Unit (EIU) (1KS1,1KS2)</pre>	
AMM	73-25-34-710-043	Operational Test of the Engine Interface Unit	
ASM	73-25/06		
ASM	73-25/10		

3. Fault Confirmation

A. Do the operational test of the Engine Interface Unit (EIU) through the Centralized Fault Display System (CFDS) (Ref. AMM TASK 73-25-34-710-043).

4. Fault Isolation

- A. If the test gives the maintenance message CHECK ECU 2 A1 and B1 BUS or EIU 2:
 - replace the EIU-2 (1KS2) (Ref. AMM TASK 73-25-34-000-040) and (Ref. AMM TASK 73-25-34-400-040).
 - (1) If the fault continues:
 - replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).
 - (2) If the fault continues:
 - do a check and repair the wiring from the ECU 2 (4000KS) to the EIU 2 (1KS2) pins J3/24, 11 to pins AA/15A, 15C, and pins J4/24, 11 to pins AA/14K, 15J (Ref. ASM 73-25/06) and (Ref. ASM 73-25/10).

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B. Do the test given in Para. 3.A.

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TASK 73-25-00-810-827

Loss of Channel A Data from the ECU on Engine 1

1. Possible Causes

- EIU-1 (1KS1)
- ECU (4000KS)
- wiring from the ECU 1 (4000KS) to the EIU 1 (1KS1)

2. Job Set-up Information

A. Referenced Information

REFERENCE		DESIGNATION
AMM	73-21-60-000-001	Removal of the Electronic Control Unit (ECU)(4000KS)
AMM	73-21-60-400-001	<pre>Installation of the Electronic Control Unit (ECU)(4000KS)</pre>
AMM	73-25-34-000-040	Removal of the Engine Interface Unit (EIU) (1KS1,1KS2)
AMM	73-25-34-400-040	<pre>Installation of the Engine Interface Unit (EIU) (1K\$1,1K\$2)</pre>
AMM ASM	73-25-34-710-043 73-25/10	Operational Test of the Engine Interface Unit

3. Fault Confirmation

A. Do the operational test of the Engine Interface Unit (EIU) through the Centralized Fault Display System (CFDS) (Ref. AMM TASK 73-25-34-710-043).

4. Fault Isolation

- A. If the test gives the maintenance message EIU1 : NO FADEC 1A DATA:
 - replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).
 - (1) If the fault continues:
 - replace the EIU-1 (1KS1) (Ref. AMM TASK 73-25-34-000-040) and (Ref. AMM TASK 73-25-34-400-040).
 - (2) If the fault continues:
 - do a check and repair the wiring from the ECU 1 (4000KS) to the EIU 1 (1KS1) pins J3/24, 11 to pins AA/15A, 15C (Ref. ASM 73-25/10).
- B. Do the test given in Para. 3.A.

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TASK 73-25-00-810-843

Failure of the ECU Power Supply on Engine 1

1. Possible Causes

- EIU-1 (1KS1)
- ECU (4000KS)
- wiring from the ECU 1 (4000KS) to the EIU 1 (1KS1)

2. Job Set-up Information

A. Referenced Information

REFERENCE		DESIGNATION
AMM	73-21-60-000-001	Removal of the Electronic Control Unit (ECU)(4000KS)
AMM	73-21-60-400-001	<pre>Installation of the Electronic Control Unit (ECU)(4000KS)</pre>
AMM	73-25-34-000-040	Removal of the Engine Interface Unit (EIU) (1KS1,1KS2)
AMM	73-25-34-400-040	<pre>Installation of the Engine Interface Unit (EIU) (1KS1,1KS2)</pre>
AMM	73-25-34-710-043	Operational Test of the Engine Interface Unit
ASM	73-25/06	
ASM	73-25/10	

3. Fault Confirmation

A. Do the operational test of the Engine Interface Unit (EIU) through the Centralized Fault Display System (CFDS) (Ref. AMM TASK 73-25-34-710-043).

4. Fault Isolation

- A. If the test gives the maintenance message CHECK ECU 1 A1 and B1 BUS or EIU 1:
 - replace the EIU-1 (1KS1) (Ref. AMM TASK 73-25-34-000-040) and (Ref. AMM TASK 73-25-34-400-040).
 - (1) If the fault continues:
 - replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).
 - (2) If the fault continues:
 - do a check and repair the wiring from the ECU 1 (4000KS) to the EIU 1 (1KS1) pins J3/24, 11 to pins AA/15A, 15C and pins J4/24, 11 to pins AA/14K, 14J (Ref. ASM 73-25/06) and (Ref. ASM 73-25/10).
- B. Do the test given in Para. 3.A.

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TASK 73-25-00-810-844

Loss of Channel A Data from the ECU on Engine 2

1. Possible Causes

- EIU-2 (1KS2)
- ECU (4000KS)
- wiring from the ECU 2 (4000KS) to the EIU 2 (1KS2)

2. Job Set-up Information

A. Referenced Information

REFERENCE		DESIGNATION
AMM	73-21-60-000-001	Removal of the Electronic Control Unit (ECU)(4000KS)
AMM	73-21-60-400-001	<pre>Installation of the Electronic Control Unit (ECU)(4000KS)</pre>
AMM	73-25-34-000-040	Removal of the Engine Interface Unit (EIU) (1KS1,1KS2)
AMM	73-25-34-400-040	<pre>Installation of the Engine Interface Unit (EIU) (1K\$1,1K\$2)</pre>
AMM ASM	73-25-34-710-043 73-25/10	Operational Test of the Engine Interface Unit

3. Fault Confirmation

A. Do the operational test of the Engine Interface Unit (EIU) through the Centralized Fault Display System (CFDS) (Ref. AMM TASK 73-25-34-710-043).

4. Fault Isolation

- A. If the test gives the maintenance message EIU 2: NO FADEC 2 A DATA:
 replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).
 - (1) If the fault continues:
 - replace the EIU-2 (1KS2) (Ref. AMM TASK 73-25-34-000-040) and (Ref. AMM TASK 73-25-34-400-040).
 - (2) If the fault continues:
 - do a check and repair the wiring from the ECU 2 (4000KS) to the EIU 2 (1KS2) pins J3/24, 11 to pins AA/15A, 15C (Ref. ASM 73-25/10).
- B. Do the test given in Para. 3.A.

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TASK 73-25-00-810-845

Loss of Channel B Data from the ECU on Engine 1

1. Possible Causes

- EIU-1 (1KS1)
- ECU (4000KS)
- wiring from the ECU 1 (4000KS) to the EIU 1 (1KS1)

2. Job Set-up Information

A. Referenced Information

REFERENCE		DESIGNATION
AMM	73-21-60-000-001	Removal of the Electronic Control Unit (ECU)(4000KS)
AMM	73-21-60-400-001	Installation of the Electronic Control Unit (ECU)(4000KS)
AMM	73-25-34-000-040	Removal of the Engine Interface Unit (EIU) (1KS1,1KS2)
AMM	73-25-34-400-040	<pre>Installation of the Engine Interface Unit (EIU) (1KS1,1KS2)</pre>
AMM ASM	73-25-34-710-043 73-25/10	Operational Test of the Engine Interface Unit

3. Fault Confirmation

A. Do the operational test of the Engine Interface Unit (EIU) through the Centralized Fault Display System (CFDS) (Ref. AMM TASK 73-25-34-710-043).

4. Fault Isolation

- A. If the test gives the maintenance message EIU 1: NO FADEC 1B DATA:
 replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).
 - (1) If the fault continues:
 - replace the EIU-1 (1KS1) (Ref. AMM TASK 73-25-34-000-040) and (Ref. AMM TASK 73-25-34-400-040).
 - (2) If the fault continues:
 - do a check and repair the wiring from the ECU 1 (4000KS) to the EIU 1 (1KS1) pins J4/24, 11 to pins AA/14K, 15J (Ref. ASM 73-25/10).
- B. Do the test given in Para. 3.A.

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TROUBLE SHOOTING MANUAL

TASK 73-25-00-810-846

Loss of Channel B Data from the ECU on Engine 2

1. Possible Causes

- EIU-2 (1KS2)
- ECU (4000KS)
- wiring from the ECU 2 (4000KS) to the EIU 2 (1KS2)

2. Job Set-up Information

A. Referenced Information

REFERENCE		DESIGNATION
AMM	73-21-60-000-001	Removal of the Electronic Control Unit (ECU)(4000KS)
AMM	73-21-60-400-001	<pre>Installation of the Electronic Control Unit (ECU)(4000KS)</pre>
AMM	73-25-34-000-040	Removal of the Engine Interface Unit (EIU) (1KS1,1KS2)
AMM	73-25-34-400-040	<pre>Installation of the Engine Interface Unit (EIU) (1KS1,1KS2)</pre>
AMM ASM	73-25-34-710-043 73-25/10	Operational Test of the Engine Interface Unit

3. Fault Confirmation

A. Do the operational test of the Engine Interface Unit (EIU) through the Centralized Fault Display System (CFDS) (Ref. AMM TASK 73-25-34-710-043).

4. Fault Isolation

- A. If the test gives the maintenance message EIU 2: NO FADEC 2B DATA:
 replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).
 - (1) If the fault continues:
 - replace the EIU-2 (1KS2) (Ref. AMM TASK 73-25-34-000-040) and (Ref. AMM TASK 73-25-34-400-040).
 - (2) If the fault continues:
 - do a check and repair the wiring from the ECU 2 (4000KS) to the EIU 2 (1KS2) pins J4/24, 11 to pins AA/14K, 15J (Ref. ASM 73-25/10).
- B. Do the test given in Para. 3.A.

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TROUBLE SHOOTING MANUAL

TASK 73-25-00-810-847

Failure of the Oil Low Pressure and Ground Relays on Engine 1

1. Possible Causes

- EIU-1 (1KS1)
- RELAY-OIL LOW PRESS AND GROUND, ENG1 (10KS1)
- RELAY-OIL LOW PRESS AND GROUND, ENG1 (11KS1)
- wiring from the EIU 1 (1KS1) to the relays (10KS1) or/and (11KS1)

2. Job Set-up Information

A. Referenced Information

REFERENCE		DESIGNATION
AMM	73-25-34-000-040	Removal of the Engine Interface Unit (EIU) (1KS1,1KS2)
AMM	73-25-34-400-040	Installation of the Engine Interface Unit (EIU) (1KS1,1KS2)
AMM ASM	73-25-34-710-043 73-25/09	Operational Test of the Engine Interface Unit

3. Fault Confirmation

A. Do the operational test of the Engine Interface Unit (EIU) through the Centralized Fault Display System (CFDS) (Ref. AMM TASK 73-25-34-710-043).

4. Fault Isolation

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- A. If the test gives the maintenance message CHECK 10KS1 RELAY CIRCUIT OR EIU1:
 - replace the RELAY-OIL LOW PRESS AND GROUND, ENG1 (10KS1) or/and the RELAY-OIL LOW PRESS AND GROUND, ENG1 (11KS1) (Ref. ASM 73-25/09).
 - (1) If the fault continues:
 - replace the EIU-1 (1KS1) (Ref. AMM TASK 73-25-34-000-040) and (Ref. AMM TASK 73-25-34-400-040).
 - (2) If the fault continues:
 - do a check and repair the wiring from the EIU 1 (1KS1) to the relays (10KS1) or/and (11KS1) pin AB/9D to pins AA/X, Z of the two relays (Ref. ASM 73-25/09).
- B. Do the test given in Para. 3.A.

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TROUBLE SHOOTING MANUAL

TASK 73-25-00-810-848

Failure of the Oil Low Pressure and Ground Relays on Engine 2

- 1. Possible Causes
 - EIU-2 (1KS2)
 - RELAY-OIL LOW PRESS AND GROUND, ENG2 (10KS2)
 - RELAY-OIL LOW PRESS AND GROUND, ENG2 (11KS2)
 - wiring from the EIU (1KS2) to the relays (10KS2) or/and (11KS2)
- 2. Job Set-up Information
 - A. Referenced Information

REFERENCE		DESIGNATION
АММ	73-25-34-000-040	Removal of the Engine Interface Unit (EIU) (1KS1,1KS2)
AMM	73-25-34-400-040	Installation of the Engine Interface Unit (EIU) (1KS1,1KS2)
AMM ASM	73-25-34-710-043 73-25/09	Operational Test of the Engine Interface Unit

- 3. Fault Confirmation
- A. Do the operational test of the Engine Interface Unit (EIU) through the Centralized Fault Display System (CFDS) (Ref. AMM TASK 73-25-34-710-043).
 - 4. Fault Isolation

R R

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R R

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- A. If the test gives the maintenance message CHECK 10KS2 RELAY CIRCUIT OR **EIU 2:**
 - replace the RELAY-OIL LOW PRESS AND GROUND, ENG2 (10KS2) or/and the RELAY-OIL LOW PRESS AND GROUND, ENG2 (11KS2) (Ref. ASM 73-25/09).
 - (1) If the fault continues:
 - replace the EIU-2 (1KS2) (Ref. AMM TASK 73-25-34-000-040) and (Ref. AMM TASK 73-25-34-400-040).
 - (2) If the fault continues:
 - do a check and repair the wiring from the EIU (1KS2) to the relays (10KS2) or/and (11KS2) pin AB/9D to pins AA/X, Z of the two relays (Ref. ASM 73-25/09).
- B. Do the test given in Para. 3.A.

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TROUBLE SHOOTING MANUAL

TASK 73-25-00-810-849

Failure of the Oil Low Pressure and Ground Relay on Engine 1

- 1. Possible Causes
 - EIU-1 (1KS1)
 - RELAY-OIL LOW PRESS AND GROUND, ENG1 (12KS1)
 - wiring from the EIU 1 (1KS1) to the relay (12KS1)
- 2. Job Set-up Information
 - A. Referenced Information

REFERENCE		DESIGNATION	
AMM 73-25-3	4-000-040	Removal of the Engine Interface Unit (EIU) (1KS1,1KS2)	
AMM 73-25-3	4-400-040	Installation of the Engine Interface Unit (EIU) (1KS1,1KS2)	
AMM 73-25-3 ASM 73-25/0	4-710-043 9	Operational Test of the Engine Interface Unit	

- 3. Fault Confirmation
- R A. Do the operational test of the Engine Interface Unit (Ref. AMM TASK 73-25-34-710-043).

4. Fault Isolation

R

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- A. If the test gives the maintenance message CHECK 12KS1 RELAY CIRCUIT OR EIU 1:
- replace the RELAY-OIL LOW PRESS AND GROUND, ENG1 (12KS1).
 - (1) If the fault continues:
 - replace the EIU-1 (1KS1) (Ref. AMM TASK 73-25-34-000-040) and (Ref. AMM TASK 73-25-34-400-040).
 - (2) If the fault continues:
 - do a check and repair the wiring from the EIU 1 (1KS1) to the relay (12KS1) pin AB/9C to pins AA/X, Z (Ref. ASM 73-25/09).

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B. Do the test given in Para. 3.A.

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EFF:

ALL

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TASK 73-25-00-810-850

Failure of the Low Oil Pressure and Ground Relay on Engine 2

- 1. Possible Causes
 - EIU-2 (1KS2)
 - RELAY-OIL LOW PRESS AND GROUND, ENG2 (12KS2)
 - wiring from the EIU 2 (1KS2) to the relay (12KS2)
- 2. Job Set-up Information
 - A. Referenced Information

REFERENCE		DESIGNATION
AMM	73-25-34-000-040	Removal of the Engine Interface Unit (EIU) (1KS1,1KS2)
AMM	73-25-34-400-040	Installation of the Engine Interface Unit (EIU) (1KS1,1KS2)
AMM ASM	73-25-34-710-043 73-25/09	Operational Test of the Engine Interface Unit

- 3. Fault Confirmation
 - A. Test

R

R R Do the operational test of the Engine Interface Unit (Ref. AMM TASK 73-25-34-710-043).

- 4. Fault Isolation
 - A. If the test gives the maintenance message CHECK 12KS2 RELAY CIRCUIT OR ETU 2:
 - replace the RELAY-OIL LOW PRESS AND GROUND, ENG2 (12KS2).
 - (1) If the fault continues:
 - replace the EIU-2 (1KS2) (Ref. AMM TASK 73-25-34-000-040) and (Ref. AMM TASK 73-25-34-400-040).
 - (2) If the fault continues:
 - do a check and repair the wiring from the EIU 2 (1KS2) to the relay (12KS2) pin AB/9C to pins AA/X, Z (Ref. ASM 73-25/09).
 - B. Do the test given in Para. 3.A.

FFF: ALL 73-25-00

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TROUBLE SHOOTING MANUAL

TASK 73-25-00-810-851

Failure of the Relay 15KS1 Control on the EIU 1

- 1. Possible Causes
 - EIU-1 (1KS1)
- 2. Job Set-up Information
 - A. Referenced Information

REFERENCE	DESIGNATION
AMM 73-25-34-000-040	Removal of the Engine Interface Unit (EIU) (1K\$1,1K\$2)
AMM 73-25-34-400-040	Installation of the Engine Interface Unit (EIU) (1K\$1,1K\$2)
AMM 73-25-34-710-044	Read the Class 3 Faults

3. Fault Confirmation

A. Test

Do the operational test of the Engine Interface Unit (EIU) through the Centralized Fault Display System (CFDS) to read the Class 3 Faults (Ref. AMM TASK 73-25-34-710-044).

4. Fault Isolation

- A. If the test gives the maintenance message CHECK 15KS1 RELAY CIRCUIT OR FILL 1.
 - replace the EIU-1 (1KS1) (Ref. AMM TASK 73-25-34-000-040) and (Ref. AMM TASK 73-25-34-400-040).

NOTE: As relay 15KS1 is not installed, no maintenance action in line is necessary. When the message comes into view on the EIU Class 3 report, replace the EIU 1 at the "A" check that follows.

- B. If the EIU 1 (1KS1) is replaced:
 - do the test given in Para. 3.A.

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TROUBLE SHOOTING MANUAL

TASK 73-25-00-810-852

Failure of the Relay 15KS1 Control on the EIU 2

- 1. Possible Causes
 - EIU-2 (1KS2)
- 2. Job Set-up Information
 - A. Referenced Information

REFERENCE	DESIGNATION
AMM 73-25-34-000-040	Removal of the Engine Interface Unit (EIU) (1K\$1,1K\$2)
AMM 73-25-34-400-040	Installation of the Engine Interface Unit (EIU) (1K\$1,1K\$2)
AMM 73-25-34-710-044	Read the Class 3 Faults

3. Fault Confirmation

A. Test

Do the operational test of the Engine Interface Unit (EIU) through the Centralized Fault Display System (CFDS) to read the Class 3 Faults (Ref. AMM TASK 73-25-34-710-044).

4. Fault Isolation

- A. If the test gives the maintenance message CHECK 15KS2 RELAY CIRCUIT OR EIU 2:
 - replace the EIU-2 (1KS2) (Ref. AMM TASK 73-25-34-000-040) and (Ref. AMM TASK 73-25-34-400-040).

NOTE: As relay 15KS2 is not installed, no maintenance action in line is necessary. When the message comes into view on the EIU Class 3 report, replace the EIU 2 at the "A" check that follows.

- B. If the EIU 2 (1KS2) is replaced:
 - do the test given in Para. 3.A.

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EFF: ALL

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TASK 73-25-00-810-853

Failure of the EIU on Engine 1

1. Possible Causes

- EIU-1 (1KS1)
- aircraft wirings
- C/B-ENGINE/1/FADEC A/AND EIU 1 (2KS1)
- C/B-ENGINE/ENG1/FADEC B/AND EIU 1 (4KS1)
- ECU (4000KS)

2. Job Set-up Information

A. Referenced Information

REFERENCE		DESIGNATION
AMM	73-21-60-000-001	Removal of the Electronic Control Unit (ECU)(4000KS)
AMM	73-21-60-400-001	<pre>Installation of the Electronic Control Unit (ECU)(4000KS)</pre>
AMM	73-25-34-000-040	Removal of the Engine Interface Unit (EIU) (1KS1,1KS2)
AMM	73-25-34-400-040	Installation of the Engine Interface Unit (EIU) (1KS1,1KS2)
	73-25-34-710-043 73-25/05	Operational Test of the Engine Interface Unit

3. Fault Confirmation

R A. Do the operational test of the Engine Interface Unit (EIU) through the Centralized Fault Display System (CFDS) (Ref. AMM TASK 73-25-34-710-043).

4. Fault Isolation

A. Table of the circuit breakers used in this procedure:

PANEL	DESIGNATION	IDENT.	LOCATION
49VU	ENGINE/1/FADEC A/AND EIU 1	2K\$1	A04
121VU	ENGINE/ENG1/FADEC B/AND EIU 1	4KS1	R41

- B. If the test gives the maintenance message EIU 1:
 - do a check for 28VDC at EIU 1 (1KS1) pins AC/9, 11.
 - (1) if there is 28VDC:
 - replace the EIU-1 (1KS1) (Ref. AMM TASK 73-25-34-000-040) and (Ref. AMM TASK 73-25-34-400-040).

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- (2) If there is no 28VDC:
 - do a check for open or short to ground of the aircraft wirings between the EIU 1 (1KS1) and the circuit breakers (2KS1) and (4KS1) pins AC/9, 11.
 - (a) If there is a short to ground:
 - repair the defective wiring(s)
 - (b) If there is no a short to ground:
 - replace the defective C/B-ENGINE/1/FADEC A/AND EIU 1 (2KS1) or the C/B-ENGINE/ENG1/FADEC B/AND EIU 1 (4KS1) (Ref. ASM 73-25/05).
- (3) If the fault continues:
 - replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).
- C. Do the operational test of the Engine Interface Unit (EIU) through the Centralized Fault Display System (CFDS) (Ref. AMM TASK 73-25-34-710-043).

EFF: ALL

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TASK 73-25-00-810-854

Failure of the EIU on Engine 2

1. Possible Causes

- EIU-2 (1KS2)
- aircraft wirings
- C/B-ENGINE/2/FADEC A/AND EIU 2 (2KS2)
- C/B-ENGINE/ENG2/FADEC B (4KS2)
- ECU (4000KS)

2. Job Set-up Information

A. Referenced Information

REFERENCE		DESIGNATION
AMM	73-21-60-000-001	Removal of the Electronic Control Unit (ECU)(4000KS)
AMM	73-21-60-400-001	<pre>Installation of the Electronic Control Unit (ECU)(4000KS)</pre>
AMM	73-25-34-000-040	Removal of the Engine Interface Unit (EIU) (1KS1,1KS2)
AMM	73-25-34-400-040	Installation of the Engine Interface Unit (EIU) (1KS1,1KS2)
	73-25-34-710-043 73-25/05	Operational Test of the Engine Interface Unit

3. Fault Confirmation

R A. Do the operational test of the Engine Interface Unit (EIU) through the Centralized Fault Display System (CFDS) (Ref. AMM TASK 73-25-34-710-043).

4. Fault Isolation

A. Table of the circuit breakers used in this procedure:

PANEL	DESIGNATION	IDENT.	LOCATION
	ENGINE/2/FADEC A/AND EIU 2	2K\$2	A05
12 1VU	ENGINE/ENG2/FADEC B	4KS2	Q40

- B. If the test gives the maintenance message EIU 2:
 - do a check for 28VDC at EIU 2 (1KS2) pins AC/9, 11.
 - (1) if there is 28VDC:
 - replace the EIU-2 (1KS2) (Ref. AMM TASK 73-25-34-000-040) and (Ref. AMM TASK 73-25-34-400-040).

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- (2) If there is no 28VDC:
 - do a check for open or short to ground of the aircraft wirings between the EIU 2 (1KS2) and the circuit breakers (2KS2) and (4KS2) pins AC/9, 11.
 - (a) If there is a short to ground:
 - repair the defective wiring(s)
 - (b) If there is no a short to ground:
 - replace the defective C/B-ENGINE/2/FADEC A/AND EIU 2 (2KS2) or the C/B-ENGINE/ENG2/FADEC B (4KS2) (Ref. ASM 73-25/05).
- (3) If the fault continues:
 - replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).
- R C. Do the operational test of the Engine Interface Unit (EIU) through the Centralized Fault Display System (CFDS) (Ref. AMM TASK 73-25-34-710-043).

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TASK 73-25-00-810-855

Failure of the EIU on Engine 1

- 1. Possible Causes
 - EIU-1 (1KS1)
- 2. Job Set-up Information
 - A. Referenced Information

REFERENCE	DESIGNATION
AMM 73-25-34-000-0	40 Removal of the Engine Interface Unit (EIU) (1KS1,1KS2)
AMM 73-25-34-400-0	40 Installation of the Engine Interface Unit (EIU) (1KS1,1KS2)
AMM 73-25-34-710-0	43 Operational Test of the Engine Interface Unit
1	

- 3. Fault Confirmation
 - A. Test
 - (1) Do the operational test of the Engine Interface Unit (EIU) through the Centralized Fault Display System (CFDS) (Ref. AMM TASK 73-25-34-710-043).
- 4. Fault Isolation
 - A. If the test gives the maintenance message EIU 1:
 - replace the EIU-1 (1KS1) (Ref. AMM TASK 73-25-34-000-040) and (Ref. AMM TASK 73-25-34-400-040).

EFF: ALL 73-25-00

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TASK 73-25-00-810-856

Failure of the EIU on Engine 2

- 1. Possible Causes
 - EIU-2 (1KS2)
- 2. Job Set-up Information
 - A. Referenced Information

REFERENCE	DESIGNATION	
AMM 73-25-34-000-040	Removal of the Engine Interface Unit (EIU) (1KS1,1KS2)	
AMM 73-25-34-400-040	<pre>Installation of the Engine Interface Unit (EIU) (1K\$1,1K\$2)</pre>	
AMM 73-25-34-710-043	Operational Test of the Engine Interface Unit	

- 3. Fault Confirmation
 - A. Test
 - (1) Do the operational test of the Engine Interface Unit (EIU) through the Centralized Fault Display System (CFDS) (Ref. AMM TASK 73-25-34-710-043).
- 4. Fault Isolation
 - A. If the test gives the maintenance message EIU 2:
 - replace the EIU-2 (1KS2) (Ref. AMM TASK 73-25-34-000-040) and (Ref. AMM TASK 73-25-34-400-040).

EFF: ALL 73-25-00

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TASK 73-25-00-810-857

Failure of the Annunciator Light Test and Interface Board for Engine 1

1. Possible Causes

- BOARD-ANN LT TEST & INTFC (8LP)
- EIU-1 (1KS1)
- wiring from the EIU-1 (1KS1) to the board (8LP)

2. Job Set-up Information

A. Referenced Information

	REFE	RENCE	DESIGNATION
	AMM	33-14-33-000-001	Removal of the Annunciator-Light Test and
R			Interface-Board (1LP, 2LP, 3LP, 4LP, 5LP, 6LP, 7LP, 8LP, 9LP, 10LP, 11LP, 12LP, 18LP, 19LP, 20LP)
	AMM	33-14-33-400-001	Installation of the Annunciator-Light Test and Interface-Board (1LP, 2LP, 3LP, 4LP, 5LP, 6LP, 7LP,
R			8LP, 9LP, 10LP, 11LP, 12LP, 18LP, 19LP, 20LP)
	AMM	73-25-34-000-040	Removal of the Engine Interface Unit (EIU) (1KS1,1KS2)
	AMM	73-25-34-400-040	<pre>Installation of the Engine Interface Unit (EIU) (1KS1,1KS2)</pre>
	AMM ASM	73-25-34-710-043 73-25/09	Operational Test of the Engine Interface Unit

3. Fault Confirmation

A. Do the operational test of the engine interface unit through the CFDS (Ref. AMM TASK 73-25-34-710-043).

4. Fault Isolation

- A. If the test gives the maintenance message CHECK 8LP RELAY CIRCUIT OR EIU 1:
 - replace the BOARD-ANN LT TEST & INTFC (8LP) (Ref. AMM TASK 33-14-33-000-001) and (Ref. AMM TASK 33-14-33-400-001)
 - (1) If the fault continues:
 - replace the EIU-1 (1KS1) (Ref. AMM TASK 73-25-34-000-040) and (Ref. AMM TASK 73-25-34-400-040).
 - (2) If the fault continues:
 - do a check and repair the wiring from the EIU-1 (1KS1) to the board (8LP) pin AB/9A to pin AA/21 (Ref. ASM 73-25/09).
- B. Do the test given in Para. 3.A.

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TROUBLE SHOOTING MANUAL

TASK 73-25-00-810-858

Failure of the Annunciator Light Test and Interface Board for Engine 2

1. Possible Causes

- BOARD-ANN LT TEST & INTFC (19LP)
- EIU-2 (1KS2)
- wiring from the EIU-2 (1KS2) to the board (19LP).

2. Job Set-up Information

A. Referenced Information

	REFERENCE		DESIGNATION	
	AMM	33-14-33-000-001	Removal of the Annunciator-Light Test and	
R			Interface-Board (1LP, 2LP, 3LP, 4LP, 5LP, 6LP, 7LP, 8LP, 9LP, 10LP, 11LP, 12LP, 18LP, 19LP, 20LP)	
	AMM	33-14-33-400-001	Installation of the Annunciator-Light Test and Interface-Board (1LP, 2LP, 3LP, 4LP, 5LP, 6LP, 7LP,	
R			8LP, 9LP, 10LP, 11LP, 12LP, 18LP, 19LP, 20LP)	
	AMM	73-25-34-000-040	Removal of the Engine Interface Unit (EIU) (1KS1,1KS2)	
	AMM	73-25-34-400-040	Installation of the Engine Interface Unit (EIU) (1KS1,1KS2)	
	AMM	73-25-34-710-043	Operational Test of the Engine Interface Unit	
	ASM	73-25/09		

3. Fault Confirmation

A. Test Do the operational test of the engine interface unit through the CFDS (Ref. AMM TASK 73-25-34-710-043).

4. Fault Isolation

- A. If the test gives the maintenance message CHECK 19LP RELAY CIRCUIT OR EIU
 - replace the BOARD-ANN LT TEST & INTFC (19LP) (Ref. AMM TASK 33-14-33-000-001) and (Ref. AMM TASK 33-14-33-400-001).
 - (1) If the fault continues:
 - replace the EIU-2 (1KS2) (Ref. AMM TASK 73-25-34-000-040) and (Ref. AMM TASK 73-25-34-400-040).
 - (2) If the fault continues:
 - do a check and repair the wiring from the EIU-2 (1KS2) to the board (19LP). pin AB/9A to pin AA/3 (Ref. ASM 73-25/09).
- B. Do the test given in Para. 3.A.

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TROUBLE SHOOTING MANUAL

TASK 73-25-00-810-859

Failure of the N1 Speed Condition Relay for Engine 1

1. Possible Causes

- EIU-1 (1KS1)
- RELAY-N1 SPEED CONDTN (2708GJ)
- wiring from the EIU-1 (1KS1) to the relay (2708GJ)

2. Job Set-up Information

A. Referenced Information

REFERENCE		DESIGNATION
AMM	73-25-34-000-040	Removal of the Engine Interface Unit (EIU) (1KS1,1KS2)
AMM	73-25-34-400-040	<pre>Installation of the Engine Interface Unit (EIU) (1KS1,1KS2)</pre>
AMM ASM	73-25-34-710-043 29-12/02	Operational Test of the Engine Interface Unit

3. Fault Confirmation

A. Do the operational test of the engine interface unit through the CFDS (Ref. AMM TASK 73-25-34-710-043).

4. Fault Isolation

- A. If the test gives the maintenance message CHECK 2708GJ RELAY CIRCUIT OR EIU 1:
 - replace the RELAY-N1 SPEED CONDTN (2708GJ) (Ref. ASM 29-12/02).
 - (1) If the fault continues:
 - replace the EIU-1 (1KS1) (Ref. AMM TASK 73-25-34-000-040) and (Ref. AMM TASK 73-25-34-400-040).
 - (2) If the fault continues:
 - do a check and repair the wiring from the EIU-1 (1KS1) to the relay (2708GJ) pin AB/9E to pin Z.
- B. Do the test given in Para. 3.A.

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TROUBLE SHOOTING MANUAL

TASK 73-25-00-810-860

Failure of the N2 Speed Condition Relay for Engine 2

1. Possible Causes

- EIU-2 (1KS2)
- RELAY-N2 SPEED CONDTN (2709GJ)
- wiring from the EIU-2 (1KS2) to the relay (2709GJ)

2. Job Set-up Information

A. Referenced Information

REFERENCE		DESIGNATION
AMM	73-25-34-000-040	Removal of the Engine Interface Unit (EIU) (1KS1,1KS2)
AMM	73-25-34-400-040	<pre>Installation of the Engine Interface Unit (EIU) (1KS1,1KS2)</pre>
AMM ASM	73-25-34-710-043 29-12/02	Operational Test of the Engine Interface Unit

3. Fault Confirmation

A. Do the operational test of the engine interface unit through the CFDS (Ref. AMM TASK 73-25-34-710-043).

4. Fault Isolation

- A. If the test gives the maintenance message CHECK 2709GJ RELAY CIRCUIT OR EIU 2:
 - replace the RELAY-N2 SPEED CONDTN (2709GJ) (Ref. ASM 29-12/02).
 - (1) If the fault continues:
 - replace the EIU-2 (1KS2) (Ref. AMM TASK 73-25-34-000-040) and (Ref. AMM TASK 73-25-34-400-040).
 - (2) If the fault continues:
 - do a check and repair the wiring from the EIU-2 (1KS2) to the relay (2709GJ) pin AB/9E to pin Z.
- B. Do the test given in Para. 3.A.

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TASK 73-25-00-810-861

Failure of the HP Fuel SOV Closed Discrete Output on the EIU 1

1. Possible Causes

- CONT-ZONE TEMPERATURE (8HK)
- EIU-1 (1KS1)
- wiring from the EIU-1 (1KS1) to the zone temperature controller (8HK)
- ACSC (47HH, 57HH)
- wiring from the EIU-1 (1KS1) to the ACSC (47HH, 57HH)

2. Job Set-up Information

A. Referenced Information

REFERENCE		DESIGNATION	
AMM	21-61-34-000-002	Removal of the Air-Conditioning System Controller (47HH, 57HH)	
AMM	21-61-34-400-002	Installation of the Air-Conditioning System Controller (47HH, 57HH)	
AMM	21-63-34-000-001	Removal of the Zone Controller (8HK)	
AMM	21-63-34-400-001	Installation of the Zone Controller (8HK)	
AMM	73-25-34-000-040	Removal of the Engine Interface Unit (EIU) (1K\$1,1K\$2)	
AMM	73-25-34-400-040	<pre>Installation of the Engine Interface Unit (EIU) (1K\$1,1K\$2)</pre>	
AMM	73-25-34-710-043	Operational Test of the Engine Interface Unit	
ASM	73-25/09	•	

3. Fault Confirmation

A. Do the operational test of the engine interface unit through the CFDS (Ref. AMM TASK 73-25-34-710-043).

4. Fault Isolation

R **ON A/C 201-225, 227-227, 229-299, 426-455, 476-499, 503-549, 551-599, R 701-749,

- A. If the test gives the maintenance message CHECK ZONE CONT 8HK/EIU 1 CIRCUIT:
 - replace the CONT-ZONE TEMPERATURE (8HK) (Ref. AMM TASK 21-63-34-000-001) and (Ref. AMM TASK 21-63-34-400-001).
 - (1) If the fault continues:
 - replace the EIU-1 (1KS1) (Ref. AMM TASK 73-25-34-000-040) and (Ref. AMM TASK 73-25-34-400-040).

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- (2) If the fault continues:
 - do a check and repair the wiring from the EIU-1 (1KS1) to the zone temperature controller (8HK) pin AB/1E to pin AB/1K (Ref. ASM 73-25/09).

R **ON A/C 456-475,

- R A. If the test gives the maintenance message CHECK ZONE CONT 8HK/EIU 1 R CIRCUIT:
 - replace the ACSC (47HH, 57HH) (Ref. AMM TASK 21-61-34-000-002) and (Ref. AMM TASK 21-61-34-400-002).
 - (1) If the fault continues:
 - replace the EIU-1 (1KS1) (Ref. AMM TASK 73-25-34-000-040) and (Ref. AMM TASK 73-25-34-400-040).
 - (2) If the fault continues:
 - do a check and repair the wiring from the EIU-1 (1KS1) to the ACSC (47HH, 57HH) pin AB/1E to pin AB/1K (Ref. ASM 73-25/09).

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B. Do the test given in Para. 3.A.

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TROUBLE SHOOTING MANUAL

TASK 73-25-00-810-862

Failure of the HP Fuel SOV Closed Discrete Output on the EIU 2

1. Possible Causes

- CONT-ZONE TEMPERATURE (8HK)
- EIU-2 (1KS2)
- wiring from the EIU-2 (1KS2) to the zone temperature controller (8HK)
- ACSC (47HH, 57HH)
- wiring from the EIU-2 (1KS2) to the ACSC (47HH, 57HH)

2. Job Set-up Information

A. Referenced Information

REFERENCE		DESIGNATION	
AMM	21-61-34-000-002	Removal of the Air-Conditioning System Controller (47HH, 57HH)	
AMM	21-61-34-400-002	Installation of the Air-Conditioning System Controller (47HH, 57HH)	
AMM	21-63-34-000-001	Removal of the Zone Controller (8HK)	
AMM	21-63-34-400-001	Installation of the Zone Controller (8HK)	
AMM	73-25-34-000-040	Removal of the Engine Interface Unit (EIU) (1K\$1,1K\$2)	
AMM	73-25-34-400-040	<pre>Installation of the Engine Interface Unit (EIU) (1K\$1,1K\$2)</pre>	
AMM	73-25-34-710-043	Operational Test of the Engine Interface Unit	
ASM	73-25/09		

3. Fault Confirmation

A. Do the operational test of the engine interface unit through the CFDS (Ref. AMM TASK 73-25-34-710-043).

4. Fault Isolation

R **ON A/C 201-225, 227-227, 229-299, 426-455, 476-499, 503-549, 551-599, R 701-749,

- A. If the test gives the maintenance message CHECK ZONE CONT 8HK/EIU 2 CIRCUIT:
 - replace the CONT-ZONE TEMPERATURE (8HK) (Ref. AMM TASK 21-63-34-000-001) and (Ref. AMM TASK 21-63-34-400-001).
 - (1) If the fault continues:
 - replace the EIU-2 (1KS2) (Ref. AMM TASK 73-25-34-000-040) and (Ref. AMM TASK 73-25-34-400-040).

EFF: ALL

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- (2) If the fault continues:
 - do a check and repair the wiring from the EIU-2 (1KS2) to the zone temperature controller (8HK) pin AB/1E to pin AB/1K (Ref. ASM 73-25/09).

R **ON A/C 456-475,

- R A. If the test gives the maintenance message CHECK ZONE CONT 8HK/EIU 2 R CIRCUIT:
 - replace the ACSC (47HH, 57HH) (Ref. AMM TASK 21-61-34-000-002) and (Ref. AMM TASK 21-61-34-400-002).
 - (1) If the fault continues:
 - replace the EIU-2 (1KS2) (Ref. AMM TASK 73-25-34-000-040) and (Ref. AMM TASK 73-25-34-400-040).
 - (2) If the fault continues:
 - do a check and repair the wiring from the EIU-2 (1KS2) to the ACSC (47HH, 57HH) pin AB/1E to pin AB/1K (Ref. ASM 73-25/09).

R **ON A/C ALL

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B. Do the test given in Para. 3.A.

EFF: ALL
SROS

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TASK 73-25-00-810-863

Failure of the N2 Higher than the Minimum TO Discrete Output on the EIU 1

1. Possible Causes

- CONTROLLER-PACK 1 TEMP (7HH)
- EIU-1 (1KS1)
- CONT-AIR COND SYSTEM 1 (47HH)
- wiring from the EIU-1 (1KS1) to the pack 1 temperature controller (7HH)
- wiring from the EIU-1 (1KS1) to the pack 1 temperature controller (47HH)

2. Job Set-up Information

A. Referenced Information

REFERENCE		DESIGNATION	
AMM	21-61-34-000-001	Removal of the Pack Controller (7HH, 27HH)	
AMM		Removal of the Air-Conditioning System Controller (47HH, 57HH)	
AMM	21-61-34-400-001	Installation of the Pack Controller (7HH, 27HH)	
AMM	21-61-34-400-002	Installation of the Air-Conditioning System Controller (47HH, 57HH)	
AMM	73-25-34-000-040	Removal of the Engine Interface Unit (EIU) (1K\$1,1K\$2)	
AMM	73-25-34-400-040	<pre>Installation of the Engine Interface Unit (EIU) (1K\$1,1K\$2)</pre>	
AMM	73-25-34-710-043	Operational Test of the Engine Interface Unit	
ASM	73-25/09	·	

3. Fault Confirmation

A. Do the operational test of the engine interface unit through the CFDS (Ref. AMM TASK 73-25-34-710-043).

4. Fault Isolation

R **ON A/C 201-225, 227-227, 229-299, 426-455, 476-499, 503-549, 551-599, R 701-749,

- A. If the test gives the maintenance message CHECK PACK CONT 7HH EIU 1 CIRCUIT:
 - replace the CONTROLLER-PACK 1 TEMP (7HH) (Ref. AMM TASK 21-61-34-000-001) and (Ref. AMM TASK 21-61-34-400-001).
 - (1) If the fault continues:
 - replace the EIU-1 (1KS1) (Ref. AMM TASK 73-25-34-000-040) and (Ref. AMM TASK 73-25-34-400-040).

EFF: ALL

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- (2) If the fault continues:
 - do a check and repair the wiring from the EIU-1 (1KS1) to the pack1 temperature controller (7HH) pin AB/1G to pin AA/10B (Ref. ASM 73-25/09).

**ON A/C 456-475,

- A. If the test gives the maintenance message CHECK PACK CONT 7HH/EIU1 CIRCUIT:
 - NOTE: CONT-PACK (7HH) has been replaced by AIR COND SYS 1 (47HH) due to a modification of the Air Conditioning System.
 - replace the CONT-AIR COND SYSTEM 1 (47HH) (Ref. AMM TASK 21-61-34-000-002) and (Ref. AMM TASK 21-61-34-400-002).
 - (1) If the fault continues:
 - replace the EIU-1 (1KS1) (Ref. AMM TASK 73-25-34-000-040) and (Ref. AMM TASK 73-25-34-400-040).
 - (2) If the fault continues:
 - do a check and repair the wiring from the EIU-1 (1KS1) to the pack1 temperature controller (47HH) pin AB/1G to pin AB/3C (Ref. ASM 73-25/09).

**ON A/C ALL

B. Do the test given in Para. 3.A.

EFF: ALL

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TROUBLE SHOOTING MANUAL

TASK 73-25-00-810-864

Failure of the N2 Higher than the Minimum TO Discrete Output on the EIU 2

1. Possible Causes

- CONTROLLER-PACK 2 TEMP (27HH)
- EIU-2 (1KS2)
- CONT-AIR COND SYSTEM 2 (57HH)
- wiring from the EIU-2 (1KS2) to the pack 2 temperature controller (27HH)
- wiring from the EIU-2 (1KS2) to the pack 2 temperature controller (57HH)

2. Job Set-up Information

A. Referenced Information

REFERENCE		DESIGNATION
AMM	21-61-34-000-001	Removal of the Pack Controller (7HH, 27HH)
AMM	21-61-34-000-002	Removal of the Air-Conditioning System Controller (47HH, 57HH)
AMM	21-61-34-400-001	Installation of the Pack Controller (7HH, 27HH)
AMM	21-61-34-400-002	Installation of the Air-Conditioning System Controller (47HH, 57HH)
AMM	73-25-34-000-040	Removal of the Engine Interface Unit (EIU) (1KS1,1KS2)
AMM	73-25-34-400-040	<pre>Installation of the Engine Interface Unit (EIU) (1KS1,1KS2)</pre>
AMM ASM	73-25-34-710-043 73-25/09	Operational Test of the Engine Interface Unit

3. Fault Confirmation

A. Do the operational test of the engine interface unit through the CFDS (Ref. AMM TASK 73-25-34-710-043).

4. Fault Isolation

R **ON A/C 201-225, 227-227, 229-299, 426-455, 476-499, 503-549, 551-599, R 701-749,

- A. If the test gives the maintenance message CHECK PACK CONT 7HH EIU 2 CIRCUIT:
 - replace the CONTROLLER-PACK 2 TEMP (27HH) (Ref. AMM TASK 21-61-34-000-001) and (Ref. AMM TASK 21-61-34-400-001).
 - (1) If the fault continues:
 - replace the EIU-2 (1KS2) (Ref. AMM TASK 73-25-34-000-040) and (Ref. AMM TASK 73-25-34-400-040).

EFF: ALL

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- (2) If the fault continues:
 - do a check and repair the wiring from the EIU-2 (1KS2) to the pack2 temperature controller (27HH) pin AB/1G to pin AA/10B (Ref. ASM 73-25/09).

**ON A/C 456-475,

- A. If the test gives the maintenance message CHECK PACK CONT 7HH EIU 2 CIRCUIT:
 - NOTE: CONT-PACK (7HH) has been replaced by AIR COND SYS 2 (57HH) due to a modification of the Air Conditioning System.
 - replace the CONT-AIR COND SYSTEM 2 (57HH) (Ref. AMM TASK 21-61-34-000-002) and (Ref. AMM TASK 21-61-34-400-002).
 - (1) If the fault continues:
 - replace the EIU-2 (1KS2) (Ref. AMM TASK 73-25-34-000-040) and (Ref. AMM TASK 73-25-34-400-040).
 - (2) If the fault continues:
 - do a check and repair the wiring from the EIU-2 (1KS2) to the pack2 temperature controller (57HH) pin AB/1G to pin AB/3C (Ref. ASM 73-25/09).

**ON A/C ALL

B. Do the test given in Para. 3.A.

EFF: ALL

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TROUBLE SHOOTING MANUAL

TASK 73-25-00-810-865

Failure of the Pack Valve Output for Engine 1

1. Possible Causes

- EIU-1 (1KS1)
- RELAY-ENGINE START (17HB)
- wiring from the EIU-1 (1KS1) to the engine start relay (17HB)

2. Job Set-up Information

A. Referenced Information

REFERENCE		DESIGNATION
AMM	73-25-34-000-040	Removal of the Engine Interface Unit (EIU) (1KS1,1KS2)
AMM	73-25-34-400-040	Installation of the Engine Interface Unit (EIU) (1K\$1,1K\$2)
AMM ASM	73-25-34-710-043 73-25/09	Operational Test of the Engine Interface Unit

3. Fault Confirmation

A. Do the operational test of the engine interface unit through the CFDS (Ref. AMM TASK 73-25-34-710-043).

4. Fault Isolation

- A. If the test gives the maintenance message CHECK 17HB RELAY CIRCUIT OR EIU 1:
 - replace the RELAY-ENGINE START (17HB).
 - (1) If the fault continues:
 - replace the EIU-1 (1KS1) (Ref. AMM TASK 73-25-34-000-040) and (Ref. AMM TASK 73-25-34-400-040).
 - (2) If the fault continues:
 - do a check and repair the wiring from the EIU-1 (1KS1) to the engine start relay (17HB) pin AB/1J to pin AA/Z (Ref. ASM 73-25/09).
- B. Do the test given in Para. 3.A.

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TROUBLE SHOOTING MANUAL

TASK 73-25-00-810-866

Failure of the Pack Valve Output on Engine 2

1. Possible Causes

- EIU-2 (1KS2)
- RELAY-ENGINE START (16HB)
- wiring from the EIU-2 (1KS2) to the engine start relay (16HB)

2. Job Set-up Information

A. Referenced Information

REFERENCE		DESIGNATION
AMM	73-25-34-000-040	Removal of the Engine Interface Unit (EIU) (1KS1,1KS2)
AMM	73-25-34-400-040	<pre>Installation of the Engine Interface Unit (EIU) (1KS1,1KS2)</pre>
AMM ASM	73-25-34-710-043 73-25/09	Operational Test of the Engine Interface Unit

3. Fault Confirmation

A. Do the operational test of the engine interface unit through the CFDS (Ref. AMM TASK 73-25-34-710-043).

4. Fault Isolation

- A. If the test gives the maintenance message CHECK 16HB RELAY CIRCUIT OR EIU 2:
 - replace the RELAY-ENGINE START (16HB).
 - (1) If the fault continues:
 - replace the EIU-2 (1KS2) (Ref. AMM TASK 73-25-34-000-040) and (Ref. AMM TASK 73-25-34-400-040).
 - (2) If the fault continues:
 - do a check and repair the wiring from the EIU-2 (1KS2) to the engine start relay (16HB) pin AB/1J to pin AA/Z (Ref. ASM 73-25/09).
- B. Do the test given in Para. 3.A.

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TROUBLE SHOOTING MANUAL

TASK 73-25-00-810-867

Failure of the APU Boost on Engine 1

1. Possible Causes

- EIU-1 (1KS1)
- ECB (59KD)
- wiring from EIU-1 (1KS1) to the ECB (59KD)
- R RELAY-CTR TK PUMP 1 CTL (51QA)
- R RELAY-CTR TK PUMP 2 CTL (52QA)

2. Job Set-up Information

A. Referenced Information

	REFERENCE		DESIGNATION	
	AMM	49-61-34-000-001	Removal of the Electronic Control Box (ECB) (59KD) (GTCP 36-300)	
	AMM	49-61-34-400-001	Installation of the Electronic Control Box (ECB) (59KD) (GTCP 36-300)	
R	AMM	73-25-34-000-040	Removal of the Engine Interface Unit (EIU)	
R	AMM	73-25-34-400-040	Installation of the Engine Interface Unit (EIU)	
	AMM	73-25-34-710-043	Operational Test of the Engine Interface Unit	
	ASM	73-25/09		
	ASM	73-25/09		

3. Fault Confirmation

A. Do the operational test of the engine interface unit through the CFDS (Ref. AMM TASK 73-25-34-710-043).

4. Fault Isolation

- A. If the test gives the maintenance message CHECK ECB (59KD)/EIU1 CIRCUIT OR EIU1:
 - do a check to make sure that the APU is boosted during the engine start sequence when the starter shutoff valve is open.
 - (1) If the APU is boosted:
 - replace the EIU-1 (1KS1) (Ref. AMM TASK 73-25-34-000-040) and (Ref. AMM TASK 73-25-34-400-040).
 - (2) If the APU is not boosted:
 - do a check and repair the wiring from EIU-1 (1KS1) to the ECB (59KD), pin AB/1C to pin AB/E5 (Ref. ASM 73-25/09) and (Ref. ASM 73-25/09).

EFF: ALL

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R	(a) If the fault continues:
R	- replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-001) and
R	(Ref. AMM TASK 49-61-34-400-001).
R	(b) If the fault continues:
R	- replace the EIU-1 (1KS1) (Ref. AMM TASK 73-25-34-000-040) and
R	(Ref. AMM TASK 73-25-34-400-040).
R	(c) If the fault continues:
R	- replace the RELAY-CTR TK PUMP 1 CTL (51QA) or the RELAY-CTR TK
R	PUMP 2 CTL (52QA).

B. Do the test given in Para. 3.A.

EFF: ALL SROS

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TASK 73-25-00-810-868

Failure of the APU Boost on Engine 2

1. Possible Causes

- EIU-2 (1KS2)
- ECB (59KD)
- wiring from EIU-2 (1KS2) to the ECB (59KD)
- R RELAY-CTR TK PUMP 1 CTL (51QA)
- R RELAY-CTR TK PUMP 2 CTL (52QA)

2. Job Set-up Information

A. Referenced Information

	REFERENCE		DESIGNATION	
	AMM	49-61-34-000-001	Removal of the Electronic Control Box (ECB) (59KD) (GTCP 36-300)	
	AMM	49-61-34-400-001	Installation of the Electronic Control Box (ECB) (59KD) (GTCP 36-300)	
R	AMM	73-25-34-000-040	Removal of the Engine Interface Unit (EIU)	
R	AMM	73-25-34-400-040	Installation of the Engine Interface Unit (EIU)	
	AMM	73-25-34-710-043	Operational Test of the Engine Interface Unit	
	ASM	73-25/09		
	ASM	73-25/09		

3. Fault Confirmation

A. Do the operational test of the engine interface unit through the CFDS (Ref. AMM TASK 73-25-34-710-043).

4. Fault Isolation

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- A. If the test gives the maintenance message CHECK ECB (59KD)/EIU2 CIRCUIT OR EIU2:
 - do a check to make sure that the APU is boosted during the engine start sequence when the starter shutoff valve is open.
 - (1) If the APU is boosted:
 - replace the EIU-2 (1KS2) (Ref. AMM TASK 73-25-34-000-040) and (Ref. AMM TASK 73-25-34-400-040).
 - (2) If the APU is not boosted:
 - do a check and repair the wiring from EIU-2 (1KS2) to the ECB (59KD), pin AB/1C to pin AB/E5 (Ref. ASM 73-25/09) and (Ref. ASM 73-25/09).

EFF: ALL
SROS

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R	(a) If the fault continues:
R	replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-001) and
R	(Ref. AMM TASK 49-61-34-400-001).
R	(b) If the fault continues:
R	- replace the EIU-2 (1KS2) (Ref. AMM TASK 73-25-34-000-040) and
R	(Ref. AMM TASK 73-25-34-400-040).
R	(c) If the fault continues:
R	- replace the RELAY-CTR TK PUMP 1 CTL (51QA) or the RELAY-CTR TK
R	PUMP 2 CTL (52QA).

B. Do the test given in Para. 3.A.

EFF: ALL
SROS

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TASK 73-25-00-810-869

Failure of the T/R Inhibition System on Engine 1

1. Possible Causes

- EIU-1 (1KS1)
- RELAY-THRUST REV INHIBITION, ENG 1 (14KS1)
- wiring from the EIU-1 (1KS1) to the engine 1 thrust reverser inhibition relay (14KS1)

Job Set-up Information

A. Referenced Information

REFERENCE		DESIGNATION
AMM	73-25-34-000-040	Removal of the Engine Interface Unit (EIU) (1KS1,1KS2)
AMM	73-25-34-400-040	<pre>Installation of the Engine Interface Unit (EIU) (1KS1,1KS2)</pre>
AMM	73-25-34-710-043	Operational Test of the Engine Interface Unit
ASM	73-25/16	
ASM	73-25/16	
ASM	73-25/19	

3. Fault Confirmation

A. Do the operational test of the engine interface unit through the CFDS (Ref. AMM TASK 73-25-34-710-043).

4. Fault Isolation

- A. If the test gives the maintenance message CHECK 14KS1 RELAY CIRCUIT OR EIU 1:
 - replace the RELAY-THRUST REV INHIBITION, ENG 1 (14KS1) (Ref. ASM 73-25/16) and (Ref. ASM 73-25/19).
 - (1) If the fault continues:
 - replace the EIU-1 (1KS1) (Ref. AMM TASK 73-25-34-000-040) and (Ref. AMM TASK 73-25-34-400-040).
 - (2) If the fault continues:
 - do a check and repair the wiring from the EIU-1 (1KS1) to the engine 1 thrust reverser inhibition relay (14KS1) pin AB/10A to pin x of the relay (14KS1) (Ref. ASM 73-25/16) and (Ref. ASM 73-25/16).
- B. Do the test given in Para. 3.A.

EFF: ALL

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TROUBLE SHOOTING MANUAL

TASK 73-25-00-810-870

Failure of the T/R Inhibition System on Engine 2

1. Possible Causes

- EIU-2 (1KS2)
- RELAY-THRUST REV INHIBITION, ENG2 (14KS2)
- wiring from the EIU-2 (1KS2) to the engine 2 thrust reverser inhibition relay (14KS2)

2. Job Set-up Information

A. Referenced Information

REFERENCE		DESIGNATION
AMM	73-25-34-000-040	Removal of the Engine Interface Unit (EIU) (1KS1,1KS2)
AMM	73-25-34-400-040	<pre>Installation of the Engine Interface Unit (EIU) (1KS1,1KS2)</pre>
AMM ASM	73-25-34-710-043 73-25/16	Operational Test of the Engine Interface Unit
ASM	73-25/16	

3. Fault Confirmation

A. Test

Do the operational test of the engine interface unit through the CFDS (Ref. AMM TASK 73-25-34-710-043).

4. Fault Isolation

- A. If the test gives the maintenance message CHECK 14KS2 RELAY CIRCUIT OR EIU 2:
 - replace the RELAY-THRUST REV INHIBITION, ENG2 (14KS2) (Ref. ASM 73-25/16) and (Ref. ASM 73-25/16).
 - (1) If the fault continues:
 - replace the EIU-2 (1KS2) (Ref. AMM TASK 73-25-34-000-040) and (Ref. AMM TASK 73-25-34-400-040).
 - (2) If the fault continues:
 - do a check and repair the wiring from the EIU-2 (1KS2) to the engine 2 thrust reverser inhibition relay (14KS2) pin AB/10A to pin X of the relay (Ref. ASM 73-25/16) and (Ref. ASM 73-25/16).
- B. Do the test given in Para. 3.A.

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TROUBLE SHOOTING MANUAL

TASK 73-25-00-810-871

Disagree between Data Received from the LGCIU 1

1. Possible Causes

- EIU-1 (1KS1)
- LGCIU-1 (5GA1)
- wiring from the pins AA/5D, 5E of the EIU-1 (1KS1) to the pins AB/3G, 3K of the LGCIU 1 (5GA1)

2. Job Set-up Information

A. Referenced Information

REFERENCE		DESIGNATION
AMM	32-31-71-000-001	Removal of the LGCIU (5GA1, 5GA2)
AMM	32-31-71-400-001	Installation of the LGCIU (5GA1, 5GA2)
AMM	73-25-34-000-040	Removal of the Engine Interface Unit (EIU) (1KS1,1KS2)
AMM	73-25-34-400-040	<pre>Installation of the Engine Interface Unit (EIU) (1K\$1,1K\$2)</pre>
ASM	73-25/16	

3. Fault Confirmation

A. Not applicable.

4. Fault Isolation

- A. If the test gives the maintenance message CHECK LGCIU 1 L/G COMP SIGNALS (DISAGREE):
 - replace the EIU-1 (1KS1) (Ref. AMM TASK 73-25-34-000-040) and (Ref. AMM TASK 73-25-34-400-040).
 - (1) If the fault continues:
 - replace the LGCIU-1 (5GA1) (Ref. AMM TASK 32-31-71-000-001) and (Ref. AMM TASK 32-31-71-400-001).
 - (2) If the fault continues:
 - do a check and repair the wiring from the pins AA/5D, 5E of the EIU-1 (1KS1) to the pins AB/3G, 3K of the LGCIU 1 (5GA1) (Ref. ASM 73-25/16).

EFF: ALL

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B. Test

- (1) During the subsequent engine start make sure that:
 - no ECAM warning or/and amber crosses do not come into view on the ECAM
 - the engine idle must not be high
- (2) After a subsequent flight make sure that the maintenance message is no more present.

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TROUBLE SHOOTING MANUAL

TASK 73-25-00-810-872

Disagree between Data Received from the LGCIU 2

1. Possible Causes

- EIU-2 (1KS2)
- LGCIU-2 (5GA2)
- wiring from the pins AA/5D, 5E of the EIU-2 (1KS2) to the pins AB/3G, 3K of the LGCIU 2 (5GA2)

2. Job Set-up Information

A. Referenced Information

REFERENCE		DESIGNATION
AMM	32-31-71-000-001	Removal of the LGCIU (5GA1, 5GA2)
AMM	32-31-71-400-001	Installation of the LGCIU (5GA1, 5GA2)
AMM	73-25-34-000-040	Removal of the Engine Interface Unit (EIU) (1KS1,1KS2)
AMM	73-25-34-400-040	<pre>Installation of the Engine Interface Unit (EIU) (1KS1,1KS2)</pre>
ASM	73-25/16	·

3. Fault Confirmation

A. Not applicable.

4. Fault Isolation

- A. If the test gives the maintenance message CHECK LGCIU 2 L/G COMP SIGNALS (DISAGREE):
 - replace the EIU-2 (1KS2) (Ref. AMM TASK 73-25-34-000-040) and (Ref. AMM TASK 73-25-34-400-040).
 - (1) If the fault continues:
 - replace the LGCIU-2 (5GA2) (Ref. AMM TASK 32-31-71-000-001) and (Ref. AMM TASK 32-31-71-400-001).
 - (2) If the fault continues:
 - do a check and repair the wiring from the pins AA/5D, 5E of the EIU-2 (1KS2) to the pins AB/3G, 3K of the LGCIU 2 (5GA2) (Ref. ASM 73-25/16).

EFF: ALL

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B. Test

- (1) During the subsequent engine start make sure that:
 - no ECAM warning or/and amber crosses do not come into view on the ECAM
 - the engine idle must not be high
- (2) After a subsequent flight make sure that the maintenance message is no more present.

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TROUBLE SHOOTING MANUAL

TASK 73-25-00-810-873

Loss of Data on the Second and Primary ECS Buses to the EIU 1

1. Possible Causes

- CONT-ZONE TEMPERATURE (8HK)
- EIU-1 (1KS1)
- wiring
- ACSC (47HH, 57HH)

2. Job Set-up Information

A. Referenced Information

REFERENCE		DESIGNATION
AMM	21-61-34-000-002	Removal of the Air-Conditioning System Controller (47HH, 57HH)
AMM	21-61-34-400-002	Installation of the Air-Conditioning System Controller (47HH, 57HH)
AMM	21-63-34-000-001	Removal of the Zone Controller (8HK)
AMM	21-63-34-400-001	Installation of the Zone Controller (8HK)
AMM	73-25-34-000-040	Removal of the Engine Interface Unit (EIU) (1KS1,1KS2)
AMM	73-25-34-400-040	<pre>Installation of the Engine Interface Unit (EIU) (1K\$1,1K\$2)</pre>
AWM	73-25-19	•

3. Fault Confirmation

- A. Test
 - (1) Not applicable.
- 4. Fault Isolation

R **ON A/C 201-225, 227-227, 229-275, 282-299, 426-455, 478-499, 503-549, R 551-599, 701-749,

- A. If the fault is also present on engine 1:
 - replace the CONT-ZONE TEMPERATURE (8HK) (Ref. AMM TASK 21-63-34-000-001) and (Ref. AMM TASK 21-63-34-400-001).
 - (1) If the fault is present on engine 1 only:
 - do a check of the wiring between the EIU1 (1KS1) pins AA/2J, AA/2K and terminal block 1853VT and between the EIU1 (1KS1) pins AA/3J, AA/3K and terminal block 1862VT (Ref. AWM 73-25-19).

EFF: ALL **SROS**

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- (a) If the wiring is not correct:
 - Repair as required.
- (b) If the wiring is correct:
 - replace the EIU-1 (1KS1) (Ref. AMM TASK 73-25-34-000-040) and (Ref. AMM TASK 73-25-34-400-040).

R **ON A/C 276-281, 476-477,

- A. If the fault is also present on engine 1:
 - replace the CONT-ZONE TEMPERATURE (8HK) (Ref. AMM TASK 21-63-34-000-001) and (Ref. AMM TASK 21-63-34-400-001).
 - (1) If the fault is present on engine 1 only:
 - do a check of the wiring between the EIU1 (1KS1) pins AA/2J, AA/2K and terminal block 1853VT and between the EIU1 (1KS1) pins AA/3J, AA/3K and terminal block 1862VT (Ref. AWM 73-25-19).
 - (a) If the wiring is not correct:
 - Repair as required.
 - (b) If the wiring is correct:
 - replace the EIU-1 (1KS1) (Ref. AMM TASK 73-25-34-000-040) and (Ref. AMM TASK 73-25-34-400-040).

**ON A/C 456-475,

- A. If the fault is also present on engine 1:
 - replace the ACSC (47HH, 57HH) (Ref. AMM TASK 21-61-34-000-002) and (Ref. AMM TASK 21-61-34-400-002).
 - (1) If the fault is present on engine 1 only:
 - do a check of the wiring between the EIU1 (1KS1) pins AA/2J, AA/2K and terminal block 1853VT and between the EIU1 (1KS1) pins AA/3J, AA/3K and terminal block 1862VT (Ref. AWM 73-25-19).
 - (a) If the wiring is not correct:
 - Repair as required.
 - (b) If the wiring is correct:
 - replace the EIU-1 (1KS1) (Ref. AMM TASK 73-25-34-000-040) and (Ref. AMM TASK 73-25-34-400-040).

**ON A/C ALL

- B. No additional maintenance action is required if the fault is not confirmed.
 - (1) Repeat the fault isolation procedure if the fault continues.

EFF: ALL

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TASK 73-25-00-810-874

Loss of Data on the Second and Primary ECS Buses to the EIU 2

1. Possible Causes

- CONT-ZONE TEMPERATURE (8HK)
- EIU-2 (1KS2)
- wiring
- ACSC (47HH, 57HH)

2. Job Set-up Information

A. Referenced Information

REFERENCE		DESIGNATION
AMM	21-61-34-000-002	Removal of the Air-Conditioning System Controller (47HH, 57HH)
AMM	21-61-34-400-002	Installation of the Air-Conditioning System Controller (47HH, 57HH)
AMM	21-63-34-000-001	Removal of the Zone Controller (8HK)
AMM	21-63-34-400-001	Installation of the Zone Controller (8HK)
AMM	73-25-34-000-040	Removal of the Engine Interface Unit (EIU) (1K\$1,1K\$2)
AMM	73-25-34-400-040	<pre>Installation of the Engine Interface Unit (EIU) (1K\$1,1K\$2)</pre>
AWM	73-25-20	·

3. Fault Confirmation

- A. Test
 - (1) Not applicable.
- 4. Fault Isolation

R **ON A/C 201-225, 227-227, 229-275, 282-299, 426-455, 478-499, 503-549, R 551-599, 701-749,

- A. If the fault is also present on engine 2:
 - replace the CONT-ZONE TEMPERATURE (8HK) (Ref. AMM TASK 21-63-34-000-001) and (Ref. AMM TASK 21-63-34-400-001).
 - (1) If the fault is present on engine 2 only:
 - do a check of the wiring between the EIU2 (1KS2) pins AA/2J, AA/2K and terminal block 1853VT and between the EIU2 (1KS2) pins AA/3J, AA/3K and terminal block 1862VT (Ref. AWM 73-25-20).

EFF: ALL **SROS**

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- (a) If the wiring is not correct:
 - Repair as required.
- (b) If the wiring is correct:
 - replace the EIU-2 (1KS2) (Ref. AMM TASK 73-25-34-000-040) and (Ref. AMM TASK 73-25-34-400-040).

R **ON A/C 276-281, 476-477,

- A. If the fault is also present on engine 2:
 - replace the CONT-ZONE TEMPERATURE (8HK) (Ref. AMM TASK 21-63-34-000-001) and (Ref. AMM TASK 21-63-34-400-001).
 - (1) If the fault is present on engine 2 only:
 - do a check of the wiring between the EIU2 (1KS2) pins AA/2J, AA/2K and terminal block 1853VT and between the EIU2 (1KS2) pins AA/3J, AA/3K and terminal block 1862VT (Ref. AWM 73-25-20).
 - (a) If the wiring is not correct:
 - Repair as required.
 - (b) If the wiring is correct:
 - replace the EIU-2 (1KS2) (Ref. AMM TASK 73-25-34-000-040) and (Ref. AMM TASK 73-25-34-400-040).

**ON A/C 456-475,

- A. If the fault is also present on engine 2:
 - replace the ACSC (47HH, 57HH) (Ref. AMM TASK 21-61-34-000-002) and (Ref. AMM TASK 21-61-34-400-002).
 - (1) If the fault is present on engine 2 only:
 - do a check of the wiring between the EIU2 (1KS2) pins AA/2J, AA/2K and terminal block 1853VT and between the EIU2 (1KS2) pins AA/3J, AA/3K and terminal block 1862VT (Ref. AWM 73-25-20).
 - (a) If the wiring is not correct:
 - Repair as required.
 - (b) If the wiring is correct:
 - replace the EIU-2 (1KS2) (Ref. AMM TASK 73-25-34-000-040) and (Ref. AMM TASK 73-25-34-400-040).

**ON A/C ALL

- B. No additional maintenance action is required if the fault is not confirmed.
 - (1) Repeat the fault isolation procedure if the fault continues.

EFF: ALL **SROS**

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TASK 73-25-00-810-879

Loss of FCU Data on the EIU 1

1. Possible Causes

- EIU-1 (1KS1)
- wiring from the EIU-1 (1KS1) pins AA/1J, 1K to the first terminal block

2. Job Set-up Information

A. Referenced Information

REFERENCE		DESIGNATION
AMM	73-25-34-000-040	Removal of the Engine Interface Unit (EIU) (1KS1,1KS2)
AMM	73-25-34-400-040	<pre>Installation of the Engine Interface Unit (EIU) (1KS1,1KS2)</pre>
AMM ASM	73-25-34-710-043 73-25/06	Operational Test of the Engine Interface Unit

3. Fault Confirmation

A. Test

Do the operational test of the engine interface unit through the CFDS (Ref. AMM TASK 73-25-34-710-043).

4. Fault Isolation

- A. If the test gives the maintenance message EIU 1: NO FCU DATA:
 - replace the EIU-1 (1KS1) (Ref. AMM TASK 73-25-34-000-040) and (Ref. AMM TASK 73-25-34-400-040).
 - (1) If the fault continues:
 - do a check and repair the wiring from the EIU-1 (1KS1) pins AA/1J,
 1K to the first terminal block (Ref. ASM 73-25/06).
- B. Do the test given in Para. 3.A.

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TASK 73-25-00-810-880

Loss of FCU Data on the EIU 2

1. Possible Causes

- EIU-2 (1KS2)
- wiring from the EIU-2 (1KS2) pins AA/1J, 1K to the first terminal block

2. Job Set-up Information

A. Referenced Information

REFERENCE		DESIGNATION
AMM	73-25-34-000-040	Removal of the Engine Interface Unit (EIU) (1KS1,1KS2)
AMM	73-25-34-400-040	<pre>Installation of the Engine Interface Unit (EIU) (1KS1,1KS2)</pre>
AMM ASM	73-25-34-710-043 73-25/06	Operational Test of the Engine Interface Unit

3. Fault Confirmation

A. Test

Do the operational test of the engine interface unit through the CFDS (Ref. AMM TASK 73-25-34-710-043).

4. Fault Isolation

- A. If the test gives the maintenance message EIU 2: NO FCU DATA:
 - replace the EIU-2 (1KS2) (Ref. AMM TASK 73-25-34-000-040) and (Ref. AMM TASK 73-25-34-400-040).
 - (1) If the fault continues:
 - do a check and repair the wiring from the EIU-2 (1KS2) pins AA/1J,
 1K to the first terminal block (Ref. ASM 73-25/06).
- B. Do the test given in Para. 3.A.

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TASK 73-25-00-810-881

Loss of Data on ARINC Bus from the CFDIU for Engine 1

- 1. Possible Causes
 - EIU-1 (1KS1)
 - wiring from the EIU-1 (1KS1) pins AA/11C, 12B to the first terminal block
- 2. Job Set-up Information
 - A. Referenced Information

REFERENCE		DESIGNATION
AMM	73-25-34-000-040	Removal of the Engine Interface Unit (EIU) (1KS1,1KS2)
AMM	73-25-34-400-040	<pre>Installation of the Engine Interface Unit (EIU) (1KS1,1KS2)</pre>
AMM	73-25-34-710-040	Operational Test of the Engine Interface Unit (1KS1,1KS2)
ASM	73-25/06	

- 3. Fault Confirmation
 - A. Not applicable.
- 4. Fault Isolation
 - A. If the test gives the maintenance message EIU 1: NO CFDIU DATA: - replace the EIU-1 (1KS1), (Ref. AMM TASK 73-25-34-000-040) and (Ref. AMM TASK 73-25-34-400-040).
 - (1) If the fault continues:
 - do a check and repair the wiring from the EIU-1 (1KS1) pins AA/11C,
 12B to the first terminal block (Ref. ASM 73-25/06).
 - B. Do the operational test of the engine interface unit through the CFDS (Ref. AMM TASK 73-25-34-710-040).

EFF: ALL 73-25-00

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TASK 73-25-00-810-882

Loos of Data on ARINC Bus from the CFDIU for Engine 2

- 1. Possible Causes
 - EIU-2 (1KS2)
 - wiring from the EIU-2 (1KS2) pins AA/11C, 12B to the first terminal block
- 2. Job Set-up Information
 - A. Referenced Information

REFERENCE		DESIGNATION
АМ	M 73-25-34-000-040	Removal of the Engine Interface Unit (EIU)
AM	M 73-25-34-400-040	(1KS1,1KS2) Installation of the Engine Interface Unit (EIU) (1KS1,1KS2)
AM	M 73-25-34-710-040	Operational Test of the Engine Interface Unit (1K\$1,1K\$2)
AS	M 73-25/06	(IND 1) INDE/

- 3. Fault Confirmation
 - A. Not applicable.
- 4. Fault Isolation
 - A. If the test gives the maintenance message EIU 2: NO CFDIU DATA:
 - replace the EIU-2 (1KS2) (Ref. AMM TASK 73-25-34-000-040) and (Ref. AMM TASK 73-25-34-400-040).
 - (1) If the fault continues:
 - do a check and repair the wiring from the EIU-2 (1KS2) pins AA/11C,
 12B to the first terminal block (Ref. ASM 73-25/06).
 - B. Do the operational test of the engine interface unit through the CFDS (Ref. AMM TASK 73-25-34-710-040).

EFF: ALL 73-25-00

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TASK 73-25-00-810-883

Loss of Data on Bus to FWC, CFDIU and BMC for Engine 1

1. Possible Causes

- EIU-1 (1KS1)
- wiring from the EIU 1 (1KS1) pins AB/5H, 5K to the first terminal block
- ECU (4000KS)

2. Job Set-up Information

A. Referenced Information

REFERENCE		DESIGNATION
AMM	73-21-60-000-001	Removal of the Electronic Control Unit (ECU)(4000KS)
AMM	73-21-60-400-001	<pre>Installation of the Electronic Control Unit (ECU)(4000KS)</pre>
AMM	73-25-34-000-040	Removal of the Engine Interface Unit (EIU) (1KS1,1KS2)
AMM	73-25-34-400-040	<pre>Installation of the Engine Interface Unit (EIU) (1KS1,1KS2)</pre>
AMM	73-25-34-710-043	Operational Test of the Engine Interface Unit
ASM	73-25/05	· ·
ASM	73-25/06	

3. Fault Confirmation

A. Test

Do the operational test of the engine interface unit through the CFDS (Ref. AMM TASK 73-25-34-710-043).

4. Fault Isolation

- A. If the test gives the maintenance message CHECK EIU 1 ARINC OUTPUT CIRCUIT TO 199VC OR EIU 1:
 - do a check for 28VDC at EIU 1 pins AC/9, 11.
 - (1) If there is 28VDC:
 - replace the EIU-1 (1KS1) (Ref. AMM TASK 73-25-34-000-040) and (Ref. AMM TASK 73-25-34-400-040) (Ref. ASM 73-25/05).
 - (2) If the fault continues:
 - do a check and repair the wiring from the EIU 1 (1KS1) pins AB/5H, 5K to the first terminal block (Ref. ASM 73-25/06).
 - (3) If the fault continues:
 - replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).

EFF: ALL

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B. Do the test given in Para. 3.A.

EFF: ALL

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TASK 73-25-00-810-884

Loss of Data on Bus to FWC, CFDIU and BMC for Engine 2

1. Possible Causes

- EIU-2 (1KS2)
- wiring from the EIU-2 (1KS2) pins AB/5H, 5K to the first terminal block
- ECU (4000KS)

2. Job Set-up Information

A. Referenced Information

REFERENCE		DESIGNATION
AMM	73-21-60-000-001	Removal of the Electronic Control Unit (ECU)(4000KS)
AMM	73-21-60-400-001	<pre>Installation of the Electronic Control Unit (ECU)(4000KS)</pre>
AMM	73-25-34-000-040	Removal of the Engine Interface Unit (EIU) (1KS1,1KS2)
AMM	73-25-34-400-040	<pre>Installation of the Engine Interface Unit (EIU) (1KS1,1KS2)</pre>
AMM	73-25-34-710-043	Operational Test of the Engine Interface Unit
ASM	73-25/05	· ·
ASM	73-25/06	

3. Fault Confirmation

A. Do the operational test of the engine interface unit through the CFDS (Ref. AMM TASK 73-25-34-710-043).

4. Fault Isolation

- A. If the test gives the maintenance message CHECK EIU 2 ARINC OUTPUT CIRCUIT TO 198VC OR EIU 2:
 - do a check for 28VDC at EIU 2 pins AC/9, 11.
 - (1) If there is 28VDC:
 - replace the EIU-2 (1KS2), (Ref. AMM TASK 73-25-34-000-040) and (Ref. AMM TASK 73-25-34-400-040) (Ref. ASM 73-25/05).
 - (2) If the fault continues:
 - do a check and repair the wiring from the EIU-2 (1KS2) pins AB/5H,
 5K to the first terminal block (Ref. ASM 73-25/06).
 - (3) If the fault continues:
 - replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).

EFF: ALL

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B. Do the test given in Para. 3.A.

EFF: ALL
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TASK 73-25-00-810-885

Loss of Data on EIU to FADEC Bus for Engine 1

1. Possible Causes

- EIU-1 (1KS1)
- J3 harness from the EIU 1 (1KS1) to the ECU (4000KS)
- ECU (4000KS)

2. Job Set-up Information

A. Referenced Information

REFERENCE		DESIGNATION
AMM	73-21-60-000-001	Removal of the Electronic Control Unit (ECU)(4000KS)
AMM	73-21-60-400-001	<pre>Installation of the Electronic Control Unit (ECU)(4000KS)</pre>
AMM	73-25-34-000-040	Removal of the Engine Interface Unit (EIU) (1KS1,1KS2)
AMM	73-25-34-400-040	<pre>Installation of the Engine Interface Unit (EIU) (1KS1,1KS2)</pre>
AMM	73-25-34-710-043	Operational Test of the Engine Interface Unit
ASM	73-25/05	· ·
ASM	73-25/06	

3. Fault Confirmation

A. Do the operational test of the engine interface unit through the CFDS (Ref. AMM TASK 73-25-34-710-043).

4. Fault Isolation

- A. If the test gives the maintenance message CHECK EIU 1 ARINC OUTPUT CIRCUIT TO FADEC OR EIU 1:
 - do a check for 28VDC at EIU 1 pins AC/9, 11.
 - (1) If there is 28VDC:
 - replace the EIU-1 (1KS1) (Ref. AMM TASK 73-25-34-000-040) and (Ref. AMM TASK 73-25-34-400-040) (Ref. ASM 73-25/05).
 - (2) If the fault continues:
 - do a check and repair the J3 harness from the EIU 1 (1KS1) to the ECU (4000KS) pins AB/5C, 5A to pins J3/22, 23 (Ref. ASM 73-25/06).
 - (3) If the fault continues:
 - replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).

EFF: ALL

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B. Do the test given in Para. 3.A.

EFF: ALL

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TASK 73-25-00-810-886

Loss of Data on EIU to FADEC Bus for Engine 2

1. Possible Causes

- EIU-2 (1KS2)
- J3 harness from the EIU 2 to the ECU (4000KS)
- ECU (4000KS)

2. Job Set-up Information

A. Referenced Information

REFERENCE		DESIGNATION
AMM	73-21-60-000-001	Removal of the Electronic Control Unit (ECU)(4000KS)
AMM	73-21-60-400-001	<pre>Installation of the Electronic Control Unit (ECU)(4000KS)</pre>
AMM	73-25-34-000-040	Removal of the Engine Interface Unit (EIU) (1KS1,1KS2)
AMM	73-25-34-400-040	<pre>Installation of the Engine Interface Unit (EIU) (1KS1,1KS2)</pre>
AMM ASM ASM	73-25-34-710-043 73-25/05 73-25/06	Operational Test of the Engine Interface Unit

3. Fault Confirmation

A. Do the operational test of the engine interface unit through the CFDS (Ref. AMM TASK 73-25-34-710-043).

4. Fault Isolation

- A. If the test gives the maintenance message CHECK EIU 2 ARINC OUTPUT CIRCUIT TO FADEC OR EIU 2:
 - do a check for 28VDC at EIU 2 pins AC/9, 11.
 - (1) If there is 28VDC:
 - replace the EIU-2 (1KS2) (Ref. AMM TASK 73-25-34-000-040) and (Ref. AMM TASK 73-25-34-400-040) (Ref. ASM 73-25/05).
 - (2) If the fault continues:
 - do a check and repair the J3 harness from the EIU 2 to the ECU (4000KS) pins AB/5C, 5A to pins J3/22, 23 (Ref. ASM 73-25/06).
 - (3) If the fault continues:
 - replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).

EFF: ALL

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B. Do the test given in Para. 3.A.

EFF: ALL

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TROUBLE SHOOTING MANUAL

TASK 73-25-00-810-889

Loss of the A/THR Control on Engine 1

1. Possible Causes

- EIU-1 (1KS1)
- harness J3 between the EIU (1KS1) and the ECU (4000KS)
- wiring between the FCU (2CA) and the EIU (1KS1)
- FCU (2CA)
- FMGC (1CA1)
- ECU (4000KS)

2. Job Set-up Information

A. Referenced Information

REFERENCE		DESIGNATION	
4 14 14	22 04 42 000 004	Page 11 of the FOU (201)	
AMM	22-81-12-000-001	Removal of the FCU (2CA)	
AMM	22-81-12-400-001	Installation of the FCU (2CA)	
AMM	22-83-34-000-001	Removal of the FMGC (1CA1,1CA2)	
AMM	22-83-34-400-001	Installation of the FMGC (1CA1,1CA2)	
AMM	73-21-60-000-001	Removal of the Electronic Control Unit (ECU)(4000KS)	
AMM	73-21-60-400-001	<pre>Installation of the Electronic Control Unit (ECU)(4000KS)</pre>	
AMM	73-25-34-000-040	Removal of the Engine Interface Unit (EIU) (1KS1,1KS2)	
AMM	73-25-34-400-040	Installation of the Engine Interface Unit (EIU) (1KS1,1KS2)	
AMM	73-29-00-710-040	Operational Test of the FADEC on the Ground (with Engine non Motoring)	
ASM	73-25/06	-	
ASM	73-25/10		

3. Fault Confirmation

A. Test

Do the operational test of the FADEC 1A on the ground (with engine non motoring) (Ref. AMM TASK 73-29-00-710-040).

EFF: ALL

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4. Fault Isolation

- A. If the test gives the maintenance message FCU, EIU (ATN1), J3:
 - do a check for open or short to ground at the harness J3 between the EIU (1KS1) and the ECU (4000KS) pins AB/5A, 5C to pins J3/22, 23 (Ref. ASM 73-25/06) and (Ref. ASM 73-25/10).
 - (1) If the fault continues:
 - replace the EIU-1 (1KS1) (Ref. AMM TASK 73-25-34-000-040) and (Ref. AMM TASK 73-25-34-400-040).
 - (2) If the fault continues:
 - do a check of the wiring between the FCU (2CA) and the EIU (1KS1) pins AA/DD, EE to pins AA/1J, 1K.
 - (a) If the wiring is not correct:
 - repair the above wiring.
 - (b) If the wiring is correct:
 - replace the FCU (2CA) (Ref. AMM TASK 22-81-12-000-001) and (Ref. AMM TASK 22-81-12-400-001).
 - (3) If the fault continues:
 - replace the FMGC (1CA1) (Ref. AMM TASK 22-83-34-000-001) and (Ref. AMM TASK 22-83-34-400-001).
 - (4) If the fault continues:
 - replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).
- B. Do the test given in Para. 3.A.

EFF: ALL

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TASK 73-25-00-810-890

Loss of the A/THR Control on Engine 2

1. Possible Causes

- EIU-2 (1KS2)
- harness J3 between the EIU (1KS2) and the ECU (4000KS)
- wiring between the FCU (2CA) and the EIU (1KS2)
- FCU (2CA)
- FMGC (1CA2)
- ECU (4000KS)

2. Job Set-up Information

A. Referenced Information

REFERENCE		DESIGNATION
AMM	22-81-12-000-001	Removal of the FCU (2CA)
AMM	22-81-12-400-001	Installation of the FCU (2CA)
AMM	22-83-34-000-001	Removal of the FMGC (1CA1,1CA2)
AMM	22-83-34-400-001	Installation of the FMGC (1CA1,1CA2)
AMM	73-21-60-000-001	Removal of the Electronic Control Unit (ECU)(4000KS)
AMM	73-21-60-400-001	Installation of the Electronic Control Unit
		(ECU)(4000KS)
AMM	73-25-34-000-040	Removal of the Engine Interface Unit (EIU)
		(1K\$1,1K\$2)
AMM	73-25-34-400-040	Installation of the Engine Interface Unit (EIU)
		(1K\$1,1K\$2)
AMM	73-29-00-710-040	Operational Test of the FADEC on the Ground (with
,	15 27 00 110 010	Engine non Motoring)
ASM	73-25/06	= 1.5 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0
ASM	73-25/10	
AOM	13-23/10	

3. Fault Confirmation

A. Do the operational test of the FADEC 2A on the ground (with engine non motoring) (Ref. AMM TASK 73-29-00-710-040).

4. Fault Isolation

- A. If the test gives the maintenance message FCU, EIU (ATN1), J3:
 - do a check for open or short to ground at the harness J3 between the EIU (1KS2) and the ECU (4000KS) pins AB/5A, 5C to pins J3/22, 23 (Ref. ASM 73-25/06) and (Ref. ASM 73-25/10).
 - (1) If the fault continues:
 - replace the EIU-2 (1KS2) (Ref. AMM TASK 73-25-34-000-040) and (Ref. AMM TASK 73-25-34-400-040).

EFF: ALL

73-25-00

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- (2) If the fault continues:
 - do a check of the wiring between the FCU (2CA) and the EIU (1KS2) pins BB/DD, EE to pins AA/1J, 1K.
 - (a) If the wiring is not correct:repair the above wiring.
 - repair the above wiring
 - (b) If the wiring is correct:
 - replace the FCU (2CA) (Ref. AMM TASK 22-81-12-000-001) and (Ref. AMM TASK 22-81-12-400-001).
- (3) If the fault continues:
 - replace the FMGC (1CA2) (Ref. AMM TASK 22-83-34-000-001) and (Ref. AMM TASK 22-83-34-400-001).
- (4) If the fault continues:
 - replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).
- B. Do the test given in Para. 3.A.

EFF: ALL

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TASK 73-25-00-810-891

Loss of Data on the ARINC Bus from the EIU to the FADEC on Engine 1

1. Possible Causes

- EIU-1 (1KS1)
- harness J3 between the EIU (1KS1) and the ECU (4000KS)
- CONT-ZONE TEMPERATURE (8HK)
- ECU (4000KS)
- ACSC (47HH, 57HH)

2. Job Set-up Information

A. Referenced Information

REFERENCE		DESIGNATION	
AMM	21-61-34-000-002	Removal of the Air-Conditioning System Controller (47HH, 57HH)	
AMM	21-61-34-400-002	Installation of the Air-Conditioning System Controller (47HH, 57HH)	
AMM	21-63-34-000-001	Removal of the Zone Controller (8HK)	
AMM	21-63-34-400-001	Installation of the Zone Controller (8HK)	
AMM	73-21-60-000-001	Removal of the Electronic Control Unit (ECU)(4000KS)	
AMM	73-21-60-400-001	<pre>Installation of the Electronic Control Unit (ECU)(4000KS)</pre>	
AMM	73-25-34-000-040	Removal of the Engine Interface Unit (EIU) (1KS1,1KS2)	
AMM	73-25-34-400-040	Installation of the Engine Interface Unit (EIU) (1K\$1,1K\$2)	
AMM	73-29-00-710-040	Operational Test of the FADEC on the Ground (with Engine non Motoring)	
ASM	73-25/06	-	

3. Fault Confirmation

A. Test

SROS

Do the operational test of the FADEC 1A on the ground (with engine non motoring) (Ref. AMM TASK 73-29-00-710-040).

4. Fault Isolation

R **ON A/C 201-225, 227-227, 229-299, 426-455, 476-499, 503-549, 551-599, R 701-749,

- A. If the test gives the maintenance message FCU, EIU (034), J3:
 - do a check for open or short to ground of the harness J3 between the EIU (1KS1) and the ECU (4000KS) pins AB/5A, 5C to pins J3/22, 23 (Ref. ASM 73-25/06).

EFF: ALL

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- (1) If the wiring is not correct:
 - repair the above wiring.
- (2) If the wiring is correct:
 - replace the EIU-1 (1KS1) (Ref. AMM TASK 73-25-34-000-040) and (Ref. AMM TASK 73-25-34-400-040).
- (3) If the fault continues:
 - replace the CONT-ZONE TEMPERATURE (8HK) (Ref. AMM TASK 21-63-34-000-001) and (Ref. AMM TASK 21-63-34-400-001).
- (4) If the fault continues:
 - replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).

R **ON A/C 456-475,

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- R A. If the test gives the maintenance message EIU (034), J3:
 - do a check for open or short to ground of the harness J3 between the EIU (1KS1) and the ECU (4000KS) pins AB/5A, 5C to pins J3/22, 23 (Ref. ASM 73-25/06).
- R (1) If the wiring is not correct:
 - repair the above wiring.
- R (2) If the wiring is correct:
 - replace the EIU-1 (1KS1) (Ref. AMM TASK 73-25-34-000-040) and (Ref. AMM TASK 73-25-34-400-040).
- R (3) If the fault continues:
 - replace the ACSC (47HH, 57HH) (Ref. AMM TASK 21-61-34-000-002) and (Ref. AMM TASK 21-61-34-400-002).
- R (4) If the fault continues:
 - replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).

R **ON A/C ALL

B. Do the test given in Para. 3.A.

EFF: ALL

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TASK 73-25-00-810-892

Loss of Data on the ARINC Bus from the EIU to the FADEC on Engine 2

1. Possible Causes

- EIU-2 (1KS2)
- harness J3 between the EIU-2 (1KS2) and the ECU (4000KS)
- CONT-ZONE TEMPERATURE (8HK)
- ECU (4000KS)
- ACSC (47HH, 57HH)

2. Job Set-up Information

A. Referenced Information

REFERENCE		DESIGNATION
AMM	21-61-34-000-002	Removal of the Air-Conditioning System Controller (47HH, 57HH)
AMM	21-61-34-400-002	Installation of the Air-Conditioning System Controller (47HH, 57HH)
AMM	21-63-34-000-001	Removal of the Zone Controller (8HK)
AMM	21-63-34-400-001	Installation of the Zone Controller (8HK)
AMM	73-21-60-000-001	Removal of the Electronic Control Unit (ECU)(4000KS)
AMM	73-21-60-400-001	Installation of the Electronic Control Unit (ECU)(4000KS)
AMM	73-25-34-000-040	Removal of the Engine Interface Unit (EIU) (1KS1,1KS2)
AMM	73-25-34-400-040	<pre>Installation of the Engine Interface Unit (EIU) (1K\$1,1K\$2)</pre>
AMM	73-29-00-710-040	Operational Test of the FADEC on the ground (with Engine Motoring)
ASM	73-25/06	

3. Fault Confirmation

A. Do the operational test of the FADEC 2A on the ground (Ref. AMM TASK 73- 29-00-710-040).

4. Fault Isolation

SROS

R **ON A/C 201-225, 227-227, 229-299, 426-455, 476-499, 503-549, 551-599, R 701-749,

A. If the test gives the maintenance message FCU, EIU (034), J3:

- do a check for open or short to ground of the harness J3 between the EIU-2 (1KS2) and the ECU (4000KS) pins AB/5A, 5C to pins J3/22, 23 (Ref. ASM 73-25/06).

EFF: ALL

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- (1) If the wiring is not correct:
 - repair the above wiring.
- (2) If the wiring is correct:
 - replace the EIU-2 (1KS2) (Ref. AMM TASK 73-25-34-000-040) and (Ref. AMM TASK 73-25-34-400-040).
- (3) If the fault continues:
 - replace the CONT-ZONE TEMPERATURE (8HK) (Ref. AMM TASK 21-63-34-000-001) and (Ref. AMM TASK 21-63-34-400-001).
- (4) If the fault continues:
 - replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).

R **ON A/C 456-475,

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- R A. If the test gives the maintenance message EIU (034), J3:
 - do a check for open or short to ground of the harness J3 between the EIU-2 (1KS2) and the ECU (4000KS) pins AB/5A, 5C to pins J3/22, 23 (Ref. ASM 73-25/06).
- R (1) If the wiring is not correct:
 - repair the above wiring.
- R (2) If the wiring is correct:
 - replace the EIU-2 (1KS2) (Ref. AMM TASK 73-25-34-000-040) and (Ref. AMM TASK 73-25-34-400-040).
- R (3) If the fault continues:
 - replace the ACSC (47HH, 57HH) (Ref. AMM TASK 21-61-34-000-002) and (Ref. AMM TASK 21-61-34-400-002).
- R (4) If the fault continues:
 - replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).

R **ON A/C ALL

B. Do the test given in Para. 3.A.

EFF: ALL

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TASK 73-25-00-810-893

Loss of Data on the ARINC Bus from the EIU to the FADEC on Engine 1

1. Possible Causes

- CONT-ZONE TEMPERATURE (8HK)
- EIU-1 (1KS1)
- ECU (4000KS)
- harness J3
- R ACSC (47HH, 57HH)

2. Job Set-up Information

A. Referenced Information

	REFERENCE		DESIGNATION
	ASM	732506	
R R	AMM		Removal of the Air-Conditioning System Controller (47HH, 57HH)
R R	AMM	21-61-34-400-002	Installation of the Air-Conditioning System Controller (47HH, 57HH)
	AMM AMM	21-63-34-000-001 21-63-34-400-001	Removal of the Zone Controller (8HK) Installation of the Zone Controller (8HK)
R	AMM	73-21-60-000-001	Removal of the Electronic Control Unit (ECU)(4000KS)
R R	AMM AMM		Removal of the Electronic Control Unit (ECU) Installation of the Electronic Control Unit (ECU)(4000KS)
R R	AMM AMM	73-21-60-400-001 73-25-34-000-040	Installation of the Electronic Control Unit (ECU) Removal of the Engine Interface Unit (EIU) (1KS1,1KS2)
R	AMM AMM	73-25-34-000-040 73-25-34-400-040	Removal of the Engine Interface Unit (EIU) Installation of the Engine Interface Unit (EIU)
R	AMM	73-25-34-400-040	(1KS1,1KS2) Installation of the Engine Interface Unit (EIU)

3. Fault Confirmation

- A. Test
 - (1) Not applicable.

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4. Fault Isolation

- R **ON A/C 201-225, 227-227, 229-299, 426-455, 476-499, 503-549, 551-599, R 701-749,
 - A. Replace the CONT-ZONE TEMPERATURE (8HK) (Ref. AMM TASK 21-63-34-000-001) and (Ref. AMM TASK 21-63-34-400-001).
 - (1) If the fault continues:
 - Do a check for open or short to ground of the harness J3 between the EIU (1KS1) and the ECU (4000KS) pins AB/5A, 5C to pins J3/22, 23 (Ref. ASM 732506):
 - (a) If the wiring is not correct:
 - repair the above wiring.
 - (b) If the wiring is correct:
 - Replace the EIU-1 (1KS1) (Ref. AMM TASK 73-25-34-000-040) and (Ref. AMM TASK 73-25-34-400-040).
 - (c) If the fault continues:
 - replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).

**ON A/C 456-475,

- A. Replace the ACSC (47HH, 57HH) (Ref. AMM TASK 21-61-34-000-002) and (Ref. AMM TASK 21-61-34-400-002).
 - (1) If the fault continues:
 - Do a check for open or short to ground of the harness J3 between the EIU (1KS1) and the ECU (4000KS) pins AB/5A, 5C to pins J3/22, 23 (Ref. ASM 732506):
 - (a) If the wiring is not correct:
 - repair the above wiring.
 - (b) If the wiring is correct:
 - Replace the EIU-1 (1KS1) (Ref. AMM TASK 73-25-34-000-040) and (Ref. AMM TASK 73-25-34-400-040).
 - (c) If the fault continues:
 - replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).

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R **ON A/C ALL

- **B.** No additionnal maintenance action is required if the fault is not confirmed.
 - (1) Repeat the fault isolation procedure if the fault continues.

EFF: ALL

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TASK 73-25-00-810-894

Loss of Data on the ARINC Bus from the EIU to the FADEC on Engine 2

1. Possible Causes

- CONT-ZONE TEMPERATURE (8HK)
- EIU-2 (1KS2)
- ECU (4000KS)
- harness J3
- R ACSC (47HH, 57HH)

2. Job Set-up Information

A. Referenced Information

	REFERENCE		DESIGNATION
	ASM	732506	
R R	AMM		Removal of the Air-Conditioning System Controller (47HH, 57HH)
R R	AMM	21-61-34-400-002	Installation of the Air-Conditioning System Controller (47HH, 57HH)
	AMM	21-63-34-000-001	Removal of the Zone Controller (8HK)
	AMM	21-63-34-400-001	Installation of the Zone Controller (8HK)
R	AMM	73-21-60-000-001	Removal of the Electronic Control Unit (ECU)(4000KS)
	AMM	73-21-60-000-001	Removal of the Electronic Control Unit (ECU)
R R	AMM	73-21-60-400-001	Installation of the Electronic Control Unit (ECU)(4000KS)
	AMM	73-21-60-400-001	Installation of the Electronic Control Unit (ECU)
R R	AMM	73-25-34-000-040	Removal of the Engine Interface Unit (EIU) (1KS1,1KS2)
	AMM	73-25-34-000-040	Removal of the Engine Interface Unit (EIU)
R R	AMM	73-25-34-400-040	<pre>Installation of the Engine Interface Unit (EIU) (1KS1,1KS2)</pre>
	AMM	73-25-34-400-040	Installation of the Engine Interface Unit (EIU)

3. Fault Confirmation

- A. Test
 - (1) Not applicable.

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4. Fault Isolation

- R **ON A/C 201-225, 227-227, 229-299, 426-455, 476-499, 503-549, 551-599, R 701-749,
 - A. Replace the CONT-ZONE TEMPERATURE (8HK) (Ref. AMM TASK 21-63-34-000-001) and (Ref. AMM TASK 21-63-34-400-001).
 - (1) If the fault continues:
 - Do a check for open or short to ground of the between the EIU (1KS2) and harness J3 the ECU (4000KS) pins AB/5A, 5C to pins J3/22, 23 (Ref. ASM 732506)
 - (a) If the wiring is not correct:
 - repair the above wiring.
 - (b) If the wiring is correct:
 - Replace the EIU-2 (1KS2) (Ref. AMM TASK 73-25-34-000-040) and (Ref. AMM TASK 73-25-34-400-040).
 - (c) If the fault continues:
 - replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).

**ON A/C 456-475,

- A. Replace the ACSC (47HH, 57HH) (Ref. AMM TASK 21-61-34-000-002) and (Ref. AMM TASK 21-61-34-400-002).
 - (1) If the fault continues:
 - Do a check for open or short to ground of the between the EIU (1KS2) and harness J3 the ECU (4000KS) pins AB/5A, 5C to pins J3/22, 23 (Ref. ASM 732506)
 - (a) If the wiring is not correct:
 - repair the above wiring.
 - (b) If the wiring is correct:
 - Replace the EIU-2 (1KS2) (Ref. AMM TASK 73-25-34-000-040) and (Ref. AMM TASK 73-25-34-400-040).
 - (c) If the fault continues:
 - replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).

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R **ON A/C ALL

- **B.** No additionnal maintenance action is required if the fault is not confirmed.
 - (1) Repeat the fault isolation procedure if the fault continues.

EFF : ALL

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TASK 73-25-00-810-895

Loss of Data on the ARINC Bus from the EIU to the FADEC on Engine 1

1. Possible Causes

- EIU-1 (1KS1)
- harness J3 from EIU-1 (1KS1) to ECU (4000KS)
- ECU (4000KS)

2. Job Set-up Information

A. Referenced Information

REFERENCE		DESIGNATION
AMM	73-21-60-000-001	Removal of the Electronic Control Unit (ECU)(4000KS)
AMM	73-21-60-400-001	<pre>Installation of the Electronic Control Unit (ECU)(4000KS)</pre>
AMM	73-25-34-000-040	Removal of the Engine Interface Unit (EIU) (1KS1,1KS2)
AMM	73-25-34-400-040	<pre>Installation of the Engine Interface Unit (EIU) (1KS1,1KS2)</pre>
AMM	73-29-00-710-040	Operational Test of the FADEC on the Ground (with Engine non Motoring)
ASM	73-25/06	

3. Fault Confirmation

A. Test

(1) Do the operational test of the FADEC 1A on the ground (with engine non motoring) (Ref. AMM TASK 73-29-00-710-040).

4. Fault Isolation

- A. If the test gives the maintenance message CFDIU, EIU (155), J3*:
 - do a check for open or short to ground at pins AB/5A, 5C to pins J3/22, 23 of the harness J3 from EIU-1 (1KS1) to ECU (4000KS) (Ref. ASM 73-25/06).
 - (1) If the wiring is not correct:
 - repair the above harness J3.
 - (2) If the wiring is correct:
 - replace the EIU-1 (1KS1) (Ref. AMM TASK 73-25-34-000-040) and (Ref. AMM TASK 73-25-34-400-040).

EFF: ALL

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- (3) If the fault continues:
 - replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).
- B. Do the test given in Para. 3.A.

EFF: ALL
SROS

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TASK 73-25-00-810-896

Loss of Data on the ARINC Bus from the EIU to the FADEC on Engine 2

1. Possible Causes

- EIU-2 (1KS2)
- harness J3 from EIU-2 (1KS2) to ECU (4000KS)
- ECU (4000KS)

2. Job Set-up Information

A. Referenced Information

REFERENCE		DESIGNATION
AMM	73-21-60-000-001	Removal of the Electronic Control Unit (ECU)(4000KS)
AMM	73-21-60-400-001	<pre>Installation of the Electronic Control Unit (ECU)(4000KS)</pre>
AMM	73-25-34-000-040	Removal of the Engine Interface Unit (EIU) (1KS1,1KS2)
AMM	73-25-34-400-040	<pre>Installation of the Engine Interface Unit (EIU) (1KS1,1KS2)</pre>
AMM	73-29-00-710-040	Operational Test of the FADEC on the Ground (with Engine non Motoring)
ASM	73-25/06	

3. Fault Confirmation

A. Do the operational test of the FADEC 2A on the ground (with engine non motoring) (Ref. AMM TASK 73-29-00-710-040).

4. Fault Isolation

- A. If the test gives the maintenance message CFDIU, EIU (155), J3*:
 - do a check for open or short to ground at pins AB/5A, 5C to pins J3/22, 23 of the harness J3 from EIU-2 (1KS2) to ECU (4000KS) (Ref. ASM 73-25/06).
 - (1) If the wiring is not correct:
 - repair the above harness J3.
 - (2) If the wiring is correct:
 - replace the EIU-2 (1KS2) (Ref. AMM TASK 73-25-34-000-040) and (Ref. AMM TASK 73-25-34-400-040).
 - (3) If the fault continues:
 - replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).

EFF: ALL

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B. Do the test given in Para. 3.A.

EFF: ALL

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TASK 73-25-00-810-897

Loss of Data on the ARINC Bus from the EIU to the FADEC on Engine 1

- 1. Possible Causes
 - EIU-1 (1KS1)
 - ECU (4000KS)
- 2. Job Set-up Information
 - A. Referenced Information

REFERENCE		DESIGNATION
A MM	77 24 (0 000 004	Paraval of the Floritaria Control Hait (FCH)//000KC)
AMM	73-21-60-000-001	Removal of the Electronic Control Unit (ECU)(4000KS)
AMM	73-21-60-400-001	<pre>Installation of the Electronic Control Unit (ECU)(4000KS)</pre>
AMM	73-25-34-000-040	Removal of the Engine Interface Unit (EIU) (1KS1,1KS2)
AMM	73-25-34-400-040	<pre>Installation of the Engine Interface Unit (EIU) (1KS1,1KS2)</pre>
AMM	73-29-00-710-040	Operational Test of the FADEC on the Ground (with Engine non Motoring)

3. Fault Confirmation

A. Do the operational test of the FADEC 1A on the ground (with engine non motoring) (Ref. AMM TASK 73-29-00-710-040).

4. Fault Isolation

- A. If the test gives the maintenance message EIU (031), J3:
 - replace the EIU-1 (1KS1) (Ref. AMM TASK 73-25-34-000-040) and (Ref. AMM TASK 73-25-34-400-040).
 - (1) If the fault continues:
 - replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).
- B. Do the test given in Para. 3.A.
 - (1) No additional maintenance action is required if the fault is not confirmed.
 - (2) Repeat the fault isolation procedure if the fault continues.

EFF: ALL

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TASK 73-25-00-810-898

Loss of Data on the ARINC Bus from the EIU to the FADEC on Engine 2

- 1. Possible Causes
 - EIU-2 (1KS2)
 - ECU (4000KS)
- 2. Job Set-up Information
 - A. Referenced Information

REFERENCE		DESIGNATION
AMM	73-21-60-000-001	Removal of the Electronic Control Unit (ECU)(4000KS)
AMM	73-21-60-400-001	<pre>Installation of the Electronic Control Unit (ECU)(4000KS)</pre>
AMM	73-25-34-000-040	Removal of the Engine Interface Unit (EIU) (1KS1,1KS2)
AMM	73-25-34-400-040	<pre>Installation of the Engine Interface Unit (EIU) (1KS1,1KS2)</pre>
AMM	73-29-00-710-040	Operational Test of the FADEC on the Ground (with Engine non Motoring)

3. Fault Confirmation

A. Do the operational test of the FADEC 2A on the ground (with engine non motoring) (Ref. AMM TASK 73-29-00-710-040).

4. Fault Isolation

- A. If the test gives the maintenance message EIU (031), J3:
 - replace the EIU-2 (1KS2) (Ref. AMM TASK 73-25-34-000-040) and (Ref. AMM TASK 73-25-34-400-040).
 - (1) If the fault continues:
 - replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).
- B. Do the test given in Para. 3.A.
 - (1) No additional maintenance action is required if the fault is not confirmed.
 - (2) Repeat the fault isolation procedure if the fault continues.

EFF: ALL

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TASK 73-25-00-810-899

Loss of Data on the ARINC Bus from the EIU to the FADEC on Engine 1

1. Possible Causes

- EIU-1 (1KS1)
- harness J3 between the EIU-1 (1KS1) and the ECU (4000KS)
- CONT-ZONE TEMPERATURE (8HK)
- ECU (4000KS)
- ACSC (47HH, 57HH)

2. Job Set-up Information

A. Referenced Information

REFERENCE		DESIGNATION
AMM	21-61-34-000-002	Removal of the Air-Conditioning System Controller (47HH, 57HH)
AMM	21-61-34-400-002	<pre>Installation of the Air-Conditioning System Controller (47HH, 57HH)</pre>
AMM	21-63-34-000-001	Removal of the Zone Controller (8HK)
AMM	21-63-34-400-001	Installation of the Zone Controller (8HK)
AMM	73-21-60-000-001	Removal of the Electronic Control Unit (ECU)(4000KS)
AMM	73-21-60-400-001	<pre>Installation of the Electronic Control Unit (ECU)(4000KS)</pre>
AMM	73-25-34-000-040	Removal of the Engine Interface Unit (EIU) (1KS1,1KS2)
AMM	73-25-34-400-040	<pre>Installation of the Engine Interface Unit (EIU) (1K\$1,1K\$2)</pre>
AMM	73-29-00-710-040	Operational Test of the FADEC on the Ground (with Engine non Motoring)
ASM	73-25/06	

3. Fault Confirmation

A. Do the operational test of the FADEC 1A on the ground (with engine non motoring) (Ref. AMM TASK 73-29-00-710-040).

4. Fault Isolation

R **ON A/C 201-225, 227-227, 229-299, 426-455, 476-499, 503-549, 551-599, R 701-749,

A. If the test gives the maintenance message CFDIU, EIU (227), J3*: - do a check for open or short to ground of the harness J3 between the EIU-1 (1KS1) and the ECU (4000KS) pins AB/5A, 5C to pins J3/22, 23 (Ref. ASM 73-25/06).

EFF: ALL **SROS**

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- (1) If the wiring is not correct:
 - repair the above wiring.
- (2) If the wiring is correct:
 - replace the EIU-1 (1KS1) (Ref. AMM TASK 73-25-34-000-040) and (Ref. AMM TASK 73-25-34-400-040).
- (3) If the fault continues:
 - replace the CONT-ZONE TEMPERATURE (8HK) (Ref. AMM TASK 21-63-34-000-001) and (Ref. AMM TASK 21-63-34-400-001).
- (4) If the fault continues:
 - replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).

R **ON A/C 456-475,

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- R A. If the test gives the maintenance message EIU (227), J3:
 - do a check for open or short to ground of the harness J3 between the EIU-1 (1KS1) and the ECU (4000KS) pins AB/5A, 5C to pins J3/22, 23 (Ref. ASM 73-25/06).
- R (1) If the wiring is not correct:
 - repair the above wiring.
- R (2) If the wiring is correct:
 - replace the EIU-1 (1KS1) (Ref. AMM TASK 73-25-34-000-040) and (Ref. AMM TASK 73-25-34-400-040).
- R (3) If the fault continues:
 - replace the ACSC (47HH, 57HH) (Ref. AMM TASK 21-61-34-000-002) and (Ref. AMM TASK 21-61-34-400-002).
- R (4) If the fault continues:
- R replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) and (Ref.
 R AMM TASK 73-21-60-400-001).

R **ON A/C ALL

B. Do the test given in Para. 3.A.

EFF: ALL

SROS

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TASK 73-25-00-810-900

Loss of Data on the ARINC Bus from the EIU to the FADEC on Engine 2

1. Possible Causes

- EIU-2 (1KS2)
- harness J3 between the EIU-2 (1KS2) and the ECU (4000KS)
- CONT-ZONE TEMPERATURE (8HK)
- ECU (4000KS)
- ACSC (47HH, 57HH)

2. Job Set-up Information

A. Referenced Information

REFERENCE		DESIGNATION
AMM	21-61-34-000-002	Removal of the Air-Conditioning System Controller (47HH, 57HH)
AMM	21-61-34-400-002	Installation of the Air-Conditioning System Controller (47HH, 57HH)
AMM	21-63-34-000-001	Removal of the Zone Controller (8HK)
AMM	21-63-34-400-001	Installation of the Zone Controller (8HK)
AMM	73-21-60-000-001	Removal of the Electronic Control Unit (ECU)(4000KS)
AMM	73-21-60-400-001	Installation of the Electronic Control Unit (ECU)(4000KS)
AMM	73-25-34-000-040	Removal of the Engine Interface Unit (EIU) (1KS1,1KS2)
AMM	73-25-34-400-040	Installation of the Engine Interface Unit (EIU) (1K\$1,1K\$2)
AMM	73-29-00-710-040	Operational Test of the FADEC on the Ground (with Engine non Motoring)
ASM	73-25/06	

3. Fault Confirmation

A. Do the operational test of the FADEC 2A on the ground (with engine non motoring) (Ref. AMM TASK 73-29-00-710-040).

4. Fault Isolation

R **ON A/C 201-225, 227-227, 229-299, 426-455, 476-499, 503-549, 551-599, R 701-749,

A. If the test gives the maintenance message CFDIU, EIU (227), J3*: - do a check for open or short to ground of the harness J3 between the EIU-2 (1KS2) and the ECU (4000KS) pins AB/5A, 5C to pins J3/22, 23 (Ref. ASM 73-25/06).

EFF: ALL **SROS**

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- (1) If the wiring is not correct:
 - repair the above wiring.
- (2) If the wiring is correct:
 - replace the EIU-2 (1KS2) (Ref. AMM TASK 73-25-34-000-040) and (Ref. AMM TASK 73-25-34-400-040).
- (3) If the fault continues:
 - replace the CONT-ZONE TEMPERATURE (8HK) (Ref. AMM TASK 21-63-34-000-001) and (Ref. AMM TASK 21-63-34-400-001).
- (4) If the fault continues:
 - replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).

**ON A/C 456-475,

- A. If the test gives the maintenance message EIU (227), J3:
 - do a check for open or short to ground of the harness J3 between the EIU-2 (1KS2) and the ECU (4000KS) pins AB/5A, 5C to pins J3/22, 23 (Ref. ASM 73-25/06).
 - (1) If the wiring is not correct:
 - repair the above wiring.
 - (2) If the wiring is correct:
 - replace the EIU-2 (1KS2) (Ref. AMM TASK 73-25-34-000-040) and (Ref. AMM TASK 73-25-34-400-040).
 - (3) If the fault continues:
 - replace the ACSC (47HH, 57HH) (Ref. AMM TASK 21-61-34-000-002) and (Ref. AMM TASK 21-61-34-400-002).
 - (4) If the fault continues:
 - replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).

**ON A/C ALL

B. Do the test given in Para. 3.A.

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EFF:

ALL

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TASK 73-25-00-810-903

Loss of the GMT Data on the ARINC Bus from the EIU to the FADEC on Engine 1

1. Possible Causes

- EIU-1 (1KS1)
- harness J3 from the EIU (1KS1) to the ECU (4000KS)
- wiring from CFDIU (1TW) to the EIU-1 (1KS1)
- CFDIU (1TW)
- ECU (4000KS)

2. Job Set-up Information

A. Referenced Information

REFERENCE		DESIGNATION
AMM	31-32-34-000-001	Removal of the CFDIU (1TW)
AMM	31-32-34-400-001	Installation of the CFDIU (1TW)
AMM	73-21-60-000-001	Removal of the Electronic Control Unit (ECU)(4000KS)
AMM	73-21-60-400-001	<pre>Installation of the Electronic Control Unit (ECU)(4000KS)</pre>
AMM	73-25-34-000-040	Removal of the Engine Interface Unit (EIU) (1KS1,1KS2)
AMM	73-25-34-400-040	<pre>Installation of the Engine Interface Unit (EIU) (1K\$1,1K\$2)</pre>
AMM	73-29-00-710-040	Operational Test of the FADEC on the Ground (with Engine non Motoring)
ASM	73-25/06	

3. Fault Confirmation

A. Do the operational test of the FADEC 1A on the ground (with engine non motoring) (Ref. AMM TASK 73-29-00-710-040).

4. Fault Isolation

- A. If the test gives the maintenance message CFDIU, EIU (GMT), J3*:
 - do a check for open or short to ground at pins AB/5A, 5C to pins J3/22, 23 of the harness J3 from the EIU (1KS1) to the ECU (4000KS) and at pins AA/11F, 11G to pins AA/11C, 11B of the wiring from CFDIU (1TW) to the EIU-1 (1KS1) (Ref. ASM 73-25/06).
 - (1) If one of these wirings is not correct:
 - repair the defective harness J3 or the wiring.
 - (2) If these wirings are correct:
 - replace the EIU-1 (1KS1) (Ref. AMM TASK 73-25-34-000-040) and (Ref. AMM TASK 73-25-34-400-040).

EFF: ALL

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- (3) If the fault continues:
 - replace the CFDIU (1TW) (Ref. AMM TASK 31-32-34-000-001) and (Ref. AMM TASK 31-32-34-400-001).
- (4) If the fault continues:
 - replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).
- B. Do the test given in Para. 3.A.

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EFF: ALL SROS

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TASK 73-25-00-810-904

Loss of the GMT Data on the ARINC Bus from the EIU to the FADEC on Engine 2

1. Possible Causes

- EIU-2 (1KS2)
- harness J3 from the EIU-2 (1K\$2) to the ECU (4000K\$)
- wiring from CFDIU (1TW) to the EIU-2 (1KS2)
- CFDIU (1TW)
- ECU (4000KS)

2. Job Set-up Information

A. Referenced Information

REFERENCE		DESIGNATION
AMM	31-32-34-000-001	Removal of the CFDIU (1TW)
AMM	31-32-34-400-001	Installation of the CFDIU (1TW)
AMM	73-21-60-000-001	Removal of the Electronic Control Unit (ECU)(4000KS)
AMM	73-21-60-400-001	<pre>Installation of the Electronic Control Unit (ECU)(4000KS)</pre>
AMM	73-25-34-000-040	Removal of the Engine Interface Unit (EIU) (1KS1,1KS2)
AMM	73-25-34-400-040	<pre>Installation of the Engine Interface Unit (EIU) (1KS1,1KS2)</pre>
AMM	73-29-00-710-040	Operational Test of the FADEC on the Ground (with Engine non Motoring)
ASM	73-25/06	-

3. Fault Confirmation

A. Do the operational test of the FADEC 2A on the ground (with engine non motoring) (Ref. AMM TASK 73-29-00-710-040).

4. Fault Isolation

- A. If the test gives the maintenance message CFDIU, EIU (GMT), J3*:
 - do a check for open or short to ground at pins AB/5A, 5C to pins J3/22, 23 of the harness J3 from the EIU-2 (1KS2) to the ECU (4000KS) and at pins AB/11D, 11E to pins A/11C, 11B of the wiring from CFDIU (1TW) to the EIU-2 (1KS2) (Ref. ASM 73-25/06).
 - (1) If one of these wirings is not correct:
 - repair the defective harness J3 or the wiring.
 - (2) If these wirings are correct:
 - replace the EIU-2 (1KS2) (Ref. AMM TASK 73-25-34-000-040) and (Ref. AMM TASK 73-25-34-400-040).

EFF: ALL

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- (3) If the fault continues:
 - replace the CFDIU (1TW) (Ref. AMM TASK 31-32-34-000-001) and (Ref. AMM TASK 31-32-34-400-001).
- (4) If the fault continues:
 - replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).
- B. Do the test given in Para. 3.A.

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EFF:

ALL

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TROUBLE SHOOTING MANUAL

TASK 73-25-00-810-905

Loss of the Date Data on the ARINC Bus from the EIU to the FADEC on Engine 1

1. Possible Causes

- EIU-1 (1KS1)
- harness J3 from the EIU-1 (1KS1) to the ECU (4000KS)
- wiring from CFDIU (1TW) to the EIU (1KS1)
- CFDIU (1TW)
- ECU (4000KS)

2. Job Set-up Information

A. Referenced Information

REFERENCE		DESIGNATION
AMM	31-32-34-000-001	Removal of the CFDIU (1TW)
AMM	31-32-34-400-001	Installation of the CFDIU (1TW)
AMM	73-21-60-000-001	Removal of the Electronic Control Unit (ECU)(4000KS)
AMM	73-21-60-400-001	<pre>Installation of the Electronic Control Unit (ECU)(4000KS)</pre>
AMM	73-25-34-000-040	Removal of the Engine Interface Unit (EIU) (1KS1,1KS2)
AMM	73-25-34-400-040	<pre>Installation of the Engine Interface Unit (EIU) (1KS1,1KS2)</pre>
AMM	73-29-00-710-040	Operational Test of the FADEC on the Ground (with Engine non Motoring)
ASM	73-25/06	-

3. Fault Confirmation

A. Do the operational test of the FADEC 1A on the ground (with engine non motoring) (Ref. AMM TASK 73-29-00-710-040).

4. Fault Isolation

- A. If the test gives the maintenance message CFDIU, EIU (DATE), J3*:
 - do a check for open or short to ground at pins AB/5A, 5C to pins J3/22, 23 of the harness J3 from the EIU-1 (1KS1) to the ECU (4000KS) and at pins AA/11F, 11G to pins AA/11C, 11B of the wiring from CFDIU (1TW) to the EIU (1KS1) (Ref. ASM 73-25/06).
 - (1) If one of these wirings is not correct:
 - repair the defective harness J3 or the wiring.
 - (2) If these wirings are correct:
 - replace the EIU-1 (1KS1) (Ref. AMM TASK 73-25-34-000-040) and (Ref. AMM TASK 73-25-34-400-040).

EFF: ALL

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- (3) If the fault continues:
 - replace the CFDIU (1TW) (Ref. AMM TASK 31-32-34-000-001) and (Ref. AMM TASK 31-32-34-400-001).
- (4) If the fault continues:
 - replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).
- B. Do the test given in Para. 3.A.

EFF: ALL 73-25-00

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TASK 73-25-00-810-906

Loss of the Date Data on the ARINC Bus from the EIU to the FADEC on Engine 2

1. Possible Causes

- EIU-2 (1KS2)
- harness J3 from the EIU-2 (1K\$2) to the ECU (4000K\$)
- wiring from CFDIU (1TW) to the EIU-2 (1KS2)
- CFDIU (1TW)
- ECU (4000KS)

2. Job Set-up Information

A. Referenced Information

REFERENCE		DESIGNATION	
AMM	31-32-34-000-001	Removal of the CFDIU (1TW)	
AMM	31-32-34-400-001	Installation of the CFDIU (1TW)	
AMM	73-21-60-000-001	Removal of the Electronic Control Unit (ECU)(4000KS)	
AMM	73-21-60-400-001	<pre>Installation of the Electronic Control Unit (ECU)(4000KS)</pre>	
AMM	73-25-34-000-040	Removal of the Engine Interface Unit (EIU) (1KS1,1KS2)	
AMM	73-25-34-400-040	<pre>Installation of the Engine Interface Unit (EIU) (1KS1,1KS2)</pre>	
AMM	73-29-00-710-040	Operational Test of the FADEC on the Ground (with Engine non Motoring)	
ASM	73-25/06	-	

3. Fault Confirmation

A. Do the operational test of the FADEC 2A on the ground (with engine non motoring) (Ref. AMM TASK 73-29-00-710-040).

4. Fault Isolation

- A. If the test gives the maintenance message CFDIU, EIU (DATE), J3*:
 - do a check for open or short to ground at pins AB/5A, 5C to pins J3/22, 23 of the harness J3 from the EIU-2 (1KS2) to the ECU (4000KS) and at pins AB/11D, 11E to pins AA/11C, 11B of the wiring from CFDIU (1TW) to the EIU-2 (1KS2) (Ref. ASM 73-25/06).
 - (1) If one of these wirings is not correct:
 - repair the defective harness J3 or the wiring.
 - (2) If these wirings are correct:
 - replace the EIU-2 (1KS2) (Ref. AMM TASK 73-25-34-000-040) and (Ref. AMM TASK 73-25-34-400-040).

EFF: ALL

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- (3) If the fault continues:
 - replace the CFDIU (1TW) (Ref. AMM TASK 31-32-34-000-001) and (Ref. AMM TASK 31-32-34-400-001).
- (4) If the fault continues:
 - replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).
- B. Do the test given in Para. 3.A.

EFF: ALL 73-25-00

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TROUBLE SHOOTING MANUAL

TASK 73-25-00-810-907

Loss of the Flight Data on the ARINC Bus from the EIU to the FADEC on Engine 1

1. Possible Causes

- EIU-1 (1KS1)
- harness J3 from the EIU-1 (1KS1) to the ECU (4000KS)
- wiring from CFDIU (1TW) to the EIU-1 (1KS1)
- CFDIU (1TW)
- ECU (4000KS)

2. Job Set-up Information

A. Referenced Information

REFERENCE		DESIGNATION
AMM	31-32-34-000-001	Removal of the CFDIU (1TW)
AMM	31-32-34-400-001	Installation of the CFDIU (1TW)
AMM	73-21-60-000-001	Removal of the Electronic Control Unit (ECU)(4000KS)
AMM	73-21-60-400-001	<pre>Installation of the Electronic Control Unit (ECU)(4000KS)</pre>
AMM	73-25-34-000-040	Removal of the Engine Interface Unit (EIU) (1KS1,1KS2)
AMM	73-25-34-400-040	<pre>Installation of the Engine Interface Unit (EIU) (1K\$1,1K\$2)</pre>
AMM	73-29-00-710-040	Operational Test of the FADEC on the ground (with Engine Motoring)
ASM	73-25/06	

3. Fault Confirmation

A. Do the operational test of the FADEC 1A on the ground (Ref. AMM TASK 73-29-00-710-040).

4. Fault Isolation

- A. If the test gives the maintenance message CFDIU, EIU (FLGT), J3*:
 - do a check for open or short to ground at pins AB/5A, 5C to pins J3/22, 23 of the harness J3 from the EIU-1 (1KS1) to the ECU (4000KS) and at pins AA/11F, 11G to pins AA/11C, 11B of the wiring from CFDIU (1TW) to the EIU-1 (1KS1) (Ref. ASM 73-25/06).
 - (1) If one of these wirings is not correct:
 - repair the defective harness J3 or the wiring.
 - (2) If these wirings are correct:
 - replace the EIU-1 (1K\$1) (Ref. AMM TASK 73-25-34-000-040) and (Ref. AMM TASK 73-25-34-400-040).

EFF: ALL

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- (3) If the fault continues:
 - replace the CFDIU (1TW) (Ref. AMM TASK 31-32-34-000-001) and (Ref. AMM TASK 31-32-34-400-001).
- (4) If the fault continues:
 - replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).
- B. Do the test given in Para. 3.A.

EFF: ALL 73-25-00

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TASK 73-25-00-810-908

Loss of the Flight Data on the ARINC Bus from the EIU to the FADEC on Engine 2

1. Possible Causes

- EIU-2 (1KS2)
- harness J3 from the EIU-2 (1K\$2) to the ECU (4000K\$)
- wiring from CFDIU (1TW) to the EIU-2 (1KS2)
- CFDIU (1TW)
- ECU (4000KS)

2. Job Set-up Information

A. Referenced Information

REFERENCE		DESIGNATION
AMM	31-32-34-000-001	Removal of the CFDIU (1TW)
AMM	31-32-34-400-001	Installation of the CFDIU (1TW)
AMM	73-21-60-000-001	Removal of the Electronic Control Unit (ECU)(4000KS)
AMM	73-21-60-400-001	<pre>Installation of the Electronic Control Unit (ECU)(4000KS)</pre>
AMM	73-25-34-000-040	Removal of the Engine Interface Unit (EIU) (1KS1,1KS2)
AMM	73-25-34-400-040	<pre>Installation of the Engine Interface Unit (EIU) (1KS1,1KS2)</pre>
AMM	73-29-00-710-040	Operational Test of the FADEC on the Ground (with Engine non Motoring)
ASM	73-25/06	-

3. Fault Confirmation

A. Do the operational test of the FADEC 2A on the ground (with engine non motoring) (Ref. AMM TASK 73-29-00-710-040).

4. Fault Isolation

- A. If the test gives the maintenance message CFDIU, EIU (FLGT), J3*:
 - do a check for open or short to ground at pins AB/5A, 5C to pins J3/22, 23 of the harness J3 from the EIU-2 (1KS2) to the ECU (4000KS) and at pins AB/11D, 11E to pins AA/11C, 11B of the wiring from CFDIU (1TW) to the EIU-2 (1KS2) (Ref. ASM 73-25/06).
 - (1) If one of these wirings is not correct:
 - repair the defective harness J3 or the wiring.
 - (2) If these wirings are correct:
 - replace the EIU-2 (1KS2) (Ref. AMM TASK 73-25-34-000-040) (Ref. AMM TASK 73-25-34-400-040).

EFF: ALL

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- (3) If the fault continues:
 - replace the CFDIU (1TW) (Ref. AMM TASK 31-32-34-000-001) (Ref. AMM TASK 31-32-34-400-001).
- (4) If the fault continues:
 - replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) (Ref. AMM TASK 73-21-60-400-001).
- B. Do the test given in Para. 3.A.

EFF: ALL 73-25-00

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TROUBLE SHOOTING MANUAL

TASK 73-25-00-810-909

Loss of the 28VDC Power Supply of the ECU on the Engine 1

- 1. Possible Causes
 - EIU-1 (1KS1)
 - ECU (4000KS)
 - aircraft wiring
 - C/B-ENGINE/1/FADEC A/AND EIU 1 (2KS1)
 - harness J1
- 2. Job Set-up Information
 - A. Referenced Information

REFERENCE		DESIGNATION	
AMM	73-21-60-000-001	Removal of the Electronic Control Unit (ECU)(4000KS)	
AMM	73-21-60-400-001	Installation of the Electronic Control Unit (ECU)(4000KS)	
AMM	73-25-34-000-040	Removal of the Engine Interface Unit (EIU) (1KS1,1KS2)	
AMM	73-25-34-400-040	Installation of the Engine Interface Unit (EIU) (1KS1,1KS2)	
AMM	73-29-00-710-040	Operational Test of the FADEC on the ground (with Engine Motoring)	
ASM	73-25/05		
ASM	73-25/08		

- 3. Fault Confirmation
 - A. Make sure that this(these) circuit breaker(s) is(are) closed:

PANEL	DESIGNATION	IDENT. LO	DCATION
49VU	ENGINE/1/FADEC A/AND EIU 1	2K\$1	A04

B. Test

- (1) If the circuit breaker (2KS1) is open, refer to Para. 4.A.(2).
- (2) Do the operational test of the FADEC 1A on the ground (with engine motoring) (Ref. AMM TASK 73-29-00-710-040).

EFF: ALL

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4. Fault Isolation

- A. If the test gives the maintenance message EIU 28V, ECU: do a check of the status of the circuit breaker (2KS1).
 - (1) If the circuit breaker is closed:
 - disconnect the connector J1 from the ECU (4000KS) and do a check for 28VDC at pins J1/13 with the FADEC GND PWR pushbutton switch released (the ON legend is on) (Ref. ASM 73-25/05).
 - (a) If there is 28VDC:
 - replace the EIU-1 (1KS1) (the most possible failure is the EIU 28V relay) (Ref. AMM TASK 73-25-34-000-040) and (Ref. AMM TASK 73-25-34-400-040)
 - replace the ECU (4000KS) (the most possible failure is an ECU diode) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).
 - (b) If there is no 28VDC:
 - do a check for 28VDC at EIU 1 (1KS1) pin AC/11 (Ref. ASM 73-25/05).
 - 1 If there is no 28VDC:
 - do a check for open or short to ground at the aircraft wiring from the circuit breaker (2KS1) to EIU 1 (1KS1) pin AC/11.
 - <u>a</u> If there is a short to ground:repair the above wiring.
 - <u>b</u> If there is no short to ground:replace the C/B-ENGINE/1/FADEC A/AND EIU 1 (2KS1).
 - 2 If there is 28VDC:
 - do a check for open or short to ground at the harness J1 between the EIU 1 (1KS1) and the ECU (4000KS), pin AC/7 to pin J1/13. Replace the harness J1 if necessary (Ref. ASM 73-25/05).
 - 3 If the fault continues:
 - make sure that there is no ground signal at EIU 1 (1KS1) pin AA/5B (Ref. ASM 73-25/08).
 - (c) If the fault continues:
 - replace the EIU-1 (1KS1) (Ref. AMM TASK 73-25-34-000-040) and (Ref. AMM TASK 73-25-34-400-040).

EFF: ALL

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TROUBLE SHOOTING MANUAL

- (2) If the circuit breaker (2K\$1) is open:
 - close the circuit breaker.
 - (a) If the circuit breaker trips:
 - replace the EIU-1 (1KS1) (Ref. AMM TASK 73-25-34-000-040) and (Ref. AMM TASK 73-25-34-400-040)
 - replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).
 - (b) If the fault continues:
 - do a check for a short to ground at the harness J1 between the EIU 1 (1KS1) and the ECU (4000KS), pin AC/7 to pin J1/13.
 - 1 If there is a short to ground:
 - replace the harness J1.
 - 2 If there is no short to ground:
 - do a check for a short to ground at the aircraft wiring between EIU 1 (1KS1) pins AC/11 and the circuit breaker (2KS1).
 - $\underline{\underline{a}}$ If there is a short to ground:
 - repair the above wiring.
 - b If there is no short to ground:
 - replace the C/B-ENGINE/1/FADEC A/AND EIU 1 (2KS1).
- B. Do the test given in Para. 3.B.

EFF: ALL

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TROUBLE SHOOTING MANUAL

TASK 73-25-00-810-910

Loss of the 28VDC Power Supply of the ECU on the Engine 2

- 1. Possible Causes
 - EIU-2 (1KS2)
 - ECU (4000KS)
 - aircraft wiring
 - C/B-ENGINE/2/FADEC A/AND EIU 2 (2KS2)
 - harness J1
- 2. Job Set-up Information
 - A. Referenced Information

REFERENCE		DESIGNATION	
AMM	73-21-60-000-001	Removal of the Electronic Control Unit (ECU)(4000KS)	
AMM	73-21-60-400-001	Installation of the Electronic Control Unit (ECU)(4000KS)	
AMM	73-25-34-000-040	Removal of the Engine Interface Unit (EIU) (1KS1,1KS2)	
AMM	73-25-34-400-040	Installation of the Engine Interface Unit (EIU) (1K\$1,1K\$2)	
AMM	73-29-00-710-040	Operational Test of the FADEC on the ground (with Engine Motoring)	
ASM	73-25/05		
ASM	73-25/08		

3. Fault Confirmation

A. Make sure that this(these) circuit breaker(s) is(are) closed:

PANEL DESIGNATION IDENT. LOCATION

49VU ENGINE/2/FADEC A/AND EIU 2

A05

2KS2

B. Test

- (1) Do the operational test of the FADEC 2A on the ground (with engine motoring) (Ref. AMM TASK 73-29-00-710-040).
- (2) If the circuit breaker (2KS2) is open, refer to Para. 4.A.(2).

EFF: ALL

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4. Fault Isolation

- A. If the test gives the maintenance message EIU 28V, ECU: do a check of the status of the circuit breaker (2KS2).
 - (1) If the circuit breaker is closed:
 - disconnect the connector J1 from the ECU (4000KS) and do a check for 28VDC at pin J1/13 with the FADEC GND PWR pushbutton switch released (the ON legend is on) (Ref. ASM 73-25/05).
 - (a) If there is 28VDC:
 - replace the EIU-2 (1KS2) (the most possible failure is the EIU 28V relay) (Ref. AMM TASK 73-25-34-000-040) and (Ref. AMM TASK 73-25-34-400-040)
 - replace the ECU (4000KS) (the most possible failure is an ECU diode) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).
 - (b) If there is no 28VDC:
 - do a check for 28VDC at EIU 2 (1KS2) pin AC/11 (Ref. ASM 73-25/05).
 - 1 If there is no 28VDC:
 - do a check for open or short to ground at the aircraft wiring from the circuit breaker (2KS2) to EIU 2 (1KS2) pins AC/11.
 - <u>a</u> If there is a short to ground:repair the above wiring.
 - <u>b</u> If there is no short to ground:
 replace the C/B-ENGINE/2/FADEC A/AND EIU 2 (2KS2).
 - 2 If there is 28VDC:
 - do a check for open or short to ground at the harness J1 between the EIU 2 (1KS2) and the ECU (4000KS), pin AC/7 to pin J1/13. Replace the harness J1 if necessary (Ref. ASM 73-25/05).
 - 3 If the fault continues:
 - make sure that there is no ground signal at EIU 2 (1KS2) pin AA/5B (Ref. ASM 73-25/08).
 - (c) If the fault continues:
 - replace the EIU-2 (1KS2) (Ref. AMM TASK 73-25-34-000-040) and (Ref. AMM TASK 73-25-34-400-040).

EFF: ALL

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- (2) If the circuit breaker (2KS2) is open:
 - close the circuit breaker.
 - (a) If the circuit breaker trips:
 - replace the EIU-2 (1KS2) (Ref. AMM TASK 73-25-34-000-040) and (Ref. AMM TASK 73-25-34-400-040)
 - replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).
 - (b) If the fault continues:
 - do a check for a short to ground at the harness J1 between the EIU 2 (1KS2) and the ECU (4000KS), pin AC/7 to pin J1/13.
 - $\underline{1}$ If there is a short to ground:
 - replace the defective harness J1.
 - 2 If there is no short to ground:
 - do a check for a short to ground at the aircraft wiring between EIU 2 (1KS2) pins AC/11 and the circuit breakers (2KS2).
 - a If there is a short to ground:
 - repair the above wiring.
 - b If there is no short to ground:
 - replace the defective C/B-ENGINE/2/FADEC A/AND EIU 2 (2K\$2).
- B. Do the test given in Para. 3.B.

EFF: ALL

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TROUBLE SHOOTING MANUAL

TASK 73-25-00-810-916

Loss of Weight on Wheels Signal on the System 1

1. Possible Causes

- PO port
- PS12 sense line
- LGCIU
- EIU-1 (1KS1)
- ECU (4000KS)

2. Job Set-up Information

A. Referenced Information

REFE	RENCE	DESIGNATION	
AMM	72-23-00-000-040	Removal of the PS12 Line	
AMM	72-23-00-280-002	Inspection/Check of the PS12 line	
AMM	72-23-00-400-040	Installation of the PS12 Line	
AMM	73-21-60-000-001	Removal of the Electronic Control Unit (ECU)	
AMM	73-21-60-400-001	Installation of the Electronic Control Unit (ECU)	
AMM	73-25-34-000-040	Removal of the Engine Interface Unit (EIU)	
AMM	73-25-34-400-040	Installation of the Engine Interface Unit (EIU)	
AMM	73-20-00 P.Block 001	CONTROLLING	

3. Fault Confirmation

A. Not applicable.

4. Fault Isolation

- A. Read the scheduled maintenance report or class 3 report and check if the maintenance message PO/P12/T12, ADC, ECU is present.
 - (1) If the message is present:
 - check the PO port of the ECU for absence of blockage (Ref. AMM 73-20-00 P.Block 001).
 - check the PS12 sense line for absence of blockage or leaks (Ref. AMM TASK 72-23-00-280-002). If leaks or blockage are found tighten unions or replace the PS12 sense line (Ref. AMM TASK 72-23-00-000-040) and (Ref. AMM TASK 72-23-00-400-040).
 - (2) If nothing is found:
 - Do a check of the Post Flight Report (PFR), of the Scheduled Maintenance Report (SMR) or class 3 Report and of the FADEC Last Leg Report for LGCIU failure.

EFF: ALL

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TROUBLE SHOOTING MANUAL

- (a) If message is present:
 - do the related trouble shooting procedure for the LGCIU.
- (b) If no message is present:
 - replace the EIU-1 (1KS1) (Ref. AMM TASK 73-25-34-000-040) and (Ref. AMM TASK 73-25-34-400-040).
- (3) If the fault repeats on the subsequent flights:
 - replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).

EFF: ALL
SROS

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TROUBLE SHOOTING MANUAL

TASK 73-25-00-810-917

Loss of Weight on Wheels Signal on the System 2

1. Possible Causes

- PO port
- PS12 sense line
- LGCIU
- EIU-2 (1KS2)
- ECU (4000KS)

2. Job Set-up Information

A. Referenced Information

REFERENCE		RENCE	DESIGNATION	
	AMM	72-23-00-000-040	Removal of the PS12 Line	
	AMM	72-23-00-280-002	Inspection/Check of the PS12 line	
	AMM	72-23-00-400-040	Installation of the PS12 Line	
	AMM	73-21-60-000-001	Removal of the Electronic Control Unit (ECU)	
	AMM	73-21-60-400-001	Installation of the Electronic Control Unit (ECU)	
	AMM	73-25-34-000-040	Removal of the Engine Interface Unit (EIU)	
	AMM	73-25-34-400-040	Installation of the Engine Interface Unit (EIU)	
	AMM	73-20-00 P.Block 001	CONTROLLING	

3. Fault Confirmation

A. Not applicable.

4. Fault Isolation

- A. Read the scheduled maintenance report or class 3 report and check if the maintenance message PO/P12/T12, ADC, ECU is present.
 - (1) If the message is present:
 - check the PO port of the ECU for absence of blockage (Ref. AMM 73-20-00 P.Block 001).
 - check the PS12 sense line for absence of blockage or leaks (Ref. AMM TASK 72-23-00-280-002). If leaks or blockage are found tighten unions or replace the PS12 sense line (Ref. AMM TASK 72-23-00-000-040) and (Ref. AMM TASK 72-23-00-400-040).
 - (2) If nothing is found:
 - Do a check of the Post Flight Report (PFR), of the Scheduled Maintenance Report (SMR) or class 3 Report and of the FADEC Last Leg Report for LGCIU failure.

EFF: ALL

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TROUBLE SHOOTING MANUAL

- (a) If message is present:
 - do the related trouble shooting procedure for the LGCIU.
- (b) If no message is present:
 - replace the EIU-2 (1KS2) (Ref. AMM TASK 73-25-34-000-040) and (Ref. AMM TASK 73-25-34-400-040).
- (3) If the fault repeats on the subsequent flights:
 - replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).

EFF: ALL SROS 73-25-00

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TROUBLE SHOOTING MANUAL

TASK 73-25-00-810-920

Loss of 28VDC Power Supply of the ECU on the Engine 1

1. Possible Causes

- EIU-1 (1KS1)
- ECU (4000KS)
- aircraft wiring
- C/B-ENGINE/1/FADEC A/AND EIU 1 (2KS1)
- C/B-ENGINE/ENG 1/FADEC B/AND EIU 1 (4KS1)
- harnesses J1 and J2

2. Job Set-up Information

A. Referenced Information

REFERENCE		DESIGNATION	
AMM	73-21-60-000-001	Removal of the Electronic Control Unit (ECU)(4000KS)	
AMM	73-21-60-400-001	<pre>Installation of the Electronic Control Unit (ECU)(4000KS)</pre>	
AMM	73-25-34-000-040	Removal of the Engine Interface Unit (EIU) (1KS1,1KS2)	
AMM	73-25-34-400-040	<pre>Installation of the Engine Interface Unit (EIU) (1K\$1,1K\$2)</pre>	
AMM	73-29-00-710-040	Operational Test of the FADEC on the ground (with Engine Motoring)	
ASM	73-25/05		
ASM	73-25/08		

3. Fault Confirmation

A. Do the operational test of the FADEC 1A on the ground (with engine motoring) (Ref. AMM TASK 73-29-00-710-040).

4. Fault Isolation

A. Table of the circuit breakers used in this procedure:

PANEL	DESIGNATION	IDENT.	LOCATION
_	ENGINE/1/FADEC A/AND EIU 1	2KS1	A04
	ENGINE/ENG1/FADEC B/AND EIU 1	4KS1	R41

EFF: ALL

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- B. If the test gives the maintenance message EIU, ECU (CR3 DIODE):
 - disconnect the connectors J1 and J2 from the ECU (4000KS) and do a check for 28VDC at pins J1/13 and J2/13 with the FADEC GND PWR pushbutton switch released (the ON legend is on) (Ref. ASM 73-25/05).
 - (1) If there is 28VDC:
 - replace the EIU-1 (1KS1) (the most possible failure is the EIU 28V relay) (Ref. AMM TASK 73-25-34-000-040) and (Ref. AMM TASK 73-25-34-400-040)
 - replace the ECU (4000KS) (the most possible failure is an ECU diode) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).
 - (2) If there is no 28VDC:
 - do a check for 28VDC at EIU 1 (1KS1) pins AC/9, 11 (Ref. ASM 73-25/05).
 - (a) If there is no 28VDC:
 - do a check for open or short to ground at the aircraft wiring from the circuit breakers (2KS1) and (4KS1) to EIU 1 (1KS1) pins AC/9, 11.
 - 1 If there is a short to ground: - repair the above wiring.
 - 2 If there is no short to ground:
 - replace the defective C/B-ENGINE/1/FADEC A/AND EIU 1 (2KS1) or C/B-ENGINE/ENG 1/FADEC B/AND EIU 1 (4KS1).
 - (b) If there is 28VDC:
 - do a check for open or short to ground at the harnesses J1 and J2 between the EIU 1 (1KS1) and the ECU (4000KS), pins AC/2, 7 to pins J1/13, J2/13. Replace the harness J1 or J2 if necessary (Ref. ASM 73-25/05).
 - (c) If the fault continues:
 - make sure that there is no ground signal at EIU 1 (1KS1) pin AA/5B (Ref. ASM 73-25/08).
 - (d) If the fault continues:
 - replace the EIU-1 (1KS1) (Ref. AMM TASK 73-25-34-000-040) and (Ref. AMM TASK 73-25-34-400-040).
- C. Do the test given in Para. 3.A.

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TROUBLE SHOOTING MANUAL

TASK 73-25-00-810-921

Loss of 28VDC Power Supply of the ECU on the Engine 2

1. Possible Causes

- EIU-2 (1KS2)
- ECU (4000KS)
- aircraft wiring
- C/B-ENGINE/2/FADEC A/AND EIU 2 (2KS2)
- C/B-ENGINE/ENG 2/FADEC B (4KS2)
- harnesses J1 and J2

2. Job Set-up Information

A. Referenced Information

REFERENCE		DESIGNATION	
AMM	73-21-60-000-001	Removal of the Electronic Control Unit (ECU)(4000KS)	
AMM	73-21-60-400-001	<pre>Installation of the Electronic Control Unit (ECU)(4000KS)</pre>	
AMM	73-25-34-000-040	Removal of the Engine Interface Unit (EIU) (1KS1,1KS2)	
AMM	73-25-34-400-040	<pre>Installation of the Engine Interface Unit (EIU) (1K\$1,1K\$2)</pre>	
AMM	73-29-00-710-040	Operational Test of the FADEC on the ground (with Engine Motoring)	
ASM	73-25/05		
ASM	73-25/08		

3. Fault Confirmation

A. Do the operational test of the FADEC 2A on the ground (with engine motoring) (Ref. AMM TASK 73-29-00-710-040).

4. Fault Isolation

A. Table of the circuit breakers used in this procedure:

PANEL	DESIGNATION	IDENT.	LOCATION		
49VU	ENGINE/2/FADEC A/AND EIU 2	2K\$2	A05		
12 1VU	ENGINE/ENG2/FADEC B	4KS2	Q4 0		

EFF: ALL

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- B. If the test gives the maintenance message EIU, ECU (CR3 DIODE):
 - disconnect the connectors J1 and J2 from the ECU (4000KS) and do a check for 28VDC at pins J1/13 and J2/13 with the FADEC GND PWR pushbutton switch released (the ON legend is on) (Ref. ASM 73-25/05).
 - (1) If there is 28VDC:
 - replace the EIU-2 (1KS2) (the most possible failure is the EIU 28V relay) (Ref. AMM TASK 73-25-34-000-040) and (Ref. AMM TASK 73-25-34-400-040)
 - replace the ECU (4000KS) (the most possible failure is an ECU diode) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).
 - (2) If there is no 28VDC:
 - do a check for 28VDC at EIU 2 (1KS2) pins AC/9, 11 (Ref. ASM 73-25/05).
 - (a) If there is no 28VDC:
 - do a check for open or short to ground at the aircraft wiring from the circuit breakers (2KS2) and (4KS2) to EIU 2 (1KS2) pins AC/9, 11.
 - If there is a short to ground:repair the above wiring.
 - 2 If there is no short to ground:
 - replace the defective C/B-ENGINE/2/FADEC A/AND EIU 2 (2KS2) or C/B-ENGINE/ENG 2/FADEC B (4KS2).
 - (b) If there is 28VDC:
 - do a check for open or short to ground at the harnesses J1 and J2 between the EIU 2 (1KS2) and the ECU (4000KS), pins AC/2, 7 to pins J1/13, J2/13. Replace the harness J1 or J2 if necessary (Ref. ASM 73-25/05).
 - (c) If the fault continues:
 - make sure that there is no ground signal at EIU 2 (1KS2) pin AA/5B (Ref. ASM 73-25/08).
 - (d) If the fault continues:
 - replace the EIU-2 (1KS2) (Ref. AMM TASK 73-25-34-000-040) and (Ref. AMM TASK 73-25-34-400-040).
- C. Do the test given in Para. 3.A.

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TROUBLE SHOOTING MANUAL

TASK 73-25-00-810-924

Loss of the Zone Controller Data on the ARINC Bus from the EIU to the FADEC on Engine 1

1. Possible Causes

- EIU-1 (1KS1)
- CONT-ZONE TEMPERATURE (8HK)
- CONT-AIR COND SYSTEM (47HH, 57HH)

2. Job Set-up Information

A. Referenced Information

REFERENCE		DESIGNATION	
AMM	21-61-34-000-002	Removal of the Air-Conditioning System Controller (47HH, 57HH)	
AMM	21-61-34-400-002	Installation of the Air-Conditioning System Controller (47HH, 57HH)	
AMM	21-63-34-000-001	Removal of the Zone Controller (8HK)	
AMM	21-63-34-400-001	Installation of the Zone Controller (8HK)	
AMM	73-25-34-000-040	Removal of the Engine Interface Unit (EIU)	
AMM	73-25-34-400-040	Installation of the Engine Interface Unit (EIU)	
AMM	73-25-34-710-043	Operational Test of the Engine Interface Unit	
AMM	73-29-00-710-040	Operational Test of the FADEC on the Ground (with Engine Non motoring)	
ASM	73-25/06		

3. Fault Confirmation

A. Do the operational test of the FADEC 1 on the ground (with engine non motoring) (Ref. AMM TASK 73-29-00-710-040).

4. Fault Isolation

SROS

R **ON A/C 201-225, 227-227, 229-299, 426-455, 476-499, 503-549, 551-599, R 701-749,

- A. If the test gives the maintenance message ZC, EIU (ECSD), J3:
 - do a check for open or short to ground at the pins AA/3J, 3K to pins AA/1J, 2J of the wiring from the the EIU1 to the CONT-ZONE TEMPERATURE (8HK) and at pins AA/2J, 2K to pins AA/1B, 2B of the wiring from the the EIU1 to the CONT-ZONE TEMPERATURE (8HK). (Ref. ASM 73-25/06).
 - (1) If one of these wirings is not correct:repair the defective corresponding wiring.

EFF: ALL

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- (2) If these wirings are correct:
 - do an operational test of the engine interface unit and see if the "NO ZONE CONT DATA" message is shown (Ref. AMM TASK 73-25-34-710-043).
 - (a) If the message is shown:
 - replace the CONT-ZONE TEMPERATURE (8HK) (Ref. AMM TASK 21-63-34-000-001) and (Ref. AMM TASK 21-63-34-400-001).
 - (b) If the message is not shown:
 - replace the EIU-1 (1KS1) (Ref. AMM TASK 73-25-34-000-040) and (Ref. AMM TASK 73-25-34-400-040).

**ON A/C 456-475,

- A. If the test gives the maintenance message ZC, EIU (ECSD), J3:
 - do a check for open or short to ground at the pins AA/2J, 2K to pins AA/7E, 7F of the wiring from the the EIU1 to the CONT-AIR COND SYSTEM 1 (47HH) and at pins AA/3J, 3K to pins AA/7E, 7F of the wiring from the the EIU1 to the CONT-AIR COND SYSTEM 2 (57HH). (Ref. ASM 73-25/06).
 - (1) If one of these wirings is not correct:
 - repair the defective corresponding wiring.
 - (2) If these wirings are correct:
 - do an operational test of the engine interface unit and see if the "NO ZONE CONT DATA" message is shown (Ref. AMM TASK 73-25-34-710-043).
 - (a) If the message is shown:
 - replace the CONT-AIR COND SYSTEM (47HH, 57HH) (Ref. AMM TASK 21-61-34-000-002) and (Ref. AMM TASK 21-61-34-400-002).
 - (b) If the message is not shown:
 - replace the EIU-1 (1KS1) (Ref. AMM TASK 73-25-34-000-040) and (Ref. AMM TASK 73-25-34-400-040).

**ON A/C ALL

B. Do the test given in Para. 3.A.

EFF: ALL

73-25-00

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TROUBLE SHOOTING MANUAL

TASK 73-25-00-810-925

Loss of the Zone Controller Data on the ARINC Bus from the EIU to the FADEC on Engine 2

1. Possible Causes

- EIU-2 (1KS2)
- CONT-ZONE TEMPERATURE (8HK)
- CONT-AIR COND SYSTEM (47HH, 57HH)

2. Job Set-up Information

A. Referenced Information

REFERENCE		DESIGNATION	
AMM	21-61-34-000-002	Removal of the Air-Conditioning System Controller	
AMM	21-61-34-400-002	(47HH, 57HH) Installation of the Air-Conditioning System Controller (47HH, 57HH)	
AMM	21-63-34-000-001	Removal of the Zone Controller (8HK)	
AMM	21-63-34-400-001	Installation of the Zone Controller (8HK)	
AMM	73-25-34-000-040	Removal of the Engine Interface Unit (EIU)	
AMM	73-25-34-400-040	Installation of the Engine Interface Unit (EIU)	
AMM	73-25-34-710-043	Operational Test of the Engine Interface Unit	
AMM	73-29-00-710-040	Operational Test of the FADEC on the Ground (with Engine Non motoring)	
ASM	73-25/06		

3. Fault Confirmation

A. Do the operational test of the FADEC 2 on the ground (with engine non motoring) (Ref. AMM TASK 73-29-00-710-040).

4. Fault Isolation

SROS

R **ON A/C 201-225, 227-227, 229-299, 426-455, 476-499, 503-549, 551-599, R 701-749,

- A. If the test gives the maintenance message ZC, EIU (ECSD), J3:
 - do a check for open or short to ground at the pins AA/3J, 3K to pins AA/1J, 2J of the wiring from the the EIU2 to the CONT-ZONE TEMPERATURE (8HK) and at pins AA/2J, 2K to pins AA/1B, 2B of the wiring from the the EIU2 to the CONT-ZONE TEMPERATURE (8HK). (Ref. ASM 73-25/06).
 - (1) If one of these wirings is not correct: - repair the defective corresponding wiring.

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- (2) If these wirings are correct:
 - do an operational test of the engine interface unit and see if the "NO ZONE CONT DATA" message is shown (Ref. AMM TASK 73-25-34-710-043).
 - (a) If the message is shown:
 - replace the CONT-ZONE TEMPERATURE (8HK) (Ref. AMM TASK 21-63-34-000-001) and (Ref. AMM TASK 21-63-34-400-001).
 - (b) If the message is not shown:
 - replace the EIU-2 (1KS2) (Ref. AMM TASK 73-25-34-000-040) and (Ref. AMM TASK 73-25-34-400-040).

**ON A/C 456-475,

- A. If the test gives the maintenance message ZC, EIU (ECSD), J3:
 - do a check for open or short to ground at the pins AA/2J, 2K to pins AA/7E, 7F of the wiring from the the EIU2 to the CONT-AIR COND SYSTEM 1 (47HH) and at pins AA/3J, 3K to pins AA/7E, 7F of the wiring from the the EIU2 to the CONT-AIR COND SYSTEM 2 (57HH). (Ref. ASM 73-25/06).
 - (1) If one of these wirings is not correct:
 - repair the defective corresponding wiring.
 - (2) If these wirings are correct:
 - do an operational test of the engine interface unit and see if the "NO ZONE CONT DATA" message is shown (Ref. AMM TASK 73-25-34-710-043).
 - (a) If the message is shown:
 - replace the CONT-AIR COND SYSTEM (47HH, 57HH) (Ref. AMM TASK 21-61-34-000-002) and (Ref. AMM TASK 21-61-34-400-002).
 - (b) If the message is not shown:
 - replace the EIU-2 (1KS2) (Ref. AMM TASK 73-25-34-000-040) and (Ref. AMM TASK 73-25-34-400-040).

**ON A/C ALL

B. Do the test given in Para. 3.A.

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TROUBLE SHOOTING MANUAL

TASK 73-25-00-810-926

Loss of the A/THR Control on Engine 1

1. Possible Causes

- EIU-1 (1KS1)
- harness J3 between the EIU (1KS1) and the ECU (4000KS)
- wiring between the FCU (2CA) and the EIU (1KS1)
- FCU (2CA)
- FMGC (1CA1)
- ECU (4000KS)

2. Job Set-up Information

A. Referenced Information

REFERENCE		DESIGNATION	
4 14 14	22 04 42 000 004	Page 11 of the FOU (201)	
AMM	22-81-12-000-001	Removal of the FCU (2CA)	
AMM	22-81-12-400-001	Installation of the FCU (2CA)	
AMM	22-83-34-000-001	Removal of the FMGC (1CA1,1CA2)	
AMM	22-83-34-400-001	Installation of the FMGC (1CA1,1CA2)	
AMM	73-21-60-000-001	Removal of the Electronic Control Unit (ECU)(4000KS)	
AMM	73-21-60-400-001	<pre>Installation of the Electronic Control Unit (ECU)(4000KS)</pre>	
AMM	73-25-34-000-040	Removal of the Engine Interface Unit (EIU) (1KS1,1KS2)	
AMM	73-25-34-400-040	Installation of the Engine Interface Unit (EIU) (1KS1,1KS2)	
AMM	73-29-00-710-040	Operational Test of the FADEC on the Ground (with Engine non Motoring)	
ASM	73-25/06	-	
ASM	73-25/10		

3. Fault Confirmation

A. Test

Do the operational test of the FADEC 1B on the ground (with engine non motoring) (Ref. AMM TASK 73-29-00-710-040).

EFF: ALL

73-25-00

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TROUBLE SHOOTING MANUAL

4. Fault Isolation

- A. If the test gives the maintenance message FCU, EIU (ATN1), J3:
 - do a check for open or short to ground at the harness J3 between the EIU (1KS1) and the ECU (4000KS) pins AB/5A, 5C to pins J3/22, 23 (Ref. ASM 73-25/06) and (Ref. ASM 73-25/10).
 - (1) If the fault continues:
 - replace the EIU-1 (1KS1) (Ref. AMM TASK 73-25-34-000-040) and (Ref. AMM TASK 73-25-34-400-040).
 - (2) If the fault continues:
 - do a check of the wiring between the FCU (2CA) and the EIU (1KS1) pins AA/DD, EE to pins AA/1J, 1K.
 - (a) If the wiring is not correct:
 - repair the above wiring.
 - (b) If the wiring is correct:
 - replace the FCU (2CA) (Ref. AMM TASK 22-81-12-000-001) and (Ref. AMM TASK 22-81-12-400-001).
 - (3) If the fault continues:
 - replace the FMGC (1CA1) (Ref. AMM TASK 22-83-34-000-001) and (Ref. AMM TASK 22-83-34-400-001).
 - (4) If the fault continues:
 - replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).
- B. Do the test given in Para. 3.A.

EFF: ALL

73-25-00

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TROUBLE SHOOTING MANUAL

TASK 73-25-00-810-927

Loss of the A/THR Control on Engine 2

1. Possible Causes

- EIU-2 (1KS2)
- harness J3 between the EIU (1KS2) and the ECU (4000KS)
- wiring between the FCU (2CA) and the EIU (1KS2)
- FCU (2CA)
- FMGC (1CA2)
- ECU (4000KS)

2. Job Set-up Information

A. Referenced Information

REFERENCE		DESIGNATION	
AMM	22-81-12-000-001	Removal of the FCU (2CA)	
AMM	22-81-12-400-001	Installation of the FCU (2CA)	
AMM	22-83-34-000-001	Removal of the FMGC (1CA1,1CA2)	
AMM	22-83-34-400-001	Installation of the FMGC (1CA1,1CA2)	
AMM	73-21-60-000-001	Removal of the Electronic Control Unit (ECU)(4000KS)	
AMM	73-21-60-400-001	<pre>Installation of the Electronic Control Unit (ECU)(4000KS)</pre>	
AMM	73-25-34-000-040	Removal of the Engine Interface Unit (EIU) (1KS1,1KS2)	
AMM	73-25-34-400-040	Installation of the Engine Interface Unit (EIU) (1KS1,1KS2)	
AMM	73-29-00-710-040	Operational Test of the FADEC on the Ground (with Engine non Motoring)	
ASM	73-25/06	<u>-</u>	
ASM	73-25/10		

3. Fault Confirmation

A. Do the operational test of the FADEC 2B on the ground (with engine non motoring) (Ref. AMM TASK 73-29-00-710-040).

4. Fault Isolation

- A. If the test gives the maintenance message FCU, EIU (ATN1), J3:
 - do a check for open or short to ground at the harness J3 between the EIU (1KS2) and the ECU (4000KS) pins AB/5A, 5C to pins J3/22, 23 (Ref. ASM 73-25/06) and (Ref. ASM 73-25/10).
 - (1) If the fault continues:
 - replace the EIU-2 (1KS2) (Ref. AMM TASK 73-25-34-000-040) and (Ref. AMM TASK 73-25-34-400-040).

EFF: ALL

73-25-00

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- (2) If the fault continues:
 - do a check of the wiring between the FCU (2CA) and the EIU (1KS2) pins BB/DD, EE to pins AA/1J, 1K.
 - (a) If the wiring is not correct:repair the above wiring.
 - (b) If the wiring is correct:
 - replace the FCU (2CA) (Ref. AMM TASK 22-81-12-000-001) and (Ref. AMM TASK 22-81-12-400-001).
- (3) If the fault continues:
 - replace the FMGC (1CA2) (Ref. AMM TASK 22-83-34-000-001) and (Ref. AMM TASK 22-83-34-400-001).
- (4) If the fault continues:
 - replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).
- B. Do the test given in Para. 3.A.

EFF: ALL

73-25-00

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TROUBLE SHOOTING MANUAL

TASK 73-25-00-810-928

Loss of the GMT Data on the ARINC Bus from the EIU to the FADEC on Engine 1

1. Possible Causes

- EIU-1 (1KS1)
- harness J3 from the EIU (1KS1) to the ECU (4000KS)
- wiring from CFDIU (1TW) to the EIU-1 (1KS1)
- CFDIU (1TW)
- ECU (4000KS)

2. Job Set-up Information

A. Referenced Information

REFERENCE		DESIGNATION	
AMM	31-32-34-000-001	Removal of the CFDIU (1TW)	
AMM	31-32-34-400-001	Installation of the CFDIU (1TW)	
AMM	73-21-60-000-001	Removal of the Electronic Control Unit (ECU)(4000KS)	
AMM	73-21-60-400-001	Installation of the Electronic Control Unit (ECU)(4000KS)	
AMM	73-25-34-000-040	Removal of the Engine Interface Unit (EIU) (1KS1,1KS2)	
AMM	73-25-34-400-040	<pre>Installation of the Engine Interface Unit (EIU) (1KS1,1KS2)</pre>	
AMM	73-29-00-710-040	Operational Test of the FADEC on the Ground (with Engine non Motoring)	
ASM	73-25/06	-	

3. Fault Confirmation

A. Do the operational test of the FADEC 1B on the ground (with engine non motoring) (Ref. AMM TASK 73-29-00-710-040).

4. Fault Isolation

- A. If the test gives the maintenance message CFDIU, EIU (GMT), J3*:
 - do a check for open or short to ground at pins AB/5A, 5C to pins J3/22, 23 of the harness J3 from the EIU (1KS1) to the ECU (4000KS) and at pins AA/11F, 11G to pins AA/11C, 11B of the wiring from CFDIU (1TW) to the EIU-1 (1KS1) (Ref. ASM 73-25/06).
 - (1) If one of these wirings is not correct:
 - repair the defective harness J3 or the wiring.
 - (2) If these wirings are correct:
 - replace the EIU-1 (1K\$1) (Ref. AMM TASK 73-25-34-000-040) and (Ref. AMM TASK 73-25-34-400-040).

EFF: ALL

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- (3) If the fault continues:
 - replace the CFDIU (1TW) (Ref. AMM TASK 31-32-34-000-001) and (Ref. AMM TASK 31-32-34-400-001).
- (4) If the fault continues:
 - replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).
- B. Do the test given in Para. 3.A.

EFF: ALL 73-25-00

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TROUBLE SHOOTING MANUAL

TASK 73-25-00-810-929

Loss of the GMT Data on the ARINC Bus from the EIU to the FADEC on Engine 2

1. Possible Causes

- EIU-2 (1KS2)
- harness J3 from the EIU-2 (1KS2) to the ECU (4000KS)
- wiring from CFDIU (1TW) to the EIU-2 (1KS2)
- CFDIU (1TW)
- ECU (4000KS)

2. Job Set-up Information

A. Referenced Information

REFERENCE		DESIGNATION	
AMM	31-32-34-000-001	Removal of the CFDIU (1TW)	
AMM	31-32-34-400-001	Installation of the CFDIU (1TW)	
AMM	73-21-60-000-001	Removal of the Electronic Control Unit (ECU)(4000KS)	
AMM	73-21-60-400-001	<pre>Installation of the Electronic Control Unit (ECU)(4000KS)</pre>	
AMM	73-25-34-000-040	Removal of the Engine Interface Unit (EIU) (1KS1,1KS2)	
AMM	73-25-34-400-040	<pre>Installation of the Engine Interface Unit (EIU) (1KS1,1KS2)</pre>	
AMM	73-29-00-710-040	Operational Test of the FADEC on the Ground (with Engine non Motoring)	
ASM	73-25/06		

3. Fault Confirmation

A. Do the operational test of the FADEC 2B on the ground (with engine non motoring) (Ref. AMM TASK 73-29-00-710-040).

4. Fault Isolation

- A. If the test gives the maintenance message CFDIU, EIU (GMT), J3*:
 - do a check for open or short to ground at pins AB/5A, 5C to pins J3/22, 23 of the harness J3 from the EIU-2 (1KS2) to the ECU (4000KS) and at pins AB/11D, 11E to pins A/11C, 11B of the wiring from CFDIU (1TW) to the EIU-2 (1KS2) (Ref. ASM 73-25/06).
 - (1) If one of these wirings is not correct:
 - repair the defective harness J3 or the wiring.
 - (2) If these wirings are correct:
 - replace the EIU-2 (1KS2) (Ref. AMM TASK 73-25-34-000-040) and (Ref. AMM TASK 73-25-34-400-040).

EFF: ALL

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- (3) If the fault continues:
 - replace the CFDIU (1TW) (Ref. AMM TASK 31-32-34-000-001) and (Ref. AMM TASK 31-32-34-400-001).
- (4) If the fault continues:
 - replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).
- B. Do the test given in Para. 3.A.

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TROUBLE SHOOTING MANUAL

TASK 73-25-00-810-930

Loss of the GMT Data on the ARINC Bus from the EIU to the FADEC on Engine 1

1. Possible Causes

- EIU-1 (1KS1)
- harness J3 from the EIU-1 (1KS1) to the ECU (4000KS)
- wiring from CFDIU (1TW) to the EIU (1KS1)
- CFDIU (1TW)
- ECU (4000KS)

2. Job Set-up Information

A. Referenced Information

REFERENCE		DESIGNATION
AMM	31-32-34-000-001	Removal of the CFDIU (1TW)
AMM	31-32-34-400-001	Installation of the CFDIU (1TW)
AMM	73-21-60-000-001	Removal of the Electronic Control Unit (ECU)(4000KS)
AMM	73-21-60-400-001	<pre>Installation of the Electronic Control Unit (ECU)(4000KS)</pre>
AMM	73-25-34-000-040	Removal of the Engine Interface Unit (EIU) (1KS1,1KS2)
AMM	73-25-34-400-040	<pre>Installation of the Engine Interface Unit (EIU) (1KS1,1KS2)</pre>
AMM	73-29-00-710-040	Operational Test of the FADEC on the Ground (with Engine non Motoring)
ASM	73-25/06	

3. Fault Confirmation

A. Do the operational test of the FADEC 1B on the ground (with engine non motoring) (Ref. AMM TASK 73-29-00-710-040).

4. Fault Isolation

- A. If the test gives the maintenance message CFDIU, EIU (DATE), J3*:
 - do a check for open or short to ground at pins AB/5A, 5C to pins J3/22, 23 of the harness J3 from the EIU-1 (1KS1) to the ECU (4000KS) and at pins AA/11F, 11G to pins AA/11C, 11B of the wiring from CFDIU (1TW) to the EIU (1KS1) (Ref. ASM 73-25/06).
 - (1) If one of these wirings is not correct:
 - repair the defective harness J3 or the wiring.
 - (2) If these wirings are correct:
 - replace the EIU-1 (1KS1) (Ref. AMM TASK 73-25-34-000-040) and (Ref. AMM TASK 73-25-34-400-040).

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- (3) If the fault continues:
 - replace the CFDIU (1TW) (Ref. AMM TASK 31-32-34-000-001) and (Ref. AMM TASK 31-32-34-400-001).
- (4) If the fault continues:
 - replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).
- B. Do the test given in Para. 3.A.

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TROUBLE SHOOTING MANUAL

TASK 73-25-00-810-931

Loss of the GMT Data on the ARINC Bus from the EIU to the FADEC on Engine 2

1. Possible Causes

- EIU-2 (1KS2)
- harness J3 from the EIU-2 (1K\$2) to the ECU (4000K\$)
- wiring from CFDIU (1TW) to the EIU-2 (1KS2)
- CFDIU (1TW)
- ECU (4000KS)

2. Job Set-up Information

A. Referenced Information

REFERENCE		DESIGNATION
AMM	31-32-34-000-001	Removal of the CFDIU (1TW)
AMM	31-32-34-400-001	Installation of the CFDIU (1TW)
AMM	73-21-60-000-001	Removal of the Electronic Control Unit (ECU)(4000KS)
AMM	73-21-60-400-001	<pre>Installation of the Electronic Control Unit (ECU)(4000KS)</pre>
AMM	73-25-34-000-040	Removal of the Engine Interface Unit (EIU) (1KS1,1KS2)
AMM	73-25-34-400-040	Installation of the Engine Interface Unit (EIU) (1KS1,1KS2)
AMM	73-29-00-710-040	Operational Test of the FADEC on the Ground (with Engine non Motoring)
ASM	73-25/06	

3. Fault Confirmation

A. Do the operational test of the FADEC 2B on the ground (with engine non motoring) (Ref. AMM TASK 73-29-00-710-040).

4. Fault Isolation

- A. If the test gives the maintenance message CFDIU, EIU (DATE), J3*:
 - do a check for open or short to ground at pins AB/5A, 5C to pins J3/22, 23 of the harness J3 from the EIU-2 (1KS2) to the ECU (4000KS) and at pins AB/11D, 11E to pins AA/11C, 11B of the wiring from CFDIU (1TW) to the EIU-2 (1KS2) (Ref. ASM 73-25/06).
 - (1) If one of these wirings is not correct:
 - repair the defective harness J3 or the wiring.
 - (2) If these wirings are correct:
 - replace the EIU-2 (1KS2) (Ref. AMM TASK 73-25-34-000-040) and (Ref. AMM TASK 73-25-34-400-040).

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- (3) If the fault continues:
 - replace the CFDIU (1TW) (Ref. AMM TASK 31-32-34-000-001) and (Ref. AMM TASK 31-32-34-400-001).
- (4) If the fault continues:
 - replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).
- B. Do the test given in Para. 3.A.

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TROUBLE SHOOTING MANUAL

TASK 73-25-00-810-932

Loss of the Flight Data on the ARINC Bus from the EIU to the FADEC on Engine 1

1. Possible Causes

- EIU-1 (1KS1)
- harness J3 from the EIU-1 (1KS1) to the ECU (4000KS)
- wiring from CFDIU (1TW) to the EIU-1 (1KS1)
- CFDIU (1TW)
- ECU (4000KS)

2. Job Set-up Information

A. Referenced Information

REFERENCE		DESIGNATION
AMM	31-32-34-000-001	Removal of the CFDIU (1TW)
AMM	31-32-34-400-001	Installation of the CFDIU (1TW)
AMM	73-21-60-000-001	Removal of the Electronic Control Unit (ECU)(4000KS)
AMM	73-21-60-400-001	<pre>Installation of the Electronic Control Unit (ECU)(4000KS)</pre>
AMM	73-25-34-000-040	Removal of the Engine Interface Unit (EIU) (1KS1,1KS2)
AMM	73-25-34-400-040	<pre>Installation of the Engine Interface Unit (EIU) (1K\$1,1K\$2)</pre>
AMM	73-29-00-710-040	Operational Test of the FADEC on the ground (with Engine Motoring)
ASM	73-25/06	

3. Fault Confirmation

A. Do the operational test of the FADEC 1B on the ground (Ref. AMM TASK 73-29-00-710-040).

4. Fault Isolation

- A. If the test gives the maintenance message CFDIU, EIU (FLGT), J3*:
 - do a check for open or short to ground at pins AB/5A, 5C to pins J3/22, 23 of the harness J3 from the EIU-1 (1KS1) to the ECU (4000KS) and at pins AA/11F, 11G to pins AA/11C, 11B of the wiring from CFDIU (1TW) to the EIU-1 (1KS1) (Ref. ASM 73-25/06).
 - (1) If one of these wirings is not correct:
 - repair the defective harness J3 or the wiring.
 - (2) If these wirings are correct:
 - replace the EIU-1 (1KS1) (Ref. AMM TASK 73-25-34-000-040) and (Ref. AMM TASK 73-25-34-400-040).

EFF: ALL

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- (3) If the fault continues:
 - replace the CFDIU (1TW) (Ref. AMM TASK 31-32-34-000-001) and (Ref. AMM TASK 31-32-34-400-001).
- (4) If the fault continues:
 - replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).
- B. Do the test given in Para. 3.A.

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TROUBLE SHOOTING MANUAL

TASK 73-25-00-810-933

Loss of the Flight Data on the ARINC Bus from the EIU to the FADEC on Engine 2

1. Possible Causes

- EIU-2 (1KS2)
- harness J3 from the EIU-2 (1K\$2) to the ECU (4000K\$)
- wiring from CFDIU (1TW) to the EIU-2 (1KS2)
- CFDIU (1TW)
- ECU (4000KS)

2. Job Set-up Information

A. Referenced Information

REFERENCE		DESIGNATION
AMM	31-32-34-000-001	Removal of the CFDIU (1TW)
AMM	31-32-34-400-001	Installation of the CFDIU (1TW)
AMM	73-21-60-000-001	Removal of the Electronic Control Unit (ECU)(4000KS)
AMM	73-21-60-400-001	<pre>Installation of the Electronic Control Unit (ECU)(4000KS)</pre>
AMM	73-25-34-000-040	Removal of the Engine Interface Unit (EIU) (1KS1,1KS2)
AMM	73-25-34-400-040	<pre>Installation of the Engine Interface Unit (EIU) (1KS1,1KS2)</pre>
AMM	73-29-00-710-040	Operational Test of the FADEC on the Ground (with Engine non Motoring)
ASM	73-25/06	

3. Fault Confirmation

A. Do the operational test of the FADEC 2B on the ground (with engine non motoring) (Ref. AMM TASK 73-29-00-710-040).

4. Fault Isolation

- A. If the test gives the maintenance message CFDIU, EIU (FLGT), J3*:
 - do a check for open or short to ground at pins AB/5A, 5C to pins J3/22, 23 of the harness J3 from the EIU-2 (1KS2) to the ECU (4000KS) and at pins AB/11D, 11E to pins AA/11C, 11B of the wiring from CFDIU (1TW) to the EIU-2 (1KS2) (Ref. ASM 73-25/06).
 - (1) If one of these wirings is not correct:
 - repair the defective harness J3 or the wiring.
 - (2) If these wirings are correct:
 - replace the EIU-2 (1KS2) (Ref. AMM TASK 73-25-34-000-040) (Ref. AMM TASK 73-25-34-400-040).

EFF: ALL

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- (3) If the fault continues:
 - replace the CFDIU (1TW) (Ref. AMM TASK 31-32-34-000-001) (Ref. AMM TASK 31-32-34-400-001).
- (4) If the fault continues:
 - replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) (Ref. AMM TASK 73-21-60-400-001).
- B. Do the test given in Para. 3.A.

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TASK 73-25-00-810-936

Loss of Data on the ARINC Bus from the EIU to the FADEC on Engine 1

- 1. Possible Causes
 - EIU-1 (1KS1)
 - ECU (4000KS)
- 2. Job Set-up Information
 - A. Referenced Information

REFERENCE	DESIGNATION
AMM 73-21-60-000-001 AMM 73-21-60-400-001 AMM 73-25-34-000-040 AMM 73-25-34-400-040	Removal of the Electronic Control Unit (ECU) Installation of the Electronic Control Unit (ECU) Removal of the Engine Interface Unit (EIU) Installation of the Engine Interface Unit (EIU)

- 3. Fault Confirmation
 - A. Test
 - (1) Not applicable.
- 4. Fault Isolation
 - A. Replace the EIU-1 (1KS1) (Ref. AMM TASK 73-25-34-000-040) and (Ref. AMM TASK 73-25-34-400-040).
 - (1) If the fault continues:
 - replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).
 - B. No additional maintenance action is required if the fault is not confirmed.
 - (1) Repeat the fault isolation procedure if the fault continues.

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TASK 73-25-00-810-937

Loss of Data on the ARINC Bus from the EIU to the FADEC on Engine 2

- 1. Possible Causes
 - EIU-2 (1KS2)
 - ECU (4000KS)
- 2. Job Set-up Information
 - A. Referenced Information

REFERENCE	DESIGNATION
AMM 73-21-60-000-001 AMM 73-21-60-400-001 AMM 73-25-34-000-040 AMM 73-25-34-400-040	Removal of the Electronic Control Unit (ECU) Installation of the Electronic Control Unit (ECU) Removal of the Engine Interface Unit (EIU) Installation of the Engine Interface Unit (EIU)

- 3. Fault Confirmation
 - A. Test
 - (1) Not applicable.
- 4. Fault Isolation
 - A. Replace the EIU-2 (1KS2) (Ref. AMM TASK 73-25-34-000-040) and (Ref. AMM TASK 73-25-34-400-040).
 - (1) If the fault continues:
 - replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).
 - **B.** No additional maintenance action is required if the fault is not confirmed.
 - (1) Repeat the fault isolation procedure if the fault continues.

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TASK 73-25-00-810-938

Loss of Data on the ARINC Bus from the EIU to the FADEC on Engine 1

1. Possible Causes

- EIU-1 (1KS1)
- harness J3 between the EIU (1KS1) and the ECU (4000KS)
- CONT-ZONE TEMPERATURE (8HK)
- ECU (4000KS)
- ACSC (47HH, 57HH)

2. Job Set-up Information

A. Referenced Information

REFERENCE		DESIGNATION
AMM	21-61-34-000-002	Removal of the Air-Conditioning System Controller
		(47HH, 57HH)
AMM	21-61-34-400-002	Installation of the Air-Conditioning System Controller (47HH, 57HH)
AMM	21-63-34-000-001	Removal of the Zone Controller (8HK)
AMM	21-63-34-400-001	Installation of the Zone Controller (8HK)
AMM	73-21-60-000-001	Removal of the Electronic Control Unit (ECU)(4000KS)
AMM	73-21-60-400-001	<pre>Installation of the Electronic Control Unit (ECU)(4000KS)</pre>
AMM	73-25-34-000-040	Removal of the Engine Interface Unit (EIU) (1KS1,1KS2)
AMM	73-25-34-400-040	<pre>Installation of the Engine Interface Unit (EIU) (1K\$1,1K\$2)</pre>
AMM	73-29-00-710-040	Operational Test of the FADEC on the Ground (with Engine non Motoring)
ASM	73-25/06	-

3. Fault Confirmation

A. Test

Do the operational test of the FADEC 1B on the ground (with engine non motoring) (Ref. AMM TASK 73-29-00-710-040).

4. Fault Isolation

R **ON A/C 201-225, 227-227, 229-299, 426-455, 476-499, 503-549, 551-599, R 701-749,

- A. If the test gives the maintenance message FCU, EIU (034), J3:
 - do a check for open or short to ground of the harness J3 between the EIU (1KS1) and the ECU (4000KS) pins AB/5A, 5C to pins J3/22, 23 (Ref. ASM 73-25/06).

EFF: ALL

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- (1) If the wiring is not correct:
 - repair the above wiring.
- (2) If the wiring is correct:
 - replace the EIU-1 (1KS1) (Ref. AMM TASK 73-25-34-000-040) and (Ref. AMM TASK 73-25-34-400-040).
- (3) If the fault continues:
 - replace the CONT-ZONE TEMPERATURE (8HK) (Ref. AMM TASK 21-63-34-000-001) and (Ref. AMM TASK 21-63-34-400-001).
- (4) If the fault continues:
 - replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).

**ON A/C 456-475,

- A. If the test gives the maintenance message EIU (034), J3:
 - do a check for open or short to ground of the harness J3 between the EIU (1KS1) and the ECU (4000KS) pins AB/5A, 5C to pins J3/22, 23 (Ref. ASM 73-25/06).
 - (1) If the wiring is not correct:
 - repair the above wiring.
 - (2) If the wiring is correct:
 - replace the EIU-1 (1KS1) (Ref. AMM TASK 73-25-34-000-040) and (Ref. AMM TASK 73-25-34-400-040).
 - (3) If the fault continues:
 - replace the ACSC (47HH, 57HH) (Ref. AMM TASK 21-61-34-000-002) and (Ref. AMM TASK 21-61-34-400-002).
 - (4) If the fault continues:
 - replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).

**ON A/C ALL

B. Do the test given in Para. 3.A.

EFF: ALL

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TASK 73-25-00-810-939

Loss of Data on the ARINC Bus from the EIU to the FADEC on Engine 2

1. Possible Causes

- EIU-2 (1KS2)
- harness J3 between the EIU-2 (1KS2) and the ECU (4000KS)
- CONT-ZONE TEMPERATURE (8HK)
- ECU (4000KS)
- ACSC (47HH, 57HH)

2. Job Set-up Information

A. Referenced Information

REFERENCE		DESIGNATION
л м м	21-61-34-000-002	Removal of the Air-Conditioning System Controller
AMM	21-01-34-000-002	(47HH, 57HH)
AMM	21-61-34-400-002	Installation of the Air-Conditioning System
	24 /7 7/ 000 004	Controller (47HH, 57HH)
AMM	21-63-34-000-001	Removal of the Zone Controller (8HK)
AMM	21-63-34-400-001	Installation of the Zone Controller (8HK)
AMM	73-21-60-000-001	Removal of the Electronic Control Unit (ECU)(4000KS)
AMM	73-21-60-400-001	Installation of the Electronic Control Unit
		(ECU)(4000KS)
AMM	73-25-34-000-040	Removal of the Engine Interface Unit (EIU) (1KS1,1KS2)
AMM	73-25-34-400-040	Installation of the Engine Interface Unit (EIU)
		(1KS1,1KS2)
AMM	73-29-00-710-040	Operational Test of the FADEC on the ground (with Engine Motoring)
ASM	73-25/06	

3. Fault Confirmation

A. Do the operational test of the FADEC 2B on the ground (Ref. AMM TASK 73-29-00-710-040).

4. Fault Isolation

R **ON A/C 201-225, 227-227, 229-299, 426-455, 476-499, 503-549, 551-599, R 701-749,

A. If the test gives the maintenance message FCU, EIU (034), J3:

- do a check for open or short to ground of the harness J3 between the EIU-2 (1KS2) and the ECU (4000KS) pins AB/5A, 5C to pins J3/22, 23 (Ref. ASM 73-25/06).

EFF: ALL

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- (1) If the wiring is not correct:
 - repair the above wiring.
- (2) If the wiring is correct:
 - replace the EIU-2 (1KS2) (Ref. AMM TASK 73-25-34-000-040) and (Ref. AMM TASK 73-25-34-400-040).
- (3) If the fault continues:
 - replace the CONT-ZONE TEMPERATURE (8HK) (Ref. AMM TASK 21-63-34-000-001) and (Ref. AMM TASK 21-63-34-400-001).
- (4) If the fault continues:
 - replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).

**ON A/C 456-475,

- A. If the test gives the maintenance message EIU (034), J3:
 - do a check for open or short to ground of the harness J3 between the EIU-2 (1KS2) and the ECU (4000KS) pins AB/5A, 5C to pins J3/22, 23 (Ref. ASM 73-25/06).
 - (1) If the wiring is not correct:
 - repair the above wiring.
 - (2) If the wiring is correct:
 - replace the EIU-2 (1KS2) (Ref. AMM TASK 73-25-34-000-040) and (Ref. AMM TASK 73-25-34-400-040).
 - (3) If the fault continues:
 - replace the ACSC (47HH, 57HH) (Ref. AMM TASK 21-61-34-000-002) and (Ref. AMM TASK 21-61-34-400-002).
 - (4) If the fault continues:
 - replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).

**ON A/C ALL

B. Do the test given in Para. 3.A.

EFF: ALL 73-25-00

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TASK 73-25-00-810-940

Loss of Data on the ARINC Bus from the EIU to the Fadec on Engine 1

1. Possible Causes

- EIU-1 (1KS1)
- harness J3 between the EIU-1 (1KS1) and the ECU (4000KS)
- CONT-ZONE TEMPERATURE (8HK)
- ECU (4000KS)
- ACSC (47HH, 57HH)

2. Job Set-up Information

A. Referenced Information

REFERENCE		DESIGNATION		
AMM	21-61-34-000-002	Removal of the Air-Conditioning System Controller		
(47HH, 57HH) AMM 21-61-34-400-002 Installation of the Air-Conditioning System Controller (47HH, 57HH)				
AMM	21-63-34-000-001	Removal of the Zone Controller (8HK)		
AMM	21-63-34-400-001	Installation of the Zone Controller (8HK)		
AMM	73-21-60-000-001	Removal of the Electronic Control Unit (ECU)(4000KS)		
AMM	73-21-60-400-001	Installation of the Electronic Control Unit (ECU)(4000KS)		
AMM	73-25-34-000-040	Removal of the Engine Interface Unit (EIU) (1KS1,1KS2)		
AMM	73-25-34-400-040	Installation of the Engine Interface Unit (EIU) (1KS1,1KS2)		
AMM	73-29-00-710-040	Operational Test of the FADEC on the Ground (with Engine non Motoring)		
ASM	73-25/06			

3. Fault Confirmation

A. Do the operational test of the FADEC 1B on the ground (with engine non motoring) (Ref. AMM TASK 73-29-00-710-040).

4. Fault Isolation

R **ON A/C 201-225, 227-227, 229-299, 426-455, 476-499, 503-549, 551-599, R 701-749,

A. If the test gives the maintenance message CFDIU, EIU (227), J3*:
- do a check for open or short to ground of the harness J3 between the EIU-1 (1KS1) and the ECU (4000KS) pins AB/5A, 5C to pins J3/22, 23

EFF: ALL

(Ref. ASM 73-25/06).

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- (1) If the wiring is not correct:
 - repair the above wiring.
- (2) If the wiring is correct:
 - replace the EIU-1 (1KS1) (Ref. AMM TASK 73-25-34-000-040) and (Ref. AMM TASK 73-25-34-400-040).
- (3) If the fault continues:
 - replace the CONT-ZONE TEMPERATURE (8HK) (Ref. AMM TASK 21-63-34-000-001) and (Ref. AMM TASK 21-63-34-400-001).
- (4) If the fault continues:
 - replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).

**ON A/C 456-475,

- A. If the test gives the maintenance message EIU (227), J3:
 - do a check for open or short to ground of the harness J3 between the EIU-1 (1KS1) and the ECU (4000KS) pins AB/5A, 5C to pins J3/22, 23 (Ref. ASM 73-25/06).
 - (1) If the wiring is not correct:
 - repair the above wiring.
 - (2) If the wiring is correct:
 - replace the EIU-1 (1KS1) (Ref. AMM TASK 73-25-34-000-040) and (Ref. AMM TASK 73-25-34-400-040).
 - (3) If the fault continues:
 - replace the ACSC (47HH, 57HH) (Ref. AMM TASK 21-61-34-000-002) and (Ref. AMM TASK 21-61-34-400-002).
 - (4) If the fault continues:
 - replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).

**ON A/C ALL

B. Do the test given in Para. 3.A.

EFF: ALL

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TROUBLE SHOOTING MANUAL

TASK 73-25-00-810-941

Loss of Data on the ARINC Bus from the EIU to the Fadec on Engine 2

1. Possible Causes

- EIU-2 (1KS2)
- harness J3 between the EIU-2 (1KS2) and the ECU (4000KS)
- CONT-ZONE TEMPERATURE (8HK)
- ECU (4000KS)
- ACSC (47HH, 57HH)

2. Job Set-up Information

A. Referenced Information

REFERENCE		DESIGNATION	
AMM	21-61-34-000-002	Removal of the Air-Conditioning System Controller (47HH, 57HH)	
AMM	21-61-34-400-002	<pre>Installation of the Air-Conditioning System Controller (47HH, 57HH)</pre>	
AMM	21-63-34-000-001	Removal of the Zone Controller (8HK)	
AMM	21-63-34-400-001	Installation of the Zone Controller (8HK)	
AMM	73-21-60-000-001	Removal of the Electronic Control Unit (ECU)(4000KS)	
AMM	73-21-60-400-001	<pre>Installation of the Electronic Control Unit (ECU)(4000KS)</pre>	
AMM	73-25-34-000-040	Removal of the Engine Interface Unit (EIU) (1KS1,1KS2)	
AMM	73-25-34-400-040	Installation of the Engine Interface Unit (EIU) (1KS1,1KS2)	
AMM	73-29-00-710-040	Operational Test of the FADEC on the Ground (with Engine non Motoring)	
ASM	73-25/06	-	

3. Fault Confirmation

A. Do the operational test of the FADEC 2B on the ground (with engine non motoring) (Ref. AMM TASK 73-29-00-710-040).

4. Fault Isolation

R **ON A/C 201-225, 227-227, 229-299, 426-455, 476-499, 503-549, 551-599, R 701-749,

A. If the test gives the maintenance message CFDIU, EIU (227), J3*:

- do a check for open or short to ground of the harness J3 between the
EIU-2 (1KS2) and the ECU (4000KS) pins AB/5A, 5C to pins J3/22, 23

EFF: ALL

(Ref. ASM 73-25/06).

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- (1) If the wiring is not correct:
 - repair the above wiring.
- (2) If the wiring is correct:
 - replace the EIU-2 (1KS2) (Ref. AMM TASK 73-25-34-000-040) and (Ref. AMM TASK 73-25-34-400-040).
- (3) If the fault continues:
 - replace the CONT-ZONE TEMPERATURE (8HK) (Ref. AMM TASK 21-63-34-000-001) and (Ref. AMM TASK 21-63-34-400-001).
- (4) If the fault continues:
 - replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).

**ON A/C 456-475,

- A. If the test gives the maintenance message EIU (227), J3:
 - do a check for open or short to ground of the harness J3 between the EIU-2 (1KS2) and the ECU (4000KS) pins AB/5A, 5C to pins J3/22, 23 (Ref. ASM 73-25/06).
 - (1) If the wiring is not correct:
 - repair the above wiring.
 - (2) If the wiring is correct:
 - replace the EIU-2 (1KS2) (Ref. AMM TASK 73-25-34-000-040) and (Ref. AMM TASK 73-25-34-400-040).
 - (3) If the fault continues:
 - replace the ACSC (47HH, 57HH) (Ref. AMM TASK 21-61-34-000-002) and (Ref. AMM TASK 21-61-34-400-002).
 - (4) If the fault continues:
 - replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).

**ON A/C ALL

B. Do the test given in Para. 3.A.

EFF: ALL

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TASK 73-25-00-810-942

Loss of Data on the ARINC Bus from the EIU to the Fadec on Engine 1

1. Possible Causes

- EIU-1 (1KS1)
- harness J3 from EIU-1 (1KS1) to ECU (4000KS)
- ECU (4000KS)

2. Job Set-up Information

A. Referenced Information

REFERENCE		DESIGNATION	
AMM	73-21-60-000-001	Removal of the Electronic Control Unit (ECU)(4000KS)	
AMM	73-21-60-400-001	<pre>Installation of the Electronic Control Unit (ECU)(4000KS)</pre>	
AMM	73-25-34-000-040	Removal of the Engine Interface Unit (EIU) (1KS1,1KS2)	
AMM	73-25-34-400-040	<pre>Installation of the Engine Interface Unit (EIU) (1KS1,1KS2)</pre>	
AMM	73-29-00-710-040	Operational Test of the FADEC on the Ground (with Engine non Motoring)	
ASM	73-25/06	-	

3. Fault Confirmation

A. Test

(1) Do the operational test of the FADEC 1B on the ground (with engine non motoring) (Ref. AMM TASK 73-29-00-710-040).

4. Fault Isolation

- A. If the test gives the maintenance message CFDIU, EIU (155), J3*:
 - do a check for open or short to ground at pins AB/5A, 5C to pins J3/22, 23 of the harness J3 from EIU-1 (1KS1) to ECU (4000KS) (Ref. ASM 73-25/06).
 - (1) If the wiring is not correct:
 - repair the above harness J3.
 - (2) If the wiring is correct:
 - replace the EIU-1 (1KS1) (Ref. AMM TASK 73-25-34-000-040) and (Ref. AMM TASK 73-25-34-400-040).

EFF: ALL

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- (3) If the fault continues:
 - replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).
- B. Do the test given in Para. 3.A.

EFF: ALL
SROS

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TASK 73-25-00-810-943

Loss of Data on the ARINC Bus from the EIU to the Fadec on Engine 2

1. Possible Causes

- EIU-2 (1KS2)
- harness J3 from EIU-2 (1KS2) to ECU (4000KS)
- ECU (4000KS)

2. Job Set-up Information

A. Referenced Information

REFERENCE		DESIGNATION	
AMM	73-21-60-000-001	Removal of the Electronic Control Unit (ECU)(4000KS)	
AMM	73-21-60-400-001	<pre>Installation of the Electronic Control Unit (ECU)(4000KS)</pre>	
AMM	73-25-34-000-040	Removal of the Engine Interface Unit (EIU) (1KS1,1KS2)	
AMM	73-25-34-400-040	<pre>Installation of the Engine Interface Unit (EIU) (1KS1,1KS2)</pre>	
AMM	73-29-00-710-040	Operational Test of the FADEC on the Ground (with Engine non Motoring)	
ASM	73-25/06	- -	

3. Fault Confirmation

A. Do the operational test of the FADEC 2B on the ground (with engine non motoring) (Ref. AMM TASK 73-29-00-710-040).

4. Fault Isolation

- A. If the test gives the maintenance message CFDIU, EIU (155), J3*:
 - do a check for open or short to ground at pins AB/5A, 5C to pins J3/22, 23 of the harness J3 from EIU-2 (1KS2) to ECU (4000KS) (Ref. ASM 73-25/06).
 - (1) If the wiring is not correct:
 - repair the above harness J3.
 - (2) If the wiring is correct:
 - replace the EIU-2 (1KS2) (Ref. AMM TASK 73-25-34-000-040) and (Ref. AMM TASK 73-25-34-400-040).
 - (3) If the fault continues:
 - replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).

EFF: ALL

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B. Do the test given in Para. 3.A.

EFF: ALL
SROS

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TROUBLE SHOOTING MANUAL

TASK 73-25-00-810-946

Loss of the 28VDC Power Supply of the ECU on the Engine 1

- 1. Possible Causes
 - EIU-1 (1KS1)
 - ECU (4000KS)
 - aircraft wiring
 - C/B-ENGINE/ENG 1/FADEC B/AND EIU 1 (4KS1)
 - harness J2
- 2. Job Set-up Information
 - A. Referenced Information

REFERENCE		DESIGNATION	
AMM	73-21-60-000-001	Removal of the Electronic Control Unit (ECU)(4000KS)	
AMM	73-21-60-400-001	<pre>Installation of the Electronic Control Unit (ECU)(4000KS)</pre>	
AMM	73-25-34-000-040	Removal of the Engine Interface Unit (EIU) (1KS1,1KS2)	
AMM	73-25-34-400-040	<pre>Installation of the Engine Interface Unit (EIU) (1KS1,1KS2)</pre>	
AMM	73-29-00-710-040	Operational Test of the FADEC on the ground (with Engine Motoring)	
ASM	73-25/05		
ASM	73-25/08		

- 3. Fault Confirmation
 - A. Make sure that this(these) circuit breaker(s) is(are) closed:

PANEL	DESIGNATION	IDENT.	LOCATION
12 1VU	ENGINE/ENG1/FADEC B/AND EIU 1	4KS1	R41

B. Test

- (1) If the circuit breaker (4KS1) is open, refer to Para. 4.A.(2).
- (2) Do the operational test of the FADEC 1B on the ground (with engine motoring) (Ref. AMM TASK 73-29-00-710-040).

EFF: ALL

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4. Fault Isolation

- A. If the test gives the maintenance message EIU 28V, ECU: do a check of the status of the circuit breaker (4KS1).
 - (1) If the circuit breaker is closed:
 - disconnect the connector J2 from the ECU (4000KS) and do a check for 28VDC at pin J2/13 with the FADEC GND PWR pushbutton switch released (the ON legend is on) (Ref. ASM 73-25/05).
 - (a) If there is 28VDC:
 - replace the EIU-1 (1KS1) (the most possible failure is the EIU 28V relay) (Ref. AMM TASK 73-25-34-000-040) and (Ref. AMM TASK 73-25-34-400-040)
 - replace the ECU (4000KS) (the most possible failure is an ECU diode) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).
 - (b) If there is no 28VDC:
 - do a check for 28VDC at EIU 1 (1KS1) pin AC/9 (Ref. ASM 73-25/05).
 - 1 If there is no 28VDC:
 - do a check for open or short to ground at the aircraft wiring from the circuit breaker (4KS1) to EIU 1 (1KS1) pins AC/9.
 - <u>a</u> If there is a short to ground:repair the above wiring.
 - <u>b</u> If there is no short to ground:
 replace the C/B-ENGINE/ENG 1/FADEC B/AND EIU 1 (4KS1).
 - 2 If there is 28VDC:
 - do a check for open or short to ground at the harness J2 between the EIU 1 (1KS1) and the ECU (4000KS), pin AC/2 to pin J2/13. Replace the harness J2 if necessary (Ref. ASM 73-25/05).
 - 3 If the fault continues:
 - make sure that there is no ground signal at EIU 1 (1KS1) pin AA/5B (Ref. ASM 73-25/08).
 - (c) If the fault continues:
 - replace the EIU-1 (1KS1) (Ref. AMM TASK 73-25-34-000-040) and (Ref. AMM TASK 73-25-34-400-040).

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- (2) If the circuit breaker (4K\$1) is open:
 - close the circuit breaker.
 - (a) If the circuit breaker trips:
 - replace the EIU-1 (1KS1) (Ref. AMM TASK 73-25-34-000-040) and (Ref. AMM TASK 73-25-34-400-040)
 - replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).
 - (b) If the fault continues:
 - do a check for a short to ground at the harness J2 between the EIU 1 (1KS1) and the ECU (4000KS), pin AC/2 to pin J2/13.
 - 1 If there is a short to ground:
 - replace the harness J2.
 - 2 If there is no short to ground:
 - do a check for a short to ground at the aircraft wiring between EIU 1 (1KS1) pin AC/9 and the circuit breaker (4KS1).
 - $\underline{\mathbf{a}}$ If there is a short to ground:
 - repair the above wiring.
 - b If there is no short to ground:
 - replace the C/B-ENGINE/ENG 1/FADEC B/AND EIU 1 (4KS1).
- B. Do the test given in Para. 3.B.

EFF: ALL

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TROUBLE SHOOTING MANUAL

TASK 73-25-00-810-947

Loss of the 28VDC Power Supply of the ECU on the Engine 2

1. Possible Causes

- EIU-2 (1KS2)
- ECU (4000KS)
- aircraft wiring
- C/B-ENGINE/ENG 2/FADEC B (4KS2)
- harness J2

2. Job Set-up Information

A. Referenced Information

REFERENCE		DESIGNATION	
AMM	73-21-60-000-001	Removal of the Electronic Control Unit (ECU)(4000KS)	
AMM	73-21-60-400-001	Installation of the Electronic Control Unit (ECU)(4000KS)	
AMM	73-25-34-000-040	Removal of the Engine Interface Unit (EIU) (1KS1,1KS2)	
AMM	73-25-34-400-040	Installation of the Engine Interface Unit (EIU) (1KS1,1KS2)	
AMM	73-29-00-710-040	Operational Test of the FADEC on the ground (with Engine Motoring)	
ASM	73-25/05		
ASM	73-25/08		

3. Fault Confirmation

A. Make sure that this(these) circuit breaker(s) is(are) closed:

PANEL DESIGNATION IDENT. LOCATION

121VU ENGINE/ENG2/FADEC B

4KS2 Q40

- B. Test
 - (1) Do the operational test of the FADEC 2B on the ground (with engine motoring) (Ref. AMM TASK 73-29-00-710-040).
 - (2) If the circuit breaker (4KS2) is open, refer to Para. 4.A.(2).

EFF: ALL

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4. Fault Isolation

- A. If the test gives the maintenance message EIU 28V, ECU: do a check of the status of the circuit breaker (4KS2).
 - (1) If the circuit breaker is closed:
 - disconnect the connector J2 from the ECU (4000KS) and do a check for 28VDC at pin J2/13 with the FADEC GND PWR pushbutton switch released (the ON legend is on) (Ref. ASM 73-25/05).
 - (a) If there is 28VDC:
 - replace the EIU-2 (1KS2) (the most possible failure is the EIU 28V relay) (Ref. AMM TASK 73-25-34-000-040) and (Ref. AMM TASK 73-25-34-400-040)
 - replace the ECU (4000KS) (the most possible failure is an ECU diode) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).
 - (b) If there is no 28VDC:
 - do a check for 28VDC at EIU 2 (1KS2) pin AC/9 (Ref. ASM 73-25/05).
 - 1 If there is no 28VDC:
 - do a check for open or short to ground at the aircraft wiring from the circuit breaker (4KS2) to EIU 2 (1KS2) pins AC/9.
 - <u>a</u> If there is a short to ground:repair the above wiring.
 - <u>b</u> If there is no short to ground:
 replace the C/B-ENGINE/ENG 2/FADEC B (4K\$2).
 - 2 If there is 28VDC:
 - do a check for open or short to ground at the harness J2 between the EIU 2 (1KS2) and the ECU (4000KS), pin AC/2 to pin J2/13. Replace the harness J2 if necessary (Ref. ASM 73-25/05).
 - 3 If the fault continues:
 - make sure that there is no ground signal at EIU 2 (1KS2) pin AA/5B (Ref. ASM 73-25/08).
 - (c) If the fault continues:
 - replace the EIU-2 (1KS2) (Ref. AMM TASK 73-25-34-000-040) and (Ref. AMM TASK 73-25-34-400-040).

EFF: ALL

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- (2) If the circuit breaker (4KS2) is open:
 - close the circuit breaker.
 - (a) If the circuit breaker trips:
 - replace the EIU-2 (1KS2) (Ref. AMM TASK 73-25-34-000-040) and (Ref. AMM TASK 73-25-34-400-040)
 - replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).
 - (b) If the fault continues:
 - do a check for a short to ground at the harness J2 between the EIU 2 (1KS2) and the ECU (4000KS), pin AC/2 to pin J2/13.
 - 1 If there is a short to ground:
 - replace the harness J2.
 - 2 If there is no short to ground:
 - do a check for a short to ground at the aircraft wiring between EIU 2 (1KS2) pin AC/9 and the circuit breaker (4KS2).
 - a If there is a short to ground:
 - repair the above wiring.
 - b If there is no short to ground:
 - replace the C/B-ENGINE/ENG 2/FADEC B (4KS2).
- B. Do the test given in Para. 3.B.

EFF: ALL

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TROUBLE SHOOTING MANUAL

TASK 73-25-00-810-948

Loss of 28VDC Power Supply of the ECU on the Engine 1

1. Possible Causes

- EIU-1 (1KS1)
- ECU (4000KS)
- aircraft wiring
- C/B-ENGINE/1/FADEC A/AND EIU 1 (2KS1)
- C/B-ENGINE/ENG 1/FADEC B/AND EIU 1 (4KS1)
- harnesses J1 and J2

2. Job Set-up Information

A. Referenced Information

REFERENCE		DESIGNATION	
	77 04 40 000 004		
AMM	73-21-60-000-001	Removal of the Electronic Control Unit (ECU)(4000KS)	
AMM	73-21-60-400-001	<pre>Installation of the Electronic Control Unit (ECU)(4000KS)</pre>	
AMM	73-25-34-000-040	Removal of the Engine Interface Unit (EIU) (1KS1,1KS2)	
AMM	73-25-34-400-040	<pre>Installation of the Engine Interface Unit (EIU) (1KS1,1KS2)</pre>	
AMM	73-29-00-710-040	Operational Test of the FADEC on the ground (with Engine Motoring)	
ASM	73-25/05		
ASM	73-25/08		

3. Fault Confirmation

A. Do the operational test of the FADEC 1B on the ground (with engine motoring) (Ref. AMM TASK 73-29-00-710-040).

4. Fault Isolation

- A. If the test gives the maintenance message EIU, ECU (CR3 DIODE):
 - disconnect the connectors J1 and J2 from the ECU (4000KS) and do a check for 28VDC at pins J1/13 and J2/13 with the FADEC GND PWR pushbutton switch released (the ON legend is on) (Ref. ASM 73-25/05).
 - (1) If there is 28VDC:
 - replace the EIU-1 (1KS1) (the most possible failure is the EIU 28V relay) (Ref. AMM TASK 73-25-34-000-040) and (Ref. AMM TASK 73-25-34-400-040)
 - replace the ECU (4000KS) (the most possible failure is an ECU diode) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).

EFF: ALL

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- (2) If there is no 28VDC:
 - do a check for 28VDC at EIU 1 (1KS1) pins AC/9, 11 (Ref. ASM 73-25/05).
 - (a) If there is no 28VDC:
 - do a check for open or short to ground at the aircraft wiring from the circuit breakers (2KS1) and (4KS1) to EIU 1 (1KS1) pins AC/9, 11.
 - 1 If there is a short to ground: - repair the above wiring.
 - 2 If there is no short to ground:
 - replace the defective C/B-ENGINE/1/FADEC A/AND EIU 1 (2KS1) or C/B-ENGINE/ENG 1/FADEC B/AND EIU 1 (4KS1).
 - (b) If there is 28VDC:
 - do a check for open or short to ground at the harnesses J1 and J2 between the EIU 1 (1KS1) and the ECU (4000KS), pins AC/2, 7 to pins J1/13, J2/13. Replace the harness J1 or J2 if necessary (Ref. ASM 73-25/05).
 - (c) If the fault continues:
 - make sure that there is no ground signal at EIU 1 (1KS1) pin AA/5B (Ref. ASM 73-25/08).
 - (d) If the fault continues:
 - replace the EIU-1 (1KS1) (Ref. AMM TASK 73-25-34-000-040) and (Ref. AMM TASK 73-25-34-400-040).
- B. Do the test given in Para. 3.A.

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TROUBLE SHOOTING MANUAL

TASK 73-25-00-810-949

Loss of 28VDC Power Supply of the ECU on the Engine 2

1. Possible Causes

- EIU-2 (1KS2)
- ECU (4000KS)
- aircraft wiring
- C/B-ENGINE/2/FADEC A/AND EIU 2 (2KS2)
- C/B-ENGINE/ENG 2/FADEC B (4KS2)
- harnesses J1 and J2

2. Job Set-up Information

A. Referenced Information

REFERENCE		DESIGNATION	
	77 04 40 000 004		
AMM	73-21-60-000-001	Removal of the Electronic Control Unit (ECU)(4000KS)	
AMM	73-21-60-400-001	<pre>Installation of the Electronic Control Unit (ECU)(4000KS)</pre>	
AMM	73-25-34-000-040	Removal of the Engine Interface Unit (EIU) (1KS1,1KS2)	
AMM	73-25-34-400-040	<pre>Installation of the Engine Interface Unit (EIU) (1KS1,1KS2)</pre>	
AMM	73-29-00-710-040	Operational Test of the FADEC on the ground (with Engine Motoring)	
ASM	73-25/05		
ASM	73-25/08		

3. Fault Confirmation

A. Do the operational test of the FADEC 2B on the ground (with engine motoring) (Ref. AMM TASK 73-29-00-710-040).

4. Fault Isolation

- A. If the test gives the maintenance message EIU, ECU (CR3 DIODE):
 - disconnect the connectors J1 and J2 from the ECU (4000KS) and do a check for 28VDC at pins J1/13 and J2/13 with the FADEC GND PWR pushbutton switch released (the ON legend is on) (Ref. ASM 73-25/05).
 - (1) If there is 28VDC:
 - replace the EIU-2 (1KS2) (the most possible failure is the EIU 28V relay) (Ref. AMM TASK 73-25-34-000-040) and (Ref. AMM TASK 73-25-34-400-040)
 - replace the ECU (4000KS) (the most possible failure is an ECU diode) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).

EFF: ALL

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- (2) If there is no 28VDC:
 - do a check for 28VDC at EIU 2 (1KS2) pins AC/9, 11 (Ref. ASM 73-25/05).
 - (a) If there is no 28VDC:
 - do a check for open or short to ground at the aircraft wiring from the circuit breakers (2KS2) and (4KS2) to EIU 2 (1KS2) pins AC/9, 11.
 - 1 If there is a short to ground: - repair the above wiring.
 - 2 If there is no short to ground:
 - replace the defective C/B-ENGINE/2/FADEC A/AND EIU 2 (2KS2) or C/B-ENGINE/ENG 2/FADEC B (4KS2).
 - (b) If there is 28VDC:
 - do a check for open or short to ground at the harnesses J1 and J2 between the EIU 2 (1KS2) and the ECU (4000KS), pins AC/2, 7 to pins J1/13, J2/13. Replace the harness J1 or J2 if necessary (Ref. ASM 73-25/05).
 - (c) If the fault continues:
 - make sure that there is no ground signal at EIU 2 (1KS2) pin AA/5B (Ref. ASM 73-25/08).
 - (d) If the fault continues:
 - replace the EIU-2 (1KS2) (Ref. AMM TASK 73-25-34-000-040) and (Ref. AMM TASK 73-25-34-400-040).
- B. Do the test given in Para. 3.A.

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TROUBLE SHOOTING MANUAL

FADEC SYSTEM - FAULT ISOLATION PROCEDURES

TASK 73-29-00-810-802

All engine 1 parameters are XX on the upper ECAM DU on ground at starting.

1. Possible Causes

- SEL SW-ENG/MODE/CRANK/AUTO IGN/IGN (6KS)
- EIU-1 (1KS1)
- wiring between the ENG/MODE/CRANK/AUTO IGN/IGN selector switch (6KS) and the EIU 1 (1KS1)
- wiring between the circuit breaker 4KS1 and the EIU 1 (1KS1)
- wiring between the pin 2 of the connector 1KS1-AC and the pin 13 of the connector 4000KS-J2
- wiring between the circuit breaker 2KS1 and the EIU 1 (1KS1)
- wiring between the pin 7 of the connector 1KS1-AC and the pin 13 of the connector 4000KS-J4

2. Job Set-up Information

A. Fixtures, Tools, Test and Support Equipment

DEFENDE OTV DECICUATION

REFERENCE

QTY DESIGNATION

No specific

circuit breaker(s) safety clip(s)

B. Referenced Information

REFERENCE DESIGNATION

AMM	31-60-00-860-001	EIS Start Procedure
AMM	31-60-00-860-002	EIS Stop Procedure
AMM	71-00-00-710-003	Engine Automatic Start
AMM	71-00-00-710-004	Engine Manual Start
AMM	73-25-34-000-040	Removal of the Engine Interface Unit (EIU) (1KS1,1KS2)
AMM	73-25-34-400-040	<pre>Installation of the Engine Interface Unit (EIU) (1KS1,1KS2)</pre>
AMM	73-25-34-710-043	Operational Test of the Engine Interface Unit
ASM	73-25/05	

EFF: ALL

ASM 73-25/08

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3. Fault Confirmation

A. Make sure that this(these) circuit breaker(s) is(are) closed:

	PANEL	DESIGNATION	IDENT.	LOCATION
R				
	49VU	ENGINE/1/FADEC A/AND EIU 1	2K\$1	A04
	49VU	ENGINE/1 AND 2/IGN/SYS A	1JH	A03
	12 1VU	ENGINE/IGN/ENG1/SYS B	3JH1	P41
	12 1VU	ENGINE/IGN/ENG1/SYS A BAT	2JH1	P39
	121VU	ENGINE/ENG1/FADEC B/AND EIU 1	4KS1	R41

R

B. Aircraft Maintenance Configuration

NOTE: If the circuit breakers 2KS1, 4KS1 are opened, stop for 5 minutes before you start the procedure.

C. Open, safety and tag this(these) circuit breaker(s):

	PANEL	DESIGNATION				IDENT.	LOCATION
R							
	121VU	ENGINE/ENG1	AND	2 FIRE	EXTIG/BTL1/SQUIB/B	2WE1	Q44
	121VU	ENGINE/ENG1	AND	2 FIRE	EXTIG/BTL1/SQUIB/A	1WE1	Q43
	121VU	ENGINE/ENG1	AND	2 FIRE	EXTIG/BTL2/SQUIB/B	2WE2	Q42
	121VU	ENGINE/ENG1	AND	2 FIRE	EXTIG/BTL2/SQUIB/A	1WE2	Q41

R

- D. Job Set-Up
 - (1) On the panel 115VU, make sure that:
 - (a) The ENG/MODE/CRANK/AUTO IGN/IGN selector switch is set to NORM.
 - (b) The ENG MASTER 1 switch is set to OFF.
 - (2) On the panel 22VU, make sure that the ENG/MAN START/1 pushbutton switch is released.

EFF: ALL **SROS**

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- (3) Do the EIS start procedure (Ref. AMM TASK 31-60-00-860-001).
- E. Test
 - (1) On the panel 50VU, release the ENG/FADEC GND PWR/1 pushbutton switch (ON legend on).

4. Fault Isolation

- A. If the test does not show XX on the upper ECAM DU, but shows engine 1 parameters:
 - (1) Do a check and repair the wiring between the ENG/MODE/CRANK/AUTO IGN/IGN selector switch (6KS) and the EIU 1 (1KS1), (Ref. ASM 73-25/08).
 - (2) If the fault continues:
 - replace the SEL SW-ENG/MODE/CRANK/AUTO IGN/IGN (6KS).
 - (3) If the fault continues:
 - replace the EIU-1 (1KS1), (Ref. AMM TASK 73-25-34-000-040) and (Ref. AMM TASK 73-25-34-400-040).
- B. If the test does not show engine 1 parameters on the upper ECAM DU, but shows XX:
 - (1) Make sure that there is 28VDC at the pin 9 of the connector 1KS1-AC (Ref. ASM 73-25/05).
 - (a) If there is no 28VDC:
 - do a check and repair the wiring between the circuit breaker
 4KS1 and the EIU 1 (1KS1).
 - (b) If there is 28VDC:
 - do a check and repair the wiring between the pin 2 of the connector 1KS1-AC and the pin 13 of the connector 4000KS-J2.
 - (2) If the fault continues:
 - make sure that there is 28VDC at the pin 11 of the connector 1KS1-AC (Ref. ASM 73-25/05).
 - (a) If there is no 28VDC:
 - do a check and repair the wiring between the circuit breaker
 2K\$1 and the EIU 1 (1K\$1).
 - (b) If there is 28VDC:
 - do a check and repair the wiring between the pin 7 of the connector 1KS1-AC and the pin 13 of the connector 4000KS-J4.
 - (3) If the fault continues:
 - replace the EIU-1 (1KS1), (Ref. AMM TASK 73-25-34-000-040) and (Ref. AMM TASK 73-25-34-400-040).

EFF: ALL

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C. Test

- (1) Do the operational test of the Engine Interface Unit (Ref. AMM TASK 73-25-34-710-043).
- (2) Make sure that all engine 1 parameters are shown on the upper ECAM DU when you start the engine again (Ref. AMM TASK 71-00-00-710-003) or (Ref. AMM TASK 71-00-00-710-004).

5. Close-up

- A. Put the aircraft back to its initial configuration.
 - (1) Do the EIS stop procedure (Ref. AMM TASK 31-60-00-860-002).

EFF : ALL
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TROUBLE SHOOTING MANUAL

TASK 73-29-00-810-803

All engine 2 parameters are XX on the upper ECAM DU on ground at starting.

1. Possible Causes

- SEL SW-ENG/MODE/CRANK/AUTO IGN/IGN (6KS)
- EIU-2 (1KS2)
- wiring between the ENG/MODE/CRANK/AUTO IGN/IGN selector switch (6KS) and the EIU 2 (1KS2)
- wiring between the circuit breaker 2KS2 and the EIU 2 (1KS2)
- wiring between the pin 7 of the connector 1KS2-AC and the pin 13 of the connector 4000KS-J1
- wiring between the circuit breaker 4KS2 and the EIU 2 (1KS2)
- wiring between the pin 2 of the connector 1KS2-AC and the pin 13 of the connector 4000KS-J2

2. Job Set-up Information

A. Fixtures, Tools, Test and Support Equipment

REFERENCE	QTY DESIGNATION

No specific

circuit breaker(s) safety clip(s)

B. Referenced Information

REFERENCE		DESIGNATION	
AMM	31-60-00-860-001	EIS Start Procedure	
AMM	31-60-00-860-002	EIS Stop Procedure	
AMM	71-00-00-710-003	Engine Automatic Start	
AMM	71-00-00-710-004	Engine Manual Start	
AMM	73-25-34-000-040	Removal of the Engine Interface Unit (EIU) (1KS1,1KS2)	
AMM	73-25-34-400-040	<pre>Installation of the Engine Interface Unit (EIU) (1KS1,1KS2)</pre>	
AMM	73-25-34-710-043	Operational Test of the Engine Interface Unit	
ASM	73-25/05		
ASM	73-25/08		

EFF: ALL

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3. Fault Confirmation

A. Make sure that this(these) circuit breaker(s) is(are) closed:

	PANEL	DESIGNATION	IDENT. L	OCATION
R				
	49VU	ENGINE/2/FADEC A/AND EIU 2	2K\$2	A05
	49VU	ENGINE/1 AND 2/IGN/SYS A	1JH	A03
	12 1VU	ENGINE/IGN/ENG2/SYS B	3JH2	P42
	12 1VU	ENGINE/IGN/ENG2/SYS A BAT	2JH2	P40
	121VU	ENGINE/ENG2/FADEC B	4KS2	Q40

R

B. Aircraft Maintenance Configuration

NOTE: If the circuit breakers 2KS2, 4KS2 are opened, stop for 5 minutes before you start the procedure.

C. Open, safety and tag this(these) circuit breaker(s):

	PANEL	DESIGNATION				IDENT.	LOCATION
R							
	121VU	ENGINE/ENG1	AND 2	2 FIRE	EXTIG/BTL1/SQUIB/B	2WE1	Q44
	121VU	ENGINE/ENG1	AND 2	2 FIRE	EXTIG/BTL1/SQUIB/A	1WE1	Q43
	121VU	ENGINE/ENG1	AND 2	2 FIRE	EXTIG/BTL2/SQUIB/B	2WE2	Q42
	121VU	ENGINE/ENG1	AND 2	2 FIRE	EXTIG/BTL2/SQUIB/A	1WE2	Q41

R

- D. Job Set-Up
 - (1) On the panel 115VU, make sure that:
 - (a) The ENG/MODE/CRANK/AUTO IGN/IGN selector switch is set to NORM.
 - (b) The ENG MASTER 2 switch is set to OFF.
 - (2) On the panel 22VU, make sure that the ENG/MAN START/2 pushbutton switch is released.

EFF: ALL **SROS**

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- (3) Do the EIS start procedure (Ref. AMM TASK 31-60-00-860-001).
- E. Test
 - (1) On the panel 50VU, release the ENG/FADEC GND PWR/2 pushbutton switch (ON legend on).

4. Fault Isolation

- A. If the test does not show XX on the upper ECAM DU, but shows engine 2 parameters:
 - (1) Do a check and repair the wiring between the ENG/MODE/CRANK/AUTO IGN/IGN selector switch (6KS) and the EIU 2 (1KS2), (Ref. ASM 73-25/08).
 - (2) If the fault continues:
 - replace the SEL SW-ENG/MODE/CRANK/AUTO IGN/IGN (6KS).
 - (3) If the fault continues:
 - replace the EIU-2 (1KS2), (Ref. AMM TASK 73-25-34-000-040) and (Ref. AMM TASK 73-25-34-400-040).
- B. If the test does not show engine 2 parameters on the upper ECAM DU, but shows XX:
 - (1) Make sure that there is 28VDC at the pin 11 of the connector 1KS2-AC (Ref. ASM 73-25/05).
 - (a) If there is no 28VDC:
 - do a check and repair the wiring between the circuit breaker
 2KS2 and the EIU 2 (1KS2).
 - (b) If there is 28VDC:
 - do a check and repair the wiring between the pin 7 of the connector 1KS2-AC and the pin 13 of the connector 4000KS-J1.
 - (2) If the fault continues:
 - make sure that there is 28VDC at the pin 9 of the connector 1KS2-AC (Ref. ASM 73-25/05).
 - (a) If there is no 28VDC:
 - do a check and repair the wiring between the circuit breaker
 4KS2 and the EIU 2 (1KS2).
 - (b) If there is 28VDC:
 - do a check and repair the wiring between the pin 2 of the connector 1KS2-AC and the pin 13 of the connector 4000KS-J2.
 - (3) If the fault continues:
 - replace the EIU-2 (1KS2), (Ref. AMM TASK 73-25-34-000-040) and (Ref. AMM TASK 73-25-34-400-040).

EFF: ALL

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C. Test

- (1) Do the operational test of the Engine Interface Unit (Ref. AMM TASK 73-25-34-710-043).
- (2) Make sure that all engine 2 parameters are shown on the upper ECAM DU when you start the engine again (Ref. AMM TASK 71-00-00-710-003) or (Ref. AMM TASK 71-00-00-710-004).

5. Close-up

- A. Put the aircraft back to its initial configuration.
 - (1) Do the EIS stop procedure (Ref. AMM TASK 31-60-00-860-002).

EFF: ALL SROS Printed in France 73-29-00

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TASK 73-29-00-810-804

No engine 1 parameters are not XX on the upper ECAM DU after an engine shutdown time on the ground of 5 minutes minimum.

1. Possible Causes

- EIU-1 (1KS1)
- wiring between the ENG/MASTER CTL switch (3KC) and the EIU 1 (1KS1)
- CTL SW ENG/MASTER 1 (3KC)

2. Job Set-up Information

A. Referenced Information

REFERENCE		DESIGNATION	
AMM	73-25-34-000-040	Removal of the Engine Interface Unit (EIU) (1KS1,1KS2)	
AMM	73-25-34-400-040	<pre>Installation of the Engine Interface Unit (EIU) (1K\$1,1K\$2)</pre>	
AMM	73-25-34-710-040	Operational Test of the Engine Interface Unit (1KS1,1KS2)	
AMM ASM	73-25-34-710-043 73-25/08	Operational Test of the Engine Interface Unit	

3. Fault Confirmation

A. Test

- (1) Make sure that the engine 1 shutdown time was of 5 minutes minimum.
- (2) Do the operational test of the Engine Interface Unit (Ref. AMM TASK 73-25-34-710-043).

4. Fault Isolation

- A. If the test gives the maintenance message 115VU (MASTER LEVER 1SW):

 do a check and repair the wiring between the ENG/MASTER CTL switch (3KC) and the EIU 1 (1KS1), (Ref. ASM 73-25/08).
 - (1) If the fault continues:
 - (a) Replace the CTL SW ENG/MASTER 1 (3KC).
 - (b) Do the operational test of the Engine Interface Unit (Ref. AMM TASK 73-25-34-710-040).

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(2) If the fault continues:

- replace the EIU-1 (1KS1), (Ref. AMM TASK 73-25-34-000-040) and (Ref. AMM TASK 73-25-34-400-040).
- B. If the test gives NO FAILURE message:
 - replace the EIU-1 (1KS1), (Ref. AMM TASK 73-25-34-000-040) and (Ref. AMM TASK 73-25-34-400-040).

EFF: ALL
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TROUBLE SHOOTING MANUAL

TASK 73-29-00-810-805

No engine 2 parameters are not XX on the upper ECAM DU after an engine shutdown time on the ground of 5 minutes minimum.

1. Possible Causes

- EIU-2 (1KS2)
- wiring between the ENG/MASTER CTL switch (2KC) and the EIU 2 (1KS2)
- CTL SW ENG/MASTER 2 (2KS)

2. Job Set-up Information

A. Referenced Information

REFERENCE		DESIGNATION	
AMM	73-25-34-000-040	Removal of the Engine Interface Unit (EIU) (1KS1,1KS2)	
AMM	73-25-34-400-040	<pre>Installation of the Engine Interface Unit (EIU) (1K\$1,1K\$2)</pre>	
AMM	73-25-34-710-040	Operational Test of the Engine Interface Unit (1KS1,1KS2)	
AMM ASM	73-25-34-710-043 73-25/08	Operational Test of the Engine Interface Unit	

3. Fault Confirmation

A. Test

- (1) Make sure that the engine 2 shutdown time was of 5 minutes minimum.
- (2) Do the operational test of the Engine Interface Unit (Ref. AMM TASK 73-25-34-710-043).

4. Fault Isolation

- A. If the test gives the maintenance message 115VU (MASTER LEVER 2SW):
 do a check and repair the wiring between the ENG/MASTER CTL switch (2KC) and the EIU 2 (1KS2), (Ref. ASM 73-25/08).
 - (1) If the fault continues:
 - (a) Replace the CTL SW ENG/MASTER 2 (2KS).
 - (b) Do the operational test of the Engine Interface Unit (Ref. AMM TASK 73-25-34-710-040).

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- (2) If the fault continues:
 - replace the EIU-2 (1KS2), (Ref. AMM TASK 73-25-34-000-040) and (Ref. AMM TASK 73-25-34-400-040).
- B. If the test gives NO FAILURE message:
 - replace the EIU-2 (1KS2), (Ref. AMM TASK 73-25-34-000-040) and (Ref. AMM TASK 73-25-34-400-040).

EFF: ALL
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TASK 73-29-00-810-806

All engine 1 parameters are XX on the upper ECAM DU on the ground with the FADEC GND PWR pushbutton switch set to ON.

1. Possible Causes

- wiring between the FADEC GND PWR pushbutton switch (7KS1) and the EIU 1
- P/BSW-ENG/FADEC GND PWR/1 (7KS1)

2. Job Set-up Information

A. Fixtures, Tools, Test and Support Equipment

REFERENCE QTY DESIGNATION

circuit breaker(s) safety clip(s) No specific

B. Referenced Information

REFERENCE **DESIGNATION**

AMM 31-60-00-860-001 EIS Start Procedure

AMM 31-60-00-860-001 EIS Start Procedure

AMM 31-60-00-860-002 EIS Stop Procedure

R AMM 73-21-60-720-040 Functional Test of the Electronic Control Unit (ECU)

ASM 73-25/08

3. Fault Confirmation

A. Make sure that this(these) circuit breaker(s) is(are) closed:

PANEL	DESIGNATION	IDENT. LOCATION

49VU ENGINE/1/FADEC A/AND EIU 1 2KS1 A04 49VU ENGINE/1 AND 2/IGN/SYS A 1JH A03 121VU ENGINE/IGN/ENG1/SYS B **3JH1** P41 121VU ENGINE/IGN/ENG1/SYS A BAT 2JH1 P39 121VU ENGINE/ENG1/FADEC B/AND EIU 1 4KS1 R41

R

R

B. Aircraft Maintenance Configuration

NOTE: If the circuit breakers 2KS1, 4KS1 are opened, stop for 5 minutes before you start the procedure.

EFF: ALL 73-29-00

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C. Open, safety and tag this(these) circuit breaker(s):

PANEL DESIGNATION IDENT. LOCATION

R

121VU ENGINE/ENG1 AND 2 FIRE EXTIG/BTL1/SQUIB/B 2WE1 Q44
121VU ENGINE/ENG1 AND 2 FIRE EXTIG/BTL1/SQUIB/A 1WE1 Q43
121VU ENGINE/ENG1 AND 2 FIRE EXTIG/BTL2/SQUIB/B 2WE2 Q42
121VU ENGINE/ENG1 AND 2 FIRE EXTIG/BTL2/SQUIB/A 1WE2 Q41

R

- D. Job Set-Up
 - (1) On the panel 115VU, make sure that:
 - (a) The ENG/MODE/CRANK/AUTO IGN/IGN selector switch is set to NORM.
 - (b) The ENG MASTER 1 switch is set to OFF.
 - (2) On the panel 22VU, make sure that the ENG/MAN START/1 pushbutton switch is released.
 - (3) Do the EIS start procedure (Ref. AMM TASK 31-60-00-860-001).
- E. Do this test:

ACTION RESULT

 On the panel 115VU, set the ENG/MODE/CRANK/AUTO IGN/IGN selector switch to IGN START.

The upper display unit of the ECAM system does not show XX but shows engine parameters:

- N1 = 0
- N2 = 0
- FF = 0
- EGT = ambient temperature

- 4. Fault Isolation
 - A. If the test is confirmed:
 - (1) Do a check and repair the wiring between the FADEC GND PWR pushbutton switch (7KS1) and the EIU 1 (1KS1), (Ref. ASM 73-25/08).
 - B. Do the functional test of the ECU (Ref. AMM TASK 73-21-60-720-040).

EFF: ALL

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5. Close-up

- A. Put the aircraft back to its initial configuration.
 - (1) Do the EIS stop procedure (Ref. AMM TASK 31-60-00-860-002).

EFF: ALL

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TASK 73-29-00-810-807

All engine 2 parameters are XX on the upper ECAM DU on the ground with the FADEC GND PWR pushbutton switch set to ON.

1. Possible Causes

- wiring between the FADEC GND PWR pushbutton switch (7KS2) and the EIU 2
- P/BSW-ENG/FADEC GND PWR/ 2 (7KS2)

2. Job Set-up Information

A. Fixtures, Tools, Test and Support Equipment

REFERENCE QTY DESIGNATION

circuit breaker(s) safety clip(s) No specific

B. Referenced Information

REFERENCE **DESIGNATION**

AMM 31-60-00-860-001 EIS Start Procedure

AMM 31-60-00-860-001 EIS Start Procedure

AMM 31-60-00-860-002 EIS Stop Procedure

R AMM 73-21-60-720-040 Functional Test of the Electronic Control Unit (ECU)

ASM 73-25/08

3. Fault Confirmation

A. Make sure that this(these) circuit breaker(s) is(are) closed:

PANEL DESIGNATION IDENT. LOCATION

R

49VU ENGINE/2/FADEC A/AND EIU 2	2K\$2	A05
49VU ENGINE/1 AND 2/IGN/SYS A	1JH	A03
121VU ENGINE/IGN/ENG2/SYS B	3JH2	P42
121VU ENGINE/IGN/ENG2/SYS A BAT	2JH2	P40
121VU ENGINE/ENG2/FADEC B	4KS2	Q40

R

B. Aircraft Maintenance Configuration

NOTE: If the circuit breakers 2KS2, 4KS2 are opened, stop for 5 minutes

before you start the procedure.

EFF: ALL 73-29-00

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C. Open, safety and tag this(these) circuit breaker(s):

PANEL DESIGNATION IDENT. LOCATION

R

121VU ENGINE/ENG1 AND 2 FIRE EXTIG/BTL1/SQUIB/B 2WE1 Q44
121VU ENGINE/ENG1 AND 2 FIRE EXTIG/BTL1/SQUIB/A 1WE1 Q43
121VU ENGINE/ENG1 AND 2 FIRE EXTIG/BTL2/SQUIB/B 2WE2 Q42
121VU ENGINE/ENG1 AND 2 FIRE EXTIG/BTL2/SQUIB/B 1WE2 Q41

R

- D. Job Set-Up
 - (1) On the panel 115VU, make sure that:
 - (a) The ENG/MODE/CRANK/AUTO IGN/IGN selector switch is set to NORM.
 - (b) The ENG MASTER 2 switch is set to OFF.
 - (2) On the panel 22VU, make sure that the ENG/MAN START/2 pushbutton switch is released.
 - (3) Do the EIS start procedure (Ref. AMM TASK 31-60-00-860-001).
- E. Do this test:

ACTION RESULT

 On the panel 115VU, set the ENG/MODE/CRANK/AUTO IGN/IGN selector switch to IGN START. The upper display unit of the ECAM system does not show XX but shows engine parameters:

- N1 = 0
- N2 = 0
- FF = 0
- EGT = ambient temperature

- 4. Fault Isolation
 - A. If the test is confirmed:
 - (1) Do a check and repair the wiring between the FADEC GND PWR pushbutton switch (7KS2) and the EIU 2 (1KS2), (Ref. ASM 73-25/08).
 - B. Do the functional test of the ECU (Ref. AMM TASK 73-21-60-720-040).

EFF: ALL

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5. Close-up

- A. Put the aircraft back to its initial configuration.
 - (1) Do the EIS stop procedure (Ref. AMM TASK 31-60-00-860-002).

EFF: ALL
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TASK 73-29-00-810-808

Loss of the Output 1 Bus of the ECU 2 Channel B

- 1. Possible Causes
 - ECU (4000KS)
 - aircraft wiring
- 2. Job Set-up Information
 - A. Referenced Information

	REFE	RENCE	DESIGNATION
		73-21-60-000-001 73-21-60-400-001	Removal of the Electronic Control Unit (ECU)(4000KS) Installation of the Electronic Control Unit (ECU)(4000KS)
R R		73-25-34-710-040	Operational Test of the Engine Interface Unit (1KS1,1KS2)
		73-25/10 ault Confirmation	

- A. Do the operational test of the Engine Interface Unit (Ref. AMM TASK 73-25-34-710-040).
 - 4. Fault Isolation

R

R

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- R A. If the test gives the maintenance message EIU2 : NO FADEC 2B DATA: - replace the ECU (4000KS), (Ref. AMM TASK 73-21-60-000-001) and (Ref. R AMM TASK 73-21-60-400-001). R
 - (1) If the fault continues:
 - do a check and repair the aircraft wiring of the output 1 bus on channel B from the ECU (4000KS) to the first terminal block (Ref. ASM 73-25/10).
- R B. Do the test given in Para. 3.

73-29-00 EFF: ALL

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TROUBLE SHOOTING MANUAL

TASK 73-29-00-810-809

Loss of the Output 1 Bus of the ECU 2 Channel B

- 1. Possible Causes
 - ECU (4000KS)
 - aircraft wiring
- 2. Job Set-up Information
 - A. Referenced Information

REFERENCE		DESIGNATION
AMM	22-96-00-710-001	Operational Test of the AFS
AMM	73-21-60-000-001	Removal of the Electronic Control Unit (ECU)(4000KS)
AMM	73-21-60-400-001	<pre>Installation of the Electronic Control Unit (ECU)(4000KS)</pre>
ASM	73-25/10	

- 3. Fault Confirmation
- R A. Do the operational test of the AFS (Ref. AMM TASK 22-96-00-710-001).
 - 4. Fault Isolation
- R A. If the test gives the maintenance message AFS : FADEC 1:
 R replace the ECU (4000KS), (Ref. AMM TASK 73-21-60-000-001) and (Ref.
 R AMM TASK 73-21-60-400-001).
- R (1) If the fault continues:
 - do a check and repair the aircraft wiring of the output 1 bus on channel B from the ECU (4000KS) to the first terminal block (Ref. ASM 73-25/10).
- R B. Do the test given in Para. 3.

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TASK 73-29-00-810-810

Loss of the Output 1 Bus of the ECU 2 Channel B

1. Possible Causes

REFERENCE

- ECU (4000KS)
- aircraft wiring
- 2. Job Set-up Information
 - A. Referenced Information

	-	
AMM	31-60-00-740-002	EIS Input Test
AMM	31-60-00-740-007	GROUND SCANNING Test of the DMC
AMM	73-21-60-000-001	Removal of the Electronic Control Unit (ECU)(4000KS)
AMM	73-21-60-400-001	Installation of the Electronic Control Unit
		(ECU)(4000KS)
ASM	73-25/10	

- 3. Fault Confirmation
- R **ON A/C 201-225, 227-227, 229-299, 426-455, 476-499, 503-549, 551-599, R 701-749,
 - A. Do the EIS input test (Ref. AMM TASK 31-60-00-740-002).

DESIGNATION

**ON A/C 456-475,

A. Do the Ground Scanning Test of the DMC (Ref. AMM TASK 31-60-00-740-007).
**ON A/C ALL

4. Fault Isolation

SROS

- R **ON A/C 201-225, 227-227, 229-299, 426-455, 476-499, 503-549, 551-599, R 701-749,
 - A. If the test gives the maintenance message DMC2: NO ECU 2B DATA: - replace the ECU (4000KS), (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).
 - (1) If the fault continues:
 - do a check and repair the aircraft wiring of the output 1 bus on channel B from the ECU (4000KS) to the first terminal block (Ref. ASM 73-25/10).

EFF: ALL

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R **ON A/C 456-475,

R **ON A/C ALL

R	A. If the test gives the maintenance message ECU(E2-4UUUKS)BUS
R	ECU2B/DMC2(1WT2):
R	- replace the ECU (4000KS), (Ref. AMM TASK 73-21-60-000-001) and (Ref.
R	AMM TASK 73-21-60-400-001).
R	(1) If the fault continues:
R	- do a check and repair the aircraft wiring of the output 1 bus on
R	channel B from the ECU (4000KS) to the first terminal block (Ref
R	ASM 73-25/10).

B. Do the test given in Para. 3.

EFF: ALL SROS

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TROUBLE SHOOTING MANUAL

TASK 73-29-00-810-811

Loss of the Output 1 Bus of the ECU 2 Channel B

1. Possible Causes

REFERENCE

- ECU (4000KS)
- aircraft wiring
- 2. Job Set-up Information
 - A. Referenced Information

AMM	31-60-00-740-002	EIS Input Test
AMM	31-60-00-740-007	GROUND SCANNING Test of the DMC
AMM	73-21-60-000-001	Removal of the Electronic Control Unit (ECU)(4000KS)
AMM	73-21-60-400-001	<pre>Installation of the Electronic Control Unit (ECU)(4000KS)</pre>
ASM	73-25/10	

- 3. Fault Confirmation
- R **ON A/C 201-225, 227-227, 229-299, 426-455, 476-499, 503-549, 551-599, 701-749,
 - A. Do the EIS input test (Ref. AMM TASK 31-60-00-740-002).

DESIGNATION

**ON A/C 456-475,

A. Do the Ground Scanning Test of the DMC (Ref. AMM TASK 31-60-00-740-007). **ON A/C ALL

- 4. Fault Isolation
- R **ON A/C 201-225, 227-227, 229-299, 426-455, 476-499, 503-549, 551-599, R 701-749,
 - A. If the test gives the maintenance message DMC1: NO ECU 2B DATA: - replace the ECU (4000KS), (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).
 - (1) If the fault continues:
 - do a check and repair the aircraft wiring of the output 1 bus on channel B from the ECU (4000KS) to the first terminal block (Ref. ASM 73-25/10).

EFF: ALL **SROS**

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R **ON A/C 456-475,

R	A. If the test gives the maintenance message ECU(E2-4000KS)BUS
R	ECU2B/DMC1(1WT1):
R	- replace the ECU (4000KS), (Ref. AMM TASK 73-21-60-000-001) and (Ref.
R	AMM TASK 73-21-60-400-001).
R	(1) If the fault continues:
R	- do a check and repair the aircraft wiring of the output 1 bus on
R	channel B from the ECU (4000KS) to the first terminal block (Ref
R	ASM 73-25/10).

R **ON A/C ALL

B. Do the test given in Para. 3.

EFF: ALL

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TASK 73-29-00-810-812

Loss of the Output 1 Bus of the ECU 2 Channel B

1. Possible Causes

- ECU (4000KS)
- aircraft wiring

2. Job Set-up Information

A. Referenced Information

REFERENCE		DESIGNATION
AMM	31-50-00-710-001 73-21-60-000-001 73-21-60-400-001	Ground Scanning of the Central Warning System Removal of the Electronic Control Unit (ECU)(4000KS) Installation of the Electronic Control Unit (ECU)(4000KS)
ASM	73-25/10	(ECO)(4000K3)

3. Fault Confirmation

A. Do the operational test of the Central Warning Systems (Ref. AMM TASK 31-50-00-710-001).

4. Fault Isolation

- A. If the test gives the maintenance message FWC2: NO DATA FROM ECU 2B: - replace the ECU (4000KS), (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).
 - (1) If the fault continues:
 - do a check and repair the aircraft wiring of the output 1 bus on channel B from the ECU (4000KS) to the first terminal block (Ref. ASM 73-25/10).
- B. Do the test given in Para. 3.

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TASK 73-29-00-810-813

Loss of the Output 1 Bus of the ECU 2 Channel B

1. Possible Causes

- ECU (4000KS)
- aircraft wiring

2. Job Set-up Information

A. Referenced Information

REFERENCE		DESIGNATION
AMM	31-50-00-710-001 73-21-60-000-001 73-21-60-400-001	Ground Scanning of the Central Warning System Removal of the Electronic Control Unit (ECU)(4000KS) Installation of the Electronic Control Unit (ECU)(4000KS)
ASM	73-25/10	(ECO)(4000K3)

3. Fault Confirmation

A. Do the operational test of the central warning systems (Ref. AMM TASK 31-50-00-710-001).

4. Fault Isolation

- A. If the test gives the maintenance message FWC1: NO DATA FROM ECU 2B:
 replace the ECU (4000KS), (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).
 - (1) If the fault continues:
 - do a check and repair the aircraft wiring of the output 1 bus on channel B from the ECU (4000KS) to the first terminal block (Ref. ASM 73-25/10).
- B. Do the test given in Para. 3.

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TROUBLE SHOOTING MANUAL

TASK 73-29-00-810-814

Loss of the Output 2 Bus of the ECU Channel A on Engine 1 or 2

DESTANATION

- 1. Possible Causes
 - ECU (4000KS)

DEEEDENCE

- aircraft wiring
- 2. Job Set-up Information
 - A. Referenced Information

KEFEKENCE		PESIGNATION	
	74 (0 00 7/0 000		
AMM	31-60-00-740-002	EIS Input Test	
AMM	31-60-00-740-007	GROUND SCANNING Test of the DMC	
AMM	73-21-60-000-001	Removal of the Electronic Control Unit (ECU)(4000KS)	
AMM	73-21-60-400-001	<pre>Installation of the Electronic Control Unit (ECU)(4000KS)</pre>	
ASM	73-25/10		

- 3. Fault Confirmation
- R **ON A/C 201-225, 227-227, 229-299, 426-455, 476-499, 503-549, 551-599, R 701-749,
 - A. Do the EIS input test (Ref. AMM TASK 31-60-00-740-002).
 - **ON A/C 456-475,
 - A. Do the Ground Scanning Test of the DMC (Ref. AMM TASK 31-60-00-740-007).
 **ON A/C ALL
 - 4. Fault Isolation
 - A. If the test gives the maintenance message DMC2 : NO ECU 1A DATA:
 - replace the ECU (4000KS) of the engine 1 (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).
 - (1) If the fault continues:
 - do a check and repair the aircraft wiring of the output 2 bus on channel A from the ECU (4000KS) to the first terminal block (Ref. ASM 73-25/10).

EFF: ALL 73-29-00

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- B. If the test gives the maintenance message DMC 2 : NO ECU 2 A DATA:
 - replace the ECU (4000KS) of the engine 2 (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).
 - (1) If the fault continues:
 - do a check and repair the aircraft wiring of the output 2 bus on channel A from the ECU (4000KS) to the first terminal block (Ref. ASM 73-25/10).
- C. Do the test given in Para. 3.

EFF: ALL 73-29-00

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TROUBLE SHOOTING MANUAL

TASK 73-29-00-810-815

Loss of the Output 2 Bus of the ECU 1 Channel A

- 1. Possible Causes
 - ECU (4000KS)
 - aircraft wiring
- 2. Job Set-up Information
 - A. Referenced Information

REFERENCE		DESIGNATION
A M M	31-60-00-740-002	EIS Input Test
		•
AMM	31-60-00-740-007	GROUND SCANNING Test of the DMC
AMM	73-21-60-000-001	Removal of the Electronic Control Unit (ECU)(4000KS)
AMM	73-21-60-400-001	<pre>Installation of the Electronic Control Unit (ECU)(4000KS)</pre>
ASM	73-25/10	

- 3. Fault Confirmation
- R **ON A/C 201-225, 227-227, 229-299, 426-455, 476-499, 503-549, 551-599, R 701-749,
 - A. Do the EIS input test (Ref. AMM TASK 31-60-00-740-002).

**ON A/C 456-475,

A. Do the Ground Scanning Test of the DMC (Ref. AMM TASK 31-60-00-740-007).
**ON A/C ALL

4. Fault Isolation

SROS

- R **ON A/C 201-225, 227-227, 229-299, 426-455, 476-499, 503-549, 551-599, R 701-749,
 - A. If the test gives the maintenance message DMC2: NO ECU 1A DATA: - replace the ECU (4000KS), (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).
 - (1) If the fault continues:
 - do a check and repair the aircraft wiring of the output 2 bus on channel A from the ECU (4000KS) to the first terminal block (Ref. ASM 73-25/10).

EFF: ALL

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**ON A/C 456-475,

- A. If the test gives the maintenance message ECU(E1-4000KS)BUS ECU1A/DMC2(1WT2):
 - replace the ECU (4000KS), (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).
 - (1) If the fault continues:
 - do a check and repair the aircraft wiring of the output 2 bus on channel A from the ECU (4000KS) to the first terminal block (Ref. ASM 73-25/10).

**ON A/C ALL

B. Do the test given in Para. 3.

EFF: ALL

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TASK 73-29-00-810-816

Loss of the Output 2 Bus of the ECU 1 Channel B

- 1. Possible Causes
 - ECU (4000KS)
 - aircraft wiring
- 2. Job Set-up Information
 - A. Referenced Information

REFERENCE		DESIGNATION
AMM	31-60-00-740-002	EIS Input Test
AMM	31-60-00-740-007	GROUND SCANNING Test of the DMC
AMM	73-21-60-000-001	Removal of the Electronic Control Unit (ECU)(4000KS)
AMM	73-21-60-400-001	Installation of the Electronic Control Unit
		(ECU)(4000KS)
ASM	73-25/10	

- 3. Fault Confirmation
- R **ON A/C 201-225, 227-227, 229-299, 426-455, 476-499, 503-549, 551-599, R 701-749,
 - A. Do the EIS input test (Ref. AMM TASK 31-60-00-740-002).

**ON A/C 456-475,

A. Do the Ground Scanning Test of the DMC (Ref. AMM TASK 31-60-00-740-007).
**ON A/C ALL

- 4. Fault Isolation
- R **ON A/C 201-225, 227-227, 229-299, 426-455, 476-499, 503-549, 551-599, R 701-749,
 - A. If the test gives the maintenance message DMC3: NO ECU 1B DATA: - replace the ECU (4000KS), (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).
 - (1) If the fault continues:
 - do a check and repair the aircraft wiring of the output 2 bus on channel B from the ECU (4000KS) to the first terminal block (Ref. ASM 73-25/10).

EFF: ALL
SROS

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**ON A/C 456-475,

- A. If the test gives the maintenance message ECU(E1-4000KS)BUS ECU1B/DMC3(1WT3):
 - replace the ECU (4000KS), (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).
 - (1) If the fault continues:
 - do a check and repair the aircraft wiring of the output 2 bus on channel B from the ECU (4000KS) to the first terminal block (Ref. ASM 73-25/10).

**ON A/C ALL

B. Do the test given in Para. 3.

EFF: ALL

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TROUBLE SHOOTING MANUAL

TASK 73-29-00-810-817

Loss of the Output 2 Bus of the ECU 2 Channel A

- 1. Possible Causes
 - ECU (4000KS)
 - aircraft wiring
- 2. Job Set-up Information
 - A. Referenced Information

REFERENCE		DESIGNATION
AMM	31-60-00-740-002	EIS Input Test
AMM	31-60-00-740-007	GROUND SCANNING Test of the DMC
AMM	73-21-60-000-001	Removal of the Electronic Control Unit (ECU)(4000KS)
AMM	73-21-60-400-001	<pre>Installation of the Electronic Control Unit (ECU)(4000KS)</pre>
ASM	73-25/10	

- 3. Fault Confirmation
- R **ON A/C 201-225, 227-227, 229-299, 426-455, 476-499, 503-549, 551-599, R 701-749,
 - A. Do the EIS input test (Ref. AMM TASK 31-60-00-740-002).

**ON A/C 456-475,

- A. Do the Ground Scanning Test of the DMC (Ref. AMM TASK 31-60-00-740-007).
 **ON A/C ALL
- 4. Fault Isolation
- R **ON A/C 201-225, 227-227, 229-299, 426-455, 476-499, 503-549, 551-599, R 701-749,
 - A. If the test gives the maintenance message DMC2: NO ECU 2A DATA: - replace the ECU (4000KS), (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).
 - (1) If the fault continues:
 - do a check and repair the aircraft wiring of the output 2 bus on channel A from the ECU (4000KS) to the first terminal block (Ref. ASM 73-25/10).

EFF: ALL

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**ON A/C 456-475,

- A. If the test gives the maintenance message ECU(E2-4000KS)BUS ECU2A/DMC2(1WT2):
 - replace the ECU (4000KS), (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).
 - (1) If the fault continues:
 - do a check and repair the aircraft wiring of the output 2 bus on channel A from the ECU (4000KS) to the first terminal block (Ref. ASM 73-25/10).

**ON A/C ALL

B. Do the test given in Para. 3.A.

EFF: ALL

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TASK 73-29-00-810-818

Loss of the Output 2 Bus of the ECU Channel B on Engine 1 or 2

- 1. Possible Causes
 - ECU (4000KS)
 - aircraft wiring
 - aircraft wiring terminal block
- 2. Job Set-up Information
 - A. Referenced Information

AMM 31-60-00-740-002 EIS Input Test AMM 31-60-00-740-007 GROUND SCANNING Test of the DMC AMM 73-21-60-000-001 Removal of the Electronic Control Unit (ECU)(400 AMM 73-21-60-400-001 Installation of the Electronic Control Unit (ECU)(4000KS) ASM 73-25/10	00KS)

- 3. Fault Confirmation
- R **ON A/C 201-225, 227-227, 229-299, 426-455, 476-499, 503-549, 551-599, R 701-749,
 - A. Do the EIS input test (Ref. AMM TASK 31-60-00-740-002).

**ON A/C 456-475,

A. Do the Ground Scanning Test of the DMC (Ref. AMM TASK 31-60-00-740-007).

**ON A/C ALL

4. Fault Isolation

- A. If the test gives the maintenance message DMC3 : NO ECU 1B DATA:
 - replace the ECU (4000KS) of the engine 1 (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).
 - (1) If the fault continues:
 - do a check and repair the aircraft wiring of the output 2 bus on channel B from the ECU (4000KS) to the first terminal block (Ref. ASM 73-25/10).

EFF: ALL

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- B. If the test gives the maintenance message DMC3 : NO ECU 2B DATA:
 - replace the ECU (4000KS) of the engine 2 (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).
 - (1) If the fault continues:
 - do a check and repair the aircraft wiring terminal block of the output 2 bus on channel B from the ECU (4000KS) to the first terminal block (Ref. ASM 73-25/10).
- C. Do the test given in Para. 3.

EFF: ALL SROS 73-29-00

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TROUBLE SHOOTING MANUAL

TASK 73-29-00-810-819

Loss of the Output 2 Bus of the ECU 2 Channel B

1. Possible Causes

DEFEDENCE

- ECU (4000KS)
- aircraft wiring
- 2. Job Set-up Information
 - A. Referenced Information

REFERENCE		DESIGNATION	
AMM	31-60-00-740-002	EIS Input Test	
AMM	31-60-00-740-007	GROUND SCANNING Test of the DMC	
AMM	73-21-60-000-001	Removal of the Electronic Control Unit (ECU)(4000KS)	
AMM	73-21-60-400-001	Installation of the Electronic Control Unit (ECU)(4000KS)	
ASM	73-25/10	(2007, (1000))	

- 3. Fault Confirmation
- R **ON A/C 201-225, 227-227, 229-299, 426-455, 476-499, 503-549, 551-599, R 701-749,
 - A. Do the EIS input test (Ref. AMM TASK 31-60-00-740-002).

DESTGNATION

**ON A/C 456-475,

A. Do the Ground Scanning Test of the DMC (Ref. AMM TASK 31-60-00-740-007).
**ON A/C ALL

4. Fault Isolation

SROS

- R **ON A/C 201-225, 227-227, 229-299, 426-455, 476-499, 503-549, 551-599, R 701-749,
 - A. If the test gives the maintenance message DMC3: NO ECU 2B DATA: - replace the ECU (4000KS), (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).
 - (1) If the fault continues:
 - do a check and repair the aircraft wiring of the output 2 bus on channel B from the ECU (4000KS) to the first terminal block (Ref. ASM 73-25/10).

EFF: ALL

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**ON A/C 456-475,

- A. If the test gives the maintenance message ECU(E2-4000KS)BUS ECU2B/DMC3(1WT3):
 - replace the ECU (4000KS), (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).
 - (1) If the fault continues:
 - do a check and repair the aircraft wiring of the output 2 bus on channel B from the ECU (4000KS) to the first terminal block (Ref. ASM 73-25/10).

**ON A/C ALL

B. Do the test given in Para. 3.

EFF: ALL

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TROUBLE SHOOTING MANUAL

TASK 73-29-00-810-820

Loss of the Output 1 Bus of the ECU 1 Channel A

1. Possible Causes

- ECU (4000KS)
- aircraft wiring

2. Job Set-up Information

A. Referenced Information

REFERENCE		DESIGNATION	
AMM	73-21-60-000-001	Removal of the Electronic Control Unit (ECU)(4000KS)	
AMM	73-21-60-400-001	<pre>Installation of the Electronic Control Unit (ECU)(4000KS)</pre>	
	73-25-34-710-043 73-25/10	Operational Test of the Engine Interface Unit	

3. Fault Confirmation

A. Do the operational test of the Engine Interface Unit (Ref. AMM TASK 73-25-34-710-043).

4. Fault Isolation

- A. If the test gives the maintenance message EIU1: NO FADEC 1A DATA:
 replace the ECU (4000KS), (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).
 - (1) If the fault continues:
 - do a check and repair the aircraft wiring of the output 1 bus on channel A from the ECU (4000KS) to the first terminal block (Ref. ASM 73-25/10).
- B. Do the test given in Para. 3.

EFF: ALL 73-29-00

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TROUBLE SHOOTING MANUAL

TASK 73-29-00-810-821

Loss of the Output 1 Bus of the ECU 1 Channel A

1. Possible Causes

- ECU (4000KS)
- aircraft wiring

2. Job Set-up Information

A. Referenced Information

REFERENCE		DESIGNATION	
AMM	22-96-00-710-001	Operational Test of the AFS	
AMM	73-21-60-000-001	Removal of the Electronic Control Unit (ECU)(4000KS)	
AMM	73-21-60-400-001	Installation of the Electronic Control Unit	
		(ECU)(4000KS)	
ASM	73-25/10		

3. Fault Confirmation

A. Do the operational test of the AFS (Ref. AMM TASK 22-96-00-710-001).

4. Fault Isolation

- A. If the test gives the maintenance message AFS: FADEC 1:
 - replace the ECU (4000KS), (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).
 - (1) If the fault continues:
 - do a check and repair the aircraft wiring of the output 1 bus on channel A from the ECU (4000KS) to the first terminal block (Ref. ASM 73-25/10).
- B. Do the test given in Para. 3.

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TROUBLE SHOOTING MANUAL

TASK 73-29-00-810-822

Loss of the Output 1 Bus of the ECU 1 Channel A

- 1. Possible Causes
 - ECU (4000KS)
 - aircraft wiring
- 2. Job Set-up Information
 - A. Referenced Information

REFERENCE		DESIGNATION	
A M M	31-60-00-740-002	EIS Input Test	
		•	
AMM	31-60-00-740-007	GROUND SCANNING Test of the DMC	
AMM	73-21-60-000-001	Removal of the Electronic Control Unit (ECU)(4000KS)	
AMM	73-21-60-400-001	<pre>Installation of the Electronic Control Unit (ECU)(4000KS)</pre>	
ASM	73-25/10		

- 3. Fault Confirmation
- R **ON A/C 201-225, 227-227, 229-299, 426-455, 476-499, 503-549, 551-599, R 701-749,
 - A. Do the EIS input test (Ref. AMM TASK 31-60-00-740-002).

**ON A/C 456-475,

A. Do the Ground Scanning Test of the DMC (Ref. AMM TASK 31-60-00-740-007).
**ON A/C ALL

4. Fault Isolation

SROS

- R **ON A/C 201-225, 227-227, 229-299, 426-455, 476-499, 503-549, 551-599, R 701-749,
 - A. If the test gives the maintenance message DMC1 : NO ECU 1A DATA: - replace the ECU (4000KS), (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).
 - (1) If the fault continues:
 - do a check and repair the aircraft wiring of the output 1 bus on channel A from the ECU (4000KS) to the first terminal block (Ref. ASM 73-25/10).

EFF : ALL

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TROUBLE SHOOTING MANUAL

**ON A/C 456-475,

- A. If the test gives the maintenance message ECU(E1-4000KS)BUS ECU1A/DMC1(1WT1):
 - replace the ECU (4000KS), (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).
 - (1) If the fault continues:
 - do a check and repair the aircraft wiring of the output 1 bus on channel A from the ECU (4000KS) to the first terminal block (Ref. ASM 73-25/10).

**ON A/C ALL

B. Do the test given in Para. 3.

EFF: ALL

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TROUBLE SHOOTING MANUAL

TASK 73-29-00-810-823

Loss of the Output 1 Bus of the ECU 1 Channel A

- 1. Possible Causes
 - ECU (4000KS)
 - aircraft wiring
- 2. Job Set-up Information
 - A. Referenced Information

REFERENCE		DESIGNATION	
A M M	31-60-00-740-002	EIS Input Test	
		•	
AMM	31-60-00-740-007	GROUND SCANNING Test of the DMC	
AMM	73-21-60-000-001	Removal of the Electronic Control Unit (ECU)(4000KS)	
AMM	73-21-60-400-001	<pre>Installation of the Electronic Control Unit (ECU)(4000KS)</pre>	
ASM	73-25/10		

- 3. Fault Confirmation
- R **ON A/C 201-225, 227-227, 229-299, 426-455, 476-499, 503-549, 551-599, R 701-749,
 - A. Do the EIS input test (Ref. AMM TASK 31-60-00-740-002).

**ON A/C 456-475,

A. Do the Ground Scanning Test of the DMC (Ref. AMM TASK 31-60-00-740-007).
**ON A/C ALL

4. Fault Isolation

SROS

- R **ON A/C 201-225, 227-227, 229-299, 426-455, 476-499, 503-549, 551-599, R 701-749,
 - A. If the test gives the maintenance message DMC3: NO ECU 1A DATA: - replace the ECU (4000KS), (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).
 - (1) If the fault continues:
 - do a check and repair the aircraft wiring of the output 1 bus on channel A from the ECU (4000KS) to the first terminal block (Ref. ASM 73-25/10).

EFF: ALL

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TROUBLE SHOOTING MANUAL

**ON A/C 456-475,

- A. If the test gives the maintenance message ECU(E1-4000KS)BUS ECU1A/DMC3(1WT3):
 - replace the ECU (4000KS), (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).
 - (1) If the fault continues:
 - do a check and repair the aircraft wiring of the output 1 bus on channel A from the ECU (4000KS) to the first terminal block (Ref. ASM 73-25/10).

**ON A/C ALL

B. Do the test given in Para. 3.

EFF: ALL

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TROUBLE SHOOTING MANUAL

TASK 73-29-00-810-824

Loss of the Output 1 Bus of the ECU 1 Channel A

1. Possible Causes

- ECU (4000KS)
- aircraft wiring

2. Job Set-up Information

A. Referenced Information

REFE	RENCE	DESIGNATION	
AMM	31-50-00-710-001	Ground Scanning of the Central Warning System	
AMM	73-21-60-000-001	Removal of the Electronic Control Unit (ECU)(4000KS)	
AMM	73-21-60-400-001	Installation of the Electronic Control Unit (ECU)(4000KS)	
ASM	73-25/10		

3. Fault Confirmation

A. Do the operational test of the Central Warning Systems (Ref. AMM TASK 31-50-00-710-001).

4. Fault Isolation

- A. If the test gives the maintenance message FWC2: NO DATA FROM ECU 1A: - replace the ECU (4000KS), (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).
 - (1) If the fault continues:
 - do a check and repair the aircraft wiring of the output 1 bus on channel A from the ECU (4000KS) to the first terminal block (Ref. ASM 73-25/10).
- B. Do the test given in Para. 3.

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TROUBLE SHOOTING MANUAL

TASK 73-29-00-810-825

Loss of the Output 1 Bus of the ECU 1 Channel A

1. Possible Causes

- ECU (4000KS)
- aircraft wiring

2. Job Set-up Information

A. Referenced Information

REFE	RENCE	DESIGNATION	
AMM	31-50-00-710-001	Ground Scanning of the Central Warning System	
AMM	73-21-60-000-001	Removal of the Electronic Control Unit (ECU)(4000KS)	
AMM	73-21-60-400-001	Installation of the Electronic Control Unit (ECU)(4000KS)	
ASM	73-25/10		

3. Fault Confirmation

A. Do the operational test of the central warning systems (Ref. AMM TASK 31-50-00-710-001).

4. Fault Isolation

- A. If the test gives the maintenance message FWC1: NO DATA FROM ECU 1A:
 replace the ECU (4000KS), (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).
 - (1) If the fault continues:
 - do a check and repair the aircraft wiring of the output 1 bus on channel A from the ECU (4000KS) to the first terminal block (Ref. ASM 73-25/10).
- B. Do the test given in Para. 3.

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TASK 73-29-00-810-826

Loss of the Output 1 Bus of the ECU 1 Channel B

1. Possible Causes

- ECU (4000KS)
- aircraft wiring

2. Job Set-up Information

A. Referenced Information

REFERENCE		DESIGNATION	
AMM	73-21-60-000-001	Removal of the Electronic Control Unit (ECU)(4000KS)	
AMM	73-21-60-400-001	<pre>Installation of the Electronic Control Unit (ECU)(4000KS)</pre>	
	73-25-34-710-043 73-25/10	Operational Test of the Engine Interface Unit	

3. Fault Confirmation

A. Do the operational test of the Engine Interface Unit (Ref. AMM TASK 73-25-34-710-043).

4. Fault Isolation

- A. If the test gives the maintenance message EIU1: NO FADEC 1B DATA:
 replace the ECU (4000KS), (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).
 - (1) If the fault continues:
 - do a check and repair the aircraft wiring of the output 1 bus on channel B from the ECU (4000KS) to the first terminal block (Ref. ASM 73-25/10).
- B. Do the test given in Para. 3.

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TROUBLE SHOOTING MANUAL

TASK 73-29-00-810-827

Loss of the Output 1 Bus of the ECU 1 Channel B

1. Possible Causes

- ECU (4000KS)
- aircraft wiring

2. Job Set-up Information

A. Referenced Information

REFERENCE		DESIGNATION	
AMM	22-96-00-710-001	Operational Test of the AFS	
AMM	73-21-60-000-001	Removal of the Electronic Control Unit (ECU)(4000KS)	
AMM	73-21-60-400-001	Installation of the Electronic Control Unit (ECU)(4000KS)	
ASM	73-25/10	(LCG)(4000KG)	

3. Fault Confirmation

A. Do the operational test of the AFS (Ref. AMM TASK 22-96-00-710-001).

4. Fault Isolation

- A. If the test gives the maintenance message AFS: FADEC 1:
 - replace the ECU (4000KS), (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).
 - (1) If the fault continues:
 - do a check and repair the aircraft wiring of the output 1 bus on channel B from the ECU (4000KS) to the first terminal block (Ref. ASM 73-25/10).
- B. Do the test given in Para. 3.

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TASK 73-29-00-810-828

Loss of the Output 1 Bus of the ECU 1 Channel B

- 1. Possible Causes
 - ECU (4000KS)

REFERENCE

- aircraft wiring
- 2. Job Set-up Information
 - A. Referenced Information

KLIL	RENCE	DESIGNATION
AMM	31-60-00-740-002	EIS Input Test
AMM	31-60-00-740-007	GROUND SCANNING Test of the DMC
AMM	73-21-60-000-001	Removal of the Electronic Control Unit (ECU)(4000KS)
AMM	73-21-60-400-001	Installation of the Electronic Control Unit
		(ECU)(4000KS)
ASM	73-25/10	

- 3. Fault Confirmation
- R **ON A/C 201-225, 227-227, 229-299, 426-455, 476-499, 503-549, 551-599, R 701-749,
 - A. Do the EIS input test (Ref. AMM TASK 31-60-00-740-002).

DESTGNATION

**ON A/C 456-475,

A. Do the Ground Scanning Test of the DMC (Ref. AMM TASK 31-60-00-740-007).
**ON A/C ALL

- 4. Fault Isolation
- R **ON A/C 201-225, 227-227, 229-299, 426-455, 476-499, 503-549, 551-599, R 701-749,
 - A. If the test gives the maintenance message DMC2: NO ECU 1B DATA: - replace the ECU (4000KS), (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).
 - (1) If the fault continues:
 - do a check and repair the aircraft wiring of the output 1 bus on channel B from the ECU (4000KS) to the first terminal block (Ref. ASM 73-25/10).

EFF: ALL

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TROUBLE SHOOTING MANUAL

**ON A/C 456-475,

- A. If the test gives the maintenance message ECU(E1-4000KS)BUS ECU1B/DMC2(1WT2):
 - replace the ECU (4000KS), (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).
 - (1) If the fault continues:
 - do a check and repair the aircraft wiring of the output 1 bus on channel B from the ECU (4000KS) to the first terminal block (Ref. ASM 73-25/10).

**ON A/C ALL

B. Do the test given in Para. 3.

EFF: ALL

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TROUBLE SHOOTING MANUAL

TASK 73-29-00-810-829

Loss of the Output 1 Bus of the ECU 1 Channel B

- 1. Possible Causes
 - ECU (4000KS)

REFERENCE

- aircraft wiring
- 2. Job Set-up Information
 - A. Referenced Information

KLILKLIGL		PESIGNATION	
AMM	31-60-00-740-002	EIS Input Test	
AMM	31-60-00-740-007	GROUND SCANNING Test of the DMC	
AMM	73-21-60-000-001	Removal of the Electronic Control Unit (ECU)(4000KS)	
AMM	73-21-60-400-001	Installation of the Electronic Control Unit	
		(ECU)(4000KS)	
ASM	73-25/10		

- 3. Fault Confirmation
- R **ON A/C 201-225, 227-227, 229-299, 426-455, 476-499, 503-549, 551-599, R 701-749,
 - A. Do the EIS input test (Ref. AMM TASK 31-60-00-740-002).

DESTGNATION

**ON A/C 456-475,

A. Do the Ground Scanning Test of the DMC (Ref. AMM TASK 31-60-00-740-007).
**ON A/C ALL

4. Fault Isolation

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- R **ON A/C 201-225, 227-227, 229-299, 426-455, 476-499, 503-549, 551-599, R 701-749,
 - A. If the test gives the maintenance message DMC1 : NO ECU 1B DATA: - replace the ECU (4000KS), (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).
 - (1) If the fault continues:
 - do a check and repair the aircraft wiring of the output 1 bus on channel B from the ECU (4000KS) to the first terminal block (Ref. ASM 73-25/10).

EFF: ALL

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**ON A/C 456-475,

- A. If the test gives the maintenance message ECU(E1-4000KS)BUS ECU1B/DMC1(1WT1):
 - replace the ECU (4000KS), (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).
 - (1) If the fault continues:
 - do a check and repair the aircraft wiring of the output 1 bus on channel B from the ECU (4000KS) to the first terminal block (Ref. ASM 73-25/10).

**ON A/C ALL

B. Do the test given in Para. 3.

EFF: ALL

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TASK 73-29-00-810-830

Loss of the Output 1 Bus of the ECU 1 Channel B

1. Possible Causes

- ECU (4000KS)
- aircraft wiring

2. Job Set-up Information

A. Referenced Information

REFERENCE		DESIGNATION
AMM	31-50-00-710-001 73-21-60-000-001 73-21-60-400-001	Ground Scanning of the Central Warning System Removal of the Electronic Control Unit (ECU)(4000KS) Installation of the Electronic Control Unit (ECU)(4000KS)
ASM	73-25/10	(ECO)(4000K3)

3. Fault Confirmation

A. Do the operational test of the Central Warning Systems (Ref. AMM TASK 31-50-00-710-001).

4. Fault Isolation

- A. If the test gives the maintenance message FWC2: NO DATA FROM ECU 1B: replace the ECU (4000KS), (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).
 - (1) If the fault continues:
 - do a check and repair the aircraft wiring of the output 1 bus on channel B from the ECU (4000KS) to the first terminal block (Ref. ASM 73-25/10).
- B. Do the test given in Para. 3.

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EFF: ALL 73-2

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TROUBLE SHOOTING MANUAL

TASK 73-29-00-810-831

Loss of the Output 1 Bus of the ECU 1 Channel B

1. Possible Causes

- ECU (4000KS)
- aircraft wiring

2. Job Set-up Information

A. Referenced Information

REFERENCE		DESIGNATION
AMM	31-50-00-710-001 73-21-60-000-001 73-21-60-400-001	Ground Scanning of the Central Warning System Removal of the Electronic Control Unit (ECU)(4000KS) Installation of the Electronic Control Unit (ECU)(4000KS)
ASM	73-25/10	(ECO)(4000K3)

3. Fault Confirmation

A. Do the operational test of the Central Warning Systems (Ref. AMM TASK 31-50-00-710-001).

4. Fault Isolation

- A. If the test gives the maintenance message FWC1: NO DATA FROM ECU 1B: replace the ECU (4000KS), (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).
 - (1) If the fault continues:
 - do a check and repair the aircraft wiring of the output 1 bus on channel B from the ECU (4000KS) to the first terminal block (Ref. ASM 73-25/10).
- B. Do the test given in Para. 3.

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TROUBLE SHOOTING MANUAL

TASK 73-29-00-810-832

Loss of the Output 1 Bus of the ECU 2 Channel A

1. Possible Causes

- ECU (4000KS)
- aircraft wiring

2. Job Set-up Information

A. Referenced Information

REFERENCE		DESIGNATION
AMM	73-21-60-000-001	Removal of the Electronic Control Unit (ECU)(4000KS)
AMM	73-21-60-400-001	<pre>Installation of the Electronic Control Unit (ECU)(4000KS)</pre>
	73-25-34-710-043 73-25/10	Operational Test of the Engine Interface Unit

3. Fault Confirmation

A. Do the operational test of the Engine Interface Unit (Ref. AMM TASK 73-25-34-710-043).

4. Fault Isolation

- A. If the test gives the maintenance message EIU2: NO FADEC 2A DATA:
 replace the ECU (4000KS), (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).
 - (1) If the fault continues:
 - do a check and repair the aircraft wiring of the output 1 bus on channel A from the ECU (4000KS) to the first terminal block (Ref. ASM 73-25/10).
- B. Do the test given in Para. 3.

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EFF:

ALL

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TROUBLE SHOOTING MANUAL

TASK 73-29-00-810-833

Loss of the Output 1 Bus of the ECU 2 Channel A

1. Possible Causes

- ECU (4000KS)
- aircraft wiring

2. Job Set-up Information

A. Referenced Information

REFERENCE		DESIGNATION
AMM	22-96-00-710-001	Operational Test of the AFS
AMM	73-21-60-000-001	Removal of the Electronic Control Unit (ECU)(4000KS)
AMM	73-21-60-400-001	Installation of the Electronic Control Unit
		(ECU)(4000KS)
ASM	73-25/10	

3. Fault Confirmation

A. Do the operational test of the AFS (Ref. AMM TASK 22-96-00-710-001).

4. Fault Isolation

- A. If the test gives the maintenance message AFS: FADEC 1:
 - replace the ECU (4000KS), (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).
 - (1) If the fault continues:
 - do a check and repair the aircraft wiring of the output 1 bus on channel A from the ECU (4000KS) to the first terminal block (Ref. ASM 73-25/10).
- B. Do the test given in Para. 3.

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EFF:

ALL

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TROUBLE SHOOTING MANUAL

TASK 73-29-00-810-834

Loss of the Output 1 Bus of the ECU 2 Channel A

1. Possible Causes

REFERENCE

- ECU (4000KS)
- aircraft wiring
- 2. Job Set-up Information
 - A. Referenced Information

KEI EKENCE		KLNOL	PESIGNATION
	AMM	31-60-00-740-002	EIS Input Test
	AMM	31-60-00-740-007	GROUND SCANNING Test of the DMC
	AMM	73-21-60-000-001	Removal of the Electronic Control Unit (ECU)(4000KS)
	AMM	73-21-60-400-001	Installation of the Electronic Control Unit
			(ECU)(4000KS)
	ASM	73-25/10	(LCO)(400K3)
	A O M	13-27/10	

- 3. Fault Confirmation
- R **ON A/C 201-225, 227-227, 229-299, 426-455, 476-499, 503-549, 551-599, R 701-749,
 - A. Do the EIS input test (Ref. AMM TASK 31-60-00-740-002).

DESTGNATION

**ON A/C 456-475,

A. Do the Ground Scanning Test of the DMC (Ref. AMM TASK 31-60-00-740-007).
**ON A/C ALL

- 4. Fault Isolation
- R **ON A/C 201-225, 227-227, 229-299, 426-455, 476-499, 503-549, 551-599, R 701-749,
 - A. If the test gives the maintenance message DMC1 : NO ECU 2A DATA: - replace the ECU (4000KS), (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).
 - (1) If the fault continues:
 - do a check and repair the aircraft wiring of the output 1 bus on channel A from the ECU (4000KS) to the first terminal block (Ref. ASM 73-25/10).

EFF: ALL

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**ON A/C 456-475,

- A. If the test gives the maintenance message ECU(E2-4000KS)BUS ECU2A/DMC1(1WT1):
 - replace the ECU (4000KS), (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).
 - (1) If the fault continues:
 - do a check and repair the aircraft wiring of the output 1 bus on channel A from the ECU (4000KS) to the first terminal block (Ref. ASM 73-25/10).

**ON A/C ALL

B. Do the test given in Para. 3.

EFF: ALL

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TROUBLE SHOOTING MANUAL

TASK 73-29-00-810-835

Loss of the Output 1 Bus of the ECU 2 Channel A

- 1. Possible Causes
 - ECU (4000KS)

DEFEDENCE

- aircraft wiring
- 2. Job Set-up Information
 - A. Referenced Information

REFERENCE		DESIGNATION	
AMM	31-60-00-740-002	EIS Input Test	
AMM	31-60-00-740-007	GROUND SCANNING Test of the DMC	
AMM	73-21-60-000-001	Removal of the Electronic Control Unit (ECU)(4000KS)	
AMM	73-21-60-400-001	Installation of the Electronic Control Unit (ECU)(4000KS)	
ASM	73-25/10	(2007, (1000))	

- 3. Fault Confirmation
- R **ON A/C 201-225, 227-227, 229-299, 426-455, 476-499, 503-549, 551-599, R 701-749,
 - A. Do the EIS input test (Ref. AMM TASK 31-60-00-740-002).

DESTGNATION

**ON A/C 456-475,

A. Do the Ground Scanning Test of the DMC (Ref. AMM TASK 31-60-00-740-007).
**ON A/C ALL

- 4. Fault Isolation
- R **ON A/C 201-225, 227-227, 229-299, 426-455, 476-499, 503-549, 551-599, R 701-749,
 - A. If the test gives the maintenance message DMC3: NO ECU 2A DATA: - replace the ECU (4000KS), (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).
 - (1) If the fault continues:
 - do a check and repair the aircraft wiring of the output 1 bus on channel A from the ECU (4000KS) to the first terminal block (Ref. ASM 73-25/10).

EFF: ALL

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**ON A/C 456-475,

- A. If the test gives the maintenance message ECU(E2-4000KS)BUS ECU2A/DMC3(1WT3):
 - replace the ECU (4000KS), (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).
 - (1) If the fault continues:
 - do a check and repair the aircraft wiring of the output 1 bus on channel A from the ECU (4000KS) to the first terminal block (Ref. ASM 73-25/10).

**ON A/C ALL

B. Do the test given in Para. 3.

EFF: ALL

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TROUBLE SHOOTING MANUAL

TASK 73-29-00-810-836

Loss of the Output 1 Bus of the ECU 2 Channel A

1. Possible Causes

- ECU (4000KS)
- aircraft wiring

2. Job Set-up Information

A. Referenced Information

REFERENCE		DESIGNATION
AMM	31-50-00-710-001 73-21-60-000-001 73-21-60-400-001	Ground Scanning of the Central Warning System Removal of the Electronic Control Unit (ECU)(4000KS) Installation of the Electronic Control Unit (ECU)(4000KS)
ASM	73-25/10	(ECO)(4000K3)

3. Fault Confirmation

A. Do the operational test of the Central Warning Systems (Ref. AMM TASK 31-50-00-710-001).

4. Fault Isolation

- A. If the test gives the maintenance message FWC2: NO DATA FROM ECU 2A: replace the ECU (4000KS), (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).
 - (1) If the fault continues:
 - do a check and repair the aircraft wiring of the output 1 bus on channel A from the ECU (4000KS) to the first terminal block (Ref. ASM 73-25/10).
- B. Do the test given in Para. 3.

EFF: ALL 73-29-00

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TROUBLE SHOOTING MANUAL

TASK 73-29-00-810-837

Loss of the Output 1 Bus of the ECU 2 Channel A

1. Possible Causes

- ECU (4000KS)
- aircraft wiring

2. Job Set-up Information

A. Referenced Information

REFERENCE		DESIGNATION
AMM	31-50-00-710-001	Ground Scanning of the Central Warning System
AMM	73-21-60-000-001	Removal of the Electronic Control Unit (ECU)(4000KS)
AMM	73-21-60-400-001	Installation of the Electronic Control Unit (ECU)(4000KS)
ASM	73-25/10	

3. Fault Confirmation

A. Do the operational test of the Central Warning Systems (Ref. AMM TASK 31-50-00-710-001).

4. Fault Isolation

- A. If the test gives the maintenance message FWC1: NO DATA FROM ECU 2A:
 replace the ECU (4000KS), (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).
 - (1) If the fault continues:
 - do a check and repair the aircraft wiring of the output 1 bus on channel A from the ECU (4000KS) to the first terminal block (Ref. ASM 73-25/10).
- B. Do the test given in Para. 3.

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TROUBLE SHOOTING MANUAL

TASK 73-29-00-810-848

Loss of Outputs 1 and 2 on Engine 1 J3 Connector

1. Possible Causes

- J3 connector
- 5CA1
- 5CA2
- harness J3
- ECU (4000KS)

2. Job Set-up Information

A. Referenced Information

REFERENCE		DESIGNATION
АММ	73-21-60-000-001	Removal of the Electronic Control Unit (ECU)(4000KS)
AMM	73-21-60-600-001	Installation of the Electronic Control Unit
AMM	73-21-00-400-001	(ECU)(4000KS)
AMM	73-29-00-710-040	Operational Test of the FADEC on the ground (with
		Engine Motoring)
ASM	73-25/12	

3. Fault Confirmation

A. Do the operational test of the FADEC 1A on the ground (with engine motoring) (Ref. AMM TASK 73-29-00-710-040).

4. Fault Isolation

- A. If the test gives the maintenance message J3 (INSTINCT DISC):
 do a check for loose J3 connector at the ECU 1 (Ref. ASM 73-25/12).
 - (1) If the fault continues:
 - make sure that the pins are not bent and that the pins and sockets have not moved into the J3 ECU 1 connector (Ref. ASM 73-25/12).
 - (2) If the fault continues:
 - do a check for open circuit in the harness J3 between the pins J3/6, 31 (Ref. ASM 73-25/12).
 - (a) If the fault continues:
 - replace the **5CA1**
 - replace the 5CA2
 - replace the harness J3.

EFF: ALL

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(b) If there is no fault:

 replace the ECU (4000KS), (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).

B. Do the test given in Para. 3.A.

EFF: ALL SROS 73-29-00

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TROUBLE SHOOTING MANUAL

TASK 73-29-00-810-849

Loss of Outputs 1 and 2 on Engine 2 J3 Connector

1. Possible Causes

- J3 connector
- 5CA1
- 5CA2
- harness J3
- ECU (4000KS)

2. Job Set-up Information

A. Referenced Information

REFERENCE		DESIGNATION
AMM	73-21-60-000-001	Removal of the Electronic Control Unit (ECU)(4000KS)
AMM	73-21-60-400-001	<pre>Installation of the Electronic Control Unit (ECU)(4000KS)</pre>
AMM	73-29-00-710-040	Operational Test of the FADEC on the ground (with Engine Motoring)
ASM	73-25/12	

3. Fault Confirmation

A. Do the operational test of the FADEC 2A on the ground (with engine motoring) (Ref. AMM TASK 73-29-00-710-040).

4. Fault Isolation

- A. If the test gives the maintenance message J3 (INSTINCT DISC):
 do a check for loose J3 connector at the ECU 2 (Ref. ASM 73-25/12).
 - (1) If the fault continues:
 - make sure that the pins are not bent and that the pins and sockets have not moved into the J3 ECU 2 connector (Ref. ASM 73-25/12).
 - (2) If the fault continues:
 - do a check for open circuit in the harness J3 between the pins J3/6, 31 (Ref. ASM 73-25/12).
 - (a) If the fault continues:
 - replace the **5CA1**
 - replace the 5CA2
 - replace the harness J3.

EFF: ALL

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(b) If there is no fault:

 replace the ECU (4000KS), (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).

B. Do the test given in Para. 3.A.

EFF: ALL

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TROUBLE SHOOTING MANUAL

TASK 73-29-00-810-850

Loss of the HPTC Torque Motor Control through the two Channels on Engine 1

1. Possible Causes

- ECU (4000KS)
- harness J7
- harness J8
- Hydromechanical Unit (HMU)

2. Job Set-up Information

A. Referenced Information

REFERENCE		DESIGNATION
	77 24 40 000 002	
AMM	73-21-10-000-002	Removal of the Hydromechanical Unit (HMU)
AMM	73-21-10-400-002	Installation of the Hydromechanical Unit (HMU)
AMM	73-21-50-000-040	Removal of the HJ7 Harness
AMM	73-21-50-000-041	Removal of the HJ8 Harness
AMM	73-21-50-400-040	Installation of the HJ7 Harness
AMM	73-21-50-400-041	Installation of the HJ8 Harness
AMM	73-21-60-000-001	Removal of the Electronic Control Unit (ECU)(4000KS)
AMM	73-21-60-400-001	Installation of the Electronic Control Unit (ECU)(4000KS)
AMM	73-29-00-710-040	Operational Test of the FADEC on the ground (with Engine Motoring)
ASM	73-25/18	

3. Fault Confirmation

A. Test

(1) Do the operational test of the FADEC 1A and 1B on the ground (with engine motoring) (Ref. AMM TASK 73-29-00-710-040).

4. Fault Isolation

- A. If the test gives the maintenance messages J7, HMU (HPTCTM), ECU + J8, HMU (HPTCTM), ECU:
 - do a check for open or short to ground at pins J7/10, 23, 24 and J8/10, 23, 24 of the harnesses J7 and J8 between the ECU (4000KS) and the HPT torque-motor current in the HMU, (Ref. ASM 73-25/18).
 - (1) If one of these wirings is not correct:repair the defective harness J7 or J8.

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- (2) If these wirings are correct:
 - disconnect the harnesses J7 and J8 from the ECU and do a check of the ECU cable resistance between:
 - pins 23 and 24 (17 to 23 0hms)
 - . pins 23 and 10 (> 10 Megohms)
 - . pin 23 and the ground (> 10 Megohms).
 - (a) If the resistance values are in the specified limits:
 - replace the ECU (4000KS), (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).
 - (b) If the resistance values are out of the specified limits:
 - disconnect the harnesses J7 and J8 from the HMU and do a check of the HMU receptacle resistance between:
 - . pins 23 and 24 (17 to 23 0hms)
 - . pins 23 and 10 (> 10 Megohms)
 - . pin 23 and the ground (> 10 Megohms).
 - 1 If the resistance values are in the specified limits:
 - replace the defective harness J7, (Ref. AMM TASK 73-21-50-000-040) and (Ref. AMM TASK 73-21-50-400-040) or the defective harness J8, (Ref. AMM TASK 73-21-50-000-041) and (Ref. AMM TASK 73-21-50-400-041).
 - 2 If the resistance values are out of the specified limits:
 - replace the Hydromechanical Unit (HMU), (Ref. AMM TASK 73-21-10-000-002) and (Ref. AMM TASK 73-21-10-400-002).
- B. Do the test given in Para. 3.A.(1).

EFF: ALL

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TASK 73-29-00-810-851

Loss of the HPTC Torque Motor Control through the two Channels on Engine 2

1. Possible Causes

- ECU (4000KS)
- harness J7
- harness J8
- Hydromechanical Unit (HMU)

2. Job Set-up Information

A. Referenced Information

REFERENCE		DESIGNATION
AMM	73-21-10-000-002	Removal of the Hydromechanical Unit (HMU)
AMM	73-21-10-400-002	Installation of the Hydromechanical Unit (HMU)
AMM	73-21-50-000-040	Removal of the HJ7 Harness
AMM	73-21-50-000-041	Removal of the HJ8 Harness
AMM	73-21-50-400-040	Installation of the HJ7 Harness
AMM	73-21-50-400-041	Installation of the HJ8 Harness
AMM	73-21-60-000-001	Removal of the Electronic Control Unit (ECU)(4000KS)
AMM	73-21-60-400-001	<pre>Installation of the Electronic Control Unit (ECU)(4000KS)</pre>
AMM	73-29-00-710-040	Operational Test of the FADEC on the ground (with Engine Motoring)
ASM	73-25/18	

3. Fault Confirmation

- A. Test
 - (1) Do the operational test of the FADEC 2A and 2B on the ground (with engine motoring) (Ref. AMM TASK 73-29-00-710-040).

4. Fault Isolation

- A. If the test gives the maintenance messages J7, HMU (HPTCTM), ECU + J8, HMU (HPTCTM), ECU:
 - do a check for open or short to ground at pins J7/10, 23, 24 and J8/10, 23, 24 of the harnesses J7 and J8 between the ECU (4000KS) and the HPT torque-motor current in the HMU, (Ref. ASM 73-25/18).
 - (1) If one of these wirings is not correct: - repair the defective harness J7 or J8.

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- (2) If these wirings are correct:
 - disconnect the harnesses J7 and J8 from the ECU and do a check of the ECU cable resistance between:
 - pins 23 and 24 (17 to 23 0hms)
 - . pins 23 and 10 (> 10 Megohms)
 - . pin 23 and the ground (> 10 Megohms).
 - (a) If the resistance values are in the specified limits:
 - replace the ECU (4000KS), (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).
 - (b) If the resistance values are out of the specified limits:
 - disconnect the harnesses J7 and J8 from the HMU and do a check of the HMU receptacle resistance between:
 - . pins 23 and 24 (17 to 23 0hms)
 - . pins 23 and 10 (> 10 Megohms)
 - . pin 23 and the ground (> 10 Megohms).
 - 1 If the resistance values are in the specified limits:
 - replace the defective harness J7, (Ref. AMM TASK 73-21-50-000-040) and (Ref. AMM TASK 73-21-50-400-040) or the defective harness J8, (Ref. AMM TASK 73-21-50-000-041) and (Ref. AMM TASK 73-21-50-400-041).
 - 2 If the resistance values are out of the specified limits:
 - replace the Hydromechanical Unit (HMU), (Ref. AMM TASK 73-21-10-000-002) and (Ref. AMM TASK 73-21-10-400-002).
- B. Do the test given in Para. 3.A.(1).

EFF: ALL

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TROUBLE SHOOTING MANUAL

TASK 73-29-00-810-852

Loss of the BSV Solenoid Control through the two Channels on Engine 1

1. Possible Causes

- ECU (4000KS)
- harness J7
- harness J8
- Hydromechanical Unit (HMU)

2. Job Set-up Information

A. Referenced Information

REFERENCE		DESIGNATION
AMM	73-21-10-000-002	Removal of the Hydromechanical Unit (HMU)
AMM	73-21-10-400-002	Installation of the Hydromechanical Unit (HMU)
AMM	73-21-50-000-040	Removal of the HJ7 Harness
AMM	73-21-50-000-041	Removal of the HJ8 Harness
AMM	73-21-50-400-040	Installation of the HJ7 Harness
AMM	73-21-50-400-041	Installation of the HJ8 Harness
AMM	73-21-60-000-001	Removal of the Electronic Control Unit (ECU)(4000KS)
AMM	73-21-60-400-001	<pre>Installation of the Electronic Control Unit (ECU)(4000KS)</pre>
AMM	73-29-00-710-040	Operational Test of the FADEC on the ground (with Engine Motoring)
ASM	73-25/18	

3. Fault Confirmation

A. Test

(1) Do the operational test of the FADEC 1A and 1B on the ground (with engine motoring) (Ref. AMM TASK 73-29-00-710-040).

4. Fault Isolation

- A. If the test gives the maintenance messages J7, HMU(BSVSOL), ECU + J8, HMU (BSVSOL), ECU:
 - do a check for open or short to ground at pins J7/6, 7, 39 and J8/6, 7, 39 of the harnesses J7 and J8 between the ECU (4000KS) to the BSV solenoid in the HMU, (Ref. ASM 73-25/18).
 - (1) If one of these wirings is not correct:repair the defective harness J7 or J8.

EFF: ALL

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- (2) If these wirings are correct:
 - disconnect the harnesses J7 and J8 from the ECU and do a check of the ECU cable resistance between:
 - pins 6 and 7 (26 to 36 0hms)
 - pins 6 and 39 (> 10 Megohms)
 - . pin 6 and the ground (> 10 Megohms).
 - (a) If the resistance values are in the specified limits:
 - replace the ECU (4000KS), (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).
 - (b) If the resistance values are out of the specified limits:
 - disconnect the harnesses J7 and J8 from the HMU and do a check of the HMU receptacle resistance between:
 - pins 6 and 7 (26 to 36 0hms)
 - pins 6 and 39 (> 10 Megohms)
 - . pin 6 and the ground (> 10 Megohms).
 - 1 If the resistance values are in the specified limits:
 - replace the defective harness J7, (Ref. AMM TASK 73-21-50-000-040) and (Ref. AMM TASK 73-21-50-400-040) or the defective harness J8, (Ref. AMM TASK 73-21-50-000-041) and (Ref. AMM TASK 73-21-50-400-041).
 - 2 If the resistance values are out of the specified limits:
 - replace the Hydromechanical Unit (HMU), (Ref. AMM TASK 73-21-10-000-002) and (Ref. AMM TASK 73-21-10-400-002).
- B. Do the test given in Para. 3.A.(1).

EFF: ALL

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TASK 73-29-00-810-853

Loss of the BSV Solenoid Control through the two Channels on Engine 2

1. Possible Causes

- ECU (4000KS)
- harness J7
- harness J8
- Hydromechanical Unit (HMU)

2. Job Set-up Information

A. Referenced Information

REFERENCE		DESIGNATION
AMM	73-21-10-000-002	Removal of the Hydromechanical Unit (HMU)
AMM	73-21-10-400-002	Installation of the Hydromechanical Unit (HMU)
AMM	73-21-50-000-040	Removal of the HJ7 Harness
AMM	73-21-50-000-041	Removal of the HJ8 Harness
AMM	73-21-50-400-040	Installation of the HJ7 Harness
AMM	73-21-50-400-041	Installation of the HJ8 Harness
AMM	73-21-60-000-001	Removal of the Electronic Control Unit (ECU)(4000KS)
AMM	73-21-60-400-001	Installation of the Electronic Control Unit (ECU)(4000KS)
AMM	73-29-00-710-040	Operational Test of the FADEC on the ground (with Engine Motoring)
ASM	73-25/18	

3. Fault Confirmation

- A. Test
 - (1) Do the operational test of the FADEC 2A and 2B on the ground (with engine motoring) (Ref. AMM TASK 73-29-00-710-040).

4. Fault Isolation

- A. If the test gives the maintenance messages J7,HMU (BSVSOL), ECU + J8, HMU (BSVSOL), ECU:
 - do a check for open or short to ground at pins J7/6, 7, 39 and J8/6, 7, 39 of the harnesses J7 and J8 between the ECU (4000KS) and the BSV solenoid in the HMU, (Ref. ASM 73-25/18).
 - (1) If one of these wirings is not correct: - repair the defective harness J7 or J8.

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- (2) If these wirings are correct:
 - disconnect the harnesses J7 and J8 from the ECU and do a check of the ECU cable resistance between:
 - pins 6 and 7 (26 to 36 0hms)
 - . pins 6 and 39 (> 10 Megohms)
 - . pin 6 and the ground (> 10 Megohms).
 - (a) If the resistance values are in the specified limits:
 - replace the ECU (4000KS), (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).
 - (b) If the resistance values are out of the specified limits:
 - disconnect the harnesses J7 and J8 from the HMU and do a check of the HMU receptacle resistance between:
 - pins 6 and 7 (26 to 36 0hms)
 - pins 6 and 39 (> 10 Megohms)
 - . pin 6 and the ground (> 10 Megohms).
 - 1 If the resistance values are in the specified limits:
 - replace the defective harness J7, (Ref. AMM TASK 73-21-50-000-040) and (Ref. AMM TASK 73-21-50-400-040) or the defective harness J8, (Ref. AMM TASK 73-21-50-000-041) and (Ref. AMM TASK 73-21-50-400-041).
 - 2 If the resistance values are out of the specified limits:
 - replace the Hydromechanical Unit (HMU), (Ref. AMM TASK 73-21-10-000-002) and (Ref. AMM TASK 73-21-10-400-002).
- B. Do the test given in Para. 3.A.(1).

EFF: ALL

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TASK 73-29-00-810-854

Loss of the Feedback Signal from the FMV Resolver through the Two Channels on Engine 1

1. Possible Causes

- Hydromechanical Unit (HMU)
- harness J7
- harness J8
- ECU (4000KS)

2. Job Set-up Information

A. Referenced Information

REFERENCE		DESIGNATION
AMM	73-21-10-000-002	Removal of the Hydromechanical Unit (HMU)
AMM	73-21-10-400-002	Installation of the Hydromechanical Unit (HMU)
AMM	73-21-50-000-040	Removal of the HJ7 Harness
AMM	73-21-50-000-041	Removal of the HJ8 Harness
AMM	73-21-50-210-002	Visual Inspection of the Wiring Harnesses
AMM	73-21-50-400-040	Installation of the HJ7 Harness
AMM	73-21-50-400-041	Installation of the HJ8 Harness
AMM	73-21-60-000-001	Removal of the Electronic Control Unit (ECU)(4000KS)
AMM	73-21-60-400-001	Installation of the Electronic Control Unit
		(ECU)(4000KS)
AMM	73-29-00-710-040	Operational Test of the FADEC on the Ground (with
		Engine non Motoring)

3. Fault Confirmation

A. Test

(1) Do the operational test of the FADEC 1A and 1B on the ground (with engine non - motoring) (Ref. AMM TASK 73-29-00-710-040).

EFF: ALL

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4. Fault Isolation

A. Do this procedure:

NOTE: This fault is generated if one or both FMV resolver signals are out of range, invalid or the signals disagree.

- (1) If the test does not give the maintenance messages J7, HMU (FMVRES), ECU + J8, HMU (FMVRES), ECU:
 - replace the Hydromechanical Unit (HMU), (Ref. AMM TASK 73-21-10-000-002) and (Ref. AMM TASK 73-21-10-400-002).
 - Visually examine the HMU receptacle and the J7 and J8 harness connectors for damaged pins, contamination and fuel wetting (Ref. AMM TASK 73-21-50-210-002).
 - (a) If damage on a connector is found:
 - replace or repair as required.
 - (b) If fuel wetting is found:
 - replace the defective harness J7, (Ref. AMM TASK 73-21-50-000-040) and (Ref. AMM TASK 73-21-50-400-040) or the defective harness J8, (Ref. AMM TASK 73-21-50-000-041) and (Ref. AMM TASK 73-21-50-400-041).
 - (c) If nothing is found:no further action is required.
- (2) If the test does not give the maintenance messages J7, HMU (FMVRES), ECU + J8, HMU, but are repetitive after the troubleshooting per step 4.A.(1) has been fully done:
 - replace the harness J7, (Ref. AMM TASK 73-21-50-000-040) and (Ref. AMM TASK 73-21-50-400-040).
 - (a) If the fault continues during the subsequent flights:
 - replace the harness J8, (Ref. AMM TASK 73-21-50-000-041) and (Ref. AMM TASK 73-21-50-400-041).
 - (b) If the fault continues during the subsequent flights:
 - replace the ECU (4000KS), (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001), if not previously replaced.
- (3) If the test gives only the maintenance message J7, HMU(FMVRES), ECU (confirmed only on channel A):
 - disconnect the J7 harness from the HMU receptacle (HMU-A) (located in the left core compartment) and visually examine the J7 harness connector and the HMU receptacle for damaged pins, contamination and fuel wetting (Ref. AMM TASK 73-21-50-210-002).
 - (a) If damage on a connector is found:
 - Replace or repair as required.

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- (b) If fuel wetting is found:
 - replace the harness J7, (Ref. AMM TASK 73-21-50-000-040) and (Ref. AMM TASK 73-21-50-400-040).
- (c) If nothing is found:
 - Do an electrical resistance test through the HMU receptacle between:
 - . pins 16 and 34 (70 to 84 0hms)
 - . pins 35 and 36 (21 to 29 or 44 to 76 0hms)
 - . pins 18 and 37 (21 to 29 or 44 to 76 0hms)
 - pins 16 and 17 (> 10 Megohms)
 - . pins 35 and 17 (> 10 Megohms)
 - pins 18 and 17 (> 10 Megohms)
 - pin 16 and the ground (> 10 Megohms)
 - . pin 35 and the ground (> 10 Megohms)
 - . pin 18 and the ground (> 10 Megohms).
 - 1 If the resistance values are out of the specified limits:
 - replace the Hydromechanical Unit (HMU), (Ref. AMM TASK 73-21-10-000-002) and (Ref. AMM TASK 73-21-10-400-002).
 - 2 If the resistance values are in the specified limits:
 - reconnect the harness J7, (Ref. AMM TASK 73-21-50-000-040) and (Ref. AMM TASK 73-21-50-400-040) and continue the troubleshooting.
- (d) Disconnect the J7 harness from the ECU (4000KS) receptacle and visually examine the J7 harness connector and the ECU (4000KS) receptacle for damaged pins and contamination (Ref. AMM TASK 73-21-50-210-002).
 - 1 If damage on a connector is found:
 - replace or repair as required.
 - 2 If nothing is found:
 - Do an electrical resistance test through the J7 harness between:
 - . pins 16 and 34 (70 to 84 0hms)
 - pins 35 and 36 (21 to 29 or 44 to 76 0hms)
 - . pins 18 and 37 (21 to 29 or 44 to 76 0hms)
 - pins 16 and 17 (> 10 Megohms)
 - pins 35 and 17 (> 10 Megohms)
 - pins 18 and 17 (> 10 Megohms)
 - . pin 16 and the ground (> 10 Megohms)
 - . pin 35 and the ground (> 10 Megohms)
 - . pin 18 and the ground (> 10 Megohms).
 - a If the resistance values are in the specified limits:
 - replace the ECU (4000KS), (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).

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- <u>b</u> If the resistance values are out of the specified limits:
 replace the harness J7, (Ref. AMM TASK 73-21-50-000-040)
 and (Ref. AMM TASK 73-21-50-400-040).
- (4) If the test gives only the maintenance message J8, HMU(FMVRES), ECU (confirmed only on channel B):
 - disconnect the J8 harness from the HMU receptacle (HMU-B) (located in the left core compartment) and visually examine the J8 harness connector and the HMU receptacle for damaged pins, contamination and fuel wetting (Ref. AMM TASK 73-21-50-210-002).
 - (a) If damage on a connector is found:
 - Replace or repair as required.
 - (b) If fuel wetting is found:
 - replace the harness J8, (Ref. AMM TASK 73-21-50-000-041) and (Ref. AMM TASK 73-21-50-400-041).
 - (c) If nothing is found:
 - Do an electrical resistance test through the HMU receptacle between:
 - . pins 16 and 34 (70 to 84 0hms)
 - . pins 35 and 36 (21 to 29 or 44 to 76 Ohms)
 - pins 18 and 37 (21 to 29 or 44 to 76 0hms)
 - pins 16 and 17 (> 10 Megohms)
 - . pins 35 and 17 (> 10 Megohms)
 - pins 18 and 17 (> 10 Megohms)
 - pin 16 and the ground (> 10 Megohms)
 - pin 35 and the ground (> 10 Megohms)
 - . pin 18 and the ground (> 10 Megohms).
 - 1 If the resistance values are out of the specified limits:
 - replace the Hydromechanical Unit (HMU), (Ref. AMM TASK 73-21-10-000-002) and (Ref. AMM TASK 73-21-10-400-002).
 - 2 If the resistance values are in the specified limits:
 - reconnect the harness J8, (Ref. AMM TASK 73-21-50-000-041) and (Ref. AMM TASK 73-21-50-400-041) and continue the troubleshooting.
 - (d) Disconnect the J8 harness from the ECU (4000KS) receptacle and visually examine the J8 harness connector and the ECU (4000KS) receptacle for damaged pins and contamination (Ref. AMM TASK 73-21-50-210-002).
 - 1 If damage on a connector is found:
 - replace or repair as required.
 - 2 If nothing is found:
 - Do an electrical resistance test through the J8 harness between:
 - pins 16 and 34 (70 to 84 0hms)

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- . pins 35 and 36 (21 to 29 or 44 to 76 0hms)
- . pins 18 and 37 (21 to 29 or 44 to 76 0hms)
- pins 16 and 17 (> 10 Megohms)
- . pins 35 and 17 (> 10 Megohms)
- . pins 18 and 17 (> 10 Megohms)
- pin 16 and the ground (> 10 Megohms)
- pin 35 and the ground (> 10 Megohms)
- . pin 18 and the ground (> 10 Megohms).
- a If the resistance values are in the specified limits: - replace the ECU (4000KS), (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).
- <u>b</u> If the resistance values are out of the specified limits: - replace the harness J8, (Ref. AMM TASK 73-21-50-000-041) and (Ref. AMM TASK 73-21-50-400-041).
- (5) If the test gives the maintenance messages J7, HMU (FMVRES), ECU + J8, HMU (FMVRES), ECU (confirmed on both channel A and B):
 - replace the Hydromechanical Unit (HMU), (Ref. AMM TASK 73-21-10-000-002) and (Ref. AMM TASK 73-21-10-400-002) right away for dual channel fault.
 - (a) If the fault messages repeat:
 - Do the troubleshooting per steps 4.A.(3) and 4.A.(4).
- B. Do the test given in Para. 3.A.(1).
 - (1) No additional maintenance action is required if the fault is not confirmed.
 - (2) Repeat the fault isolation procedure if the fault continues.

EFF: ALL

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TROUBLE SHOOTING MANUAL

TASK 73-29-00-810-855

Loss of the Feedback Signal from the FMV Resolver through the Two Channels on Engine $\mathbf{2}$

1. Possible Causes

- Hydromechanical Unit (HMU)
- harness J7
- harness J8
- ECU (4000KS)

2. Job Set-up Information

A. Referenced Information

REFERENCE		DESIGNATION
AMM	73-21-10-000-002	Removal of the Hydromechanical Unit (HMU)
AMM	73-21-10-400-002	Installation of the Hydromechanical Unit (HMU)
AMM	73-21-50-000-040	Removal of the HJ7 Harness
AMM	73-21-50-000-041	Removal of the HJ8 Harness
AMM	73-21-50-210-002	Visual Inspection of the Wiring Harnesses
AMM	73-21-50-400-040	Installation of the HJ7 Harness
AMM	73-21-50-400-041	Installation of the HJ8 Harness
AMM	73-21-60-000-001	Removal of the Electronic Control Unit (ECU)(4000KS)
AMM	73-21-60-400-001	Installation of the Electronic Control Unit
		(ECU)(4000KS)
AMM	73-29-00-710-040	Operational Test of the FADEC on the Ground (with
		Engine non Motoring)

3. Fault Confirmation

A. Test

(1) Do the operational test of the FADEC 2A and 2B on the ground (with engine non - motoring) (Ref. AMM TASK 73-29-00-710-040).

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4. Fault Isolation

A. Do this procedure:

NOTE: This fault is generated if one or both FMV resolver signals are out of range, invalid or the signals disagree.

- (1) If the test does not give the maintenance messages J7, HMU (FMVRES), ECU + J8, HMU (FMVRES), ECU:
 - replace the Hydromechanical Unit (HMU), (Ref. AMM TASK 73-21-10-000-002) and (Ref. AMM TASK 73-21-10-400-002).
 - Visually examine the HMU receptacle and the J7 and J8 harness connectors for damaged pins, contamination and fuel wetting (Ref. AMM TASK 73-21-50-210-002).
 - (a) If damage on a connector is found:
 - replace or repair as required.
 - (b) If fuel wetting is found:
 - replace the defective harness J7, (Ref. AMM TASK 73-21-50-000-040) and (Ref. AMM TASK 73-21-50-400-040) or the defective harness J8, (Ref. AMM TASK 73-21-50-000-041) and (Ref. AMM TASK 73-21-50-400-041).
 - (c) If nothing is found:no further action is required.
- (2) If the test does not give the maintenance messages J7, HMU (FMVRES), ECU + J8, HMU, but are repetitive after the troubleshooting per step 4.A.(1) has been fully done:
 - replace the harness J7, (Ref. AMM TASK 73-21-50-000-040) and (Ref. AMM TASK 73-21-50-400-040).
 - (a) If the fault continues during the subsequent flights:
 - replace the harness J8, (Ref. AMM TASK 73-21-50-000-041) and (Ref. AMM TASK 73-21-50-400-041).
 - (b) If the fault continues during the subsequent flights:
 - replace the ECU (4000KS), (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001), if not previously replaced.
- (3) If the test gives only the maintenance message J7, HMU(FMVRES), ECU (confirmed only on channel A):
 - disconnect the J7 harness from the HMU receptacle (HMU-A) (located in the left core compartment) and visually examine the J7 harness connector and the HMU receptacle for damaged pins, contamination and fuel wetting (Ref. AMM TASK 73-21-50-210-002).
 - (a) If damage on a connector is found:
 - Replace or repair as required.

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- (b) If fuel wetting is found:
 - replace the harness J7, (Ref. AMM TASK 73-21-50-000-040) and (Ref. AMM TASK 73-21-50-400-040).
- (c) If nothing is found:
 - Do an electrical resistance test through the HMU receptacle between:
 - . pins 16 and 34 (70 to 84 0hms)
 - . pins 35 and 36 (21 to 29 or 44 to 76 0hms)
 - . pins 18 and 37 (21 to 29 or 44 to 76 0hms)
 - pins 16 and 17 (> 10 Megohms)
 - . pins 35 and 17 (> 10 Megohms)
 - . pins 18 and 17 (> 10 Megohms)
 - pin 16 and the ground (> 10 Megohms)
 - . pin 35 and the ground (> 10 Megohms)
 - . pin 18 and the ground (> 10 Megohms).
 - 1 If the resistance values are out of the specified limits:
 - replace the Hydromechanical Unit (HMU), (Ref. AMM TASK 73-21-10-000-002) and (Ref. AMM TASK 73-21-10-400-002).
 - 2 If the resistance values are in the specified limits:
 - reconnect the harness J7, (Ref. AMM TASK 73-21-50-000-040) and (Ref. AMM TASK 73-21-50-400-040) and continue the troubleshooting.
- (d) Disconnect the J7 harness from the ECU (4000KS) receptacle and visually examine the J7 harness connector and the ECU (4000KS) receptacle for damaged pins and contamination (Ref. AMM TASK 73-21-50-210-002).
 - 1 If damage on a connector is found:
 - replace or repair as required.
 - 2 If nothing is found:
 - Do an electrical resistance test through the J7 harness between:
 - . pins 16 and 34 (70 to 84 0hms)
 - . pins 35 and 36 (21 to 29 or 44 to 76 Ohms)
 - . pins 18 and 37 (21 to 29 or 44 to 76 0hms)
 - pins 16 and 17 (> 10 Megohms)
 - pins 35 and 17 (> 10 Megohms)
 - pins 18 and 17 (> 10 Megohms)
 - . pin 16 and the ground (> 10 Megohms)
 - pin 35 and the ground (> 10 Megohms)
 - . pin 18 and the ground (> 10 Megohms).
 - a If the resistance values are in the specified limits:
 - replace the ECU (4000KS), (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).

EFF: ALL

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- If the resistance values are out of the specified limits: replace the harness J7, (Ref. AMM TASK 73-21-50-000-040) and (Ref. AMM TASK 73-21-50-400-040).
- (4) If the test gives only the maintenance message J8, HMU(FMVRES), ECU (confirmed only on channel B):
 - disconnect the J8 harness from the HMU receptacle (HMU-B) (located in the left core compartment) and visually examine the J8 harness connector and the HMU receptacle for damaged pins, contamination and fuel wetting (Ref. AMM TASK 73-21-50-210-002).
 - (a) If damage on a connector is found:
 - Replace or repair as required.
 - (b) If fuel wetting is found:
 - replace the harness J8, (Ref. AMM TASK 73-21-50-000-041) and (Ref. AMM TASK 73-21-50-400-041).
 - (c) If nothing is found:
 - Do an electrical resistance test through the HMU receptacle between:
 - . pins 16 and 34 (70 to 84 0hms)
 - . pins 35 and 36 (21 to 29 or 44 to 76 0hms)
 - . pins 18 and 37 (21 to 29 or 44 to 76 0hms)
 - . pins 16 and 17 (> 10 Megohms)
 - pins 35 and 17 (> 10 Megohms)
 - pins 18 and 17 (> 10 Megohms)
 - pin 16 and the ground (> 10 Megohms)
 - pin 35 and the ground (> 10 Megohms)
 - . pin 18 and the ground (> 10 Megohms).
 - If the resistance values are out of the specified limits:
 - replace the Hydromechanical Unit (HMU), (Ref. AMM TASK 73-21-10-000-002) and (Ref. AMM TASK 73-21-10-400-002).
 - If the resistance values are in the specified limits:
 - reconnect the harness J8, (Ref. AMM TASK 73-21-50-000-041) and (Ref. AMM TASK 73-21-50-400-041) and continue the troubleshooting.
 - (d) Disconnect the J8 harness from the ECU (4000KS) receptacle and visually examine the J8 harness connector and the ECU (4000KS) receptacle for damaged pins and contamination (Ref. AMM TASK 73-21-50-210-002).
 - If damage on a connector is found:
 - replace or repair as required.
 - If nothing is found:
 - Do an electrical resistance test through the J8 harness between:
 - . pins 16 and 34 (70 to 84 0hms)

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- pins 35 and 36 (21 to 29 or 44 to 76 0hms)
- . pins 18 and 37 (21 to 29 or 44 to 76 0hms)
- pins 16 and 17 (> 10 Megohms)
- . pins 35 and 17 (> 10 Megohms)
- . pins 18 and 17 (> 10 Megohms)
- pin 16 and the ground (> 10 Megohms)
- pin 35 and the ground (> 10 Megohms)
- . pin 18 and the ground (> 10 Megohms).
- a If the resistance values are in the specified limits: - replace the ECU (4000KS), (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).
- <u>b</u> If the resistance values are out of the specified limits: - replace the harness J8, (Ref. AMM TASK 73-21-50-000-041) and (Ref. AMM TASK 73-21-50-400-041).
- (5) If the test gives the maintenance messages J7, HMU (FMVRES), ECU + J8, HMU (FMVRES), ECU (confirmed on both channel A and B):
 - replace the Hydromechanical Unit (HMU), (Ref. AMM TASK 73-21-10-000-002) and (Ref. AMM TASK 73-21-10-400-002) right away for dual channel fault.
 - (a) If the fault messages repeat:
 - Do the troubleshooting per steps 4.A.(3) and 4.A.(4).
- B. Do the test given in Para. 3.A.(1).
 - (1) No additional maintenance action is required if the fault is not confirmed.
 - (2) Repeat the fault isolation procedure if the fault continues.

EFF: ALL

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TROUBLE SHOOTING MANUAL

TASK 73-29-00-810-856

Loss of the FMV Torque Motor Control through the Two Channels on Engine 1

1. Possible Causes

- ECU (4000KS)
- Hydromechanical Unit (HMU)
- harness J7
- harness J8

2. Job Set-up Information

A. Referenced Information

REFERENCE		DESIGNATION
AMM	73-21-10-000-002	Removal of the Hydromechanical Unit (HMU)
AMM	73-21-10-400-002	Installation of the Hydromechanical Unit (HMU)
AMM	73-21-50-000-040	Removal of the HJ7 Harness
AMM	73-21-50-000-041	Removal of the HJ8 Harness
AMM	73-21-50-210-002	Visual Inspection of the Wiring Harnesses
AMM	73-21-50-400-040	Installation of the HJ7 Harness
AMM	73-21-50-400-041	Installation of the HJ8 Harness
AMM	73-21-60-000-001	Removal of the Electronic Control Unit (ECU)(4000KS)
AMM	73-21-60-400-001	<pre>Installation of the Electronic Control Unit (ECU)(4000KS)</pre>
AMM	73-29-00-710-040	Operational Test of the FADEC on the Ground (with Engine non Motoring)

3. Fault Confirmation

- A. Test
 - (1) Do the operational test of the FADEC 1A and 1B on the ground (with engine non motoring) (Ref. AMM TASK 73-29-00-710-040).

4. Fault Isolation

A. Do this procedure:

NOTE: This fault is generated if there is an open or short to ground in the torque motor current loop on both channel A and B.

- (1) If the test does not give the maintenance messages J7, HMU(FMV TM), ECU and J8, HMU(FMV TM), ECU:
 - (a) If ECAM Warning ENG1 FUEL CTL FAULT was diplayed:
 - replace the ECU (4000KS), (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).

EFF: ALL

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- (2) If the test does not give the maintenance messages J7, HMU(FMV TM), ECU and J8, HMU(FMV TM), ECU but are repetitive:
 - (a) Replace the ECU (4000KS), (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001), if not previously replaced.
 - Visually examine the J7 and J8 harnesses connectors for damaged pins, contamination (Ref. AMM TASK 73-21-50-210-002):
 - <u>a</u> If damage on a connector is found:replace or repair as required.
 - b If nothing is found, continue the troubleshooting.
 - (b) replace the Hydromechanical Unit (HMU), (Ref. AMM TASK 73-21-10-000-002) and (Ref. AMM TASK 73-21-10-400-002).
 - Visually examine the HMU receptacle for damaged pins, contamination and fuel wetting (Ref. AMM TASK 73-21-50-210-002):
 - <u>a</u> If damage on a connector is found:replace or repair as required.
 - b If fuel wetting is found:
 - replace the defective harness J7, (Ref. AMM TASK 73-21-50-000-040) and (Ref. AMM TASK 73-21-50-400-040) or the defective harness J8, (Ref. AMM TASK 73-21-50-000-041) and (Ref. AMM TASK 73-21-50-400-041).
 - c If nothing is found, continue the troubleshooting.
 - (c) Replace the harness J7, (Ref. AMM TASK 73-21-50-000-040) and (Ref. AMM TASK 73-21-50-400-040).
 - (d) Replace the harness J8, (Ref. AMM TASK 73-21-50-000-041) and (Ref. AMM TASK 73-21-50-400-041).
- (3) If the test gives only the maintenance message J7, HMU(FMV TM), ECU (only on channel A).
 - Disconnect the J7 harness from the ECU (4000KS) receptacle and visually examine it and the J7 harness connector for damaged pins, contamination (Ref. AMM TASK 73-21-50-210-002).
 - (a) If damage on a connector is found:
 - Replace or repair as required.

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- (b) If nothing is found:
 - Do an electrical resistance test through the J7 harness between:
 - . pins 27 and 28 (17 to 23 0hms)
 - pins 27 and 12 (> 10 Megohms)
 - . pin 27 and the ground (> 10 Megohms).
 - 1 If the resistance values are in the specified limits:
 - replace the ECU (4000KS), (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).
 - 2 If the resistance values are out of the specified limits:
 - Reconnect the J7 harness to the ECU (4000KS) receptacle, and continue the troubleshooting.
- (c) Disconnect the J7 harness from the HMU receptacle (located left hand core compartment), and visually examine the J7 harness connector and the HMU receptacle for damaged pins, contamination and fuel wetting (Ref. AMM TASK 73-21-50-210-002).
 - 1 If damage on a connector is found:
 - Replace or repair as required.
 - 2 If fuel wetting is found:
 - replace the harness J7, (Ref. AMM TASK 73-21-50-000-040) and (Ref. AMM TASK 73-21-50-400-040).
 - 3 If nothing is found:
 - Do an electrical resistance test on the HMU receptacle between:
 - . pins 27 and 28 (17 to 23 0hms)
 - pins 27 and 12 (> 10 Megohms)
 - . pin 27 and the ground (> 10 Megohms).
 - a If the resistance values are out the specified limits:
 - replace the Hydromechanical Unit (HMU), (Ref. AMM TASK 73-21-10-000-002) and (Ref. AMM TASK 73-21-10-400-002).
 - b If the resistance values are in the specified limits:
 - replace the harness J7, (Ref. AMM TASK 73-21-50-000-040) and (Ref. AMM TASK 73-21-50-400-040).
- (4) If the test gives only the maintenance message J8, HMU(FMV TM), ECU (only on channel B)
 - Disconnect the J8 harness from the ECU (4000KS) receptacle and visually examine it and the J8 harness connector for damaged pins, contamination (Ref. AMM TASK 73-21-50-210-002).
 - (a) If damage on a connector is found:
 - Replace or repair as required.

EFF: ALL

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- (b) If nothing is found:
 - Do an electrical resistance test through the J8 harness between:
 - . pins 27 and 28 (17 to 23 0hms)
 - pins 27 and 12 (> 10 Megohms)
 - . pin 27 and the ground (> 10 Megohms).
 - 1 If the resistance values are in the specified limits:
 - replace the ECU (4000KS), (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).
 - 2 If the resistance values are out of the specified limits:
 - Reconnect the J8 harness to the ECU (4000KS) receptacle, and continue the troubleshooting.
- (c) Disconnect the J8 harness from the HMU receptacle (located left hand core compartment), and visually examine the J8 harness connector and the HMU receptacle for damaged pins, contamination and fuel wetting (Ref. AMM TASK 73-21-50-210-002).
 - 1 If damage on a connector is found:
 - Replace or repair as required.
 - 2 If fuel wetting is found:
 - replace the harness J8, (Ref. AMM TASK 73-21-50-000-041) and (Ref. AMM TASK 73-21-50-400-041).
 - 3 If nothing is found:
 - Do an electrical resistance test on the HMU receptacle between:
 - . pins 27 and 28 (17 to 23 0hms)
 - pins 27 and 12 (> 10 Megohms)
 - . pin 27 and the ground (> 10 Megohms).
 - \underline{a} If the resistance values are in the specified limits:
 - replace the harness J8, (Ref. AMM TASK 73-21-50-000-041) and (Ref. AMM TASK 73-21-50-400-041).
 - b If the resistance values are out of the specified limits:
 - replace the Hydromechanical Unit (HMU), (Ref. AMM TASK 73-21-10-000-002) and (Ref. AMM TASK 73-21-10-400-002).
- (5) If the test gives the maintenance messages J7, HMU (FMV TM), ECU + J8, HMU (FMV TM), ECU (on both channel A and B):
 - replace the ECU (4000KS), (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).
 - (a) If the fault repeat:
 - Do the troubleshooting described on steps 4.A.(3) and 4.A.(4).

EFF: ALL

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- B. Do the test given in Para. 3.A.(1).
 - (1) No additional maintenance action is required if the fault is not confirmed.
 - (2) Repeat the fault isolation procedure if the fault continues.

EFF: ALL
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TASK 73-29-00-810-857

Loss of the FMV Torque Motor Control through the Two Channels on Engine 2

1. Possible Causes

- ECU (4000KS)
- Hydromechanical Unit (HMU)
- harness J7
- harness J8

2. Job Set-up Information

A. Referenced Information

REFERENCE		DESIGNATION
AMM	73-21-10-000-002	Removal of the Hydromechanical Unit (HMU)
AMM	73-21-10-400-002	Installation of the Hydromechanical Unit (HMU)
AMM	73-21-50-000-040	Removal of the HJ7 Harness
AMM	73-21-50-000-041	Removal of the HJ8 Harness
AMM	73-21-50-210-002	Visual Inspection of the Wiring Harnesses
AMM	73-21-50-400-040	Installation of the HJ7 Harness
AMM	73-21-50-400-041	Installation of the HJ8 Harness
AMM	73-21-60-000-001	Removal of the Electronic Control Unit (ECU)(4000KS)
AMM	73-21-60-400-001	<pre>Installation of the Electronic Control Unit (ECU)(4000KS)</pre>
AMM	73-29-00-710-040	Operational Test of the FADEC on the Ground (with Engine non Motoring)

3. Fault Confirmation

- A. Test
 - (1) Do the operational test of the FADEC 1A and 1B on the ground (with engine non motoring) (Ref. AMM TASK 73-29-00-710-040).

4. Fault Isolation

A. Do this procedure:

NOTE: This fault is generated if there is an open or short to ground in the torque motor current loop on both channel A and B.

- (1) If the test does not give the maintenance messages J7, HMU(FMV TM), ECU and J8, HMU(FMV TM), ECU:
 - (a) If ECAM Warning ENG1 FUEL CTL FAULT was diplayed:
 - replace the ECU (4000KS), (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).

EFF: ALL

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- (2) If the test does not give the maintenance messages J7, HMU(FMV TM), ECU and J8, HMU(FMV TM), ECU but are repetitive:
 - (a) Replace the ECU (4000KS), (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001), if not previously replaced.
 - Visually examine the J7 and J8 harnesses connectors for damaged pins, contamination (Ref. AMM TASK 73-21-50-210-002):
 - <u>a</u> If damage on a connector is found:replace or repair as required.
 - b If nothing is found, continue the troubleshooting.
 - (b) replace the Hydromechanical Unit (HMU), (Ref. AMM TASK 73-21-10-000-002) and (Ref. AMM TASK 73-21-10-400-002).
 - Visually examine the HMU receptacle for damaged pins, contamination and fuel wetting (Ref. AMM TASK 73-21-50-210-002):
 - <u>a</u> If damage on a connector is found:replace or repair as required.
 - b If fuel wetting is found:
 - replace the defective harness J7, (Ref. AMM TASK 73-21-50-000-040) and (Ref. AMM TASK 73-21-50-400-040) or the defective harness J8, (Ref. AMM TASK 73-21-50-000-041) and (Ref. AMM TASK 73-21-50-400-041).
 - c If nothing is found, continue the troubleshooting.
 - (c) Replace the harness J7, (Ref. AMM TASK 73-21-50-000-040) and (Ref. AMM TASK 73-21-50-400-040).
 - (d) Replace the harness J8, (Ref. AMM TASK 73-21-50-000-041) and (Ref. AMM TASK 73-21-50-400-041).
- (3) If the test gives only the maintenance message J7, HMU(FMV TM), ECU (only on channel A).
 - Disconnect the J7 harness from the ECU (4000KS) receptacle and visually examine it and the J7 harness connector for damaged pins, contamination (Ref. AMM TASK 73-21-50-210-002).
 - (a) If damage on a connector is found:
 - Replace or repair as required.

EFF: ALL

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- (b) If nothing is found:
 - Do an electrical resistance test through the J7 harness between:
 - . pins 27 and 28 (17 to 23 0hms)
 - pins 27 and 12 (> 10 Megohms)
 - . pin 27 and the ground (> 10 Megohms).
 - 1 If the resistance values are in the specified limits:
 - replace the ECU (4000KS), (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).
 - 2 If the resistance values are out of the specified limits:
 - Reconnect the J7 harness to the ECU (4000KS) receptacle, and continue the troubleshooting.
- (c) Disconnect the J7 harness from the HMU receptacle (located left hand core compartment), and visually examine the J7 harness connector and the HMU receptacle for damaged pins, contamination and fuel wetting (Ref. AMM TASK 73-21-50-210-002).
 - 1 If damage on a connector is found:
 - Replace or repair as required.
 - 2 If fuel wetting is found:
 - replace the harness J7, (Ref. AMM TASK 73-21-50-000-040) and (Ref. AMM TASK 73-21-50-400-040).
 - 3 If nothing is found:
 - Do an electrical resistance test on the HMU receptacle between:
 - . pins 27 and 28 (17 to 23 0hms)
 - pins 27 and 12 (> 10 Megohms)
 - . pin 27 and the ground (> 10 Megohms).
 - a If the resistance values are out the specified limits:
 - replace the Hydromechanical Unit (HMU), (Ref. AMM TASK 73-21-10-000-002) and (Ref. AMM TASK 73-21-10-400-002).
 - b If the resistance values are in the specified limits:
 - replace the harness J7, (Ref. AMM TASK 73-21-50-000-040) and (Ref. AMM TASK 73-21-50-400-040).
- (4) If the test gives only the maintenance message J8, HMU(FMV TM), ECU (only on channel B)
 - Disconnect the J8 harness from the ECU (4000KS) receptacle and visually examine it and the J8 harness connector for damaged pins, contamination (Ref. AMM TASK 73-21-50-210-002).
 - (a) If damage on a connector is found:
 - Replace or repair as required.

EFF: ALL

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- (b) If nothing is found:
 - Do an electrical resistance test through the J8 harness between:
 - . pins 27 and 28 (17 to 23 0hms)
 - pins 27 and 12 (> 10 Megohms)
 - . pin 27 and the ground (> 10 Megohms).
 - 1 If the resistance values are in the specified limits:
 - replace the ECU (4000KS), (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).
 - 2 If the resistance values are out of the specified limits:
 - Reconnect the J8 harness to the ECU (4000KS) receptacle, and continue the troubleshooting.
- (c) Disconnect the J8 harness from the HMU receptacle (located left hand core compartment), and visually examine the J8 harness connector and the HMU receptacle for damaged pins, contamination and fuel wetting (Ref. AMM TASK 73-21-50-210-002).
 - 1 If damage on a connector is found:
 - Replace or repair as required.
 - 2 If fuel wetting is found:
 - replace the harness J8, (Ref. AMM TASK 73-21-50-000-041) and (Ref. AMM TASK 73-21-50-400-041).
 - 3 If nothing is found:
 - Do an electrical resistance test on the HMU receptacle between:
 - . pins 27 and 28 (17 to 23 0hms)
 - pins 27 and 12 (> 10 Megohms)
 - . pin 27 and the ground (> 10 Megohms).
 - a If the resistance values are in the specified limits:
 - replace the harness J8, (Ref. AMM TASK 73-21-50-000-041) and (Ref. AMM TASK 73-21-50-400-041).
 - b If the resistance values are out of the specified limits:
 - replace the Hydromechanical Unit (HMU), (Ref. AMM TASK 73-21-10-000-002) and (Ref. AMM TASK 73-21-10-400-002).
- (5) If the test gives the maintenance messages J7, HMU (FMV TM), ECU + J8, HMU (FMV TM), ECU (on both channel A and B):
 - replace the ECU (4000KS), (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).
 - (a) If the fault repeat:
 - Do the troubleshooting described on steps 4.A.(3) and 4.A.(4).

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- B. Do the test given in Para. 3.A.(1).
 - (1) No additional maintenance action is required if the fault is not confirmed.
 - (2) Repeat the fault isolation procedure if the fault continues.

EFF: ALL
SROS

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TROUBLE SHOOTING MANUAL

TASK 73-29-00-810-858

Loss of the RAC SB Torque Motor Control through the Two Channels on Engine 1

1. Possible Causes

- ECU (4000KS)
- harness J7
- harness J8
- Hydromechanical Unit (HMU)

2. Job Set-up Information

A. Referenced Information

REFERENCE		DESIGNATION
AMM	73-21-10-000-002	Removal of the Hydromechanical Unit (HMU)
AMM	73-21-10-400-002	Installation of the Hydromechanical Unit (HMU)
AMM	73-21-50-000-040	Removal of the HJ7 Harness
AMM	73-21-50-000-041	Removal of the HJ8 Harness
AMM	73-21-50-400-040	Installation of the HJ7 Harness
AMM	73-21-50-400-041	Installation of the HJ8 Harness
AMM	73-21-60-000-001	Removal of the Electronic Control Unit (ECU)(4000KS)
AMM	73-21-60-400-001	<pre>Installation of the Electronic Control Unit (ECU)(4000KS)</pre>
AMM	73-29-00-710-040	Operational Test of the FADEC on the ground (with Engine Motoring)
ASM	73-25/18	

3. Fault Confirmation

A. Test

(1) Do the operational test of the FADEC 1A and 1B on the ground (with engine motoring) (Ref. AMM TASK 73-29-00-710-040).

NOTE: If post SB 75-029, fault message must be ignored: no trouble shooting is necessary.

4. Fault Isolation

- A. If the test gives the maintenance messages J7, HMU(RAC TM), ECU + J8, HMU(RAC TM), ECU:
 - do a check for open or short to ground at pins J7/20, 39, 40 and J8/20, 39, 40 of the harnesses J7 and J8 between the ECU (4000KS) and the RACC torque motor in the HMU, (Ref. ASM 73-25/18).
 - (1) If one of these wirings is not correct: - repair the defective harness J7 or J8.

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- (2) If these wirings are correct:
 - disconnect the harnesses J7 and J8 from the ECU and do a check of the ECU cable resistance between:
 - . pins 20 and 40 (17 to 23 0hms)
 - . pins 20 and 39 (> 10 Megohms)
 - . pin 20 and the ground (> 10 Megohms).
 - (a) If the resistance values are in the specified limits:
 - replace the ECU (4000KS), (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).
 - (b) If the resistance values are out of the specified limits:
 - disconnect the harnesses J7 and J8 from the HMU and do a check of the HMU receptacle resistance between:
 - . pins 20 and 40 (17 to 23 0hms)
 - pins 20 and 39 (> 10 Megohms)
 - . pin 20 and the ground (> 10 Megohms).
 - 1 If the resistance values are in the specified limits:
 - replace the defective harness J7, (Ref. AMM TASK 73-21-50-000-040) and (Ref. AMM TASK 73-21-50-400-040) or the defective harness J8, (Ref. AMM TASK 73-21-50-000-041) and (Ref. AMM TASK 73-21-50-400-041).
 - 2 If the resistance values are out of the specified limits:
 - replace the Hydromechanical Unit (HMU), (Ref. AMM TASK 73-21-10-000-002) and (Ref. AMM TASK 73-21-10-400-002).
- B. Do the test given in Para. 3.A.(1).

EFF: ALL

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TROUBLE SHOOTING MANUAL

TASK 73-29-00-810-859

Loss of the RAC SB Torque Motor Control through the Two Channels on Engine 2

1. Possible Causes

- ECU (4000KS)
- harness J7
- harness J8
- Hydromechanical Unit (HMU)

2. Job Set-up Information

A. Referenced Information

REFERENCE		DESIGNATION
AMM	73-21-10-000-002	Removal of the Hydromechanical Unit (HMU)
AMM	73-21-10-400-002	Installation of the Hydromechanical Unit (HMU)
AMM	73-21-50-000-040	Removal of the HJ7 Harness
AMM	73-21-50-000-041	Removal of the HJ8 Harness
AMM	73-21-50-400-040	Installation of the HJ7 Harness
AMM	73-21-50-400-041	Installation of the HJ8 Harness
AMM	73-21-60-000-001	Removal of the Electronic Control Unit (ECU)(4000KS)
AMM	73-21-60-400-001	<pre>Installation of the Electronic Control Unit (ECU)(4000KS)</pre>
AMM	73-29-00-710-040	Operational Test of the FADEC on the ground (with Engine Motoring)
ASM	73-25/18	

3. Fault Confirmation

A. Test

(1) Do the operational test of the FADEC 2A and 2B on the ground (with engine motoring) (Ref. AMM TASK 73-29-00-710-040).

NOTE: If post SB 75-029, fault message must be ignored: no trouble shooting is necessary.

4. Fault Isolation

- A. If the test gives the maintenance messages J7, HMU(RAC TM), ECU + J8, HMU(RAC TM), ECU:
 - do a check for open or short to ground at pins J7/20, 39, 40 and J8/20, 39, 40 of the harnesses J7 and J8 between the ECU (4000KS) and the RACC torque motor in the HMU, (Ref. ASM 73-25/18).
 - (1) If one of these wirings is not correct:
 repair the defective harness J7 or J8.

EFF: ALL

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- (2) If these wirings are correct:
 - disconnect the harnesses J7 and J8 from the ECU and do a check of the ECU cable resistance between:
 - . pins 20 and 40 (17 to 23 0hms)
 - . pins 20 and 39 (> 10 Megohms)
 - . pin 20 and the ground (> 10 Megohms).
 - (a) If the resistance values are in the specified limits:
 - replace the ECU (4000KS), (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).
 - (b) If the resistance values are out of the specified limits:
 - disconnect the harnesses J7 and J8 from the HMU and do a check of the HMU receptacle resistance between:
 - . pins 20 and 40 (17 to 23 0hms)
 - . pins 20 and 39 (> 10 Megohms)
 - . pin 20 and the ground (> 10 Megohms).
 - 1 If the resistance values are in the specified limits:
 - replace the defective harness J7, (Ref. AMM TASK 73-21-50-000-040) and (Ref. AMM TASK 73-21-50-400-040) or the defective harness J8, (Ref. AMM TASK 73-21-50-000-041) and (Ref. AMM TASK 73-21-50-400-041).
 - 2 If the resistance values are out of the specified limits:
 - replace the Hydromechanical Unit (HMU), (Ref. AMM TASK 73-21-10-000-002) and (Ref. AMM TASK 73-21-10-400-002).
- B. Do the test given in Para. 3.A.(1).

EFF: ALL

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TROUBLE SHOOTING MANUAL

TASK 73-29-00-810-860

Loss of the VSV Torque Motor Control through the Two Channels on Engine 1

1. Possible Causes

- ECU (4000KS)
- harness J7
- harness J8
- Hydromechanical Unit (HMU)

2. Job Set-up Information

A. Referenced Information

REFERENCE		DESIGNATION
AMM	73-21-10-000-002	Removal of the Hydromechanical Unit (HMU)
AMM	73-21-10-400-002	Installation of the Hydromechanical Unit (HMU)
AMM	73-21-50-000-040	Removal of the HJ7 Harness
AMM	73-21-50-000-041	Removal of the HJ8 Harness
AMM	73-21-50-400-040	Installation of the HJ7 Harness
AMM	73-21-50-400-041	Installation of the HJ8 Harness
AMM	73-21-60-000-001	Removal of the Electronic Control Unit (ECU)(4000KS)
AMM	73-21-60-400-001	<pre>Installation of the Electronic Control Unit (ECU)(4000KS)</pre>
AMM	73-29-00-710-040	Operational Test of the FADEC on the ground (with Engine Motoring)
ASM	73-25/18	

3. Fault Confirmation

A. Test

(1) Do the operational test of the FADEC 1A and 1B on the ground (with engine motoring) (Ref. AMM TASK 73-29-00-710-040).

4. Fault Isolation

- A. If the test gives the maintenance messages J7, HMU(VSV TM), ECU + J8, HMU(VSV TM), ECU: TORQUE MOTOR CURRENT:
 - do a check for open or short to ground at pins J7/10, 25, 26 and J8/10, 25, 26 of the harnesses J7 and J8 between the ECU (4000KS) and the VSV torque motor in the HMU, (Ref. ASM 73-25/18).
 - (1) If one of these wirings is not correct: - repair the defective harness J7 or J8.

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- (2) If these wirings are correct:
 - disconnect the harnesses J7 and J8 from the ECU and do a check of the ECU cable resistance between:
 - . pins 25 and 26 (17 to 23 0hms)
 - . pins 25 and 10 (> 10 Megohms)
 - . pin 25 and the ground (> 10 Megohms).
 - (a) If the resistance values are in the specified limits:
 - replace the ECU (4000KS), (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).
 - (b) If the resistance values are out of the specified limits:
 - disconnect the harnesses J7 and J8 from the HMU and do a check of the HMU receptacle resistance between:
 - . pins 25 and 26 (17 to 23 0hms)
 - pins 25 and 10 (> 10 Megohms)
 - . pin 25 and the ground (> 10 Megohms).
 - 1 If the resistance values are in the specified limits:
 - replace the defective harness J7, (Ref. AMM TASK 73-21-50-000-040) and (Ref. AMM TASK 73-21-50-400-040) or the defective harness J8, (Ref. AMM TASK 73-21-50-000-041) and (Ref. AMM TASK 73-21-50-400-041).
 - 2 If the resistance values are out of the specified limits:
 - replace the Hydromechanical Unit (HMU), (Ref. AMM TASK 73-21-10-000-002) and (Ref. AMM TASK 73-21-10-400-002).
- B. Do the test given in Para. 3.A.(1).

EFF: ALL

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TASK 73-29-00-810-861

Loss of the VSV Torque Motor Control through the Two Channels on Engine 2

1. Possible Causes

- ECU(4000KS)
- harness J7
- harness J8
- Hydromechanical Unit (HMU)

2. Job Set-up Information

A. Referenced Information

REFERENCE		DESIGNATION
AMM	73-21-10-000-002	Removal of the Hydromechanical Unit (HMU)
AMM	73-21-10-400-002	Installation of the Hydromechanical Unit (HMU)
AMM	73-21-50-000-040	Removal of the HJ7 Harness
AMM	73-21-50-000-041	Removal of the HJ8 Harness
AMM	73-21-50-400-040	Installation of the HJ7 Harness
AMM	73-21-50-400-041	Installation of the HJ8 Harness
AMM	73-21-60-000-001	Removal of the Electronic Control Unit (ECU)(4000KS)
AMM	73-21-60-400-001	<pre>Installation of the Electronic Control Unit (ECU)(4000KS)</pre>
AMM	73-29-00-710-040	Operational Test of the FADEC on the ground (with Engine Motoring)
ASM	73-25/18	

3. Fault Confirmation

A. Test

(1) Do the operational test of the FADEC 2A and 2B on the ground (with engine motoring) (Ref. AMM TASK 73-29-00-710-040).

4. Fault Isolation

- A. If the test gives the maintenance messages J7, HMU(VSV TM), ECU + J8, HMU(VSV TM), ECU:
 - do a check for open or short to ground at pins J7/10, 25, 26 and J8/10, 25, 26 of the harnesses J7 and J8 between the ECU (4000KS) and the VSV torque motor in the HMU, (Ref. ASM 73-25/18).
 - (1) If one of these wirings is not correct:
 - repair the defective harness J7 or J8.

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- (2) If these wirings are correct:
 - disconnect the harnesses J7 and J8 from the ECU and do a check of the ECU cable resistance between:
 - . pins 25 and 26 (17 to 23 0hms)
 - . pins 25 and 10 (> 10 Megohms)
 - . pin 25 and the ground (> 10 Megohms).
 - (a) If the resistance values are in the specified limits:
 - replace the ECU(4000KS), (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).
 - (b) If the resistance values are out of the specified limits:
 - disconnect the harnesses J7 and J8 from the HMU and do a check of the HMU receptacle resistance between:
 - . pins 25 and 26 (17 to 23 0hms)
 - pins 25 and 10 (> 10 Megohms)
 - . pin 25 and the ground (> 10 Megohms).
 - 1 If the resistance values are in the specified limits:
 - replace the defective harness J7, (Ref. AMM TASK 73-21-50-000-040) and (Ref. AMM TASK 73-21-50-400-040) or the defective harness J8, (Ref. AMM TASK 73-21-50-000-041) and (Ref. AMM TASK 73-21-50-400-041).
 - 2 If the resistance values are out of the specified limits:
 - replace the Hydromechanical Unit (HMU), (Ref. AMM TASK 73-21-10-000-002) and (Ref. AMM TASK 73-21-10-400-002).
- B. Do the test given in Para. 3.A.(1).

EFF: ALL

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TASK 73-29-00-810-862

Loss of the VBV Torque Motor Control - Engine 1 - Channel A and Channel B

1. Possible Causes

- ECU (4000KS)
- Hydromechanical Unit (HMU)
- HJ7 harness
- HJ8 harness

2. Job Set-up Information

A. Referenced Information

REFERENCE		DESIGNATION	
AMM AMM	73-21-10-000-002 73-21-10-400-002 73-21-50-000-040	Removal of the Hydromechanical Unit (HMU) Installation of the Hydromechanical Unit (HMU) Removal of the HJ7 Harness	
AMM	73-21-50-000-041	Removal of the HJ8 Harness	
AMM	73-21-50-210-001	Visual Inspection of the Wiring Harness	
AMM	73-21-50-400-040	Installation of the HJ7 Harness	
AMM	73-21-50-400-041	Installation of the HJ8 Harness	
AMM	73-21-60-000-001	Removal of the Electronic Control Unit (ECU)	
AMM	73-21-60-400-001	Installation of the Electronic Control Unit (ECU)	
AMM	73-29-00-710-040	Operational Test of the FADEC on the Ground (with Engine non Motoring)	

3. Fault Confirmation

A. Test

(1) Do the operational test of the FADEC 1A and 1B on the ground (with engine non motoring) (Ref. AMM TASK 73-29-00-710-040).

4. Fault Isolation

- A. This fault is generated if there is an open or short to ground in the VBV torque motor current loop on channel A.
 - (1) If the failure messages J7, HMU(VBV TM), ECU + J8, HMU(VBV TM), ECU are not confirmed:
 - no maintenance action is required.
 - (2) If the failure messages J7, HMU(VBV TM), ECU + J8, HMU(VBV TM), ECU are not confirmed, but are repetitive:
 - replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).

EFF: ALL

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- (a) If the fault continues during the subsequent flights:
 - replace the Hydromechanical Unit (HMU) (Ref. AMM TASK 73-21-10-000-002) and (Ref. AMM TASK 73-21-10-400-002).
- (b) If the fault continues during the subsequent flights:
 - replace the HJ7 harness (Ref. AMM TASK 73-21-50-000-040) and (Ref. AMM TASK 73-21-50-400-040).
- (3) If the failure message J7, HMU(VBV TM), ECU is confirmed:
 - (a) Disconnect the HJ7 harness from the ECU (4000KS) receptacle.
 - Visually examine the ECU (4000KS) receptacle and the HJ7 harness connector for damaged pins and contamination (Ref. AMM TASK 73-21-50-210-001).
 - $\underline{\underline{a}}$ If harness connector or ECU receptacle is damaged:
 - repair or replace as required.
 - b If no damage is found:
 - do an electrical resistance test through the HJ7 harness between:
 - . pins 29 and 30 (17 to 23 ohms)
 - . pins 29 and 13 (> 10 megohms)
 - . pin 29 and the ground (> 10 megohms).
 - c If the resistance values are in the specified limits:
 - replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).
 - d If the resistance values are out of the specified limits:
 - reconnect the HJ7 harness to the ECU (4000KS).
 - (b) Disconnect the HJ7 harness from the HMU receptacle (HMU-A) (located in the left core compartment).
 - Visually examine the HJ7 harness connector and the HMU receptacle for damaged pins and contamination (Ref. AMM TASK 73-21-50-210-001).
 - a If harness connector or HMU receptacle is damaged:
 - repair or replace as required.
 - b If no damage is found:
 - do an electrical resistance test through the HMU receptacle between:
 - . pins 27 and 28 (17 to 23 ohms)
 - pins 27 and 12 (> 10 megohms)
 - . pin 27 and the ground (> 10 megohms).

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- d If the resistance values are in the specified limits: - replace the HJ7 harness (Ref. AMM TASK 73-21-50-000-040) and (Ref. AMM TASK 73-21-50-400-040).
- (4) If the failure message J8, HMU(VBV TM), ECU is confirmed:
 - (a) Disconnect the HJ8 harness from the ECU (4000KS) receptacle.
 - Visually examine the ECU (4000KS) receptacle and the HJ8 harness connector for damaged pins and contamination (Ref. AMM TASK 73-21-50-210-001).
 - <u>a</u> If harness connector or ECU receptacle is damaged:
 repair or replace as required.
 - b If no damage is found:
 - do an electrical resistance test through the HJ8 harness between:
 - . pins 29 and 30 (17 to 23 ohms)
 - pins 29 and 13 (> 10 megohms)
 - . pin 29 and the ground (> 10 megohms).
 - ____ If the resistance values are in the specified limits: _ replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-00
 - replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).
 - <u>d</u> If the resistance values are out of the specified limits: reconnect the HJ8 harness to the ECU (4000KS).
 - (b) Disconnect the HJ8 harness from the HMU receptacle (HMU-B) (located in the left core compartment).
 - Visually examine the HJ8 harness connector and the HMU receptacle for damaged pins and contamination (Ref. AMM TASK 73-21-50-210-001).
 - <u>a</u> If harness connector or HMU receptacle is damaged:repair or replace as required.
 - o If no damage is found:
 - do an electrical resistance test through the HMU receptacle between:
 - . pins 27 and 28 (17 to 23 ohms)
 - pins 27 and 12 (> 10 megohms)
 - . pin 27 and the ground (> 10 megohms).

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- c If the resistance values are out of the specified limits: - replace the HMU (Ref. AMM TASK 73-21-10-000-002) and (Ref. AMM TASK 73-21-10-400-002).
- d If the resistance values are in the specified limits:
 - replace the HJ8 harness (Ref. AMM TASK 73-21-50-000-041)
 and (Ref. AMM TASK 73-21-50-400-041).
- (5) If the failure messages J7, HMU(VBV TM), ECU + J8, HMU(VBV TM), ECU are confirmed on both channel A and channel B:
 - replace the ECU right away for dual channel fault (Ref. AMM TASK 73-21-60-000-001) (Ref. AMM TASK 73-21-60-400-001).
 - (a) If the fault continues:
 do the fault isolation given in Para.4.A.(3) and Para.4.A.(4).
- B. Do the test given in Para. 3.A.
 - (1) No additional maintenance action is required if the fault is not confirmed.
 - (2) Repeat the fault isolation procedure if the fault continues.

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TROUBLE SHOOTING MANUAL

TASK 73-29-00-810-863

Loss of the VBV Torque Motor Control - Engine 2 - Channel A and Channel B

1. Possible Causes

- ECU (4000KS)
- Hydromechanical Unit (HMU)
- HJ7 harness
- HJ8 harness

Job Set-up Information

A. Referenced Information

3. Fault Confirmation

A. Test

(1) Do the operational test of the FADEC 2A and 2B on the ground (with engine non motoring) (Ref. AMM TASK 73-29-00-710-040).

4. Fault Isolation

- A. This fault is generated if there is an open or short to ground in the VBV torque motor current loop on channel A.
 - (1) If the failure messages J7, HMU(VBV TM), ECU + J8, HMU(VBV TM), ECU are not confirmed:
 - no maintenance action is required.
 - (2) If the failure messages J7, HMU(VBV TM), ECU + J8, HMU(VBV TM), ECU are not confirmed, but are repetitive:
 - replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).

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- (a) If the fault continues during the subsequent flights:
 - replace the Hydromechanical Unit (HMU) (Ref. AMM TASK 73-21-10-000-002) and (Ref. AMM TASK 73-21-10-400-002).
- (b) If the fault continues during the subsequent flights:
 - replace the HJ7 harness (Ref. AMM TASK 73-21-50-000-040) and (Ref. AMM TASK 73-21-50-400-040).
- (3) If the failure message J7, HMU(VBV TM), ECU is confirmed:
 - (a) Disconnect the HJ7 harness from the ECU (4000KS) receptacle.
 - Visually examine the ECU (4000KS) receptacle and the HJ7 harness connector for damaged pins and contamination (Ref. AMM TASK 73-21-50-210-001).
 - $\underline{\underline{a}}$ If harness connector or ECU receptacle is damaged:
 - repair or replace as required.
 - b If no damage is found:
 - do an electrical resistance test through the HJ7 harness between:
 - . pins 29 and 30 (17 to 23 ohms)
 - . pins 29 and 13 (> 10 megohms)
 - . pin 29 and the ground (> 10 megohms).
 - c If the resistance values are in the specified limits:
 - replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).
 - d If the resistance values are out of the specified limits:
 - reconnect the HJ7 harness to the ECU (4000KS).
 - (b) Disconnect the HJ7 harness from the HMU receptacle (HMU-A) (located in the left core compartment).
 - Visually examine the HJ7 harness connector and the HMU receptacle for damaged pins and contamination (Ref. AMM TASK 73-21-50-210-001).
 - a If harness connector or HMU receptacle is damaged:
 - repair or replace as required.
 - b If no damage is found:
 - do an electrical resistance test through the HMU receptacle between:
 - . pins 27 and 28 (17 to 23 ohms)
 - pins 27 and 12 (> 10 megohms)
 - . pin 27 and the ground (> 10 megohms).

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- If the resistance values are out of the specified limits: replace the HMU (Ref. AMM TASK 73-21-10-000-002) and (Ref. AMM TASK 73-21-10-400-002).
- d If the resistance values are in the specified limits: - replace the HJ7 harness (Ref. AMM TASK 73-21-50-000-040) and (Ref. AMM TASK 73-21-50-400-040).
- (4) If the failure message J8, HMU(VBV TM), ECU is confirmed:
 - (a) Disconnect the HJ8 harness from the ECU (4000KS) receptacle.
 - Visually examine the ECU (4000KS) receptacle and the HJ8 harness connector for damaged pins and contamination (Ref. AMM TASK 73-21-50-210-001).
 - a If harness connector or ECU receptacle is damaged: - repair or replace as required.
 - b If no damage is found:
 - do an electrical resistance test through the HJ8 harness between:
 - . pins 29 and 30 (17 to 23 ohms)
 - pins 29 and 13 (> 10 megohms)
 - . pin 29 and the ground (> 10 megohms).
 - c If the resistance values are in the specified limits:
 - replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).
 - If the resistance values are out of the specified limits: reconnect the HJ8 harness to the ECU (4000KS).
 - (b) Disconnect the HJ8 harness from the HMU receptacle (HMU-B) (located in the left core compartment).
 - Visually examine the HJ8 harness connector and the HMU receptacle for damaged pins and contamination (Ref. AMM TASK 73-21-50-210-001).
 - If harness connector or HMU receptacle is damaged:
 - repair or replace as required.
 - If no damage is found:
 - do an electrical resistance test through the HMU receptacle between:
 - . pins 27 and 28 (17 to 23 ohms)
 - pins 27 and 12 (> 10 megohms)
 - . pin 27 and the ground (> 10 megohms).

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- d If the resistance values are in the specified limits:
 - replace the HJ8 harness (Ref. AMM TASK 73-21-50-000-041)
 and (Ref. AMM TASK 73-21-50-400-041).
- (5) If the failure messages J7, HMU(VBV TM), ECU + J8, HMU(VBV TM), ECU are confirmed on both channel A and channel B:
 - replace the ECU right away for dual channel fault (Ref. AMM TASK 73-21-60-000-001) (Ref. AMM TASK 73-21-60-400-001).
 - (a) If the fault continues:do the fault isolation given in Para.4.A.(3) and Para.4.A.(4).
- B. Do the test given in Para. 3.A.
 - (1) No additional maintenance action is required if the fault is not confirmed.
 - (2) Repeat the fault isolation procedure if the fault continues.

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TROUBLE SHOOTING MANUAL

TASK 73-29-00-810-864

Loss of the Feedback Signal from the FMV Resolver through the Channel A on Engine 1

1. Possible Causes

- Hydromechanical Unit (HMU)
- harness J7
- ECU (4000KS)

2. Job Set-up Information

A. Referenced Information

REFERENCE		DESIGNATION
AMM	73-21-10-000-002	Removal of the Hydromechanical Unit (HMU)
AMM	73-21-10-400-002	Installation of the Hydromechanical Unit (HMU)
AMM	73-21-50-000-040	Removal of the HJ7 Harness
AMM	73-21-50-210-002	Visual Inspection of the Wiring Harnesses
AMM	73-21-50-400-040	Installation of the HJ7 Harness
AMM	73-21-60-000-001	Removal of the Electronic Control Unit (ECU)(4000KS)
AMM	73-21-60-400-001	<pre>Installation of the Electronic Control Unit (ECU)(4000KS)</pre>
AMM	73-29-00-710-040	Operational Test of the FADEC on the Ground (with Engine non Motoring)

3. Fault Confirmation

A. Test

(1) Do the operational test of the FADEC 1A on the ground (with engine non - motoring) (Ref. AMM TASK 73-29-00-710-040).

4. Fault Isolation

A. Do this procedure:

NOTE: This fault is generated if channel A FMV resolver signal is out of range, invalid or the signal disagrees with channel B.

- (1) If the test does not give the maintenance message J7, HMU(FMVRES), ECU:
 - replace the Hydromechanical Unit (HMU), (Ref. AMM TASK 73-21-10-000-002) and (Ref. AMM TASK 73-21-10-400-002).
 - Visually examine the J7 harness connector for damaged pins, contamination and fuel wetting (Ref. AMM TASK 73-21-50-210-002).

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- (a) If damage on a connector is found:
 - Replace or repair as required.
- (b) If fuel wetting is found:
 - replace the harness J7, (Ref. AMM TASK 73-21-50-000-040) and (Ref. AMM TASK 73-21-50-400-040).
- (c) If nothing is found:
 - No further action is required.
- (2) If the test does not give the maintenance message J7, HMU(FMVRES), ECU, but is repetitive after the troubleshooting per step 4.A.(1) has been fully done:
 - replace the harness J7, (Ref. AMM TASK 73-21-50-000-040) and (Ref. AMM TASK 73-21-50-400-040).
 - (a) If the fault continues during the subsequent flights:
 - replace the ECU (4000KS), (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).
- (3) If the test gives the maintenance message J7, HMU(FMVRES), ECU:
 - disconnect the J7 harness from the HMU receptacle (HMU-A) (located in the left core compartment) and visually examine the J7 harness connector and the HMU receptacle for damaged pins, contamination and fuel wetting (Ref. AMM TASK 73-21-50-210-002).
 - (a) If damage on a connector is found:
 - Replace or repair as required.
 - (b) If fuel wetting is found:
 - replace the harness J7, (Ref. AMM TASK 73-21-50-000-040) and (Ref. AMM TASK 73-21-50-400-040).
 - (c) If nothing is found:
 - Do an electrical resistance test through the HMU receptacle between:
 - pins 16 and 34 (between 34 and 150 0hms)
 - . pins 35 and 36 (between 21 and 76 0hms)
 - pins 18 and 37 (between 21 and 76 0hms)
 - pins 16 and 17 (> 10 Megohms)
 - . pins 35 and 17 (> 10 Megohms)
 - pins 18 and 17 (> 10 Megohms)
 - . pin 16 and the ground (> 10 Megohms)
 - . pin 35 and the ground (> 10 Megohms)
 - . pin 18 and the ground (> 10 Megohms).
 - 1 If the resistance values are out of the specified limits:
 - replace the Hydromechanical Unit (HMU), (Ref. AMM TASK 73-21-10-000-002) and (Ref. AMM TASK 73-21-10-400-002).

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- 2 If the resistance values are in the specified limits:
 - reconnect the harness J7, (Ref. AMM TASK 73-21-50-000-040) and (Ref. AMM TASK 73-21-50-400-040) and continue the troubleshooting.
- (d) Disconnect the J7 harness from the ECU (4000KS) receptacle and visually examine the J7 harness connector and the ECU (4000KS) receptacle for damaged pins and contamination (Ref. AMM TASK 73-21-50-210-002).
 - If damage on a connector is found:replace or repair as required.
 - 2 If nothing is found:
 - Do an electrical resistance test through the J7 harness between:
 - pins 16 and 34 (between 34 and 150 0hms)
 - pins 35 and 36 (between 21 and 76 0hms)
 - pins 18 and 37 (between 21 and 76 0hms)
 - . pins 16 and 17 (> 10 Megohms)
 - . pins 35 and 17 (> 10 Megohms)
 - pins 18 and 17 (> 10 Megohms)
 - . pin 16 and the ground (> 10 Megohms)
 - . pin 35 and the ground (> 10 Megohms)
 - . pin 18 and the ground (> 10 Megohms).
 - a If the resistance values are in the specified limits:
 - replace the ECU (4000KS), (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).
 - b If the resistance values are out of the specified limits:
 - replace the harness J7, (Ref. AMM TASK 73-21-50-000-040) and (Ref. AMM TASK 73-21-50-400-040).
- B. Do the test given in Para. 3.A.(1).
 - (1) No additional maintenance action is required if the fault is not confirmed.
 - (2) Repeat the fault isolation procedure if the fault continues.

EFF: ALL

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TASK 73-29-00-810-865

Loss of the Feedback Signal from the FMV Resolver through the Channel B on Engine 1

1. Possible Causes

- Hydromechanical Unit (HMU)
- harness J8
- ECU (4000KS)

2. Job Set-up Information

A. Referenced Information

REFERENCE		DESIGNATION
AMM	73-21-10-000-002	Removal of the Hydromechanical Unit (HMU)
AMM	73-21-10-400-002	Installation of the Hydromechanical Unit (HMU)
AMM	73-21-50-000-041	Removal of the HJ8 Harness
AMM	73-21-50-210-002	Visual Inspection of the Wiring Harnesses
AMM	73-21-50-400-041	Installation of the HJ8 Harness
AMM	73-21-60-000-001	Removal of the Electronic Control Unit (ECU)(4000KS)
AMM	73-21-60-400-001	<pre>Installation of the Electronic Control Unit (ECU)(4000KS)</pre>
AMM	73-29-00-710-040	Operational Test of the FADEC on the Ground (with Engine non Motoring)

3. Fault Confirmation

A. Test

(1) Do the operational test of the FADEC 1B on the ground (with engine non - motoring) (Ref. AMM TASK 73-29-00-710-040).

4. Fault Isolation

A. Do this procedure:

NOTE: This fault is generated if channel B FMV resolver signal is out of range, invalid or the signal disagrees with channel A.

- (1) If the test does not give the maintenance message J8, HMU(FMVRES), ECU:
 - replace the Hydromechanical Unit (HMU), (Ref. AMM TASK 73-21-10-000-002) and (Ref. AMM TASK 73-21-10-400-002).
 - Visually examine the J8 harness connector for damaged pins, contamination and fuel wetting (Ref. AMM TASK 73-21-50-210-002).

EFF: ALL

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- (a) If damage on a connector is found:
 - Replace or repair as required.
- (b) If fuel wetting is found:
 - replace the harness J8, (Ref. AMM TASK 73-21-50-000-041) and (Ref. AMM TASK 73-21-50-400-041).
- (c) If nothing is found:
 - No further action is required.
- (2) If the test does not give the maintenance message J8, HMU(FMVRES), ECU, but is repetitive after the troubleshooting per step 4.A.(1) has been fully done:
 - replace the harness J8, (Ref. AMM TASK 73-21-50-000-041) and (Ref. AMM TASK 73-21-50-400-041).
 - (a) If the fault continues during the subsequent flights:
 - replace the ECU (4000KS), (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).
- (3) If the test gives the maintenance message J8, HMU(FMVRES), ECU:
 - disconnect the J8 harness from the HMU receptacle (HMU-B) (located in the left core compartment) and visually examine the J8 harness connector and the HMU receptacle for damaged pins, contamination and fuel wetting (Ref. AMM TASK 73-21-50-210-002).
 - (a) If damage on a connector is found:
 - Replace or repair as required.
 - (b) If fuel wetting is found:
 - replace the harness J8, (Ref. AMM TASK 73-21-50-000-041) and (Ref. AMM TASK 73-21-50-400-041).
 - (c) If nothing is found:
 - Do an electrical resistance test through the HMU receptacle between:
 - pins 16 and 34 (between 34 and 150 0hms)
 - pins 35 and 36 (between 21 and 76 0hms)
 - pins 18 and 37 (between 21 and 76 0hms)
 - pins 16 and 17 (> 10 Megohms)
 - . pins 35 and 17 (> 10 Megohms)
 - . pins 18 and 17 (> 10 Megohms)
 - pin 16 and the ground (> 10 Megohms)
 - pin 35 and the ground (> 10 Megohms)
 - . pin 18 and the ground (> 10 Megohms).
 - 1 If the resistance values are out of the specified limits:
 - replace the Hydromechanical Unit (HMU), (Ref. AMM TASK 73-21-10-000-002) and (Ref. AMM TASK 73-21-10-400-002).

EFF: ALL

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- 2 If the resistance values are in the specified limits:
 - reconnect the harness J8, (Ref. AMM TASK 73-21-50-000-041) and (Ref. AMM TASK 73-21-50-400-041) and continue the troubleshooting.
- (d) Disconnect the J8 harness from the ECU (4000KS) receptacle and visually examine the J8 harness connector and the ECU (4000KS) receptacle for damaged pins and contamination (Ref. AMM TASK 73-21-50-210-002).
 - If damage on a connector is found:replace or repair as required.
 - 2 If nothing is found:
 - Do an electrical resistance test through the J8 harness between:
 - pins 16 and 34 (between 34 and 150 0hms)
 - pins 35 and 36 (between 21 and 76 0hms)
 - . pins 18 and 37 (between 21 and 76 0hms)
 - . pins 16 and 17 (> 10 Megohms)
 - . pins 35 and 17 (> 10 Megohms)
 - pins 18 and 17 (> 10 Megohms)
 - pin 16 and the ground (> 10 Megohms)
 - . pin 35 and the ground (> 10 Megohms)
 - . pin 18 and the ground (> 10 Megohms).
 - a If the resistance values are in the specified limits:
 - replace the ECU (4000KS), (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).
 - b If the resistance values are out of the specified limits:
 - replace the harness J8, (Ref. AMM TASK 73-21-50-000-041) and (Ref. AMM TASK 73-21-50-400-041).
- B. Do the test given in Para. 3.A.(1).
 - (1) No additional maintenance action is required if the fault is not confirmed.
 - (2) Repeat the fault isolation procedure if the fault continues.

EFF: ALL

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TROUBLE SHOOTING MANUAL

TASK 73-29-00-810-866

Loss of the Feedback Signal from the FMV Resolver through the Channel A on Engine 2

1. Possible Causes

- Hydromechanical Unit (HMU)
- harness J7
- ECU (4000KS)

Job Set-up Information

A. Referenced Information

REFERENCE		DESIGNATION
AMM	73-21-10-000-002	Removal of the Hydromechanical Unit (HMU)
	73-21-10-600-002	Installation of the Hydromechanical Unit (HMU)
AMM	73-21-50-000-040	Removal of the HJ7 Harness
AMM	73-21-50-210-002	Visual Inspection of the Wiring Harnesses
AMM	73-21-50-400-040	Installation of the HJ7 Harness
AMM	73-21-60-000-001	Removal of the Electronic Control Unit (ECU)(4000KS)
AMM	73-21-60-400-001	<pre>Installation of the Electronic Control Unit (ECU)(4000KS)</pre>
AMM	73-29-00-710-040	Operational Test of the FADEC on the Ground (with Engine non Motoring)

3. Fault Confirmation

A. Test

(1) Do the operational test of the FADEC 2A on the ground (with engine non - motoring) (Ref. AMM TASK 73-29-00-710-040).

4. Fault Isolation

A. Do this procedure:

NOTE: This fault is generated if channel A FMV resolver signal is out of range, invalid or the signal disagrees with channel B.

- (1) If the test does not give the maintenance message J7, HMU(FMVRES), ECU:
 - replace the Hydromechanical Unit (HMU), (Ref. AMM TASK 73-21-10-000-002) and (Ref. AMM TASK 73-21-10-400-002).
 - Visually examine the J7 harness connector for damaged pins, contamination and fuel wetting (Ref. AMM TASK 73-21-50-210-002).

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- (a) If damage on a connector is found:
 - Replace or repair as required.
- (b) If fuel wetting is found:
 - replace the harness J7, (Ref. AMM TASK 73-21-50-000-040) and (Ref. AMM TASK 73-21-50-400-040).
- (c) If nothing is found:
 - No further action is required.
- (2) If the test does not give the maintenance message J7, HMU(FMVRES), ECU, but is repetitive after the troubleshooting per step 4.A.(1) has been fully done:
 - replace the harness J7, (Ref. AMM TASK 73-21-50-000-040) and (Ref. AMM TASK 73-21-50-400-040).
 - (a) If the fault continues during the subsequent flights:
 - replace the ECU (4000KS), (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).
- (3) If the test gives the maintenance message J7, HMU(FMVRES), ECU:
 - disconnect the J7 harness from the HMU receptacle (HMU-A) (located in the left core compartment) and visually examine the J7 harness connector and the HMU receptacle for damaged pins, contamination and fuel wetting (Ref. AMM TASK 73-21-50-210-002).
 - (a) If damage on a connector is found:
 - Replace or repair as required.
 - (b) If fuel wetting is found:
 - replace the harness J7, (Ref. AMM TASK 73-21-50-000-040) and (Ref. AMM TASK 73-21-50-400-040).
 - (c) If nothing is found:
 - Do an electrical resistance test through the HMU receptacle between:
 - pins 16 and 34 (between 34 and 150 0hms)
 - pins 35 and 36 (between 21 and 76 0hms)
 - pins 18 and 37 (between 21 and 76 0hms)
 - pins 16 and 17 (> 10 Megohms)
 - . pins 35 and 17 (> 10 Megohms)
 - pins 18 and 17 (> 10 Megohms)
 - pin 16 and the ground (> 10 Megohms)
 - . pin 35 and the ground (> 10 Megohms)
 - . pin 18 and the ground (> 10 Megohms).
 - 1 If the resistance values are out of the specified limits:
 - replace the Hydromechanical Unit (HMU), (Ref. AMM TASK 73-21-10-000-002) and (Ref. AMM TASK 73-21-10-400-002).

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- 2 If the resistance values are in the specified limits:
 - reconnect the harness J7, (Ref. AMM TASK 73-21-50-000-040) and (Ref. AMM TASK 73-21-50-400-040) and continue the troubleshooting.
- (d) Disconnect the J7 harness from the ECU (4000KS) receptacle and visually examine the J7 harness connector and the ECU (4000KS) receptacle for damaged pins and contamination (Ref. AMM TASK 73-21-50-210-002).
 - If damage on a connector is found:replace or repair as required.
 - 2 If nothing is found:
 - Do an electrical resistance test through the J7 harness between:
 - pins 16 and 34 (between 34 and 150 0hms)
 - pins 35 and 36 (between 21 and 76 0hms)
 - pins 18 and 37 (between 21 and 76 0hms)
 - . pins 16 and 17 (> 10 Megohms)
 - . pins 35 and 17 (> 10 Megohms)
 - pins 18 and 17 (> 10 Megohms)
 - pin 16 and the ground (> 10 Megohms)
 - . pin 35 and the ground (> 10 Megohms)
 - . pin 18 and the ground (> 10 Megohms).
 - a If the resistance values are in the specified limits:
 - replace the ECU (4000KS), (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).
 - b If the resistance values are out of the specified limits:
 - replace the harness J7, (Ref. AMM TASK 73-21-50-000-040) and (Ref. AMM TASK 73-21-50-400-040).
- B. Do the test given in Para. 3.A.(1).
 - (1) No additional maintenance action is required if the fault is not confirmed.
 - (2) Repeat the fault isolation procedure if the fault continues.

EFF: ALL

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TROUBLE SHOOTING MANUAL

TASK 73-29-00-810-867

Loss of the Feedback Signal from the FMV Resolver through the Channel B on Engine $\mathbf 2$

1. Possible Causes

- Hydromechanical Unit (HMU)
- harness J8
- ECU (4000KS)

2. Job Set-up Information

A. Referenced Information

REFERENCE		DESIGNATION
AMM	73-21-10-000-002	Removal of the Hydromechanical Unit (HMU)
AMM	73-21-10-400-002	Installation of the Hydromechanical Unit (HMU)
AMM	73-21-50-000-041	Removal of the HJ8 Harness
AMM	73-21-50-210-002	Visual Inspection of the Wiring Harnesses
AMM	73-21-50-400-041	Installation of the HJ8 Harness
AMM	73-21-60-000-001	Removal of the Electronic Control Unit (ECU)(4000KS)
AMM	73-21-60-400-001	<pre>Installation of the Electronic Control Unit (ECU)(4000KS)</pre>
AMM	73-29-00-710-040	Operational Test of the FADEC on the Ground (with Engine non Motoring)

3. Fault Confirmation

A. Test

(1) Do the operational test of the FADEC 2B on the ground (with engine non - motoring) (Ref. AMM TASK 73-29-00-710-040).

4. Fault Isolation

A. Do this procedure:

NOTE: This fault is generated if channel B FMV resolver signal is out of range, invalid or the signal disagrees with channel A.

- (1) If the test does not give the maintenance message J8, HMU(FMVRES), ECU:
 - replace the Hydromechanical Unit (HMU), (Ref. AMM TASK 73-21-10-000-002) and (Ref. AMM TASK 73-21-10-400-002).
 - Visually examine the J8 harness connector for damaged pins, contamination and fuel wetting (Ref. AMM TASK 73-21-50-210-002).

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- (a) If damage on a connector is found:
 - Replace or repair as required.
- (b) If fuel wetting is found:
 - replace the harness J8, (Ref. AMM TASK 73-21-50-000-041) and (Ref. AMM TASK 73-21-50-400-041).
- (c) If nothing is found:
 - No further action is required.
- (2) If the test does not give the maintenance message J8, HMU(FMVRES), ECU, but is repetitive after the troubleshooting per step 4.A.(1) has been fully done:
 - replace the harness J8, (Ref. AMM TASK 73-21-50-000-041) and (Ref. AMM TASK 73-21-50-400-041).
 - (a) If the fault continues during the subsequent flights:
 - replace the ECU (4000KS), (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).
- (3) If the test gives the maintenance message J8, HMU(FMVRES), ECU:
 - disconnect the J8 harness from the HMU receptacle (HMU-B) (located in the left core compartment) and visually examine the J8 harness connector and the HMU receptacle for damaged pins, contamination and fuel wetting (Ref. AMM TASK 73-21-50-210-002).
 - (a) If damage on a connector is found:
 - Replace or repair as required.
 - (b) If fuel wetting is found:
 - replace the harness J8, (Ref. AMM TASK 73-21-50-000-041) and (Ref. AMM TASK 73-21-50-400-041).
 - (c) If nothing is found:
 - Do an electrical resistance test through the HMU receptacle between:
 - pins 16 and 34 (between 34 and 150 0hms)
 - . pins 35 and 36 (between 21 and 76 0hms)
 - pins 18 and 37 (between 21 and 76 0hms)
 - pins 16 and 17 (> 10 Megohms)
 - . pins 35 and 17 (> 10 Megohms)
 - . pins 18 and 17 (> 10 Megohms)
 - pin 16 and the ground (> 10 Megohms)
 - . pin 35 and the ground (> 10 Megohms)
 - . pin 18 and the ground (> 10 Megohms).
 - 1 If the resistance values are out of the specified limits:
 - replace the Hydromechanical Unit (HMU), (Ref. AMM TASK 73-21-10-000-002) and (Ref. AMM TASK 73-21-10-400-002).

EFF: ALL

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- $\underline{2}$ If the resistance values are in the specified limits:
 - reconnect the harness J8, (Ref. AMM TASK 73-21-50-000-041) and (Ref. AMM TASK 73-21-50-400-041) and continue the troubleshooting.
- (d) Disconnect the J8 harness from the ECU (4000KS) receptacle and visually examine the J8 harness connector and the ECU (4000KS) receptacle for damaged pins and contamination (Ref. AMM TASK 73-21-50-210-002).
 - If damage on a connector is found:replace or repair as required.
 - 2 If nothing is found:
 - Do an electrical resistance test through the J8 harness between:
 - pins 16 and 34 (between 34 and 150 0hms)
 - pins 35 and 36 (between 21 and 76 0hms)
 - . pins 18 and 37 (between 21 and 76 0hms)
 - . pins 16 and 17 (> 10 Megohms)
 - . pins 35 and 17 (> 10 Megohms)
 - pins 18 and 17 (> 10 Megohms)
 - pin 16 and the ground (> 10 Megohms)
 - . pin 35 and the ground (> 10 Megohms)
 - . pin 18 and the ground (> 10 Megohms).
 - a If the resistance values are in the specified limits:
 - replace the ECU (4000KS), (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).
 - b If the resistance values are out of the specified limits:
 - replace the harness J8, (Ref. AMM TASK 73-21-50-000-041) and (Ref. AMM TASK 73-21-50-400-041).
- B. Do the test given in Para. 3.A.(1).
 - (1) No additional maintenance action is required if the fault is not confirmed.
 - (2) Repeat the fault isolation procedure if the fault continues.

EFF: ALL

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TROUBLE SHOOTING MANUAL

TASK 73-29-00-810-868

Loss of the FMV Torque Motor Control through the Channel A on Engine 1

1. Possible Causes

- ECU (4000KS)
- Hydromechanical Unit (HMU)
- harness J7

2. Job Set-up Information

A. Referenced Information

REFERENCE		DESIGNATION
AMM	73-21-10-000-002	Removal of the Hydromechanical Unit (HMU)
AMM	73-21-10-400-002	Installation of the Hydromechanical Unit (HMU)
AMM AMM	73-21-50-000-040 73-21-50-210-002	Removal of the HJ7 Harness Visual Inspection of the Wiring Harnesses
AMM	73-21-50-400-040	Installation of the HJ7 Harness
AMM	73-21-60-000-001	Removal of the Electronic Control Unit (ECU)(4000KS)
AMM	73-21-60-400-001	<pre>Installation of the Electronic Control Unit (ECU)(4000KS)</pre>
AMM	73-29-00-710-040	Operational Test of the FADEC on the Ground (with Engine non Motoring)

3. Fault Confirmation

- A. Test
 - (1) Do the operational test of the FADEC 1A on the ground (with engine non motoring) (Ref. AMM TASK 73-29-00-710-040).

4. Fault Isolation

A. Do this procedure:

NOTE: This fault is generated if there is an open or short to ground in the torque motor current loop on channel A.

- (1) If the test does not give the maintenance message J7, HMU(FMV TM), ECU:
 - No maintenance action is required.
- (2) If the test does not give the maintenance message J7, HMU(FMV TM), ECU, but is repetitive:
 - replace the ECU (4000KS), (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).

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- (a) If the fault continues during the subsequent flights:
 - replace the Hydromechanical Unit (HMU), (Ref. AMM TASK 73-21-10-000-002) and (Ref. AMM TASK 73-21-10-400-002).
 - 1 If the fault continues during the subsequent flights:
 - replace the harness J7, (Ref. AMM TASK 73-21-50-000-040) and (Ref. AMM TASK 73-21-50-400-040).
- (3) If the test gives the maintenance message J7, HMU(FMV TM), ECU:
 - Disconnect the J7 harness from the ECU (4000KS) receptacle and visually examine it and the J7 harness connector for damaged pins, contamination (Ref. AMM TASK 73-21-50-210-002).
 - (a) If damage on a connector is found:
 - Replace or repair as required.
 - (b) If nothing is found:
 - Do an electrical resistance test through the J7 harness between:
 - . pins 27 and 28 (17 to 23 0hms)
 - pins 27 and 12 (> 10 Megohms)
 - . pin 27 and the ground (> 10 Megohms).
 - 1 If the resistance values are in the specified limits:
 - replace the ECU (4000KS), (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).
 - 2 If the resistance values are out of the specified limits:
 - Reconnect the J7 harness to the ECU (4000KS) receptacle, and continue the troubleshooting.
 - (c) Disconnect the J7 harness from the HMU receptacle (HMU-A) (located left hand core compartment), and visually examine the J7 harness connector and the HMU receptacle for damaged pins, contamination and fuel wetting (Ref. AMM TASK 73-21-50-210-002).
 - 1 If damage on a connector is found:
 - Replace or repair as required.
 - 2 If fuel wetting is found:
 - replace the harness J7, (Ref. AMM TASK 73-21-50-000-040) and (Ref. AMM TASK 73-21-50-400-040).
 - 3 If nothing is found:
 - Do an electrical resistance test on the HMU receptacle between:
 - . pins 27 and 28 (17 to 23 0hms)
 - pins 27 and 12 (> 10 Megohms)
 - . pin 27 and the ground (> 10 Megohms).

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- If the resistance values are in the specified limits:
 replace the harness J7, (Ref. AMM TASK 73-21-50-000-040)
 and (Ref. AMM TASK 73-21-50-400-040).
- <u>b</u> If the resistance values are out of the specified limits: - replace the Hydromechanical Unit (HMU), (Ref. AMM TASK 73-21-10-000-002) and (Ref. AMM TASK 73-21-10-400-002).
- B. Do the test given in Para. 3.A.(1).
 - (1) No additional maintenance action is required if the fault is not confirmed.
 - (2) Repeat the fault isolation procedure if the fault continues.

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TROUBLE SHOOTING MANUAL

TASK 73-29-00-810-869

Loss of the FMV Torque Motor Control through the Channel B on Engine 1

1. Possible Causes

- ECU (4000KS)
- Hydromechanical Unit (HMU)
- harness J8

2. Job Set-up Information

A. Referenced Information

REFERENCE		DESIGNATION
AMM	73-21-10-000-002	Removal of the Hydromechanical Unit (HMU)
AMM	73-21-10-400-002	Installation of the Hydromechanical Unit (HMU)
AMM	73-21-50-000-041	Removal of the HJ8 Harness
AMM	73-21-50-210-002	Visual Inspection of the Wiring Harnesses
AMM	73-21-50-400-041	Installation of the HJ8 Harness
AMM	73-21-60-000-001	Removal of the Electronic Control Unit (ECU)(4000KS)
AMM	73-21-60-400-001	<pre>Installation of the Electronic Control Unit (ECU)(4000KS)</pre>
AMM	73-29-00-710-040	Operational Test of the FADEC on the Ground (with Engine non Motoring)

3. Fault Confirmation

- A. Test
 - (1) Do the operational test of the FADEC 1B on the ground (with engine non motoring) (Ref. AMM TASK 73-29-00-710-040).

4. Fault Isolation

A. Do this procedure:

NOTE: This fault is generated if there is an open or short to ground in the torque motor current loop on channel B.

- (1) If the test does not give the maintenance message J8, HMU(FMV TM), ECU:
 - No maintenance action is required.
- (2) If the test does not give the maintenance message J8, HMU(FMV TM), ECU, but is repetitive:
 - replace the ECU (4000KS), (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).

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- (a) If the fault continues during the subsequent flights:
 - replace the Hydromechanical Unit (HMU), (Ref. AMM TASK 73-21-10-000-002) and (Ref. AMM TASK 73-21-10-400-002).
 - 1 If the fault continues during the subsequent flights:
 - replace the harness J8, (Ref. AMM TASK 73-21-50-000-041) and (Ref. AMM TASK 73-21-50-400-041).
- (3) If the test gives the maintenance message J8, HMU(FMV TM), ECU:
 - Disconnect the J8 harness from the ECU (4000KS) receptacle and visually examine it and the J8 harness connector for damaged pins, contamination (Ref. AMM TASK 73-21-50-210-002).
 - (a) If damage on a connector is found:
 - Replace or repair as required.
 - (b) If nothing is found:
 - Do an electrical resistance test through the J8 harness between:
 - . pins 27 and 28 (17 to 23 0hms)
 - pins 27 and 12 (> 10 Megohms)
 - . pin 27 and the ground (> 10 Megohms).
 - 1 If the resistance values are in the specified limits:
 - replace the ECU (4000KS), (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).
 - 2 If the resistance values are out of the specified limits:
 - Reconnect the J8 harness to the ECU (4000KS) receptacle, and continue the troubleshooting.
 - (c) Disconnect the J8 harness from the HMU receptacle (HMU-B) (located left hand core compartment), and visually examine the J8 harness connector and the HMU receptacle for damaged pins, contamination and fuel wetting (Ref. AMM TASK 73-21-50-210-002).
 - 1 If damage on a connector is found:
 - Replace or repair as required.
 - 2 If fuel wetting is found:
 - replace the harness J8, (Ref. AMM TASK 73-21-50-000-041) and (Ref. AMM TASK 73-21-50-400-041).
 - 3 If nothing is found:
 - Do an electrical resistance test on the HMU receptacle between:
 - . pins 27 and 28 (17 to 23 0hms)
 - . pins 27 and 12 (> 10 Megohms)
 - . pin 27 and the ground (> 10 Megohms).

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- a If the resistance values are in the specified limits: - replace the harness J8, (Ref. AMM TASK 73-21-50-000-041) and (Ref. AMM TASK 73-21-50-400-041).
- <u>b</u> If the resistance values are out of the specified limits:
 replace the Hydromechanical Unit (HMU), (Ref. AMM TASK 73-21-10-000-002) and (Ref. AMM TASK 73-21-10-400-002).
- B. Do the test given in Para. 3.A.(1).
 - (1) No additional maintenance action is required if the fault is not confirmed.
 - (2) Repeat the fault isolation procedure if the fault continues.

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TROUBLE SHOOTING MANUAL

TASK 73-29-00-810-870

Loss of the FMV Torque Motor Control through the Channel A on Engine 2

1. Possible Causes

- ECU (4000KS)
- Hydromechanical Unit (HMU)
- harness J7

2. Job Set-up Information

A. Referenced Information

REFERENCE		DESIGNATION
AMM	73-21-10-000-002	Removal of the Hydromechanical Unit (HMU)
AMM	73-21-10-400-002	Installation of the Hydromechanical Unit (HMU)
AMM	73-21-50-000-040	Removal of the HJ7 Harness
AMM	73-21-50-210-002	Visual Inspection of the Wiring Harnesses
AMM	73-21-50-400-040	Installation of the HJ7 Harness
AMM	73-21-60-000-001	Removal of the Electronic Control Unit (ECU)(4000KS)
AMM	73-21-60-400-001	<pre>Installation of the Electronic Control Unit (ECU)(4000KS)</pre>
AMM	73-29-00-710-040	Operational Test of the FADEC on the Ground (with Engine non Motoring)

3. Fault Confirmation

- A. Test
 - (1) Do the operational test of the FADEC 2A on the ground (with engine non motoring) (Ref. AMM TASK 73-29-00-710-040).

4. Fault Isolation

A. Do this procedure:

NOTE: This fault is generated if there is an open or short to ground in the torque motor current loop on channel A.

- (1) If the test does not give the maintenance message J7, HMU(FMV TM), ECU:
 - No maintenance action is required.
- (2) If the test does not give the maintenance message J7, HMU(FMV TM), ECU, but is repetitive:
 - replace the ECU (4000KS), (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).

EFF: ALL

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- (a) If the fault continues during the subsequent flights:
 - replace the Hydromechanical Unit (HMU), (Ref. AMM TASK 73-21-10-000-002) and (Ref. AMM TASK 73-21-10-400-002).
 - 1 If the fault continues during the subsequent flights:
 - replace the harness J7, (Ref. AMM TASK 73-21-50-000-040) and (Ref. AMM TASK 73-21-50-400-040).
- (3) If the test gives the maintenance message J7, HMU(FMV TM), ECU:
 - Disconnect the J7 harness from the ECU (4000KS) receptacle and visually examine it and the J7 harness connector for damaged pins, contamination (Ref. AMM TASK 73-21-50-210-002).
 - (a) If damage on a connector is found:
 - Replace or repair as required.
 - (b) If nothing is found:
 - Do an electrical resistance test through the J7 harness between:
 - . pins 27 and 28 (17 to 23 0hms)
 - pins 27 and 12 (> 10 Megohms)
 - . pin 27 and the ground (> 10 Megohms).
 - 1 If the resistance values are in the specified limits:
 - replace the ECU (4000KS), (Ref. AMM TASK 73-21-60-000-001)
 and (Ref. AMM TASK 73-21-60-400-001).
 - 2 If the resistance values are out of the specified limits:
 - Reconnect the J7 harness to the ECU (4000KS) receptacle, and continue the troubleshooting.
 - (c) Disconnect the J7 harness from the HMU receptacle (HMU-A) (located left hand core compartment), and visually examine the J7 harness connector and the HMU receptacle for damaged pins, contamination and fuel wetting (Ref. AMM TASK 73-21-50-210-002).
 - 1 If damage on a connector is found:
 - Replace or repair as required.
 - 2 If fuel wetting is found:
 - replace the harness J7, (Ref. AMM TASK 73-21-50-000-040) and (Ref. AMM TASK 73-21-50-400-040).
 - 3 If nothing is found:
 - Do an electrical resistance test on the HMU receptacle between:
 - . pins 27 and 28 (17 to 23 0hms)
 - . pins 27 and 12 (> 10 Megohms)
 - . pin 27 and the ground (> 10 Megohms).

EFF: ALL

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- a If the resistance values are in the specified limits:
 replace the harness J7, (Ref. AMM TASK 73-21-50-000-040)
 and (Ref. AMM TASK 73-21-50-400-040).
- <u>b</u> If the resistance values are out of the specified limits: - replace the Hydromechanical Unit (HMU), (Ref. AMM TASK 73-21-10-000-002) and (Ref. AMM TASK 73-21-10-400-002).
- B. Do the test given in Para. 3.A.(1).
 - (1) No additional maintenance action is required if the fault is not confirmed.
 - (2) Repeat the fault isolation procedure if the fault continues.

EFF: ALL

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TROUBLE SHOOTING MANUAL

TASK 73-29-00-810-871

Loss of the FMV Torque Motor Control through the Channel B on Engine 2

1. Possible Causes

- ECU (4000KS)
- Hydromechanical Unit (HMU)
- harness J8

2. Job Set-up Information

A. Referenced Information

REFERENCE		DESIGNATION
AMM	73-21-10-000-002	Removal of the Hydromechanical Unit (HMU)
AMM	73-21-10-400-002	Installation of the Hydromechanical Unit (HMU)
AMM	73-21-50-000-041	Removal of the HJ8 Harness
AMM	73-21-50-210-002	Visual Inspection of the Wiring Harnesses
AMM	73-21-50-400-041	Installation of the HJ8 Harness
AMM	73-21-60-000-001	Removal of the Electronic Control Unit (ECU)(4000KS)
AMM	73-21-60-400-001	<pre>Installation of the Electronic Control Unit (ECU)(4000KS)</pre>
AMM	73-29-00-710-040	Operational Test of the FADEC on the Ground (with Engine non Motoring)

3. Fault Confirmation

- A. Test
 - (1) Do the operational test of the FADEC 2B on the ground (with engine non motoring) (Ref. AMM TASK 73-29-00-710-040).

4. Fault Isolation

A. Do this procedure:

NOTE: This fault is generated if there is an open or short to ground in the torque motor current loop on channel B.

- (1) If the test does not give the maintenance message J8, HMU(FMV TM), ECU:
 - No maintenance action is required.
- (2) If the test does not give the maintenance message J8, HMU(FMV TM), ECU, but is repetitive:
 - replace the ECU (4000KS), (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).

EFF: ALL

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- (a) If the fault continues during the subsequent flights:
 - replace the Hydromechanical Unit (HMU), (Ref. AMM TASK 73-21-10-000-002) and (Ref. AMM TASK 73-21-10-400-002).
 - 1 If the fault continues during the subsequent flights:
 - replace the harness J8, (Ref. AMM TASK 73-21-50-000-041) and (Ref. AMM TASK 73-21-50-400-041).
- (3) If the test gives the maintenance message J8, HMU(FMV TM), ECU:
 - Disconnect the J8 harness from the ECU (4000KS) receptacle and visually examine it and the J8 harness connector for damaged pins, contamination (Ref. AMM TASK 73-21-50-210-002).
 - (a) If damage on a connector is found:
 - Replace or repair as required.
 - (b) If nothing is found:
 - Do an electrical resistance test through the J8 harness between:
 - . pins 27 and 28 (17 to 23 0hms)
 - pins 27 and 12 (> 10 Megohms)
 - . pin 27 and the ground (> 10 Megohms).
 - 1 If the resistance values are in the specified limits:
 - replace the ECU (4000KS), (Ref. AMM TASK 73-21-60-000-001)
 and (Ref. AMM TASK 73-21-60-400-001).
 - 2 If the resistance values are out of the specified limits:
 - Reconnect the J8 harness to the ECU (4000KS) receptacle, and continue the troubleshooting.
 - (c) Disconnect the J8 harness from the HMU receptacle (HMU-B) (located left hand core compartment), and visually examine the J8 harness connector and the HMU receptacle for damaged pins, contamination and fuel wetting (Ref. AMM TASK 73-21-50-210-002).
 - 1 If damage on a connector is found:
 - Replace or repair as required.
 - 2 If fuel wetting is found:
 - replace the harness J8, (Ref. AMM TASK 73-21-50-000-041) and (Ref. AMM TASK 73-21-50-400-041).
 - 3 If nothing is found:
 - Do an electrical resistance test on the HMU receptacle between:
 - . pins 27 and 28 (17 to 23 0hms)
 - pins 27 and 12 (> 10 Megohms)
 - . pin 27 and the ground (> 10 Megohms).

EFF: ALL

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- a If the resistance values are in the specified limits: - replace the harness J8, (Ref. AMM TASK 73-21-50-000-041) and (Ref. AMM TASK 73-21-50-400-041).
- <u>b</u> If the resistance values are out of the specified limits:
 replace the Hydromechanical Unit (HMU), (Ref. AMM TASK 73-21-10-000-002) and (Ref. AMM TASK 73-21-10-400-002).
- B. Do the test given in Para. 3.A.(1).
 - (1) No additional maintenance action is required if the fault is not confirmed.
 - (2) Repeat the fault isolation procedure if the fault continues.

EFF: ALL

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TROUBLE SHOOTING MANUAL

TASK 73-29-00-810-872

Loss of the HPTC Torque Motor Control through the Channel A on Engine 1

- 1. Possible Causes
 - ECU (4000KS)
 - harness J7
 - Hydromechanical Unit (HMU)
- 2. Job Set-up Information
 - A. Referenced Information

REFERENCE		DESIGNATION
AMM	73-21-10-000-002	Removal of the Hydromechanical Unit (HMU)
AMM	73-21-10-400-002	Installation of the Hydromechanical Unit (HMU)
AMM	73-21-50-000-040	Removal of the HJ7 Harness
AMM	73-21-50-400-040	Installation of the HJ7 Harness
AMM	73-21-60-000-001	Removal of the Electronic Control Unit (ECU)(4000KS)
AMM	73-21-60-400-001	<pre>Installation of the Electronic Control Unit (ECU)(4000KS)</pre>
AMM	73-29-00-710-040	Operational Test of the FADEC on the ground (with Engine Motoring)
ASM	73-25/18	

- 3. Fault Confirmation
 - A. Test
 - (1) Do the operational test of the FADEC 1A on the ground (with engine motoring) (Ref. AMM TASK 73-29-00-710-040).
- 4. Fault Isolation
 - A. If the test gives the maintenance message J7, HMU(HPTCTM), ECU:
 - do a check for open or short to ground at pins J7/10, 23, 24 of the harness J7 between the ECU (4000KS) and the HPT torque-motor current in the HMU, (Ref. ASM 73-25/18).
 - (1) If the wiring is not correct:
 - repair the above wiring.
 - (2) If the wiring is correct:
 - disconnect the harness J7 from the ECU and do a check of the ECU cable resistance between:
 - . pins 23 and 24 (17 to 23 0hms)
 - pins 23 and 10 (> 10 Megohms)
 - . pin 23 and the ground (> 10 Megohms).

EFF: ALL 73-29-00

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- (a) If the resistance values are in the specified limits:
 - replace the ECU (4000KS), (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).
- (b) If the resistance values are out of the specified limits:
 - disconnect the harness J7 from the HMU and do a check of the HMU receptacle resistance between:
 - . pins 23 and 24 (17 to 23 0hms)
 - pins 23 and 10 (> 10 Megohms)
 - . pin 23 and the ground (> 10 Megohms).
 - 1 If the resistance values are in the specified limits:
 - replace the harness J7, (Ref. AMM TASK 73-21-50-000-040) and (Ref. AMM TASK 73-21-50-400-040).
 - 2 If the resistance values are out of the specified limits:
 - replace the Hydromechanical Unit (HMU), (Ref. AMM TASK 73-21-10-000-002) and (Ref. AMM TASK 73-21-10-400-002).
- B. Do the test given in Para. 3.A.(1).

EFF: ALL

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TROUBLE SHOOTING MANUAL

TASK 73-29-00-810-873

Loss of the HPTC Torque Motor Control through the Channel B on Engine 1

- 1. Possible Causes
 - ECU (4000KS)
 - harness J8
 - Hydromechanical Unit (HMU)
- 2. Job Set-up Information
 - A. Referenced Information

REFERENCE		DESIGNATION
AMM	73-21-10-000-002	Removal of the Hydromechanical Unit (HMU)
AMM	73-21-10-400-002	Installation of the Hydromechanical Unit (HMU)
AMM	73-21-50-000-041	Removal of the HJ8 Harness
AMM	73-21-50-400-041	Installation of the HJ8 Harness
AMM	73-21-60-000-001	Removal of the Electronic Control Unit (ECU)(4000KS)
AMM	73-21-60-400-001	<pre>Installation of the Electronic Control Unit (ECU)(4000KS)</pre>
AMM	73-29-00-710-040	Operational Test of the FADEC on the ground (with Engine Motoring)
ASM	73-25/18	

- 3. Fault Confirmation
 - A. Test
 - (1) Do the operational test of the FADEC 1B on the ground (with engine motoring) (Ref. AMM TASK 73-29-00-710-040).
- 4. Fault Isolation
 - A. If the test gives the maintenance message J8, HMU(HPTCTM), ECU:
 - do a check for open or short to ground at pins J8/10, 23, 24 of the harness J8 between the ECU (4000KS) and the HPT torque-motor current in the HMU, (Ref. ASM 73-25/18).
 - (1) If the wiring is not correct:
 - repair the above wiring.
 - (2) If the wiring is correct:
 - disconnect the harness J8 from the ECU and do a check of the ECU cable resistance between:
 - . pins 23 and 24 (17 to 23 0hms)
 - pins 23 and 10 (> 10 Megohms)
 - . pin 23 and the ground (> 10 Megohms).

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- (a) If the resistance values are in the specified limits:
 - replace the ECU (4000KS), (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).
- (b) If the resistance values are out of the specified limits:
 - disconnect the harness J8 from the HMU and do a check of the HMU receptacle resistance between:
 - . pins 23 and 24 (17 to 23 0hms)
 - pins 23 and 10 (> 10 Megohms)
 - . pin 23 and the ground (> 10 Megohms).
 - 1 If the resistance values are in the specified limits:
 - replace the harness J8, (Ref. AMM TASK 73-21-50-000-041) and (Ref. AMM TASK 73-21-50-400-041).
 - 2 If the resistance values are out of the specified limits:
 - replace the Hydromechanical Unit (HMU), (Ref. AMM TASK 73-21-10-000-002) and (Ref. AMM TASK 73-21-10-400-002).
- B. Do the test given in Para. 3.A.(1).

EFF: ALL

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TASK 73-29-00-810-874

Loss of the HPTC Torque Motor Control through the Channel A on Engine 2

- 1. Possible Causes
 - ECU (4000KS)
 - harness J7
 - Hydromechanical Unit (HMU)
- 2. Job Set-up Information
 - A. Referenced Information

REFERENCE		DESIGNATION
AMM	73-21-10-000-002	Removal of the Hydromechanical Unit (HMU)
AMM	73-21-10-400-002	Installation of the Hydromechanical Unit (HMU)
AMM	73-21-50-000-040	Removal of the HJ7 Harness
AMM	73-21-50-400-040	Installation of the HJ7 Harness
AMM	73-21-60-000-001	Removal of the Electronic Control Unit (ECU)(4000KS)
AMM	73-21-60-400-001	<pre>Installation of the Electronic Control Unit (ECU)(4000KS)</pre>
AMM	73-29-00-710-040	Operational Test of the FADEC on the ground (with Engine Motoring)
ASM	73-25/18	

3. Fault Confirmation

- A. Test
 - (1) Do the operational test of the FADEC 2A on the ground (with engine motoring) (Ref. AMM TASK 73-29-00-710-040).
- 4. Fault Isolation
 - A. If the test gives the maintenance message J7, HMU(HPTCTM), ECU:
 - do a check for open or short to ground at pins J7/10, 23, 24 of the harness J7 between the ECU (4000KS) and the HPT torque -motor current in the HMU, (Ref. ASM 73-25/18).
 - (1) If the wiring is not correct:
 - repair the above wiring.
 - (2) If the wiring is correct:
 - disconnect the J7 harness from the ECU and do a check of the ECU cable resistance between:
 - . pins 23 and 24 (17 to 23 0hms)
 - pins 23 and 10 (> 10 Megohms)
 - . pin 23 and the ground (> 10 Megohms).

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- (a) If the resistance values are in the specified limits:
 - replace the ECU (4000KS), (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).
- (b) If the resistance values are out of the specified limits:
 - disconnect the harness J7 from the HMU and do a check of the HMU receptacle resistance between:
 - . pins 23 and 24 (17 to 23 0hms)
 - pins 23 and 10 (> 10 Megohms)
 - . pin 23 and the ground (> 10 Megohms).
 - 1 If the resistance values are in the specified limits:
 - replace the harness J7, (Ref. AMM TASK 73-21-50-000-040) and (Ref. AMM TASK 73-21-50-400-040).
 - 2 If the resistance values are out of the specified limits:
 - replace the Hydromechanical Unit (HMU), (Ref. AMM TASK 73-21-10-000-002) and (Ref. AMM TASK 73-21-10-400-002).
- B. Do the test given in Para. 3.A.(1).

EFF: ALL

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TROUBLE SHOOTING MANUAL

TASK 73-29-00-810-875

Loss of the HPTC Torque Motor Control through the Channel B on Engine 2

- 1. Possible Causes
 - ECU (4000KS)
 - harness J8
 - Hydromechanical Unit (HMU)
- 2. Job Set-up Information
 - A. Referenced Information

REFERENCE		DESIGNATION
AMM	73-21-10-000-002	Removal of the Hydromechanical Unit (HMU)
AMM	73-21-10-400-002	Installation of the Hydromechanical Unit (HMU)
AMM	73-21-50-000-041	Removal of the HJ8 Harness
AMM	73-21-50-400-041	Installation of the HJ8 Harness
AMM	73-21-60-000-001	Removal of the Electronic Control Unit (ECU)(4000KS)
AMM	73-21-60-400-001	<pre>Installation of the Electronic Control Unit (ECU)(4000KS)</pre>
AMM	73-29-00-710-040	Operational Test of the FADEC on the ground (with Engine Motoring)
ASM	73-25/18	

3. Fault Confirmation

- A. Test
 - (1) Do the operational test of the FADEC 2B on the ground (with engine motoring) (Ref. AMM TASK 73-29-00-710-040).
- 4. Fault Isolation
 - A. If the test gives the maintenance message J8, HMU(HPTCTM), ECU:
 - do a check for open or short to ground at pins J8/10, 23, 24 of the harness J8 between the ECU (4000KS) and the HPT torque-motor current in the HMU, (Ref. ASM 73-25/18).
 - (1) If the wiring is not correct:
 - repair the above wiring.
 - (2) If the wiring is correct:
 - disconnect the harness J8 from the ECU and do a check of the ECU cable resistance between:
 - . pins 23 and 24 (17 to 23 0hms)
 - pins 23 and 10 (> 10 Megohms)
 - . pin 23 and the ground (> 10 Megohms).

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- (a) If the resistance values are in the specified limits:
 - replace the ECU (4000KS), (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).
- (b) If the resistance values are out of the specified limits:
 - disconnect the harness J8 from the HMU and do a check of the HMU receptacle resistance between:
 - . pins 23 and 24 (17 to 23 0hms)
 - pins 23 and 10 (> 10 Megohms)
 - . pin 23 and the ground (> 10 Megohms).
 - 1 If the resistance values are in the specified limits:
 - replace the harness J8, (Ref. AMM TASK 73-21-50-000-041) and (Ref. AMM TASK 73-21-50-400-041).
 - 2 If the resistance values are out of the specified limits:
 - replace the Hydromechanical Unit (HMU), (Ref. AMM TASK 73-21-10-000-002) and (Ref. AMM TASK 73-21-10-400-002).
- B. Do the test given in Para. 3.A.(1).

EFF: ALL

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TROUBLE SHOOTING MANUAL

TASK 73-29-00-810-876

Loss of the BSV Solenoid Control through the Channel A on Engine 1

- 1. Possible Causes
 - ECU (4000KS)
 - harness J7
 - Hydromechanical Unit (HMU)
- 2. Job Set-up Information
 - A. Referenced Information

REFERENCE		DESIGNATION
AMM	73-21-10-000-002	Removal of the Hydromechanical Unit (HMU)
AMM	73-21-10-400-002	Installation of the Hydromechanical Unit (HMU)
AMM	73-21-50-000-040	Removal of the HJ7 Harness
AMM	73-21-50-400-040	Installation of the HJ7 Harness
AMM	73-21-60-000-001	Removal of the Electronic Control Unit (ECU)(4000KS)
AMM	73-21-60-400-001	<pre>Installation of the Electronic Control Unit (ECU)(4000KS)</pre>
AMM	73-29-00-710-040	Operational Test of the FADEC on the ground (with Engine Motoring)
ASM	73-25/18	

3. Fault Confirmation

- A. Test
 - (1) Do the operational test of the FADEC 1A on the ground (with engine motoring) (Ref. AMM TASK 73-29-00-710-040).
- 4. Fault Isolation
 - A. If the test gives the maintenance message J7, HMU(BSVSOL), ECU:
 - do a check for open or short to ground at pins J7/6, 7, 39 of the harness J7 between the ECU (4000KS) and the BSV solenoid in the HMU, (Ref. ASM 73-25/18).
 - (1) If the wiring is not correct:
 - repair the above wiring.
 - (2) If the wiring is correct:
 - disconnect the harness J7 from the ECU and do a check of the ECU cable resistance between:
 - . pins 6 and 7 (26 to 36 0hms)
 - pins 6 and 39 (> 10 Megohms)
 - . pin 6 and the ground (> 10 Megohms).

EFF: ALL 73-29-00

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- (a) If the resistance values are in the specified limits:
 - replace the ECU (4000KS), (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).
- (b) If the resistance values are out of the specified limits:
 - disconnect the harness J7 from the HMU and do a check of the HMU receptacle resistance between:
 - . pins 6 and 7 (26 to 36 0hms)
 - pins 6 and 39 (> 10 Megohms)
 - . pin 6 and the ground (> 10 Megohms).
 - 1 If the resistance values are in the specified limits:
 - replace the harness J7, (Ref. AMM TASK 73-21-50-000-040) and (Ref. AMM TASK 73-21-50-400-040).
 - 2 If the resistance values are out of the specified limits:
 - replace the Hydromechanical Unit (HMU), (Ref. AMM TASK 73-21-10-000-002) and (Ref. AMM TASK 73-21-10-400-002).
- B. Do the test given in Para. 3.A.(1).

EFF: ALL

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TROUBLE SHOOTING MANUAL

TASK 73-29-00-810-877

Loss of the BSV Solenoid Control through the Channel B on Engine 1

- 1. Possible Causes
 - ECU (4000KS
 - harness J8
 - Hydromechanical Unit (HMU)
- 2. Job Set-up Information
 - A. Referenced Information

REFERENCE		DESIGNATION
AMM	73-21-10-000-002	Removal of the Hydromechanical Unit (HMU)
AMM	73-21-10-400-002	Installation of the Hydromechanical Unit (HMU)
AMM	73-21-50-000-041	Removal of the HJ8 Harness
AMM	73-21-50-400-041	Installation of the HJ8 Harness
AMM	73-21-60-000-001	Removal of the Electronic Control Unit (ECU)(4000KS)
AMM	73-21-60-400-001	<pre>Installation of the Electronic Control Unit (ECU)(4000KS)</pre>
AMM	73-29-00-710-040	Operational Test of the FADEC on the ground (with Engine Motoring)
ASM	73-25/18	

3. Fault Confirmation

- A. Test
 - (1) Do the operational test of the FADEC 1B on the ground (with engine motoring) (Ref. AMM TASK 73-29-00-710-040).
- 4. Fault Isolation
 - A. If the test gives the maintenance message J8, HMU(BSVSOL), ECU:
 - do a check for open or short to ground at pins J8/6, 7, 39 of the harness J8 between the ECU (4000KS) and the BSV solenoid in the HMU, (Ref. ASM 73-25/18).
 - (1) If the wiring is not correct:
 - repair the above wiring.
 - (2) If the wiring is correct:
 - disconnect the harness J8 from the ECU and do a check of the ECU cable resistance between:
 - . pins 6 and 7 (26 to 36 0hms)
 - pins 6 and 39 (> 10 Megohms)
 - . pin 6 and the ground (> 10 Megohms).

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- (a) If the resistance values are in the specified limits:
 - replace the ECU (4000KS, (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).
- (b) If the resistance values are out of the specified limits:
 - disconnect the harness J8 from the HMU and do a check of the HMU receptacle resistance between:
 - . pins 6 and 7 (26 to 36 0hms)
 - pins 6 and 39 (> 10 Megohms)
 - . pin 6 and the ground (> 10 Megohms).
 - 1 If the resistance values are in the specified limits:
 - replace the harness J8, (Ref. AMM TASK 73-21-50-000-041) and (Ref. AMM TASK 73-21-50-400-041).
 - 2 If the resistance values are out of the specified limits:
 - replace the Hydromechanical Unit (HMU), (Ref. AMM TASK 73-21-10-000-002) and (Ref. AMM TASK 73-21-10-400-002).
- B. Do the test given in Para. 3.A.(1).

EFF: ALL

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TROUBLE SHOOTING MANUAL

TASK 73-29-00-810-878

Loss of the BSV Solenoid Control through the Channel A on Engine 2

- 1. Possible Causes
 - ECU (4000KS)
 - harness J7
 - Hydromechanical Unit (HMU)
- 2. Job Set-up Information
 - A. Referenced Information

REFERENCE		DESIGNATION
AMM	73-21-10-000-002	Removal of the Hydromechanical Unit (HMU)
AMM	73-21-10-400-002	Installation of the Hydromechanical Unit (HMU)
AMM	73-21-50-000-040	Removal of the HJ7 Harness
AMM	73-21-50-400-040	Installation of the HJ7 Harness
AMM	73-21-60-000-001	Removal of the Electronic Control Unit (ECU)(4000KS)
AMM	73-21-60-400-001	<pre>Installation of the Electronic Control Unit (ECU)(4000KS)</pre>
AMM	73-29-00-710-040	Operational Test of the FADEC on the ground (with Engine Motoring)
ASM	73-25/18	

3. Fault Confirmation

- A. Test
 - (1) Do the operational test of the FADEC 2A on the ground (with engine motoring) (Ref. AMM TASK 73-29-00-710-040).
- 4. Fault Isolation
 - A. If the test gives the maintenance message J7, HMU(BSVSOL), ECU:
 - do a check for open or short to ground at pins J7/6, 7, 39 of the harness J7 between the ECU (4000KS) and the BSV solenoid in the HMU, (Ref. ASM 73-25/18).
 - (1) If the wiring is not correct:
 - repair the above wiring.
 - (2) If the wiring is correct:
 - disconnect the harness J7 from the ECU and do a check of the ECU cable resistance between:
 - . pins 6 and 7 (26 to 36 0hms)
 - pins 6 and 39 (> 10 Megohms)
 - . pin 6 and the ground (> 10 Megohms).

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- (a) If the resistance values are in the specified limits:
 - replace the ECU (4000KS), (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).
- (b) If the resistance values are out of the specified limits:
 - disconnect the harness J7 from the HMU and do a check of the HMU receptacle resistance between:
 - . pins 6 and 7 (26 to 36 0hms)
 - pins 6 and 39 (> 10 Megohms)
 - . pin 6 and the ground (> 10 Megohms).
 - 1 If the resistance values are in the specified limits:
 - replace the harness J7, (Ref. AMM TASK 73-21-50-000-040) and (Ref. AMM TASK 73-21-50-400-040).
 - 2 If the resistance values are out of the specified limits:
 - replace the Hydromechanical Unit (HMU), (Ref. AMM TASK 73-21-10-000-002) and (Ref. AMM TASK 73-21-10-400-002).
- B. Do the test given in Para. 3.A.(1).

EFF: ALL

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TROUBLE SHOOTING MANUAL

TASK 73-29-00-810-879

Loss of the BSV Solenoid Control through the Channel B on Engine 2

1. Possible Causes

- ECU (4000KS)
- harness J8
- Hydromechanical Unit (HMU)

2. Job Set-up Information

A. Referenced Information

REFERENCE		DESIGNATION
AMM	73-21-10-000-002	Removal of the Hydromechanical Unit (HMU)
AMM	73-21-10-400-002	Installation of the Hydromechanical Unit (HMU)
AMM	73-21-50-000-041	Removal of the HJ8 Harness
AMM	73-21-50-400-041	Installation of the HJ8 Harness
AMM	73-21-60-000-001	Removal of the Electronic Control Unit (ECU)(4000KS)
AMM	73-21-60-400-001	<pre>Installation of the Electronic Control Unit (ECU)(4000KS)</pre>
AMM	73-29-00-710-040	Operational Test of the FADEC on the ground (with Engine Motoring)
ASM	73-25/18	

3. Fault Confirmation

- A. Test
 - (1) Do the operational test of the FADEC 2B on the ground (with engine motoring) (Ref. AMM TASK 73-29-00-710-040).

4. Fault Isolation

- A. If the test gives the maintenance message J8, HMU(BSVSOL), ECU:
 - do a check for open or short to ground at pins J8/6, 7, 39 of the harness J8 between the ECU (4000KS) and the BSV solenoid in the HMU, (Ref. ASM 73-25/18).
 - (1) If the wiring is not correct:
 - repair the above wiring.
 - (2) If the wiring is correct:
 - disconnect the harness J8 from the ECU and do a check of the ECU cable resistance between:
 - . pins 6 and 7 (26 to 36 0hms)
 - pins 6 and 39 (> 10 Megohms)
 - . pin 6 and the ground (> 10 Megohms).

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- (a) If the resistance values are in the specified limits:
 - replace the ECU (4000KS), (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).
- (b) If the resistance values are out of the specified limits:
 - disconnect the harness J8 from the HMU and do a check of the HMU receptacle resistance between:
 - . pins 6 and 7 (26 to 36 0hms)
 - pins 6 and 39 (> 10 Megohms)
 - . pin 6 and the ground (> 10 Megohms).
 - 1 If the resistance values are in the specified limits:
 - replace the harness J8, (Ref. AMM TASK 73-21-50-000-041) and (Ref. AMM TASK 73-21-50-400-041).
 - 2 If the resistance values are out of the specified limits:
 - replace the Hydromechanical Unit (HMU), (Ref. AMM TASK 73-21-10-000-002) and (Ref. AMM TASK 73-21-10-400-002).
- B. Do the test given in Para. 3.A.(1).

EFF: ALL

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TROUBLE SHOOTING MANUAL

TASK 73-29-00-810-880

Loss of the RAC Torque Motor Control through the Channel A on Engine 1

- 1. Possible Causes
 - ECU (4000KS)
 - harness HJ7
 - Hydromechanical Unit (HMU)
- 2. Job Set-up Information
 - A. Referenced Information

REFERENCE		DESIGNATION
AMM	73-21-10-000-002	Removal of the Hydromechanical Unit (HMU)
AMM	73-21-10-400-002	Installation of the Hydromechanical Unit (HMU)
AMM	73-21-50-000-040	Removal of the HJ7 Harness
AMM	73-21-50-210-002	Visual Inspection of the Wiring Harnesses
AMM	73-21-50-400-040	Installation of the HJ7 Harness
AMM	73-21-60-000-001	Removal of the Electronic Control Unit (ECU)(4000KS)
AMM	73-21-60-400-001	<pre>Installation of the Electronic Control Unit (ECU)(4000KS)</pre>
AMM	73-29-00-710-040	Operational Test of the FADEC on the ground (with Engine Motoring)

3. Fault Confirmation

- A. Test
 - (1) Do the operational test of the FADEC 1A on the ground (with engine motoring) (Ref. AMM TASK 73-29-00-710-040).

NOTE: If post SB 75-029, fault message must be ignored: no trouble shooting is necessary.

- 4. Fault Isolation
- R **ON A/C 201-202, 227-227, 229-239, 276-282, 476-478,
 - A. If the test gives the maintenance message J7, HMU(RAC TM), ECU:

 Disconnect the HJ7 harness from the J7 receptacle on the ECU (4000KS).

 Make sure that the electrical contacts of the J7 receptacle are not bent or have not moved (Ref. AMM TASK 73-21-50-210-002).
 - (1) If you find damage:
 - replace the ECU (4000KS), (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).

EFF: ALL
SROS

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- (2) Do a resistance check of the RACSB valve circuits (channel A) through the HJ7 harness, between:
 - . pins 20 and 40 (17 to 23 0hms)
 - pins 20 and 39 (> 10 Megohms)
 - . pin 20 and the ground (> 10 Megohms).
 - (a) If the resistance values are in the specified limits:
 - replace the ECU (4000KS), (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).
 - (b) If the resistance values are out of the specified limits:
 - disconnect the harness HJ7 from the HMU and do a check of the HMU receptacle resistance between:
 - pins 20 and 40 (17 to 23 0hms)
 - pins 20 and 39 (> 10 Megohms)
 - If the resistance values are in the specified limits: - replace the harness HJ7, (Ref. AMM TASK 73-21-50-000-040) and (Ref. AMM TASK 73-21-50-400-040).
 - If the resistance values are out of the specified limits: - replace the Hydromechanical Unit (HMU), (Ref. AMM TASK 73-21-10-000-002) and (Ref. AMM TASK 73-21-10-400-002).
- R **ON A/C 201-201, 203-225, 227-227, 229-275, 277-279, 281-281, 283-299, R 426-499, 503-549, 551-599, 701-749,
 - B. Do the test given in Para. 3.A.(1).

EFF: ALL

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**ON A/C ALL

TASK 73-29-00-810-881

Loss of the RAC Torque Motor Control through the Channel B on Engine 1

- 1. Possible Causes
 - ECU (4000KS)
 - harness HJ8
 - Hydromechanical Unit (HMU)
- 2. Job Set-up Information
 - A. Referenced Information

REFERENCE		DESIGNATION
	77 24 40 000 002	
	73-21-10-000-002	Removal of the Hydromechanical Unit (HMU)
AMM	73-21-10-400-002	Installation of the Hydromechanical Unit (HMU)
AMM	73-21-50-000-041	Removal of the HJ8 Harness
AMM	73-21-50-210-002	Visual Inspection of the Wiring Harnesses
AMM	73-21-50-400-041	Installation of the HJ8 Harness
AMM	73-21-60-000-001	Removal of the Electronic Control Unit (ECU)(4000KS)
AMM	73-21-60-400-001	<pre>Installation of the Electronic Control Unit (ECU)(4000KS)</pre>
AMM	73-29-00-710-040	Operational Test of the FADEC on the ground (with Engine Motoring)

3. Fault Confirmation

- A. Test
 - (1) Do the operational test of the FADEC 1B on the ground (with engine motoring) (Ref. AMM TASK 73-29-00-710-040).

NOTE: If post SB 75-029, fault message must be ignored: no trouble shooting is necessary.

- 4. Fault Isolation
- R **ON A/C 201-202, 227-227, 229-239, 276-282, 476-478,
 - A. If the test gives the maintenance message J8, HMU(RAC TM), ECU:
 Disconnect the HJ8 harness from the J8 receptacle on the ECU (4000KS).
 Make sure that the electrical contacts of the J8 receptacle are not bent or have not moved (Ref. AMM TASK 73-21-50-210-002).

EFF: ALL
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- (1) If you find damage:
 - replace the ECU (4000KS), (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).
- (2) Do a resistance check of the RACSB valve circuits (channel B) through the HJ8 harness, between:
 - . pins 20 and 40 (17 to 23 0hms)
 - pins 20 and 39 (> 10 Megohms)
 - . pin 20 and the ground (> 10 Megohms).
 - (a) If the resistance values are in the specified limits:
 - replace the ECU (4000KS), (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).
 - (b) If the resistance values are out of the specified limits:
 - disconnect the harness HJ8 from the HMU and do a check of the HMU receptacle resistance between:
 - . pins 20 and 40 (17 to 23 0hms)
 - pins 20 and 39 (> 10 Megohms)
 - . pin 20 and the ground (> 10 Megohms).
 - 1 If the resistance values are in the specified limits:
 - replace the harness HJ8, (Ref. AMM TASK 73-21-50-000-041) and (Ref. AMM TASK 73-21-50-400-041).
 - 2 If the resistance values are out of the specified limits:
 - replace the Hydromechanical Unit (HMU), (Ref. AMM TASK 73-21-10-000-002) and (Ref. AMM TASK 73-21-10-400-002).

**ON A/C ALL

B. Do the test given in Para. 3.A.(1).

EFF: ALL

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TROUBLE SHOOTING MANUAL

TASK 73-29-00-810-882

Loss of the RAC Torque Motor Control through the Channel A on Engine 2

- 1. Possible Causes
 - ECU (4000KS)
 - harness HJ7
 - Hydromechanical Unit (HMU)
- 2. Job Set-up Information
 - A. Referenced Information

REFERENCE		DESIGNATION
AMM	73-21-10-000-002	Removal of the Hydromechanical Unit (HMU)
AMM	73-21-10-400-002	Installation of the Hydromechanical Unit (HMU)
AMM AMM	73-21-50-000-040 73-21-50-210-002	Removal of the HJ7 Harness Visual Inspection of the Wiring Harnesses
AMM AMM	73-21-50-400-040 73-21-60-000-001	Installation of the HJ7 Harness Removal of the Electronic Control Unit (ECU)(4000KS)
AMM	73-21-60-400-001	Installation of the Electronic Control Unit (ECU)(4000KS)
AMM	73-29-00-710-040	Operational Test of the FADEC on the ground (with Engine Motoring)

3. Fault Confirmation

- A. Test
 - (1) Do the operational test of the FADEC 2A on the ground (with engine motoring) (Ref. AMM TASK 73-29-00-710-040).

NOTE : If post SB 75-029, fault message must be ignored: no trouble shooting is necessary.

- 4. Fault Isolation
- R **ON A/C 201-202, 227-227, 229-239, 276-282, 476-478,
 - A. If the test gives the maintenance message J7, HMU(RAC TM), ECU:

 Disconnect the HJ7 harness from the J7 receptacle on the ECU (4000KS).

 Make sure that the electrical contacts of the J7 receptacle are not bent or have not moved (Ref. AMM TASK 73-21-50-210-002).
 - (1) If you find damage:
 - replace the ECU (4000KS), (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).

EFF: ALL
SROS

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TROUBLE SHOOTING MANUAL

- (2) Do a resistance check of the RACSB valve circuits (channel A) through the HJ7 harness, between:
 - . pins 20 and 40 (17 to 23 0hms)
 - pins 20 and 39 (> 10 Megohms)
 - . pin 20 and the ground (> 10 Megohms).
 - (a) If the resistance values are in the specified limits:
 - replace the ECU (4000KS), (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).
 - (b) If the resistance values are out of the specified limits:
 - disconnect the harness HJ7 from the HMU and do a check of the HMU receptacle resistance between:
 - pins 20 and 40 (17 to 23 0hms)
 - pins 20 and 39 (> 10 Megohms)
 - . pin 20 and the ground (> 10 Megohms).
 - 1 If the resistance values are in the specified limits:
 - replace the harness HJ7, (Ref. AMM TASK 73-21-50-000-040)
 and (Ref. AMM TASK 73-21-50-400-040).
 - $\underline{2}$ If the resistance values are out of the specified limits:
 - replace the Hydromechanical Unit (HMU), (Ref. AMM TASK 73-21-10-000-002) and (Ref. AMM TASK 73-21-10-400-002).

**ON A/C ALL

B. Do the test given in Para. 3.A.(1).

EFF: ALL

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TROUBLE SHOOTING MANUAL

TASK 73-29-00-810-883

Loss of the RAC Torque Motor Control through the Channel B on Engine 2

- 1. Possible Causes
 - ECU (4000KS)
 - harness HJ8
 - Hydromechanical Unit (HMU)
- 2. Job Set-up Information
 - A. Referenced Information

REFERENCE		DESIGNATION
AMM	73-21-10-000-002	Demoval of the Hydromechanical Unit (HMII)
	73-21-10-000-002	Removal of the Hydromechanical Unit (HMU) Installation of the Hydromechanical Unit (HMU)
AMM	73-21-50-000-041	Removal of the HJ8 Harness
AMM	73-21-50-210-002	Visual Inspection of the Wiring Harnesses
AMM	73-21-50-400-041	Installation of the HJ8 Harness
AMM	73-21-60-000-001	Removal of the Electronic Control Unit (ECU)(4000KS)
AMM	73-21-60-400-001	<pre>Installation of the Electronic Control Unit (ECU)(4000KS)</pre>
AMM	73-29-00-710-040	Operational Test of the FADEC on the ground (with Engine Motoring)

3. Fault Confirmation

- A. Test
 - (1) Do the operational test of the FADEC 2B on the ground (with engine motoring) (Ref. AMM TASK 73-29-00-710-040).

NOTE: If post SB 75-029, fault message must be ignored: no trouble shooting is necessary.

- 4. Fault Isolation
- R **ON A/C 201-202, 227-227, 229-239, 276-282, 476-478,
 - A. If the test gives the maintenance message J8, HMU(RAC TM), ECU: - Disconnect the HJ8 harness from the J8 receptacle on the ECU (4000KS). Make sure that the electrical contacts of the J8 receptacle are not bent or have not moved (Ref. AMM TASK 73-21-50-210-002).
 - (1) If you find damage:
 - replace the ECU (4000KS), (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).

EFF: ALL **SROS**

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- (2) Do a resistance check of the RACSB valve circuits (channel B) through the HJ8 harness, between:
 - . pins 20 and 40 (17 to 23 0hms)
 - pins 20 and 39 (> 10 Megohms)
 - . pin 20 and the ground (> 10 Megohms).
 - (a) If the resistance values are in the specified limits:
 - replace the ECU (4000KS), (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).
 - (b) If the resistance values are out of the specified limits:
 - disconnect the harness HJ8 from the HMU and do a check of the HMU receptacle resistance between:
 - pins 20 and 40 (17 to 23 0hms)
 - pins 20 and 39 (> 10 Megohms)
 - . pin 20 and the ground (> 10 Megohms).
 - 1 If the resistance values are in the specified limits:
 - replace the harness HJ8, (Ref. AMM TASK 73-21-50-000-041)
 and (Ref. AMM TASK 73-21-50-400-041).
 - $\underline{2}$ If the resistance values are out of the specified limits:
 - replace the Hydromechanical Unit (HMU), (Ref. AMM TASK 73-21-10-000-002) and (Ref. AMM TASK 73-21-10-400-002).

**ON A/C ALL

B. Do the test given in Para. 3.A.(1).

EFF: ALL

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TROUBLE SHOOTING MANUAL

TASK 73-29-00-810-884

Loss of the VSV Torque Motor Control through the Channel A on Engine 1

1. Possible Causes

- ECU (4000KS)
- harness J7
- Hydromechanical Unit (HMU)

2. Job Set-up Information

A. Referenced Information

REFERENCE		DESIGNATION
AMM	73-21-10-000-002	Removal of the Hydromechanical Unit (HMU)
AMM	73-21-10-400-002	Installation of the Hydromechanical Unit (HMU)
AMM	73-21-50-000-040	Removal of the HJ7 Harness
AMM	73-21-50-400-040	Installation of the HJ7 Harness
AMM	73-21-60-000-001	Removal of the Electronic Control Unit (ECU)(4000KS)
AMM	73-21-60-400-001	<pre>Installation of the Electronic Control Unit (ECU)(4000KS)</pre>
AMM	73-29-00-710-040	Operational Test of the FADEC on the ground (with Engine Motoring)
ASM	73-25/18	

3. Fault Confirmation

- A. Test
 - (1) Do the operational test of the FADEC 1A on the ground (with engine motoring) (Ref. AMM TASK 73-29-00-710-040).

4. Fault Isolation

- A. If the test gives the maintenance message J7, HMU(VSV TM), ECU:
 - do a check for open or short to ground at pins J7/10, 25, 26 of the harness J7 between the ECU (4000KS) and the VSV torque motor in the HMU, (Ref. ASM 73-25/18).
 - (1) If the wiring is not correct:
 - repair the above wiring.
 - (2) If the wiring is correct:
 - disconnect the harness J7 from the ECU and do a check of the ECU cable resistance between:
 - . pins 25 and 26 (17 to 23 0hms)
 - pins 25 and 10 (> 10 Megohms)
 - . pin 25 and the ground (> 10 Megohms).

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- (a) If the resistance values are in the specified limits:
 - replace the ECU (4000KS), (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).
- (b) If the resistance values are out of the specified limits:
 - disconnect the harness J7 from the HMU and do a check of the HMU receptacle resistance between:
 - . pins 25 and 26 (17 to 23 0hms)
 - pins 25 and 10 (> 10 Megohms)
 - . pin 25 and the ground (> 10 Megohms).
 - 1 If the resistance values are in the specified limits:
 - replace the harness J7, (Ref. AMM TASK 73-21-50-000-040) and (Ref. AMM TASK 73-21-50-400-040).
 - 2 If the resistance values are out of the specified limits:
 - replace the Hydromechanical Unit (HMU), (Ref. AMM TASK 73-21-10-000-002) and (Ref. AMM TASK 73-21-10-400-002).
- B. Do the test given in Para. 3.A.(1).

EFF: ALL

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TROUBLE SHOOTING MANUAL

TASK 73-29-00-810-885

Loss of the VSV Torque Motor Control through the Channel B on Engine 1

1. Possible Causes

- ECU (4000KS)
- harness J8
- Hydromechanical Unit (HMU)

2. Job Set-up Information

A. Referenced Information

REFERENCE		DESIGNATION
AMM	73-21-10-000-002	Removal of the Hydromechanical Unit (HMU)
AMM	73-21-10-400-002	Installation of the Hydromechanical Unit (HMU)
AMM	73-21-50-000-041	Removal of the HJ8 Harness
AMM	73-21-50-400-041	Installation of the HJ8 Harness
AMM	73-21-60-000-001	Removal of the Electronic Control Unit (ECU)(4000KS)
AMM	73-21-60-400-001	<pre>Installation of the Electronic Control Unit (ECU)(4000KS)</pre>
AMM	73-29-00-710-040	Operational Test of the FADEC on the ground (with Engine Motoring)
ASM	73-25/18	

3. Fault Confirmation

- A. Test
 - (1) Do the operational test of the FADEC 1B on the ground (with engine motoring) (Ref. AMM TASK 73-29-00-710-040).

4. Fault Isolation

- A. If the test gives the maintenance message J8, HMU(VSV TM), ECU:
 - do a check for open or short to ground at pins J8/10, 25, 26 of the harness J8 between the ECU (4000KS) and the VSV torque motor in the HMU, (Ref. ASM 73-25/18).
 - (1) If the wiring is not correct:
 - repair the above wiring.
 - (2) If the wiring is correct:
 - disconnect the harness J8 from the ECU and do a check of the ECU cable resistance between:
 - . pins 25 and 26 (17 to 23 0hms)
 - . pins 25 and 10 (> 10 Megohms)
 - . pin 25 and the ground (> 10 Megohms).

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- (a) If the resistance values are in the specified limits:
 - replace the ECU (4000KS), (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).
- (b) If the resistance values are out of the specified limits:
 - disconnect the harness J8 from the HMU and do a check of the HMU receptacle resistance between:
 - . pins 25 and 26 (17 to 23 0hms)
 - pins 25 and 10 (> 10 Megohms)
 - . pin 25 and the ground (> 10 Megohms).
 - 1 If the resistance values are in the specified limits:
 - replace the harness J8, (Ref. AMM TASK 73-21-50-000-041) and (Ref. AMM TASK 73-21-50-400-041).
 - 2 If the resistance values are out of the specified limits:
 - replace the Hydromechanical Unit (HMU), (Ref. AMM TASK 73-21-10-000-002) and (Ref. AMM TASK 73-21-10-400-002).
- B. Do the test given in Para. 3.A.(1).

EFF: ALL

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TROUBLE SHOOTING MANUAL

TASK 73-29-00-810-886

Loss of the VSV Torque Motor Control through the Channel A on Engine 2

1. Possible Causes

- ECU (4000KS)
- harness J7
- Hydromechanical Unit (HMU)

2. Job Set-up Information

A. Referenced Information

REFERENCE		DESIGNATION
AMM	73-21-10-000-002	Removal of the Hydromechanical Unit (HMU)
AMM	73-21-10-400-002	Installation of the Hydromechanical Unit (HMU)
AMM	73-21-50-000-040	Removal of the HJ7 Harness
AMM	73-21-50-400-040	Installation of the HJ7 Harness
AMM	73-21-60-000-001	Removal of the Electronic Control Unit (ECU)(4000KS)
AMM	73-21-60-400-001	<pre>Installation of the Electronic Control Unit (ECU)(4000KS)</pre>
AMM	73-29-00-710-040	Operational Test of the FADEC on the ground (with Engine Motoring)
ASM	73-25/18	

3. Fault Confirmation

- A. Test
 - (1) Do the operational test of the FADEC 2A on the ground (with engine motoring) (Ref. AMM TASK 73-29-00-710-040).

4. Fault Isolation

- A. If the test gives the maintenance message J7, HMU(VSV TM), ECU:
 - do a check for open or short to ground at pins J7/10, 25, 26 of the harness J7 between the ECU (4000KS) and the VSV torque motor in the HMU, (Ref. ASM 73-25/18).
 - (1) If the wiring is not correct:
 - repair the above wiring.
 - (2) If the wiring is correct:
 - disconnect the harness J7 from the ECU and do a check of the ECU cable resistance between:
 - . pins 25 and 26 (17 to 23 0hms)
 - . pins 25 and 10 (> 10 Megohms)
 - . pin 25 and the ground (> 10 Megohms).

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- (a) If the resistance values are in the specified limits:
 - replace the ECU (4000KS), (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).
- (b) If the resistance values are out of the specified limits:
 - disconnect the harness J7 from the HMU and do a check of the HMU receptacle resistance between:
 - . pins 25 and 26 (17 to 23 0hms)
 - pins 25 and 10 (> 10 Megohms)
 - . pin 25 and the ground (> 10 Megohms).
 - 1 If the resistance values are in the specified limits:
 - replace the harness J7, (Ref. AMM TASK 73-21-50-000-040) and (Ref. AMM TASK 73-21-50-400-040).
 - 2 If the resistance values are out of the specified limits:
 - replace the Hydromechanical Unit (HMU), (Ref. AMM TASK 73-21-10-000-002) and (Ref. AMM TASK 73-21-10-400-002).
- B. Do the test given in Para. 3.A.(1).

EFF: ALL

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TROUBLE SHOOTING MANUAL

TASK 73-29-00-810-887

Loss of the VSV Torque Motor Control through the Channel B on Engine 2

1. Possible Causes

- ECU (4000KS)
- harness J8
- Hydromechanical Unit (HMU)

2. Job Set-up Information

A. Referenced Information

REFERENCE		DESIGNATION
AMM	73-21-10-000-002	Removal of the Hydromechanical Unit (HMU)
AMM	73-21-10-400-002	Installation of the Hydromechanical Unit (HMU)
AMM	73-21-50-000-041	Removal of the HJ8 Harness
AMM	73-21-50-400-041	Installation of the HJ8 Harness
AMM	73-21-60-000-001	Removal of the Electronic Control Unit (ECU)(4000KS)
AMM	73-21-60-400-001	<pre>Installation of the Electronic Control Unit (ECU)(4000KS)</pre>
AMM	73-29-00-710-040	Operational Test of the FADEC on the ground (with Engine Motoring)
ASM	73-25/18	

3. Fault Confirmation

- A. Test
 - (1) Do the operational test of the FADEC 2B on the ground (with engine motoring) (Ref. AMM TASK 73-29-00-710-040).

4. Fault Isolation

- A. If the test gives the maintenance message J8, HMU(VSV TM), ECU:
 - do a check for open or short to ground at pins J8/10, 25, 26 of the harness J8 between the ECU (4000KS) and the VSV torque motor in the HMU, (Ref. ASM 73-25/18).
 - (1) If the wiring is not correct:
 - repair the above wiring.
 - (2) If the wiring is correct:
 - disconnect the harness J8 from the ECU and do a check of the ECU cable resistance between:
 - . pins 25 and 26 (17 to 23 0hms)
 - . pins 25 and 10 (> 10 Megohms)
 - . pin 25 and the ground (> 10 Megohms).

EFF: ALL

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- (a) If the resistance values are in the specified limits:
 - replace the ECU (4000KS), (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).
- (b) If the resistance values are out of the specified limits:
 - disconnect the harness J8 from the HMU and do a check of the HMU receptacle resistance between:
 - . pins 25 and 26 (17 to 23 ohms)
 - pins 25 and 10 (> 10 Megohms)
 - . pin 25 and the ground (> 10 Megohms).
 - 1 If the resistance values are in the specified limits:
 - replace the harness J8, (Ref. AMM TASK 73-21-50-000-041) and (Ref. AMM TASK 73-21-50-400-041).
 - 2 If the resistance values are out of the specified limits:
 - replace the Hydromechanical Unit (HMU), (Ref. AMM TASK 73-21-10-000-002) and (Ref. AMM TASK 73-21-10-400-002).
- B. Do the test given in Para. 3.A.(1).

EFF: ALL

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TROUBLE SHOOTING MANUAL

TASK 73-29-00-810-888

Loss of the VBV Torque Motor Control - Engine 1 - Channel A

1. Possible Causes

- ECU (4000KS)
- Hydromechanical Unit (HMU)
- HJ7 harness

2. Job Set-up Information

A. Referenced Information

REFERENCE		DESIGNATION
AMM AMM AMM AMM AMM AMM	73-21-10-400-002 73-21-50-000-040 73-21-50-210-001 73-21-50-400-040 73-21-60-000-001 73-21-60-400-001	Removal of the Hydromechanical Unit (HMU) Installation of the Hydromechanical Unit (HMU) Removal of the HJ7 Harness Visual Inspection of the Wiring Harness Installation of the HJ7 Harness Removal of the Electronic Control Unit (ECU) Installation of the Electronic Control Unit (ECU) Operational Test of the FADEC on the Ground (with Engine non Motoring)
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3. Fault Confirmation

A. Test

(1) Do the operational test of the FADEC 1A on the ground (with engine non motoring) (Ref. AMM TASK 73-29-00-710-040).

4. Fault Isolation

- A. This fault is generated if there is an open or short to ground in the VBV torque motor current loop on channel A.

 - (2) If the failure message J7, HMU(VBV TM), ECU is not confirmed, but is repetitive:
 - replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).
 - (a) If the fault continues during the subsequent flights:
 - replace the Hydromechanical Unit (HMU) (Ref. AMM TASK 73-21-10-000-002) and (Ref. AMM TASK 73-21-10-400-002).

EFF: ALL

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- (b) If the fault continues during the subsequent flights:
 - replace the HJ7 harness (Ref. AMM TASK 73-21-50-000-040) and (Ref. AMM TASK 73-21-50-400-040).
- (3) If the failure message J7, HMU(VBV TM), ECU is confirmed:
 - (a) Disconnect the HJ7 harness from the ECU (4000KS) receptacle.
 - 1 Visually examine the ECU (4000KS) receptacle and the HJ7 harness connector for damaged pins and contamination (Ref. AMM TASK 73-21-50-210-001).
 - a If harness connector or ECU receptacle is damaged:
 - repair or replace as required.
 - b If no damage is found:
 - do an electrical resistance test through the HJ7 harness between:
 - . pins 29 and 30 (17 to 23 ohms)
 - . pins 29 and 13 (> 10 megohms)
 - . pin 29 and the ground (> 10 megohms).
 - \underline{c} If the resistance values are in the specified limits:
 - replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001)
 and (Ref. AMM TASK 73-21-60-400-001).
 - d If the resistance values are out of the specified limits:
 - reconnect the HJ7 harness to the ECU (4000KS).
 - (b) Disconnect the HJ7 harness from the HMU receptacle (HMU-A) (located in the left core compartment).
 - Visually examine the HJ7 harness connector and the HMU receptacle for damaged pins and contamination (Ref. AMM TASK 73-21-50-210-001).
 - a If harness connector or HMU receptacle is damaged:
 - repair or replace as required.
 - b If no damage is found:
 - do an electrical resistance test through the HMU receptacle between:
 - . pins 29 and 30 (17 to 23 ohms)
 - . pins 29 and 13 (> 10 megohms).
 - . pin 29 and the ground (> 10 megohms).
 - c If the resistance values are out of the specified limits:
 - replace the HMU (Ref. AMM TASK 73-21-10-000-002) and (Ref. AMM TASK 73-21-10-400-002).

EFF: ALL

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- d If the resistance values are in the specified limits:
 replace the HJ7 harness (Ref. AMM TASK 73-21-50-000-040)
 and (Ref. AMM TASK 73-21-50-400-040).
- B. Do the test given in Para. 3.A.
 - (1) No additional maintenance action is required if the fault is not confirmed.
 - (2) Repeat the fault isolation procedure if the fault continues.

EFF: ALL
SROS

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TROUBLE SHOOTING MANUAL

TASK 73-29-00-810-889

Loss of the VBV Torque Motor Control - Engine 1 - Channel B

1. Possible Causes

- ECU (4000KS)
- Hydromechanical Unit (HMU)
- HJ8 harness

2. Job Set-up Information

A. Referenced Information

REFERENCE	DESIGNATION
AMM 73-21-10-000-002 AMM 73-21-10-400-002 AMM 73-21-50-000-041 AMM 73-21-50-210-001 AMM 73-21-50-400-041 AMM 73-21-60-000-001 AMM 73-21-60-400-001 AMM 73-29-00-710-040	Removal of the Hydromechanical Unit (HMU) Installation of the Hydromechanical Unit (HMU) Removal of the HJ8 Harness Visual Inspection of the Wiring Harness Installation of the HJ8 Harness Removal of the Electronic Control Unit (ECU) Installation of the Electronic Control Unit (ECU) Operational Test of the FADEC on the Ground (with Engine non Motoring)
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3. Fault Confirmation

A. Test

(1) Do the operational test of the FADEC 1B on the ground (with engine non motoring) (Ref. AMM TASK 73-29-00-710-040).

4. Fault Isolation

- A. This fault is generated if there is an open or short to ground in the VBV torque motor current loop on channel B.
 - (1) If the failure message J8, HMU(VBV TM), ECU is not confirmed: - no maintenance action is required.
 - (2) If the failure message J8, HMU(VBV TM), ECU is not confirmed, but is repetitive:
 - replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).
 - (a) If the fault continues during the subsequent flights:
 - replace the Hydromechanical Unit (HMU) (Ref. AMM TASK 73-21-10-000-002) and (Ref. AMM TASK 73-21-10-400-002).

EFF: ALL

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- (b) If the fault continues during the subsequent flights:
 - replace the HJ8 harness (Ref. AMM TASK 73-21-50-000-041) and (Ref. AMM TASK 73-21-50-400-041).
- (3) If the failure message J8, HMU(VBV TM), ECU is confirmed:
 - (a) Disconnect the HJ8 harness from the ECU (4000KS) receptacle.
 - Visually examine the ECU (4000KS) receptacle and the HJ8 harness connector for damaged pins and contamination (Ref. AMM TASK 73-21-50-210-001).
 - a If harness connector or ECU receptacle is damaged:
 - repair or replace as required.
 - b If no damage is found:
 - do an electrical resistance test through the HJ8 harness between:
 - . pins 29 and 30 (17 to 23 ohms)
 - pins 29 and 13 (> 10 megohms)
 - . pin 29 and the ground (> 10 megohms).
 - c If the resistance values are in the specified limits:
 - replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001)
 and (Ref. AMM TASK 73-21-60-400-001).
 - d If the resistance values are out of the specified limits:
 - reconnect the HJ8 harness to the ECU (4000KS).
 - (b) Disconnect the HJ8 harness from the HMU receptacle (HMU-B) (located in the left core compartment).
 - Visually examine the HJ8 harness connector and the HMU receptacle for damaged pins and contamination (Ref. AMM TASK 73-21-50-210-001).
 - a If harness connector or HMU receptacle is damaged:
 - repair or replace as required.
 - b If no damage is found:
 - do an electrical resistance test through the HMU receptacle between:
 - . pins 29 and 30 (17 to 23 ohms)
 - . pins 29 and 13 (> 10 megohms)
 - . pin 29 and the ground (> 10 megohms).
 - c If the resistance values are out of the specified limits:
 - replace the HMU (Ref. AMM TASK 73-21-10-000-002) and (Ref. AMM TASK 73-21-10-400-002).

EFF: ALL

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- d If the resistance values are in the specified limits:
 - replace the HJ8 harness (Ref. AMM TASK 73-21-50-000-041)
 and (Ref. AMM TASK 73-21-50-400-041).
- B. Do the test given in Para. 3.A.
 - (1) No additional maintenance action is required if the fault is not confirmed.
 - (2) Repeat the fault isolation procedure if the fault continues.

EFF: ALL
SROS

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TROUBLE SHOOTING MANUAL

TASK 73-29-00-810-890

Loss of the VBV Torque Motor Control - Engine 2 - Channel A

1. Possible Causes

- ECU (4000KS)
- Hydromechanical Unit (HMU)
- HJ7 harness

2. Job Set-up Information

A. Referenced Information

REFERENCE		DESIGNATION
AMM AMM AMM AMM AMM AMM AMM	73-21-10-000-002 73-21-10-400-002 73-21-50-000-040 73-21-50-210-001 73-21-50-400-040 73-21-60-000-001 73-21-60-400-001 73-29-00-710-040	Removal of the Hydromechanical Unit (HMU) Installation of the Hydromechanical Unit (HMU) Removal of the HJ7 Harness Visual Inspection of the Wiring Harness Installation of the HJ7 Harness Removal of the Electronic Control Unit (ECU) Installation of the Electronic Control Unit (ECU) Operational Test of the FADEC on the Ground (with
		Engine non Motoring)

3. Fault Confirmation

A. Test

(1) Do the operational test of the FADEC 2A on the ground (with engine non motoring) (Ref. AMM TASK 73-29-00-710-040).

4. Fault Isolation

- A. This fault is generated if there is an open or short to ground in the VBV torque motor current loop on channel A.

 - (2) If the failure message J7, HMU(VBV TM), ECU is not confirmed, but is repetitive:
 - replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).
 - (a) If the fault continues during the subsequent flights:
 - replace the Hydromechanical Unit (HMU) (Ref. AMM TASK 73-21-10-000-002) and (Ref. AMM TASK 73-21-10-400-002).

EFF: ALL

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- (b) If the fault continues during the subsequent flights:
 - replace the HJ7 harness (Ref. AMM TASK 73-21-50-000-040) and (Ref. AMM TASK 73-21-50-400-040).
- (3) If the failure message J7, HMU(VBV TM), ECU is confirmed:
 - (a) Disconnect the HJ7 harness from the ECU (4000KS) receptacle.
 - Visually examine the ECU (4000KS) receptable and the HJ7 harness connector for damaged pins and contamination (Ref. AMM TASK 73-21-50-210-001).
 - a If harness connector or ECU receptacle is damaged:
 - repair or replace as required.
 - b If no damage is found:
 - do an electrical resistance test through the HJ7 harness between:
 - . pins 29 and 30 (17 to 23 ohms)
 - pins 29 and 13 (> 10 megohms)
 - . pin 29 and the ground (> 10 megohms).
 - \underline{c} If the resistance values are in the specified limits:
 - replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001)
 and (Ref. AMM TASK 73-21-60-400-001).
 - d If the resistance values are out of the specified limits:
 - reconnect the HJ7 harness to the ECU (4000KS).
 - (b) Disconnect the HJ7 harness from the HMU receptacle (HMU-A) (located in the left core compartment).
 - Visually examine the HJ7 harness connector and the HMU receptacle for damaged pins and contamination (Ref. AMM TASK 73-21-50-210-001).
 - a If harness connector or HMU receptacle is damaged:
 - repair or replace as required.
 - b If no damage is found:
 - do an electrical resistance test through the HMU receptacle between:
 - . pins 29 and 30 (17 to 23 ohms)
 - pins 29 and 13 (> 10 megohms)
 - . pin 29 and the ground (> 10 megohms).
 - c If the resistance values are out of the specified limits:
 - replace the HMU (Ref. AMM TASK 73-21-10-000-002) and (Ref. AMM TASK 73-21-10-400-002).

EFF: ALL

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- d If the resistance values are in the specified limits:
 replace the HJ7 harness (Ref. AMM TASK 73-21-50-000-040)
 and (Ref. AMM TASK 73-21-50-400-040).
- B. Do the test given in Para. 3.A.
 - (1) No additional maintenance action is required if the fault is not confirmed.
 - (2) Repeat the fault isolation procedure if the fault continues.

EFF: ALL
SROS

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TROUBLE SHOOTING MANUAL

TASK 73-29-00-810-891

Loss of the VBV Torque Motor Control - Engine 2 - Channel B

1. Possible Causes

- ECU (4000KS)
- Hydromechanical Unit (HMU)
- HJ8 harness

2. Job Set-up Information

A. Referenced Information

REFERENCE		DESIGNATION
AMM AMM AMM AMM AMM AMM AMM	73-21-10-000-002 73-21-10-400-002 73-21-50-000-041 73-21-50-210-001 73-21-50-400-041 73-21-60-000-001 73-21-60-400-001 73-29-00-710-040	Removal of the Hydromechanical Unit (HMU) Installation of the Hydromechanical Unit (HMU) Removal of the HJ8 Harness Visual Inspection of the Wiring Harness Installation of the HJ8 Harness Removal of the Electronic Control Unit (ECU) Installation of the Electronic Control Unit (ECU) Operational Test of the FADEC on the Ground (with
		Engine non Motoring)

3. Fault Confirmation

A. Test

(1) Do the operational test of the FADEC 2B on the ground (with engine non motoring) (Ref. AMM TASK 73-29-00-710-040).

4. Fault Isolation

- A. This fault is generated if there is an open or short to ground in the VBV torque motor current loop on channel B.
 - (1) If the failure message J8, HMU(VBV TM), ECU is not confirmed: - no maintenance action is required.
 - (2) If the failure message J8, HMU(VBV TM), ECU is not confirmed, but is repetitive:
 - replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).
 - (a) If the fault continues during the subsequent flights:
 - replace the Hydromechanical Unit (HMU) (Ref. AMM TASK 73-21-10-000-002) and (Ref. AMM TASK 73-21-10-400-002).

EFF: ALL

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- (b) If the fault continues during the subsequent flights:
 - replace the HJ8 harness (Ref. AMM TASK 73-21-50-000-041) and (Ref. AMM TASK 73-21-50-400-041).
- (3) If the failure message J8, HMU(VBV TM), ECU is confirmed:
 - (a) Disconnect the HJ8 harness from the ECU (4000KS) receptacle.
 - Visually examine the ECU (4000KS) receptacle and the HJ8 harness connector for damaged pins and contamination (Ref. AMM TASK 73-21-50-210-001).
 - a If harness connector or ECU receptacle is damaged:
 - repair or replace as required.
 - b If no damage is found:
 - do an electrical resistance test through the HJ8 harness between:
 - . pins 29 and 30 (17 to 23 ohms)
 - pins 29 and 13 (> 10 megohms)
 - . pin 29 and the ground (> 10 megohms).
 - \underline{c} If the resistance values are in the specified limits:
 - replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001)
 and (Ref. AMM TASK 73-21-60-400-001).
 - d If the resistance values are out of the specified limits:
 - reconnect the HJ8 harness to the ECU (4000KS).
 - (b) Disconnect the HJ8 harness from the HMU receptacle (HMU-B) (located in the left core compartment).
 - Visually examine the HJ8 harness connector and the HMU receptacle for damaged pins and contamination (Ref. AMM TASK 73-21-50-210-001).
 - a If harness connector or HMU receptacle is damaged:
 - repair or replace as required.
 - b If no damage is found:
 - do an electrical resistance test through the HMU receptacle between:
 - . pins 29 and 30 (17 to 23 ohms)
 - pins 29 and 13 (> 10 megohms)
 - . pin 29 and the ground (> 10 megohms).
 - c If the resistance values are out of the specified limits:
 - replace the HMU (Ref. AMM TASK 73-21-10-000-002) and (Ref. AMM TASK 73-21-10-400-002).

EFF: ALL

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- d If the resistance values are in the specified limits:
 replace the HJ8 harness (Ref. AMM TASK 73-21-50-000-041)
 and (Ref. AMM TASK 73-21-50-400-041).
- B. Do the test given in Para. 3.A.
 - (1) No additional maintenance action is required if the fault is not confirmed.
 - (2) Repeat the fault isolation procedure if the fault continues.

EFF: ALL
SROS

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TROUBLE SHOOTING MANUAL

TASK 73-29-00-810-892

Loss of LPTC Torque Motor Control through the Channel A on Engine 1

- 1. Possible Causes
 - ECU (4000KS)
 - harness J7
 - Hydromechanical Unit (HMU)
- 2. Job Set-up Information
 - A. Referenced Information

REFERENCE		DESIGNATION
AMM	73-21-10-000-002	Removal of the Hydromechanical Unit (HMU)
AMM	73-21-10-400-002	Installation of the Hydromechanical Unit (HMU)
AMM	73-21-50-000-040	Removal of the HJ7 Harness
AMM	73-21-50-400-040	Installation of the HJ7 Harness
AMM	73-21-60-000-001	Removal of the Electronic Control Unit (ECU)(4000KS)
AMM	73-21-60-400-001	<pre>Installation of the Electronic Control Unit (ECU)(4000KS)</pre>
AMM	73-29-00-710-040	Operational Test of the FADEC on the ground (with Engine Motoring)
ASM	73-25/18	

3. Fault Confirmation

- A. Test
 - (1) Do the operational test of the FADEC 1A on the ground (with engine motoring) (Ref. AMM TASK 73-29-00-710-040).
- 4. Fault Isolation
 - A. If the test gives the maintenance message J7, HMU(LPTCTM), ECU:
 - do a check for open or short to ground at pins J7/19, 38, 39 of the harness J7 between the ECU (4000KS) and the LPT torque-motor current in the HMU, (Ref. ASM 73-25/18).
 - (1) If the wiring is not correct:
 - repair the above wiring.
 - (2) If the wiring is correct:
 - disconnect the harness J7 from the ECU and do a check of the ECU cable resistance between:
 - . pins 19 and 38 (17 to 23 0hms)
 - pins 19 and 39 (> 10 Megohms)
 - . pin 19 and the ground (> 10 Megohms).

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- (a) If the resistance values are in the specified limits:
 - replace the ECU (4000KS), (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).
- (b) If the resistance values are out of the specified limits:
 - disconnect the harness J7 from the HMU and do a check of the HMU receptacle resistance between:
 - . pins 19 and 38 (17 to 23 0hms)
 - pins 19 and 39 (> 10 Megohms)
 - . pin 19 and the ground (> 10 Megohms).
 - 1 If the resistance values are in the specified limits:
 - replace the harness J7, (Ref. AMM TASK 73-21-50-000-040) and (Ref. AMM TASK 73-21-50-400-040).
 - 2 If the resistance values are out of the specified limits:
 - replace the Hydromechanical Unit (HMU), (Ref. AMM TASK 73-21-10-000-002) and (Ref. AMM TASK 73-21-10-400-002).
- B. Do the test given in Para. 3.A.(1).

EFF: ALL

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TROUBLE SHOOTING MANUAL

TASK 73-29-00-810-893

Loss of LPTC Torque Motor Control through the Channel B on Engine 1

- 1. Possible Causes
 - ECU (4000KS)
 - harness J8
 - Hydromechanical Unit (HMU)
- 2. Job Set-up Information
 - A. Referenced Information

REFERENCE		DESIGNATION
AMM	73-21-10-000-002	Removal of the Hydromechanical Unit (HMU)
AMM	73-21-10-400-002	Installation of the Hydromechanical Unit (HMU)
AMM	73-21-50-000-041	Removal of the HJ8 Harness
AMM	73-21-50-400-041	Installation of the HJ8 Harness
AMM	73-21-60-000-001	Removal of the Electronic Control Unit (ECU)(4000KS)
AMM	73-21-60-400-001	<pre>Installation of the Electronic Control Unit (ECU)(4000KS)</pre>
AMM	73-29-00-710-040	Operational Test of the FADEC on the ground (with Engine Motoring)
ASM	73-25/18	

3. Fault Confirmation

- A. Test
 - (1) Do the operational test of the FADEC 1B on the ground (with engine motoring) (Ref. AMM TASK 73-29-00-710-040).
- 4. Fault Isolation
 - A. If the test gives the maintenance message J8, HMU(LPTCTM), ECU:
 - do a check for open or short to ground at pins J8/19, 38, 39 of the harness J8 between the ECU (4000KS) and the LPT torque-motor current in the HMU, (Ref. ASM 73-25/18).
 - (1) If the wiring is not correct:
 - repair the above wiring.
 - (2) If the wiring is correct:
 - disconnect the harness J8 from the ECU and do a check of the ECU cable resistance between:
 - . pins 19 and 38 (17 to 23 0hms)
 - pins 19 and 39 (> 10 Megohms)
 - . pin 19 and the ground (> 10 Megohms)

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- (a) If the resistance values are in the specified limits:
 - replace the ECU (4000KS), (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).
- (b) If the resistance values are out of the specified limits:
 - disconnect the harness J8 from the HMU and do a check of the HMU receptacle resistance between:
 - . pins 19 and 38 (17 to 23 0hms)
 - pins 19 and 39 (> 10 Megohms)
 - . pin 19 and the ground (> 10 Megohms).
 - 1 If the resistance values are in the specified limits:
 - replace the harness J8, (Ref. AMM TASK 73-21-50-000-041) and (Ref. AMM TASK 73-21-50-400-041).
 - 2 If the resistance values are out of the specified limits:
 - replace the Hydromechanical Unit (HMU), (Ref. AMM TASK 73-21-10-000-002) and (Ref. AMM TASK 73-21-10-400-002).
- B. Do the test given in Para. 3.A.(1).

EFF: ALL

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TROUBLE SHOOTING MANUAL

TASK 73-29-00-810-894

Loss of LPTC Torque Motor Control through the Channel A on Engine 2

- 1. Possible Causes
 - ECU (4000KS)
 - harness J7
 - Hydromechanical Unit (HMU)
- 2. Job Set-up Information
 - A. Referenced Information

REFERENCE		DESIGNATION
AMM	73-21-10-000-002	Removal of the Hydromechanical Unit (HMU)
AMM	73-21-10-400-002	Installation of the Hydromechanical Unit (HMU)
AMM	73-21-50-000-040	Removal of the HJ7 Harness
AMM	73-21-50-400-040	Installation of the HJ7 Harness
AMM	73-21-60-000-001	Removal of the Electronic Control Unit (ECU)(4000KS)
AMM	73-21-60-400-001	<pre>Installation of the Electronic Control Unit (ECU)(4000KS)</pre>
AMM	73-29-00-710-040	Operational Test of the FADEC on the ground (with Engine Motoring)
ASM	73-25/18	

3. Fault Confirmation

- A. Test
 - (1) Do the operational test of the FADEC 2A on the ground (with engine motoring) (Ref. AMM TASK 73-29-00-710-040).
- 4. Fault Isolation
 - A. If the test gives the maintenance message J7, HMU(LPTCTM), ECU:
 - do a check for open or short to ground at pins J7/19, 38, 39 of the harness J7 between the ECU (4000KS) and the LPT torque-motor current in the HMU, (Ref. ASM 73-25/18).
 - (1) If the wiring is not correct:
 - repair the above wiring.
 - (2) If the wiring is correct:
 - disconnect the harness J7 from the ECU and do a check of the ECU cable resistance between:
 - . pins 19 and 38 (17 to 23 0hms)
 - pins 19 and 39 (> 10 Megohms)
 - pin 19 and the ground (> 10 Megohms).

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TROUBLE SHOOTING MANUAL

- (a) If the resistance values are in the specified limits:
 - replace the ECU (4000KS), (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).
- (b) If the resistance values are out of the specified limits:
 - disconnect the harness J7 from the HMU and do a check of the HMU receptacle resistance between:
 - . pins 19 and 38 (17 to 23 0hms)
 - pins 19 and 39 (> 10 Megohms)
 - . pin 19 and the ground (> 10 Megohms).
 - 1 If the resistance values are in the specified limits:
 - replace the harness J7, (Ref. AMM TASK 73-21-50-000-040) and (Ref. AMM TASK 73-21-50-400-040).
 - 2 If the resistance values are out of the specified limits:
 - replace the Hydromechanical Unit (HMU), (Ref. AMM TASK 73-21-10-000-002) and (Ref. AMM TASK 73-21-10-400-002).
- B. Do the test given in Para. 3.A.(1).

EFF: ALL

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TROUBLE SHOOTING MANUAL

TASK 73-29-00-810-895

Loss of LPTC Torque Motor Control through the Channel B on Engine 2

- 1. Possible Causes
 - ECU (4000KS),
 - harness J8
 - Hydromechanical Unit (HMU)
- 2. Job Set-up Information
 - A. Referenced Information

REFERENCE		DESIGNATION
AMM	73-21-10-000-002	Removal of the Hydromechanical Unit (HMU)
AMM	73-21-10-400-002	Installation of the Hydromechanical Unit (HMU)
AMM	73-21-50-000-041	Removal of the HJ8 Harness
AMM	73-21-50-400-041	Installation of the HJ8 Harness
AMM	73-21-60-000-001	Removal of the Electronic Control Unit (ECU)(4000KS)
AMM	73-21-60-400-001	<pre>Installation of the Electronic Control Unit (ECU)(4000KS)</pre>
AMM	73-29-00-710-040	Operational Test of the FADEC on the ground (with Engine Motoring)
ASM	73-25/18	

3. Fault Confirmation

- A. Test
 - (1) Do the operational test of the FADEC 2B on the ground (with engine motoring) (Ref. AMM TASK 73-29-00-710-040).
- 4. Fault Isolation
 - A. If the test gives the maintenance message J8, HMU(LPTCTM), ECU:
 - do a check for open or short to ground at pins J8/19, 38, 39 of the harness J8 between the ECU (4000KS) and the LPT torque-motor current in the HMU, (Ref. ASM 73-25/18).
 - (1) If the wiring is not correct:
 - repair the above wiring.
 - (2) If the wiring is correct:
 - disconnect the harness J8 from the ECU and do a check of the ECU cable resistance between:
 - . pins 19 and 38 (17 to 23 0hms)
 - . pins 19 and 39 (> 10 Megohms)
 - . pin 19 and the ground (> 10 Megohms).

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- (a) If the resistance values are in the specified limits:
 - replace the ECU (4000KS),, (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).
- (b) If the resistance values are out of the specified limits:
 - disconnect the harness J8 from the HMU and do a check of the HMU receptacle resistance between:
 - . pins 19 and 38 (17 to 23 0hms)
 - pins 19 and 39 (> 10 Megohms)
 - . pin 19 and the ground (> 10 Megohms).
 - 1 If the resistance values are in the specified limits:
 - replace the harness J8, (Ref. AMM TASK 73-21-50-000-041) and (Ref. AMM TASK 73-21-50-400-041).
 - 2 If the resistance values are out of the specified limits:
 - replace the Hydromechanical Unit (HMU), (Ref. AMM TASK 73-21-10-000-002) and (Ref. AMM TASK 73-21-10-400-002).
- B. Do the test given in Para. 3.A.(1).

EFF: ALL

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TROUBLE SHOOTING MANUAL

TASK 73-29-00-810-896

Loss of the VSV Torque Motor Control through the Channel A on Engine 1 and Channel A on Engine 2

- 1. Possible Causes
- 2. Job Set-up Information
 - A. Referenced Information

REFERENCE	DESIGNATION
73-29-00-810-884	Loss of the VSV Torque Motor Control through the
	Channel A on Engine 1
73-29-00-810-886	Loss of the VSV Torque Motor Control through the
	Channel A on Engine 2
AMM 73-29-00-710-040	Operational Test of the FADEC on the ground (with
	Engine Motoring)

3. Fault Confirmation

A. Do the operational test of the FADEC 1A and 2A on the ground (with engine motoring) (Ref. AMM TASK 73-29-00-710-040).

4. Fault Isolation

- A. If the test gives the maintenance messages:
 - J7, HMU (VSV TM), ECU on the channel 1A
 - J7, HMU (VSV TM), ECU on the channel 2A
 - (1) Do the trouble shooting procedure (Ref. TASK 73-29-00-810-884).
 - (2) Do the trouble shooting procedure (Ref. TASK 73-29-00-810-886).

EFF: ALL

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TROUBLE SHOOTING MANUAL

TASK 73-29-00-810-897

Loss of the VSV Torque Motor Control through the Channel A on Engine 1 and Channel B on Engine 2

- 1. Possible Causes
- 2. Job Set-up Information
 - A. Referenced Information

REFERENCE	DESIGNATION
73-29-00-810-884	Loss of the VSV Torque Motor Control through the
	Channel A on Engine 1
73-29-00-810-887	Loss of the VSV Torque Motor Control through the
	Channel B on Engine 2
AMM 73-29-00-710-040	Operational Test of the FADEC on the ground (with
	Engine Motoring)

3. Fault Confirmation

A. Do the operational test of the FADEC 1A and 2B on the ground (with engine motoring) (Ref. AMM TASK 73-29-00-710-040).

4. Fault Isolation

- A. If the test gives the maintenance messages:
 - J7, HMU (VSV TM), ECU on the channel 1A and
 - J8, HMU (VSV TM), ECU on the channel 2B
 - (1) Do the trouble shooting procedure (Ref. TASK 73-29-00-810-884).
 - (2) Do the trouble shooting procedure (Ref. TASK 73-29-00-810-887).

EFF: ALL

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TROUBLE SHOOTING MANUAL

TASK 73-29-00-810-898

Loss of the VSV Torque Motor Control through the Channel B on Engine 1 and Channel A on Engine 2 $\,$

- 1. Possible Causes
- 2. Job Set-up Information
 - A. Referenced Information

REFERENCE	DESIGNATION
73-29-00-810-885	Loss of the VSV Torque Motor Control through the
	Channel B on Engine 1
73-29-00-810-886	Loss of the VSV Torque Motor Control through the
	Channel A on Engine 2
AMM 73-29-00-710-040	Operational Test of the FADEC on the ground (with
	Engine Motoring)

3. Fault Confirmation

A. Do the operational test of the FADEC 1B and 2A on the ground (with engine motoring) (Ref. AMM TASK 73-29-00-710-040).

4. Fault Isolation

- A. If the test gives the maintenance messages:
 - J8, HMU (VSV TM), ECU on the channel 1B
 - J7, HMU (VSV TM), ECU on the channel 2A
 - (1) Do the trouble shooting procedure (Ref. TASK 73-29-00-810-885).
 - (2) Do the trouble shooting procedure (Ref. TASK 73-29-00-810-886).

EFF: ALL

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TASK 73-29-00-810-899

Loss of the VSV Torque Motor Control through the Channel B on Engine 1 and Channel B on Engine 2

- 1. Possible Causes
- 2. Job Set-up Information
 - A. Referenced Information

REFERENCE	DESIGNATION
73-29-00-810-885	Loss of the VSV Torque Motor Control through the
	Channel B on Engine 1
73-29-00-810-887	Loss of the VSV Torque Motor Control through the
	Channel B on Engine 2
AMM 73-29-00-710-040	Operational Test of the FADEC on the ground (with
	Engine Motoring)

3. Fault Confirmation

A. Do the operational test of the FADEC 1B and 2B on the ground (with engine motoring) (Ref. AMM TASK 73-29-00-710-040).

4. Fault Isolation

- A. If the test gives the maintenance messages:
 - J8, HMU (VSV TM), ECU on the channel 1B and
 - J8, HMU (VSV TM), ECU on the channel 2B
 - (1) Do the trouble shooting procedure (Ref. TASK 73-29-00-810-885).
 - (2) Do the trouble shooting procedure (Ref. TASK 73-29-00-810-887).

EFF: ALL

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TROUBLE SHOOTING MANUAL

TASK 73-29-00-810-900

Loss of the VBV Torque Motor Control through the Channel A on Engine 1 and Channel A on Engine 2

- 1. Possible Causes
- 2. Job Set-up Information
 - A. Referenced Information

REFERENCE	DESIGNATION
73-29-00-810-888	Loss of the VBV Torque Motor Control - Engine 1 - Channel A
73-29-00-810-890	Loss of the VBV Torque Motor Control - Engine 2 - Channel A
AMM 73-29-00-710-040	Operational Test of the FADEC on the ground (with Engine Motoring)

3. Fault Confirmation

A. Do the operational test of the FADEC 1A and 2A on the ground (with engine motoring) (Ref. AMM TASK 73-29-00-710-040).

4. Fault Isolation

- A. If the test gives the maintenance messages:
 - J7, HMU (VBV TM), ECU on the channel 1A
 - J7, HMU (VBV TM), ECU on the channel 2A
 - (1) Do the trouble shooting procedure (Ref. TASK 73-29-00-810-888).
 - (2) Do the trouble shooting procedure (Ref. TASK 73-29-00-810-890).

EFF: ALL

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TASK 73-29-00-810-901

Loss of the VBV Torque Motor Control through the Channel A on Engine 1 and Channel B on Engine 2

- 1. Possible Causes
- 2. Job Set-up Information
 - A. Referenced Information

REFERENCE	DESIGNATION
73-29-00-810-888	Loss of the VBV Torque Motor Control - Engine 1 - Channel A
73-29-00-810-891	Loss of the VBV Torque Motor Control - Engine 2 - Channel B
AMM 73-29-00-710-040	Operational Test of the FADEC on the ground (with Engine Motoring)

3. Fault Confirmation

A. Do the operational test of the FADEC 1A and 2B on the ground (with engine motoring) (Ref. AMM TASK 73-29-00-710-040).

4. Fault Isolation

- A. If the test gives the maintenance messages:
 - J7, HMU (VBV TM), ECU on the channel 1A and
 - J8, HMU (VBV TM), ECU on the channel 2B
 - (1) Do the trouble shooting procedure (Ref. TASK 73-29-00-810-888).
 - (2) Do the trouble shooting procedure (Ref. TASK 73-29-00-810-891).

EFF: ALL

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TASK 73-29-00-810-902

Loss of the VBV Torque Motor Control through the Channel B on Engine 1 and Channel A on Engine 2 $\,$

- 1. Possible Causes
- 2. Job Set-up Information
 - A. Referenced Information

REFERENCE	DESIGNATION
73-29-00-810-889	Loss of the VBV Torque Motor Control - Engine 1 - Channel B
73-29-00-810-890	Loss of the VBV Torque Motor Control - Engine 2 - Channel A
AMM 73-29-00-710-040	Operational Test of the FADEC on the ground (with Engine Motoring)

3. Fault Confirmation

A. Do the operational test of the FADEC 1B and 2A on the ground (with engine motoring) (Ref. AMM TASK 73-29-00-710-040).

4. Fault Isolation

- A. If the test gives the maintenance messages:
 - J8, HMU (VBV TM), ECU on the channel 1B
 - J7, HMU (VBV TM), ECU on the channel 2A
 - (1) Do the trouble shooting procedure (Ref. TASK 73-29-00-810-889).
 - (2) Do the trouble shooting procedure (Ref. TASK 73-29-00-810-890).

EFF:

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TROUBLE SHOOTING MANUAL

TASK 73-29-00-810-903

Loss of the VBV Torque Motor Control through the Channel B on Engine 1 and Channel B on Engine 2

- 1. Possible Causes
- 2. Job Set-up Information
 - A. Referenced Information

REFERENCE	DESIGNATION
73-29-00-810-889	Loss of the VBV Torque Motor Control - Engine 1 - Channel B
73-29-00-810-891	Loss of the VBV Torque Motor Control - Engine 2 - Channel B
AMM 73-29-00-710-040	Operational Test of the FADEC on the ground (with Engine Motoring)

3. Fault Confirmation

A. Do the operational test of the FADEC 1B and 2B on the ground (with engine motoring) (Ref. AMM TASK 73-29-00-710-040).

4. Fault Isolation

- A. If the test gives the maintenance messages:
 - J8, HMU (VBV TM), ECU on the channel 1B and
 - J8, HMU (VBV TM), ECU on the channel 2B
 - (1) Do the trouble shooting procedure (Ref. TASK 73-29-00-810-889).
 - (2) Do the trouble shooting procedure (Ref. TASK 73-29-00-810-891).

EFF:

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R **ON A/C 254-275, 282-299, 433-475, 481-499, 565-599,

TASK 73-29-00-810-912

Loss of the RAC Torque Motor Control through the two Channels on Engine 1

- 1. Possible Causes
- 2. Job Set-up Information
 - A. Referenced Information

REFERENCE	DESIGNATION
73-29-00-810-880	Loss of the RAC Torque Motor Control through the
	Channel A on Engine 1
73-29-00-810-881	Loss of the RAC Torque Motor Control through the
	Channel B on Engine 1
AMM 73-29-00-710-040	Operational Test of the FADEC on the ground (with
	Engine Motoring)

- 3. Fault Confirmation
 - A. Test
 - (1) Do the operational test of the FADEC 1A and 1B on the ground (with engine motoring) (Ref. AMM TASK 73-29-00-710-040).
- 4. Fault Isolation
 - A. If the test gives the maintenance messages J7, HMU (RAC TM), ECU and J8, HMU (RAC TM), ECU:
 - do the following troubleshooting procedures (Ref. TASK 73-29-00-810-880) and (Ref. TASK 73-29-00-810-881).

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TROUBLE SHOOTING MANUAL

TASK 73-29-00-810-913

Loss of the RAC Torque Motor Control through the two Channels on Engine 2

- 1. Possible Causes
- 2. Job Set-up Information
 - A. Referenced Information

REFERENCE	DESIGNATION
73-29-00-810-882	Loss of the RAC Torque Motor Control through the Channel A on Engine 2
73-29-00-810-883	Loss of the RAC Torque Motor Control through the Channel B on Engine 2
AMM 73-29-00-710-040	Operational Test of the FADEC on the ground (with Engine Motoring)

3. Fault Confirmation

- A. Test
 - (1) Do the operational test of the FADEC 2A and 2B on the ground (with engine motoring) (Ref. AMM TASK 73-29-00-710-040).

4. Fault Isolation

- A. If the test gives the maintenance messages J7, HMU (RAC TM), ECU and J8, HMU (RAC TM), ECU:
 - do the following troubleshooting procedures (Ref. TASK 73-29-00-810-882) and (Ref. TASK 73-29-00-810-883).

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TROUBLE SHOOTING MANUAL

TASK 73-29-00-810-914

Loss of the LPTC Torque Motor Control through the two Channels on Engine 1

- 1. Possible Causes
- 2. Job Set-up Information
 - A. Referenced Information

REFERENCE	DESIGNATION
73-29-00-810-892	Loss of LPTC Torque Motor Control through the Channel
73-29-00-810-893	A on Engine 1 Loss of LPTC Torque Motor Control through the Channel
	B on Engine 1
AMM 73-29-00-710-040	Operational Test of the FADEC on the ground (with Engine Motoring)

3. Fault Confirmation

- A. Test
 - (1) Do the operational test of the FADEC 1A and 1B on the ground (with engine motoring) (Ref. AMM TASK 73-29-00-710-040).

4. Fault Isolation

- A. If the test gives the maintenance messages J7, HMU (LPTCTM), ECU and J8, HMU (LPTCTM), ECU:
 - do the following troubleshooting procedures (Ref. TASK 73-29-00-810-892) and (Ref. TASK 73-29-00-810-893).

EFF: 254-275, 282-299, 433-475, 481-499, 565-599

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TROUBLE SHOOTING MANUAL

TASK 73-29-00-810-915

Loss of the LPTC Torque Motor Control through the two Channels on Engine 2

- 1. Possible Causes
- 2. Job Set-up Information
 - A. Referenced Information

REFERENCE	DESIGNATION
73-29-00-810-894	Loss of LPTC Torque Motor Control through the Channel
73-29-00-810-895	A on Engine 2 Loss of LPTC Torque Motor Control through the Channel
AMM 73-29-00-710-040	<pre>B on Engine 2 Operational Test of the FADEC on the ground (with Engine Motoring)</pre>

3. Fault Confirmation

- A. Test
 - (1) Do the operational test of the FADEC 2A and 2B on the ground (with engine motoring) (Ref. AMM TASK 73-29-00-710-040).

4. Fault Isolation

- A. If the test gives the maintenance messages J7, HMU (LPTCTM), ECU and J8, HMU (LPTCTM), ECU:
 - do the following troubleshooting procedures (Ref. TASK 73-29-00-810-894) and (Ref. TASK 73-29-00-810-895).

EFF: 254-275, 282-299, 433-475, 481-499, 565-599

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TROUBLE SHOOTING MANUAL

TASK 73-29-00-810-916

Loss of the HPTC Torque Motor Control through the two Channels on Engine 1

- 1. Possible Causes
- 2. Job Set-up Information
 - A. Referenced Information

REFERENCE	DESIGNATION
73-29-00-810-872	Loss of the HPTC Torque Motor Control through the Channel A on Engine 1
73-29-00-810-873	Loss of the HPTC Torque Motor Control through the Channel B on Engine 1
AMM 73-29-00-710-040	Operational Test of the FADEC on the ground (with Engine Motoring)

3. Fault Confirmation

- A. Test
 - (1) Do the operational test of the FADEC 1A and 1B on the ground (with engine motoring) (Ref. AMM TASK 73-29-00-710-040).

4. Fault Isolation

- A. If the test gives the maintenance messages J7, HMU (HPTCTM), ECU and J8, HMU (HPTCTM), ECU:
 - do the following troubleshooting procedures (Ref. TASK 73-29-00-810-872) and (Ref. TASK 73-29-00-810-873).

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TROUBLE SHOOTING MANUAL

TASK 73-29-00-810-917

Loss of the HPTC Torque Motor Control through the two Channels on Engine 2

- 1. Possible Causes
- 2. Job Set-up Information
 - A. Referenced Information

REFERENCE	DESIGNATION
73-29-00-810-874	Loss of the HPTC Torque Motor Control through the Channel A on Engine 2
73-29-00-810-875	Loss of the HPTC Torque Motor Control through the Channel B on Engine 2
AMM 73-29-00-710-040	Operational Test of the FADEC on the ground (with Engine Motoring)

3. Fault Confirmation

- A. Test
 - (1) Do the operational test of the FADEC 2A and 2B on the ground (with engine motoring) (Ref. AMM TASK 73-29-00-710-040).

4. Fault Isolation

- A. If the test gives the maintenance messages J7, HMU (HPTCTM), ECU and J8, HMU (HPTCTM), ECU:
 - do the following troubleshooting procedures (Ref. TASK 73-29-00-810-874) and (Ref. TASK 73-29-00-810-875).

EFF: 254-275, 282-299, 433-475, 481-499, 545-599

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TROUBLE SHOOTING MANUAL

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TASK 73-29-00-810-918

Loss of Outputs 1 and 2 on Engine 1 J3 Connector

1. Possible Causes

- J3 connector
- 5CA1
- 5CA2
- harness J3
- ECU (4000KS)

2. Job Set-up Information

A. Referenced Information

REFERENCE		DESIGNATION
AMM	73-21-60-000-001	Removal of the Electronic Control Unit (ECU)(4000KS)
AMM	73-21-60-400-001	<pre>Installation of the Electronic Control Unit (ECU)(4000KS)</pre>
AMM	73-29-00-710-040	Operational Test of the FADEC on the ground (with Engine Motoring)
ASM	73-25/12	

3. Fault Confirmation

A. Do the operational test of the FADEC 1B on the ground (with engine motoring) (Ref. AMM TASK 73-29-00-710-040).

4. Fault Isolation

- A. If the test gives the maintenance message J3 (INSTINCT DISC):
 do a check for loose J3 connector at the ECU 1 (Ref. ASM 73-25/12).
 - (1) If the fault continues:
 - make sure that the pins are not bent and that the pins and sockets have not moved into the J3 ECU 1 connector (Ref. ASM 73-25/12).
 - (2) If the fault continues:
 - do a check for open circuit in the harness J3 between the pins J3/6, 31 (Ref. ASM 73-25/12).
 - (a) If the fault continues:
 - replace the **5CA1**
 - replace the 5CA2
 - replace the harness J3.

EFF: ALL

73-29-00

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(b) If there is no fault:

- replace the ECU (4000KS), (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).
- B. Do the test given in Para. 3.A.

EFF: ALL

73-29-00

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TASK 73-29-00-810-919

Loss of Outputs 1 and 2 on Engine 2 J3 Connector

1. Possible Causes

- J3 connector
- 5CA1
- 5CA2
- harness J3
- ECU (4000KS)

2. Job Set-up Information

A. Referenced Information

REFERENCE		DESIGNATION	
	77 24 (0 000 004	Daniel of the Florities 's Octobel He't (FOH) ((OO)(C)	
AMM	73-21-60-000-001	Removal of the Electronic Control Unit (ECU)(4000KS)	
AMM	73-21-60-400-001	<pre>Installation of the Electronic Control Unit (ECU)(4000KS)</pre>	
AMM	73-29-00-710-040	Operational Test of the FADEC on the ground (with Engine Motoring)	
ASM	73-25/12	Engine noto: mg/	

3. Fault Confirmation

A. Do the operational test of the FADEC 2B on the ground (with engine motoring) (Ref. AMM TASK 73-29-00-710-040).

4. Fault Isolation

- A. If the test gives the maintenance message J3 (INSTINCT DISC):
 do a check for loose J3 connector at the ECU 2 (Ref. ASM 73-25/12).
 - (1) If the fault continues:
 - make sure that the pins are not bent and that the pins and sockets have not moved into the J3 ECU 2 connector (Ref. ASM 73-25/12).
 - (2) If the fault continues:
 - do a check for open circuit in the harness J3 between the pins J3/6, 31 (Ref. ASM 73-25/12).
 - (a) If the fault continues:
 - replace the **5CA1**
 - replace the 5CA2
 - replace the harness J3.

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(b) If there is no fault:

 replace the ECU (4000KS), (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).

B. Do the test given in Para. 3.A.

EFF: ALL
SROS

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TROUBLE SHOOTING MANUAL

FUEL FLOW INDICATING - FAULT ISOLATION PROCEDURES

TASK 73-31-00-810-805

Failure of the Fuel Flow Transmitter on Engine 1

- 1. Possible Causes
 - harness J13
 - ECU (4000KS)
 - fuel flow transmitter
- 2. Job Set-up Information
 - A. Referenced Information

	REFERENCE		DESIGNATION	
R	AMM	73-21-50-000-046	Removal of the HJ13 Harness	
R	AMM	73-21-50-400-046	Installation of the HJ13 Harness	
	AMM	73-21-60-000-001	Removal of the Electronic Control Unit (ECU)(4000KS)	
	AMM	73-21-60-400-001	<pre>Installation of the Electronic Control Unit (ECU)(4000KS)</pre>	
R R	AMM	73-29-00-710-040	Operational Test of the FADEC on the Ground (with Engine non Motoring)	
	AMM	73-31-10-000-002	Removal of the Fuel Flow Transmitter	
	AMM ASM	73-31-10-400-002 73-25/17	Installation of the Fuel Flow Transmitter	

- 3. Fault Confirmation
- R A. Do the operational test of the FADEC 1A on the ground (with engine non motoring) (Ref. AMM TASK 73-29-00-710-040).
 - 4. Fault Isolation
 - A. If the test gives the maintenance message FLOW SNSR, J13, ECU:
 - do a check for open or short to ground at pins J13/1, 2, 3, 6 of the harness J13 between the ECU (4000KS) and the fuel flow transmitter (Ref. ASM 73-25/17).
 - (1) If the wiring is not correct:
 - repair the above wiring.
 - (2) If the wiring is correct:
 - disconnect the harness J13 from the ECU (4000KS) and do a check of the ECU resistance cable between:
 - . pins 2 and 3 (250 to 350 0hms)
 - . pins 3 and 6 (250 to 350 0hms)
 - . pins 1 and 2 (> 10 Megohms)

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- pin 2 and ground (> 10 Megohms).
- (b) If the resistance values are out of the specified limits:
 - disconnect the harness J13 from the fuel flow transmitter and do a check of the transmitter resistance between:
 - . pins 1 and 2 (250 to 350 0hms)
 - . pins 2 and 3 (250 to 350 0hms)
 - . pins 1 and 4 (> 10 Megohms)
 - . pin 1 and ground (> 10 Megohms).
 - $\underline{\mathbf{1}}$ If the resistance values are in the specified limits
 - replace the harness J13 (Ref. AMM TASK 73-21-50-000-046) and (Ref. AMM TASK 73-21-50-400-046).
 - 2 If the resistance values are out of the specified limits:
 - replace the fuel flow transmitter (Ref. AMM TASK 73-31-10-000-002) and (Ref. AMM TASK 73-31-10-400-002).
- B. Do the test given in Para. 3.A.

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TASK 73-31-00-810-806

Failure of the Fuel Flow Transmitter on Engine 2

- 1. Possible Causes
 - ECU (4000KS)
 - harness J13
 - fuel flow transmitter
- 2. Job Set-up Information
 - A. Referenced Information

	REFERENCE		DESIGNATION	
R	AMM	73-21-50-000-046	Removal of the HJ13 Harness	
R	AMM	73-21-50-400-046	Installation of the HJ13 Harness	
	AMM	73-21-60-000-001	Removal of the Electronic Control Unit (ECU)(4000KS)	
	AMM	73-21-60-400-001	<pre>Installation of the Electronic Control Unit (ECU)(4000KS)</pre>	
R R	AMM	73-29-00-710-040	Operational Test of the FADEC on the Ground (with Engine non Motoring)	
	AMM	73-31-10-000-002	Removal of the Fuel Flow Transmitter	
	AMM	73-31-10-400-002	Installation of the Fuel Flow Transmitter	
	ASM	73-25/17		

- 3. Fault Confirmation
- R A. Do the operational test of the FADEC 2A on the ground (with engine non motoring) (Ref. AMM TASK 73-29-00-710-040).
 - 4. Fault Isolation
 - A. If the test gives the maintenance message FLOW SNSR, J13, ECU:
 - do a check for open or short to ground at pins J13/1, 2, 3, 6 of the harness J13 between the ECU (4000KS) and the fuel flow transmitter (Ref. ASM 73-25/17).
 - (1) If the wiring is not correct:
 - repair the above wiring.
 - (2) If the wiring is correct:
 - disconnect the harness J13 from the ECU (4000KS) and do a check of the ECU resistance cable between:
 - . pins 2 and 3 (250 to 350 0hms)
 - . pins 3 and 6 (250 to 350 0hms)
 - pins 1 and 2 (> 10 Megohms)
 - pin 2 and ground (> 10 Megohms).

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- (a) If the resistance values are in the specified limits:
 - replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) and (Ref. AMM TASK 73-21-60-400-001).
- (b) If the resistance values are out of the specified limits:
 - disconnect the harness J13 from the fuel flow transmitter and do a check of the transmitter resistance between:
 - . pins 1 and 2 (250 to 350 0hms)
 - . pins 2 and 3 (250 to 350 0hms)
 - . pins 1 and 4 (> 10 Megohms)
 - . pins 1 and ground (> 10 Megohms).
 - 1 If the resistance values are in the specified limits:
 - replace the harness J13 (Ref. AMM TASK 73-21-50-000-046) and (Ref. AMM TASK 73-21-50-400-046).
 - 2 If the resistance values are out of the specified limits:
 - replace the fuel flow transmitter (Ref. AMM TASK 73-31-10-000-002) and (Ref. AMM TASK 73-31-10-400-002).
- B. Do the test given in Para. 3.A.

EFF: ALL 73-31-00

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R TASK 73-31-00-810-807
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R Failure of the Fuel Flow Transmitter on Engine 1

1. Possible Causes

- harness J13

R REFERENCE

- R - ECU (4000KS)
- fuel flow transmitter

R 2. Job Set-up Information

A. Referenced Information

R			
R	AMM	73-21-50-000-046	Removal of the HJ13 Harness
R	AMM	73-21-50-400-046	Installation of the HJ13 Harness
R	AMM	73-21-60-000-001	Removal of the Electronic Control Unit (ECU)(4000KS)
R	AMM	73-21-60-400-001	Installation of the Electronic Control Unit
R			(ECU)(4000KS)
R	AMM	73-29-00-710-040	Operational Test of the FADEC on the Ground (with
R			Engine non Motoring)
R	AMM	73-31-10-000-002	Removal of the Fuel Flow Transmitter
R	AMM	73-31-10-400-002	Installation of the Fuel Flow Transmitter
R	ASM	73-25/17	

DESIGNATION

R 3. Fault Confirmation

R A. Do the operational test of the FADEC 1B on the ground (with engine non motoring) (Ref. AMM TASK 73-29-00-710-040).

4. Fault Isolation R

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- R A. If the test gives the maintenance message FLOW SNSR, J13, ECU:
 - do a check for open or short to ground at pins J13/1, 2, 3, 6 of the harness J13 between the ECU (4000KS) and the fuel flow transmitter (Ref. ASM 73-25/17).
 - (1) If the wiring is not correct:
 - repair the above wiring.
 - (2) If the wiring is correct:
 - disconnect the harness J13 from the ECU (4000KS) and do a check of the ECU resistance cable between:
 - . pins 2 and 3 (250 to 350 0hms)
 - pins 3 and 6 (250 to 350 0hms)
- pins 1 and 2 (> 10 Megohms) R
- pin 2 and ground (> 10 Megohms).

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R R R	(a) If the resistance values are in the specified limits: replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001);(Ref. AMM TASK 73-21-60-400-001).	and
R	(b) If the resistance values are out of the specified limits:	
R	 disconnect the harness J13 from the fuel flow transmitter a 	and
R	do a check of the transmitter resistance between:	
R	pins 1 and 2 (250 to 350 0hms)	
R	<pre>. pins 2 and 3 (250 to 350 0hms)</pre>	
R	pins 1 and 4 (> 10 Megohms)	
R	<pre>pin 1 and ground (> 10 Megohms).</pre>	
R	1 If the resistance values are in the specified limits	
R	- replace the harness J13 (Ref. AMM TASK 73-21-50-000-046)) and
R	(Ref. AMM TASK 73-21-50-400-046).	
R	2 If the resistance values are out of the specified limits:	
R	- replace the fuel flow transmitter (Ref. AMM TASK 73-31-	10-
R	000-002) and (Ref. AMM TASK 73-31-10-400-002).	
R	B. Do the test given in Para. 3.A.	

EFF: ALL
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TROUBLE SHOOTING MANUAL

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R TASK 73-31-00-810-808
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R Failure of the Fuel Flow Transmitter on Engine 2

1. Possible Causes

- ECU (4000KS)
- R - harness J13

R REFERENCE

- fuel flow transmitter

R 2. Job Set-up Information

A. Referenced Information

R			
.,			
R	AMM	73-21-50-000-046	Removal of the HJ13 Harness
R	AMM	73-21-50-400-046	Installation of the HJ13 Harness
R	AMM	73-21-60-000-001	Removal of the Electronic Control Unit (ECU)(4000KS)
R	AMM	73-21-60-400-001	Installation of the Electronic Control Unit
R			(ECU)(4000KS)
R	AMM	73-29-00-710-040	Operational Test of the FADEC on the Ground (with
R			Engine non Motoring)
R	AMM	73-31-10-000-002	Removal of the Fuel Flow Transmitter
R	AMM	73-31-10-400-002	Installation of the Fuel Flow Transmitter
R	ASM	73-25/17	

DESIGNATION

R 3. Fault Confirmation

R A. Do the operational test of the FADEC 2B on the ground (with engine non motoring) (Ref. AMM TASK 73-29-00-710-040).

4. Fault Isolation R

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- R A. If the test gives the maintenance message FLOW SNSR, J13, ECU:
 - do a check for open or short to ground at pins J13/1, 2, 3, 6 of the harness J13 between the ECU (4000KS) and the fuel flow transmitter (Ref. ASM 73-25/17).
 - (1) If the wiring is not correct:
 - repair the above wiring.
 - (2) If the wiring is correct:
 - disconnect the harness J13 from the ECU (4000KS) and do a check of the ECU resistance cable between:
 - . pins 2 and 3 (250 to 350 0hms)
 - pins 3 and 6 (250 to 350 0hms)
 - pins 1 and 2 (> 10 Megohms)
- pin 2 and ground (> 10 Megohms).

EFF: ALL **SROS**

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ĸ	(a) It the resistance values are in the specified limits:
R	 replace the ECU (4000KS) (Ref. AMM TASK 73-21-60-000-001) and
R	(Ref. AMM TASK 73-21-60-400-001).
R	(b) If the resistance values are out of the specified limits:
R	 disconnect the harness J13 from the fuel flow transmitter and
R	do a check of the transmitter resistance between:
R	. pins 1 and 2 (250 to 350 Ohms)
R	. pins 2 and 3 (250 to 350 Ohms)
R	. pins 1 and 4 (> 10 Megohms)
R	pins 1 and ground (> 10 Megohms).
R	1 If the resistance values are in the specified limits:
R	- replace the harness J13 (Ref. AMM TASK 73-21-50-000-046) and
R	(Ref. AMM TASK 73-21-50-400-046).
R	2 If the resistance values are out of the specified limits:
R	- replace the fuel flow transmitter (Ref. AMM TASK 73-31-10-
R	000-002) and (Ref. AMM TASK 73-31-10-400-002).
D	R No the test given in Para 3 A

EFF: ALL
SROS

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