TROUBLE SHOOTING MANUAL

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 49 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. 1- 28 49-ECAM O1 EFFECTIVITY UPDATED 101- 132 MOD.21739K1881 INCORPORATED 232-232, AIRBORNE AUXILIARY POWER - INTRODUCE ECB-2 FOR APU MOD 6 MOD.22946K2770 INCORPORATED 232-232, AIRBORNE AUXILIARY POWER -CONTROL AND MONITORING - INTRODUCE ECB P/N 304640-3 MOD.22952K2823 INCORPORATED 232-232, APU - ENGINE - INTRODUCE APU P/N 3800278-3 MOD.23365K2731 INCORPORATED 232-232, APU - GTCP 36-3 OIL HEATING - ASSURE RESTART CAPABILITY AFTER EXTENDED COLD SB 49-1045 INCORPORATED 232-232, AIRBORNE AUXILIARY POWER - CONTROL AND MONITORING - INTRODUCE A NEW ELECTRONIC CONTROL BOX. 49-ECAM 02 LAYOUT IMPROVED OR EFFECTIVITY UPDATED

101- 105, 108- 114

49-LOCAL O1 EFFECTIVITY UPDATED 101

49-LOCAL O2 LAYOUT IMPROVED OR EFFECTIVITY UPDATED 101

49-OBSV O1 EFFECTIVITY UPDATED

101- 102 SB 49-1073 INCORPORATED 232-232, AIRBORNE AUXILIARY POWER - POWER PLANT - INTR

> 49-HIGHLIGHTS Page 1 of REVISION NO. 54 May 01/08

TROUBLE SHOOTING MANUAL

CH/SE/SU C PAGES	REASON FOR CHANGE	EFFECTIVITY
	ODUCE AUXILIARY POWER UNIT HONEYWELL GTCP 3	6-
49-0BSV 02 101	LAYOUT IMPROVED OR EFFECTIVITY UPDATED	
	EFFECTIVITY UPDATED MOD.20020K0012 INCORPORATED AIRBORNE AUXILIARY POWER- DEFINE APU SYSTEM-	232-232,
	MOD.21739K1881 INCORPORATED AIRBORNE AUXILIARY POWER - INTRODUCE ECB-2 FOR APU MOD 6	232-232,
	MOD.22946K2770 INCORPORATED AIRBORNE AUXILIARY POWER - CONTROL AND MONITORING - INTRODUCE ECB P/N 304640-3	232-232,
	SB 49-1073 INCORPORATED AIRBORNE AUXILIARY POWER - POWER PLANT - INCORPORATED ODUCE AUXILIARY POWER UNIT HONEYWELL GTCP 3000	
49-CFDS 02 101- 103	LAYOUT IMPROVED OR EFFECTIVITY UPDATED	
201-A205,	EFFECTIVITY UPDATED CORRECTION/ADDITION/AMPLIFICATION ADDED: REF. TO AMM TASK 490000 790 00700	201-225, 227-227, 229-231, 233-250, 252-299, 426-499, 503-549, 551-599, 701-749,
	TITLE OF TASK(S) DATA UPDATED	201-225, 227-227, 229-231, 233-250, 252-299, 426-499,
	EFFECTIVITY UPDATED (THROUGHOUT THE TEXT)	503-549, 551-599, 701-749, 201-225, 227-227, 229-231, 233-250, 252-299, 426-499, 503-549, 551-599, 701-749,
49-00-00 02 201-A254	MOD.20020K0012 INCORPORATED AIRBORNE AUXILIARY POWER- DEFINE APU SYSTEM-	232-232, 247-248, 252-252,
	MOD.21237K1245 INCORPORATED APU - INTRODUCE APU MODE 6 AND ASSOCIATED ECB (GARRETT)	232-232, 247-248, 252-252,
	MOD.22946K2770 INCORPORATED AIRBORNE AUXILIARY POWER - CONTROL AND MONITORING - INTRODUCE ECB P/N 304640-3	232-232, 247-248, 252-252,
	MOD.22952K2823 INCORPORATED APU - ENGINE - INTRODUCE APU	232-232, 247-248, 252-252,
		49-HIGHLIGHTS Page 2 of 6

REVISION NO. 54 May 01/08

TROUBLE SHOOTING MANUAL

CH/SE/SU C PAGES		EFFECTIVITY
	P/N 3800278-3 MOD.23365K2731 INCORPORATED APU - GTCP 36-3 OIL HEATING - ASSURE RESTART CAPABILITY AFTER EXTENDED COLD SOAK	232-232, 247-248, 252-252,
	MOD.23698K3118 INCORPORATED AUXILIARY POWER UNIT - CONTROL AND MONITORING - INTRODUCE A NEW ECB	232-232, 247-248, 252-252,
	MOD.29999P2999 INCORPORATED NO DEFINITION	232-232, 247-248, 252-252,
	SB 49-1045 01 INCORPORATED AIRBORNE AUXILIARY POWER - CONTROL AND MONITO RING - INTRODUCE A NEW ELECTRONIC CONTROL BOX	
	SB 49-1073 INCORPORATED AIRBORNE AUXILIARY POWER - POWER PLANT - INTR ODUCE AUXILIARY POWER UNIT HONEYWELL GTCP 36- 300	232-232, 247-248, 252-252,
	SB 49-1073 07 INCORPORATED AIRBORNE AUXILIARY POWER - POWER PLANT - INTR ODUCE AUXILIARY POWER UNIT HONEYWELL GTCP 36- 300	232-232, 247-248, 252-252,
	NEW TOPIC/NEW CONFIGURATION	232-232, 247-248, 252-252,
	EFFECTIVITY UPDATED EFFECTIVITY UPDATED (THROUGHOUT THE TEXT)	201-225, 227-227, 229-231, 233-250, 252-299, 426-499, 503-549, 551-599, 701-749,
301- 326,	EFFECTIVITY UPDATED EFFECTIVITY UPDATED (THROUGHOUT THE TEXT) EFFECTIVITY UPDATED (THROUGHOUT THE TEXT) NO DEFINITION	
	TECHNICAL CORRECTIONS REVISED TABLE OF PARAMETER VALUES	247-253,
227, 229- 231,A201-	CORRECTION/ADDITION/AMPLIFICATION CHANGED: OIL SUMP TEMP BY OIL TEMP SENSOR LAYOUT IMPROVED/MATERIAL RELOCATED	247-253, 247-253,
B277	EFFECTIVITY UPDATED (THROUGHOUT THE TEXT)	247-253,
	EFFECTIVITY UPDATED LAYOUT IMPROVED/MATERIAL RELOCATED	201-225, 227-227, 229-231, 233-250, 252-299, 426-499,
	TITLE OF TASK(S) DATA UPDATED	503-549, 551-599, 701-749, 201-225, 227-227, 229-231, 233-250, 252-299, 426-499,
	EFFECTIVITY UPDATED (THROUGHOUT THE TEXT)	503-549, 551-599, 701-749, 201-225, 227-227, 229-231,
		-HIGHLIGHTS Page 3 of 6

REVISION NO. 54 May 01/08

TROUBLE SHOOTING MANUAL

CH/SE/SU C PAGES	REASON FOR CHANGE	EFFECTIVITY
		233-250, 252-299, 426-499, 503-549, 551-599, 701-749,
49-00-81 301	EFFECTIVITY UPDATED EFFECTIVITY UPDATED (THROUGHOUT THE TEXT)	201-225, 227-227, 229-231, 233-250, 252-299, 426-499, 503-549, 551-599, 701-749,
	MOD.22946K2770 INCORPORATED AIRBORNE AUXILIARY POWER - CONTROL AND MONITORING - INTRODUCE ECB P/N 304640-3	232-232, 247-248, 252-252,
	MOD.29999P2999 INCORPORATED NO DEFINITION	232-232, 247-248, 252-252,
	SB 49-1073 07 INCORPORATED AIRBORNE AUXILIARY POWER - POWER PLANT - INTE ODUCE AUXILIARY POWER UNIT HONEYWELL GTCP 36- 300	
	NEW TOPIC/NEW CONFIGURATION	232-232, 247-248, 252-252,
49-16-00 301	EFFECTIVITY UPDATED EFFECTIVITY UPDATED (THROUGHOUT THE TEXT)	201-225, 227-227, 229-231, 233-250, 252-299, 426-499, 503-549, 551-599, 701-749,
49-20-00 301	EFFECTIVITY UPDATED EFFECTIVITY UPDATED (THROUGHOUT THE TEXT)	201-225, 227-227, 229-231, 233-250, 252-299, 426-499, 503-549, 551-599, 701-749,
	EFFECTIVITY UPDATED EFFECTIVITY UPDATED (THROUGHOUT THE TEXT)	201-225, 227-227, 229-231, 233-250, 252-299, 426-499, 503-549, 551-599, 701-749,
	MOD.21237K1245 INCORPORATED APU - INTRODUCE APU MODE 6 AND ASSOCIATED ECB (GARRETT)	232-232, 247-248, 252-252,
	MOD.29999P2999 INCORPORATED NO DEFINITION	232-232, 247-248, 252-252,
	SB 49-1073 INCORPORATED AIRBORNE AUXILIARY POWER - POWER PLANT - INTE ODUCE AUXILIARY POWER UNIT HONEYWELL GTCP 36- 300	
	SB 49-1073 07 INCORPORATED AIRBORNE AUXILIARY POWER - POWER PLANT - INTE ODUCE AUXILIARY POWER UNIT HONEYWELL GTCP 36- 300	
		9-HIGHLIGHTS Page 4 of 6

REVISION NO. 54 May 01/08

TROUBLE SHOOTING MANUAL

CH/SE/SU C PAGES	REASON FOR CHANGE	EFFECTIVITY
	NEW TOPIC/NEW CONFIGURATION	232-232, 247-248, 252-252,
49-40-00 301	EFFECTIVITY UPDATED EFFECTIVITY UPDATED (THROUGHOUT THE TEXT)	201-225, 227-227, 229-231, 233-250, 252-299, 426-499, 503-549, 551-599, 701-749,
49-50-00 02 201- 202	MOD.21237K1245 INCORPORATED APU - INTRODUCE APU MODE 6 AND ASSOCIATED ECB (GARRETT)	232-232, 247-248, 252-252,
	MOD.29999P2999 INCORPORATED NO DEFINITION	232-232, 247-248, 252-252,
	SB 49-1073 INCORPORATED AIRBORNE AUXILIARY POWER - POWER PLANT - INTR ODUCE AUXILIARY POWER UNIT HONEYWELL GTCP 36- 300	232-232, 247-248, 252-252,
	NEW TOPIC/NEW CONFIGURATION	232-232, 247-248, 252-252,
49-50-00 301	EFFECTIVITY UPDATED EFFECTIVITY UPDATED (THROUGHOUT THE TEXT)	201-225, 227-227, 229-231, 233-250, 252-299, 426-499, 503-549, 551-599, 701-749,
	EFFECTIVITY UPDATED EFFECTIVITY UPDATED (THROUGHOUT THE TEXT)	201-225, 227-227, 229-231, 233-250, 252-299, 426-499, 503-549, 551-599, 701-749,
	MOD.21237K1245 INCORPORATED APU - INTRODUCE APU MODE 6 AND ASSOCIATED ECB (GARRETT)	232-232, 247-248, 252-252,
	MOD.29999P2999 INCORPORATED NO DEFINITION	232-232, 247-248, 252-252,
	SB 49-1073 INCORPORATED AIRBORNE AUXILIARY POWER - POWER PLANT - INTR ODUCE AUXILIARY POWER UNIT HONEYWELL GTCP 36- 300	232-232, 247-248, 252-252,
	SB 49-1073 07 INCORPORATED AIRBORNE AUXILIARY POWER - POWER PLANT - INTR ODUCE AUXILIARY POWER UNIT HONEYWELL GTCP 36- 300	232-232, 247-248, 252-252,
	NEW TOPIC/NEW CONFIGURATION	232-232, 247-248, 252-252,
49-61-00 301	EFFECTIVITY UPDATED EFFECTIVITY UPDATED (THROUGHOUT THE TEXT)	201-225, 227-227, 229-231, 233-250, 252-299, 426-499, 503-549, 551-599, 701-749,

49-HIGHLIGHTS Page 5 of 6 REVISION NO. 54 May 01/08

TROUBLE SHOOTING MANUAL

CH/SE/SU C PAGES	REASON FOR CHANGE	EFFECTIVITY
49-70-00 01	EFFECTIVITY UPDATED EFFECTIVITY UPDATED (THROUGHOUT THE TEXT)	201-225, 227-227, 229-231, 233-250, 252-299, 426-499, 503-549, 551-599, 701-749,
	MOD.21237K1245 INCORPORATED APU - INTRODUCE APU MODE 6 AND ASSOCIATED ECB (GARRETT)	232-232, 247-248, 252-252,
	MOD.29999P2999 INCORPORATED NO DEFINITION	232-232, 247-248, 252-252,
	SB 49-1073 INCORPORATED AIRBORNE AUXILIARY POWER - POWER PLANT - INTR ODUCE AUXILIARY POWER UNIT HONEYWELL GTCP 36- 300	232-232, 247-248, 252-252,
	SB 49-1073 07 INCORPORATED AIRBORNE AUXILIARY POWER - POWER PLANT - INTR ODUCE AUXILIARY POWER UNIT HONEYWELL GTCP 36- 300	232-232, 247-248, 252-252,
	NEW TOPIC/NEW CONFIGURATION	232-232, 247-248, 252-252,
	EFFECTIVITY UPDATED EFFECTIVITY UPDATED (THROUGHOUT THE TEXT)	201-225, 227-227, 229-231, 233-250, 252-299, 426-499, 503-549, 551-599, 701-749,
	EFFECTIVITY UPDATED EFFECTIVITY UPDATED (THROUGHOUT THE TEXT)	201-225, 227-227, 229-231, 233-250, 252-299, 426-499, 503-549, 551-599, 701-749,
	EFFECTIVITY UPDATED EFFECTIVITY UPDATED (THROUGHOUT THE TEXT)	201-225, 227-227, 229-231, 233-250, 252-299, 426-499, 503-549, 551-599, 701-749,

49-HIGHLIGHTS Page 6 of 6 REVISION NO. 54 May 01/08

TROUBLE SHOOTING MANUAL

CHAPTER 49

AIRBORNE AUXILIARY POWER

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	C	PAGE	DATE	CH/SE/SU	С		PAGE	DATE	CH/SE/SU	С		PAGE	DATE
RECORD				49-ECAM	01	R	109	May01/08	49-ECAM	03		105	May01/07
OF TEMP.				49-ECAM	01	R		May01/08	49-ECAM	03			May01/07
REVISION				49-ECAM	01	R	111	•	49-ECAM	03		107	May01/07
				49-ECAM	01	R		May01/08	49-ECAM	03		108	May01/07
L.E.P.	R	1- 7	May01/08	49-ECAM	01	R		May01/08	49-ECAM	03		109	May01/07
T. of C.	R	1	May01/08	49-ECAM	01	R		May01/08	49-ECAM	03		110	-
T. of C.	R	2	May01/08	49-ECAM	01	R		May01/08	49-ECAM	03		111	•
T. of C.	R	3	May01/08	49-ECAM	01	R		May01/08					•
T. of C.	R	4	May01/08	49-ECAM	01	R	117	-	49-LOCAL	01	R	101	May01/08
T. of C.	R	5	May01/08	49-ECAM	01	R	118	May01/08	49-LOCAL	02	R	101	-
T. of C.	R	6	May01/08	49-ECAM	01	R	119	May01/08	49-LOCAL	03		101	-
T. of C.	R	7	May01/08	49-ECAM	01	R	120	May01/08					•
T. of C.	R	8	May01/08	49-ECAM	01	R	121	May01/08	49-0BSV	01	R	101	May01/08
T. of C.	R	9	May01/08	49-ECAM	01	R	122	May01/08	49-0BSV	01	R	102	May01/08
T. of C.	R	10	May01/08	49-ECAM	01	R	123	May01/08	49-0BSV	02	R	101	May01/08
T. of C.	R	11	May01/08	49-ECAM	01	R	124	May01/08	49-0BSV	03		101	May01/07
T. of C.	R	12	May01/08	49-ECAM	01	R	125	May01/08					
T. of C.	R	13	May01/08	49-ECAM	01	R	126	May01/08	49-CFDS	01	R	101	May01/08
T. of C.	R	14	May01/08	49-ECAM	01	R	127	May01/08	49-CFDS	01	R	102	May01/08
T. of C.	R	15	May01/08	49-ECAM	01	R	128	May01/08	49-CFDS	01	R	103	May01/08
T. of C.	R	16	May01/08	49-ECAM	01	N	129	•	49-CFDS	01	R	104	May01/08
T. of C.	R	17	May01/08	49-ECAM	01	N	130	•	49-CFDS	01	R	105	May01/08
T. of C.	R	18	May01/08	49-ECAM	01	N	131	•	49-CFDS	01	R		May01/08
T. of C.	R	19	May01/08	49-ECAM	01	N		May01/08	49-CFDS	01	R	107	May01/08
T. of C.	R	20	May01/08	49-ECAM	02		101	•	49-CFDS	01	N		May01/08
T. of C.	R	21	May01/08	49-ECAM	02			May01/08	49-CFDS	01	N	109	May01/08
T. of C.	N	22	May01/08	49-ECAM	02		103	•	49-CFDS		R	101	May01/08
T. of C.	N	23	May01/08	49-ECAM	02			May01/08	49-CFDS		R		May01/08
T. of C.	N	24	May01/08	49-ECAM	02	R	105	•	49-CFDS	02	R		May01/08
T. of C.	N	25	May01/08	49-ECAM	02			May01/07	49-CFDS	03		101	
T. of C.	N	_	May01/08	49-ECAM	02	_	107	•	49-CFDS	03			May01/07
T. of C.	N	27	May01/08	49-ECAM	02			May01/08	49-CFDS	03		103	May01/07
T. of C.	N	28	May01/08	49-ECAM	02		109	•	,, 00, 00	0.4	_	204	M 04/00
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49-L.E.P. Page 1 May 01/08

TROUBLE SHOOTING MANUAL

CH/SE/SU C	PAGE	DATE	CH/SE/SU	С		PAGE	DATE	CH/SE/SU	С		PAGE	DATE
49-00-00 01 R	210	May01/08	49-00-00	N 1	R	261	May01/08	49-00-00	Π 1	R	Δ212	Mav01/08
49-00-00 01 R		May01/08	49-00-00				May01/08	49-00-00				
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49-00-00 01 R		May01/08	49-00-00	01	R		May01/08	49-00-00				
49-00-00 01 R	217	May01/08	49-00-00	01	R	268	May01/08	49-00-00				
49-00-00 01 R	218	May01/08	49-00-00	01	R	269	May01/08	49-00-00				
49-00-00 01 R	219	May01/08	49-00-00	01	R	270	May01/08	49-00-00				
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49-00-00 01 R	240	May01/08	49-00-00	01	R	291	May01/08	49-00-00	01	R	A242	May01/08
49-00-00 01 R	241	May01/08	49-00-00	01	R	292	May01/08	49-00-00	01	R	A243	May01/08
49-00-00 01 R		May01/08	49-00-00				May01/08	49-00-00				•
49-00-00 01 R		May01/08	49-00-00				May01/08	49-00-00				•
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49-00-00 01 R		May01/08	49-00-00				Feb01/08	49-00-00				•
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49-00-00 01 R		May01/08	49-00-00				•	49-00-00				•

49-L.E.P. Page 2 May 01/08

TROUBLE SHOOTING MANUAL

CH/SE/SU C P	PAGE DATE	CH/SE/SU C	PAGE	DATE	CH/SE/SU	С	PAGE	DATE
49-00-00 01 R A	1247 May(01/09	49-00-00 01	D D21/	May/01/08	49-00-00	U2 N	219	May/01/09
49-00-00 01 R A	-	49-00-00 01		•	49-00-00			May01/08 May01/08
49-00-00 01 R A	-	49-00-00 01		•	49-00-00			May01/08
49-00-00 01 R A		49-00-00 01			49-00-00			May01/08
49-00-00 01 R A		49-00-00 01			49-00-00			May01/08
49-00-00 01 R A		49-00-00 01			49-00-00			May01/08
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49-00-00 01 R A		49-00-00 01		,	49-00-00			May01/08
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49-00-00 01 R A		49-00-00 01			49-00-00			May01/08
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49-00-00 01 R A		49-00-00 01		•	49-00-00			May01/08
49-00-00 01 R A		49-00-00 01			49-00-00			May01/08
49-00-00 01 R A		49-00-00 01			49-00-00	02 N		May01/08
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49-00-00 01 R A	A282 May01/08	49-00-00 01			49-00-00	02 N	237	May01/08
49-00-00 01 R A	A283 May01/08	49-00-00 01	R B234	May01/08	49-00-00	02 N	238	May01/08
49-00-00 01 R A	1284 May01/08	49-00-00 01	R B235	May01/08	49-00-00	02 N	239	May01/08
49-00-00 01 R A	A285 May01/08	49-00-00 01	R B236	May01/08	49-00-00	02 N	240	May01/08
49-00-00 01 R A	A286 May01/08	49-00-00 01			49-00-00	02 N	241	May01/08
49-00-00 01 R A	A287 May01/08	49-00-00 01			49-00-00	02 N	242	May01/08
49-00-00 01 R A	A288 May01/08	49-00-00 01	R B239	May01/08	49-00-00	02 N	243	May01/08
49-00-00 01 R A		49-00-00 01		•	49-00-00	02 N	244	May01/08
49-00-00 01 R A		49-00-00 01			49-00-00			May01/08
49-00-00 01 R A		49-00-00 01			49-00-00			May01/08
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49-00-00 01 R A		49-00-00 01		•	49-00-00			May01/08
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49-00-00 01 R A	•	49-00-00 01			49-00-00			May01/08
49-00-00 01 R A	•	49-00-00 02		May01/08	49-00-00			May01/08
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49-00-00 01 R A	-	49-00-00 02		May01/08	49-00-00			May01/08
49-00-00 01 R B	-	49-00-00 02		May01/08	49-00-00			May01/08
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49-00-00 01 R B		49-00-00 02		May01/08	49-00-00			May01/08
49-00-00 01 R B	-	49-00-00 02		May01/08	49-00-00			May01/08
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49-L.E.P. Page 3 May 01/08

TROUBLE SHOOTING MANUAL

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49-00-00 02 N	269 May01/08	/0_00_00 02 N	A220 May01/08	49-00-00 01 R	317 May01/08
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49-00-00 02 N	272 May01/08		A223 May01/08	49-00-00 01 R	320 May01/08
49-00-00 02 N	273 May01/08		A224 May01/08	49-00-00 01	321 Nov01/06
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49-00-00 02 N	279 May01/08		A230 May01/08	49-00-00 01 R	327 May01/08
49-00-00 02 N	280 May01/08		A231 May01/08	49-00-00 02 R	3 01 May01/08
49-00-00 02 N	281 May01/08		A232 May01/08	49-00-00 02 R	3 02 May01/08
49-00-00 02 N	282 May01/08		A233 May01/08	49-00-00 02 R	303 May01/08
49-00-00 02 N	283 May01/08		A234 May01/08	49-00-00 02 R	304 May01/08
49-00-00 02 N	284 May01/08		A235 May01/08	49-00-00 02 R	305 May01/08
49-00-00 02 N	285 May01/08		A236 May01/08	49-00-00 02 R	306 May01/08
49-00-00 02 N	286 May01/08		A237 May01/08	49-00-00 02 R	307 May01/08
49-00-00 02 N	287 May01/08		A238 May01/08	49-00-00 02 R	308 May01/08
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49-00-00 02 N	290 May01/08		A241 May01/08	49-00-00 02 R	311 May01/08
49-00-00 02 N 49-00-00 02 N	291 May01/08 292 May01/08		A242 May01/08 A243 May01/08	49-00-00 02 R 49-00-00 02 R	312 May01/08 313 May01/08
49-00-00 02 N	293 May01/08		A244 May01/08	49-00-00 02 R	314 May01/08
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49-00-00 02 N /	-	49-00-00 01 R	•	49-00-00 02 R	326 May01/08
49-00-00 02 N /	-	49-00-00 01 R	,	49-00-00 02	327 May01/07
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49-00-00 02 N /	-	49-00-00 01 R	•	49-00-00 02 R	329 May01/08
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49-00-00 02 N /	-	49-00-00 01 R	•	49-00-00 02 R	331 May01/08
49-00-00 02 N /	-	49-00-00 01 R	•	49-00-00 03	301 May01/07
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49-00-00 02 N /	-	49-00-00 01 R	,	49-00-00 03	305 May01/07
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49-L.E.P. Page 4 May 01/08

TROUBLE SHOOTING MANUAL

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49-00-00 03	315 May01/07	49-00-81 01	235 May01/07	49-00-81 01	286 Feb01/08
49-00-00 03	316 May01/07	49-00-81 01	236 May01/07	49-00-81 01	287 May01/07
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49-00-81 01	201 May01/07	49-00-81 01	252 May01/07	49-00-81 01	A203 Feb01/08
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49-00-81 01 49-00-81 01	204 May01/07	49-00-81 01	255 May01/07 256 May01/07		R A206 May01/08 R A207 May01/08
49-00-81 01	205 May01/07 206 May01/07	49-00-81 01 49-00-81 01	250 May01/07 257 May01/07		R A207 May01/08
49-00-81 01	207 May01/07	49-00-81 01	258 May01/07		R A209 May01/08
49-00-81 01	208 Feb01/08	49-00-81 01	259 May01/07		R A210 May01/08
49-00-81 01	209 May01/07	49-00-81 01	260 May01/07		R A211 May01/08
49-00-81 01	210 May01/07	49-00-81 01	261 May01/07		R A212 May01/08
49-00-81 01	211 May01/07	49-00-81 01	262 May01/07		R A213 May01/08
49-00-81 01	212 May01/07	49-00-81 01	263 May01/07		R A214 May01/08
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49-00-81 01	225 May01/07	49-00-81 01	276 May01/07		R A227 May01/08
49-00-81 01 R	•	49-00-81 01	277 May01/07		R A228 May01/08
49-00-81 01 R 49-00-81 01	227 May01/08 228 May01/07	49-00-81 01 49-00-81 01	278 May01/07 279 May01/07		R A229 May01/08 R A230 May01/08
49-00-81 01 R	•	49-00-81 01	280 May01/07		R A231 May01/08
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49-L.E.P. Page 5 May 01/08

TROUBLE SHOOTING MANUAL

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49-00-81 01 R A			R A287 May01/08		R B238 May01/08
49-00-81 01 R A			R A288 May01/08		R B239 May01/08
49-00-81 01 R A			R A289 May01/08		R B240 May01/08
49-00-81 01 R A			R A290 May01/08		R B241 May01/08
49-00-81 01 R A			R A291 May01/08		R B242 May01/08
49-00-81 01 R A	•		R A292 May01/08		R B243 May01/08
49-00-81 01 R A			R A293 May01/08		R B244 May01/08
49-00-81 01 R A			R A294 May01/08		R B245 May01/08
49-00-81 01 R A			R A295 May01/08		R B246 May01/08
49-00-81 01 R A			R A296 May01/08		R B247 May01/08
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49-00-81 01 R A			R A298 May01/08		R B249 May01/08
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49-00-81 01 R A			R B204 May01/08		R B255 May01/08
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49-00-81 01 R A	261 May01/08	49-00-81 01 F	R B212 May01/08	49-00-81 01	R B263 May01/08
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49-00-81 01 R A	•		R B226 May01/08		N B277 May01/08
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49-00-81 01 R A	•		R B228 May01/08	49-00-81 02	•
49-00-81 01 R A	•		R B229 May01/08	49-00-81 02	•
49-00-81 01 R A	•		R B230 May01/08	49-00-81 02	•
49-00-81 01 R A			R B231 May01/08	49-00-81 02	•
49-00-81 01 R A	•		R B232 May01/08	49-00-81 02	•
49-00-81 01 R A	1282 May01/08	49-UU-81 01 F	R B233 May01/08	49-00-81 02	R 207 May01/08

49-L.E.P. Page 6 May 01/08

TROUBLE SHOOTING MANUAL

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49-00-81 02 R		May01/08	49-61-00 0			May01/08	49-70-00			5 May01/07
49-00-81 02 R		May01/08	49-61-00 0			May01/08	49-70-00			6 Aug01/07
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49-00-81 02 R	218	May01/08	49-61-00 02	2 N	202	May01/08	49-70-00	03	22	3 Aug01/07
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49-00-81 02 R		May01/08	49-61-00 03	3	202	May01/07	49-90-00	01	R 20	2 May01/08
49-00-81 02 R	223	May01/08	49-61-00 03	3	203	May01/07	49-90-00	01		3 M ay01/08
49-00-81 R	301	May01/08	49-61-00 03	3		Feb01/08	49-90-00			4 May01/08
			49-61-00	R	301	May01/08	49-90-00			1 May01/07
49-16-00 01		May01/07					49-90-00			2 May01/07
49-16-00 01		May01/07	49-70-00 0			May01/08	49-90-00			3 May01/07
49-16-00 02 N		May01/08	49-70-00 0			May01/08	49-90-00			4 May01/07
49-16-00 02 N		May01/08	49-70-00 0			May01/08	49-90-00	03		5 May01/07
49-16-00 R	301	May01/08	49-70-00 0			May01/08	49-90-00		R 30	1 May01/08
10 00 00 04	204	04407	49-70-00 0			May01/08				
49-20-00 01		May01/07	49-70-00 0			May01/08				
49-20-00 01		May01/07	49-70-00 0			May01/08				
49-20-00 01		May01/07	49-70-00 0			May01/08				
49-20-00 01		May01/07	49-70-00 0			May01/08				
49-20-00 R	30 1	May01/08	49-70-00 0			May01/08				
49-40-00 01 R	201	May01/08	49-70-00 02 49-70-00 02			May01/08 May01/08				
49-40-00 01 R		May01/08	49-70-00 02			May01/08				
49-40-00 01 R		May01/08	49-70-00 02			May01/08				
49-40-00 01 R		May01/08	49-70-00 02			May01/08				
49-40-00 02 N		May01/08	49-70-00 02			May01/08				
49-40-00 02 N		May01/08	49-70-00 02			May01/08				
49-40-00 02 N		May01/08	49-70-00 02			May01/08				
49-40-00 02 N		May01/08	49-70-00 02			May01/08				
49-40-00 03		May01/07	49-70-00 02			May01/08				
49-40-00 03		May01/07	49-70-00 03			May01/07				
49-40-00 03		May01/07	49-70-00 03			May01/07				
49-40-00 03		May01/07	49-70-00 03			May01/07				
49-40-00 R		May01/08	49-70-00 03			May01/07				
		-	49-70-00 03			May01/07				
49-50-00 01	201	Feb01/07	49-70-00 03	3		May01/07				
49-50-00 01		Feb01/07	49-70-00 03	3	207	May01/07				
49-50-00 02 N		May01/08	49-70-00 03			May01/07				
49-50-00 02 N		May01/08	49-70-00 03			May01/07				
49-50-00 R	301	May01/08	49-70-00 03			May01/07				
			49-70-00 03			May01/07				
49-61-00 01 R	201	May01/08	49-70-00 03	5	212	May01/07				

49-L.E.P. Page 7 May 01/08

TROUBLE SHOOTING MANUAL

CHAPTER 49

AIRBORNE AUXILIARY POWER

SUBJECT	CH/SE/SU	<u>C</u>	PAGE	EFFECTIVITY
FAULT SYMPTOMS	49-ECAM	1	101	201-225, 227-227
				229-250, 252-299
				426-456, 476-499
				503-549, 551-599
	_	_		701-749,
	49-ECAM			251-251,
	49-ECAM			457-475,
	49-LOCAL	1	101	
				229-231, 233-250
				252-299, 426-456
				476-499, 503-549
				551-599, 701-749
	49-LOCAL	2	101	251-251,
	49-LOCAL	3	101	457-475,
	49-0BSV	1	101	201-225, 227-227
				229-250, 252-299
				426-456, 476-499
				503-549, 551-599
				701-749,
	49-0BSV	2	101	251-251,
	49-0BSV	3		457-475,
	49-CFDS		101	-
				229-250, 252-299
				426-456, 476-499
				503-549, 551-599
				701-749,
	49-CFDS	2	101	251-251,
	49-CFDS	3	101	
	., .,			,
AIRBORNE AUXILIARY POWER - GENERAL	49-00-00			
((GTCP 36-300))				
FAULT ISOLATION PROCEDURES		2	201	232-232, 247-248
				252-252,
APU AUTO SHUT DOWN - Slow Start			201	232-232, 247-248
Shutdown, Main Start Contactor				252-252,
Fault (GTCP 36-300)				
APU AUTO SHUT DOWN - Slow Start			204	232-232, 247-248
Shutdown, Back-Up Start Contactor				252-252,
Fault (GTCP 36-300)				•
APU AUTO SHUT DOWN - Slow Start			207	232-232, 247-248
Shutdown, Starter System Fault				252-252,
(GTCP 36-300)				•
APU AUTO SHUT DOWN - SENSOR			211	232-232, 247-248
FAILURE, Oil-Pressure Switch Fault			•	252-252,
(GTCP 36-300)				•
APU AUTO SHUT DOWN - AIR INTAKE			213	232-232, 247-248
			49-	-CONTENTS Page 1
				May 01/08

TROUBLE SHOOTING MANUAL

CHAPTER 49

AIRBORNE AUXILIARY POWER

TABLE OF CONTENTS

SUBJECT	CH/SE/SU	<u>c</u>	PAGE	EFFECTIVIT	<u>Y</u>
NOT OPEN (GTCP 36-300) APU AUTO SHUT DOWN - Shutdown in conjunction with APU Fuel Control fault (GTCP 36-300)			216	252-252, 232-232, 252-252,	247-248
APU AUTO SHUT DOWN - NO FLAME, Ignition System Fault (GTCP 36-300)			219	232-232, 252-252,	247-248
APU AUTO SHUT DOWN - LOSS OF SPEED, Speed Sensor P26/P27 Fault (GTCP 36-300)			221	232-232, 252-252,	247-248
APU AUTO SHUT DOWN - Shutdown in conjunction with ECB failure (GTCP 36-300)			224	232-232, 252-252,	247-248
APU AUTO SHUT DOWN - LOSS OF SPEED, Speed Indication System 1 Fault (GTCP 36-300)			228	232-232, 252-252,	247-248
APU AUTO SHUT DOWN - LOSS OF SPEED, Speed Indication System 2 Fault (GTCP 36-300)			231	232-232, 252-252,	247-248
APU AUTO SHUT DOWN - SENSOR FAILURE (GTCP 36-300)				232-232, 252-252,	
APU AUTO SHUT DOWN - SENSOR FAILURE, EGT Indication System 1 Fault (GTCP 36-300)			237	232-232, 252-252,	241-248
APU AUTO SHUT DOWN - SENSOR FAILURE, EGT Indication System 2 Fault (GTCP 36-300)			239	232-232, 252-252,	247-248
APU AUTO SHUT DOWN - OVERSPEED, FCU and ECB 59KD Fault (GTCP 36-300)			241	232-232, 252-252,	247-248
APU AUTO SHUT DOWN - OVERTEMPERATURE, during APU Start (GTCP 36-300)			243	232-232, 252-252,	247-248
APU AUTO SHUT DOWN - OVERTEMPERATURE, during APU Operation (GTCP 36-300)			246	232-232, 252-252,	247-248
APU AUTO SHUT DOWN - LOW OIL PRESSURE, Oil Pressure Switch -, or Oil Pump Assy -, or De-Oil Solenoid Valve - Fault (GTCP 36-300)			250	232-232, 252-252,	247-248
APU AUTO SHUT DOWN - HIGH OIL TEMPERATURE, Oil Cooler -, or Cooling Fan -, or Generator Scavenge Pump - Fault (GTCP 36-300)			254	232-232, 252-252,	247-248

49-CONTENTS Page 2 May 01/08

TROUBLE SHOOTING MANUAL

CHAPTER 49

AIRBORNE AUXILIARY POWER

TABLE OF CONTENTS

SUBJECT	CH/SE/SU	C PAGE	EFFECTIVITY
APU AUTO SHUT DOWN - Slow Start	<u> </u>		232-232, 247-248
Shutdown, IGV Actuator -, or			252-252,
Starter Motor -, or Fuel Ctl Unit			
- Fault (GTCP 36-300)			
APU AUTO SHUT DOWN - NO FLAME,		262	232-232, 247-248
Ignition System -, or Fuel Control		202	252-252,
Unit -, or ECB 59KD - Fault (GTCP			EJE-EJE,
36-300)			
		247	272 272 2/7 2/9
APU AUTO SHUT DOWN - REVERSE FLOW,		201	232-232, 247-248
Differential Pressure Transducer			252-252,
P24 -, or Total Pressure			
Transducer P23 -, or Surge Ctl			
Valve - Fault (GTCP 36-300)		270	272 272 277 278
APU AUTO SHUT DOWN - GENERATOR		270	232-232, 247-248
HIGH OIL TEMP, Generator Scavenge			252-252,
Pump -, or APU Generator -, or ECB			
59KD - Fault (GTCP 36-300)			
APU AUTO SHUT DOWN - IGV FAILURE,		273	232-232, 247-248
Inlet Guide Vanes Fault			252-252,
(GTCP36-300)			
APU AUTO SHUT DOWN - Slow Start		277	232-232, 247-248
Shutdown, Oil Sump Temperature			252-252,
Fault (GTCP 36-3 00)			
APU AUTO SHUT DOWN - Slow Start		279	232-232, 247-248
Shutdown, De-Oiling Solenoid Fault			252-252,
(GTCP 36-300)			
Differential Pressure-Sensor Fault		281	232-232, 247-248
(GTCP 36-300)			252-252,
Total Pressure-Sensor Fault (GTCP		284	232-232, 247-248
36-300)			252-252,
Load Control-Valve Fault (GTCP		286	232-232, 247-248
36-300)			252-252,
Surge Control-Valve Fault (GTCP		288	232-232, 247-248
36-300)			252-252,
10V Pressure Reference not Correct		290	232-232, 247-248
(GTCP 36-300)			252-252,
Low Oil-Level Condition (GTCP		295	232-232, 247-248
36-300)			252-252,
APU AUTO SHUT DOWN - Shutdown in		299	-
conjunction with Fuel Low Pressure			252-252,
(GTCP 36-300)			
Inlet Guide-Vane-Actuator Fault		A202	232-232, 247-248
(GTCP 36-300)			252-252,
ECB 59KD Fault (GTCP 36-300)		A204	•
			252-252,
Oil-Temperature Switch Fault (GTCP		A206	•
, 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2		- -	,

49-CONTENTS Page 3 May 01/08

TROUBLE SHOOTING MANUAL

CHAPTER 49

AIRBORNE AUXILIARY POWER

TABLE OF CONTENTS

SUBJECT 36-300)	CH/SE/SU	<u>c</u>	PAGE	EFFECTIVITY 252-252,
Compressor Inlet-Pressure-Sensor Fault (GTCP 36-300)			A208	
APU Oil-Heater Fault (GTCP 36-300)			A210	•
APU AUTO SHUT DOWN - LOW OIL PRESSURE, Low Oil Quantity (GTCP 36-300)			A213	232-232, 247-248 252-252,
Inlet Guide Vane Fault (GTCP 36-300)			A216	232-232, 247-248 252-252,
De-oiling Fault (GTCP 36-300)			A218	•
Oil Sump Temperature Fault (GTCP 36-300)			A220	•
APU EMER SHUT DOWN - EMERGENCY (GTCP 36-300)			A222	232-232, 247-248 252-252,
<pre>Pressure Transducer Wiring Fault (GTCP 36-300)</pre>			A225	232-232, 247-248 252-252,
APU AUTO SHUTDOWN - UNDERSPEED, APU speed decreases with pneumatic/electrical load (GTCP			A227	232-232, 247-248 252-252,
36-300) APU AUTO SHUTDOWN - UNDERSPEED,			A230	232-232, 247-248
Inlet Guide Vanes Fault (GTCP 36-300)				252-252,
<pre>Pressure Transducer Fault (GTCP 36-300)</pre>			A232	232-232, 247-248 252-252,
Air Intake Actuator Fault (GTCP 36-300)			A234	•
Oil Level Switch Fault (Only for VECB P/N 3888394-230300 or P/N			A237	•
3888394-230301) (GTCP 36-300) APU AVAILABLE signal fault (GTCP 36-300)			A239	232-232, 247-248 252-252,
APU FAULT signal fault (GTCP 36-300)			A241	232-232, 247-248 252-252,
START IN PROGRESS signal fault (GTCP 36-300)			A243	232-232, 247-248 252-252,
APU AUTO SHUTDOWN - NO ACCELERATION, shutdown without LRU indication (GTCP 36-300)			A245	•
LOAD VALVE OPEN signal Fault (GTCP 36-300)			A248	232-232, 247-248 252-252,
Visual Oil-Filter Clogging-Indicator popped out (GTCP 36-300)			A250	•

49-CONTENTS Page 4 May 01/08

TROUBLE SHOOTING MANUAL

CHAPTER 49

AIRBORNE AUXILIARY POWER

SUBJECT APU AUTO Shutdown without Bite Message	CH/SE/SU	<u>c</u>		EFFECTIVII 232-232, 252-252,	
AIRBORNE AUXILARY POWER - GENERAL	49-00-00				
_((APS 3200)) FAULT ISOLATION PROCEDURES		1	201	201-225, 229-231, 252-299, 503-549, 701-749,	233-250 426-499
APU AUTO SHUT DOWN - NO ACCELERATION, Main Start-Contactor Fault (APS 3200)			201	201-225, 229-231, 252-299, 503-549,	233-250 426-499
APU AUTO SHUT DOWN - NO ACCELERATION, Back-Up Start-Contactor Fault (APS 3200)			204	701-749, 201-225, 229-231, 252-299, 503-549, 701-749,	233-250 426-499
APU AUTO SHUT DOWN - SENSOR FAILURE, Oil-Pressure Switch Fault and Low Oil-Level Condition (APS 3200)			207	-	233-250 426-499
APU AUTO SHUT DOWN - SENSOR FAILURE, Oil Pressure Switch and Oil Level Sensor Fault (APS 3200)			210		233-250 426-499
APU AUTO SHUT DOWN - AIR-INTAKE NOT OPEN, Air-Intake Flap-Actuator Fault (APS 3200)			213		233-250 426-499
APU AUTO SHUT DOWN - UNDERSPEED, Fuel Control Unit Fault (APS 3200)			215	201-225, 229-231, 252-299, 503-549,	233-250 426-499
APU AUTO SHUT DOWN - NO FLAME, Ignition Unit Fault (APS 3200)			219	701-749, 201-225, 229-231, 252-299, 503-549, 701-749,	233-250 426-499
APU AUTO SHUT DOWN - ECB FAILURE,			221 49-	-	

TROUBLE SHOOTING MANUAL

CHAPTER 49

AIRBORNE AUXILIARY POWER

TABLE OF CONTENTS

SUBJECT	CH/SE/SU	C PAG	E EFFECTIVITY
ECB 59KD Fault (APS 3200)	<u> </u>	<u> </u>	229-231, 233-250
			252-299, 426-499
			503-549, 551-599
			701-749,
APU AUTO SHUT DOWN - LOSS OF		22.	3 201-225, 227-227
SPEED, Speed Sensor Fault (APS		<i>LL</i> ,	229-231, 233-250
3200)			252-299, 426-499
32007			503-549, 551-599
			701-749,
APU AUTO SHUT DOWN - LOSS OF		22	· · · · · · · · · · · · · · · · · · ·
SPEED, Speed Sensor 1 and ECB 59KD		22	229-231, 233-250
Fault (APS 3200)			252-299, 426-499
rautt (AFS 3200)			503-549, 551-599
			701-749,
ADII AUTO CHUT DOUN LOCC OF		22	-
APU AUTO SHUT DOWN - LOSS OF		22	8 201-225, 227-227
SPEED, Speed Sensor 2 and ECB 59KD			229-231, 233-250
Fault (APS 3200)			252-299, 426-499
			503-549, 551-599
ARIL ALITO CHUT DOUN CENCOR		27	701-749,
APU AUTO SHUT DOWN - SENSOR		23	201-225, 227-227
FAILURE, EGT Thermocouples Fault			229-231, 233-250
(APS 3200)			252-299, 426-499
			503-549, 551-599
		0.7	701-749,
APU AUTO SHUT DOWN - SENSOR		23.	3 201-225, 227-227
FAILURE, EGT Thermocouple 1 and			229-231, 233-250
ECB 59KD Fault (APS 3200)			252-299, 426-499
			503-549, 551-599
			701-749,
APU AUTO SHUT DOWN - SENSOR		23	5 201-225, 227-227
FAILURE, EGT Thermocouple 2 and			229-231, 233-250
ECB 59KD Fault (APS 3200)			252-299, 426-499
			503-549, 551-599
			701-749,
APU AUTO SHUT DOWN - SENSOR		23	-
FAILURE, Oil Sump and			229-231, 233-250
Generator-Oil Temperature Sensor			252-299, 426-499
Fault (APS 3200)			503-549, 551-599
			701-749,
APU AUTO SHUT DOWN - OVERSPEED,		24	201-225, 227-227
Fuel Control Unit or ECB Fault			229-231, 233-250
(APS 3200)			252-299, 426-499
			503-549, 551-599
			701-749,
APU AUTO SHUT DOWN -		24	2 201-225, 227-227
OVERTEMPERATURE, Fuel Control Unit			229-231, 233-250
		- ·	
		7.0	D-CONTENTS Dage 6

49-CONTENTS Page 6 May 01/08

TROUBLE SHOOTING MANUAL

CHAPTER 49

AIRBORNE AUXILIARY POWER

SUBJECT		CH/SE/SII	r i	PAGE	EFFECTIVI:	ΓΥ
Fault (APS 320	n)	0117 027 00	<u> </u>		252-299,	
Tautt (AIS SEO	0,				503-549,	
					701-749,	JJ 1 J//
APU AUTO SHUT	DOWN - LOW			246	•	227_227
				240		
OIL-PRESSURE (APS 3200)				229-231,	
					252-299,	
					503-549,	551-599
					701-749,	
	DOWN - HIGH OIL			250		227-227
TEMPERATURE (A	PS 3200)				229-231,	
					252-299,	
					503-549,	551-599
					701-749,	
APU AUTO SHUT	DOWN - NO			255		
ACCELERATION,	Start System Fault				229-231,	233-250
(APS 3200)					252-299,	426-499
					503-549,	551-599
					701-749,	
APU AUTO SHUT	DOWN - NO			258	201-225,	227-227
ACCELERATION (Deceleration), Fuel				229-231,	
System Fault (252-299,	
.,					503-549,	
					701-749,	
APU AUTO SHUT	DOWN - NO FLAME (APS			262	-	227-227
3200)	70				229-231,	
32007					252-299,	
					503-549,	
					701-749,	331 377
APU AUTO SHUT	DOWN - NO			266	•	227-227
	Low Acceleration)			200	229-231,	
(APS 3200)	LOW ACCELETACTOM				252-299,	
(APS 3200)					•	
					503-549,	771-777
ABU AUTO CUUT	DOWN DEVERSE FLOW			272	701-749,	227 227
	DOWN - REVERSE FLOW,			272	•	
	e and APU Bleed				229-231,	
Check Valve Fa	ult (APS 3200)				252-299,	
					479-499,	
				_	551-599,	701-749
	DOWN - GEN HIGH OIL			274	201-225,	
TEMP (APS 3200)				229-231,	
					252-299,	
					503-549,	551-599
					701-749,	
Bleed Flow-Tra	nsducer Fault (APS			277	•	
3200)					229-231,	233-250
					252-299,	426-499
					•	
				49-	-CONTENTS	Page 7

TROUBLE SHOOTING MANUAL

CHAPTER 49

AIRBORNE AUXILIARY POWER

SUBJECT	CH/SE/SU	C PAGE	EFFECTIVITY
			503-549, 551-599
			701-749,
APU AUTO SHUT DOWN - SURGE		280	201-225, 227-227
/REVERSE FLOW, Bleed Control Valve			229-231, 233-250
Fault (APS3200)			252-299, 426-499
			503-549, 551-599
			701-749,
APU AUTO SHUT DOWN -		283	201-225, 227-227
OVERTEMPERATURE, Inlet Guide Vane			229-231, 233-250
Actuator Fault (APS 3200)			252-299, 426-499
			503-549, 551-599
			701-749,
APU AUTO SHUT DOWN -		287	201-225, 227-227
OVERTEMPERATURE, Inlet Guide Vane			229-231, 233-250
Actuator Fault (with AIDS support)			252-299, 426-499
(APS 3200)			503-549, 551-599
			701-749,
10V Pressure-Reference Fault (APS		290	-
3200)			229-231, 233-250
			252-299, 426-499
			503-549, 551-599
			701-749,
Load-Compressor Discharge		293	
Temperature-Sensor Fault (APS			229-231, 233-250
3200)			252-299, 426-499
3 _ 3 3,			503-549, 551-599
			701-749,
<pre>Inlet Pressure/Temperature Sensor</pre>		294	-
Fault (APS 3200)		_, .	229-231, 233-250
1 44 (7 (7) 2 2 3 5 7			252-299, 426-499
			503-549, 551-599
			701-749,
Fuel Supply Fault (APS 3200)		296	•
ract supply radit (m s sess)		270	229-231, 233-250
			252-299, 426-499
			503-549, 551-599
			701-749,
Air-Intake Flap-Actuator Fault		299	•
(APS 3200)			229-231, 233-250
(AI 6 3200)			252-299, 426-499
			503-549, 551-599
			701-749,
ECB 59KD Fault (APS 3200)		A202	•
TOT PART TOTAL (NI O SECO)		ALUL	229-231, 233-250
			252-299, 426-499
			503-549, 551-599
			230 217, 331 377

TROUBLE SHOOTING MANUAL

CHAPTER 49

AIRBORNE AUXILIARY POWER

TABLE OF CONTENTS

SUBJECT	CH/SE/SU	<u>c</u>	<u>PAGE</u>	EFFECTIVITY
Oil Filter Indication (APS 3200)			A204	701-749, 201-225, 227-227 229-231, 233-250 252-299, 426-499 503-549, 551-599 701-749,
Oil Pressure-Switch Fault (APS 3200)			A215	•
Oil Level-Sensor Fault (APS 3200)			A218	•
Low Oil-Level Indication (APS 3200)			A220	
Fumes in the Cabin/Oil Smoke at the APU Exhaust (APS 3200)			A223	201-225, 227-227 229-231, 233-250 252-299, 426-499 503-549, 551-599 701-749,
Emergency Shutdown on the Ground (APS 3200)			A227	
APU AUTO SHUT DOWN - BACKUP OVERSPEED CIRCUIT FAILURE, Cooling Fan/PMG Assy or ECB Fault (APS 3200)			A231	•
APU AUTO SHUT DOWN - NO ACCELERATION, Main Start Contactor Fault (APS 3200)			A233	•
APU AUTO SHUT DOWN - NO ACCELERATION, Back-up Start Contactor Fault (APS 3200)			A236	•

49-CONTENTS Page 9 May 01/08

TROUBLE SHOOTING MANUAL

CHAPTER 49

AIRBORNE AUXILIARY POWER

TABLE OF CONTENTS

SUBJECT	CH/SE/SU	C PAG	E EFFECTIVITY
APU AUTO SHUT DOWN (APS 3200)	<u> </u>	A23	
			229-231, 233-250
			252-299, 426-499
			503-549, 551-599
			701-749,
Low PMG Voltage (APS 3200)		A23	
		_	229-231, 233-250
			252-299, 426-456
			476-499, 503-549
			551-599, 701-749
APU AUTO SHUT DOWN - BACKUP		A24	
OVERSPEED, ECB 59KD or Cooling			229-231, 233-250
Fan/PMG Assy(8055KM) or Fuel			252-299, 426-499
Control-Unit or Fault or Speed			503-549, 551-599
Sensors Failures, (APS 3200)			701-749,
APU AUTO SHUT DOWN - REVERSE FLOW,		A24	_
Bleed Flow Transducer Fault (APS			233-250, 252-275
3200)			282-299, 426-456
5_50,			479-499, 503-549
			551-599, 701-749
APU AUTO SHUT DOWN - APU FUEL		A24	
VALVE OPEN, Fuel Control Unit			229-231, 233-250
Fault (APS 3200)			252-299, 426-456
			476-499, 503-549
			551-599, 701-749
No APU Bleed-Air Pressure, Low or		A25	
Fluctuating APU Bleed-Air Pressure			229-231, 233-250
(with AIDS support) (APS 3200)			252-299, 426-499
			503-549, 551-599
			701-749,
Bleed Control Valve Fault (APS		A26	
3200)			229-231, 233-250
			252-299, 426-499
			503-549, 551-599
			701-749,
Inlet Guide-Vane Actuator Fault		A26	_
(APS 3200)			229-231, 233-250
			252-299, 426-499
			503-549, 551-599
			701-749,
Fuel Control Unit Fault during APU		A27	
Start without AUTO SHUTDOWN (APS			229-231, 233-250
3200)			252-299, 426-499
			503-549, 551-599
			701-749,
Metal Chip contamination on		A27	
•			•

49-CONTENTS Page 10 May 01/08

TROUBLE SHOOTING MANUAL

CHAPTER 49

AIRBORNE AUXILIARY POWER

SUBJECT	CH/SE/SU	C PAGE	EFFECTIVITY
Magnetic Drain Plug or Speed	011/02/00	<u> </u>	229-231, 233-250
Sensors (APS 3200)			252-299, 426-499
3013013 (AI 3 3200)			503-549, 551-599
			701-749,
Continuous Load-Compressor Surge		A276	•
or Load-Compressor Reverse Flow		AZIU	229-231, 233-250
(APS 3200)			252-299, 426-456
(AF3 3200)			476-499, 503-549
			551-599, 701-749
APU AUTO SHUT DOWN -		A280	_
OVERTEMPERATURE, EGT Mismatch (APS		AZOU	229-231, 233-250
3200)			252-299, 426-456
32007			476-499, 503-549
ADU AUTO CUUT DOUN NO		4207	551-599, 701-749
APU AUTO SHUT DOWN - NO		A283	
ACCELERATION, De-Oiling Solenoid			229-231, 233-250
Fault (APS 3200)			252-299, 426-456
			476-499, 503-549
ARIL AUTO CHUT DOUN NO		120/	551-599, 701-749
APU AUTO SHUT DOWN - NO		A286	
ACCELERATION, IGV Actuator Fault			229-231, 233-250
(APS 3200)			252-299, 426-456
			476-499, 503-549
			551-599, 701-749
APU Generator electrical-parameter		A289	
indication(s) replaced by amber XX			229-231, 233-250
(APS 3200)			252-299, 426-499
			503-549, 551-599
			701-749,
APU Bleed Control Valve indication		A291	/
replaced by amber XX (APS 3200)			229-231, 233-250
			252-299, 426-499
			503-549, 551-599
			701-749,
APU Bleed Pressure indication		A293	,
replaced by amber XX (APS 3200)			229-231, 233-250
			252-299, 426-499
			503-549, 551-599
			701-749,
APU EGT indication replaced by		A295	•
amber XX (APS 3200)			229-231, 233-250
			252-299, 426-499
			503-549, 551-599
			701-749,
APU SPEED (N) indication replaced		A296	•
by amber XX (APS 3200)			229-231, 233-250

TROUBLE SHOOTING MANUAL

CHAPTER 49

AIRBORNE AUXILIARY POWER

SUBJECT		CH/SE/SU	С	PAGE	EFFECTIVITY
			_		252-299, 426-499
					503-549, 551-599
					701-749,
APU AU	TO SHUT DOWN - SENSOR			A297	-
FAILUR	E, Cooling Fan/PMG assy				229-231, 233-250
	(APS3200)				252-299, 426-456
					476-499, 503-549
					551-599, 701-749
APU Ma	ster Switch ON Legend			A299	
inoper					229-231, 233-250
					252-299, 426-499
					503-549, 551-599
					701-749,
APII St	art Switch ON Legend			B201	-
inoper	-			DLU !	229-231, 233-250
Порст	46106				252-299, 426-499
					503-549, 551-599
					701-749,
ADII AII	TO SHUT DOWN - LOSS OF			B203	-
	ECB (59KD) Fault (APS 3200)			6203	229-231, 233-250
SPEED,	ECB (JAKI) FAULT (APS J200)				252-299, 426-499
					503-549, 551-599
ADII AII	TO CHUT DOWN BACKUD			POOF	701-749,
	TO SHUT DOWN - BACKUP			B205	•
	EED CIRCUIT FAILURE, ECB				229-231, 233-250
(59KD)	Fault (APS 3200)				252-299, 426-499
					503-549, 551-599
				-007	701-749,
	TO SHUT DOWN - APU FUEL			B207	•
	FAILED OPEN, ECB (59KD)				229-231, 233-250
Fault	(APS 3200)				252-299, 426-499
					503-549, 551-599
					701-749,
	TO SHUT DOWN - UNDERSPEED,			B209	•
ECB (5	9KD) Fault (APS 3200)				229-231, 233-250
					252-299, 426-499
					503-549, 551-599
					701-749,
	TO SHUT DOWN - NO			B211	
	RATION, ECB (59KD) Fault				229-231, 233-250
(APS 3	200)				252-299, 426-499
					503-549, 551-599
					701-749,
APU AU	TO SHUT DOWN - NO FLAME, ECB			B213	•
(59KD)	Fault (APS 3200)				229-231, 233-250
					252-299, 426-499

TROUBLE SHOOTING MANUAL

CHAPTER 49

AIRBORNE AUXILIARY POWER

SUBJECT	CH/SE/SU	<u>C</u> <u>PAGE</u>	EFFECTIVITY
APU AUTO SHUT DOWN - OVERSPEED,		P 215	503-549, 551-599 701-749, 201-225, 227-227
ECB (59KD) Fault (APS 3200)		DZ 17	229-231, 233-250
LOD (JAKA) Taute (ATO SEGO)			252-299, 426-499
			503-549, 551-599
			701-749,
APU AUTO SHUT DOWN - NO FLAME,		B217	201-225, 227-227
Fuel Control Unit Fault (APS 3200)			229-231, 233-250
			252-299, 426-499
			503-549, 551-599
			701-749,
APU AUTO SHUT DOWN - NO		B220	201-225, 227-227
ACCELERATION, Fuel Control Unit			229-231, 233-250
Fault (APS 3200)			252-299, 426-499
			503-549, 551-599
			701-749,
APU - High Oil Consumption (APS		B223	201-225, 227-227
3200)			229-231, 233-250
			252-299, 426-499
			503-549, 551-599
5 0 1 1 5 1 (400 7000)		5225	701-749,
Fuel Control Unit Fault (APS 3200)		B225	201-225, 227-227
			229-231, 233-250
			252-299, 426-499
			503-549, 551-599 701-749,
APU AUTO SHUT DOWN - NO		B228	•
ACCELERATION, Main Start Contactor		B220	229-231, 233-250
Fault or Batteries not selected			252-299, 426-456
(APS 3200)			476-499, 503-549
(AI 6 3200)			551-599, 701-749
PMG Fault (PMG and Cooling Fan		B231	
Assy) (APS 3200)			229-231, 233-250
			252-299, 426-456
			476-499, 503-549
			551-599, 701-749
Speed Sensor 1 Low Fault (APS		B234	201-225, 227-227
3200)			229-231, 233-250
			252-299, 426-499
			503-549, 551-599
			701-749,
Speed Sensor 2 Low Fault (APS		B236	•
3200)			229-231, 233-250
			252-299, 426-499
			503-549, 551-599
		۷9-	-CONTENTS Page 13

TROUBLE SHOOTING MANUAL

CHAPTER 49

AIRBORNE AUXILIARY POWER

SUBJECT	CH/SE/SU	С	PAGE	EFFECTIVITY
		_		701-749,
Ignition Unit Fault (APS 3200)			B238	201-225, 227-227
				229-231, 233-250
				252-299, 426-499
				503-549, 551-599
Maile Obert Oreterter a to to acce			D2/0	701-749,
Main Start Contactor output open			B240	201-225, 227-227
(APS 3200)				229-231, 233-250 252-299, 426-499
				503-549, 551-599
				701-749,
Backup Start Contactor output open			B242	201-225, 227-227
(APS 3200)				229-231, 233-250
(6 0200)				252-299, 426-499
				503-549, 551-599
				701-749,
Backup Start Contactor failed open			B244	201-225, 227-227
(APS 3200)				229-231, 233-250
				252-299, 426-499
				503-549, 551-599
				701-749,
Main Start Contactor failed open			B246	201-225, 227-227
(APS 3200)				229-231, 233-250
				252-299, 426-499
				503-549, 551-599
				701-749,
ATTENDED AND THE CONTRACT	(0.00.00			
AIRBORNE AUXILIARY POWER - GENERAL	49-00-00			
((GTCP 36-300)) TASK SUPPORTING DATA		2	301	232-232, 247-248
TASK SUFFURITING DATA		~	J 0 1	252-252, 241-248
Supporting Data			301	232-232, 247-248
Supporting Data			301	252-252,
LRU Faults, Shutdowns and Fault			301	232-232, 247-248
Tree, Fault Code Numbers (FCN)				252-252,
BITE Detection			304	232-232, 247-248
				252-252,
BITE Detection			307	232-232, 247-248
				252-252,
AIRBORNE AUXILIARY POWER - GENERAL	49-00-00			
((APS 3200))				
TASK SUPPORTING DATA		1	301	201-225, 227-227
				229-231, 233-250
				252-299, 426-499
				CONTENTS 5 44
			49-	CONTENTS Page 14
				May 01/08

TROUBLE SHOOTING MANUAL

CHAPTER 49

AIRBORNE AUXILIARY POWER

TABLE OF CONTENTS

SUBJECT	CH/SE/SU	<u>C</u>	PAGE	EFFECTIVITY 503-549, 551-599
LRU Location			301	701-749,
APS 3200 ECB software 2.0.2 nuisance faults (Ref. SIL 49-027)			301	•
Fuel Low Pressure Valve Fault on ECAM after APU autoshutdown			301	•
APS 3200 ECB Software 4.1 particularities			301	•
Load Compressor Discharge Temperature Sensor (LCDT P29)			301	-
APU Low Starting Problem			305	201-225, 234-250 252-253, 276-278 280-280, 282-299 426-450, 479-499 503-549, 551-599 701-749,
Fault Code Numbers (FCN) (APS 3200)			307	•
AIRBORNE AUXILIARY POWER - GENERAL	49-00-00			
((131-9(A))) TASK SUPPORTING DATA APU Fault Symptom Peculiarities BITE Detection Fault Code Numbers (FCN) AIRBONE AUXILIARY POWER - GENERAL ((APS 3200))	49-00-81	3		247-253, 247-253,

49-CONTENTS Page 15 May 01/08

TROUBLE SHOOTING MANUAL

CHAPTER 49

AIRBORNE AUXILIARY POWER

TABLE OF CONTENTS

SUBJECT	CH/SE/SU	С	PAGE	EFFECTIVITY
FAULT ISOLATION PROCEDURES		<u>C</u> 2		201-225, 227-227
				229-231, 233-250
				252-299, 426-499
				503-549, 551-599
				701-749,
APU AUTO SHUT DOWN - NO FLAME, APU			201	201-225, 227-227
Fuel Supply Failure (APS 3200)				229-231, 233-244
				247-250, 252-299
				426-456, 476-499
				503-549, 551-599
				701-749,
APU AUTO SHUT DOWN - NO			203	•
ACCELERATION, APU Flow Divider				229-231, 233-250
(8024KM) (APS 3200)				252-299, 426-499
				503-549, 551-599
				701-749,
Bleed Ctl Valve (8051KM) / Fuel			205	•
Ctl Unit (8022KM) Failure (APS				229-231, 233-244
3200)				247-250, 252-299
				426-456, 476-499
				503-549, 551-599
				701-749,
Bleed Valve Open Indication (APS			207	•
3200)				229-231, 233-244
				247-250, 252-299
				426-456, 476-499
				503-549, 551-599
ARIL AUTO CUUT DOUN . LOCC OF DO			200	701-749,
APU AUTO SHUT DOWN - LOSS OF DC			209	•
POWER, Low ECB Voltage (APS 3200)				229-231, 233-244 247-250, 252-299
				426-456, 476-499
				503-549, 551-599
				701-749,
APU AUTO SHUT DOWN - NO			212	_
ACCELERATION, APU Fuel Supply			212	229-231, 233-244
Failure (APS 3200)				247-250, 252-299
Tartare (Are S200)				426-456, 476-499
				503-549, 551-599
				701-749,
APU AUTO SHUT DOWN - UNDERSPEED,			213	
APU Fuel Supply Failure (APS 3200)			•	229-231, 233-244
				247-250, 252-299
				426-456, 476-499
				503-549, 551-599
				701-749,
				-

49-CONTENTS Page 16 May 01/08

TROUBLE SHOOTING MANUAL

CHAPTER 49

AIRBORNE AUXILIARY POWER

TABLE OF CONTENTS

SUBJECT APU Fuel Supply Failure (APS 3200)	CH/SE/SU	<u>c</u>	PAGE 214	,	227-227
				229-231, 247-250,	252-299
				426-456,	
				503-549, 701-749,	551-599
APU AUTO SHUT DOWN - OVERSPEED,			215	•	227-227
Speed Sensors Failures (APS 3200)				229-231,	233-244
				247-250,	
				426-456,	
				503-549,	551-599
				701-749,	
APU Bleed Pressure - Bleed			217		227-227
Pressure Fluctuation (APS 3200)				229-231,	
				252-299, 503-549,	
				701-749,	JJ1 J//
APU Flames at exhaust - Tail pipe			219	•	227-227
fire (APS 3200)				229-231,	233-250
				252-299,	426-499
				503-549,	551-599
				701-749,	
APU SLOW START, Start System (APS			220		227-227
3200)				229-231, 247-250,	
				426-499,	
				551-599,	
AIRBONE AUXILIARY POWER - GENERAL ((131-9(A)))	49-00-81				. •
FAULT ISOLATION PROCEDURES		1		247-253,	
APU AUTO SHUTDOWN - OVERSPEED, APU Speed higher than 106 % (N)			201	247-253,	
APU AUTO SHUTDOWN - OVERSPEED,			203	247-253,	
<pre>Fuel-Flow disagrees with Command (131-9(A))</pre>					
APU EMER SHUTDOWN - EMERGENCY,			206	247-253,	
Emergency Switch active (131-9(A))				2 2307	
APU AUTO SHUTDOWN - ECB FAILURE,			209	247-253,	
ECB Internal Fault (131-9(A))					
APU AUTO SHUTDOWN - UNDERSPEED,			210	247-253,	
APU is unable to hold Speed					
(131-9(A))			245	2/7 257	
APU AUTO SHUTDOWN - UNDERSPEED, Fuel Flow disagrees with Command			215	247-253,	
(131-9(A))					
APU AUTO SHUTDOWN - UNDERSPEED,			218	247-253,	
			49-	CONTENTS	Page 17

May 01/08

TROUBLE SHOOTING MANUAL

CHAPTER 49

AIRBORNE AUXILIARY POWER

TABLE OF CONTENTS

SUBJECT	CH/SE/SU	<u>c</u>	PAGE	EFFECTIVITY
Fuel-Control Unit Fault (131-9(A)) APU AUTO SHUTDOWN - UNDERSPEED,			221	247-253,
Low Fuel Pressure (131-9(A)) APU AUTO SHUTDOWN - UNDERSPEED,			223	247-253,
ECB Internal Fault (131-9(A)) APU AUTO SHUTDOWN -			224	247-253,
OVERTEMPERATURE (on speed), High Temperature during APU on-speed				
(131-9(A)) APU AUTO SHUTDOWN -			228	247-253,
OVERTEMPERATURE (on speed), IGV Position disagrees with Command				
(131-9(A)) APU AUTO SHUTDOWN -			232	247-253,
OVERTEMPERATURE (APU Start), High Temperature during APU Start				
(131-9(A)) APU AUTO SHUTDOWN -			237	247-253,
OVERTEMPERATURE (APU Start), Fuel Flow disagrees with Command				
(131-9(A)) APU AUTO SHUTDOWN - SENSOR			240	247-253,
<pre>FAILURE, EGT1 Sensor Fault and ECB internal Fault (131-9(A))</pre>				
APU AUTO SHUTDOWN - SENSOR FAILURE, EGT2 Sensor Fault and ECB			242	247-253,
internal Fault (131-9(A)) APU AUTO SHUTDOWN - SENSOR			244	247-253,
<pre>FAILURE, Both EGT Sensors failed (131-9(A))</pre>				
APU AUTO SHUTDOWN - SENSOR FAILURE, ECB internal Fault			246	247-253,
(131-9(A)) APU AUTO SHUTDOWN - SENSOR			247	247-253,
<pre>FAILURE, Oil Pressure Detection failed (131-9(A))</pre>				
APU AUTO SHUTDOWN - LOW OIL PRESSURE, Loss of Oil Pressure			250	247-253,
(131-9(A)) APU AUTO SHUTDOWN - LOW OIL			253	247-253,
PRESSURE, Low Oil Level (131-9(A)) APU AUTO SHUTDOWN - NO FLAME, No			255	247-253,
EGT Rise during Start (131-9(A)) APU AUTO SHUTDOWN - NO FLAME, Fuel			261	247-253,
Pressure is low during APU Run (131-9(A))				

49-CONTENTS Page 18 May 01/08

TROUBLE SHOOTING MANUAL

CHAPTER 49

AIRBORNE AUXILIARY POWER

TABLE OF CONTENTS

SUBJECT APU AUTO SHUTDOWN - NO FLAME,	CH/SE/SU	<u>c</u>		EFFECTIVITY 247-253,
Fuel-Control Unit Fault (131-9(A)) APU AUTO SHUTDWON - NO FLAME, Fuel Flow disagrees with Command				247-253,
(131-9(A)) APU AUTO SHUTDOWN - NO FLAME,			270	247-253,
Ignition Unit Fault (131-9(A)) APU AUTO SHUTDOWN - NO FLAME, Flow-Divider Solenoid Fault			274	247-253,
(131-9(A)) APU AUTO SHUTDOWN - NO FLAME, ECB internal Fault (131-9(A))			277	247-253,
APU AUTO SHUTDOWN - AIR INTAKE NOT			278	247-253,
OPEN, Air Intake Fault (131-9(A)) APU AUTO SHUTDOWN - HIGH OIL TEMPERATURE, High Oil Temperature			281	247-253,
(131-9(A)) APU AUTO SHUTDOWN - NO ACCELERATION, APU Speed is less than 7 % (N) for 30 Seconds			284	247-253,
(131-9(A)) APU AUTO SHUTDOWN - NO ACCELERATION, Main Start-Contactor			288	247-253,
Fault (131-9(A)) APU AUTO SHUTDOWN - NO ACCELERATION, Back-up Start			290	247-253,
Contactor Fault (131-9(A)) APU AUTO SHUTDOWN - NO ACCELERATION, Oil Heater Fault			292	247-253,
(131-9(A)) APU AUTO SHUTDOWN - NO ACCELERATION, Starter Motor Fault			296	247-253,
(131-9(A)) APU AUTO SHUTDOWN - NO ACCELERATION, Fuel-Control Unit			A201	247-253,
Fault (131-9(A)) APU AUTO SHUTDOWN - NO ACCELERATION, Fuel Flow disagrees			A215	247-253,
with Command (131-9(A)) APU AUTO SHUTDOWN - NO ACCELERATION, ECB internal Fault			A218	247-253,
(131-9(A)) APU AUTO SHUTDOWN - NO ACCELERATION, De-Oil Solenoid			A219	247-253,
Fault (131-9(A)) APU AUTO SHUTDOWN - NO			A224	247-253,

49-CONTENTS Page 19 May 01/08

TROUBLE SHOOTING MANUAL

CHAPTER 49

AIRBORNE AUXILIARY POWER

TABLE OF CONTENTS

ACCELERATION, Low Fuel Pressure (131-9(A)) APU AUTO SHUTDOWN - NO ACCELERATION, IGV Position disagrees with Command (131-9(A)) APU AUTO SHUTDOWN - NO ACCELERATION, Flow-Divider Solenoid Fault (131-9(A)) APU AUTO SHUTDOWN - NO ACCELERATION, Oil Temperature Sensor out-of-range (high) (131-9(A)) APU AUTO SHUTDOWN - INLET ACCELERATION, Oil Temperature Sensor out-of-range (high) (131-9(A)) APU AUTO SHUTDOWN - LOSS OF SPEED, APU AUTO SHUTDOWN - REVERSE FLOW, APU AUTO SHUTDOWN - CLOGGED OIL FILTER, Oil Filter clogged (onspeed) (131-9(A)) APU AUTO SHUTDOWN - LOSS OF DC APURER, Power Supply Interrupt (131-9(A)) APU AUTO SHUTDOWN - LOSS OF DC APURER, Power Supply Interrupt (131-9(A)) APU AUTO SHUTDOWN - LOSS OF DC APURER, Power Supply Interrupt (131-9(A)) APU AUTO SHUTDOWN - LOSS OF DC APURER, Power Supply Interrupt (131-9(A)) APU AUTO SHUTDOWN - LOSS OF DC APURER, Power Supply Interrupt (131-9(A)) APU AUTO SHUTDOWN - LOSS OF DC APURER, Power Supply Interrupt (131-9(A)) APU AUTO SHUTDOWN - LOSS OF DC APURER, Power Supply Interrupt (131-9(A)) APU AUTO SHUTDOWN - LOSS OF DC APURER, Power Supply Interrupt (131-9(A)) APU AUTO SHUTDOWN - LOSS OF DC APURER AT A A A A A A A A A A A A A A A A A A	SUBJECT	CH/SE/SU	<u>c</u>	PAGE	EFFECTIVITY
APU AUTO SHUTDOWN - NO ACCELERATION, IGV Position disagrees with Command (131-9(A)) APU AUTO SHUTDOWN - NO ACCELERATION, Flow-Divider Solenoid Fault (131-9(A)) APU AUTO SHUTDOWN - NO ACCELERATION, Oil Temperature Sensor out-of-range (high) (131-9(A)) APU AUTO SHUTDOWN - INLET APU AUTO SHUTDOWN - INLET APU AUTO SHUTDOWN - LOSS OF SPEED, APU AUTO SHUTDOWN - REVERSE FLOW, APU AUTO SHUTDOWN - LOSS OF DE APUT AUTO SHUTDOWN - L	ACCELERATION, Low Fuel Pressure				
ACCELERATION, IGV Position disagrees with Command (131-9(A)) APU AUTO SHUTDOWN - NO ACCELERATION, Flow-Divider Solenoid Fault (131-9(A)) APU AUTO SHUTDOWN - NO ACCELERATION, Oil Temperature Sensor out-of-range (high) (131-9(A)) APU AUTO SHUTDOWN - INLET OVERHEAT, APU Inlet Temperature higher than Limit (131-9(A)) APU AUTO SHUTDOWN - LOSS OF SPEED, Speed Sensor Fault and ECB internal Fault (131-9(A)) APU AUTO SHUTDOWN - LOSS OF SPEED, Speed Sensor Fault (131-9(A)) APU AUTO SHUTDOWN - LOSS OF SPEED, ECB internal Fault (131-9(A)) APU AUTO SHUTDOWN - REVERSE FLOW, REVERSE FLOW Condition for min. 6 Seconds (131-9(A)) APU AUTO SHUTDOWN - REVERSE FLOW, SCV Position disagrees with Command (131-9(A)) APU AUTO SHUTDOWN - CLOGGED OIL FILTER, Oil Filter clogged (onspeed) (131-9(A)) APU AUTO SHUTDOWN - CLOGGED OIL FILTER, Oil Filter clogged (onspeed) (131-9(A)) APU AUTO SHUTDOWN - CLOGGED OIL FILTER, Oil Filter clogged (onspeed) (131-9(A)) APU AUTO SHUTDOWN - CLOGGED OIL FILTER, Oil Filter clogged (onspeed) (131-9(A)) APU AUTO SHUTDOWN - CLOGGED OIL FILTER, Oil Filter clogged (onspeed) (131-9(A)) APU AUTO SHUTDOWN - CLOGGED OIL FILTER, Oil Filter clogged (onspeed) (131-9(A)) APU AUTO SHUTDOWN - CLOGGED OIL FILTER, Oil Filter clogged (onspeed) (131-9(A)) APU AUTO SHUTDOWN - CLOGGED OIL FILTER, Oil Filter clogged (onspeed) (131-9(A)) APU AUTO SHUTDOWN - CLOGGED OIL FILTER, Oil Filter clogged (onspeed) (131-9(A)) APU AUTO SHUTDOWN - CLOGGED OIL FILTER, Oil Filter clogged (onspeed) (131-9(A)) APU AUTO SHUTDOWN - CLOGGED OIL A254 247-253, Fault (131-9(A)) Differential-Pressure Transducer (P21) Fault (131-9(A)) Differential-Pressure Transducer (P23) Fault (131-9(A)) Doad-Control Valve (P12) Fault (131-9(A)) Bleed Shutoff due to Reverse Flow A278 247-253,				A226	247-253,
APU ÂUTO SHUTDOWN - NO ACCELERATION, Flow-Divider Solenoid Fault (131-9(A)) APU AUTO SHUTDOWN - NO ACCELERATION, Oil Temperature Sensor out-of-range (high) (131-9(A)) APU AUTO SHUTDOWN - INLET OVERNEAT, APU Inlet Temperature higher than Limit (131-9(A)) APU AUTO SHUTDOWN - LOSS OF SPEED, Speed Sensor Fault and ECB internal Fault (131-9(A)) APU AUTO SHUTDOWN - LOSS OF SPEED, Speed Sensor Fault and ECB internal Fault (131-9(A)) APU AUTO SHUTDOWN - LOSS OF SPEED, ECB internal fault (131-9(A)) APU AUTO SHUTDOWN - REVERSE FLOW, Reverse Flow Condition for min. 6 Seconds (131-9(A)) APU AUTO SHUTDOWN - REVERSE FLOW, Reverse Flow Condition for min. 6 Seconds (131-9(A)) APU AUTO SHUTDOWN - CLOGGED OIL FILTER, Oil Filter clogged (onspeed) (131-9(A)) APU AUTO SHUTDOWN - LOSS OF DC POWER, Power Supply Interrupt (131-9(A)) APU AUTO SHUTDOWN - LOSS OF DC POWER, Power Supply Interrupt (131-9(A)) Inlet-Guide Vane-Actuator (P21) Fault (131-9(A)) Pressure-Transducer Fault or ECB internal Fault (131-9(A)) Differential-Pressure Transducer (P24) Fault (131-9(A)) Total-Pressure Transducer (P23) Fault (131-9(A)) Bleed Shutoff due to Reverse Flow A278 247-253,					,
ACCELERATION, Flow-Divider Solenoid Fault (131-9(A)) APU AUTO SHUTDOWN - NO ACCELERATION, Oil Temperature Sensor out-of-range (high) (131-9(A)) APU AUTO SHUTDOWN - INLET OVERHEAT, APU Inlet Temperature higher than Limit (131-9(A)) APU AUTO SHUTDOWN - LOSS OF SPEED, Speed Sensor Fault and ECB internal Fault (131-9(A)) APU AUTO SHUTDOWN - LOSS OF SPEED, Speed Sensor Fault (131-9(A)) APU AUTO SHUTDOWN - LOSS OF SPEED, A243 247-253, Speed Sensor Fault (131-9(A)) APU AUTO SHUTDOWN - LOSS OF SPEED, ECB internal Fault (131-9(A)) APU AUTO SHUTDOWN - REVERSE FLOW, Reverse Flow Condition for min. 6 Seconds (131-9(A)) APU AUTO SHUTDOWN - REVERSE FLOW, SCV Position disagrees with Command (131-9(A)) APU AUTO SHUTDOWN - CLOGGED OIL FILTER, Oil Filter clogged (onspeed) (131-9(A)) APU AUTO SHUTDOWN - LOSS OF DC POWER, Power Supply Interrupt (131-9(A)) Inlet-Guide Vane-Actuator (P21) Fault (131-9(A)) Pressure-Transducer Fault or ECB internal Fault (131-9(A)) Differential-Pressure Transducer (P24) Fault (131-9(A)) Total-Pressure Transducer (P23) Fault (131-9(A)) Bleed Shutoff due to Reverse Flow A278 247-253,	-			- 0 = 0	0 0
Solenoid Fault (131-9(A)) APU AUTO SHUTDOWN - NO ACCELERATION, Oil Temperature Sensor out-of-range (high) (131-9(A)) APU AUTO SHUTDOWN - INLET OVERHEAT, APU Inlet Temperature higher than Limit (131-9(A)) APU AUTO SHUTDOWN - LOSS OF SPEED, Speed Sensor Fault and ECB internal Fault (131-9(A)) APU AUTO SHUTDOWN - LOSS OF SPEED, Speed Sensor Fault (131-9(A)) APU AUTO SHUTDOWN - LOSS OF SPEED, Speed Sensor Fault (131-9(A)) APU AUTO SHUTDOWN - LOSS OF SPEED, ECB internal Fault (131-9(A)) APU AUTO SHUTDOWN - REVERSE FLOW, REVERSE FLOW COndition for min. 6 Seconds (131-9(A)) APU AUTO SHUTDOWN - REVERSE FLOW, SCV Position disagrees with Command (131-9(A)) APU AUTO SHUTDOWN - CLOGGED OIL FILTER, Oil Filter clogged (onspeed) (131-9(A)) APU AUTO SHUTDOWN - LOSS OF DC POWER, Power Supply Interrupt (131-9(A)) Inlet-Guide Vane-Actuator (P21) Fault (131-9(A)) Pressure-Transducer Fault or ECB internal Fault (131-9(A)) Differential-Pressure Transducer (P24) Fault (131-9(A)) Differential-Pressure Transducer (P25) Fault (131-9(A)) Differential-Pressure Transducer (P26) Fault (131-9(A)) Bleed Shutoff due to Reverse Flow A278 247-253,				A230	247-253,
APU AUTO SHUTDOWN - NO ACCELERATION, Oil Temperature Sensor out-of-range (high) (131-9(A)) APU AUTO SHUTDOWN - INLET OVERHEAT, APU Inlet Temperature higher than Limit (131-9(A)) APU AUTO SHUTDOWN - LOSS OF SPEED, Speed Sensor Fault and ECB internal Fault (131-9(A)) APU AUTO SHUTDOWN - LOSS OF SPEED, Speed Sensor Fault (131-9(A)) APU AUTO SHUTDOWN - LOSS OF SPEED, Speed Sensor Fault (131-9(A)) APU AUTO SHUTDOWN - LOSS OF SPEED, ECB internal Fault (131-9(A)) APU AUTO SHUTDOWN - LOSS OF SPEED, ECB internal Fault (131-9(A)) APU AUTO SHUTDOWN - REVERSE FLOW, Reverse Flow Condition for min. 6 Seconds (131-9(A)) APU AUTO SHUTDOWN - REVERSE FLOW, SCV Position disagrees with Command (131-9(A)) APU AUTO SHUTDOWN - CLOGGED OIL FILTER, Oil Filter clogged (onspeed) (131-9(A)) APU AUTO SHUTDOWN - LOSS OF DC POWER, Power Supply Interrupt (131-9(A)) Inlet-Guide Vane-Actuator (P21) Fault (131-9(A)) Pressure-Transducer Fault or ECB internal Fault (131-9(A)) Differential-Pressure Transducer (P24) Fault (131-9(A)) Total-Pressure Transducer (P23) Fault (131-9(A)) Bleed Shutoff due to Reverse Flow A278 247-253,					
Sensor out-of-range (high) (131-9(A)) APU AUTO SHUTDOWN - INLET OVERHEAT, APU Inlet Temperature higher than Limit (131-9(A)) APU AUTO SHUTDOWN - LOSS OF SPEED, Speed Sensor Fault and ECB internal Fault (131-9(A)) APU AUTO SHUTDOWN - LOSS OF SPEED, Speed Sensor Fault (131-9(A)) APU AUTO SHUTDOWN - LOSS OF SPEED, Speed Sensor Fault (131-9(A)) APU AUTO SHUTDOWN - LOSS OF SPEED, ECB internal Fault (131-9(A)) APU AUTO SHUTDOWN - REVERSE FLOW, Reverse Flow Condition for min. 6 Seconds (131-9(A)) APU AUTO SHUTDOWN - REVERSE FLOW, SCV Position disagrees with Command (131-9(A)) APU AUTO SHUTDOWN - CLOGGED OIL FILTER, Oil Filter clogged (onspeed) (131-9(A)) APU AUTO SHUTDOWN - LOSS OF DC POWER, Power Supply Interrupt (131-9(A)) Inlet-Guide Vane-Actuator (P21) Fault (131-9(A)) Pressure-Transducer Fault or ECB internal Fault (131-9(A)) Differential-Pressure Transducer (P24) Fault (131-9(A)) Total-Pressure Transducer (P23) Fault (131-9(A)) Load-Control Valve (P12) Fault A275 247-253, (131-9(A)) Bleed Shutoff due to Reverse Flow A278 247-253,				A233	247-253,
(131-9(A)) APU AUTO SHUTDOWN - INLET OVERHEAT, APU Inlet Temperature higher than Limit (131-9(A)) APU AUTO SHUTDOWN - LOSS OF SPEED, Speed Sensor Fault and ECB internal Fault (131-9(A)) APU AUTO SHUTDOWN - LOSS OF SPEED, Speed Sensor Fault (131-9(A)) APU AUTO SHUTDOWN - LOSS OF SPEED, ECB internal Fault (131-9(A)) APU AUTO SHUTDOWN - ROSS OF SPEED, ECB internal Fault (131-9(A)) APU AUTO SHUTDOWN - REVERSE FLOW, Reverse Flow Condition for min. 6 Seconds (131-9(A)) APU AUTO SHUTDOWN - REVERSE FLOW, SCV Position disagrees with Command (131-9(A)) APU AUTO SHUTDOWN - CLOGGED OIL FILTER, Oil Filter clogged (onspeed) (131-9(A)) APU AUTO SHUTDOWN - LOSS OF DC POWER, Power Supply Interrupt (131-9(A)) Inlet-Guide Vane-Actuator (P21) Fault (131-9(A)) Pressure-Transducer Fault or ECB internal Fault (131-9(A)) Differential-Pressure Transducer (P24) Fault (131-9(A)) Total-Pressure Transducer (P23) Fault (131-9(A)) Load-Control Valve (P12) Fault A275 247-253, [131-9(A)) Bleed Shutoff due to Reverse Flow A278 247-253,					
APU AUTO SHUTDOWN - INLET OVERHEAT, APU Inlet Temperature higher than Limit (131-9(A)) APU AUTO SHUTDOWN - LOSS OF SPEED, Speed Sensor Fault and ECB internal Fault (131-9(A)) APU AUTO SHUTDOWN - LOSS OF SPEED, Speed Sensor Fault (131-9(A)) APU AUTO SHUTDOWN - LOSS OF SPEED, Speed Sensor Fault (131-9(A)) APU AUTO SHUTDOWN - LOSS OF SPEED, ECB internal Fault (131-9(A)) APU AUTO SHUTDOWN - REVERSE FLOW, Reverse Flow Condition for min. 6 Seconds (131-9(A)) APU AUTO SHUTDOWN - REVERSE FLOW, SCV Position disagrees with Command (131-9(A)) APU AUTO SHUTDOWN - CLOGGED OIL FILTER, Oil Filter clogged (onspeed) (131-9(A)) APU AUTO SHUTDOWN - LOSS OF DC A258 247-253, FULTER, Ower Supply Interrupt (131-9(A)) Inlet-Guide Vane-Actuator (P21) Fault (131-9(A)) Pressure-Transducer Fault or ECB internal Fault (131-9(A)) Differential-Pressure Transducer (P24) Fault (131-9(A)) Total-Pressure Transducer (P23) Fault (131-9(A)) Load-Control Valve (P12) Fault A275 247-253, (131-9(A)) Bleed Shutoff due to Reverse Flow A278 247-253,					
OVERHEAT, APU Inlet Temperature higher than Limit (131-9(A)) APU AUTO SHUTDOWN - LOSS OF SPEED, Speed Sensor Fault and ECB internal Fault (131-9(A)) APU AUTO SHUTDOWN - LOSS OF SPEED, Speed Sensor Fault (131-9(A)) APU AUTO SHUTDOWN - LOSS OF SPEED, APU AUTO SHUTDOWN - LOSS OF SPEED, APU AUTO SHUTDOWN - REVERSE FLOW, APU AUTO SHUTDOWN - CLOGGED OIL APU AUTO SHUTDOWN - CLOGGED OIL APU AUTO SHUTDOWN - LOSS OF DC APURER, Power Supply Interrupt (131-9(A)) Inlet-Guide Vane-Actuator (P21) Fault (131-9(A)) Pressure-Transducer Fault or ECB internal Fault (131-9(A)) Differential-Pressure Transducer APURCA 247-253, Fault (131-9(A)) Total-Pressure Transducer (P23) Fault (131-9(A)) Load-Control Valve (P12) Fault APUTO SHUTDOWN - APUT				A237	247-253.
APU AUTO SHUTDOWN - LOSS OF SPEED, Speed Sensor Fault and ECB internal Fault (131-9(A)) APU AUTO SHUTDOWN - LOSS OF SPEED, Speed Sensor Fault (131-9(A)) APU AUTO SHUTDOWN - LOSS OF SPEED, APU AUTO SHUTDOWN - LOSS OF SPEED, APU AUTO SHUTDOWN - REVERSE FLOW, APU AUTO SHUTDOWN - CLOGGED OIL APU AUTO SHUTDOWN - CLOGGED OIL APU AUTO SHUTDOWN - LOSS OF DC APURAL AU				,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	2 2507
Speed Sensor Fault and ECB internal Fault (131-9(A)) APU AUTO SHUTDOWN - LOSS OF SPEED, Speed Sensor Fault (131-9(A)) APU AUTO SHUTDOWN - LOSS OF SPEED, ECB internal Fault (131-9(A)) APU AUTO SHUTDOWN - REVERSE FLOW, APU AUTO SHUTDOWN - REVERSE FLOW, Reverse Flow Condition for min. 6 Seconds (131-9(A)) APU AUTO SHUTDOWN - REVERSE FLOW, A251 247-253, SCV Position disagrees with Command (131-9(A)) APU AUTO SHUTDOWN - CLOGGED OIL FILTER, Oil Filter clogged (onspeed) (131-9(A)) APU AUTO SHUTDOWN - LOSS OF DC A258 247-253, POWER, Power Supply Interrupt (131-9(A)) Inlet-Guide Vane-Actuator (P21) A260 247-253, Fault (131-9(A)) Pressure-Transducer Fault or ECB internal Fault (131-9(A)) Differential-Pressure Transducer (P23) Fault (131-9(A)) Load-Control Valve (P12) Fault A275 247-253, (131-9(A)) Bleed Shutoff due to Reverse Flow A278 247-253,	——————————————————————————————————————				
internal Fault (131-9(A)) APU AUTO SHUTDOWN - LOSS OF SPEED, Speed Sensor Fault (131-9(A)) APU AUTO SHUTDOWN - LOSS OF SPEED, ECB internal Fault (131-9(A)) APU AUTO SHUTDOWN - REVERSE FLOW, APU AUTO SHUTDOWN - REVERSE FLOW, Reverse Flow Condition for min. 6 Seconds (131-9(A)) APU AUTO SHUTDOWN - REVERSE FLOW, SCV Position disagrees with Command (131-9(A)) APU AUTO SHUTDOWN - CLOGGED OIL APU AUTO SHUTDOWN - CLOGGED OIL APU AUTO SHUTDOWN - LOSS OF DC A258 247-253, FILTER, Oil Filter clogged (onspeed) (131-9(A)) APU AUTO SHUTDOWN - LOSS OF DC A258 247-253, POWER, Power Supply Interrupt (131-9(A)) Inlet-Guide Vane-Actuator (P21) Fault (131-9(A)) Pressure-Transducer Fault or ECB internal Fault (131-9(A)) Differential-Pressure Transducer (P24) Fault (131-9(A)) Total-Pressure Transducer (P23) Fault (131-9(A)) Load-Control Valve (P12) Fault A275 247-253, (131-9(A)) Bleed Shutoff due to Reverse Flow A278 247-253,				A241	247-253,
APU AUTO SHUTDOWN - LOSS OF SPEED, Speed Sensor Fault (131-9(A)) APU AUTO SHUTDOWN - LOSS OF SPEED, ECB internal Fault (131-9(A)) APU AUTO SHUTDOWN - REVERSE FLOW, Reverse Flow Condition for min. 6 Seconds (131-9(A)) APU AUTO SHUTDOWN - REVERSE FLOW, A251 247-253, SCV Position disagrees with Command (131-9(A)) APU AUTO SHUTDOWN - CLOGGED OIL FILTER, Oil Filter clogged (onspeed) (131-9(A)) APU AUTO SHUTDOWN - LOSS OF DC A258 247-253, POWER, Power Supply Interrupt (131-9(A)) Inlet-Guide Vane-Actuator (P21) Fault (131-9(A)) Pressure-Transducer Fault or ECB internal Fault (131-9(A)) Differential-Pressure Transducer (P24) Fault (131-9(A)) Total-Pressure Transducer (P23) Fault (131-9(A)) Load-Control Valve (P12) Fault A275 247-253, (131-9(A)) Bleed Shutoff due to Reverse Flow A278 247-253,	·				
APU AUTO SHUTDOWN - LOSS OF SPEED, ECB internal Fault (131-9(A)) APU AUTO SHUTDOWN - REVERSE FLOW, Reverse Flow Condition for min. 6 Seconds (131-9(A)) APU AUTO SHUTDOWN - REVERSE FLOW, A251 247-253, SCV Position disagrees with Command (131-9(A)) APU AUTO SHUTDOWN - CLOGGED OIL A254 247-253, FILTER, Oil Filter clogged (onspeed) (131-9(A)) APU AUTO SHUTDOWN - LOSS OF DC A258 247-253, POWER, Power Supply Interrupt (131-9(A)) Inlet-Guide Vane-Actuator (P21) Fault (131-9(A)) Pressure-Transducer Fault or ECB A264 247-253, internal Fault (131-9(A)) Differential-Pressure Transducer (P24) Fault (131-9(A)) Total-Pressure Transducer (P23) Fault (131-9(A)) Load-Control Valve (P12) Fault A275 247-253, (131-9(A)) Bleed Shutoff due to Reverse Flow A278 247-253,				A243	247-253,
ECB internal Fault (131-9(A)) APU AUTO SHUTDOWN - REVERSE FLOW, Reverse Flow Condition for min. 6 Seconds (131-9(A)) APU AUTO SHUTDOWN - REVERSE FLOW, SCV Position disagrees with Command (131-9(A)) APU AUTO SHUTDOWN - CLOGGED OIL A254 247-253, FILTER, Oil Filter clogged (onspeed) (131-9(A)) APU AUTO SHUTDOWN - LOSS OF DC A258 247-253, POWER, Power Supply Interrupt (131-9(A)) Inlet-Guide Vane-Actuator (P21) Fault (131-9(A)) Pressure-Transducer Fault or ECB A264 247-253, internal Fault (131-9(A)) Differential-Pressure Transducer (P24) Fault (131-9(A)) Total-Pressure Transducer (P23) Fault (131-9(A)) Load-Control Valve (P12) Fault A275 247-253, (131-9(A)) Bleed Shutoff due to Reverse Flow A278 247-253,					·
APU AUTO SHUTDOWN - REVERSE FLOW, Reverse Flow Condition for min. 6 Seconds (131-9(A)) APU AUTO SHUTDOWN - REVERSE FLOW, SCV Position disagrees with Command (131-9(A)) APU AUTO SHUTDOWN - CLOGGED OIL APU AUTO SHUTDOWN - CLOGGED OIL FILTER, Oil Filter clogged (onspeed) (131-9(A)) APU AUTO SHUTDOWN - LOSS OF DC				A246	247-253,
Reverse Flow Condition for min. 6 Seconds (131-9(A)) APU AUTO SHUTDOWN - REVERSE FLOW, SCV Position disagrees with Command (131-9(A)) APU AUTO SHUTDOWN - CLOGGED OIL FILTER, Oil Filter clogged (onspeed) (131-9(A)) APU AUTO SHUTDOWN - LOSS OF DC A258 247-253, POWER, Power Supply Interrupt (131-9(A)) Inlet-Guide Vane-Actuator (P21) A260 247-253, Fault (131-9(A)) Pressure-Transducer Fault or ECB A264 247-253, internal Fault (131-9(A)) Differential-Pressure Transducer (P24) Fault (131-9(A)) Total-Pressure Transducer (P23) Fault (131-9(A)) Load-Control Valve (P12) Fault A275 247-253, (131-9(A)) Bleed Shutoff due to Reverse Flow A278 247-253,				Δ247	247-253
APU AUTO SHUTDOWN - REVERSE FLOW, SCV Position disagrees with Command (131-9(A)) APU AUTO SHUTDOWN - CLOGGED OIL A254 247-253, FILTER, Oil Filter clogged (onspeed) (131-9(A)) APU AUTO SHUTDOWN - LOSS OF DC A258 247-253, POWER, Power Supply Interrupt (131-9(A)) Inlet-Guide Vane-Actuator (P21) A260 247-253, Fault (131-9(A)) Pressure-Transducer Fault or ECB A264 247-253, internal Fault (131-9(A)) Differential-Pressure Transducer A268 247-253, (P24) Fault (131-9(A)) Total-Pressure Transducer (P23) Fault (131-9(A)) Load-Control Valve (P12) Fault A275 247-253, (131-9(A)) Bleed Shutoff due to Reverse Flow A278 247-253,	•			7271	241 233,
SCV Position disagrees with Command (131-9(A)) APU AUTO SHUTDOWN - CLOGGED OIL FILTER, Oil Filter clogged (onspeed) (131-9(A)) APU AUTO SHUTDOWN - LOSS OF DC A258 247-253, POWER, Power Supply Interrupt (131-9(A)) Inlet-Guide Vane-Actuator (P21) Fault (131-9(A)) Pressure-Transducer Fault or ECB internal Fault (131-9(A)) Differential-Pressure Transducer (P24) Fault (131-9(A)) Total-Pressure Transducer (P23) Fault (131-9(A)) Load-Control Valve (P12) Fault A275 247-253, (131-9(A)) Bleed Shutoff due to Reverse Flow A278 247-253,					
Command (131-9(A)) APU AUTO SHUTDOWN - CLOGGED OIL FILTER, Oil Filter clogged (onspeed) (131-9(A)) APU AUTO SHUTDOWN - LOSS OF DC APU AUTO SHUTDOWN - LOSS OF DC POWER, Power Supply Interrupt (131-9(A)) Inlet-Guide Vane-Actuator (P21) Fault (131-9(A)) Pressure-Transducer Fault or ECB internal Fault (131-9(A)) Differential-Pressure Transducer (P24) Fault (131-9(A)) Total-Pressure Transducer (P23) Fault (131-9(A)) Load-Control Valve (P12) Fault A275 247-253, (131-9(A)) Bleed Shutoff due to Reverse Flow A278 247-253,				A251	247-253,
APU AUTO SHUTDOWN - CLOGGED OIL FILTER, Oil Filter clogged (onspeed) (131-9(A)) APU AUTO SHUTDOWN - LOSS OF DC A258 247-253, POWER, Power Supply Interrupt (131-9(A)) Inlet-Guide Vane-Actuator (P21) A260 247-253, Fault (131-9(A)) Pressure-Transducer Fault or ECB A264 247-253, internal Fault (131-9(A)) Differential-Pressure Transducer (P24) Fault (131-9(A)) Total-Pressure Transducer (P23) Fault (131-9(A)) Load-Control Valve (P12) Fault A275 247-253, (131-9(A)) Bleed Shutoff due to Reverse Flow A278 247-253,					
FILTER, Oil Filter clogged (onspeed) (131-9(A)) APU AUTO SHUTDOWN - LOSS OF DC A258 247-253, POWER, Power Supply Interrupt (131-9(A)) Inlet-Guide Vane-Actuator (P21) A260 247-253, Fault (131-9(A)) Pressure-Transducer Fault or ECB A264 247-253, internal Fault (131-9(A)) Differential-Pressure Transducer (P24) Fault (131-9(A)) Total-Pressure Transducer (P23) Fault (131-9(A)) Load-Control Valve (P12) Fault A275 247-253, (131-9(A)) Bleed Shutoff due to Reverse Flow A278 247-253,				A254	247-253.
APU AUTO SHUTDOWN - LOSS OF DC POWER, Power Supply Interrupt (131-9(A)) Inlet-Guide Vane-Actuator (P21) A260 247-253, Fault (131-9(A)) Pressure-Transducer Fault or ECB internal Fault (131-9(A)) Differential-Pressure Transducer (P24) Fault (131-9(A)) Total-Pressure Transducer (P23) Fault (131-9(A)) Load-Control Valve (P12) Fault A275 247-253, (131-9(A)) Bleed Shutoff due to Reverse Flow A288 247-253, A271 247-253, A272 247-253, A273 247-253,					,
POWER, Power Supply Interrupt (131-9(A)) Inlet-Guide Vane-Actuator (P21) Pressure-Transducer Fault or ECB A264 247-253, internal Fault (131-9(A)) Differential-Pressure Transducer A268 247-253, (P24) Fault (131-9(A)) Total-Pressure Transducer (P23) Fault (131-9(A)) Load-Control Valve (P12) Fault A275 247-253, (131-9(A)) Bleed Shutoff due to Reverse Flow A278 247-253,	·				
(131-9(A)) Inlet-Guide Vane-Actuator (P21) A260 247-253, Fault (131-9(A)) Pressure-Transducer Fault or ECB A264 247-253, internal Fault (131-9(A)) Differential-Pressure Transducer A268 247-253, (P24) Fault (131-9(A)) Total-Pressure Transducer (P23) Fault (131-9(A)) Load-Control Valve (P12) Fault A275 247-253, (131-9(A)) Bleed Shutoff due to Reverse Flow A278 247-253,				A258	247-253,
Inlet-Guide Vane-Actuator (P21) Fault (131-9(A)) Pressure-Transducer Fault or ECB internal Fault (131-9(A)) Differential-Pressure Transducer (P24) Fault (131-9(A)) Total-Pressure Transducer (P23) Fault (131-9(A)) Load-Control Valve (P12) Fault A275 247-253, (131-9(A)) Bleed Shutoff due to Reverse Flow A260 247-253, A260 247-253, A261 247-253, A262 247-253, A263 247-253, A263 247-253, A264 247-253, A265 247-253, A266 247-253, A266 247-253, A267 247-253, A267 247-253, A268 24					
Pressure-Transducer Fault or ECB internal Fault (131-9(A)) Differential-Pressure Transducer A268 247-253, (P24) Fault (131-9(A)) Total-Pressure Transducer (P23) A271 247-253, Fault (131-9(A)) Load-Control Valve (P12) Fault A275 247-253, (131-9(A)) Bleed Shutoff due to Reverse Flow A278 247-253,				A260	247-253,
<pre>internal Fault (131-9(A)) Differential-Pressure Transducer</pre>				_	
Differential-Pressure Transducer A268 247-253, (P24) Fault (131-9(A)) Total-Pressure Transducer (P23) A271 247-253, Fault (131-9(A)) Load-Control Valve (P12) Fault A275 247-253, (131-9(A)) Bleed Shutoff due to Reverse Flow A278 247-253,				A264	247-253,
(P24) Fault (131-9(A)) Total-Pressure Transducer (P23) Fault (131-9(A)) Load-Control Valve (P12) Fault A275 247-253, (131-9(A)) Bleed Shutoff due to Reverse Flow A278 247-253,				A268	247-253.
Fault (131-9(A)) Load-Control Valve (P12) Fault A275 247-253, (131-9(A)) Bleed Shutoff due to Reverse Flow A278 247-253,				<i>7</i> .200	2 2507
Load-Control Valve (P12) Fault A275 247-253, (131-9(A)) Bleed Shutoff due to Reverse Flow A278 247-253,				A271	247-253,
(131-9(A)) Bleed Shutoff due to Reverse Flow A278 247-253,				4275	2/7 257
Bleed Shutoff due to Reverse Flow A278 247-253,				AZIO	241-255,
Condition (131-9(A))				A278	247-253,
	Condition (131-9(A))				

49-CONTENTS Page 20 May 01/08

TROUBLE SHOOTING MANUAL

CHAPTER 49

AIRBORNE AUXILIARY POWER

TABLE OF CONTENTS

SUBJECT	CH/SE/SU	<u>C</u>	PAGE	EFFECTIVITY
Air-Intake Flap-Actuator Fault			A283	247-253,
(131-9(A))				
IGV-Actuator (P21) Fault			A286	247-253,
(131-9(A))				
Fuel-Control Unit (P19) Fault			A291	247-253,
(131-9(A))				
Inlet Pressure Transducer (P22)			A294	247-253,
Fault (131-9(A))				
Load-Control Valve (P12) Fault			A298	247-253,
(131-9(A))				
"APU AVAIL"- Signal Fault			B202	247-253,
(131-9(A))				
APU Fault Relay failure (131-9(A))			B204	•
"LCV-OPEN"- Signal Fault			B206	247-253,
(131-9(A))				
"START IN PROGRESS"- Signal Fault			B208	247-253,
(131-9(A))				
ECB internal Fault (131-9(A))				247-253,
Low-0il Level (131-9(A))			B211	247-253,
Low-Oil Pressure-Switch (P14)			B215	247-253,
Fault (131-9(A))				
Oil-Temperature Sensor (P11) Fault			B218	247-253,
(131-9(A))				
APU Oil-Heater (P28) Fault			B222	247-253,
(131-9(A))				
Surge Control Valve (P18) Fault			B226	247-253,
(131-9(A))				
APU AUTO Shutdown without Bite			B231	247-253,
Message (131-9(A))				
No Data from CFDIU (131-9(A))			B232	247-253,
APU - Oil Smoke in Cabin			B234	247-253,
(131-9(A))				
APU AUTO SHUT DOWN - Shutdown in			B243	247-253,
conjunction with Fuel Low Pressure				
(131-9(A))				
APU Bleed Pressure - Intense			B245	247-253,
Pressure Fluctuation (131-9(A))				
Check IGV Assembly / IGV Actuator			B247	247-253,
(8014KM), Bleed Shut Off due to				
high temperature				
Oil Smoke at the APU Exhaust			B249	247-253,
(131-9(A))				
APU Generator electrical-parameter			B252	247-253,
indication(s) replaced by amber XX				
(131-9(A))				
No APU Bleed-Air Pressure, Low or			B254	247-253,

49-CONTENTS Page 21 May 01/08

TROUBLE SHOOTING MANUAL

CHAPTER 49

AIRBORNE AUXILIARY POWER

SUBJECT Fluctuating APU Bleed-Air Pressure	CH/SE/SU	<u>C</u>	PAGE	EFFECTIVITY
<pre>(with AIDS Support) (131-9)(A)) APU Bleed Control Valve indication replaced by amber XX (131-9(A))</pre>			B266	247-253,
APU Bleed Pressure indication			B268	247-253,
replaced by amber XX (131-9(A)) APU EGT indication replaced by			B270	247-253,
<pre>amber XX (131-9(A)) APU Speed (N) indication replaced</pre>			B271	247-253,
by amber XX (131-9(A)) APU Master Switch ON Legend			B272	247-253,
inoperative (131-9(A)) APU Start Switch ON Legend			B273	247-253,
<pre>inoperative (131-9(A)) 10V Pressure Reference not Correct</pre>			B274	247-253,
(131-9(A)) AIRBONE AUXILIARY POWER - GENERAL	49-00-81			
((APS 3200)) TASK SUPPORTING DATA			301	201-225, 227-227 229-231, 233-250 252-299, 426-499 503-549, 551-599
Fault Code Number (FCN) Table (APS 3200) in the APU Task Supporting Data (Ref. TSM 490000, P. Block 301).			301	701-749, 201-225, 227-227 229-231, 233-250 252-299, 426-499 503-549, 551-599 701-749,
AIR INTAKE SYSTEM ((GTCP 36-300))	49-16-00	_	201	070 070 077 070
FAULT ISOLATION PROCEDURES		2		232-232, 247-248 252-252,
Failure of the Air Intake Flap-Actuator (GTCP 36-300)			201	232-232, 247-248 252-252,
AIR INTAKE SYSTEM ((131-9(A))) FAULT ISOLATION PROCEDURES Air-Intake Actuator Fault (131-9(A))	49-16-00	1	201 201	247-253, 247-253,
AIR INTAKE SYSTEM TASK SUPPORTING DATA	49-16-00		301	201-225, 227-227 229-231, 233-250 252-299, 426-499
			49-	503-549, 551-599 CONTENTS Page 22 May 01/08

TROUBLE SHOOTING MANUAL

CHAPTER 49

AIRBORNE AUXILIARY POWER

SUBJECT	CH/SE/SU	<u>c</u>	PAGE	EFFECTIVITY
Fault Code Number (FCN) Table (APS 3200) in the APU Task Supporting Data (Ref. TSM 490000, P. Block 301).			301	701-749, 201-225, 227-227 229-231, 233-250 252-299, 426-499 503-549, 551-599 701-749,
ENGINE ((131-9(A))) FAULT ISOLATION PROCEDURES APU Inlet-Temperature (T2) Sensor Fault (131-9(A))	49-20-00	1	201 201	247-253, 247-253,
ENGINE TASK SUPPORTING DATA	49-20-00		301	201-225, 227-227 229-231, 233-250 252-299, 426-499 503-549, 551-599 701-749,
Fault Code Number (FCN) Table (APS 3200) in the APU Task Supporting Data (Ref. TSM 490000, P. Block 301).			301	201-225, 227-227 229-231, 233-250 252-299, 426-499 503-549, 551-599 701-749,
IGNITION AND STARTING ((GTCP 36-300)) FAULT ISOLATION PROCEDURES	49-40-00	2	201	•
Main Start-Contactor Fault (GTCP 36-300)			201	252-252, 232-232, 247-248 252-252,
Back-Up Start-Contactor Fault (GTCP 36-300)			203	232-232, 247-248 252-252,
IGNITION AND STARTING ((APS 3200))	49-40-00			
FAULT ISOLATION PROCEDURES		1	201	201-225, 227-227 229-231, 233-250 252-299, 426-499 503-549, 551-599 701-749,
Main Start-Contactor Fault (APS 3200)			201	201-225, 227-227 229-231, 233-250 252-299, 426-499 503-549, 551-599 701-749,
Back-Up Start-Contactor Fault (APS 3200)			203	•
			49-	CONTENTS Page 23 May 01/08

TROUBLE SHOOTING MANUAL

CHAPTER 49

AIRBORNE AUXILIARY POWER

TABLE OF CONTENTS

SUBJECT	CH/SE/SU	<u>c</u>	<u>PAGE</u>	EFFECTIVII 252-299, 503-549, 701-749,	426-499
IGNITION AND STARTING ((131-9(A))) FAULT ISOLATION PROCEDURES Contactor (5KA) Fault (131-9(A)) Contactor (10KA) Fault (131-9(A))	49-40-00	3	201	247-253, 247-253, 247-253,	
IGNITION AND STARTING TASK SUPPORTING DATA	49-40-00		301	201-225, 229-231, 252-299, 503-549, 701-749,	233-250 426-499
Fault Code Number (FCN) Table (APS 3200) in the APU Task Supporting Data (Ref. TSM 490000, P. Block 301).			301	•	233-250 426-499
AIR ((GTCP 36-300)) FAULT ISOLATION PROCEDURES	49-50-00	2	201	232-232,	247-248
Bleed Load-Valve Position-Switch Fault (GTCP 36-300)			201	252-252,	
AIR ((APS 3200)) FAULT ISOLATION PROCEDURES PMG Fault (PMG and Cooling Fan Assemly) (APS 3200)	49-50-00	1	201 201	457-478, 457-478,	
AIR TASK SUPPORTING DATA	49-50-00		301	201-225, 229-231, 252-299, 503-549,	233-250 426-499
Fault Code Number (FCN) Table (APS 3200) in the APU Task Supporting Data (Ref. TSM 490000, P. Block 301).			301	701-749, 201-225, 229-231, 252-299, 503-549, 701-749,	233-250 426-499

49-CONTENTS Page 24 May 01/08

TROUBLE SHOOTING MANUAL

CHAPTER 49

AIRBORNE AUXILIARY POWER

SUBJECT CONTROL AND MONITORING ((GTCP 36-300))	CH/SE/SU 49-61-00	<u>c</u>	PAGE EFFECTIVITY
FAULT ISOLATION PROCEDURES		2	201 232-232, 247-248 252-252,
ECB 59KD Fault (GTCP 36-300)			201 232-232, 247-248 252-252,
Incorrect PIN Coding (GTCP 36-300)			203 232-232, 247-248 252-252,
CONTROL AND MONITORING ((APS 3200)) FAULT ISOLATION PROCEDURES	49-61-00	1	201 201-225, 227-227
			229-231, 233-250 252-299, 426-499 503-549, 551-599 701-749,
ECB 59KD Fault (APS 3200)			201 201-225, 227-227 229-231, 233-250 252-299, 426-499 503-549, 551-599
Incorrect Pin Coding (APS 3200)			701-749, 203 201-225, 227-227 229-231, 233-250 252-299, 426-499 503-549, 551-599
Start in Progress Indication Fault (APS 3200)			701-749, 205 201-225, 227-227 229-231, 233-244 247-250, 252-299 426-456, 476-499 503-549, 551-599
APU Available Indication Fault (APS 3200)			701-749, 207 201-225, 227-227 229-231, 233-244 247-250, 252-299 426-456, 476-499 503-549, 551-599 701-749,
Fault Light Indication Fault (APS 3200)			209 201-225, 227-227 229-231, 233-244 247-250, 252-299 426-456, 476-499 503-549, 551-599 701-749,
CONTROL AND MONITORING ((131-9(A))) FAULT ISOLATION PROCEDURES Incorrect Pin Coding (131-9(A))	49-61-00	3	201 247-253, 201 247-253, 49-CONTENTS Page 25
			May 01/08

TROUBLE SHOOTING MANUAL

CHAPTER 49

AIRBORNE AUXILIARY POWER

SUBJECT ECB (59KD) Fault (131-9(A))	CH/SE/SU	<u>c</u>		<u>EFFECTIVITY</u> 247-253,
CONTROL AND MONITORING TASK SUPPORTING DATA	49-61-00		301	201-225, 227-227 229-231, 233-250 252-299, 426-499 503-549, 551-599 701-749,
Fault Code Number (FCN) Table (APS 3200) in the APU Task Supporting Data (Ref. TSM 490000, P. Block 301).			301	201-225, 227-227 229-231, 233-250 252-299, 426-499 503-549, 551-599 701-749,
INDICATING ((GTCP 36-300)) FAULT ISOLATION PROCEDURES	49-70-00	2	201	232-232, 247-248
Speed Sensor 1 (P26) Defective (GTCP 36-300)			201	252-252, 232-232, 247-248 252-252,
Speed Sensor 2 (P27) Defective (GTCP 36-300)			203	232-232, 247-248 252-252,
Thermocouple Rake 1 Defective (GTCP 36-300)			205	252-252,
Thermocouple Rake 2 Defective (GTCP 36-300)			207	252-252,
Serial-Number Encoder-Unit Fault (GTCP 36-300)			209	232-232, 247-248 252-252,
INDICATING ((APS 3200))	49-70-00			
FAULT ISOLATION PROCEDURES		1	201	201-225, 227-227 229-231, 233-250 252-299, 426-499 503-549, 551-599 701-749,
Speed Sensor 1 Fault (APS 3200)			201	201-225, 227-227 229-231, 233-250 252-299, 426-499 503-549, 551-599 701-749,
Speed Sensor 2 Fault (APS 3200)			203	201-225, 227-227 229-231, 233-250 252-299, 426-499 503-549, 551-599 701-749,
EGT-Thermocouple 1 Defective (APS			205 49-	•
				May 01/06

TROUBLE SHOOTING MANUAL

CHAPTER 49

AIRBORNE AUXILIARY POWER

SUBJECT	CH/SE/SU	<u>c</u>		FFECTIVITY
3200)				229-231, 233-250 252-299, 426-499
				503-549, 551-599
				701-749,
EGT-Thermocouple 2 Defective (APS 3200)				201-225, 227-227 229-231, 233-250
32007				252-299, 426-499
				503-549, 551-599
				701-749,
Engine Identification-Module Fault				201-225, 227-227
(APS 3200)				229-231, 233-250 252-299, 426-499
				503-549, 551-599
				701-749,
INDICATING ((131-9(A)))	49-70-00			
FAULT ISOLATION PROCEDURES	47 10 00	3	201	247-253,
Speed Sensor P26 Fault (131-9(A))				247-253,
EGT TCPLE Rake 1 Fault (131-9(A))				247-253,
EGT TCPLE Rake 2 Fault (131-9(A))				247-253,
Data Memory Module P20 Fault (131-9(A))			216	247-253,
INDICATING	49-70-00			
TASK SUPPORTING DATA	47 10 00		301	201-225, 227-227
				229-231, 233-250
				252-299, 426-499
				503-549, 551-599
Fault Code Number (FCN) Table (APS				701-749, 201-225, 227-227
3200) in the APU Task Supporting				229-231, 233-250
Data (Ref. TSM 490000, P. Block				252-299, 426-499
301).				503-549, 551-599
				701-749,
OIL ((APS 3200))	49-90-00			
FAULT ISOLATION PROCEDURES		1		201-225, 227-227
				229-231, 233-250
				252-299, 426-499 503-549, 551-599
				701-749,
<pre>De-Oiling Solenoid-Valve Fault</pre>				201-225, 227-227
(APS 3200)				229-231, 233-250
				252-299, 426-499
				503-549, 551-599
			49-C	ONTENTS Page 27
				May 01/08

TROUBLE SHOOTING MANUAL

CHAPTER 49

AIRBORNE AUXILIARY POWER

SUBJECT	CH/SE/SU	<u>C</u>	<u>PAGE</u>	EFFECTIVITY 701-749,
Oil-Sump Temperature-Sensor Fault (APS 3200)			203	•
OIL ((131-9(A)))	49-90-00			
FAULT ISOLATION PROCEDURES		3		247-253,
Lube Pump Filter SW P9/GEN SCAV Filter SW P5 Fault (131-9(A))			201	247-253,
OIL	49-90-00			
TASK SUPPORTING DATA			301	201-225, 227-227
				229-231, 233-250
				252-299, 426-499
				503-549, 551-599
For LA Cords N. obser (FON) Table (ADC			704	701-749,
Fault Code Number (FCN) Table (APS 3200) in the APU Task Supporting			301	201-225, 227-227 229-231, 233-250
Data (Ref. TSM 490000, P. Block				252-299, 426-499
301).				503-549, 551-599
				701-749,

TROUBLE SHOOTING MANUAL

AIRBORNE AUXILIARY POWER - FAULT SYMPTOMS

WARNINGS/MALFUNCTIONS		CFDS FAULT MESSAGES	S		FAULT ISOLATION
WARNINGS/ MALI ONC I TONS	SOURCE	MESSAGE	ATA	С	PROCEDURE

Upper ECAM DU Warnings

	<u>APU</u>	AUT0	SHUT	DOWN	APU	AIR INTAKE FLAP ACTR	491651	1	490000 P 213 Conf.01 T 810 882
R R R	<u>APU</u>	AUTO	SHUT	DOWN	APU	AIR INTAKE FLAP ACTR (4015KM)	491651	1	490000 P 213 Conf.02 T 810 805
	<u>APU</u>	AUTO	SHUT	DOWN	APU APU	AIR INTAKE NOT OPEN associated with AIR INTAKE FLAP ACTR	ASD 491651		490000 P 213 Conf.01 T 810 882
	APU /	AUTO	SHUT	DOWN	APU APU	AIR INTAKE NOT OPEN associated with INLET FLAP ACTR (4015KM)	ASD 491651		490000 P 213 Conf.01 T 810 882
	<u>APU</u>	AUTO	SHUT	DOWN	APU APU	AIR INTAKE NOT OPEN associated with AIR INTAKE FLAP ACTUATOR (4015KM)	ASD 491651	İ	490081 P 278 Conf.01 T 810 828
	<u>APU</u>	AUTO	SHUT	DOWN	APU APU	AIR INTAKE NOT OPEN associated with AIR INTAKE FLAP ACTUATOR (4015KM)	ASD 491651		490081 P 278 Conf.01 T 810 828
	<u>APU</u>	AUTO	SHUT	DOWN	APU	APU FUEL VALVE FAILED OPEN associated with FUEL CTL UNIT P19	ASD 493211		490000 PA249 Conf.01 T 810 934
	<u>APU</u>	AUTO	SHUT	DOWN	APU APU	APU FUEL VALVE FAILED OPEN associated with FUEL CTL UNIT (8022KM)	ASD 493211		490000 PA249 Conf.01 T 810 934
	<u>APU</u>	AUTO	SHUT	DOWN	APU	APU FUEL VALVE FAILED OPEN associated with ECB 59KD	ASD 496134		490000 PB207 Conf.01 T 810 972

EFF: 201-225, 227-227, 229-250, 252-299, 426-456, 476-499, 503-549, 551-599, 701-749,

49-ECAM Page 101
CONFIG-1 May 01/08

TROUBLE SHOOTING MANUAL

HARNITHCS (MALIFINISTICALS	T		FAULT		
WARNINGS/MALFUNCTIONS	SOURCE	MESSAGE	АТА	С	ISOLATION PROCEDURE
APU AUTO SHUT DOWN	APU	BACKUP OVERSPEED associated with	ASD	*	490000 PA242 Conf.01
	APU	ECB 59KD	496134	1	т 810 932
APU AUTO SHUT DOWN	APU	BACKUP OVERSPEED associated with	ASD	*	490000 PA242 Conf.01
	APU	ECB 59KD OR FAN/PMG ASSY OR FUEL CTL UNIT P19	496134	1	
APU AUTO SHUT DOWN	APU	BACKUP OVERSPEED associated with	ASD	*	490000 PA242 Conf.01
	APU	COOLING FAN PMG ASSY (8055KM)	495253	1	T 810 932
APU AUTO SHUT DOWN	APU	BACKUP OVERSPEED CIRCUIT FAILURE associated with	ASD	*	490000 PA231 Conf.01 T 810 924
	APU	ECB 59KD OR COOLING FAN/PMG ASSY	496134	1	010 724
APU AUTO SHUT DOWN	APU	BACKUP OVERSPEED CIRCUIT	ASD	*	490000 PA231 Conf.01 T 810 924
	APU	associated with COOLING FAN PMG ASSY (8055KM)	495253	1	
APU AUTO SHUT DOWN	APU	BACKUP OVERSPEED CIRCUIT FAILURE associated with	ASD	*	490000 PA297 Conf.01 T 810 964
	APU	COOLING FAN/PMG ASSY	495253	1	
APU AUTO SHUT DOWN	APU	BACKUP OVERSPEED CIRCUIT	ASD	*	490000 PA297 Conf.01 T 810 964
	APU	associated with COOLING FAN PMG ASSY (8055KM)	495253	1	1 0 10 704
APU AUTO SHUT DOWN	APU	BACKUP OVERSPEED CIRCUIT	ASD	*	490000 PB205 Conf.01
	APU	associated with ECB 59KD	496134	1	Т 810 971
APU AUTO SHUT DOWN	APU	BCV P33 AND BLEED CHECK VALVE 7260HM	495119	1	490000 P 272 Conf.01 T 810 901

EFF: 201-225, 227-227, 229-250, 252-299, 426-456, 476-499, 503-549, 551-599, 701-749,

49-ECAM Page 102 CONFIG-1 May 01/08

TROUBLE SHOOTING MANUAL

	WARNINGS/MALFUNCTIONS	CFDS FAULT MESSAGES						
	WARNINGS/ MALFONCTIONS	SOURCE	MESSAGE	ATA	С	ISOLATION PROCEDURE		
	<u>apu</u> auto shut down	APU	BLD FLOW XDCR (8039KM) / BLD CTL VLV (8051KM)	495112	1	490000 P 272 Conf.01 T 810 901		
	APU AUTO SHUT DOWN	APU	BLEED CTL VLV (8051KM)	495153	1	490000 P 280 Conf.01 T 810 904		
	APU AUTO SHUT DOWN	APU	BLEED CTL VLV P33	495153	1	490000 P 280 Conf.01 T 810 904		
R R R	APU AUTO SHUT DOWN	APU	CHECK IGNITION SYSTEM / FCU(8022KM) / ECB (59KD)	494100	1	490000 P 262 Conf.02 T 810 821		
R R R	APU AUTO SHUT DOWN	APU	CHECK IGV ASSEMBLY / IGV ACTUATOR (8014KM)	492300	1	490000 PA230 Conf.02 T 810 861		
	<u>apu</u> auto shut down	APU	CHECK OIL COOLER ASSY (8079KM)	499144	1	490000 P 250 Conf.01 T 810 896		
	APU AUTO SHUT DOWN	APU	CHECK OIL LEAKAGE / OIL PRESS SW (8091KM)	499100	1	490000 P 246 Conf.01 T 810 895		
	APU AUTO SHUT DOWN	APU	CHECK OIL LEAKAGE OR OIL PRESS SW P14	499100	1	490000 P 246 Conf.01 T 810 895		
	APU AUTO SHUT DOWN	APU	CHECK OIL SYSTEM / GENERATOR (8XS)	499100	1	490000 P 274 Conf.01 T 810 902		
	APU AUTO SHUT DOWN	APU	CHECK OIL SYSTEM OR GENERATOR 8XS	499100	1	490000 P 274 Conf.01 T 810 902		
R	APU AUTO SHUT DOWN	APU	CHECK PRESS XDCR WIRING (8001KM)/ECB (59KD)	491511	1	490081 PA264 Conf.01 T 810 852		

EFF: 201-225, 227-227, 229-250, 252-299, 426-456, 476-499, 503-549, 551-599, 701-749,

49-ECAM Page 103
CONFIG-1 May 01/08

TROUBLE SHOOTING MANUAL

	WARNINGS/MALFUNCTIONS		CFDS FAULT MESSAGES				
	WARNINGS/MALFUNCTIONS	SOURCE	MESSAGE	ATA	С	ISOLATION PROCEDURE	
R	APU AUTO SHUT DOWN	APU	CLOGGED OIL FILTER associated with	ASD		490081 PA254 Conf.01	
		APU 	GEN SCAV + LUBE FILTERS (8069KM) / (8076KM)	499141	1 	T 810 849	
R R R	<u>APU</u> AUTO SHUT DOWN	APU	CONTACTOR 10KA	494255	1	490000 P 204 Conf.02 T 810 802	
	<u>APU</u> AUTO SHUT DOWN	APU	CONTACTOR 10KA	494255	1	490000 PA236 Conf.01 T 810 928	
	<u>APU</u> AUTO SHUT DOWN	APU	CONTACTOR 10KA OR ECB 59KD	494242	1	490000 PA236 Conf.01 T 810 928	
R R R	<u>APU</u> AUTO SHUT DOWN	APU	CONTACTOR 5KA	494255	1	490000 P 201 Conf.02 T 810 801	
	<u>APU</u> AUTO SHUT DOWN	APU	CONTACTOR 5KA	494255	1	490000 P 201 Conf.01 T 810 878	
	<u>APU</u> AUTO SHUT DOWN	APU	CONTACTOR 5KA OR ECB 59KD	494241	1	490000 PA233 Conf.01 T 810 927	
	APU AUTO SHUT DOWN	APU	COOLING FAN/PMG ASSY OR OIL COOLER ASSY	495251	1	490000 P 250 Conf.01 T 810 896	
	APU AUTO SHUT DOWN	APU	CURRENT LIMITER (6KA) / CONTACTOR (10KA)	494200	1	490000 P 204 Conf.01 T 810 879	
	APU AUTO SHUT DOWN	APU	CURRENT LIMITER 6KA OR CONTACTOR 10KA	494200	1	490000 P 204 Conf.01 T 810 879	
	APU AUTO SHUT DOWN	APU	CURRENT LIMITER 6KA OR CONTACTOR 10KA	494242	1	490000 P 204 Conf.01 T 810 879	

EFF: 201-225, 227-227, 229-250, 252-299, 426-456, 476-499, 503-549, 551-599, 701-749,

49-ECAM Page 104
CONFIG-1 May 01/08

TROUBLE SHOOTING MANUAL

	WARNINGS/MALFUNCTIONS		FAULT ISOLATION			
	WARNINGS/ MALFUNCTIONS	SOURCE	MESSAGE	ATA	С	! !
R R R	<u>apu</u> auto shut down	APU	DEOIL SOLENOID (8083KM)	499149	1	490000 P 279 Conf.02 T 810 826
R	<u>apu</u> auto shut down	APU	DIFFERENTIAL PRESS XDCR (8043KM)	495116	1	490081 PA268 Conf.01 T 810 853
	APU AUTO SHUT DOWN	APU	ECB (59KD)	496134	1	490000 P 221 Conf.01
		IDENT: (CFDS, ECAM 1, ECAM 2			Т 810 885
	APU AUTO SHUT DOWN	APU	ECB FAILURE associated with	ASD	*	490000 P 221
		APU	ECB 59KD	496134	1	т 810 885
	APU AUTO SHUT DOWN	APU	ECB FAILURE associated with	ASD	*	490081 P 209 Conf.01
		APU	ECB (59KD)	496134	1	т 810 804
R R R	<u>APU</u> AUTO SHUT DOWN	APU	ECB 59KD	496134	1	490000 P 224 Conf.02 T 810 809
	APU AUTO SHUT DOWN	APU	ECB 59KD	496134	1	490000 P 221
		IDENT: (CFDS, ECAM 1, ECAM 2			T 810 885
R R R	<u>APU</u> AUTO SHUT DOWN	APU	EGT TCPLE RAKE (8057KM1) AND ECB (59KD)	497215	1	490000 P 237 Conf.02 T 810 813
R R R	<u>APU</u> AUTO SHUT DOWN	APU	EGT TCPLE RAKE (8057KM2) AND ECB (59KD)	497215	1	490000 P 239 Conf.02 T 810 814
R R R	APU AUTO SHUT DOWN	APU	EGT TCPLE RAKES(8057KM1) AND (8057KM2)	497215	1	490000 P 234 Conf.02 T 810 812
	APU AUTO SHUT DOWN	APU	EGT TC1 (8057KM1)	497215	1	490000 PA280 Conf.01 T 810 948

EFF: 201-225, 227-227, 229-250, 252-299, 426-456, 476-499, 503-549, 551-599, 701-749, SROS

49-ECAM Page 105
CONFIG-1 May 01/08

TROUBLE SHOOTING MANUAL

HARNINGS /MALEUNGTIONS		FAULT ISOLATION			
WARNINGS/MALFUNCTIONS	SOURCE	MESSAGE	ATA	С	PROCEDURE
APU AUTO SHUT DOWN	APU	EGT TC1 (8057KM1) AND ECB (59KD)	497215	1	490000 P 233 Conf.01 T 810 890
APU AUTO SHUT DOWN	APU	EGT TC1 (8057KM1) AND EGT TC2 (8057KM2)	497215	1	490000 P 230 Conf.01 T 810 889
APU AUTO SHUT DOWN	APU	EGT TC1 P30 AND ECB 59KD	497215	1	490000 P 233 Conf.01 T 810 890
APU AUTO SHUT DOWN	APU	EGT TC1 P30 AND EGT TC2 P31	497215	1	490000 P 230 Conf.01 T 810 889
APU AUTO SHUT DOWN	APU	EGT TC1 P30 OR FUEL CTL UNIT P19	497215	1	490000 PA280 Conf.01 T 810 948
APU AUTO SHUT DOWN	APU	EGT TC2 (8057KM2)	497215	1	490000 PA280 Conf.01 T 810 948
APU AUTO SHUT DOWN	APU	EGT TC2 (8057KM2) AND ECB (59KD)	497215	1	490000 P 235 Conf.01 T 810 891
APU AUTO SHUT DOWN	APU	EGT TC2 P31 AND ECB 59KD	497215	1	490000 P 235 Conf.01 T 810 891
APU AUTO SHUT DOWN	APU	EGT TC2 P31 OR FUEL CTL UNIT P19	497215	1	490000 PA280 Conf.01 T 810 948
APU AUTO SHUT DOWN	APU	FCU P19 OR IGV ACTR P21 OR FUEL FLOW DIVIDER	493211	1	490000 P 258 Conf.01 T 810 898
APU AUTO SHUT DOWN	APU	FCU P19 OR IGV ACTR P21 OR IN T/P SNSR P22	493211	1	490000 P 266 Conf.01 T 810 900

EFF: 201-225, 227-227, 229-250, 252-299, 426-456, 476-499, 503-549, 551-599, 701-749,

49-ECAM Page 106
CONFIG-1 May 01/08

TROUBLE SHOOTING MANUAL

	WARNINGS/MALFUNCTIONS		CFDS FAULT MESSAGES	5		FAULT ISOLATION	
	WARNINGS/ MALFONCTIONS	SOURCE	MESSAGE	ATA	С	PROCEDURE	
R R R	APU AUTO SHUT DOWN	APU	FCU(8022KM)/IGV ACTUATOR (8014KM)/STRT MOTOR(8KA)	493211	1	490000 P 243 Conf.02 T 810 816	
R R R	APU AUTO SHUT DOWN	APU	FUEL CONTROL UNIT (8022KM)	493211	1	490000 P 216 Conf.02 T 810 806	
R R R	APU AUTO SHUT DOWN	APU	FUEL CONTROL UNIT (8022KM) / ECB (59KD)	493211	1	490000 P 241 Conf.02 T 810 815	
	<u>apu</u> auto shut down	APU	FUEL CTL UNIT (8022KM)	493211	1	490000 P 240 Conf.01 T 810 893	
	APU AUTO SHUT DOWN	APU	FUEL CTL UNIT (8022KM) / FLOW DIVIDER (8024KM)	493211	1	490000 P 258 Conf.01 T 810 898	
	<u>apu</u> auto shut down	APU	FUEL CTL UNIT (8022KM)OR DE-OILING SOL (8083KM)	493211	1	490000 P 266 Conf.01 T 810 900	
	<u>apu</u> auto shut down	APU	FUEL CTL UNIT P19 OR DE-OILING SOL P15	493211	1	490000 P 266 Conf.01 T 810 900	
	<u>apu</u> auto shut down	APU	FUEL CTL UNIT P19 OR FUEL FLOW DIVIDER	493211	1	490000 P 258 Conf.01 T 810 898	
	<u>apu</u> auto shut down	APU	FUEL CTL UNIT P19 OR ECB 59kd	493211	1	490000 P 240 Conf.01 T 810 893	
	APU AUTO SHUT DOWN	APU	GEN HIGH OIL TEMP	ASD	*	490000 P 274 Conf.01	
		APU	CHECK OIL SYSTEM OR GENERATOR 8XS	499100	1	т 810 902	
	<u>apu</u> auto shut down	APU	GEN HIGH OIL TEMP associated with CHECK OIL SYSTEM / GENERATOR (8XS)	ASD 499100	İ	490000 P 274 Conf.01 T 810 902	

EFF: 201-225, 227-227, 229-250, 252-299, 426-456, 476-499, 503-549, 551-599, 701-749,

49-ECAM Page 107
CONFIG-1 May 01/08

TROUBLE SHOOTING MANUAL

	WARNINGS/MALFUNCTIONS	L	CFDS FAULT MESSAGES			
	WARNINGS/ MALFONCTIONS	SOURCE	MESSAGE	ATA	С	ISOLATION PROCEDURE
R R R	<u>apu</u> auto shut down	APU	GEN SCAVENG PMP(8085KM)/ GEN (8XS) / ECB (59KD)	499152	1 1 	490000 P 270 Conf.02 T 810 823
	<u>apu</u> auto shut down	APU APU	HIGH OIL TEMPERATURE associated with COOLING FAN/PMG ASSY OR OIL COOLER ASSY	ASD 495251	İ	490000 P 250 Conf.01 T 810 896
	<u>apu</u> auto shut down	APU APU	HIGH OIL TEMPERATURE associated with CHECK OIL COOLER ASSY (8079KM)	ASD 499144		490000 P 250 Conf.01 T 810 896
	<u>apu</u> auto shut down	APU APU	HIGH OIL TEMPERATURE associated with OIL COOLER (8079KM) / COOLING FAN (8053KM)	ASD 499144		490081 P 281 Conf.01 T 810 829
R R R	<u>apu</u> auto shut down	APU	IGNITION UNIT (8030KM)	494138	1 1 	490000 P 219 Conf.02 T 810 807
	<u>apu</u> auto shut down	APU	IGNITION UNIT (8030KM)	494138	1	490000 P 219 Conf.01 T 810 884
	<u>apu</u> auto shut down	APU	IGNITION UNIT (8030KM) / FUEL CTL UNIT (8022KM)	494138	1	490000 P 262 Conf.01 T 810 899
	<u>apu</u> auto shut down	APU	IGNITION UNIT P10	494138	1	490000 P 219 Conf.01 T 810 884
	<u>apu</u> auto shut down	APU	IGNITION UNIT P10 OR FUEL CTL UNIT P19	494138	1	490000 P 262 Conf.01 T 810 899
	<u>apu</u> auto shut down	APU	IGV ACTR (8014KM)	492351	1	490000 P 242 Conf.01 T 810 894
	<u>apu</u> auto shut down	APU	IGV ACTR P21 OR FUEL CTL UNIT P19	492351	1	490000 P 242 Conf.01 T 810 894

EFF: 201-225, 227-227, 229-250, 252-299, 426-456, 476-499, 503-549, 551-599, 701-749,

49-ECAM Page 108
CONFIG-1 May 01/08

TROUBLE SHOOTING MANUAL

	LIADNINGS / MALEUNCTIONS	CFDS FAULT MESSAGES ARNINGS/MALFUNCTIONS				
	WARNINGS/ MALFONCTIONS	SOURCE	MESSAGE	ATA	С	ISOLATION PROCEDURE
R R R	<u>apu</u> auto shut down	APU	IGV ACTUATOR (8014KM)	492351	1	490000 P 273 Conf.02 T 810 824
R R R	<u>APU</u> AUTO SHUT DOWN	APU	IGV ACTUATOR (8022KM) / FCU(8022KM) / ECB (59KD)	492351	1	490000 P 246 Conf.02 T 810 817
R R R	<u>apu</u> auto shut down	APU	IGV ACTUATOR(8014KM)/FCU (8022KM)/STRT MOTOR(8KA)	492351	1	490000 P 258 Conf.02 T 810 820
	APU AUTO SHUT DOWN	APU	INLET FLAP ACTR (4015KM)	491651	1	490000 P 213 Conf.01 T 810 882
	<u>apu</u> auto shut down	APU	INLET GUIDE VANE ACTR P21	492353	1	490000 P 283 Conf.01 T 810 905 490000 P 287 Conf.01 T 810 905 01
R	APU AUTO SHUT DOWN	APU APU	INLET OVERHEAT associated with CHECK APU INLET	ASD 491600	*	490081 PA237 Conf.01 T 810 843
R	APU AUTO SHUT DOWN	APU	LOAD CONTROL VALVE (8050KM)	495151	1	490081 PA275 Conf.01 T 810 855
R R R	<u>apu</u> auto shut down	APU	LOP SW(8091KM)/OIL PUMP/ GEARBOX PRESS VALVE	499414	1	490000 P 250 Conf.02 T 810 818
R	<u>apu</u> auto shut down	APU	LOSS OF DC POWER associated with POWER SUPPLY INTERRUPT	ASD 240000		490081 PA258 Conf.01 T 810 850
	APU AUTO SHUT DOWN	APU	LOSS OF DC POWER	ASD	*	490081 P 209 Conf.02 T 810 879
	APU AUTO SHUT DOWN	APU APU	LOSS OF SPEED associated with SPEED SNSR P26, P27	ASD 497113	İ	490000 P 223 Conf.01 T 810 886

EFF: 201-225, 227-227, 229-250, 252-299, 426-456, 476-499, 503-549, 551-599, 701-749,

SROS

49-ECAM Page 109
CONFIG-1 May 01/08

TROUBLE SHOOTING MANUAL

WARNINGS/MALFUNCTIONS						FAULT		
WAR	(NINGS)/MALI	-UNCITUMS	SOURCE	MESSAGE	АТА	С	ISOLATION PROCEDURE
<u>APU</u>	AUTO	SHUT	DOWN	APU APU	LOSS OF SPEED associated with SPD SNSR1 (8060KM1) AND	ASD 497113		490000 P 223 Conf.01 T 810 886
				<u> </u>	SPD SNSR2 (8060KM2)	<u> </u>	L	
<u>APU</u>	AUT0	SHUT	DOWN	APU	LOSS OF SPEED associated with	ASD		490000 P 226 Conf.01
				APU	SPEED SNSR P26 AND ECB 59KD	497113	1	Т 810 887
<u>APU</u>	AUT0	SHUT	DOWN	APU	LOSS OF SPEED associated with	ASD	*	490000 P 226 Conf.01
				APU	SPD SNSR1 (8060KM1) AND ECB (59KD)	497113	1	
<u>APU</u>	AUT0	SHUT	DOWN	APU	LOSS OF SPEED associated with	ASD	*	490000 P 228
				APU		497113	1	T 810 888
APU	AUT0	SHUT	DOWN	APU	LOSS OF SPEED associated with	ASD	*	490000 P 228 Conf.01
				APU	SPD SNSR2 (8060KM2) AND ECB (59KD)	497113	1	
<u>APU</u>	AUT0	SHUT	DOWN	APU	LOSS OF SPEED associated with	ASD	*	490000 PB203
				APU	ECB 59KD	496134	1	т 810 969
<u>APU</u>	AUT0	SHUT	DOWN	APU	LOSS OF SPEED associated with	ASD	*	490081 PA241 Conf.01
				APU	SPEED SENSOR (8060KM) AND ECB (59KD)	497113	1	Т 810 844
<u>APU</u>	AUT0	SHUT	DOWN	APU	LOSS OF SPEED associated with	ASD	*	490081 PA243
				APU	SPEED SENSOR (8060KM)	497113	1	Т 810 845
<u>APU</u>	AUT0	SHUT	DOWN	APU	LOSS OF SPEED associated with	ASD	*	490081 PA246 Conf.01
				APU	ECB (59KD)	496134	1	Т 810 846
<u>APU</u>	AUT0	SHUT	DOWN	APU	LOW FUEL PRESSURE	282200	2	490081 PB243 Conf.01 T 810 884

R EFF: 201-225, 227-227, 229-250, 252-299, 426-456, 476-499, 503-549, 551-599, 701-749, SROS

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49-ECAM Page 110 CONFIG-1 May 01/08

TROUBLE SHOOTING MANUAL

	WARNINGS/MALFUNCTIONS		CFDS FAULT MESSAGES	 S		FAULT - ISOLATION	
	WARNINGS/MALFUNCTIONS	SOURCE	MESSAGE	ATA	С	PROCEDURE	
R R R	<u>apu</u> auto shut down	APU	LOW FUEL PRESSURE CHECK APU FUEL SUPPLY	282251	2	490000 P 299 Conf.02 T 810 833	
R R R	<u>apu</u> auto shut down	APU	LOW OIL LEVEL	499300	2	490000 PA213 Conf.02 T 810 841	
	APU AUTO SHUT DOWN	APU	LOW OIL PRESSURE associated with	ASD	*	490000 P 246 Conf.01	
		APU	CHECK OIL LEAKAGE OR OIL PRESS SW P14	499100	1		
	APU AUTO SHUT DOWN	APU	LOW OIL PRESSURE associated with	ASD	*	490000 P 246 Conf.01	
		APU	CHECK OIL LEAKAGE / OIL PRESS SW (8091KM)	499100	1	T 810 895	
	APU AUTO SHUT DOWN	APU	LOW OIL PRESSURE associated with	ASD	*	490081 P 250 Conf.01	
		APU	LOP SW(8091KM)/OIL PUMP (8080KM)/DEOIL (8083KM)	499414	1	т 810 819	
	APU AUTO SHUT DOWN	APU	LOW OIL PRESSURE associated with	ASD	*	490081 P 253	
		APU	LOW OIL LEVEL	499300	2	т 810 820	
R R	APU AUTO SHUT DOWN	APU	NO ACCELERATION associated with	ASD	*	490000 P 201	
R R		APU	ACFT BAT NOT SELECTED / CONTACTOR (5KA)	494255	1	T 810 801	
R R	APU AUTO SHUT DOWN	APU	NO ACCELERATION associated with	ASD	*	490000 P 201	
R		APU	CONTACTOR 5KA	494255	1	T 810 801	
R R	APU AUTO SHUT DOWN	APU	NO ACCELERATION associated with	ASD	*	490000 P 204 Conf.02	
R		APU	CONTACTOR 10KA	494255	1	T 810 802	
R R	APU AUTO SHUT DOWN	APU	NO ACCELERATION associated with	ASD	*	490000 P 207	
R		APU	STARTER MOTOR 8KA	494251	1	T 810 803	

EFF: 201-225, 227-227, 229-250, 252-299, 426-456, 476-499, 503-549, 551-599, 701-749, SROS

49-ECAM Page 111 CONFIG-1 May 01/08

TROUBLE SHOOTING MANUAL

	WARNINGS/MALFUNCTIONS	<u> </u>	CFDS FAULT MESSAGES	 S		FAULT - ISOLATION	
	WARNINGS/MALFUNCTIONS	SOURCE	MESSAGE	ATA	С		
R R	APU AUTO SHUT DOWN	APU	NO ACCELERATION associated with	ASD	*	490000 PA245 Conf.02	
R R		APU	STARTER MOTOR (8KA) / APU ROTATION	494251	1	Т 810 868	
	APU AUTO SHUT DOWN	APU	NO ACCELERATION associated with	ASD		490000 P 201 Conf.01	
		APU	CONTACTOR 5KA	494255 L	1	Т 810 878	
	APU AUTO SHUT DOWN	APU	NO ACCELERATION associated with	ASD	*	490000 P 204 Conf.01	
		APU	CURRENT LIMITER 6KA OR CONTACTOR 10KA	494242	1 	Т 810 879	
	APU AUTO SHUT DOWN	APU	NO ACCELERATION associated with	ASD	*	490000 P 204 Conf.01	
		APU	CURRENT LIMITER 6KA OR CONTACTOR 10KA	494200	1	т 810 879	
	APU AUTO SHUT DOWN	APU	NO ACCELERATION associated with	ASD	*	490000 P 204 Conf.01	
		APU	CURRENT LIMITER (6KA) / CONTACTOR (10KA)	494200	1	т 810 879	
	APU AUTO SHUT DOWN	APU	NO ACCELERATION associated with	ASD	*	490000 P 255 Conf.01	
		APU	STARTER MOTOR 8KA OR STARTER CLUTCH ASSY	494251	1 	Т 810 897	
	APU AUTO SHUT DOWN	APU	NO ACCELERATION associated with	ASD	*	490000 P 255 Conf.01	
		APU	STARTER MOTOR (8KA) / STARTER CLUTCH (8033KM)	494251	1	T 810 897	
	APU AUTO SHUT DOWN	APU	NO ACCELERATION associated with	ASD	*	490000 P 258 Conf.01	
		APU	FUEL CTL UNIT P19 OR FUEL FLOW DIVIDER	493211	1	T 810 898	
	APU AUTO SHUT DOWN	APU	NO ACCELERATION associated with	ASD	*	490000 P 258	
		APU	FCU P19 OR IGV ACTR P21 OR FUEL FLOW DIVIDER	493211	1	т 810 898	

EFF: 201-225, 227-227, 229-250, 252-299, 426-456, 476-499, 503-549, 551-599, 701-749,

49-ECAM Page 112 CONFIG-1 May 01/08

TROUBLE SHOOTING MANUAL

WARNINGS/MALFUNCTIONS		CFDS FAULT MESSAGES	 S		FAULT - ISOLATION
WARNINGS/MALFUNCTIONS	SOURCE	MESSAGE	ATA	С	PROCEDURE
APU AUTO SHUT DOWN	APU APU	NO ACCELERATION associated with FUEL CTL UNIT (8022KM) / FLOW DIVIDER (8024KM)	ASD 493211	İ	490000 P 258 Conf.01 T 810 898
APU AUTO SHUT DOWN	APU APU	NO ACCELERATION associated with FUEL CTL UNIT P19 OR DE-OILING SOL P15	ASD 493211	İ	490000 P 266 Conf.01 T 810 900
APU AUTO SHUT DOWN	APU APU	NO ACCELERATION associated with FCU P19 OR IGV ACTR P21 OR IN T/P SNSR P22	ASD 493211	İ	490000 P 266 Conf.01 T 810 900
APU AUTO SHUT DOWN	APU APU	NO ACCELERATION associated with FUEL CTL UNIT (8022KM)OR DE-OILING SOL (8083KM)	ASD 493211	İ	490000 P 266 Conf.01 T 810 900
APU AUTO SHUT DOWN	APU APU	NO ACCELERATION associated with CONTACTOR 5KA OR ECB 59KD	ASD 494241	İ	490000 PA233 Conf.01 T 810 927
APU AUTO SHUT DOWN	APU APU	NO ACCELERATION associated with CONTACTOR 10KA OR ECB 59KD	ASD 494242	İ	490000 PA236 Conf.01 T 810 928
APU AUTO SHUT DOWN	APU APU	NO ACCELERATION associated with CONTACTOR 10KA	ASD 494255		490000 PA236 Conf.01 T 810 928
APU AUTO SHUT DOWN	APU APU	NO ACCELERATION associated with DE-OILING SOL P15	ASD 499149	İ	490000 PA283 Conf.01 T 810 951
APU AUTO SHUT DOWN	APU APU	NO ACCELERATION associated with DE-OILING SOL (8083KM)	ASD 499149	İ	490000 PA283 Conf.01 T 810 951
APU AUTO SHUT DOWN	APU	NO ACCELERATION associated with INLET GUIDE VANE ACTR P21	ASD 492351	İ	490000 PA286 Conf.01 T 810 952

EFF: 201-225, 227-227, 229-250, 252-299, 426-456, 476-499, 503-549, 551-599, 701-749,

49-ECAMPage 113
CONFIG-1 May 01/08

TROUBLE SHOOTING MANUAL

HARNINGS /MALEUNGTIONS		CFDS FAULT MESSAGE	 S		FAULT - ISOLATION	
WARNINGS/MALFUNCTIONS	SOURCE	MESSAGE	АТА	С	PROCEDURE	
APU AUTO SHUT DOWN	APU	NO ACCELERATION associated with	ASD	*	490000 PB211 Conf.01	
	APU	ECB 59KD	496134	1	Т 810 974	
APU AUTO SHUT DOWN	APU	NO ACCELERATION associated with	ASD	*	490000 PB220 Conf.01	
	APU	FUEL CTL UNIT P19	493211	1	т 810 978	
APU AUTO SHUT DOWN	APU	NO ACCELERATION associated with	ASD	*	490000 PB220 Conf.01	
	APU	FUEL CTL UNIT (8022KM)	493211	1	т 810 978	
APU AUTO SHUT DOWN	APU	 NO ACCELERATION associated with	ASD	*	490000 PB220 Conf.01	
	APU	FUEL CTL UNIT P19	493211	1	т 810 978	
APU AUTO SHUT DOWN	APU	NO ACCELERATION associated with	ASD	*	490000 PB220 Conf.01	
	APU	FUEL CTL UNIT (8022KM)	493211	1	Т 810 978	
APU AUTO SHUT DOWN	APU	 NO ACCELERATION associated with	ASD	*	490000 PB228	
	APU	A/C BAT NOT SELECTED OR CONT 5KA OR ECB 59KD	243800	1	T 810 981	
APU AUTO SHUT DOWN	APU	NO ACCELERATION associated with	ASD	*	490000 PB228	
	APU		243800	1 	T 810 981	
APU AUTO SHUT DOWN	APU	NO ACCELERATION associated with	ASD	*	490081 P 284	
	APU		494251	1	T 810 830	
APU AUTO SHUT DOWN	APU	NO ACCELERATION associated with	ASD	*	490081 P 288 Conf.01	
	APU	ACFT BAT NOT SELECTED / CONTACTOR (5KA)	494255	1	T 810 831	
APU AUTO SHUT DOWN	APU	NO ACCELERATION associated with	ASD	*	490081 P 290 Conf.01	
	APU	CONTACTOR (10KA)	494255	1	T 810 832	

EFF: 201-225, 227-227, 229-250, 252-299, 426-456, 476-499, 503-549, 551-599, 701-749,

49-ECAM

CONFIG-1 May 01/08

TROUBLE SHOOTING MANUAL

	WARNINGS/MALFUNCTIONS		CFDS FAULT MESSAGES			FAULT ISOLATION	
	WARNINGS/MALFUNCTIONS	SOURCE	MESSAGE	АТА	С	PROCEDURE	
	APU AUTO SHUT DOWN	APU	NO ACCELERATION associated with	ASD	*	490081 P 292 Conf.01	
		APU	APU OIL HEATER (8093KM)	499651	2	T 810 833	
	APU AUTO SHUT DOWN	APU	NO ACCELERATION associated with	ASD	*	490081 P 296	
		APU	STARTER MOTOR (8KA)	494251	1	T 810 834	
	APU AUTO SHUT DOWN	APU	NO ACCELERATION associated with	ASD	*	490081 PA201	
		APU	FUEL CONTROL UNIT	493211	1	т 810 835	
	APU AUTO SHUT DOWN	APU	NO ACCELERATION associated with	ASD	*	490081 PA201 Conf.01	
		APU	FCU(8022KM)/FUEL SUPPLY/	493211	1	T 810 835	
R	APU AUTO SHUT DOWN	APU	NO ACCELERATION associated with	ASD	*	490081 PA215	
		APU	FUEL CTRL UNIT(8022KM)/	493211	1	T 810 836	
R	APU AUTO SHUT DOWN	APU	NO ACCELERATION associated with	ASD	*	490081 PA218	
		APU	ECB (59KD)	496134	1	т 810 837	
R	APU AUTO SHUT DOWN	APU	NO ACCELERATION associated with	ASD	*	490081 PA218	
		APU	ECB (59KD)	496134	2	т 810 837	
R	APU AUTO SHUT DOWN	APU	NO ACCELERATION associated with	ASD	*	490081 PA219 Conf.01	
		APU	DEOIL SOLENOID (8083KM)	499149	1	т 810 838	
R	APU AUTO SHUT DOWN	APU	NO ACCELERATION associated with	ASD	*	490081 PA224	
	L	APU	LOW FUEL PRESSURE	282200	2	т 810 839	
R	APU AUTO SHUT DOWN	APU	NO ACCELERATION associated with	ASD	*	490081 PA226	
		APU	CHECK IGV ASSEMBLY / IGV ACTUATOR (8014KM)	492300	1		

EFF: 201-225, 227-227, 229-250, 252-299, 426-456, 476-499, 503-549, 551-599, 701-749,

SROS

49-ECAM Page 115
CONFIG-1 May 01/08

TROUBLE SHOOTING MANUAL

	WARNINGS/MALFUNCTIONS	 	CFDS FAULT MESSAGES	 S		FAULT ISOLATION	
	WARNINGS/MALFUNCTIONS	SOURCE	MESSAGE	ATA	С	PROCEDURE	
R	APU AUTO SHUT DOWN	APU	NO ACCELERATION associated with	ASD	*	490081 PA230 Conf.01	
	<u></u>	APU 	FLOW DIVIDER SOL(8025KM)	493214	1	Т 810 841	
R	APU AUTO SHUT DOWN	APU	NO ACCELERATION associated with	ASD	*	490081 PA233 Conf.01	
		APU	OIL SUMP TEMP SENSOR (8084KM)	499415	2	Т 810 842	
	APU AUTO SHUT DOWN	APU	NO ACCELERATION associated with	ASD	*	490081 P 203 Conf.02	
		APU 	FLOW DIVIDER (8024KM)	493213	1	т 810 876	
	APU AUTO SHUT DOWN	APU	NO ACCELERATION associated with	ASD	*	490081 P 212 Conf.02	
		APU	CHECK APU FUEL SUPPLY	490000	1	т 810 880	
	APU AUTO SHUT DOWN	APU	NO FLAME associated with	ASD	*	490000 P 219 Conf.01	
		APU	IGNITION UNIT P10	494138	1	т 810 884	
	APU AUTO SHUT DOWN	APU	NO FLAME associated with	ASD	*	490000 P 219 Conf.01	
	<u></u>	APU 	IGNITION UNIT (8030KM)	494138	1	т 810 884	
	APU AUTO SHUT DOWN	APU	NO FLAME associated with	ASD	*	490000 P 262 Conf.01	
		APU	IGNITION UNIT P10 OR FUEL CTL UNIT P19	494138	1	T 810 899	
	APU AUTO SHUT DOWN	APU	NO FLAME associated with	ASD	*	490000 P 262 Conf.01	
		APU	IGNITION UNIT (8030KM) / FUEL CTL UNIT (8022KM)	494138	1		
	APU AUTO SHUT DOWN	APU	NO FLAME associated with	ASD	*	490000 PB213	
		APU	ECB 59KD	496134	1	T 810 975	
	APU AUTO SHUT DOWN	APU	NO FLAME associated with	ASD	*	490000 PB217 Conf.01	
		APU	FUEL CTL UNIT P19	493211	1	т 810 977	
	APU AUTO SHUT DOWN	APU	NO FLAME associated with	ASD	*	490000 PB217 Conf.01	
		APU	FUEL CTL UNIT (8022KM)	493211	1	т 810 977	

EFF: 201-225, 227-227, 229-250, 252-299, 426-456, 476-499, 503-549, 551-599, 701-749,

49-ECAM Page 116 CONFIG-1 May 01/08

TROUBLE SHOOTING MANUAL

HARNINGS (MALIFINISTIONS			FAULT ISOLATION		
WARNINGS/MALFUNCTIONS	SOURCE	MESSAGE	АТА	С	PROCEDURE
APU AUTO SHUT DOWN	APU	NO FLAME associated with	ASD	*	490000 PB217 Conf.01
	APU	FUEL CTL UNIT P19	493211	1	T 810 977
APU AUTO SHUT DOWN	APU	NO FLAME associated with	ASD	*	490000 PB217
	APU	FUEL CTL UNIT (8022KM)	493211	1	т 810 977
APU AUTO SHUT DOWN	APU	NO FLAME associated with	ASD	*	490081 P 255 Conf.01
	APU		494100	1	T 810 821
APU AUTO SHUT DOWN	APU	NO FLAME associated with	ASD	*	490081 P 261 Conf.01
	APU	LOW FUEL PRESSURE	282200	2	т 810 822
APU AUTO SHUT DOWN	APU	NO FLAME associated with	ASD	*	490081 P 263
	APU	FUEL CONTROL UNIT	493211	1	T 810 823
APU AUTO SHUT DOWN	APU	NO FLAME associated with	ASD	*	490081 P 266 Conf.01
	APU	FUEL CTRL UNIT(8022KM)/	493211	1	T 810 824
APU AUTO SHUT DOWN	APU	NO FLAME associated with	ASD	*	490081 P 270 Conf.01
	APU	IGNITION UNIT (8030KM)	494138	1	Т 810 825
APU AUTO SHUT DOWN	APU	NO FLAME associated with	ASD		490081 P 274
	APU	FLOW DIVIDER SOL(8025KM)	493214		
APU AUTO SHUT DOWN	APU	NO FLAME associated with	ASD	*	490081 P 277
 	APU	ECB (59KD)	496134	1	Т 810 827
APU AUTO SHUT DOWN	APU	NO FLAME associated with	ASD	*	490081 P 201 Conf.02
 	APU	CHECK APU FUEL SUPPLY	490000	!!	
APU AUTO SHUT DOWN	APU	NOT APPLICABLE FOR VECB	*****	1	490000 P 213 Conf.02 T 810 805

R R R

EFF: 201-225, 227-227, 229-250, 252-299, 426-456, 476-499, 503-549, 551-599, 701-749,

49-ECAM Page 117

CONFIG-1 May 01/08

TROUBLE SHOOTING MANUAL

	LIADNINGS /MALELINGITONS		CFDS FAULT MESSAGES			
	WARNINGS/MALFUNCTIONS	SOURCE	MESSAGE	ATA	С	ISOLATION PROCEDURE
R R R	APU AUTO SHUT DOWN	APU	OIL COOLER / COOLING FAN / GEN SCAV PUMP	499144	1	490000 P 254 Conf.02 T 810 819
	APU AUTO SHUT DOWN	APU	OIL PRESS SW (8091KM) AND LOW OIL LEVEL	499414	1	490000 P 207 Conf.01 T 810 880
	APU AUTO SHUT DOWN	APU	OIL PRESS SW P14 AND LOW OIL LEVEL	499414	1	490000 P 207 Conf.01 T 810 880
	<u>apu</u> auto shut down	APU	OIL PRESS SW P14 AND OIL LEVEL SNSR P8	499414	1	490000 P 210 Conf.01 T 810 881
	<u>APU</u> AUTO SHUT DOWN	APU	OIL PRS SW (8091KM) AND OIL LVL SNSR (8089KM)	499414	 1 	490000 P 210 Conf.01 T 810 881
R R R	<u>apu</u> auto shut down	APU	OIL SUMP TEMP SENSOR (8084KM)	499151	2	490000 P 277 Conf.02 T 810 825
	<u>apu</u> auto shut down	APU	OIL TEMP SNSR (8084KM) AND GENERATOR (8XS)	499151	2	490000 P 237 Conf.01 T 810 892
	<u>APU</u> AUTO SHUT DOWN	APU	OIL TEMP SNSR P25 AND GENERATOR 8XS	499151	 1 	490000 P 237 Conf.01 T 810 892
	<u>apu</u> auto shut down	APU APU	OVERSPEED associated with FUEL CTL UNIT P19 OR ECB 59KD	ASD 493211		490000 P 240 Conf.01 T 810 893
	<u>apu</u> auto shut down	APU APU	OVERSPEED associated with FUEL CTL UNIT (8022KM)	ASD 493211	İ	490000 P 240 Conf.01 T 810 893
	<u>APU</u> AUTO SHUT DOWN	APU APU	OVERSPEED associated with ECB 59KD	ASD 496134	İ	490000 PB215 Conf.01 T 810 976

EFF: 201-225, 227-227, 229-250, 252-299, 426-456, 476-499, 503-549, 551-599, 701-749,

49-ECAM Page 118
CONFIG-1 May 01/08

TROUBLE SHOOTING MANUAL

WARNINGS/MALFUNCTIONS			FAULT		
WARNINGS/MALFUNCTIONS	SOURCE	MESSAGE	АТА	С	ISOLATION PROCEDURE
APU AUTO SHUT DOWN	APU	OVERSPEED associated with	ASD	*	 490081 P 201 Conf.01
	APU	FUEL CONTROL UNIT (8022KM) / ECB (59KD)	493211	1 	т 810 801
APU AUTO SHUT DOWN	APU	OVERSPEED associated with	ASD	*	 490081 P 203 Conf.01
	APU	FUEL CTRL UNIT(8022KM)/ APU FUEL SUPPLY	493211	1	l .
APU AUTO SHUT DOWN	APU	OVERSPEED associated with	ASD	*	490081 P 215 Conf.02
	APU	SPEED SNSR P26, P27	497113	1	T 810 883
APU AUTO SHUT DOWN	APU	OVERSPEED associated with	ASD	İ	490081 P 215 Conf.02
	APU 	SPD SNSR1 (8060KM1) AND SPD SNSR2 (8060KM2)	497113	1	Т 810 883
APU AUTO SHUT DOWN	APU	OVERTEMPERATURE associated with	ASD	*	490000 P 242 Conf.01
	APU	IGV ACTR P21 OR FUEL CTL UNIT P19	492351	1	т 810 894
APU AUTO SHUT DOWN	APU	OVERTEMPERATURE associated with	ASD	*	490000 P 242 Conf.01
	APU	IGV ACTR (8014KM)	492351	1	т 810 894
APU AUTO SHUT DOWN	APU	OVERTEMPERATURE associated with	ASD	*	490000 P 283 Conf.01
	APU	INLET GUIDE VANE ACTR P21	492351	1 	T 810 905 490000 P 287 Conf.01 T 810 905 01
APU AUTO SHUT DOWN	APU	OVERTEMPERATURE associated with	ASD	*	490000 PA280 Conf.01
	APU	EGT TC1 P30 OR FUEL CTL UNIT P19	497215	1	T 810 948
APU AUTO SHUT DOWN	APU	OVERTEMPERATURE associated with	ASD	*	490000 PA280 Conf.01
	APU	EGT TC1 (8057KM1)	497215	1	T 810 948

EFF: 201-225, 227-227, 229-250, 252-299, 426-456, 476-499, 503-549, 551-599, 701-749,

49-ECAMPage 119
CONFIG-1 May 01/08

TROUBLE SHOOTING MANUAL

LIAD	NTNC	·		T		FAULT		
WAR	(NINGS		FUNCTIONS	SOURCE	MESSAGE	АТА	С	ISOLATION PROCEDURE
<u>APU</u>	AUT0	SHUT	DOWN	APU	OVERTEMPERATURE associated with	ASD	İ	490000 PA280 Conf.01
				APU	EGT TC2 P31 OR FUEL CTL UNIT P19	497215 	1 	T 810 948
<u>APU</u>	AUTO	SHUT	DOWN	APU	OVERTEMPERATURE associated with	ASD	İ	490000 PA280 Conf.01
				APU 	EGT TC2 (8057KM2)	497215 	1 	Т 810 948
<u>APU</u>	AUT0	SHUT	DOWN	APU	OVERTEMPERATURE associated with	ASD	*	490081 P 224 Conf.01
				APU	IGV ACTUATOR (8014KM) / ECB (59KD)	492351	1 	Т 810 810
<u>APU</u>	AUTO	SHUT	DOWN	APU	OVERTEMPERATURE associated with	ASD	*	490081 P 228 Conf.01
				APU	CHECK IGV ASSEMBLY / IGV ACTUATOR (8014KM)	492300	1 	Т 810 811
<u>APU</u>	AUTO	SHUT	DOWN	APU	OVERTEMPERATURE associated with	ASD	*	490081 P 232 Conf.01
				APU	FUEL CTRL UNIT(8022KM) / FLOW DIVIDER (8024KM)	493211	1	Т 810 812
<u>APU</u>	AUTO	SHUT	DOWN	APU	OVERTEMPERATURE associated with	ASD	*	490081 P 237 Conf.01
				APU	FUEL CTRL UNIT(8022KM)/ APU FUEL SUPPLY	493211	1	Т 810 813
<u>APU</u>	AUT0	SHUT	DOWN	APU	PRESS XDCRS (8044KM) / (8043KM) / SCV (8058KM)	495116	1	490000 P 267 Conf.02 T 810 822
APU	AUT0	SHUT	DOWN	APU	PRESS XDCRS (8044KM)/ (8048KM)	495117	1	490081 PA271 Conf.01 T 810 854
<u>APU</u>	AUTO	SHUT	DOWN	APU	REVERSE FLOW associated with	ASD	*	490000 PA247 Conf.01
				APU	BLEED FLOW XDCR P24	495119	1	т 810 933
APU	AUTO	SHUT	DOWN	APU	REVERSE FLOW associated with	ASD	*	490000 PA247 Conf.01
				APU	BLD FLOW XDCR (8039KM)	495112	1	т 810 933

EFF: 201-225, 227-227, 229-250, 252-299, 426-456, 476-499, 503-549, 551-599, 701-749,

49-ECAM Page 120 CONFIG-1 May 01/08

SROS

R R R

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TROUBLE SHOOTING MANUAL

	WARNINGS/MALFUNCTIONS			FAULT ISOLATION		
	WARNINGS/MALFUNCTIONS	SOURCE	MESSAGE	ATA	С	PROCEDURE
R	APU AUTO SHUT DOWN	APU	REVERSE FLOW associated with	ASD		490081 PA247 Conf.01
		APU 	PRESS XDCRS (8044KM) / (8044KM) / SCV (8058KM)	495116	1	T 810 847
R	APU AUTO SHUT DOWN	APU	REVERSE FLOW associated with	ASD	*	490081 PA251 Conf.01
		APU	SURGE CONTROL VALVE (8058KM)	495152	1	Т 810 848
R	<u>APU</u> AUTO SHUT DOWN	APU	SCV (8058KM) / PRESS XDCRS (8043KM)/(8044KM)	495152	1	490081 PA278 Conf.01 T 810 856
	APU AUTO SHUT DOWN	APU	SENSOR FAILURE associated with	ASD	*	490000 P 207
		APU	OIL PRESS SW P14 AND LOW OIL LEVEL	499414	1	Т 810 880
	APU AUTO SHUT DOWN	APU	SENSOR FAILURE associated with	ASD	*	490000 P 207 Conf.01
		APU	OIL PRESS SW (8091KM) AND LOW OIL LEVEL	499414	1	Т 810 880
	APU AUTO SHUT DOWN	APU	SENSOR FAILURE associated with	ASD	*	490000 P 210 Conf.01
		APU 	OIL PRESS SW P14 AND OIL LEVEL SNSR P8	499414	1	Т 810 881
	APU AUTO SHUT DOWN	APU	SENSOR FAILURE associated with	ASD	*	490000 P 210 Conf.01
		APU	OIL PRS SW (8091KM) AND OIL LVL SNSR (8089KM)	499414	1	Т 810 881
	APU AUTO SHUT DOWN	APU	SENSOR FAILURE associated with	ASD	*	490000 P 230 Conf.01
		APU	EGT TC1 P30 AND EGT TC2 P31	497215	1	т 810 889
	APU AUTO SHUT DOWN	APU	SENSOR FAILURE associated with	ASD	*	490000 P 230 Conf.01
		APU	EGT TC1 (8057KM1) AND EGT TC2 (8057KM2)	497215	1	T 810 889

EFF: 201-225, 227-227, 229-250, 252-299, 426-456, 476-499, 503-549, 551-599, 701-749,

49-ECAMPage 121
CONFIG-1 May 01/08

TROUBLE SHOOTING MANUAL

HARNINGS (MALIFINGTIONS	<u> </u>	FAULT ISOLATION			
WARNINGS/MALFUNCTIONS	SOURCE	MESSAGE	АТА	С	PROCEDURE
APU AUTO SHUT DOWN	APU	SENSOR FAILURE associated with	ASD	İ	490000 P 233 Conf.01
	APU	EGT TC1 P30 AND ECB 59KD	497215	1	Т 810 890
APU AUTO SHUT DOWN	APU	SENSOR FAILURE associated with	ASD		490000 P 233 Conf.01
	APU 	EGT TC1 (8057KM1) AND ECB (59KD) 	497215	1 	Т 810 890
APU AUTO SHUT DOWN	APU	SENSOR FAILURE associated with	ASD		490000 P 235 Conf.01
	APU 	EGT TC2 P31 AND ECB 59KD	497215	1	Т 810 891
APU AUTO SHUT DOWN	APU	SENSOR FAILURE associated with	ASD	*	490000 P 235 Conf.01
	APU	EGT TC2 (8057KM2) AND ECB (59KD)	497215	1	Т 810 891
APU AUTO SHUT DOWN	APU	SENSOR FAILURE	ASD	*	490000 P 237
	APU	OIL TEMP SNSR P25 AND GENERATOR 8XS	499151	1	т 810 892
APU AUTO SHUT DOWN	APU	SENSOR FAILURE associated with	ASD	*	490000 P 237 Conf.01
	APU	OIL TEMP SNSR (8084KM) AND GENERATOR (8XS)	499151	2	T 810 892
APU AUTO SHUT DOWN	APU	SENSOR FAILURE associated with	ASD	*	490081 P 240 Conf.01
	APU	EGT TCPLE RAKE (8057KM1)	497215	1	
APU AUTO SHUT DOWN	APU	 SENSOR FAILURE associated with	ASD	*	490081 P 242 Conf.01
	APU	EGT TCPLE RAKE (8057KM2) AND ECB (59KD)	497215	1	
APU AUTO SHUT DOWN	APU	SENSOR FAILURE associated with	ASD	*	490081 P 244 Conf.01
	APU	EGT TCPLE RAKES(8057KM1) AND (8057KM2)	497215	1	1
APU AUTO SHUT DOWN	APU	SENSOR FAILURE associated with	ASD	*	490081 P 246 Conf.01
	APU	ECB (59KD)	496134	1	T 810 817

EFF: 201-225, 227-227, 229-250, 252-299, 426-456, 476-499, 503-549, 551-599, 701-749,

49-ECAM Page 122 CONFIG-1 May 01/08

TROUBLE SHOOTING MANUAL

HAR	NTNCS /MAI	EUNCTIONS			FAULT ISOLATION		
WAR	(NINGS/MAL	FUNCTIONS	SOURCE	MESSAGE	АТА	С	PROCEDURE
APU	AUTO SHUT	DOWN	APU	SENSOR FAILURE associated with	ASD	*	490081 P 247 Conf.01
İ			APU	LOW OIL LEVEL	499300	2	Т 810 818
ļ 			APU	LOW OIL PRESS SW(8091KM)	499414	2	
APU	AUTO SHUI	DOWN	APU	SPD SNSR1 (8060KM1) AND ECB (59KD)	497113	1	490000 P 226 Conf.01 T 810 887
APU	AUTO SHUI	DOWN	APU	SPD SNSR1 (8060KM1) AND SPD SNSR2 (8060KM2)	497113	1	490000 P 223 Conf.01 T 810 886
APU	AUTO SHUI	DOWN	APU	SPD SNSR2 (8060KM2) AND ECB (59KD)	497113	1	490000 P 228 Conf.01 T 810 888
APU	AUTO SHUI	DOWN	APU	SPEED SENSOR (8060KM1) AND ECB (59KD)	497113	1	490000 P 228 Conf.02 T 810 810
APU	AUTO SHUT	DOWN	APU	SPEED SENSOR (8060KM2) AND ECB (59KD)	497113	1	490000 P 231 Conf.02 T 810 811
APU	AUTO SHUT	DOWN	APU	SPEED SENSORS (8060KM2) AND (8060KM2)	497113	1	490000 P 221 Conf.02 T 810 808
APU	AUTO SHUT	DOWN	APU	SPEED SNSR P26 AND ECB 59KD	497113	1	490000 P 226 Conf.01 T 810 887
APU	AUTO SHUI	DOWN	APU	SPEED SNSR P26, P27	497113	1	490000 P 223 Conf.01 T 810 886
APU	AUTO SHUI	DOWN	APU	SPEED SNSR P27 AND ECB 59KD	497113	1	490000 P 228 Conf.01 T 810 888
APU	AUTO SHUI	DOWN	APU	STARTER MOTOR (8KA) / STARTER CLUTCH (8033KM)	494251	1	490000 P 255 Conf.01 T 810 897

EFF: 201-225, 227-227, 229-250, 252-299, 426-456, 476-499, 503-549, 551-599, 701-749, SROS

49-ECAMPage 123
CONFIG-1 May 01/08

R R R

R R R

R R R

TROUBLE SHOOTING MANUAL

	WARNINGS/MALFUNCTIONS	CFDS FAULT MESSAGES				FAULT
	WARNINGS/ MALFONCTIONS	SOURCE	MESSAGE	ATA	С	PROCEDURE
R R R	APU AUTO SHUT DOWN	APU	STARTER MOTOR 8KA	494251	1	490000 P 207 Conf.02 T 810 803
	APU AUTO SHUT DOWN	APU	STARTER MOTOR 8KA OR STARTER CLUTCH ASSY	494251	1 	490000 P 255 Conf.01 T 810 897
R	<u>apu</u> auto shut down	APU	SURGE CONTROL VALVE (8058KM)	495152	1	490081 PB226 Conf.01 T 810 871
	APU AUTO SHUT DOWN	APU	SURGE LIMIT EXCEEDED associated with	ASD		490000 P 280 Conf.01
		APU 	BLEED CTL VLV P33	495153	1 - -	T 810 904
	APU AUTO SHUT DOWN	APU	SURGE LIMIT EXCEEDED associated with	ASD	*	490000 P 280 Conf.01
		APU	BLEED CTL VLV (8051KM)	495153	1	!!
R	APU AUTO SHUT DOWN	APU	UNDERSPEED	ASD	*	490000 P 216
R R R		APU	associated with FUEL CONTROL UNIT (8022KM)	493211	 1 	Conf.02 T 810 806
R	APU AUTO SHUT DOWN	APU	UNDERSPEED	ASD	*	490000 P 224
R R		APU	associated with ECB 59KD	496134	1	Conf.02 T 810 809
R	APU AUTO SHUT DOWN	APU	UNDERSPEED	ASD	*	490000 P 299
R R R		APU	associated with LOW FUEL PRESSURE CHECK APU FUEL SUPPLY	282251	2	Conf.02 T 810 833
R	APU AUTO SHUT DOWN	APU	UNDERSPEED	ASD	*	490000 PA227
R R R		APU	associated with FCU (8022KM) / APU FUEL SUPPLY / APU ROTATION	493211	1	Conf.02 T 810 860
R	APU AUTO SHUT DOWN	APU	UNDERSPEED	ASD	*	490000 PA230
R R R		APU	associated with CHECK IGV ASSEMBLY / IGV ACTUATOR (8014KM)	492300	 1 	Conf.02 T 810 861

EFF: 201-225, 227-227, 229-250, 252-299, 426-456, 476-499, 503-549, 551-599, 701-749, SROS

49-ECAMCONFIG-1 May 01/08

TROUBLE SHOOTING MANUAL

HARNINGS (MALIFINISTIONS	 	CFDS FAULT MESSAGES	 S		FAULT ISOLATION
WARNINGS/MALFUNCTIONS	SOURCE	MESSAGE	АТА	С	PROCEDURE
APU AUTO SHUT DOWN	APU	UNDERSPEED associated with	ASD	*	490000 P 215 Conf.01
	APU	FUEL CTL UNIT P19	493211	1	т 810 883
APU AUTO SHUT DOWN	APU	UNDERSPEED associated with	ASD	*	490000 P 215 Conf.01
<u></u>	APU L	FUEL CTL UNIT (8022KM)	493211	1	Т 810 883
APU AUTO SHUT DOWN	APU	UNDERSPEED associated with	ASD	İ	490000 P 215 Conf.01
	APU 	FUEL CTL UNIT P19	493211	1 	Т 810 883
APU AUTO SHUT DOWN	APU	UNDERSPEED associated with	ASD	İ	490000 P 215 Conf.01
 	APU 	FUEL CTL UNIT (8022KM)	493211	1 	Т 810 883
APU AUTO SHUT DOWN	APU	UNDERSPEED associated with	ASD	*	490000 PB209 Conf.01
	APU L	ECB 59KD	496134	1	Т 810 973
APU AUTO SHUT DOWN	APU	UNDERSPEED associated with	ASD	*	490081 P 210 Conf.01
	APU	FCU / APU FUEL SUPPLY / APU ROTATION	493211	1	Т 810 805
APU AUTO SHUT DOWN	APU	UNDERSPEED associated with	ASD	*	490081 P 215 Conf.01
	APU	FUEL CTRL UNIT(8022KM)/ APU FUEL SUPPLY	493211	1	T 810 806
APU AUTO SHUT DOWN	APU	UNDERSPEED associated with	ASD	*	490081 P 218 Conf.01
	APU	FUEL CONTROL UNIT	493211	1	T 810 807
APU AUTO SHUT DOWN	APU	UNDERSPEED associated with	ASD	*	490081 P 221
	APU	LOW FUEL PRESSURE	282200	2	T 810 808
APU AUTO SHUT DOWN	APU	UNDERSPEED associated with	ASD	*	490081 P 223 Conf.01
	APU	ECB (59KD)	496134	1	T 810 809
APU AUTO SHUT DOWN	APU	UNDERSPEED associated with	ASD	*	490081 P 213 Conf.02
	APU	CHECK APU FUEL SUPPLY	490000	1	T 810 881

EFF: 201-225, 227-227, 229-250, 252-299, 426-456, 476-499, 503-549, 551-599, 701-749,

49-ECAM Page 125 CONFIG-1 May 01/08

TROUBLE SHOOTING MANUAL

	LIADNINGS (MALFLINGITONS	CFDS FAULT MESSAGES				FAULT
	WARNINGS/MALFUNCTIONS	SOURCE	MESSAGE	ATA	C	ISOLATION PROCEDURE
R R R	APU EMER SHUT DOWN	 				490000 PA222 Conf.02 T 810 848
	APU EMER SHUT DOWN	 			T	490000 PA227 Conf.01 T 810 923
	APU EMER SHUT DOWN	APU	EMERGENCY	ASD	*	490081 P 206 Conf.01 T 810 803
	APU EMER SHUT DOWN	APU	EMERGENCY STOP	ASD	*	490000 PA227 Conf.01 T 810 923

STS-Inop System

APU	APU	IGV ACTR (8014KM)	492351	1 490000 PA266 Conf.01 T 810 943
APU	APU	IGV ACTR P21 OR FUEL CTL UNIT P19	492351	1 490000 PA266 Conf.01 T 810 943

STS-Maintenance

	APU	APU	AIR INTAKE FLAP ACTR	491651	2	490000 P 299 Conf.01 T 810 910
R R R	APU	APU	AIR INTAKE FLAP ACTR (4015KM)	491651	2	490000 PA234 Conf.02 T 810 863
R	APU	APU	AIR INTAKE FLAP ACTUATOR (4015KM)	491651	2	490081 PA283 Conf.01 T 810 857

EFF: 201-225, 227-227, 229-250, 252-299, 426-456, 476-499, 503-549, 551-599, 701-749,

49-ECAMPage 126
CONFIG-1 May 01/08

TROUBLE SHOOTING MANUAL

	WARNINGS/MALFUNCTIONS			FAULT - ISOLATION		
	WARNINGS/ MALFONCTIONS	SOURCE	MESSAGE	ATA	С	PROCEDURE
R R R	APU	APU	APU OIL HEATER (8093KM)	499651	2	490000 PA210 Conf.02 T 810 839
R	APU	APU	APU OIL HEATER (8093KM)	499651	2	490081 PB222 Conf.01 T 810 870
	APU	APU	CHECK GEN SCAV FILTER P5 AND LUBE FILTER P6	499141	2	490000 PA204 Conf.01 T 810 912
	APU	APU	COOLING FAN PMG ASSY (8055KM)	495253	2	490000 PA239 Conf.01 T 810 931
	APU	APU	COOLING FAN/PMG ASSY	495253	2	490000 PA239 Conf.01 T 810 931
	APU	APU	ECB (59KD)	496134	2	490000 PA202 Conf.01 T 810 911
R	APU	APU	ECB (59KD)	496134	2	490081 PB210 Conf.01 T 810 866
R R R	APU	APU	ECB 59KD	496134	2	490000 PA204 Conf.02 T 810 836
	APU	APU	ECB 59KD	496134	2	490000 PA202 Conf.01 T 810 911
	APU	APU	ECB 59KD OR SPEED SNSR P26	496134	2	490000 PB234 Conf.01 T 810 983
	APU	APU	ECB 59KD OR SPEED SNSR P27	496134	2	490000 PB236 Conf.01 T 810 984

EFF: 201-225, 227-227, 229-250, 252-299, 426-456, 476-499, 503-549, 551-599, 701-749,

49-ECAM Page 127
CONFIG-1 May 01/08

TROUBLE SHOOTING MANUAL

	WARNINGS/MALFUNCTIONS			FAULT - ISOLATION		
	WARNINGS/ MALFONCTIONS	SOURCE	MESSAGE	ATA	С	PROCEDURE
R	APU	APU	FUEL CONTROL UNIT (8022KM)	493211	2	490081 PA291 Conf.01 T 810 859
	APU	APU	FUEL CTL UNIT (8022KM)	493211	2	490000 PB225 Conf.01 T 810 980
	APU	APU	FUEL CTL UNIT P19	493211	2	490000 PB225 Conf.01 T 810 980
	APU	APU	FUEL LOW PRESSURE / LOW FUEL PRESS SW (5030QM)	282214	2	490000 P 296 Conf.01 T 810 909
	APU	APU	FUEL LOW PRESSURE OR LOW FUEL PRESS SW P17	282200	2	490000 P 296 Conf.01 T 810 909
	APU	APU	GEN SCAV FILTER (8069KM) AND LUBE FILTER (8076KM)	499141	2	490000 PA204 Conf.01 T 810 912
R R R	APU	APU	IGV ACTUATOR (8014KM)	492351	2	490000 PA216 Conf.02 T 810 842
R	APU	APU	IGV ACTUATOR (8014KM)	492351	2	490081 PA286 Conf.01 T 810 858
R R R	APU	APU	IGV ACTUATOR (8014KM) / ECB (59KD)	492351	2	490000 PA202 Conf.02 T 810 835
	APU	APU	INLET FLAP ACTR (4015KM)	491651	2	490000 P 299 Conf.01 T 810 910
R R R	APU	APU	INLET PRESS XDCR(8048KM)	495121	2	490000 PA208 Conf.02 T 810 838

EFF: 201-225, 227-227, 229-250, 252-299, 426-456, 476-499, 503-549, 551-599, 701-749, SROS

49-ECAM Page 128
CONFIG-1 May 01/08

TROUBLE SHOOTING MANUAL

	WARNINGS/MALFUNCTIONS	CFDS FAULT MESSAGES			FAULT ISOLATION	
	WAKNINGS/MALFUNCIIUNS	SOURCE	MESSAGE	ATA	С	PROCEDURE
R	APU	APU	INLET PRESS XDCR(8048KM)	495121	2	490081 PA294 Conf.01 T 810 860
R R R	APU	APU	LOAD CONTROL VALVE (8050KM)	495151	2	490000 P 286 Conf.02 T 810 829
R	APU	APU	LOAD CONTROL VALVE (8050KM)	495151	2	490081 PA298 Conf.01 T 810 861
R R R	APU	APU	LOW FUEL PRESSURE CHECK APU FUEL SUPPLY	282251	2	490000 P 299 Conf.02 T 810 833
R R R	APU	APU	LOW OIL LEVEL	499300	2	490000 P 295 Conf.02 T 810 832
	APU	APU	LOW OIL LEVEL	499300	2	490000 PA220 Conf.01 T 810 916
R	APU	APU	LOW OIL LEVEL	499300	2	490081 PB211 Conf.01 T 810 867
	APU	APU	LOW OIL PRESS SW(8091KM)	499414	2	490000 PA215 Conf.01 T 810 914
R	APU	APU	LOW OIL PRESS SW(8091KM)	499414	2	490081 PB215 Conf.01 T 810 868
	APU	APU	OIL FILTER P5	499141	2	490000 PA204 Conf.01 T 810 912
	APU	APU	OIL LEVEL SNSR (8089KM)	499317	2	490000 PA218 Conf.01 T 810 915

EFF: 201-225, 227-227, 229-250, 252-299, 426-456, 476-499, 503-549, 551-599, 701-749,

49-ECAMPage 129
CONFIG-1 May 01/08

TROUBLE SHOOTING MANUAL

	HADNINGS /MALEUNCTIONS	CFDS FAULT MESSAGES				FAULT ISOLATION
	WARNINGS/MALFUNCTIONS	SOURCE	MESSAGE	ATA	С	PROCEDURE
	APU	APU	OIL LEVEL SNSR P8	499317	2	490000 PA218 Conf.01 T 810 915
R R R	APU	APU	OIL LEVEL SWITCH(8087KM)	499300	2	490000 PA237 Conf.02 T 810 864
	APU	APU	OIL PRESS SW (8091KM)	499414	2	490000 PA215 Conf.01 T 810 914
	APU	APU	OIL PRESS SW P14	499114	2	490000 PA215 Conf.01 T 810 914
R	APU	APU	OIL SUMP TEMP SENSOR (8084KM)	499415	2	490081 PB218 Conf.01 T 810 869
R R R	APU	APU	OIL TEMP SWITCH (8090KM)	499413	2	490000 PA206 Conf.02 T 810 837
R R R	APU	APU	WRG: APU AVAILABLE	496100	2	490000 PA239 Conf.02 T 810 865
R	APU	APU	WRG: APU AVAILABLE	496100	2	490081 PB202 Conf.01 T 810 862
R R R	APU	APU	WRG: APU FAULT RELAY	496100	2	490000 PA241 Conf.02 T 810 866
R	APU	APU	WRG: APU FAULT RELAY	496100	2	490081 PB204 Conf.01 T 810 863
	APU	APU	WRG: ECB PIN AB-H8	490000	2	490081 P 207 Conf.02 T 810 878

EFF: 201-225, 227-227, 229-250, 252-299, 426-456, 476-499, 503-549, 551-599, 701-749,

49-ECAM Page 130 CONFIG-1 May 01/08

TROUBLE SHOOTING MANUAL

	WARNINGS/MALFUNCTIONS	CFDS FAULT MESSAGES				FAULT ISOLATION
	WARNINGS/MALFUNCTIONS	SOURCE	MESSAGE	ATA	С	PROCEDURE
R R R	APU	APU	WRG: LOAD VALVE OPEN SIGNAL	496100	2	490000 PA248 Conf.02 T 810 869
R R R	APU	APU	WRG: START IN PROGRESS	496100	2	490000 PA243 Conf.02 T 810 867
R	APU	APU	WRG: START IN PROGRESS	496100	2	490081 PB208 Conf.01 T 810 865

Lower ECAM DU Flags-APU

	APU BLEED PRESSURE indication replaced by amber XX	490000 PA293 Conf.01 T 810 961
R	APU BLEED PRESSURE indication replaced by amber XX	490081 PB268 Conf.01 T 810 894
	APU BLEED PRESSURE intense pressure fluctuation	490081 P 217 Conf.02 T 810 885
	APU BLEED VALVE indication replaced by amber XX	490000 PA291 Conf.01 T 810 960
R	APU BLEED VALVE indication replaced by amber XX	490081 PB266 Conf.01 T 810 893
	APU EGT indication replaced by amber XX	490000 PA295 Conf.01 T 810 962
R	APU EGT indication replaced by amber XX	490081 PB270 Conf.01 T 810 895

EFF: 201-225, 227-227, 229-250, 252-299, 426-456, 476-499, 503-549, 551-599, 701-749,

49-ECAMCONFIG-1 May 01/08

TROUBLE SHOOTING MANUAL

	LUADNINGS (MALIFUNGITANS		FAULT			
	WARNINGS/MALFUNCTIONS - -	SOURCE MESSAGE		ATA C	- ISOLATION PROCEDURE	
	APU GEN FREQUENCY indication replaced by amber XX				490000 PA289 Conf.01 T 810 959	
R	APU GEN FREQUENCY indication replaced by amber XX				490081 PB252 Conf.01 T 810 890	
	APU GEN LOAD indication replaced by amber XX				490000 PA289 Conf.01 T 810 959	
	APU GEN VOLTAGE indication replaced by amber XX				490000 PA289 Conf.01 T 810 959	
R	APU GEN VOLTAGE indication replaced by amber XX				490081 PB252 Conf.01 T 810 890	
	APU SPEED (N) indication replaced by amber XX				490000 PA296 Conf.01 T 810 963	
R	APU SPEED (N) indication replaced by amber XX				490081 PB271 Conf.01 T 810 896	

Lower ECAM DU Advisories APU

LOW FUEL PRESSURE		282200 P 201 T 810 801
	!!	

EFF: 201-225, 227-227, 229-250, 252-299, 426-456, 476-499, 503-549, 551-599, 701-749,

49-ECAM Page 132 CONFIG-1 May 01/08

TROUBLE SHOOTING MANUAL

AIRBORNE AUXILIARY POWER - FAULT SYMPTOMS

WARNINGS/MALFUNCTIONS		FAULT ISOLATION			
WARNINGS/ MALI ONC I TONS	SOURCE	MESSAGE	ATA	С	PROCEDURE

Upper ECAM DU Warnings

	APU AUTO SHUT	DOWN	APU APU	AIR INTAKE NOT OPEN associated with AIR INTAKE FLAP ACTUATOR	ASD 491651		490081 P 278 Conf.01 T 810 828
	APU AUTO SHUT	DOWN	APU APU	AIR INTAKE NOT OPEN associated with AIR INTAKE FLAP ACTUATOR	ASD 491651		490081 P 278 Conf.01 T 810 828
	APU AUTO SHUT	DOWN	APU	(4015KM) AIR INTAKE NOT OPEN associated with AIR INTAKE FLAP ACTUATOR	ASD 491651		490081 P 278 Conf.01
	APU AUTO SHUT	DOWN	APU	AIR INTAKE NOT OPEN associated with AIR INTAKE FLAP ACTUATOR	ASD	*	 490081 P 278 Conf.01
R	<u>APU</u> AUTO SHUT	DOWN	APU	CHECK PRESS XDCR WIRING (8001KM)/ECB (59KD)	491511	 1 	490081 PA264 Conf.01 T 810 852
R	APU AUTO SHUT	DOWN	APU	CHECK PRESS XDCR WIRING/ ECB (59KD)	491511	1	<u> </u>
R	<u>APU</u> AUTO SHUT	DOWN	APU APU	CLOGGED OIL FILTER associated with LUBE PUMP FILTER P9 + GEN SCAV FILTER P5	ASD 499141		490081 PA254 Conf.01 T 810 849
R	APU AUTO SHUT	DOWN	APU APU	CLOGGED OIL FILTER associated with GEN SCAV + LUBE FILTERS (8069KM) / (8076KM)	ASD 499141		490081 PA254 Conf.01 T 810 849
R	<u>APU</u> AUTO SHUT	DOWN	APU	DIFFERENTIAL PRESS XDCR (8043KM)	495116	1	490081 PA268 Conf.01 T 810 853

EFF: 251-251,

49-ECAM Page 101
CONFIG-2 May 01/08

TROUBLE SHOOTING MANUAL

	WARNINGS/MALFUNCTIONS		CFDS FAULT MESSAGES	3		FAULT ISOLATION
	WARNINGS/ MALFONCTIONS	SOURCE	MESSAGE	ATA	С	PROCEDURE
R	APU AUTO SHUT DOWN	APU	DIFFERENTIAL PRESS XDCR P24	495116	1	490081 PA268 Conf.01 T 810 853
	APU AUTO SHUT DOWN	APU APU	ECB FAILURE associated with ECB (59KD)	ASD 496134		490081 P 209 Conf.01 T 810 804
	<u>APU</u> AUTO SHUT DOWN	APU APU	HIGH OIL TEMPERATURE associated with OIL COOLER / COOLING FAN ASSEMBLY	ASD 499144		490081 P 281 Conf.01 T 810 829
	<u>apu</u> auto shut down	APU APU	HIGH OIL TEMPERATURE associated with OIL COOLER (8079KM) / COOLING FAN (8053KM)	ASD 499144		490081 P 281 Conf.01 T 810 829
R	APU AUTO SHUT DOWN	APU APU	INLET OVERHEAT associated with CHECK APU INLET	ASD 491600		490081 PA237 Conf.01 T 810 843
R	APU AUTO SHUT DOWN	APU	LOAD CONTROL VALVE (8050KM)	495151	1	490081 PA275 Conf.01 T 810 855
R	APU AUTO SHUT DOWN	APU	LOAD CONTROL VALVE P12	495151	1	490081 PA275 Conf.01 T 810 855
R	APU AUTO SHUT DOWN	APU	LOSS OF DC POWER associated with POWER SUPPLY INTERRUPT	ASD 240000		490081 PA258 Conf.01 T 810 850
R	APU AUTO SHUT DOWN	APU APU	LOSS OF SPEED associated with SPEED SENSOR P26 + ECB (59KD)	ASD 497113		490081 PA241 Conf.01 T 810 844
R	APU AUTO SHUT DOWN	APU APU	LOSS OF SPEED associated with SPEED SENSOR (8060KM) AND ECB (59KD)	ASD 497113		490081 PA241 Conf.01 T 810 844

EFF: 251-251,

49-ECAM Page 102
CONFIG-2 May 01/08

TROUBLE SHOOTING MANUAL

	WARNINGS/MALFUNCTIONS			FAULT ISOLATION		
	WARNINGS/MALFONCTIONS	SOURCE	MESSAGE	ATA	С	PROCEDURE
R	APU AUTO SHUT DOWN	APU	LOSS OF SPEED associated with	ASD	*	490081 PA243
		APU	SPEED SENSOR P26	497113	1	T 810 845
R	APU AUTO SHUT DOWN	APU	LOSS OF SPEED associated with	ASD	*	490081 PA243 Conf.01
		APU	SPEED SENSOR (8060KM)	497113	1	т 810 845
R	APU AUTO SHUT DOWN	APU	LOSS OF SPEED associated with	ASD	*	490081 PA246 Conf.01
		APU	ECB (59KD)	496134	1	Т 810 846
R	APU AUTO SHUT DOWN	APU	LOW FUEL PRESSURE	282200	2	490081 PB243 Conf.01 T 810 884
	APU AUTO SHUT DOWN	APU	LOW OIL PRESSURE associated with	ASD	*	490081 P 250 Conf.01
		APU	LOP SW P14 / OIL PUMP / DEOIL SOLENOID P15	499414	1	T 810 819
	APU AUTO SHUT DOWN	APU	LOW OIL PRESSURE associated with	ASD	*	490081 P 250 Conf.01
		APU	LOP SW(8091KM)/OIL PUMP (8080KM)/DEOIL (8083KM)	499414	1	т 810 819
	APU AUTO SHUT DOWN	APU	LOW OIL PRESSURE associated with	ASD	*	490081 P 253
		APU	LOW OIL LEVEL	499300	2	т 810 820
	APU AUTO SHUT DOWN	APU	NO ACCELERATION associated with	ASD	*	490081 P 284 Conf.01
		APU 	STARTER MOTOR (8KA) / APU ROTATION	494251	1	Т 810 830
	APU AUTO SHUT DOWN	APU	NO ACCELERATION associated with	ASD	*	490081 P 288
		APU	ACFT BAT NOT SELECTED / CONTACTOR (5KA)	494255	1	T 810 831
	APU AUTO SHUT DOWN	APU	NO ACCELERATION associated with	ASD	*	490081 P 290 Conf.01
		APU	CONTACTOR (10KA)	494255	1	т 810 832

EFF: 251-251,

SROS

49-ECAM Page 103 CONFIG-2 May 01/08

TROUBLE SHOOTING MANUAL

WARNINGS/MALFUNCTIONS	Ţ		FAULT		
WARNINGS/MALFUNCTIONS	SOURCE	MESSAGE	ATA	С	ISOLATION PROCEDURE
APU AUTO SHUT DOWN	APU	NO ACCELERATION associated with	ASD	*	490081 P 292 Conf.01
	APU	APU OIL HEATER P7	499651	2	T 810 833
APU AUTO SHUT DOWN	APU	NO ACCELERATION associated with	ASD	*	490081 P 292 Conf.01
	APU	APU OIL HEATER (8093KM)	499651	2	т 810 833
APU AUTO SHUT DOWN	APU	NO ACCELERATION associated with	ASD	*	490081 P 296 Conf.01
	APU	STARTER MOTOR (8KA)	494251	1	т 810 834
APU AUTO SHUT DOWN	APU	NO ACCELERATION associated with	ASD	*	490081 PA201 Conf.01
 	APU	FUEL CONTROL UNIT P19	493211	1	Т 810 835
APU AUTO SHUT DOWN	APU	NO ACCELERATION associated with	ASD	*	490081 PA201 Conf.01
	APU	FUEL CONTROL UNIT (8022KM)	493211	1	т 810 835
APU AUTO SHUT DOWN	APU	NO ACCELERATION associated with	ASD	*	490081 PA201 Conf.01
	APU	FCU P19/APU FUEL SUPPLY STARTER MOTOR 8KA	493211	1	T 810 835
APU AUTO SHUT DOWN	APU	NO ACCELERATION associated with	ASD	*	490081 PA201 Conf.01
	APU	FCU(8022KM)/FUEL SUPPLY/ STARTER MOTOR (8KA)	493211	1	Т 810 835
APU AUTO SHUT DOWN	APU	NO ACCELERATION associated with	ASD	*	490081 PA215 Conf.01
	APU	FUEL CONTROL UNIT P19 /	493211	1	
APU AUTO SHUT DOWN	APU	NO ACCELERATION associated with	ASD	*	490081 PA215 Conf.01
	APU	FUEL CTRL UNIT(8022KM)/ APU FUEL SUPPLY	493211	1	T 810 836
APU AUTO SHUT DOWN	APU	NO ACCELERATION associated with	ASD	*	490081 PA218 Conf.01
	APU	ECB (59KD)	496134	1	T 810 837

EFF: 251-251,

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SROS

49-ECAM Page 104
CONFIG-2 May 01/08

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TROUBLE SHOOTING MANUAL

	WARNINGS/MALFUNCTIONS			FAULT ISOLATION		
	WARNINGS/MALFUNCTIONS	SOURCE	MESSAGE	ATA	С	PROCEDURE
R	APU AUTO SHUT DOWN	APU	NO ACCELERATION associated with	ASD	*	490081 PA218 Conf.01
		APU	ECB (59KD)	496134	2	!!
R	APU AUTO SHUT DOWN	APU	NO ACCELERATION associated with	ASD	*	490081 PA219 Conf.01
		APU	DEOIL SOLENOID P15	499149	1	T 810 838
R	APU AUTO SHUT DOWN	APU	NO ACCELERATION associated with	ASD	*	490081 PA219
		APU	DEOIL SOLENOID (8083KM)	499149	1	T 810 838
R	APU AUTO SHUT DOWN	APU	NO ACCELERATION associated with	ASD	*	490081 PA224
		APU	LOW FUEL PRESSURE	282200	2	T 810 839
R	APU AUTO SHUT DOWN	APU	NO ACCELERATION associated with	ASD	*	490081 PA226
		APU	CHECK IGV ASSEMBLY / IGV ACTR P21	492300	1	
R	APU AUTO SHUT DOWN	APU	NO ACCELERATION associated with	ASD	*	490081 PA226 Conf.01
		APU	CHECK IGV ASSEMBLY / IGV	492300	1	
R	APU AUTO SHUT DOWN	APU	NO ACCELERATION associated with	ASD	*	490081 PA230 Conf.01
		APU	FLOW DIVIDER SOL P13	493214	1	!!
R	APU AUTO SHUT DOWN	APU	NO ACCELERATION associated with	ASD	*	490081 PA230
		APU	FLOW DIVIDER SOL(8025KM)	493214	1	
R	APU AUTO SHUT DOWN	APU	NO ACCELERATION associated with	ASD	*	490081 PA233
		APU	OIL TEMP SENSOR P11	499415	2	T 810 842
R	APU AUTO SHUT DOWN	APU	NO ACCELERATION associated with	ASD	*	490081 PA233
		APU	OIL SUMP TEMP SENSOR (8084KM)	499415	2	T 810 842

EFF: 251-251,

SROS

49-ECAM Page 105 CONFIG-2 May 01/08

TROUBLE SHOOTING MANUAL

	WARNINGS/MALFUNCTIONS	CFDS FAULT MESSAGES					
	WARNINGS/ MALFONCTIONS	SOURCE	MESSAGE	ATA	С	ISOLATION PROCEDURE	
R	APU AUTO SHUT DOWN	APU	NO FLAME associated with	ASD	*	490081 P 255 Conf.01	
		APU	CHECK IGNITION SYSTEM / FCU / ECB (59KD)	494100	1	T 810 821	
R R	APU AUTO SHUT DOWN	APU	 NO FLAME associated with	ASD	*	490081 P 255 Conf.01	
R R		APU	CHECK IGNITION SYSTEM / FCU(8022KM)/FUEL SUPPLY	494100	1	T 810 821	
R R	APU AUTO SHUT DOWN	APU	NO FLAME associated with	ASD	*	490081 P 261	
R		APU	LOW FUEL PRESSURE	282200	2	т 810 822	
R	APU AUTO SHUT DOWN	APU	NO FLAME associated with	ASD	*	490081 P 263	
		APU	FUEL CONTROL UNIT P19	493211	1	T 810 823	
R R	APU AUTO SHUT DOWN	APU	NO FLAME associated with	ASD	*	490081 P 263	
R R		APU	FUEL CONTROL UNIT (8022KM)	493211	1 1	т 810 823	
R	APU AUTO SHUT DOWN	APU	NO FLAME associated with	ASD	*	490081 P 266	
		APU	FUEL CONTROL UNIT P19 / APU FUEL SUPPLY	493211	1	T 810 824	
R R	APU AUTO SHUT DOWN	APU	NO FLAME associated with	ASD	*	490081 P 266	
R R		APU	FUEL CTRL UNIT(8022KM)/ APU FUEL SUPPLY	493211	1	T 810 824	
R	APU AUTO SHUT DOWN	APU	NO FLAME associated with	ASD	*	490081 P 270 Conf.01	
		APU	IGNITION EXCITER P10	494138	1	T 810 825	
R R	APU AUTO SHUT DOWN	APU	NO FLAME associated with	ASD	*	490081 P 270 Conf.01	
R		APU	IGNITION UNIT (8030KM)	494138	1	T 810 825	
R	APU AUTO SHUT DOWN	APU	NO FLAME associated with	ASD	*	490081 P 274	
		APU	FLOW DIVIDER SOL P13	493214	1	т 810 826	

EFF: 251-251,

SROS

49-ECAM Page 106 CONFIG-2 May 01/07

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TROUBLE SHOOTING MANUAL

	WARNINGS/MALFUNCTIONS			FAULT ISOLATION		
	WARNINGS/ MALFONCTIONS	SOURCE	MESSAGE	ATA	С	PROCEDURE
R R	APU AUTO SHUT DOWN	APU	NO FLAME associated with	ASD	*	490081 P 274 Conf.01
R		APU	FLOW DIVIDER SOL(8025KM)	493214	1	
R R	APU AUTO SHUT DOWN	APU	NO FLAME associated with	ASD	*	490081 P 277
R		APU	ECB (59KD)	496134	1	Т 810 827
	APU AUTO SHUT DOWN	APU	OVERSPEED associated with	ASD	*	490081 P 201
		APU	FUEL CONTROL UNIT P19 / ECB (59KD)	493211	1	T 810 801
R R	APU AUTO SHUT DOWN	APU	OVERSPEED associated with	ASD	*	490081 P 201 Conf.01
R R		APU	FUEL CONTROL UNIT (8022KM) / ECB (59KD)	493211	1	T 810 801
	APU AUTO SHUT DOWN	APU	OVERSPEED associated with	ASD	*	490081 P 203
		APU	FUEL CONTROL UNIT P19 / APU FUEL SUPPLY	493211	1	T 810 802
R R	APU AUTO SHUT DOWN	APU	OVERSPEED associated with	ASD	*	490081 P 203
R R		APU	FUEL CTRL UNIT(8022KM)/ APU FUEL SUPPLY	493211	1	T 810 802
	APU AUTO SHUT DOWN	APU	OVERTEMPERATURE associated with	ASD	*	490081 P 224 Conf.01
		APU	IGV ACTUATOR P21 / ECB (59KD)	492351	1	
R R	APU AUTO SHUT DOWN	APU	OVERTEMPERATURE associated with	ASD	*	490081 P 224 Conf.01
R R		APU	IGV ACTUATOR (8014KM) / ECB (59KD)	492351	1	T 810 810
R	APU AUTO SHUT DOWN	APU	OVERTEMPERATURE associated with	ASD	*	490081 P 228
		APU	CHECK IGV ASSEMBLY / IGV ACTR P21	492300	1	

EFF: 251-251,

SROS

49-ECAM Page 107 CONFIG-2 May 01/07

TROUBLE SHOOTING MANUAL

							FAULT		
	WAR	RNINGS/	/MALF	UNCTIONS	SOURCE	MESSAGE	АТА	С	ISOLATION PROCEDURE
	APU	AUTO S	SHUT	DOWN	APU	OVERTEMPERATURE associated with	ASD	*	490081 P 228 Conf.01
					APU	CHECK IGV ASSEMBLY / IGV ACTUATOR (8014KM)	492300	1	
	<u>APU</u>	AUTO S	SHUT	DOWN	APU	OVERTEMPERATURE associated with	ASD	*	490081 P 232 Conf.01
į					APU	FUEL CONTROL UNIT P19 / FLOW DIVIDER ASSEMBLY	493211	1	
ļ	<u>APU</u>	AUTO S	TUH	DOWN	APU	OVERTEMPERATURE associated with	ASD	*	490081 P 232 Conf.01
					APU	FUEL CTRL UNIT(8022KM) / FLOW DIVIDER (8024KM)	493211	1	
ļ	<u>APU</u>	AUTO S	SHUT	DOWN	APU	OVERTEMPERATURE associated with	ASD	*	490081 P 237 Conf.01
					APU	FUEL CONTROL UNIT P19 / APU FUEL SUPPLY	493211	1	
	<u>APU</u>	AUTO S	SHUT	DOWN	APU	OVERTEMPERATURE associated with	ASD	*	490081 P 237 Conf.01
					APU	FUEL CTRL UNIT(8022KM)/ APU FUEL SUPPLY	493211	1	
	<u>APU</u>	AUTO S	SHUT	DOWN	APU	PRESS XDCRS (8044KM)/ (8048KM)	495117	1	490081 PA271 Conf.01 T 810 854
ļ	<u>APU</u>	AUTO S	TUH	DOWN	APU	REVERSE FLOW associated with	ASD	*	490081 PA247
					APU	DP XDCR P24/PT XDCR P23/ SURGE CONTROL VALVE	495116	1	
	<u>APU</u>	AUTO S	SHUT	DOWN	APU	REVERSE FLOW associated with	ASD	*	490081 PA247 Conf.01
					APU	PRESS XDCRS (8044KM) / (8044KM) / SCV (8058KM)	495116	1	T 810 847
	<u>APU</u>	AUTO S	SHUT	DOWN	APU	REVERSE FLOW associated with	ASD	*	490081 PA251 Conf.01
					APU	SURGE CONTROL VALVE P18	495152	1	T 810 848

EFF: 251-251,

49-ECAM

CONFIG-2 May 01/08

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TROUBLE SHOOTING MANUAL

	LIADNINGS /MAL FUNCTIONS			FAULT ISOLATION		
	WARNINGS/MALFUNCTIONS	SOURCE	MESSAGE	ATA	С	!
R	APU AUTO SHUT DOWN	APU	REVERSE FLOW associated with	ASD	*	490081 PA251 Conf.01
		APU	SURGE CONTROL VALVE (8058KM)	495152	1	T 810 848
R	APU AUTO SHUT DOWN	APU	SCV (8058KM) / PRESS XDCRS (8043KM)/(8044KM)	495152	1	490081 PA278 Conf.01 T 810 856
R	APU AUTO SHUT DOWN	APU	SCV P18 / PRESS XDCR P24 / PRESS XDCR P23	495152	1	490081 PA278 Conf.01 T 810 856
	APU AUTO SHUT DOWN	APU	SENSOR FAILURE associated with	ASD	*	490081 P 240 Conf.01
		APU	EGT TCPLE RAKE 1 + ECB	497215	1	T 810 814
	APU AUTO SHUT DOWN	APU	SENSOR FAILURE associated with	ASD	*	490081 P 240 Conf.01
		APU	EGT TCPLE RAKE (8057KM1) AND ECB (59KD)	497215	1	!!!
	APU AUTO SHUT DOWN	APU	SENSOR FAILURE associated with	ASD	*	490081 P 242 Conf.01
		APU	EGT TCPLE RAKE 2 + ECB (59KD)	497215	1	т 810 815
	APU AUTO SHUT DOWN	APU	SENSOR FAILURE associated with	ASD	*	490081 P 242 Conf.01
		APU	EGT TCPLE RAKE (8057KM2) AND ECB (59KD)	497215	1	
	APU AUTO SHUT DOWN	APU	SENSOR FAILURE associated with	ASD	*	490081 P 244
		APU	EGT TCPLE RAKES 1 + 2	497215	1	Т 810 816
	APU AUTO SHUT DOWN	APU	SENSOR FAILURE associated with	ASD	*	490081 P 244 Conf.01
		APU	EGT TCPLE RAKES(8057KM1) AND (8057KM2)	497215	1	т 810 816
	APU AUTO SHUT DOWN	APU	SENSOR FAILURE associated with	ASD	*	490081 P 246 Conf.01
		APU	ECB (59KD)	496134	1	T 810 817

EFF: 251-251,

SROS

49-ECAM Page 109 CONFIG-2 May 01/08

TROUBLE SHOOTING MANUAL

	WARNINGS/MALFUNCTIONS	T	CFDS FAULT MESSAGES	 S		FAULT ISOLATION	
	WARNINGS/MALFUNCTIONS	SOURCE	MESSAGE	ATA	С	!	
	APU AUTO SHUT DOWN	APU	SENSOR FAILURE associated with	ASD	*	490081 P 247 Conf.01	
		APU	LOW OIL LEVEL	499300	2	Т 810 818	
		APU	LOW OIL PRESS SW P14	499414	2		
	APU AUTO SHUT DOWN	APU	SENSOR FAILURE	ASD	*	490081 P 247 Conf.01	
		APU	LOW OIL LEVEL	499300	2	т 810 818	
		APU	LOW OIL PRESS SW(8091KM)	499414	2		
R	APU AUTO SHUT DOWN	APU	SURGE CONTROL VALVE (8058KM)	495152	1	490081 PB226 Conf.01 T 810 871	
R	APU AUTO SHUT DOWN	APU	SURGE CONTROL VALVE P18	495152	1	490081 PB226 Conf.01 T 810 871	
R	<u>apu</u> auto shut down	APU	TOTAL PRESS XDCR P23	495117	1	490081 PA271 Conf.01 T 810 854	
	APU AUTO SHUT DOWN	APU	UNDERSPEED associated with	ASD	*	490081 P 210 Conf.01	
		APU	FCU / APU FUEL SUPPLY / APU ROTATION	493211	1	T 810 805	
	APU AUTO SHUT DOWN	APU	UNDERSPEED associated with	ASD	*	490081 P 215 Conf.01	
		APU	FUEL CONTROL UNIT P19 /	493211	1	T 810 806	
	APU AUTO SHUT DOWN	APU	UNDERSPEED associated with	ASD	*	490081 P 215 Conf.01	
		APU	FUEL CTRL UNIT(8022KM)/	493211	1	T 810 806	
	APU AUTO SHUT DOWN	APU	UNDERSPEED associated with	ASD	*	490081 P 218 Conf.01	
		APU	FUEL CONTROL UNIT P19	493211	1	T 810 807	

EFF: 251-251,

SROS

49-ECAM Page 110 CONFIG-2 May 01/08

TROUBLE SHOOTING MANUAL

WARNINGS/MALFUNCTIONS		FAULT ISOLATION			
WARNINGS/ MALFONCTIONS	SOURCE	MESSAGE	ATA	С	PROCEDURE
APU AUTO SHUT DOWN	APU APU	UNDERSPEED associated with FUEL CONTROL UNIT (8022KM)	ASD 493211	*	490081 P 218 Conf.01 T 810 807
APU AUTO SHUT DOWN	APU APU	UNDERSPEED associated with LOW FUEL PRESSURE	ASD 282200		490081 P 221 Conf.01 T 810 808
APU AUTO SHUT DOWN	APU APU	UNDERSPEED associated with ECB (59KD)	ASD 496134	*	Conf.01
APU EMER SHUT DOWN	APU	EMERGENCY	ASD	*	490081 P 206 Conf.01 T 810 803

STS-Maintenance

R	APU	APU	AIR INTAKE FLAP ACTUATOR	491651	2	490081 PA283 Conf.01 T 810 857
R	APU	APU	AIR INTAKE FLAP ACTUATOR (4015KM)	491651	2	490081 PA283 Conf.01 T 810 857
R	APU	APU	APU OIL HEATER (8093KM)	499651	2	490081 PB222 Conf.01 T 810 870
R	APU	APU	APU OIL HEATER P7	499651	2	490081 PB222 Conf.01 T 810 870
R	APU	APU	ECB (59KD)	496134	2	490081 PB210 Conf.01 T 810 866
R	APU	APU	FUEL CONTROL UNIT (8022KM)	493211	2	490081 PA291 Conf.01 T 810 859

EFF : 251-251, SROS 49-ECAM Page 111 CONFIG-2 May 01/08

TROUBLE SHOOTING MANUAL

	WARNINGS/MALFUNCTIONS		CFDS FAULT MESSAGES	 S		FAULT	
	WARNINGS/ MALI UNCTIONS	SOURCE	MESSAGE	ATA	С	PROCEDURE	
R	APU	APU	FUEL CONTROL UNIT P19	493211	2	490081 PA291 Conf.01 T 810 859	
R	APU	APU	IGV ACTUATOR (8014KM)	492351	2	490081 PA286 Conf.01 T 810 858	
R	APU	APU	IGV ACTUATOR P21	492351	2	490081 PA286 Conf.01 T 810 858	
R	APU	APU	INLET PRESS XDCR P22	495121	2	490081 PA294 Conf.01 T 810 860	
R	APU	APU	INLET PRESS XDCR(8048KM)	495121	2	490081 PA294 Conf.01 T 810 860	
R	APU	APU	LOAD CONTROL VALVE (8050KM)	495151	2	490081 PA298 Conf.01 T 810 861	
R	APU	APU	LOAD CONTROL VALVE P12	495151	2	490081 PA298 Conf.01 T 810 861	
R	APU	APU	LOW OIL LEVEL	499300	2	490081 PB211 Conf.01 T 810 867	
R	APU	APU	LOW OIL PRESS SW P14	499414	2	490081 PB215 Conf.01 T 810 868	
R	APU	APU	LOW OIL PRESS SW(8091KM)	499414	2	490081 PB215 Conf.01 T 810 868	
R	APU	APU	OIL SUMP TEMP SENSOR (8084KM)	499415	2	490081 PB218 Conf.01 T 810 869	

EFF : 251-251, SROS **49-ECAM** Page 112 CONFIG-2 May 01/08

TROUBLE SHOOTING MANUAL

	WARNINGS/MALFUNCTIONS		CFDS FAULT MESSAGES			
	WARNINGS/ MALFONCTIONS	SOURCE	MESSAGE	ATA	С	ISOLATION PROCEDURE
R	APU	APU	OIL TEMP SENSOR P11	499415	2	490081 PB218 Conf.01 T 810 869
R	APU	APU	WRG: APU AVAILABLE	496100	2	490081 PB202 Conf.01 T 810 862
R	APU	APU	WRG: APU FAULT RELAY	496100	2	490081 PB204 Conf.01 T 810 863
R	APU	APU	WRG: APU LOAD VALVE	496100	2	490081 PB206 Conf.01 T 810 864
R	APU	APU	WRG: START IN PROGRESS	496100	2	490081 PB208 Conf.01 T 810 865

Lower ECAM DU Flags-APU

R	APU BLEED PRESSURE indication replaced by amber XX	490081 PB268 Conf.01 T 810 894
R R R	APU BLEED PRESSURE intense pressure fluctuation	490081 PB245 Conf.01 T 810 886
R	APU BLEED VALVE indication replaced by amber XX	490081 PB266 Conf.01 T 810 893
R	APU EGT indication replaced by amber XX	490081 PB270 Conf.01 T 810 895
R	APU GEN FREQUENCY indication replaced by amber XX	490081 PB252 Conf.01 T 810 890

EFF :	251-251,
 SROS	

49-ECAM Page 113

TROUBLE SHOOTING MANUAL

	LUADNINGS (MALIFUNGITIONS		CFDS FAULT MESSAGES				
	WARNINGS/MALFUNCTIONS	SOURCE	MESSAGE	ATA	C	ISOLATION PROCEDURE	
R	APU GEN VOLTAGE indication replaced by amber XX				†	490081 PB252 Conf.01 T 810 890	
R	APU SPEED (N) indication replaced by amber XX					490081 PB271 Conf.01 T 810 896	

<u>Lower ECAM DU Advisories</u> <u>APU</u>

LOW FUEL PRESSURE		282200 P 201
		T 810 801

EFF: 251-251,

SROS

49-ECAM Page 114
CONFIG-2 May 01/08

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TROUBLE SHOOTING MANUAL

AIRBORNE AUXILIARY POWER - FAULT SYMPTOMS

WARNINGS/MALFUNCTIONS		CFDS FAULT MESSAGES	 S		FAULT ISOLATION
WARNINGS/MALFUNCTIONS	SOURCE	MESSAGE	ATA	С	PROCEDURE

R Upper ECAM DU Warnings

R R R	<u>APU</u> AUTO SHU	T DOWN	APU	AIR INTAKE FLAP ACTR	491651	1	490000 P 213 Conf.01 T 810 882
R R R	<u>APU</u> AUTO SHU	T DOWN	APU	AIR INTAKE NOT OPEN associated with AIR INTAKE FLAP ACTR	ASD 491651		490000 P 213 Conf.01 T 810 882
R R R	<u>apu</u> auto shu	T DOWN	APU APU	APU FUEL VALVE FAILED OPEN associated with FUEL CTL UNIT P19	ASD 493211		490000 PA249 Conf.01 T 810 934
R R R	APU AUTO SHU	T DOWN	APU APU	APU FUEL VALVE FAILED OPEN associated with ECB 59KD	ASD 496134		490000 PB207 Conf.01 T 810 972
R R R	<u>APU</u> AUTO SHU	T DOWN	APU	BACKUP OVERSPEED associated with ECB 59KD	ASD 496134		490000 PA242 Conf.01 T 810 932
R R R	<u>apu</u> auto shu	T DOWN	APU APU	BACKUP OVERSPEED associated with ECB 59KD OR FAN/PMG ASSY OR FUEL CTL UNIT P19	ASD 496134		490000 PA242 Conf.01 T 810 932
R R R R	<u>apu</u> auto shu	T DOWN	APU APU	BACKUP OVERSPEED CIRCUIT FAILURE associated with ECB 59KD OR COOLING FAN/PMG ASSY	ASD 496134		490000 PA231 Conf.01 T 810 924
R R R	APU AUTO SHU	T DOWN	APU APU	BACKUP OVERSPEED CIRCUIT FAILURE associated with COOLING FAN/PMG ASSY	ASD 495253		490000 PA297 Conf.01 T 810 964

EFF : 457-475, SROS **49-ECAM** Page 101 CONFIG-3 May 01/07

TROUBLE SHOOTING MANUAL

LIADNINGS /MALEUNGITONS	FAULT ISOLATION				
WARNINGS/MALFUNCTIONS	SOURCE	MESSAGE	ATA	С	!
APU AUTO SHUT DOWN	APU	BACKUP OVERSPEED CIRCUIT FAILURE associated with ECB 59KD	ASD 496134		490000 PB205 Conf.01 T 810 971
		 	 		
APU AUTO SHUT DOWN	APU	BLEED CTL VLV P33	495153	1	490000 P 280 Conf.01 T 810 904
APU AUTO SHUT DOWN	APU	CHECK OIL LEAKAGE OR OIL PRESS SW P14	499100	1	490000 P 246 Conf.01 T 810 895
APU AUTO SHUT DOWN	APU	CHECK OIL SYSTEM OR GENERATOR 8XS	499100	1	490000 P 274 Conf.01 T 810 902
APU AUTO SHUT DOWN	APU	CONTACTOR 10KA OR ECB 59KD	494242	1	490000 PA236 Conf.01 T 810 928
APU AUTO SHUT DOWN	APU	CONTACTOR 5KA	494255	1	490000 P 201 Conf.01 T 810 878
APU AUTO SHUT DOWN	APU	CONTACTOR 5KA OR ECB 59KD	494241	1	490000 PA233 Conf.01 T 810 927
APU AUTO SHUT DOWN	APU	COOLING FAN/PMG ASSY OR OIL COOLER ASSY	495251	1	490000 P 250 Conf.01 T 810 896
APU AUTO SHUT DOWN	APU	CURRENT LIMITER 6KA OR CONTACTOR 10KA	494242	1	490000 P 204 Conf.01 T 810 879
APU AUTO SHUT DOWN	APU	ECB FAILURE associated with	ASD	*	490000 P 221 Conf.01
	APU	ECB 59KD	496134	1	T 810 885
APU AUTO SHUT DOWN	APU	ECB 59KD	496134	1	490000 P 221 Conf.01
IDENT: CFDS, ECAM 1, ECAM 2					T 810 885

EFF: 457-475,

49-ECAM Page 102 CONFIG-3 Feb 01/08

SROS

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TROUBLE SHOOTING MANUAL

	WARNINGS/MALFUNCTIONS		CFDS FAULT MESSAGES	S		FAULT ISOLATION
	WARNINGS/ MALI ONC 110NS	SOURCE	MESSAGE	ATA	С	PROCEDURE
R R R	APU AUTO SHUT DOWN	APU	EGT TC1 P30 AND ECB 59KD	497215	1	490000 P 233 Conf.01 T 810 890
R R R	<u>APU</u> AUTO SHUT DOWN	APU	EGT TC1 P30 AND EGT TC2 P31	497215	1	490000 P 230 Conf.01 T 810 889
R R R	APU AUTO SHUT DOWN	APU	EGT TC1 P30 OR FUEL CTL UNIT P19	497215	1	490000 PA280 Conf.01 T 810 948
R R R	APU AUTO SHUT DOWN	APU	EGT TC2 P31 AND ECB 59KD	497215	1	490000 P 235 Conf.01 T 810 891
R R R	APU AUTO SHUT DOWN	APU	EGT TC2 P31 OR FUEL CTL UNIT P19	497215	1	490000 PA280 Conf.01 T 810 948
R R R	APU AUTO SHUT DOWN	APU	FUEL CTL UNIT P19 OR DE-OILING SOL P15	493211	1	490000 P 266 Conf.01 T 810 900
R R R	APU AUTO SHUT DOWN	APU	FUEL CTL UNIT P19 OR FUEL FLOW DIVIDER	493211	1	490000 P 258 Conf.01 T 810 898
R R R	APU AUTO SHUT DOWN	APU	FUEL CTL UNIT P19 OR ECB 59KD	493211	1	490000 P 240 Conf.01 T 810 893
R R R R	APU AUTO SHUT DOWN	APU APU	GEN HIGH OIL TEMP associated with CHECK OIL SYSTEM OR GENERATOR 8XS	ASD 499100		490000 P 274 Conf.01 T 810 902
R R R R	APU AUTO SHUT DOWN	APU APU	HIGH OIL TEMPERATURE associated with COOLING FAN/PMG ASSY OR OIL COOLER ASSY	ASD 495251		490000 P 250 Conf.01 T 810 896
R R R	APU AUTO SHUT DOWN	APU	IGNITION UNIT P10	494138	1	490000 P 219 Conf.01 T 810 884

EFF : 457-475, SROS **49-ECAM** Page 103 CONFIG-3 May 01/07

TROUBLE SHOOTING MANUAL

WARNINGS/MALFUNCTIONS		CFDS FAULT MESSAGES	 S		FAULT ISOLATION	
WARNINGS/MALFUNCTIONS	SOURCE	MESSAGE	ATA	С	PROCEDURE	
APU AUTO SHUT DOWN	APU	IGNITION UNIT P10 OR FUEL CTL UNIT P19	494138	1	490000 P 262 Conf.01 T 810 899	
APU AUTO SHUT DOWN	APU	IGV ACTR P21 OR FUEL CTL UNIT P19	492351	1	490000 P 242 Conf.01 T 810 894	
APU AUTO SHUT DOWN	APU	INLET GUIDE VANE ACTR P21	492353	1	490000 P 283 Conf.01 T 810 905 490000 P 287 Conf.01 T 810 905 01	
APU AUTO SHUT DOWN	APU	LOSS OF DC POWER	ASD	*	490081 P 209 Conf.02 T 810 879	
APU AUTO SHUT DOWN	APU APU	LOSS OF SPEED associated with SPEED SNSR P26, P27	ASD 497113	İ	490000 P 223 Conf.01 T 810 886	
APU AUTO SHUT DOWN	APU	LOSS OF SPEED associated with SPEED SNSR P26 AND ECB 59KD	ASD 497113	İ	490000 P 226 Conf.01 T 810 887	
APU AUTO SHUT DOWN	APU	LOSS OF SPEED associated with SPEED SNSR P27 AND ECB 59KD	ASD 497113	İ	490000 P 228 Conf.01 T 810 888	
APU AUTO SHUT DOWN	APU APU	LOSS OF SPEED associated with ECB 59KD	ASD 496134	İ	490000 PB203 Conf.01 T 810 969	
APU AUTO SHUT DOWN	APU	LOW OIL PRESSURE associated with CHECK OIL LEAKAGE OR OIL PRESS SW P14	 ASD 499100	İ	490000 P 246 Conf.01 T 810 895	
APU AUTO SHUT DOWN	APU	NO ACCELERATION associated with CONTACTOR 5KA	ASD 494255	İ	490000 P 201 Conf.01 T 810 878	

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EFF: 457-475,

49-ECAM

Page 104 CONFIG-3 Feb 01/08

TROUBLE SHOOTING MANUAL

	LIADNINGS /MALEUNGITONS	!				FAULT ISOLATION
	WARNINGS/MALFUNCTIONS	SOURCE	MESSAGE	ATA	С	PROCEDURE
R R	APU AUTO SHUT DOWN	APU	NO ACCELERATION associated with	ASD	*	490000 P 204 Conf.01
R R		APU	CURRENT LIMITER 6KA OR CONTACTOR 10KA	494242	1	T 810 879
R R	APU AUTO SHUT DOWN	APU	NO ACCELERATION associated with	ASD	*	490000 P 255 Conf.01
R R		APU	STARTER MOTOR 8KA OR STARTER CLUTCH ASSY	494251	1	т 810 897
R R	APU AUTO SHUT DOWN	APU	NO ACCELERATION associated with	ASD	*	490000 P 258 Conf.01
R R		APU	FUEL CTL UNIT P19 OR FUEL FLOW DIVIDER	493211	1	T 810 898
R R	APU AUTO SHUT DOWN	APU	NO ACCELERATION associated with	ASD	*	490000 P 266 Conf.01
R R		APU	FUEL CTL UNIT P19 OR DE-OILING SOL P15	493211	1	т 810 900
R R	APU AUTO SHUT DOWN	APU	NO ACCELERATION associated with	ASD	*	490000 PA233 Conf.01
R R		APU	CONTACTOR 5KA OR ECB 59KD	494241	1	т 810 927
R R	APU AUTO SHUT DOWN	APU	NO ACCELERATION associated with	ASD	*	490000 PA236
R R		APU	CONTACTOR 10KA OR ECB 59KD	494242	1	т 810 928
R R	APU AUTO SHUT DOWN	APU	NO ACCELERATION associated with	ASD	*	490000 PA283
R		APU	DE-OILING SOL P15	499149	1	т 810 951
R R	APU AUTO SHUT DOWN	APU	NO ACCELERATION associated with	ASD	*	490000 PA286 Conf.01
R R		APU	INLET GUIDE VANE ACTR P21	492351	1	т 810 952
R R	APU AUTO SHUT DOWN	APU	NO ACCELERATION associated with	ASD	*	490000 PB211 Conf.01
R		APU	ECB 59KD	496134	1	T 810 974
R R	APU AUTO SHUT DOWN	APU	NO ACCELERATION associated with	ASD	*	490000 PB220 Conf.01
R		APU	FUEL CTL UNIT P19	493211	1	т 810 978

EFF: 457-475,

49-ECAM Page 105 CONFIG-3 May 01/07

TROUBLE SHOOTING MANUAL

	WARNINGS/MALFUNCTIONS		CFDS FAULT MESSAGES			
	WARNINGS/ MALFORCTIONS	SOURCE	MESSAGE	ATA	С	ISOLATION PROCEDURE
R R R	APU AUTO SHUT DOWN	APU APU	NO ACCELERATION associated with A/C BAT NOT SELECTED OR CONT 5KA OR ECB 59KD	ASD 243800		490000 PB228 Conf.01 T 810 981
R R R	APU AUTO SHUT DOWN	APU APU	NO FLAME associated with IGNITION UNIT P10	ASD 494138		490000 P 219 Conf.01 T 810 884
R R R	<u>apu</u> auto shut down	APU APU	NO FLAME associated with IGNITION UNIT P10 OR FUEL CTL UNIT P19	ASD 494138		490000 P 262 Conf.01 T 810 899
R R R	APU AUTO SHUT DOWN	APU APU	NO FLAME associated with ECB 59KD	ASD 496134	*	490000 PB213 Conf.01 T 810 975
R R R	APU AUTO SHUT DOWN	APU APU	NO FLAME associated with FUEL CTL UNIT P19	ASD 493211		490000 PB217 Conf.01 T 810 977
R R R	APU AUTO SHUT DOWN	APU	OIL PRESS SW P14 AND LOW OIL LEVEL	499414	1	490000 P 207 Conf.01 T 810 880
R R R	<u>apu</u> auto shut down	APU	OIL PRESS SW P14 AND OIL LEVEL SNSR P8	499414	1	490000 P 210 Conf.01 T 810 881
R R R	<u>APU</u> AUTO SHUT DOWN	APU	OIL TEMP SNSR P25 AND GENERATOR 8XS	499151	1	490000 P 237 Conf.01 T 810 892
R R R	APU AUTO SHUT DOWN	APU APU	OVERSPEED associated with FUEL CTL UNIT P19 OR ECB 59KD	ASD 493211		490000 P 240 Conf.01 T 810 893
R R R	APU AUTO SHUT DOWN	APU APU	OVERSPEED associated with ECB 59KD	ASD 496134		490000 PB215 Conf.01 T 810 976
R R R	APU AUTO SHUT DOWN	APU	OVERSPEED associated with SPEED SNSR P26, P27	ASD 497113		490081 P 215 Conf.02 T 810 883

EFF: 457-475,

49-ECAM Page 106 CONFIG-3 May 01/07

TROUBLE SHOOTING MANUAL

	LIADNINGS /MALEUNGITONS		CFDS FAULT MESSAGES	 S		FAULT ISOLATION
	WARNINGS/MALFUNCTIONS	SOURCE	MESSAGE	ATA	С	PROCEDURE
R R	APU AUTO SHUT DOWN	APU	OVERTEMPERATURE associated with	ASD	*	490000 P 242 Conf.01
R R		APU	IGV ACTR P21 OR FUEL CTL UNIT P19	492351	1	T 810 894
R R	APU AUTO SHUT DOWN	APU	OVERTEMPERATURE associated with	ASD	*	490000 P 283
R R R R		APU	INLET GUIDE VANE ACTR P21	492351	1	T 810 905 490000 P 287 Conf.01 T 810 905 01
R R	APU AUTO SHUT DOWN	APU	OVERTEMPERATURE associated with	ASD	*	 490000 PA280 Conf.01
R R		APU	EGT TC1 P30 OR FUEL CTL UNIT P19	497215	1	T 810 948
R R	APU AUTO SHUT DOWN	APU	OVERTEMPERATURE associated with	ASD	*	490000 PA280
R R		APU	EGT TC2 P31 OR FUEL CTL UNIT P19	497215	1	T 810 948
R R	APU AUTO SHUT DOWN	APU	REVERSE FLOW associated with	ASD	*	490000 PA247
R		APU	BLEED FLOW XDCR P24	495119	1	Т 810 933
R R	APU AUTO SHUT DOWN	APU	SENSOR FAILURE associated with	ASD	*	490000 P 207
R R		APU	OIL PRESS SW P14 AND LOW OIL LEVEL	499414	1	т 810 880
R R	APU AUTO SHUT DOWN	APU	SENSOR FAILURE associated with	ASD	*	490000 P 210
R R		APU	OIL PRESS SW P14 AND OIL LEVEL SNSR P8	499414	1	
R R	APU AUTO SHUT DOWN	APU	SENSOR FAILURE associated with	ASD	*	490000 P 230 Conf.01
R R		APU	EGT TC1 P30 AND EGT TC2	497215	1	T 810 889
R R	APU AUTO SHUT DOWN	APU	SENSOR FAILURE associated with	ASD	*	490000 P 233 Conf.01
R		APU	EGT TC1 P30 AND ECB 59KD	497215	1	

EFF: 457-475, SROS **49-ECAM** Page 107 CONFIG-3 May 01/07

TROUBLE SHOOTING MANUAL

	LIADNINGS /MALEUNGITONS		CFDS FAULT MESSAGES	SES FAULT		
	WARNINGS/MALFUNCTIONS	SOURCE	MESSAGE	ATA	С	PROCEDURE
R R	APU AUTO SHUT DOWN	APU	SENSOR FAILURE associated with	ASD	*	490000 P 235 Conf.01
R		APU	EGT TC2 P31 AND ECB 59KD	497215	1	Т 810 891
R R	APU AUTO SHUT DOWN	APU	SENSOR FAILURE associated with	ASD	*	490000 P 237
R R		APU	OIL TEMP SNSR P25 AND GENERATOR 8XS	499151	1	T 810 892
R R R	<u>apu</u> auto shut down	APU	SPEED SNSR P26 AND ECB 59KD	497113	1	490000 P 226 Conf.01 T 810 887
R R R	<u>APU</u> AUTO SHUT DOWN	APU	SPEED SNSR P26, P27	497113	 1 	490000 P 223 Conf.01 T 810 886
R R R	<u>APU</u> AUTO SHUT DOWN	APU	SPEED SNSR P27 AND ECB 59KD	497113	1 	490000 P 228 Conf.01 T 810 888
R R R	<u>APU</u> AUTO SHUT DOWN	APU	STARTER MOTOR 8KA OR STARTER CLUTCH ASSY	494251	1 	490000 P 255 Conf.01 T 810 897
R R	APU AUTO SHUT DOWN	APU	SURGE LIMIT EXCEEDED associated with	ASD	*	490000 P 280 Conf.01
R		APU	BLEED CTL VLV P33	495153	1	
R R	APU AUTO SHUT DOWN	APU	UNDERSPEED associated with	ASD	*	490000 P 215
R		APU	FUEL CTL UNIT P19	493211	1	T 810 883
R R	APU AUTO SHUT DOWN	APU	UNDERSPEED associated with	ASD	*	490000 PB209 Conf.01
R		APU	ECB 59KD	496134	1	т 810 973
R R R	APU EMER SHUT DOWN				 	490000 PA227 Conf.01 T 810 923
R R R	APU EMER SHUT DOWN	APU	EMERGENCY STOP	ASD	*	490000 PA227 Conf.01 T 810 923

EFF : 457-475, SROS **49-ECAM**Page 108
CONFIG-3 May 01/07

TROUBLE SHOOTING MANUAL

WARNINGS/MALFUNCTIONS		CFDS FAULT MESSAGES	 S		FAULT ISOLATION
WARNINGS/ MALI UNCTIONS	SOURCE	MESSAGE	ATA	С	PROCEDURE

R STS-Inop System

R	APU	APU	IGV ACTR P21 OR FUEL CTL	492351	1	490000 PA266
R			UNIT P19			Conf.01
R						T 810 943

R STS-Maintenance

R R R	APU	APU	AIR INTAKE FLAP ACTR	491651	2	490000 P 299 Conf.01 T 810 910
R R R	APU	APU	ECB 59KD	496134	2	490000 PA202 Conf.01 T 810 911
R R R	APU	APU	ECB 59KD OR SPEED SNSR P26	496134	2	490000 PB234 Conf.01 T 810 983
R R R	APU	APU	ECB 59KD OR SPEED SNSR P27	496134	2	490000 PB236 Conf.01 T 810 984
R R R	APU	APU	FUEL CTL UNIT P19	493211	2	490000 PB225 Conf.01 T 810 980
R R R	APU	APU	FUEL LOW PRESSURE OR LOW FUEL PRESS SW P17	282200	2	490000 P 296 Conf.01 T 810 909
R R R	APU	APU	LOW OIL LEVEL	499300	2	490000 PA220 Conf.01 T 810 916
R R R	APU	APU	LOW OIL PRESS SW(8091KM)	499414	2	490000 PA215 Conf.01 T 810 914

EFF : 457-475, SROS **49-ECAM** Page 109 CONFIG-3 May 01/07

TROUBLE SHOOTING MANUAL

	WARNINGS/MALFUNCTIONS	CFDS FAULT MESSAGES				FAULT ISOLATION
	WARNINGS/ MALFONCTIONS	SOURCE	MESSAGE	ATA	С	PROCEDURE
R R R	APU	APU	OIL FILTER P5	499141	2	490000 PA204 Conf.01 T 810 912
R R R	APU	APU	OIL LEVEL SNSR P8	499317	2	490000 PA218 Conf.01 T 810 915
R R R	APU	APU	OIL PRESS SW P14	499114	2	490000 PA215 Conf.01 T 810 914

R Lower ECAM DU Flags-APU

	г	 	T
R R R	APU BLEED PRESSURE indication replaced by amber XX		490000 PA293 Conf.01 T 810 961
R R R	APU BLEED PRESSURE intense pressure fluctuation		490081 P 217 Conf.02 T 810 885
R R R	APU BLEED VALVE indication replaced by amber XX		490000 PA291 Conf.01 T 810 960
R R R	APU EGT indication replaced by amber XX		490000 PA295 Conf.01 T 810 962
R R R	APU GEN FREQUENCY indication replaced by amber XX		490000 PA289 Conf.01 T 810 959
R R R	APU GEN LOAD indication replaced by amber XX		490000 PA289 Conf.01 T 810 959
R R R	APU SPEED (N) indication replaced by amber XX		490000 PA296 Conf.01 T 810 963

EFF :	457-475,
SROS	

49-ECAM Page 110 CONFIG-3 May 01/07

TROUBLE SHOOTING MANUAL

WARNINGS/MALFUNCTIONS		CFDS FAULT MESSAGES	 S		FAULT ISOLATION
WARNINGS/ MALFONCTIONS	SOURCE	MESSAGE	ATA	С	PROCEDURE

Lower ECAM DU Advisories APU

LOW FUEL PRESSURE		282200 P 201
	İ	т 810 801

EFF: 457-475,

SROS

49-ECAM Page 111 CONFIG-3 May 01/07

TROUBLE SHOOTING MANUAL

AIRBORNE AUXILIARY POWER - FAULT SYMPTOMS

WARNINGS/MALFUNCTIONS		CFDS FAULT MESSAGES	3		FAULT ISOLATION
WARNINGS/ MALI UNCTIONS	SOURCE	MESSAGE	ATA	С	PROCEDURE

APU Pnl 25VU

	APU MASTER SW p/bsw ON legend off	490000 PA299 Conf.01 T 810 967
R	APU MASTER SW p/bsw ON legend off	490081 PB272 Conf.01 T 810 897
	APU START SW p/bsw ON legend off	490000 PB201 Conf.01 T 810 968
R	APU START SW p/bsw ON legend off	490081 PB273 Conf.01 T 810 898

EFF: 201-225, 227-227, 229-231, 233-250, 252-299, 426-456, 476-499, 503-549, 551-599,

49-LOCAL Page 101 CONFIG-1 May 01/08

TROUBLE SHOOTING MANUAL

AIRBORNE AUXILIARY POWER - FAULT SYMPTOMS

	WARNINGS/MALFUNCTIONS	CFDS FAULT MESSAGES			FAULT - ISOLATION
	WARNINGS/ MALFUNCTIONS	SOURCE	MESSAGE	ATA	C PROCEDURE
	APU Pnl 25VU				
R	APU MASTER SW p/bsw ON legend off				490081 PB272 Conf.01 T 810 897
R	APU START SW p/bsw ON legend off				490081 PB273 Conf.01 T 810 898

EFF: 251-251,

SROS

49-LOCAL Page 101 CONFIG-2 May 01/08

TROUBLE SHOOTING MANUAL

AIRBORNE AUXILIARY POWER - FAULT SYMPTOMS

HARNINGS (MAL FUNCTIONS		CFDS FAULT MESS	SAGES	FAULT
WARNINGS/MALFUNCTIONS	SOURCE	MESSAGE	ATA	- ISOLATION C PROCEDURE
APU Pnl 25VU				
APU MASTER SW p/bsw ON legend off				490000 PA299 Conf.01 T 810 967
APU START SW p/bsw ON	†			490000 PB201

EFF: 457-475,

legend off

SROS

49-LOCAL Page 101 CONFIG-3 May 01/07

Conf.01

T 810 968

TROUBLE SHOOTING MANUAL

AIRBORNE AUXILIARY POWER - FAULT SYMPTOMS

	WARNINGS/MALFUNCTIONS	CFDS FAULT MESSAGES		FAULT		
	!	SOURCE	MESSAGE	ATA	С	ISOLATION PROCEDURE
	APU - EXHAUST Flames at APU exhaust					490081 P 219 Conf.02 T 810 888
R	APU - FUEL/OIL LEAKS Fumes in cabin				 	490081 PB234 Conf.01 T 810 874
	APU - FUEL/OIL LEAKS Fumes in the cabin/oil smoke at the APU exhaust				 	490000 PA223 Conf.01 T 810 921
R	APU - FUEL/OIL LEAKS Oil smoke at the APU exhaust				 	490081 PB249 Conf.01 T 810 889
	APU - High Oil Consumption					490000 PB223 Conf.01 T 810 979
	APU - metal chips on magnetic chip detector or speed sensors					490000 PA271 Conf.01 T 810 946
	APU AUTO SHUTDOWN					490000 PA238 Conf.01 T 810 930
	APU AUTO SHUTDOWN S/D during PWR TRANSF without BITE message					490000 PB231 Conf.01 T 810 982
R R R	APU AUTO SHUTDOWN with no BITE message					490000 PA252 Conf.02 T 810 991
R	APU AUTO SHUTDOWN with no BITE message					490081 PB231 Conf.01 T 810 872
	APU BLEED FAULT No, Low or Fluctuating APU Bleed-Air Pressure					490000 PA251 Conf.01 T 810 937

R EFF: 201-225, 227-227, 229-250, 252-299, 426-456, 476-499, 503-549, 551-599, 701-749, SROS

49-OBSV Page 101 CONFIG-1 May 01/08

TROUBLE SHOOTING MANUAL

	LIADNINGS (MALFUNCTIONS		CFDS FAULT MESSAGES			
	WARNINGS/MALFUNCTIONS	SOURCE	MESSAGE	ATA	С	ISOLATION PROCEDURE
R	APU No, Low or Fluctuating APU Bleed-Air Pressure					490081 PB254 Conf.01 T 810 891
R R R	APU-STORAGE/DISTRIBUTION Oil Filter Clogging Indicator Popped				†	490000 PA250 Conf.02 T 810 871
	STARTING - Slow Start					490081 P 220 Conf.02 T 810 900

EFF: 201-225, 227-227, 229-250, 252-299, 426-456, 476-499, 503-549, 551-599, 701-749,

49-OBSV Page 102 CONFIG-1 May 01/08

TROUBLE SHOOTING MANUAL

AIRBORNE AUXILIARY POWER - FAULT SYMPTOMS

	WARNINGS/MALFUNCTIONS	CFDS FAULT MESSAGES				FAULT ISOLATION	
	WARNINGS/ MALFONCTIONS	SOURCE	MESSAGE	ATA	С	PROCEDURE	
R	APU - FUEL/OIL LEAKS Fumes in cabin					490081 PB234 Conf.01 T 810 874	
R	APU - FUEL/OIL LEAKS Oil smoke at the APU exhaust					490081 PB249 Conf.01 T 810 889	
R	APU AUTO SHUTDOWN with no BITE message					490081 PB231 Conf.01 T 810 872	
R	APU No, Low or Fluctuating APU Bleed-Air Pressure					490081 PB254 Conf.01 T 810 891	

EFF: 251-251,

SROS

49-OBSV Page 101 CONFIG-2 May 01/08

TROUBLE SHOOTING MANUAL

AIRBORNE AUXILIARY POWER - FAULT SYMPTOMS

WARNINGS/MALFUNCTIONS		CFDS FAULT MESSAGE	 ≣S		FAULT ISOLATION
WARNINGS/MALFUNCTIONS	SOURCE	MESSAGE	ATA	C	!!!
APU - EXHAUST Flames at APU exhaust					490081 P 219 Conf.02 T 810 888
APU - FUEL/OIL LEAKS Fumes in the cabin/oil smoke at the APU exhaust				†	490000 PA223 Conf.01 T 810 921
APU - metal chips on magnetic chip detector or speed sensors				†	490000 PA271 Conf.01 T 810 946
APU AUTO SHUTDOWN				†	490000 PA238 Conf.01 T 810 930
APU AUTO SHUTDOWN S/D during PWR TRANSF without BITE message				†	490000 PB231 Conf.01 T 810 982
APU BLEED FAULT No, Low or Fluctuating APU Bleed-Air Pressure					490000 PA251 Conf.01 T 810 937
STARTING - Slow Start					490081 P 220 Conf.02 T 810 900

EFF: 457-475,

49-OBSV Page 101 CONFIG-3 May 01/07

TROUBLE SHOOTING MANUAL

AIRBORNE AUXILIARY POWER - FAULT SYMPTOMS

	WARNINGS/MALFUNCTIONS		CFDS FAULT MESSAGES	 S		FAULT ISOLATION
	WARNINGS/MALFUNCTIONS	SOURCE	MESSAGE	ATA	С	PROCEDURE
R R R		APU	AIR INTAKE FLAP ACTR (4015KM)	491651	3	491600 P 201 Conf.02 T 810 801
		APU	AIR INTAKE FLAP ACTUATOR (4015KM)	491651	3	491600 P 201 Conf.01 T 810 802
R R R		APU	APU S/N ENCODER (8063KM)	497351	3	497000 P 209 Conf.02 T 810 805
		APU	BLD FLOW XDCR (8039KM)	495112	1	490000 P 277 Conf.01 T 810 903
		APU	BLD FLOW XDCR (8039KM) / BLD CTL VLV (8051KM)	495112	1	490000 PA276 Conf.01 T 810 947
		APU	BLEED CTL VLV (8051KM)	495153	1	490000 PA261 Conf.01 T 810 942
		APU	BLEED CTL VLV (8051KM) / FUEL CTL UNIT (8022KM)	490000	1	490081 P 205 Conf.02 T 810 877
		APU	BLEED CTL VLV P33	495153	1	490000 PA261 Conf.01 T 810 942
		APU	BLEED FLOW XDCR P24	495119	1	490000 P 277 Conf.01 T 810 903
		APU	BLEED FLOW XDCR P24 OR IN TMP/PRSS SNSR P22	495119	1	490000 PA276 Conf.01 T 810 947
		APU	CHECK APU FUEL SUPPLY	490000	1	490081 P 214 Conf.02 T 810 882

EFF: 201-225, 227-227, 229-250, 252-299, 426-456, 476-499, 503-549, 551-599, 701-749,

49-CFDS Page 101 CONFIG-1 May 01/08

TROUBLE SHOOTING MANUAL

	WARNINGS/MALFUNCTIONS		CFDS FAULT MESSAGES			
	WARNINGS/ MALFONCTIONS	SOURCE	MESSAGE	ATA	С	ISOLATION PROCEDURE
R		APU	CHECK IGV ASSEMBLY / IGV ACTUATOR (8014KM)	492300	1	490081 PB247 Conf.01 T 810 887
R R R		APU	CHECK PRESS XDCR WIRING	491511	1	490000 PA225 Conf.02 T 810 859
R R R		APU	CHECK PRESS XDCR WIRING (8001KM) / ECB (59KD)	491511	1	490000 P 290 Conf.02 T 810 831
R		APU	CHECK PRESS XDCR WIRING / (8001KM)	491511	1	490081 PB274 Conf.01 T 810 899
		APU	CONTACTOR (10KA)	494255	3	494000 P 203 Conf.03 T 810 808
		APU	CONTACTOR (5KA)	494255	3	494000 P 201 Conf.03 T 810 807
R R R		APU	CONTACTOR 10KA	494242	3	494000 P 203 Conf.02 T 810 802
		APU	CONTACTOR 10KA	494242	3	494000 P 203 Conf.01 T 810 806
R R R		APU	CONTACTOR 10KA	494255	1	490000 P 204 Conf.02 T 810 802
		APU	CONTACTOR 10KA	494255	1	490000 PB242 Conf.01 T 810 987
		APU	CONTACTOR 10KA	494255	3	494000 P 203 Conf.01 T 810 806

EFF: 201-225, 227-227, 229-250, 252-299, 426-456, 476-499, 503-549, 551-599, 701-749,

SROS

49-CFDS Page 102 CONFIG-1 May 01/08

TROUBLE SHOOTING MANUAL

	WARNINGS/MALFUNCTIONS	CFDS FAULT MESSAGES				FAULT ISOLATION
		SOURCE	MESSAGE	ATA	С	PROCEDURE
		APU	CONTACTOR 10KA OR ECB 59KD	494242	1	490000 PB242 Conf.01 T 810 987
		APU	CONTACTOR 5KA	494241	3	494000 P 201 Conf.01 T 810 805
R R R		APU	CONTACTOR 5KA	494255	1	490000 P 201 Conf.02 T 810 801
		APU	CONTACTOR 5KA	494255	1	490000 PB246 Conf.01 T 810 989
R R R		APU	CONTACTOR 5KA	494255	3	494000 P 201 Conf.02 T 810 801
		APU	CONTACTOR 5KA	494255	3	494000 P 201 Conf.01 T 810 805
		APU	COOLING FAN PMG ASSY (8055KM)	495253	1	490000 PB231 Conf.01 T 810 982
		APU	COOLING FAN/PMG ASSY	495253	1	490000 PB231 Conf.01 T 810 982
		APU	COOLING FAN/PMG ASSY	495253	3	495000 P 201 Conf.01 T 810 804
		APU	CURRENT LIMITER (6KA) / CONTACTOR (10KA)	494200	1	490000 PB244 Conf.01 T 810 988
		APU	CURRENT LIMITER 6KA OR CONTACTOR 10KA	494200	1	490000 PB244 Conf.01 T 810 988

EFF: 201-225, 227-227, 229-250, 252-299, 426-456, 476-499, 503-549, 551-599, 701-749,

49-CFDS Page 103 CONFIG-1 May 01/08

TROUBLE SHOOTING MANUAL

	WARNINGS/MALFUNCTIONS		FAULT ISOLATION			
	WARNINGS/ MALFUNCTIONS	SOURCE	MESSAGE	ATA	С	
		APU	CURRENT LIMITER 6KA OR CONTACTOR 10KA	494242	1	490000 PB244 Conf.01 T 810 988
		APU	DATA MEMORY MODULE (8062KM)	497332	3	497000 P 216 Conf.03 T 810 821
		APU	DE-OIL SOL P15	499149	3	499000 P 201 Conf.01 T 810 804
		APU	DE-OILING SOL (8083KM)	499149	3	499000 P 201 Conf.01 T 810 804
R R R		APU	DEOIL SOLENOID (8083KM)	499149	1	490000 PA218 Conf.02 T 810 843
R R R		APU	DIFFERENTIAL PRESS XDCR (8043KM)	495116	1	490000 P 281 Conf.02 T 810 827
		APU	ECB (59KD)	496134	3	496100 P 201 Conf.01 T 810 804
		APU	ECB (59KD)	496134	3	496100 P 203 Conf.03 T 810 807
R R R		APU	ECB 59KD	496134	1	490000 PA204 Conf.02 T 810 836
R R R		APU	ECB 59KD	496134	3	496100 P 201 Conf.02 T 810 801
		APU	ECB 59KD	496134	3	496100 P 201 Conf.01 T 810 804

EFF: 201-225, 227-227, 229-250, 252-299, 426-456, 476-499, 503-549, 551-599, 701-749,

49-CFDS Page 104 CONFIG-1 May 01/08

TROUBLE SHOOTING MANUAL

	WARNINGS/MALFUNCTIONS			FAULT ISOLATION		
	WARNINGS/ MALFONCTIONS	SOURCE	MESSAGE	ATA	С	
		APU	ECB 59KD / APU HARNESS (8001KM)	496134	1	490000 P 290 Conf.01 T 810 906
		APU	ECB 59KD OR APU HARNESS	496134	1	490000 P 290 Conf.01 T 810 906
R R R		APU	EGT TCPLE RAKE (8057KM1)	497215	3	497000 P 205 Conf.02 T 810 803
		APU	EGT TCPLE RAKE (8057KM1)	497215	3	497000 P 206 Conf.03 T 810 817
R R R		APU	EGT TCPLE RAKE (8057KM2)	497215	3	497000 P 207 Conf.02 T 810 804
		APU	EGT TCPLE RAKE (8057KM2)	497215	3	497000 P 211 Conf.03 T 810 818
		APU	EGT TC1 (8057KM1)	497215	3	497000 P 205 Conf.01 T 810 813
		APU	EGT TC1 P30	497215	3	497000 P 205 Conf.01 T 810 813
		APU	EGT TC2 (8057KM2)	497215	3	497000 P 207 Conf.01 T 810 814
		APU	EGT TC2 P31	497215	3	497000 P 207 Conf.01 T 810 814
		APU	FUEL CTL UNIT (8022KM)	493211	1	490000 PA270 Conf.01 T 810 945

EFF: 201-225, 227-227, 229-250, 252-299, 426-456, 476-499, 503-549, 551-599, 701-749,

49-CFDS Page 105 CONFIG-1 May 01/08

TROUBLE SHOOTING MANUAL

	WARNINGS/MALFUNCTIONS			FAULT - ISOLATION		
	WARNINGS/MALFONCTIONS	SOURCE	MESSAGE	ATA	С	!!
		APU	FUEL CTL UNIT (8022KM)	493211	1	490000 PB225 Conf.01 T 810 980
		APU	FUEL CTL UNIT P19	493211	1	490000 PA270 Conf.01 T 810 945
		APU	FUEL CTL UNIT P19	493211	1	490000 PB225 Conf.01 T 810 980
		APU	IGNITION UNIT (8030KM)	494138	1	490000 PB238 Conf.01 T 810 985
		APU	IGNITION UNIT P10	494138	1	490000 PB238 Conf.01 T 810 985
R R		APU	IGV ACTUATOR (8014KM)	492351	1	490000 PA216 Conf.02 T 810 842
R		APU	IGV ACTUATOR (8014KM)	492351	1	490081 PA260 Conf.01 T 810 851
		APU	INLET GUIDE VANE ACTR P21	492351	1	490000 PA266 Conf.01 T 810 943
		APU	INLET T-P SNSR (8013KM)	492317	1	490000 P 294 Conf.01 T 810 908
		APU	INLET TEMP SENSOR (8010KM)	492314	3	492000 P 201 Conf.01 T 810 803
		APU	INLET TEMP/PRESS SNSR P22	492317	1	490000 P 294 Conf.01 T 810 908

EFF: 201-225, 227-227, 229-250, 252-299, 426-456, 476-499, 503-549, 551-599, 701-749,

49-CFDS Page 106 CONFIG-1 May 01/08

TROUBLE SHOOTING MANUAL

	WARNINGS/MALFUNCTIONS			FAULT		
	WARNINGS/ FIALF ONCTIONS	SOURCE	MESSAGE	ATA	С	PROCEDURE
		APU	LCDT SENSOR P29	492316	1	490000 P 293 Conf.01 T 810 907
R R R		APU	LOAD CONTROL VALVE (8050KM)	495151	1	490000 P 286 Conf.02 T 810 829
R R R		APU	LOAD CONTROL VALVE (8050KM)	495151	3	495000 P 201 Conf.02 T 810 802
		APU	OIL FILTER SWITCHES (8070KM)/(8071KM)	499114	3	499000 P 201 Conf.03 T 810 812
R R R		APU	OIL SUMP TEMP SENSOR (8084KM)	499151	2	490000 PA220 Conf.02 T 810 844
		APU	OIL TEMP SNSR (8084KM)	499151	3	499000 P 203 Conf.01 T 810 805
		APU	OIL TEMP SNSR P25	499151	3	499000 P 203 Conf.01 T 810 805
R R R		APU	PRESS XDCRS (8044KM) / (8048KM)	495117	1	490000 PA232 Conf.02 T 810 862
		APU	SERIAL NUMBER ENCOR P20	497351	3	497000 P 209 Conf.01 T 810 815
		APU	SERIAL NUMBER ENCODER (8061KM)	497331	3	497000 P 209 Conf.01 T 810 815
		APU	SPEED SENSOR (8060KM)	497113	3	497000 P 201 Conf.03 T 810 816

EFF: 201-225, 227-227, 229-250, 252-299, 426-456, 476-499, 503-549, 551-599, 701-749,

SROS

49-CFDS Page 107
CONFIG-1 May 01/08

TROUBLE SHOOTING MANUAL

	WARNINGS/MALFUNCTIONS			FAULT ISOLATION		
	WARNINGS/MALFUNCTIONS	SOURCE	MESSAGE	ATA	С	PROCEDURE
R R R		APU	SPEED SENSOR (8060KM1)	497113	3	497000 P 201 Conf.02 T 810 801
R R R		APU	SPEED SENSOR (8060KM2)	497113	3	497000 P 203 Conf.02 T 810 802
		APU	SPEED SNSR P26	497113	3	497000 P 201 Conf.01 T 810 811
		APU	SPEED SNSR P27	497113	3	497000 P 203 Conf.01 T 810 812
		APU	SPEED SNSR1 (8060KM1)	497113	3	497000 P 201 Conf.01 T 810 811
		APU	SPEED SNSR2 (8060KM2)	497113	3	497000 P 203 Conf.01 T 810 812
R R R		APU	SURGE CONTROL VALVE (8058KM)	495152	1	490000 P 288 Conf.02 T 810 830
R		APU	SURGE CONTROL VALVE (8058KM) / ECB (59KD)	495152	1	490081 PB226 Conf.01 T 810 871
R R R		APU	TOTAL PRESS XDCR(8044KM)	495117	1	490000 P 284 Conf.02 T 810 828
		APU	WRG ACFT TYPE PIN PROG OR ECB 59KD	496100	3	496100 P 203 Conf.01 T 810 805
		APU	WRG: ACFT TYPE PIN PROG / ECB (59KD)	496100	3	496100 P 203 Conf.01 T 810 805

EFF: 201-225, 227-227, 229-250, 252-299, 426-456, 476-499, 503-549, 551-599, 701-749,

49-CFDS Page 108
CONFIG-1 May 01/08

TROUBLE SHOOTING MANUAL

	HARNITAGE (MAL FUNCTIONS	 	CFDS FAULT MESSAGES	 S		FAULT - ISOLATION	
	WARNINGS/MALFUNCTIONS	SOURCE	MESSAGE	ATA	С	!	
R R R		APU	WRG: ACFT TYPE PIN PROG /ECB (59KD)	496100	3	496100 P 203 Conf.02 T 810 802	
		APU	WRG: ECB PIN AB-H5	496100	3	496100 P 205 Conf.01 T 810 808	
		APU	WRG: ECB PIN AB-H9	496100	3	496100 P 207 Conf.01 T 810 809	
		APU	WRG: ECB PIN AB-J6	496100	3	496100 P 209 Conf.01 T 810 810	
		APU	WRG:ACFT TYPE PIN PROG / ECB (59KD)	496100	3	496100 P 201 Conf.03 T 810 806	
		CFDS	NO ECB DATA	496134	2	313200 P 260 T 810 849	
		DMU	ECB (59KD) / DMU (1TV)	496134	3	313600 P 220 T 810 823	
		DMU	ECB (59KD) / FDIMU (10TV)	496134	3	313600 P 276 T 810 904	
		ECAM 1	SDAC1 : NO DATA FROM ECB	496134	2	315400 P 263 T 810 857	
		IDENT: I	ECAM 2				
		ECAM 1	SDAC2 : NO DATA FROM ECB	496134	2	315400 P 264 T 810 858	
		ECAM 2	SDAC1 : NO DATA FROM ECB	496134	2	315400 P 263 T 810 857	
		ECAM 2	SDAC2 : NO DATA FROM ECB	496134	2	315400 P 264 T 810 858	
		IDENT: I	ECAM 2			L	

EFF: 201-225, 227-227, 229-250, 252-299, 426-456, 476-499, 503-549, 551-599, 701-749,

49-CFDSCONFIG-1 May 01/08

SROS

TROUBLE SHOOTING MANUAL

AIRBORNE AUXILIARY POWER - FAULT SYMPTOMS

	WARNINGS/MALFUNCTIONS	CFDS FAULT MESSAGES				FAULT ISOLATION	
	WARNINGS/ MALFONCTIONS	SOURCE	MESSAGE	ATA	С	PROCEDURE	
		APU	AIR INTAKE FLAP ACTUATOR	491651	3	491600 P 201 Conf.01 T 810 802	
		APU	AIR INTAKE FLAP ACTUATOR (4015KM)	491651	3	491600 P 201 Conf.01 T 810 802	
R		APU	CHECK IGV ASSEMBLY / IGV ACTR P21	492300	1	490081 PB247 Conf.01 T 810 887	
R		APU	CHECK IGV ASSEMBLY / IGV ACTUATOR (8014KM)	492300	1	490081 PB247 Conf.01 T 810 887	
R		APU	CHECK PRESS XDCR WIRING	491511	1	490081 PB274 Conf.01 T 810 899	
R		APU	CHECK PRESS XDCR WIRING / (8001KM)	491511	1	490081 PB274 Conf.01 T 810 899	
		APU	CONTACTOR (10KA)	494255	3	494000 P 203 Conf.03 T 810 808	
		APU	CONTACTOR (5KA)	494255	3	494000 P 201 Conf.03 T 810 807	
		APU	DATA MEMORY MODULE (8062KM)	497332	3	497000 P 216 Conf.03 T 810 821	
		APU	DATA MEMORY MODULE P20	497332	3	497000 P 216 Conf.03 T 810 821	
R		APU	ECB (59KD)	496134	1	490081 PB226 Conf.01 T 810 871	

EFF : 251-251, SROS **49-CFDS**Page 101

CONFIG-2 May 01/08

TROUBLE SHOOTING MANUAL

	HADNINGS /MALEHNOTIONS	1	FAULT ISOLATION			
	WARNINGS/MALFUNCTIONS	SOURCE	MESSAGE	ATA	С	PROCEDURE
		APU	ECB (59KD)	496134	3	496100 P 203 Conf.03 T 810 807
		APU	EGT TCPLE RAKE (8057KM1)	497215	3	497000 P 206 Conf.03 T 810 817
		APU	EGT TCPLE RAKE (8057KM2)	497215	3	497000 P 211 Conf.03 T 810 818
		APU	EGT TCPLE RAKE 1	497215	3	497000 P 206 Conf.03 T 810 817
		APU	EGT TCPLE RAKE 2	497215	3	497000 P 211 Conf.03 T 810 818
R		APU	IGV ACTUATOR (8014KM)	492351	1	490081 PA260 Conf.01 T 810 851
R		APU	IGV ACTUATOR P21	492351	1	490081 PA260 Conf.01 T 810 851
		APU	INLET TEMP SENSOR (8010KM)	492314	3	492000 P 201 Conf.01 T 810 803
		APU	INLET TEMP SENSOR P6	492314	3	492000 P 201 Conf.01 T 810 803
		APU	LUBE PUMP FILTER SW P9 / GEN SCAV FILTER SW P5	499114	3	499000 P 201 Conf.03 T 810 812
		APU	OIL FILTER SWITCHES (8070KM)/(8071KM)	499114	3	499000 P 201 Conf.03 T 810 812

EFF : 251-251, SROS 49-CFDS Page 102 CONFIG-2 May 01/08

TROUBLE SHOOTING MANUAL

	HADNINGS /MALEHNOTIONS		CFDS FAULT MESSAGES	 S		FAULT ISOLATION
	WARNINGS/MALFUNCTIONS	SOURCE	MESSAGE	ATA	С	!
		APU	SPEED SENSOR (8060KM)	497113	3	497000 P 201 Conf.03 T 810 816
		APU	SPEED SENSOR P26	497113	3	497000 P 201 Conf.03 T 810 816
R		APU	SURGE CONTROL VALVE (8058KM) / ECB (59KD)	495152	1	490081 PB226 Conf.01 T 810 871
		APU	WRG:ACFT TYPE PIN PROG / ECB (59KD)	496100	3	496100 P 201 Conf.03 T 810 806
		CFDS	NO ECB DATA	496134	2	313200 P 260 T 810 849
		DMU	ECB (59KD) / DMU (1TV)	496134	3	313600 P 220 T 810 823
		ECAM 1	SDAC1: NO DATA FROM ECB	496134	2	315400 P 263 T 810 857
		IDENT: E	ECAM 2			
		ECAM 1	SDAC2 : NO DATA FROM ECB	496134	2	315400 P 264 T 810 858
		ECAM 2	SDAC1 : NO DATA FROM ECB	496134	2	315400 P 263 T 810 857
		ECAM 2	SDAC2 : NO DATA FROM ECB	496134	2	315400 P 264 T 810 858
		IDENT: E	ECAM 2			

EFF: 251-251,

SROS

49-CFDS Page 103 CONFIG-2 May 01/08

TROUBLE SHOOTING MANUAL

AIRBORNE AUXILIARY POWER - FAULT SYMPTOMS

WARNINGS/MALFUNCTIONS			FAULT - ISOLATION		
WARNINGS/ MALFONCTIONS	SOURCE	MESSAGE	ATA	С	PROCEDURE
	APU	BLEED CTL VLV P33	495153	1	490000 PA261 Conf.01 T 810 942
	APU	BLEED FLOW XDCR P24	495119	1	490000 P 277 Conf.01 T 810 903
	APU	BLEED FLOW XDCR P24 OR IN TMP/PRSS SNSR P22	495119	1	490000 PA276 Conf.01 T 810 947
	APU	CONTACTOR 10KA	494242	3	494000 P 203 Conf.01 T 810 806
	APU	CONTACTOR 10KA OR ECB 59KD	494242	1	490000 PB242 Conf.01 T 810 987
	APU	CONTACTOR 5KA	494241	3	494000 P 201 Conf.01 T 810 805
	APU	CONTACTOR 5KA	494255	1	490000 PB246 Conf.01 T 810 989
	APU	COOLING FAN/PMG ASSY	495253	1	490000 PB231 Conf.01 T 810 982
	APU	COOLING FAN/PMG ASSY	495253	3	495000 P 201 Conf.01 T 810 804
	APU	CURRENT LIMITER 6KA OR CONTACTOR 10KA	494242	1	490000 PB244 Conf.01 T 810 988
	APU	DE-OIL SOL P15	499149	3	499000 P 201 Conf.01 T 810 804

EFF: 457-475,

SROS

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49-CFDS Page 101 CONFIG-3 Feb 01/08

Printed in France

@A319/A320/A321

TROUBLE SHOOTING MANUAL

	WARNINGS/MALFUNCTIONS		CFDS FAULT MESSAGES				
	WARNINGS/MALFUNCTIONS	SOURCE	MESSAGE	ATA	С	ISOLATION PROCEDURE	
R R R		APU	ECB 59KD	496134	3	496100 P 201 Conf.01 T 810 804	
R R R		APU	ECB 59KD OR APU HARNESS	496134	1	490000 P 290 Conf.01 T 810 906	
R R R		APU	EGT TC1 P30	497215	3	497000 P 205 Conf.01 T 810 813	
R R R		APU	EGT TC2 P31	497215	3	497000 P 207 Conf.01 T 810 814	
R R R		APU	FUEL CTL UNIT P19	493211	1	490000 PA270 Conf.01 T 810 945	
R R R		APU	FUEL CTL UNIT P19	493211	1	490000 PB225 Conf.01 T 810 980	
R R R		APU	IGNITION UNIT P10	494138	1	490000 PB238 Conf.01 T 810 985	
R R R		APU	INLET GUIDE VANE ACTR P21	492351	1	490000 PA266 Conf.01 T 810 943	
R R R		APU	INLET TEMP/PRESS SNSR P22	492317	1	490000 P 294 Conf.01 T 810 908	
R R R		APU	LCDT SENSOR P29	492316	1	490000 P 293 Conf.01 T 810 907	
R R R		APU	OIL TEMP SNSR P25	499151	3	499000 P 203 Conf.01 T 810 805	

EFF: 457-475, SROS **49-CFDS**Page 102

CONFIG-3 May 01/07

@A319/A320/A321

TROUBLE SHOOTING MANUAL

	WARNINGS/MALFUNCTIONS		CFDS FAULT MESSAGES	S		FAULT ISOLATION
	WARNINGS/ MALFORCTIONS	SOURCE	MESSAGE	ATA	С	PROCEDURE
R R R		APU	SERIAL NUMBER ENCOR P20	497351	3	497000 P 209 Conf.01 T 810 815
R R R		APU	SPEED SNSR P26	497113	3	497000 P 201 Conf.01 T 810 811
R R R		APU	SPEED SNSR P27	497113	3	497000 P 203 Conf.01 T 810 812
R R R		APU	WRG ACFT TYPE PIN PROG OR ECB 59KD	496100	3	496100 P 203 Conf.01 T 810 805
		CFDS	NO ECB DATA	496134	2	313200 P 260 T 810 849
		DMU	ECB (59KD) / FDIMU (10TV)	496134	3	313600 P 276 T 810 904
		ECAM 1	SDAC1 : NO DATA FROM ECB	496134	2	315400 P 263 T 810 857
		IDENT: E	ECAM 2			
		ECAM 1	SDAC2 : NO DATA FROM ECB	496134	2	315400 P 264 T 810 858
		ECAM 2	SDAC1 : NO DATA FROM ECB	496134	2	315400 P 263 T 810 857
		ECAM 2	SDAC2 : NO DATA FROM ECB	496134	2	315400 P 264 T 810 858
		IDENT: E	ECAM 2			868 019

EFF: 457-475,

49-CFDSCONFIG-3 May 01/07

SROS

TROUBLE SHOOTING MANUAL

AIRBORNE AUXILARY POWER - GENERAL ((APS 3200)) - FAULT ISOLATION PROCEDURES

TASK 49-00-00-810-878

APU AUTO SHUT DOWN - NO ACCELERATION, Main Start-Contactor Fault (APS 3200)

- 1. Possible Causes
 - CONTACTOR (5KA)
 - wiring
 - ECB 59KD
 - CONTACTOR-MAIN START (5KA)
 - ECB (59KD)
- 2. Job Set-up Information
 - A. Referenced Information

REFERENCE		DESIGNATION
AMM	49-00-00-710-008	Operational Test of the APU (APS 3200)
AMM	49-42-55-000-001	Removal of the Start Contactors (5KA,10KA)
AMM	49-42-55-400-001	Installation of the Start Contactors (5KA,10KA)
AMM	49-61-34-000-002	Removal of the Electronic Control Box (ECB) (59KD) (APS 3200)
AMM	49-61-34-400-002	<pre>Installation of the Electronic Control Box (ECB) (59KD) (APS 3200)</pre>
ASM	49-42/01	

- 3. Fault Confirmation
 - A. Do the operational test of the APU (Ref. AMM TASK 49-00-00-710-008).
- 4. Fault Isolation
- R **ON A/C 201-225, 227-227, 229-231, 233-250, 252-253, 276-299, 426-450, R 457-499, 503-549, 551-599, 701-749,
 - A. If an APU auto shutdown occurs during the APU start sequence and the APU SHUTDOWNS report gives the maintenance message:

NO ACCELERATION - CONTACTOR 5KA:

- replace the CONTACTOR (5KA) (Ref. AMM TASK 49-42-55-000-001) and (Ref. AMM TASK 49-42-55-400-001).
- (1) If the fault continues:
 - do a check and repair the wiring from the ECB (59KD) to the Main Start Contactor (5KA) (Ref. ASM 49-42/01).

EFF: 201-225, 227-227, 229-231, 233-250, 252-299, 426-499, 503-549, 551-599, 701-749,

49-00-00

Page 201

TROUBLE SHOOTING MANUAL

- (2) If the fault continues:
 - replace the ECB 59KD (Ref. AMM TASK 49-61-34-000-002) and (Ref. AMM TASK 49-61-34-400-002).

R **ON A/C 201-225, 227-227, 229-231, 233-244, 247-250, 252-299, 426-456, R 476-499, 503-549, 551-599, 701-749, R Post SB 49-1061 For A/C 201-225,227-227,229-231,233-244,247-250,252-253, R 276-299,426-450,476-499,503-549,551-599,701-749,

- A. Maintenance Action
 - (1) If the APU Last Leg Report gives the maintenance message:

CONTACTOR (5KA):

Fault Code Number: 051

Additionally:

Fault Code Number: 128

NOTE: The APU SHUTDOWNS report gives the maintenance message: NO ACCELERATION - CONTACTOR (5KA) APU Auto Shut Down Fault Code Number: 051

- replace the CONTACTOR-MAIN START (5KA) (Ref. AMM TASK 49-42-55-000-001) and (Ref. AMM TASK 49-42-55-400-001).
- (a) If the fault continues:
 - do a check and repair the wiring from the Contactor Back-up Start (10KA) A/F to the Contactor Main Start (5KA) A/D (Ref. ASM 49-42/01).
- (b) If the fault continues:
 - do a check and repair the wiring from the Contactor Main Start (5KA) A/F to the Starter Motor (8KA) (Ref. ASM 49-42/01).
- (c) If the fault continues:
 - do a check and repair the wiring from the ECB (59KD) AB/J10 to the electrical connection (+) of the Starter Motor (8KA).
- (d) If the fault continues:
 - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-002) and (Ref. AMM TASK 49-61-34-400-002).
- (2) If the APU Last Leg Report gives the maintenance message:

CONTACTOR (5KA):

Fault Code Number: 051

Additionally:

Fault Code Number: 017

NOTE: The APU SHUTDOWNS report gives the maintenance message:

NO ACCELERATION - CONTACTOR (5KA)

APU Auto Shut Down Fault Code Number: 051

EFF: 201-225, 227-227, 229-231, 233-250, 252-299, 426-499, 503-549, 551-599, 701-749,

49-00-00

Page 202

TROUBLE SHOOTING MANUAL

- do a check and repair the wiring from the ECB (59KD) AC/1 to the Contactor Main Start (5KA) B/3 (Ref. ASM 49-42/01).
- (a) If the fault continues:
 - replace the CONTACTOR-MAIN START (5KA) (Ref. AMM TASK 49-42-55-000-001) and (Ref. AMM TASK 49-42-55-400-001).
 - 1 If the fault continues:
 - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-002) and (Ref. AMM TASK 49-61-34-400-002).
- R **ON A/C 201-225, 227-227, 229-231, 233-250, 252-299, 426-499, 503-549, R 551-599, 701-749,
 - B. Do the test given in para. 3.

EFF: 201-225, 227-227, 229-231, 233-250, 252-299, 426-499, 503-549, 551-599, 701-749,

49-00-00

Page 203

TROUBLE SHOOTING MANUAL

TASK 49-00-00-810-879

APU AUTO SHUT DOWN - NO ACCELERATION, Back-Up Start-Contactor Fault (APS 3200)

- 1. Possible Causes
 - CONTACTOR-BACK-UP START (10KA)
 - FUSE (6KA)
 - wiring
 - ECB (59KD)
- 2. Job Set-up Information
 - A. Referenced Information

REFERENCE		DESIGNATION	
AMM	49-00-00-710-008	Operational Test of the APU (APS 3200)	
AMM	49-42-00-960-001	Replacement of the APU Start Fuse (6KA)	
AMM	49-42-55-000-001	Removal of the Start Contactors (5KA,10KA)	
AMM	49-42-55-400-001	Installation of the Start Contactors (5KA,10KA)	
AMM	49-61-34-000-002	Removal of the Electronic Control Box (ECB) (59KD) (APS 3200)	
AMM	49-61-34-400-002	<pre>Installation of the Electronic Control Box (ECB) (59KD) (APS 3200)</pre>	
ASM	49-42/01		

- 3. Fault Confirmation
 - A. Do the operational test of the APU (Ref. AMM TASK 49-00-00-710-008).
- 4. Fault Isolation
- R **ON A/C 201-225, 227-227, 229-231, 233-250, 252-253, 276-299, 426-450, R 457-499, 503-549, 551-599, 701-749,
 - A. If an APU auto shutdown occurs during the APU start sequence and the APU SHUTDOWNS report gives the maintenance message

NO ACCELERATION - CURRENT LIMITER 6KA OR CONTACTOR 10KA:

- do a check for 28VDC at the BACK-UP START CONTACTOR (10KA) A/D (Ref. ASM 49-42/01).
- (1) If the power supply is not OK:do a check of the FUSE (6KA).
 - (a) If the FUSE (6KA) is unserviceable:replace the FUSE (6KA) (Ref. AMM TASK 49-42-00-960-001).

EFF: 201-225, 227-227, 229-231, 233-250, 252-299, 426-499, 503-549, 551-599, 701-749,

49-00-00

Page 204

TROUBLE SHOOTING MANUAL

- (b) If the FUSE (6KA) is serviceable:
 - do a check and repair the wiring from the FUSE (6KA) to the BACK-UP START CONTACTOR (10KA) A/D (Ref. ASM 49-42/01).
- (2) If the power supply is OK:
 - replace the CONTACTOR-BACK-UP START (10KA) (Ref. AMM TASK 49-42-55-000-001) and (Ref. AMM TASK 49-42-55-400-001).
 - (a) If the fault continues:
 - do a check and repair the wiring:
 - from the BACK-UP START CONTACTOR (10KA) B/5 to the ground (Ref. ASM 49-42/01).
 - from the ECB (59KD) AC/6 to the BACK-UP START CONTACTOR (10KA) B/3 (Ref. ASM 49-42/01).
 - (b) If the fault continues:
 - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-002) and (Ref. AMM TASK 49-61-34-400-002).
 - (c) If the fault continues:
 - do a check and repair the wiring from the ECB (59KD) AB/E3 to the BACK-UP START CONTACTOR (10KA) A/G (Ref. ASM 49-42/01).

NOTE: The resistor (12KA) is a 1k0hm resistor.

R **ON A/C 201-225, 227-227, 229-231, 233-244, 247-250, 252-299, 426-456, R 476-499, 503-549, 551-599, 701-749,

R Post SB 49-1061 For A/C 201-225,227-227,229-231,233-244,247-250,252-253, R 276-299,426-450,476-499,503-549,551-599,701-749,

A. If the APU Last Leg Report gives the maintenance message:

CURRENT LIMITER (6KA) / CONTACTOR (10KA):

Fault Code Number: 051

Additionally:

Fault Code Number: 126

NOTE: The APU SHUTDOWNS report gives the maintenance message:

NO ACCELERATION - CURRENT LIMITER (6KA) / CONTACTOR (10KA)

APU Auto Shut Down Fault Code Number: 051

- do a check for 28VDC at the BACK-UP START CONTACTOR (10KA) A/D (Ref. ASM 49-42/01).
- (1) If the power supply is not OK:
 - do a check and replace the FUSE (6KA) (Ref. AMM TASK 49-42-00-960-001).
 - (a) If the fault continues:
 - do a check and repair the wiring from the FUSE (6KA) to the BACK-UP START CONTACTOR (10KA) A/D (Ref. ASM 49-42/01).

EFF: 201-225, 227-227, 229-231, 233-250, 252-299, 426-499, 503-549, 551-599, 701-749,

49-00-00

Page 205

TROUBLE SHOOTING MANUAL

- (2) If the power supply is OK:
 - replace the CONTACTOR-BACK-UP START (10KA) (Ref. AMM TASK 49-42-55-000-001) and (Ref. AMM TASK 49-42-55-400-001).

R **ON A/C 201-225, 227-227, 229-231, 233-250, 252-299, 426-499, 503-549, R 551-599, 701-749,

B. Do the test given in para. 3.

EFF: 201-225, 227-227, 229-231, 233-250, 252-299, 426-499, 503-549, 551-599, 701-749,

49-00-00Page 206
Config-1 May 01/08

TROUBLE SHOOTING MANUAL

TASK 49-00-00-810-880

APU AUTO SHUT DOWN - SENSOR FAILURE, Oil-Pressure Switch Fault and Low Oil-Level Condition (APS 3200)

- 1. Possible Causes
 - OIL LEVEL SENSOR (8089KM)
 - wiring
 - ECB (59KD)
 - OIL PRESSURE SWITCH (8091KM)
- 2. Job Set-up Information
 - A. Referenced Information

REFERENCE		DESIGNATION	
AMM	49-00-00-710-005	Self-Test of the ECB (APS 3200)	
AMM	49-61-34-000-002	Removal of the Electronic Control Box (ECB) (59KD) (APS 3200)	
AMM	49-61-34-400-002	<pre>Installation of the Electronic Control Box (ECB) (59KD) (APS 3200)</pre>	
AMM	49-90-00-600-004	Check Oil Level and Replenish (APS 3200)	
AMM	49-93-17-000-001	Removal of the Oil Level Sensor (8089KM) (APS 3200)	
AMM	49-93-17-400-001	Installation of the Oil Level Sensor (8089KM) (APS 3200)	
AMM	49-94-14-000-002	Removal of the Oil Pressure Switch (8091KM) (APS 3200)	
AMM	49-94-14-400-002	Installation of the Oil Pressure Switch (8091KM) (APS 3200)	
ASM	49-61/02		

- 3. Fault Confirmation
 - A. Do the self-test of the ECB (Ref. AMM TASK 49-00-00-710-005).
- 4. Fault Isolation
- R **ON A/C 201-225, 227-227, 229-231, 233-250, 252-253, 276-299, 426-450, R 457-499, 503-549, 551-599, 701-749,
 - A. If the test gives the maintenance message:

OIL PRESS SW P14 AND LOW OIL LEVEL:

NOTE : The APU SHUTDOWNS report gives the maintenance message: SENSOR FAILURE - OIL PRESS SW P14 AND LOW OIL LEVEL

- do a check of the oil level in the APU oil reservoir:

EFF: 201-225, 227-227, 229-231, 233-250, 252-299, 426-499, 503-549, 551-599, 701-749,

49-00-00

Page 207

TROUBLE SHOOTING MANUAL

- (1) If the oil level in the APU oil reservoir is not sufficient:
 - do the oil servicing (Ref. AMM TASK 49-90-00-600-004) and replace the (Ref. AMM TASK 49-94-14-000-002) and (Ref. AMM TASK 49-94-14-400-002).
- (2) If the oil level in the APU oil reservoir is sufficient or the fault continues:
 - replace the OIL LEVEL SENSOR (8089KM) (Ref. AMM TASK 49-93-17-000-001) and (Ref. AMM TASK 49-93-17-400-001).
- (3) If the fault continues:
 - do check and repair the wiring from the ECB (59KD) AB/C5, J4 to the OIL PRESSURE SWITCH (121KD) P14/1, 2 (Ref. ASM 49-61/02).
 - do check and repair the wiring from the ECB (59KD) AB/H2, J4 to the OIL LEVEL SENSOR (119KD) P8/1, 2 (Ref. ASM 49-61/02).
- (4) If the fault continues:
 - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-002) and (Ref. AMM TASK 49-61-34-400-002).

R **ON A/C 201-225, 227-227, 229-231, 233-244, 247-250, 252-299, 426-456, R 476-499, 503-549, 551-599, 701-749, R Post SB 49-1061 For A/C 201-225,227-227,229-231,233-244,247-250,252-253, R 276-299,426-450,476-499,503-549,551-599,701-749,

A. If the APU Last Leg Report gives the maintenance message:

OIL PRESS SW (8091KM) AND LOW OIL LEVEL

Fault Code Number: 141

Additionally:

Fault Code Number: 043

AND

Fault Code Number: 048

NOTE: The APU SHUTDOWNS report gives the maintenance message:

SENSOR FAILURE - OIL PRESS SW (8091KM) AND LOW OIL LEVEL

APU Auto Shut Down Fault Code Number: 141

NOTE: Message does not appear in case of self-test of the ECB

- do a check of the oil level in the APU oil reservoir:
- (1) If the oil level in the APU oil reservoir is not sufficient: - do the oil servicing (Ref. AMM TASK 49-90-00-600-004) and replace the OIL PRESSURE SWITCH (8091KM) (Ref. AMM TASK 49-94-14-000-002) and (Ref. AMM TASK 49-94-14-400-002).
 - (a) If the FCN 043 continues:
 - do check and repair the wiring from the ECB (59KD) AB/C5, J4 to the OIL PRESSURE SWITCH (8091KM) P14/1, 2 (Ref. ASM 49-61/02).

EFF: 201-225, 227-227, 229-231, 233-250, 252-299, 426-499, 503-549, 551-599, 701-749,

49-00-00

Page ∠U8 Ma∨ N1/N8

TROUBLE SHOOTING MANUAL

- R **ON A/C 201-225, 227-227, 229-231, 233-250, 252-299, 426-499, 503-549, R 551-599, 701-749,
 - B. Do the test given in para. 3.

EFF: 201-225, 227-227, 229-231, 233-250, 252-299, 426-499, 503-549, 551-599, 701-749,

SROS

49-00-00 Page 209

TROUBLE SHOOTING MANUAL

TASK 49-00-00-810-881

APU AUTO SHUT DOWN - SENSOR FAILURE, Oil Pressure Switch and Oil Level Sensor Fault (APS 3200)

1. Possible Causes

- OIL LEVEL SENSOR (8089KM)
- OIL PRESSURE SWITCH (8091KM)
- wiring
- ECB (59KD)

2. Job Set-up Information

A. Referenced Information

REFERENCE		DESIGNATION
AMM	49-00-00-710-005	Self-Test of the ECB (APS 3200)
AMM	49-61-34-000-002	Removal of the Electronic Control Box (ECB) (59KD) (APS 3200)
AMM	49-61-34-400-002	<pre>Installation of the Electronic Control Box (ECB) (59KD) (APS 3200)</pre>
AMM	49-90-00-600-004	Check Oil Level and Replenish (APS 3200)
AMM	49-93-17-000-001	Removal of the Oil Level Sensor (8089KM) (APS 3200)
AMM	49-93-17-400-001	Installation of the Oil Level Sensor (8089KM) (APS 3200)
AMM	49-94-14-000-002	Removal of the Oil Pressure Switch (8091KM) (APS 3200)
AMM	49-94-14-400-002	Installation of the Oil Pressure Switch (8091KM) (APS 3200)
ASM	49-61/02	

3. Fault Confirmation

- A. Oil Level Check and Test
 - (1) Do a check of the oil level in the APU oil reservoir and do the oil servicing if you find that the oil level is not sufficient (Ref. AMM TASK 49-90-00-600-004).
 - (2) Do the self-test of the ECB (59KD) (Ref. AMM TASK 49-00-00-710-005).

EFF: 201-225, 227-227, 229-231, 233-250, 252-299, 426-499, 503-549, 551-599, 701-749,

49-00-00

Page 210

SROS

TROUBLE SHOOTING MANUAL

4. Fault Isolation

R **ON A/C 201-225, 227-227, 229-231, 233-250, 252-253, 276-299, 426-450, R 457-499, 503-549, 551-599, 701-749,

A. If the test gives the maintenance message:

OIL PRESS SW P14 AND OIL LEVEL SNSR P8:

NOTE : The APU SHUTDOWNS report gives the maintenance message: SENSOR FAILURE - OIL PRESS SW P14 AND OIL LEVEL SNSR P8

- replace the OIL LEVEL SENSOR (8089KM) (Ref. AMM TASK 49-93-17-000-001) and (Ref. AMM TASK 49-93-17-400-001).
- replace the OIL PRESSURE SWITCH (8091KM) (Ref. AMM TASK 49-94-14-000-002) and (Ref. AMM TASK 49-94-14-400-002).
- (1) If the fault continues:
 - do a check and repair the wiring from the ECB (59KD) AB/C5, J4 to the OIL PRESSURE SWITCH P14/1, 2 (Ref. ASM 49-61/02).
 - do a check and repair the wiring from the ECB (59KD) AB/H2, J4 to the OIL LEVEL SENSOR P8/1, 2 (Ref. ASM 49-61/02).
- (2) If the fault continues:
 - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-002) and (Ref. AMM TASK 49-61-34-400-002).

R **ON A/C 201-225, 227-227, 229-231, 233-244, 247-250, 252-299, 426-456, R 476-499, 503-549, 551-599, 701-749, R Post SB 49-1061 For A/C 201-225,227-227,229-231,233-244,247-250,252-253, R 276-299,426-450,476-499,503-549,551-599,701-749,

A. If the test gives the maintenance message:

OIL PRESS SW (8091KM) AND OIL LEVEL SNSR (8089KM)

Fault Code Number: 140

Additionally:

Fault Code Number: 43 and 50

or

Fault Code Number: 43 and 49

NOTE: The APU SHUTDOWNS report gives the maintenance message:

SENSOR FAILURE - OIL PRESS SW (8091KM) AND OIL LEVEL SNSR (8089KM)

APU Auto Shut Down Fault Code Number: 140

NOTE: Message does not appear in case of self-test of the ECB

- replace the OIL LEVEL SENSOR (8089KM) (Ref. AMM TASK 49-93-17-000-001) and (Ref. AMM TASK 49-93-17-400-001).
- replace the OIL PRESSURE SWITCH (8091KM) (Ref. AMM TASK 49-94-14-000-002) and (Ref. AMM TASK 49-94-14-400-002).

EFF: 201-225, 227-227, 229-231, 233-250, 252-299, 426-499, 503-549, 551-599, 701-749,

49-00-00

Config-1 May 01/08

SROS

TROUBLE SHOOTING MANUAL

- (1) If the fault continues:
 - do a check and repair the wiring from the ECB (59KD) AB/C5, J4 to the OIL PRESSURE SWITCH (8091KM) P14/1, 2 (Ref. ASM 49-61/02).
 - do a check and repair the wiring from the ECB (59KD) AB/H2, J4 to the OIL LEVEL SENSOR (8089KM) P8/1, 2 (Ref. ASM 49-61/02).
 - (a) If the fault continues:
 - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-002) and (Ref. AMM TASK 49-61-34-400-002).

R **ON A/C 201-225, 227-227, 229-231, 233-250, 252-299, 426-499, 503-549, R 551-599, 701-749,

B. Do the test given in para. 3.

EFF: 201-225, 227-227, 229-231, 233-250, 252-299, 426-499, 503-549, 551-599, 701-749,

49-00-00

Page 212

TROUBLE SHOOTING MANUAL

TASK 49-00-00-810-882

APU AUTO SHUT DOWN - AIR-INTAKE NOT OPEN, Air-Intake Flap-Actuator Fault (APS 3200)

1. Possible Causes

- AIR INTAKE-FLAP ACTUATOR (4015KM)
- wiring
- ECB (59KD)

2. Job Set-up Information

A. Referenced Information

REFERENCE		DESIGNATION
AMM	49-16-00-710-002	Operational Test of the Air Intake Flap and Diverter (APS 3200)
AMM	49-16-51-000-002	Removal of the Air-Intake Flap Actuator (4015KM) (APS 3200)
AMM	49-16-51-400-002	<pre>Installation of the Air-Intake Flap Actuator (4015KM) (APS 3200)</pre>
AMM	49-61-34-000-002	Removal of the Electronic Control Box (ECB) (59KD) (APS 3200)
AMM	49-61-34-400-002	Installation of the Electronic Control Box (ECB) (59KD) (APS 3200)
ASM	49-16/01	

3. Fault Confirmation

A. Do the operational test of the Air-Intake Flap Actuator (4015KM) (Ref. AMM TASK 49-16-00-710-002).

4. Fault Isolation

R **ON A/C 201-225, 227-227, 229-231, 233-250, 252-253, 276-299, 426-450, R 457-499, 503-549, 551-599, 701-749,

A. If the test gives the maintenance message:

AIR INTAKE FLAP ACTR:

NOTE : The APU SHUTDOWNS report gives the maintenance message:
AIR INTAKE NOT OPEN - AIR INTAKE FLAP ACTR

- replace the AIR INTAKE-FLAP ACTUATOR (4015KM) (Ref. AMM TASK 49-16-51-000-002) and (Ref. AMM TASK 49-16-51-400-002).

EFF: 201-225, 227-227, 229-231, 233-250, 252-299, 426-499, 503-549, 551-599, 701-749,

49-00-00

Page 213

TROUBLE SHOOTING MANUAL

- (1) If the fault continues:
 - do a check and repair the wiring from the ECB (59KD) AC/5, 4 to the electrical connector 7527VCA/J, K (Ref. ASM 49-16/01).
 - do a check and repair the wiring from the ECB (59KD) AB/G2, G3, G4,
 G5 to the electrical connector 7527VCA/D, C, E, B. (Ref. ASM 49-16/01).
 - do a check and repair the wiring from the electrical connector 7527VCA/A, L, F, to the ground (Ref. ASM 49-16/01).
- (2) If the fault continues:
 - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-002) and (Ref. AMM TASK 49-61-34-400-002).

R **ON A/C 201-225, 227-227, 229-231, 233-244, 247-250, 252-299, 426-456, R 476-499, 503-549, 551-599, 701-749, R Post SB 49-1061 For A/C 201-225,227-227,229-231,233-244,247-250,252-253, R 276-299,426-450,476-499,503-549,551-599,701-749,

A. If the test gives the maintenance message:

INLET FLAP ACTR (4015KM)
Fault Code Number: 121

Additionally:

Fault Code Number: 025 or 058 or None

NOTE: The APU SHUTDOWNS report gives the maintenance message:

AIR INTAKE NOT OPEN - INLET FLAP ACTR (4015KM)

APU Auto Shut Down Fault Code Number: 121

- replace the AIR INTAKE-FLAP ACTUATOR (4015KM) (Ref. AMM TASK 49-16-51-000-002) and (Ref. AMM TASK 49-16-51-400-002).
- (1) If the fault continues:
 - do a check and repair the wiring from the ECB (59KD) AC/5, 4 to the electrical connector 7527VCA/J, K (Ref. ASM 49-16/01).
 - do a check and repair the wiring from the ECB (59KD) AB/G2, G3, G4,
 G5 to the electrical connector 7527VCA/D, C, E, B. (Ref. ASM 49-16/01).
 - do a check and repair the wiring from the electrical connector 7527VCA/A, L, F, to the ground (Ref. ASM 49-16/01).
 - (a) If the fault continues:
 - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-002) and (Ref. AMM TASK 49-61-34-400-002).
- R **ON A/C 201-225, 227-227, 229-231, 233-250, 252-299, 426-499, 503-549, R 551-599, 701-749,
 - B. Do the operational test of the Air-Intake Flap Actuator (4015KM) (Ref. AMM TASK 49-16-00-710-002).

EFF: 201-225, 227-227, 229-231, 233-250, 252-299, 426-499, 503-549, 551-599, 701-749,

SROS

49-00-00 Page 214 Config-1 May 01/08

TROUBLE SHOOTING MANUAL

TASK 49-00-00-810-883

APU AUTO SHUT DOWN - UNDERSPEED, Fuel Control Unit Fault (APS 3200)

- 1. Possible Causes
 - wiring
 - FUEL CONTROL UNIT (8022KM)
 - ECB (59KD)
 - Speed Sensor
 - SPEED SENSORS (8060KM1) and/or (8060KM2)
 - MAGNETIC DRAIN PLUG
- 2. Job Set-up Information
 - A. Referenced Information

REFERENCE		DESIGNATION
28-2	2-00-810-801	APU Fuel System - Low Pressure
AMM	28-21-00-710-008	Operational Check of Air Release Valves to Ensure Adequate Fuel Flow Under Suction Feed Conditions
AMM	28-21-00-710-011	Operational Leak Test of the Air Release Valve Float
AMM	28-22-00-710-002	Operational Test of the APU Fuel-Pump System
AMM	49-00-00-710-008	Operational Test of the APU (APS 3200)
AMM	49-32-11-000-002	Removal of the Fuel Control Unit (8022KM) (APS 3200)
AMM	49-32-11-400-002	<pre>Installation of the Fuel Control Unit (8022KM) (APS 3200)</pre>
AMM	49-61-34-000-002	Removal of the Electronic Control Box (ECB) (59KD) (APS 3200)
AMM	49-61-34-400-002	<pre>Installation of the Electronic Control Box (ECB) (59KD) (APS 3200)</pre>
AMM	49-71-13-000-002	Removal of the Speed Sensor (APS 3200)
AMM	49-71-13-400-002	Installation of the Speed Sensor (APS 3200)
AMM	49-91-42-200-003	Inspection of the Magnetic Drain Plug (APS 3200)
ASM	49-61/02	

3. Fault Confirmation

- R **ON A/C 201-225, 227-227, 229-231, 233-250, 252-253, 276-299, 426-450, R 457-499, 503-549, 551-599, 701-749,
 - A. Do the operational test of the APU (Ref. AMM TASK 49-00-00-710-008).
 - NOTE : Air in fuel line occurs in the most time at the first start in the morning.
 - NOTE : Make sure that the fuel supply to the APU is correct (Ref. AMM TASK 28-22-00-710-002), (Ref. AMM TASK 28-21-00-710-008) and (Ref. AMM TASK 28-21-00-710-011).

R EFF: 201-225, 227-227, 229-231, 233-250, 252-299, 426-499, 503-549, 551-599, 701-749,

49-00-00 Page 215 Config-1 May 01/08

SROS

TROUBLE SHOOTING MANUAL

If the fuel supply is not correct, do the trouble shooting of APU low fuel pressure (Ref. TASK 28-22-00-810-801).

R **ON A/C 201-225, 227-227, 229-231, 233-244, 247-250, 252-299, 426-456, R 476-499, 503-549, 551-599, 701-749, R Post SB 49-1061 For A/C 201-225,227-227,229-231,233-244,247-250,252-253, R 276-299,426-450,476-499,503-549,551-599,701-749,

A. Do the operational test of the APU (Ref. AMM TASK 49-00-00-710-008).

R **ON A/C 201-225, 227-227, 229-231, 233-250, 252-299, 426-499, 503-549, R 551-599, 701-749,

4. Fault Isolation

**ON A/C 201-225, 234-250, 252-253, 276-278, 280-280, 282-299, 426-450, 479-499, 503-549, 551-599, 701-749,

A. If an APU auto shutdown occurs during the operational test of the APU and the APU SHUTDOWNS report gives the maintenance message:

UNDERSPEED - FUEL CTL UNIT P19:

- do a check and repair the wiring from the ECB (59KD) AB/F11, H10, H11, J3 to the FUEL CONTROL UNIT P19/1, 3, 4, 2 (Ref. ASM 49-61/02).
- (1) If the fault continues:
 - replace the FUEL CONTROL UNIT (8022KM) (Ref. AMM TASK 49-32-11-000-002) and (Ref. AMM TASK 49-32-11-400-002).
- (2) If the fault continues:
 - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-002) and (Ref. AMM TASK 49-61-34-400-002).
- R **ON A/C 227-227, 229-231, 233-233, 279-279, 281-281, 457-478,
 - A. If an APU auto shutdown occurs during the operational test of the APU and the APU SHUTDOWNS report gives the maintenance message:

NO FLAME - FUEL CTL UNIT P19:

or

OVERTEMPERATURE - FUEL CTL UNIT P19:

or

NO ACCELERATION - FUEL CTL UNIT P19:

or

SROS

EFF: 201-225, 227-227, 229-231, 233-250, 252-299, 426-499, 503-549, 551-599, 701-749,

49-00-00

Page 216 1av N1/N8

TROUBLE SHOOTING MANUAL

UNDERSPEED - FUEL CTL UNIT P19:

- do a check and repair the wiring from the ECB (59KD) AB/F11, H10, H11, J3 to the FUEL CONTROL UNIT P19/1, 3, 4, 2 (Ref. ASM 49-61/02).
- (1) If the fault continues:
 - replace the FUEL CONTROL UNIT (8022KM) (Ref. AMM TASK 49-32-11-000-002) and (Ref. AMM TASK 49-32-11-400-002).
- (2) If the fault continues:
 - do a check and repair the wiring from the ECB (59KD) to the Speed Sensors (8060KM1 and 8060KM2) (Ref. ASM 49-61/02).
- (3) If the fault continues:
 - replace the Speed Sensor (8060KM1) (Ref. AMM TASK 49-71-13-000-002) and (Ref. AMM TASK 49-71-13-400-002).
- (4) If the fault continues:
 - install the removed Speed Sensor (8060KM1).
 - replace the Speed Sensor (8060KM2) (Ref. AMM TASK 49-71-13-000-002) and (Ref. AMM TASK 49-71-13-400-002).
- (5) If the fault continues:
 - install the removed Speed Sensor (8060KM2).
 - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-002) and (Ref. AMM TASK 49-61-34-400-002).

R **ON A/C 201-225, 227-227, 229-231, 233-244, 247-250, 252-299, 426-456, R 476-499, 503-549, 551-599, 701-749, R Post SB 49-1061 For A/C 201-225,227-227,229-231,233-244,247-250,252-253, R 276-299,426-450,476-499,503-549,551-599,701-749,

- A. Maintenance Action
 - (1) If the APU Last Leg Report gives the maintenance message:

FUEL CTL UNIT (8022KM): Fault Code Number: 067

NOTE: The APU SHUTDOWNS report gives the maintenance message:
UNDERSPEED - FUEL CTL UNIT (8022KM)
APU Auto Shut Down Fault Code Number: 067

Additionally:
Fault Code Number(s):
029 or 092 or 093
and/or
032 or 094 or 095

NOTE: FCN 027-032 and 092-095 on Class 3 Faults Page.

EFF: 201-225, 227-227, 229-231, 233-244, 247-250, 252-299, 426-499, 503-549, 551-599, 701-749, SROS

49-00-00 Page 217 Config-1 May 01/08

TROUBLE SHOOTING MANUAL

- replace the SPEED SENSORS (8060KM1) and/or (8060KM2) (Ref. AMM TASK 49-71-13-000-002) and (Ref. AMM TASK 49-71-13-400-002).
- (2) If the APU Last Leg Report gives the maintenance message:

FUEL CTL UNIT (8022KM): Fault Code Number: 067

NOTE: The APU SHUTDOWNS report gives the maintenance message:

UNDERSPEED - FUEL CTL UNIT (8022KM)

APU Auto Shut Down Fault Code Number: 067

- do a check for blockage of the air inlet.
- (a) If the fault continues:
 - do a check for contamination of the MAGNETIC DRAIN PLUG (Ref. AMM TASK 49-91-42-200-003).
- (b) If the fault continues:
 - do a check and repair the wiring from the ECB (59KD) AB/F11,
 H10, H11, J3 to the FUEL CONTROL UNIT (8022KM) P19/1, 3, 4, 2
 (Ref. ASM 49-61/02).
 - 1 If the fault continues:
 - replace the FUEL CONTROL UNIT (8022KM) (Ref. AMM TASK 49-32-11-000-002) and (Ref. AMM TASK 49-32-11-400-002).
 - . If the fault continues:
 - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-002) and (Ref. AMM TASK 49-61-34-400-002).
- R **ON A/C 201-225, 227-227, 229-231, 233-250, 252-299, 426-499, 503-549, R 551-599, 701-749,
 - B. Do the test given in para. 3.

EFF: 201-225, 227-227, 229-231, 233-250, 252-299, 426-499, 503-549, 551-599, 701-749,

49-00-00

Page 218

SROS

TROUBLE SHOOTING MANUAL

TASK 49-00-00-810-884

APU AUTO SHUT DOWN - NO FLAME, Ignition Unit Fault (APS 3200)

- 1. Possible Causes
 - IGNITION UNIT (8030KM)
 - wiring
 - ECB (59KD)
- 2. Job Set-up Information
 - A. Referenced Information

REFERENCE		DESIGNATION	
AMM	49-00-00-710-008	Operational Test of the APU (APS 3200)	
AMM	49-41-38-000-002	Removal of the Ignition Unit (8030KM) (APS 3200)	
AMM	49-41-38-400-002	Installation of the Ignition Unit (8030KM) (APS 3200)	
AMM	49-61-34-000-002	Removal of the Electronic Control Box (ECB) (59KD) (APS 3200)	
AMM	49-61-34-400-002	Installation of the Electronic Control Box (ECB) (59KD) (APS 3200)	
ASM	49-61/02		

- 3. Fault Confirmation
 - A. Do the operational test of the APU (4005KM) (Ref. AMM TASK 49-00-00-710-008).
- 4. Fault Isolation
- R **ON A/C 201-225, 227-227, 229-231, 233-250, 252-253, 276-299, 426-450, R 457-499, 503-549, 551-599, 701-749,
 - A. If an APU auto shutdown occurs during the APU start sequence and the APU SHUTDOWNS report gives the maintenance message:

NO FLAME - IGNITION UNIT P10:

- replace the IGNITION UNIT (8030KM) (Ref. AMM TASK 49-41-38-000-002) and (Ref. AMM TASK 49-41-38-400-002).
- (1) If the fault continues:
 - do a check and repair the wiring from the ECB (59KD) AB/F7, F6 to the IGNITION UNIT P10/1, 2 (Ref. ASM 49-61/02).
- (2) If the fault continues:
 - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-002) and (Ref. AMM TASK 49-61-34-400-002).

EFF: 201-225, 227-227, 229-231, 233-250, 252-299, 426-499, 503-549, 551-599, 701-749,

49-00-00

Config-1 May 01/08

SROS

TROUBLE SHOOTING MANUAL

R **ON A/C 201-225, 227-227, 229-231, 233-244, 247-250, 252-299, 426-456, R 476-499, 503-549, 551-599, 701-749, R Post SB 49-1061 For A/C 201-225,227-227,229-231,233-244,247-250,252-253, R 276-299,426-450,476-499,503-549,551-599,701-749,

A. If the APU Last Leg Report gives the maintenance message:

IGNITION UNIT (8030KM):
Fault Code Number: 042

Additionally:

Fault Code Number: 023 or 091

NOTE: The APU SHUTDOWNS report gives the maintenance message: NO FLAME - IGNITION UNIT (8030KM) APU Auto Shut Down Fault Code Number: 042

- replace the IGNITION UNIT (8030KM) (Ref. AMM TASK 49-41-38-000-002) and (Ref. AMM TASK 49-41-38-400-002).
- (1) If the fault continues:
 - do a check and repair the wiring from the ECB (59KD) AB/F7, F6 to the IGNITION UNIT (8030KM) P10/1, 2 (Ref. ASM 49-61/02).
 - (a) If the fault continues:
 - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-002) and (Ref. AMM TASK 49-61-34-400-002).

R **ON A/C 201-225, 227-227, 229-231, 233-250, 252-299, 426-499, 503-549, R 551-599, 701-749,

B. Do the test given in para. 3.

EFF: 201-225, 227-227, 229-231, 233-250, 252-299, 426-499, 503-549, 551-599, 701-749,

49-00-00

Page 220

TROUBLE SHOOTING MANUAL

TASK 49-00-00-810-885

APU AUTO SHUT DOWN - ECB FAILURE, ECB 59KD Fault (APS 3200)

- 1. Possible Causes
 - ECB (59KD)
- 2. Job Set-up Information
 - A. Referenced Information

REFERENCE		DESIGNATION
	· · · · · · · · · · · · · · · · · · ·	
AMM AMM	49-00-00-710-008 49-61-34-000-002	Operational Test of the APU (APS 3200) Removal of the Electronic Control Box (ECB) (59KD)
Αι	47 01 34 000 002	(APS 3200)
AMM	49-61-34-400-002	<pre>Installation of the Electronic Control Box (ECB) (59KD) (APS 3200)</pre>

3. Fault Confirmation

A. Do the operational test of the APU (4005KM) (Ref. AMM TASK 49-00-00-710-008).

4. Fault Isolation

**ON A/C 201-225, 234-250, 252-253, 276-278, 280-280, 282-299, 426-450, 479-499, 503-549, 551-599, 701-749,

A. If an APU auto shutdown occurs during the operational test of the APU and the APU SHUTDOWNS report gives the maintenance message:

ECB FAILURE - ECB 59KD:

- replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-002) and (Ref. AMM TASK 49-61-34-400-002).
- R **ON A/C 227-227, 229-231, 233-233, 279-279, 281-281, 457-478,
 - A. If an APU auto shutdown occurs during the operational test of the APU and the APU SHUTDOWNS report gives the maintenance message:

ECB FAILURE - ECB 59KD:

- replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-002) and (Ref. AMM TASK 49-61-34-400-002).

NOTE: For operators using the APIC laptop trouble shooting assistance:

EFF: 201-225, 227-227, 229-231, 233-250, 252-299, 426-499, 503-549, 551-599, 701-749,

49-00-00 Page 221 Config-1 May 01/08

TROUBLE SHOOTING MANUAL

 verify that fault 73 is triggered.
 Use the Real Time monitor function to power up the ECB and check the BCV current output. If the output current is ZERO, replace the BCV.

R **ON A/C 201-225, 227-227, 229-231, 233-244, 247-250, 252-299, 426-456, R 476-499, 503-549, 551-599, 701-749, R Post SB 49-1061 For A/C 201-225,227-227,229-231,233-244,247-250,252-253, R 276-299,426-450,476-499,503-549,551-599,701-749,

A. If the APU Last Leg Report gives the maintenance message:

ECB (59KD):

One out of Fault Code Number: 061, 074, 104, 105, 108-111, 132, 150-164, 167, 173

NOTE: The APU SHUTDOWNS report gives the maintenance message:

ECB FAILURE - ECB (59KD)

One out of APU Auto Shut Down Fault Code Number: 061, 074, 104, 105, 108-111, 132, 150-164,167, 173

 replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-002) and (Ref. AMM TASK 49-61-34-400-002).

R **ON A/C 201-225, 227-227, 229-231, 233-250, 252-299, 426-499, 503-549, R 551-599, 701-749,

B. Do the test given in para. 3.

EFF: 201-225, 227-227, 229-231, 233-250, 252-299, 426-499, 503-549, 551-599, 701-749,

49-00-00

Page 222

TROUBLE SHOOTING MANUAL

TASK 49-00-00-810-886

APU AUTO SHUT DOWN - LOSS OF SPEED, Speed Sensor Fault (APS 3200)

- 1. Possible Causes
 - SPEED SENSOR 1 (8060KM1)
 - SPEED SENSOR 2 (8060KM2)
 - wiring
 - ECB (59KD)
- 2. Job Set-up Information
 - A. Referenced Information

REFERENCE	DESIGNATION
49-70-00-810-811	Speed Sensor 1 Fault (APS 3200)
49-70-00-810-812	Speed Sensor 2 Fault (APS 3200)
AMM 49-00-00-710-008	Operational Test of the APU (APS 3200)
AMM 49-61-34-000-002	Removal of the Electronic Control Box (ECB) (59KD) (APS 3200)
AMM 49-61-34-400-002	<pre>Installation of the Electronic Control Box (ECB) (59KD) (APS 3200)</pre>
AMM 49-71-13-000-002	Removal of the Speed Sensor (APS 3200)
AMM 49-71-13-400-002	Installation of the Speed Sensor (APS 3200)
ASM 49-61/02	

- 3. Fault Confirmation
 - A. Do the operational test of the APU (4005KM) (Ref. AMM TASK 49-00-00-710-008).
- 4. Fault Isolation
- R **ON A/C 201-225, 227-227, 229-231, 233-250, 252-253, 276-299, 426-450, R 457-499, 503-549, 551-599, 701-749,
 - A. If an APU shutdown occurs during the operational test of the APU and the APU SHUTDOWNS report gives the maintenance message:

LOSS OF SPEED - SPEED SNSRS P26, P27:

- replace the SPEED SENSOR 1 (8060KM1) and the SPEED SENSOR 2 (8060KM2) (Ref. AMM TASK 49-71-13-000-002) and (Ref. AMM TASK 49-71-13-400-002).

EFF: 201-225, 227-227, 229-231, 233-250, 252-299, 426-499, 503-549, 551-599, 701-749,

49-00-00

Page 223

TROUBLE SHOOTING MANUAL

- (1) If the fault continues:
 - do a check and repair the wiring from the ECB (59KD) AB/A10, A11 to the SPEED SENSOR 1 P26/1, 2 (Ref. ASM 49-61/02).
 - do a check and repair the wiring from the ECB (59KD) AB/B5, B6 to the SPEED SENSOR 2 P27/1, 2 (Ref. ASM 49-61/02).
- (2) If the fault continues:
 - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-002) and (Ref. AMM TASK 49-61-34-400-002).
- B. Do the operational test of the APU (Ref. AMM TASK 49-00-00-710-008).
 - NOTE : After the subsequent flight, make sure that the fault does not continue.
 - (1) If the APU CLASS 3 FAULTS page gives the maintenance message SPEED SNSR P26 after the subsequent flight:
 - do the applicable trouble shooting procedure (Ref. TASK 49-70-00-810-811).
 - (2) If the APU CLASS 3 FAULTS page gives the maintenance message SPEED SNSR P27 after the subsequent flight:
 - do the applicable trouble shooting procedure (Ref. TASK 49-70-00-810-812).

R **ON A/C 201-225, 227-227, 229-231, 233-244, 247-250, 252-299, 426-456, R 476-499, 503-549, 551-599, 701-749, R Post SB 49-1061 For A/C 201-225,227-227,229-231,233-244,247-250,252-253, R 276-299,426-450,476-499,503-549,551-599,701-749,

A. If the APU Last Leg Report gives the maintenance message:

SPD SNSR1 (8060KM1) AND SPD SNSR2 (8060KM2)
Fault Code Number: 033
Additionally:
Fault Code Number(s):
027 or 028 or 029 or 092 or 093 or 100
and
030 or 031 or 032 or 094 or 095 or 101

NOTE: FCN 027-032 and 092-095 on Class 3 Faults Page

NOTE: The APU SHUTDOWNS report gives the maintenance message:

LOSS OF SPEED - SPD SNSR1 (8060KM1) AND SPD SNSR2 (8060KM2)

APU Auto Shut Down Fault Code Number: 033

- replace the SPEED SENSOR 1 (8060KM1) and the SPEED SENSOR 2 (8060KM2) (Ref. AMM TASK 49-71-13-000-002) and (Ref. AMM TASK 49-71-13-400-002).

EFF: 201-225, 227-227, 229-231, 233-250, 252-299, 426-499, 503-549, 551-599, 701-749,

49-00-00

Page 224

TROUBLE SHOOTING MANUAL

- (1) If the fault continues:
 - do a check and repair the wiring from the ECB (59KD) AB/A10, A11 to the SPEED SENSOR 1 (8060KM1) P26/1, 2 (Ref. ASM 49-61/02).
 - (a) If the fault continues:
 - do a check and repair the wiring from the ECB (59KD) AB/B5, B6 to the SPEED SENSOR 2 (8060KM2) P27/1, 2 (Ref. ASM 49-61/02).
 - 1 If the fault continues:
 - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-002) and (Ref. AMM TASK 49-61-34-400-002).
- B. Do the test given in para. 3.

TROUBLE SHOOTING MANUAL

R **ON A/C 201-225, 227-227, 229-231, 233-250, 252-299, 426-499, 503-549,

R 551-599, 701-749,

TASK 49-00-00-810-887

APU AUTO SHUT DOWN - LOSS OF SPEED, Speed Sensor 1 and ECB 59KD Fault (APS 3200)

- 1. Possible Causes
 - SPEED SENSOR 1 (8060KM1)
 - ECB (59KD)
- 2. Job Set-up Information
 - A. Referenced Information

REFERENCE	DESIGNATION
49-70-00-810-811	Speed Sensor 1 Fault (APS 3200)
AMM 49-00-00-710-005	Self-Test of the ECB (APS 3200)
AMM 49-00-00-710-008	Operational Test of the APU (APS 3200)
AMM 49-61-34-000-002	Removal of the Electronic Control Box (ECB) (59KD) (APS 3200)
AMM 49-61-34-400-002	<pre>Installation of the Electronic Control Box (ECB) (59KD) (APS 3200)</pre>
AMM 49-71-13-000-002	Removal of the Speed Sensor (APS 3200)
AMM 49-71-13-400-002	Installation of the Speed Sensor (APS 3200)
ASM 49-61/02	·

- 3. Fault Confirmation
 - A. Do the self test of the ECB (59KD) (Ref. AMM TASK 49-00-00-710-005).
- 4. Fault Isolation

SROS

- R **ON A/C 201-225, 227-227, 229-231, 233-250, 252-253, 276-299, 426-450, R 457-499, 503-549, 551-599, 701-749,
 - A. If an APU shutdown occurs during the operational test of the APU and the APU SHUTDOWNS report gives the maintenance message:

LOSS OF SPEED - SPEED SNSR P26 AND ECB 59KD:

- replace the SPEED SENSOR 1 (8060KM1) (Ref. AMM TASK 49-71-13-000-002) and (Ref. AMM TASK 49-71-13-400-002).
- replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-002) and (Ref. AMM TASK 49-61-34-400-002).

EFF: 201-225, 227-227, 229-231, 233-250, 252-299, 426-499, 503-549, 551-599, 701-749,

49-00-00

Page 226

TROUBLE SHOOTING MANUAL

B. Do the operational test of the APU (Ref. AMM TASK 49-00-00-710-008).

NOTE : After the subsequent flight, make sure that the fault does not continue.

- (1) If the APU CLASS 3 FAULTS page gives the maintenance message SPEED SNSR P26 after the subsequent flight:
 - do the applicable trouble shooting procedure (Ref. TASK 49-70-00-810-811)

R **ON A/C 201-225, 227-227, 229-231, 233-244, 247-250, 252-299, 426-456, R 476-499, 503-549, 551-599, 701-749, R Post SB 49-1061 For A/C 201-225,227-227,229-231,233-244,247-250,252-253, R 276-299,426-450,476-499,503-549,551-599,701-749,

A. If the APU Last Leg Report gives the maintenance message:

SPEED SNSR1 (8060KM1) AND ECB (59KD):
Fault Code Number: 145
Additionally:
Fault Code Number(s):
092 or 093 and
030 or 031 or 101

NOTE: FCN 030, 031, 092 and 093 on Class 3 Faults Page

NOTE: The APU SHUTDOWNS report gives the maintenance message:

LOSS OF SPEED - SPEED SNSR (8060KM1) AND ECB (59KD)

APU Auto Shut Down Fault Code Number: 145

NOTE: Message does not appear in case of self-test of the ECB

- replace the SPEED SENSOR 1 (8060KM1) (Ref. AMM TASK 49-71-13-000-002) and (Ref. AMM TASK 49-71-13-400-002).
- (1) If the fault continues:
 - do a check and repair the wiring between the Speed Sensor1 (8060KM1) and the ECB (59KD) (Ref. ASM 49-61/02).
 - (a) If the fault continues:
 - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-002) and (Ref. AMM TASK 49-61-34-400-002).
- B. Do the test given in para. 3.

EFF: 201-225, 227-227, 229-231, 233-250, 252-299, 426-499, 503-549, 551-599, 701-749,

49-00-00

Page 227

TROUBLE SHOOTING MANUAL

R **ON A/C 201-225, 227-227, 229-231, 233-250, 252-299, 426-499, 503-549, R 551-599, 701-749,

TASK 49-00-00-810-888

APU AUTO SHUT DOWN - LOSS OF SPEED, Speed Sensor 2 and ECB 59KD Fault (APS 3200)

- 1. Possible Causes
 - SPEED SENSOR 2 (8060KM2)
 - ECB (59KD)
- 2. Job Set-up Information
 - A. Referenced Information

REFE	RENCE	DESIGNATION
49-7	0-00-810-812	Speed Sensor 2 Fault (APS 3200)
AMM	49-00-00-710-005	Self-Test of the ECB (APS 3200)
AMM	49-00-00-710-008	Operational Test of the APU (APS 3200)
AMM	49-61-34-000-002	Removal of the Electronic Control Box (ECB) (59KD) (APS 3200)
AMM	49-61-34-400-002	Installation of the Electronic Control Box (ECB) (59KD) (APS 3200)
AMM	49-71-13-000-002	Removal of the Speed Sensor (APS 3200)
AMM	49-71-13-400-002	Installation of the Speed Sensor (APS 3200)
ASM	49-61/02	,

- 3. Fault Confirmation
 - A. Do the self test of the ECB (59KD) (Ref. AMM TASK 49-00-00-710-005).
- 4. Fault Isolation
- R **ON A/C 201-225, 227-227, 229-231, 233-250, 252-253, 276-299, 426-450, R 457-499, 503-549, 551-599, 701-749,
 - A. If an APU shutdown occurs during the operational test of the APU and the APU SHUTDOWNS report gives the maintenance message:

LOSS OF SPEED - SPEED SNSR P27 AND ECB 59KD:

- replace the SPEED SENSOR 2 (8060KM2) (Ref. AMM TASK 49-71-13-000-002) and (Ref. AMM TASK 49-71-13-400-002).
- replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-002) and (Ref. AMM TASK 49-61-34-400-002).

EFF: 201-225, 227-227, 229-231, 233-250, 252-299, 426-499, 503-549, 551-599, 701-749,

49-00-00

Page 228

TROUBLE SHOOTING MANUAL

B. Do the operational test of the APU (Ref. AMM TASK 49-00-00-710-008).

NOTE: After the subsequent flight, make sure that the fault does not continue.

- (1) If the APU CLASS 3 FAULTS page gives the maintenance message SPEED SNSR P27 after the subsequent flight:
 - do the applicable trouble shooting procedure (Ref. TASK 49-70-00-810-812).

R **ON A/C 201-225, 227-227, 229-231, 233-244, 247-250, 252-299, 426-456, R 476-499, 503-549, 551-599, 701-749, R Post SB 49-1061 For A/C 201-225,227-227,229-231,233-244,247-250,252-253, R 276-299,426-450,476-499,503-549,551-599,701-749,

A. If the APU Last Leg Report gives the maintenance message:

SPD SNSR2 (8060KM2) AND ECB (59KD):
Fault Code Number: 146
Additionally:
Fault Code Number(s):
094 or 095 and
027 or 028 or 100

NOTE: FCN 027, 028, 094 and 095 on Class 3 Faults Page

NOTE: The APU SHUTDOWNS report gives the maintenance message:

LOSS OF SPEED - SPD SNSR2 (8060KM2) AND ECB (59KD)

APU Auto Shut Down Fault Code Number: 146

NOTE: Message does not appear in case of self-test of the ECB

- replace the SPEED SENSOR 2 (8060KM2) (Ref. AMM TASK 49-71-13-000-002) and (Ref. AMM TASK 49-71-13-400-002).
- (1) If the fault continues:
 - do a check and repair the wiring between the Speed Sensor2 (8060KM2) and the ECB (59KD) (Ref. ASM 49-61/02).
 - (a) If the fault continues:
 - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-002) and (Ref. AMM TASK 49-61-34-400-002).
- B. Do the test given in para. 3.

EFF: 201-225, 227-227, 229-231, 233-250, 252-299, 426-499, 503-549, 551-599, 701-749,

49-00-00 Page 229 Config-1 May 01/08

TROUBLE SHOOTING MANUAL

R **ON A/C 201-225, 227-227, 229-231, 233-250, 252-299, 426-499, 503-549, R 551-599, 701-749,

TASK 49-00-00-810-889

APU AUTO SHUT DOWN - SENSOR FAILURE, EGT Thermocouples Fault (APS 3200)

- 1. Possible Causes
 - EGT THERMOCOUPLE 1 (8057KM1)
 - EGT THERMOCOUPLE 2 (8057KM2)
 - wiring
 - ECB (59KD)
- 2. Job Set-up Information
 - A. Referenced Information

REFERENCE	DESIGNATION	
49-70-00-810-813	EGT-Thermocouple 1 Defective (APS 3200)	
49-70-00-810-814	EGT-Thermocouple 2 Defective (APS 3200)	
AMM 49-00-00-710-005	Self-Test of the ECB (APS 3200)	
AMM 49-00-00-710-008	Operational Test of the APU (APS 3200)	
AMM 49-61-34-000-002	Removal of the Electronic Control Box (ECB) (59KD) (APS 3200)	
AMM 49-61-34-400-002	Installation of the Electronic Control Box (ECB) (59KD) (APS 3200)	
AMM 49-72-15-000-001	Removal of the Thermocouple (8057KM1) and (8057KM2) (APS 3200)	
AMM 49-72-15-400-002	Installation of the Thermocouple (8057KM1) and (8057KM2) (APS 3200)	
ASM 49-61/02		

- 3. Fault Confirmation
 - A. Do the self-test of the ECB (Ref. AMM TASK 49-00-00-710-005).
- 4. Fault Isolation

SROS

- R **ON A/C 201-225, 227-227, 229-231, 233-250, 252-253, 276-299, 426-450, R 457-499, 503-549, 551-599, 701-749,
 - A. If an APU auto shutdown occurs during the operational test of the APU and the APU SHUTDOWNS report gives the maintenance message:

SENSOR FAILURE - EGT TC1 P30 AND EGT TC2 P31:

EFF: 201-225, 227-227, 229-231, 233-250, 252-299, 426-499, 503-549, 551-599, 701-749,

49-00-00

Page 230

TROUBLE SHOOTING MANUAL

- replace the EGT THERMOCOUPLE 1 (8057KM1) and the EGT THERMOCOUPLE 2 (8057KM2) (Ref. AMM TASK 49-72-15-000-001) and (Ref. AMM TASK 49-72-15-400-002).
- (1) If the fault continues:
 - do a check and repair the wiring from the ECB (59KD) AB/A7, A6 to the EGT THERMOCOUPLE 1 P30/1, 2 (Ref. ASM 49-61/02).
 - do a check and repair the wiring from the ECB (59KD) AB/A9, A8 to the EGT THERMOCOUPLE 2 P31/1, 2 (Ref. ASM 49-61/02).
- (2) If the fault continues:
 - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-002) and (Ref. AMM TASK 49-61-34-400-002).
- B. Do the operational test of the APU (Ref. AMM TASK 49-00-00-710-008).
 - NOTE: After the subsequent flight, make sure that the fault does not continue.
 - (1) If the APU CLASS 3 FAULTS page gives the maintenance message EGT TC1 P30 after the subsequent flight:
 - do the applicable troubleshooting procedure (Ref. TASK 49-70-00-810-813).
 - (2) If the APU CLASS 3 FAULTS page gives the maintenance message EGT TC2 P31 after the subsequent flight:
 - do the applicable troubleshooting procedure (Ref. TASK 49-70-00-810-814).

R **ON A/C 201-225, 227-227, 229-231, 233-244, 247-250, 252-299, 426-456, R 476-499, 503-549, 551-599, 701-749, R Post SB 49-1061 For A/C 201-225,227-227,229-231,233-244,247-250,252-253, 276-299,426-450,476-499,503-549,551-599,701-749,

A. If the APU Last Leg Report gives the maintenance message:

EGT TC1 (8057KM1) AND EGT TC2 (8057KM2):

Fault Code Number: 102

Additionally:

Fault Code Number: 035 or 036 and 037 or 038

NOTE: FCN 035-038 on Class 3 Faults Page

NOTE: The APU SHUTDOWNS report gives the maintenance message: SENSOR FAILURE - EGT TC1 (8057KM1) AND EGT TC2 (8057KM2) APU Auto Shut Down Fault Code Number: 102

NOTE: Message does not appear in case of self-test of the ECB

- replace the EGT THERMOCOUPLE 1 (8057KM1) and the EGT THERMOCOUPLE 2 (8057KM2) (Ref. AMM TASK 49-72-15-000-001) and (Ref. AMM TASK 49-72-15-400-002).

201-225, 227-227, 229-231, 233-250, 252-299, 426-499, 503-549, 551-599, 701-749,

49-00-0

Page 231

TROUBLE SHOOTING MANUAL

- (1) If the fault continues:
 - do a check and repair the wiring from the ECB (59KD) AB/A7, A6 to the EGT THERMOCOUPLE 1 (8057KM1) P30/1, 2 (Ref. ASM 49-61/02).
 - do a check and repair the wiring from the ECB (59KD) AB/A9, A8 to the EGT THERMOCOUPLE 2 (8057KM2) P31/1, 2 (Ref. ASM 49-61/02).
 - (a) If the fault continues:
 - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-002) and (Ref. AMM TASK 49-61-34-400-002).
- B. Do the test given in para. 3.

TROUBLE SHOOTING MANUAL

R **ON A/C 201-225, 227-227, 229-231, 233-250, 252-299, 426-499, 503-549, R 551-599, 701-749,

TASK 49-00-00-810-890

APU AUTO SHUT DOWN - SENSOR FAILURE, EGT Thermocouple 1 and ECB 59KD Fault (APS 3200)

- 1. Possible Causes
 - EGT THERMOCOUPLE 1 (8057KM1)
 - ECB (59KD)
- 2. Job Set-up Information
 - A. Referenced Information

REFERENCE	DESIGNATION
49-70-00-810-813	EGT-Thermocouple 1 Defective (APS 3200)
AMM 49-00-00-710-008	Operational Test of the APU (APS 3200)
AMM 49-61-34-000-002	Removal of the Electronic Control Box (ECB) (59KD) (APS 3200)
AMM 49-61-34-400-002	<pre>Installation of the Electronic Control Box (ECB) (59KD) (APS 3200)</pre>
AMM 49-72-15-000-001	Removal of the Thermocouple (8057KM1) and (8057KM2) (APS 3200)
AMM 49-72-15-400-002	<pre>Installation of the Thermocouple (8057KM1) and (8057KM2) (APS 3200)</pre>

- 3. Fault Confirmation
 - A. Do the operational test of the APU (Ref. AMM TASK 49-00-00-710-008).
- 4. Fault Isolation
 - A. If an APU auto shutdown occurs during the operational test of the APU and the test gives the maintenance message:

EGT TC1 P30 AND ECB (59KD):

- replace the EGT THERMOCOUPLE 1 (8057KM1) (Ref. AMM TASK 49-72-15-000-001) and (Ref. AMM TASK 49-72-15-400-002).
- replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-002) and (Ref. AMM TASK 49-61-34-400-002).

EFF: 201-225, 227-227, 229-231, 233-250, 252-299, 426-499, 503-549, 551-599, 701-749,

49-00-00

Page 233

SROS

TROUBLE SHOOTING MANUAL

- B. Do the operational test of the APU (Ref. AMM TASK 49-00-00-710-008).
 - NOTE : After the subsequent flight, make sure that the fault does not continue.
 - (1) If the APU CLASS 3 FAULTS page gives the maintenance message EGT TC1 P30 after the subsequent flight:
 - do the applicable trouble shooting procedure (Ref. TASK 49-70-00-810-813).

EFF: 201-225, 227-227, 229-231, 233-250, 252-299, 426-499, 503-549, 551-599, 701-749,

49-00-00Page 234
Config-1 May 01/08

TROUBLE SHOOTING MANUAL

TASK 49-00-00-810-891

APU AUTO SHUT DOWN - SENSOR FAILURE, EGT Thermocouple 2 and ECB 59KD Fault (APS 3200)

1. Possible Causes

- EGT THERMOCOUPLE 2 (8057KM2)
- ECB (59KD)

2. Job Set-up Information

A. Referenced Information

REFERENCE	DESIGNATION
49-70-00-810-814	EGT-Thermocouple 2 Defective (APS 3200)
AMM 49-00-00-710-008	Operational Test of the APU (APS 3200)
AMM 49-61-34-000-002	Removal of the Electronic Control Box (ECB) (59KD) (APS 3200)
AMM 49-61-34-400-002	<pre>Installation of the Electronic Control Box (ECB) (59KD) (APS 3200)</pre>
AMM 49-72-15-000-001	Removal of the Thermocouple (8057KM1) and (8057KM2) (APS 3200)
AMM 49-72-15-400-002	<pre>Installation of the Thermocouple (8057KM1) and (8057KM2) (APS 3200)</pre>

3. Fault Confirmation

A. Do the operational test of the APU (Ref. AMM TASK 49-00-00-710-008).

4. Fault Isolation

A. If an APU auto shutdown occurs during the operational test of the APU and the test gives the maintenance message:

EGT TC2 P31 AND ECB (59KD):

- replace the EGT THERMOCOUPLE 2 (8057KM2) (Ref. AMM TASK 49-72-15-000-001) and (Ref. AMM TASK 49-72-15-400-002).
- replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-002) and (Ref. AMM TASK 49-61-34-400-002).

EFF: 201-225, 227-227, 229-231, 233-250, 252-299, 426-499, 503-549, 551-599, 701-749,

49-00-00

Page 235 Config-1 May 01/08

TROUBLE SHOOTING MANUAL

- B. Do the operational test of the APU (Ref. AMM TASK 49-00-00-710-008).
 - NOTE : After the subsequent flight, make sure that the fault does not continue.
 - (1) If the APU CLASS 3 FAULTS page gives the maintenance message EGT TC2 P31 after the subsequent flight.
 - do the applicable trouble shooting procedure (Ref. TASK 49-70-00-810-814)

EFF: 201-225, 227-227, 229-231, 233-250, 252-299, 426-499, 503-549, 551-599, 701-749,

49-00-00Page 236
Config-1 May 01/08

@A319/A320/A321

TROUBLE SHOOTING MANUAL

TASK 49-00-00-810-892

APU AUTO SHUT DOWN - SENSOR FAILURE, Oil Sump and Generator-Oil Temperature Sensor Fault (APS 3200)

- 1. Possible Causes
 - GEN-APU (8XS)
 - OIL TEMPERATURE SENSOR (8084KM)
 - wiring
 - ECB (59KD)
- 2. Job Set-up Information
 - A. Referenced Information

REFERENCE	DESIGNATION
24-23-00-810-803	Failure of the APU GEN found by the ECB
49-90-00-810-805	Oil-Sump Temperature-Sensor Fault (APS 3200)
AMM 24-23-51-000-001	Removal of the APU Generator 8XS
AMM 24-23-51-400-001	Installation of the APU Generator 8XS
AMM 49-00-00-710-005	Self-Test of the ECB (APS 3200)
AMM 49-61-34-000-002	Removal of the Electronic Control Box (ECB) (59KD) (APS 3200)
AMM 49-61-34-400-002	Installation of the Electronic Control Box (ECB) (59KD) (APS 3200)
AMM 49-91-51-000-002	Removal of the Oil-Sump Temperature Sensor (8084KM) (APS 3200)
AMM 49-91-51-400-002	<pre>Installation of the Oil-Sump Temperature Sensor (8084KM) (APS 3200)</pre>
ASM 49-61/02	

- 3. Fault Confirmation
 - A. Do the self-test of the ECB (Ref. AMM TASK 49-00-00-710-005).
- 4. Fault Isolation
- R **ON A/C 201-225, 227-227, 229-231, 233-250, 252-253, 276-299, 426-450, R 457-499, 503-549, 551-599, 701-749,
 - A. If the test gives the maintenance message:
 - OIL TEMP SNSR P25 AND GENERATOR 8XS:

NOTE: The APU SHUTDOWNS report gives the maintenance message: SENSOR FAILURE - OIL TEMP SNSR P25 AND GENERATOR 8XS:

R EFF: 201-225, 227-227, 229-231, 233-250, 252-299, 426-499, 503-549, 551-599, 701-749,

49-00-00

Page 237

TROUBLE SHOOTING MANUAL

- replace the OIL TEMPERATURE SENSOR (8084KM) (Ref. AMM TASK 49-91-51-000-002) and (Ref. AMM TASK 49-91-51-400-002).
- replace the GEN-APU (8XS) (Ref. AMM TASK 24-23-51-000-001) and (Ref. AMM TASK 24-23-51-400-001).
- (1) If the fault continues:
 - do check and repair the wiring from the ECB (59KD) AB/C2, D2 to the OIL TEMPERATURE SENSOR P25/1, 2 (Ref. ASM 49-61/02).
 - do check and repair the wiring from the ECB (59KD) AB/C3, C4 to the APU GENERATOR (8XS) P4/3, 4 (Ref. ASM 49-61/02).
- (2) If the fault continues:
 - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-002) and (Ref. AMM TASK 49-61-34-400-002).
- B. Do the self test of the ECB (Ref. AMM TASK 49-00-00-710-005).

NOTE : After the subsequent flight, make sure that the fault does not continue.

- (1) If the APU CLASS 3 FAULTS page gives the maintenance message OIL TEMP SNSR P25 after the subsequent flight:
 - do the applicable trouble shooting procedure (Ref. TASK 49-90-00-810-805).
- (2) If the APU CLASS 3 FAULTS page gives the maintenance message GENERATOR 8XS after the subsequent flight do the trouble shooting of the APU generator (Ref. TASK 24-23-00-810-803).

R **ON A/C 201-225, 227-227, 229-231, 233-244, 247-250, 252-299, 426-456, R 476-499, 503-549, 551-599, 701-749, R Post SB 49-1061 For A/C 201-225,227-227,229-231,233-244,247-250,252-253, R 276-299,426-450,476-499,503-549,551-599,701-749,

A. If the APU Last Leg Report gives the maintenance message:

OIL TEMP SNSR (8084KM) AND GENERATOR (8XS)

Fault Code Number: 122

Additionally:

Fault Code Number: 010 or 011 and 012 or 013

NOTE: FCN 010-013 on Class 3 Faults Page

NOTE: The APU SHUTDOWNS report gives the maintenance message:

SENSOR FAILURE - OIL TEMP SNSR 8084KM AND GENERATOR 8XS

APU Auto Shut Down Fault Code Number: 122

NOTE: Message does not appear in case of self-test of the ECB

- do check and repair the wiring from the ECB (59KD) AB/C2, D2 to the OIL TEMPERATURE SENSOR (8084KM) P25/1, 2 (Ref. ASM 49-61/02).

EFF: 201-225, 227-227, 229-231, 233-250, 252-299, 426-499, 503-549, 551-599, 701-749,

49-00-00

Page 238

TROUBLE SHOOTING MANUAL

The value must be: 106 0hms at 15 degree C. (+/- 0.385 0hms per degree C.).

- do check and repair the wiring from the ECB (59KD) AB/C3, C4 to the APU GENERATOR (8XS) P4/3, 4 (Ref. ASM 49-61/02).
 The value must be: 96 Ohms at 15 degree C. (+/- 0.385 Ohms per degree C.)
- (1) If the fault continues:
 - replace the OIL TEMPERATURE SENSOR (8084KM) (Ref. AMM TASK 49-91-51-000-002) and (Ref. AMM TASK 49-91-51-400-002).
 - (a) If the fault continues:
 - replace the GEN-APU (8XS) (Ref. AMM TASK 24-23-51-000-001) and (Ref. AMM TASK 24-23-51-400-001).
 - 1 If the fault continues:
 - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-002) and (Ref. AMM TASK 49-61-34-400-002).
- B. Do the test given in para. 3.

TROUBLE SHOOTING MANUAL

R **ON A/C 201-225, 227-227, 229-231, 233-250, 252-299, 426-499, 503-549, R 551-599, 701-749,

TASK 49-00-00-810-893

APU AUTO SHUT DOWN - OVERSPEED, Fuel Control Unit or ECB Fault (APS 3200)

1. Possible Causes

- FUEL CONTROL UNIT (8022KM)
- ECB (59KD)
- wiring
- SPEED SENSOR (8060KM1) HARNESS
- SPEED SENSOR (8060KM1)
- SPEED SENSOR (8060KM2) HARNESS
- SPEED SENSOR (8060KM2)

2. Job Set-up Information

A. Referenced Information

REFE	RENCE	DESIGNATION
АММ	49-00-00-710-008	Operational Test of the APU (APS 3200)
AMM	49-32-11-000-002	Removal of the Fuel Control Unit (8022KM) (APS 3200)
AMM	49-32-11-400-002	Installation of the Fuel Control Unit (8022KM) (APS 3200)
AMM	49-61-34-000-002	Removal of the Electronic Control Box (ECB) (59KD) (APS 3200)
AMM	49-61-34-400-002	Installation of the Electronic Control Box (ECB) (59KD) (APS 3200)
AMM	49-71-13-000-002	Removal of the Speed Sensor (APS 3200)
AMM	49-71-13-400-002	Installation of the Speed Sensor (APS 3200)
ASM	49-61/02	·

3. Fault Confirmation

A. Do the operational test of the APU (Ref. AMM TASK 49-00-00-710-008).

4. Fault Isolation

SROS

- R **ON A/C 201-225, 227-227, 229-231, 233-250, 252-253, 276-299, 426-450, R 457-499, 503-549, 551-599, 701-749,
 - A. If an APU auto shutdown occurs during the operational test of the APU and the APU SHUTDOWNS report gives the maintenance message:

OVERSPEED - FUEL CTL UNIT P19 OR ECB 59KD:

EFF: 201-225, 227-227, 229-231, 233-250, 252-299, 426-499, 503-549, 551-599, 701-749,

49-00-00 Page 240 Config-1 May 01/08

TROUBLE SHOOTING MANUAL

- replace the FUEL CONTROL UNIT (8022KM) (Ref. AMM TASK 49-32-11-000-002) and (Ref. AMM TASK 49-32-11-400-002).
- (1) If the fault continues:
 - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-002) and (Ref. AMM TASK 49-61-34-400-002).
- (2) If the fault continues:
 - do a check and repair the wiring from the ECB (59KD) AB/H10, H11 to the FUEL CONTROL UNIT P19/3, 4 (Ref. ASM 49-61/02).
- (3) If the fault continues:
 - do a check of the SPEED SENSOR (8060KM1) HARNESS from ECB (59KD) AB/A10, A11 to SPEED SENSOR P26/1, 2 (Ref. ASM 49-61/02).
 - (a) If the fault continues:
 - replace the SPEED SENSOR (8060KM1) (Ref. AMM TASK 49-71-13-000-002) and (Ref. AMM TASK 49-71-13-400-002).
- (4) If the fault continues:
 - do a check of the SPEED SENSOR (8060KM2) HARNESS from ECB (59KD)
 AB/B5, B6 to SPEED SENSOR P27/1, 2 (Ref. ASM 49-61/02).
 - (a) If the fault continues:
 - replace the SPEED SENSOR (8060KM2) (Ref. AMM TASK 49-71-13-000-002) and (Ref. AMM TASK 49-71-13-400-002).

R **ON A/C 201-225, 227-227, 229-231, 233-244, 247-250, 252-299, 426-456, R 476-499, 503-549, 551-599, 701-749, R Post SB 49-1061 For A/C 201-225,227-227,229-231,233-244,247-250,252-253, R 276-299,426-450,476-499,503-549,551-599,701-749,

A. If the APU Last Leg Report gives the maintenance message:

FUEL CTL UNIT (8022KM) Fault Code Number: 068

NOTE : The APU SHUTDOWNS report gives the maintenance message:

OVERSPEED - FUEL CTL UNIT (8022KM)

APU Auto Shut Down Fault Code Number: 068

- replace the FUEL CONTROL UNIT (8022KM) (Ref. AMM TASK 49-32-11-000-002) and (Ref. AMM TASK 49-32-11-400-002).
- (1) If the fault continues:
 - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-002) and (Ref. AMM TASK 49-61-34-400-002).
- R **ON A/C 201-225, 227-227, 229-231, 233-250, 252-299, 426-499, 503-549, R 551-599, 701-749,
 - B. Do the test given in para. 3.

EFF: 201-225, 227-227, 229-231, 233-250, 252-299, 426-499, 503-549, 551-599, 701-749, SROS

49-00-00 Page 241 Config-1 May 01/08

TROUBLE SHOOTING MANUAL

TASK 49-00-00-810-894

APU AUTO SHUT DOWN - OVERTEMPERATURE, Fuel Control Unit Fault (APS 3200)

1. Possible Causes

- damage and/or unwanted material in the air intake system and/or on the engine air-intake screen
- damage and/or unwanted material in the exhaust system and/or on the 2nd stage turbine trailing edges
- the inlet guide-vane mechanism is blocked
- AUXILIARY POWER UNIT (4005KM)
- INLET GUIDE-VANE ACTUATOR (8014KM)
- FLOW DIVIDER (8024KM)
- STARTER MOTOR (8KA)
- STARTER MOTOR CLUTCH (8033KM)
- FUEL CONTROL UNIT (8022KM)
- ECB (59KD)

2. Job Set-up Information

A. Referenced Information

REFE	RENCE	DESIGNATION
	0-81-810-900	APU SLOW START, Start System (APS 3200)
DO	49730000	
AMM	49-00-00-710-008	Operational Test of the APU (APS 3200)
AMM	49-11-11-000-003	Removal of the Power Plant (APU) (APS 3200)
AMM	49-11-11-400-003	Installation of the Power Plant (APU) (APS 3200)
AMM	49-16-00-210-002	Detailed Inspection of APU Air Intake, Diffuser
		Elbow, Seals and Felt Metal (APS 3200)
AMM	49-20-00-290-001	APU Power Plant Borescope Inspection (APS 3200)
AMM	49-23-51-400-003	Installation of the Inlet Guide Vane Actuator
		(8014KM) (APS 3200)
AMM	49-32-11-000-002	Removal of the Fuel Control Unit (8022KM) (APS 3200)
AMM	49-32-11-400-002	Installation of the Fuel Control Unit (8022KM) (APS
		3200)
AMM	49-32-12-000-002	Removal of the Flow Divider (8024KM) (APS 3200)
AMM	49-32-12-400-002	Installation of the Flow Divider (8024KM) (APS 3200)
AMM	49-42-51-000-007	Removal of the Starter Motor (8KA) (APS 3200)
AMM	49-42-51-400-007	Installation of the Starter Motor (8KA) (APS 3200)
AMM	49-42-52-000-002	Removal of the Starter Motor Clutch (8033KM) (APS
		3200)
AMM	49-42-52-400-002	Installation of the Starter Motor Clutch (8033KM)
		(APS 3200)
AMM	49-61-34-000-002	Removal of the Electronic Control Box (ECB) (59KD)
		(APS 3200)
AMM	49-61-34-400-002	Installation of the Electronic Control Box (ECB)
-		(59KD) (APS 3200)

EFF: 201-225, 227-227, 229-231, 233-250, 252-299, 426-499, 503-549, 551-599, 701-749,

49-00-00 Page 242 Config-1 May 01/08

TROUBLE SHOOTING MANUAL

3. Fault Confirmation

A. Check/Test

- (1) Before you start the APU for the operational test:
 - do a visual inspection and make sure that you do not find damage and/or unwanted material in the air intake system and/or on the engine air-intake screen (Ref. AMM TASK 49-16-00-210-002).
 - do a visual inspection and make sure that you do not find damage and/or unwanted material in the exhaust system and/or on the 2nd stage turbine trailing edges (Ref. AMM TASK 49-20-00-290-001).
 - turn manually the drive shaft of the cooling fan assembly and make sure that:
 - . you can turn the manual drive shaft of the cooling fan freely,
 - . the APU rotors, bearings and gears do not rub,
 - . the APU rotors, bearings and gears do not make unsual noise.
 - (a) If you find that the drag of the APU rotors, bearings and gears is too much, they do rub or they make unsual noise, replace the AUXILIARY POWER UNIT (4005KM) (Ref. AMM TASK 49-11-11-000-003) and (Ref. AMM TASK 49-11-11-400-003).
- (2) Do the operational test of the APU (Ref. AMM TASK 49-00-00-710-008).

4. Fault Isolation

- R **ON A/C 201-225, 227-227, 229-231, 233-250, 252-253, 276-299, 426-450, R 457-499, 503-549, 551-599, 701-749,
 - A. If an APU auto shutdown occurs during the operational test of the APU and the APU SHUTDOWNS report gives the maintenance message:

OVERTEMPERATURE - IGV ACTR P21 OR FUEL CTL UNIT P19:

- remove the quick disconnect pin from the IGV-actuator support.
- do a check and make sure that you can move the inlet guide-vanes freely with your hand.
- (1) If the inlet guide-vane mechanism is blocked:
 - replace the AUXILIARY POWER UNIT (4005KM) (Ref. AMM TASK 49-11-11-000-003) and (Ref. AMM TASK 49-11-11-400-003).
- (2) If you can move the inlet guide vanes freely with your hand:
 - install a new INLET GUIDE-VANE ACTUATOR (8014KM) (Ref. AMM TASK 49-23-51-400-003)
 - (a) If the fault continues:
 - replace the FLOW DIVIDER (8024KM) (Ref. AMM TASK 49-32-12-000-002) and (Ref. AMM TASK 49-32-12-400-002).

EFF: 201-225, 227-227, 229-231, 233-250, 252-299, 426-499, 503-549, 551-599, 701-749,

49-00-00

Page 243 Config-1 May 01/08

TROUBLE SHOOTING MANUAL

- (b) If the fault continues:
 - remove the STARTER MOTOR (8KA) (Ref. AMM TASK 49-42-51-000-007).
 - do a check and make sure that the STARTER MOTOR CLUTCH (4005KM7) operates correctly.
 - replace the STARTER MOTOR CLUTCH (8033KM) (Ref. AMM TASK 49-42-52-000-002) and (Ref. AMM TASK 49-42-52-400-002) if it does not operate correctly.
 - install a serviceable STARTER MOTOR (8KA) (Ref. AMM TASK 49-42-51-400-007).
- (c) If the fault continues:
 - replace the FUEL CONTROL UNIT (8022KM) (Ref. AMM TASK 49-32-11-000-002) and (Ref. AMM TASK 49-32-11-400-002).
- (d) If the fault continues:
 - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-002) and (Ref. AMM TASK 49-61-34-400-002).
- (e) If the fault continues:
 - replace the AUXILIARY POWER UNIT (4005KM) (Ref. AMM TASK 49-11-11-000-003) and (Ref. AMM TASK 49-11-11-400-003).

R **ON A/C 201-225, 227-227, 229-231, 233-244, 247-250, 252-299, 426-456, R 476-499, 503-549, 551-599, 701-749, R Post SB 49-1061 For A/C 201-225,227-227,229-231,233-244,247-250,252-253, 276-299,426-450,476-499,503-549,551-599,701-749, R

A. If the APU Last Leg Report gives the maintenance message:

FUEL CTL UNIT (8022KM):

Fault Code Number: 098 or 175

NOTE: The APU SHUTDOWNS report gives the maintenance message: OVERTEMPERATURE - FUEL CTL UNIT (8022KM) APU Auto Shut Down Fault Code Number: 098 or 175

- replace the FUEL CONTROL UNIT (8022KM) (Ref. AMM TASK 49-32-11-000-002) and (Ref. AMM TASK 49-32-11-400-002).
- (1) If the fault continues:

Interrogate CFDS for APU fault message. Use prompts (>) to go to the fault conditions screen (Ref. DO 49730000).

Print Fault Condition Screen and review APU speed (NA).

- (a) If speed (NA) is less than 15%: - Do the TSM procedure (Ref. TASK 49-00-81-810-900).
- (b) If speed (NA) is more than or equal to 15%: - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-002) and (Ref. AMM TASK 49-61-34-400-002).

201-225, 227-227, 229-231, 233-250, 252-299, 426-499, 503-549, 551-599, 701-749,

49-00-0 Config-1 May 01/08

TROUBLE SHOOTING MANUAL

- (2) If the fault continues:
 - replace the AUXILIARY POWER UNIT (4005KM) (Ref. AMM TASK 49-11-11-000-003) and (Ref. AMM TASK 49-11-11-400-003).
- R **ON A/C 201-225, 227-227, 229-231, 233-250, 252-299, 426-499, 503-549, R 551-599, 701-749,
 - B. Do the test given in para. 3.

201-225, 227-227, 229-231, 233-250, 252-299, 426-499, 503-549, 551-599, 701-749,

49-00-0

Page 245

TROUBLE SHOOTING MANUAL

TASK 49-00-00-810-895

APU AUTO SHUT DOWN - LOW OIL-PRESSURE (APS 3200)

1. Possible Causes

- oil level in the APU oil reservoir is not sufficient
- leaks on the oil system components or oil lines
- magnetic drain plug
- LUBE-PUMP OIL FILTER (8076KM)
- Generator Scavenge Filter (8069KM)
- OIL PRESSURE SWITCH (8091KM)
- DE-OILING SOLENOID VALVE (8083KM)
- OIL PRESSURE-RELIEF VALVE (8078KM)
- APU GENERATOR (8XS)
- ECB (59KD)
- AUXILIARY POWER UNIT (4005KM)
- wiring
- OIL PRESSURE-RELIEF VALVE

2. Job Set-up Information

A. Referenced Information

	RENCE	DESIGNATION
AMM	24-23-51-000-001	Removal of the APU Generator 8XS
AMM	24-23-51-400-001	Installation of the APU Generator 8XS
AMM	31-32-00-860-001	Procedure to Get Access to the SYSTEM REPORT/TEST Menu Page
AMM	49-00-00-710-008	Operational Test of the APU (APS 3200)
AMM	49-11-11-000-003	Removal of the Power Plant (APU) (APS 3200)
AMM	49-11-11-400-003	Installation of the Power Plant (APU) (APS 3200)
AMM	49-61-34-000-002	Removal of the Electronic Control Box (ECB) (59KD) (APS 3200)
AMM	49-61-34-400-002	Installation of the Electronic Control Box (ECB) (59KD) (APS 3200)
AMM	49-90-00-600-004	Check Oil Level and Replenish (APS 3200)
AMM	49-91-00-210-002	Visual Inspection of the Lube Pump Filter (8076KM) and Generator-Scavenge Filter (8069KM) Differential-Pressure Indicator Position (APS 3200)
AMM	49-91-42-200-003	Inspection of the Magnetic Drain Plug (APS 3200)
AMM	49-91-43-000-002	Removal of the Pressure Relief Valve (APS 3200)
AMM	49-91-43-400-002	Installation of the Pressure Relief Valve (APS 3200)
AMM	49-91-49-000-002	Removal of the De-oiling Solenoid Valve (8083KM) (APS 3200)
AMM	49-91-49-400-002	Installation of the De-oiling Solenoid Valve (8083KM) (APS 3200)
AMM	49-94-14-000-002	Removal of the Oil Pressure Switch (8091KM) (APS 3200)

EFF: 201-225, 227-227, 229-231, 233-250, 252-299, 426-499, 503-549, 551-599, 701-749,

49-00-00 Page 246 Config-1 May 01/08

TROUBLE SHOOTING MANUAL

REFERENCE DESIGNATION

AMM 49-94-14-400-002 Installation of the Oil Pressure Switch (8091KM) (APS

3200)

ASM 49-61/02

3. Fault Confirmation

- A. Do the subsequent checks and the operational test of the APU.
 - (1) Do a check of the oil level via the MCDU SYSTEM/REPORT TEST page APU: push the APU MASTER SW p/bsw to ON,
 - .select the SYSTEM/REPORT TEST page APU (Ref. AMM TASK 31-32-00-860-001),
 - .select the APU DATA/OIL page.
 - if the oil level in the APU oil reservoir is not sufficient, do the oil servicing (Ref. AMM TASK 49-90-00-600-004).
 - (2) Carefully examine the APU externally:
 - make sure that you do not find leaks on the oil system components or oil lines:
 - (a) If you find external oil leaks: - correct/replace as necessary.
 - (3) Do a check of the magnetic drain plug (Ref. AMM TASK 49-91-42-200-003).
 - (4) Do a check and make sure that the LUBE-PUMP OIL FILTER (8076KM) and Generator Scavenge Filter (8069KM) are serviceable (Ref. AMM TASK 49-91-00-210-002).
 - (5) Do the operational test of the APU (Ref. AMM TASK 49-00-00-710-008).

NOTE: Operate the APU for 10 minutes minimum under full load. This makes sure that the oil temperature increases sufficiently.

4. Fault Isolation

- R **ON A/C 201-225, 227-227, 229-231, 233-250, 252-253, 276-299, 426-450, R 457-499, 503-549, 551-599, 701-749,
 - A. If an APU auto shutdown occurs during the operational test of the APU and the APU SHUTDOWNS report gives the maintenance message:

LOW OIL PRESSURE - CHECK OIL LEAKAGE OR OIL PRESS SW P14:

- replace the OIL PRESSURE SWITCH (8091KM) (Ref. AMM TASK 49-94-14-000-002) and (Ref. AMM TASK 49-94-14-400-002).

EFF: 201-225, 227-227, 229-231, 233-250, 252-299, 426-499, 503-549, 551-599, 701-749,

49-00-00

Page 247

TROUBLE SHOOTING MANUAL

- (1) If the fault continues:
 - replace the DE-OILING SOLENOID VALVE (8083KM) (Ref. AMM TASK 49-91-49-000-002) and (Ref. AMM TASK 49-91-49-400-002).
- (2) If the fault continues:
 - do a check and make sure that the LUBE-PUMP OIL FILTER (8076KM) is serviceable (Ref. AMM TASK 49-91-00-210-002).
- (3) If the fault continues:
 - replace the OIL PRESSURE-RELIEF VALVE (8078KM) (Ref. AMM TASK 49-91-43-000-002) and (Ref. AMM TASK 49-91-43-400-002).
- (4) If the fault continues:
 - replace the APU GENERATOR (8XS) (Ref. AMM TASK 24-23-51-000-001) and (Ref. AMM TASK 24-23-51-400-001).
- (5) If the fault continues:
 - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-002) and (Ref. AMM TASK 49-61-34-400-002).
- (6) If the fault continues:
 - replace the AUXILIARY POWER UNIT (4005KM) (Ref. AMM TASK 49-11-11-000-003) and (Ref. AMM TASK 49-11-11-400-003).

R **ON A/C 201-225, 227-227, 229-231, 233-244, 247-250, 252-299, 426-456, R 476-499, 503-549, 551-599, 701-749, R Post SB 49-1061 For A/C 201-225,227-227,229-231,233-244,247-250,252-253, R 276-299,426-450,476-499,503-549,551-599,701-749,

A. If the APU Last Leg Report gives the maintenance message:

CHECK OIL LEAKAGE / OIL PRESS SW (8091KM): Fault Code Number: 044 or 045

NOTE: The APU SHUTDOWNS report gives the maintenance message:

LOW OIL PRESSURE - CHECK OIL LEAKAGE / OIL PRESS SW (8091KM)

APU Auto Shut Down Fault Code Number: 044 or 045

- do a check and repair the wiring from ECB (59KD) AB/C5, J4 to the OIL PRESSURE SWITCH (8091KM) P14/1,2 (Ref. ASM 49-61/02).
- (1) If the fault continues:
 - replace the OIL PRESSURE SWITCH (8091KM) (Ref. AMM TASK 49-94-14-000-002) and (Ref. AMM TASK 49-94-14-400-002).
 - (a) If the fault continues:
 - replace the DE-OILING SOLENOID VALVE (8083KM) (Ref. AMM TASK 49-91-49-000-002) and (Ref. AMM TASK 49-91-49-400-002).
 - 1 If the fault continues:
 - do a check of the magnetic drain plug (Ref. AMM TASK 49-91-42-200-003).

EFF: 201-225, 227-227, 229-231, 233-250, 252-299, 426-499, 503-549, 551-599, 701-749,

49-00-00Page 248
Config-1 May 01/08

TROUBLE SHOOTING MANUAL

- 2 If the fault continues:
 - do a check and make sure that the LUBE-PUMP OIL FILTER (8076KM) and Generator Scavenge Filter (8069KM) are serviceable (Ref. AMM TASK 49-91-00-210-002).
 - a If the fault continues:
 - replace the OIL PRESSURE-RELIEF VALVE (Ref. AMM TASK 49-91-43-000-002) and (Ref. AMM TASK 49-91-43-400-002).
 - b If the fault continues:
 - replace the APU GENERATOR (8XS) (Ref. AMM TASK 24-23-51-000-001) and (Ref. AMM TASK 24-23-51-400-001).
 - c If the fault continues:
 - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-002) and (Ref. AMM TASK 49-61-34-400-002).
 - d If the fault continues:
 - replace the AUXILIARY POWER UNIT (4005KM) (Ref. AMM TASK 49-11-11-000-003) and (Ref. AMM TASK 49-11-11-400-003).
- R **ON A/C 201-225, 227-227, 229-231, 233-250, 252-299, 426-499, 503-549, R 551-599, 701-749,
 - B. Do the test given in para. 3.

TROUBLE SHOOTING MANUAL

TASK 49-00-00-810-896

APU AUTO SHUT DOWN - HIGH OIL TEMPERATURE (APS 3200)

1. Possible Causes

- oil level in the APU oil reservoir is not sufficient
- air passages of the oil cooler are blocked
- leaks on the oil system components or oil lines
- OIL COOLER (8079KM)
- LUBE-PUMP OIL FILTER (8076KM)
- GENERATOR OIL FILTER (8069KM)
- GEN-APU (8XS)
- PMG and COOLING FAN ASSEMBLY (8055KM)
- Oil-Sump Temperatur Sensor
- ECB (59KD)
- AUXILIARY POWER UNIT (4005KM)
- wiring
- OIL TEMP SENSOR (8084KM)
- COOLING FAN ASSEMBLY (8055KM)

2. Job Set-up Information

A. Referenced Information

REFE	RENCE	DESIGNATION
	2/ 27 54 000 004	Para al af the ABU Casasatas OVC
	24-23-51-000-001	Removal of the APU Generator 8XS
AMM		Installation of the APU Generator 8XS
AMM	31-32-00-860-001	Procedure to Get Access to the SYSTEM REPORT/TEST Menu Page
AMM	49-00-00-710-008	Operational Test of the APU (APS 3200)
AMM	49-11-11-000-003	Removal of the Power Plant (APU) (APS 3200)
AMM	49-11-11-400-003	Installation of the Power Plant (APU) (APS 3200)
AMM	49-52-53-000-001	Removal of the PMG and Cooling Fan Assembly (8055KM) (APS 3200)
AMM	49-52-53-400-001	<pre>Installation of the PMG and Cooling Fan Assembly (8055KM) (APS 3200)</pre>
AMM	49-61-34-000-002	Removal of the Electronic Control Box (ECB) (59KD) (APS 3200)
AMM	49-61-34-400-002	Installation of the Electronic Control Box (ECB) (59KD) (APS 3200)
AMM	49-90-00-600-004	Check Oil Level and Replenish (APS 3200)
AMM	49-91-00-210-002	Visual Inspection of the Lube Pump Filter (8076KM) and Generator-Scavenge Filter (8069KM) Differential-Pressure Indicator Position (APS 3200)
AMM	49-91-44-000-003	Removal of the Oil Cooler (8079KM) (APS 3200)
AMM	49-91-44-100-002	Cleaning of the Oil Cooler (APS 3200)
AMM	49-91-44-400-002	Installation of the Oil Cooler (8079KM) (APS 3200)
AMM	47-71-44-400-003	This carraction of the off cooler (our this) (APS 3200)

EFF: 201-225, 227-227, 229-231, 233-250, 252-299, 426-499, 503-549, 551-599, 701-749,

49-00-00 P

Page 250 Config-1 May 01/08

TROUBLE SHOOTING MANUAL

RE	FERENCE	DESIGNATION	
AM	M 49-91-51-000-002	Removal of the Oil-Sump Temperature Sensor (8084KM)	
AM	M 49-91-51-400-002	(APS 3200) Installation of the Oil-Sump Temperature Sensor (8084KM) (APS 3200)	
AS	M 49-61/02	(OCOTALL) (ALG SECO)	

3. Fault Confirmation

- A. Do the subsequent checks and the operational test of the APU.
 - (1) Do a check of the oil level via the MCDU SYSTEM/REPORT TEST page APU: .push the APU MASTER SW p/bsw to ON, .select the SYSTEM/REPORT TEST page APU (Ref. AMM TASK 31-32-00-860-

001),

- select the APU DATA/OIL page.
 if the oil level in the APU oil reservoir is not sufficient, do the oil servicing (Ref. AMM TASK 49-90-00-600-004).
- (2) Do a check and make sure that the cooling fan inlet duct, the oil cooler inlet duct and the oil cooler outlet duct are correctly attached and in the correct condition.
 - correct/replace as necessary.
- (3) Remove the oil-cooler inlet duct and do a check if the air passages of the oil cooler are blocked.
 - If the air passages are blocked, do the oil cooler cleaning procedure (Ref. AMM TASK 49-91-44-100-002) or replace the oil cooler (Ref. AMM TASK 49-91-44-000-003) and (Ref. AMM TASK 49-91-44-400-003).
- (4) Carefully examine the APU externally:
 - make sure that you do not find leaks on the oil system components or oil lines:
 - (a) If you find external oil leaks:
 correct/replace as necessary.
- (5) Remove the cooling-fan inlet duct (Ref. AMM TASK 49-52-53-000-001) and turn the manual drive shaft of the cooling fan assy. Make sure that you can turn the manual drive shaft freely.
- (6) Do the operational test of the APU (Ref. AMM TASK 49-00-00-710-008).

NOTE: Operate the APU for 10 minutes minimum under full load. This makes sure that the oil temperature increases sufficiently.

EFF: 201-225, 227-227, 229-231, 233-250, 252-299, 426-499, 503-549, 551-599, 701-749,

49-00-00

Page 251

TROUBLE SHOOTING MANUAL

4. Fault Isolation

R **ON A/C 201-225, 227-227, 229-231, 233-250, 252-253, 276-299, 426-450, R 457-499, 503-549, 551-599, 701-749,

A. If an APU auto shutdown occurs during the operational test of the APU and the APU SHUTDOWNS report gives the maintenance message:

HIGH OIL TEMPERATURE - COOLING FAN/PMG ASSY OR OIL COOLER ASSY:

- replace the OIL COOLER (8079KM) (Ref. AMM TASK 49-91-44-000-003) and (Ref. AMM TASK 49-91-44-400-003).
- (1) If the fault continues:
 - do a check and make sure that the LUBE-PUMP OIL FILTER (8076KM) and the GENERATOR OIL FILTER (8069KM) are serviceable (Ref. AMM TASK 49-91-00-210-002).
- (2) If the fault continues:
 - replace the GEN-APU (8XS) (Ref. AMM TASK 24-23-51-000-001) and (Ref. AMM TASK 24-23-51-400-001).
- (3) If the fault continues:
 - replace the PMG and COOLING FAN ASSEMBLY (8055KM) (Ref. AMM TASK 49-52-53-000-001) and (Ref. AMM TASK 49-52-53-400-001).
- (4) If the fault continues:
 - replace the Oil-Sump Temperatur Sensor (8084KM) (Ref. AMM TASK 49-91-51-000-002) and (Ref. AMM TASK 49-91-51-400-002).
- (5) If the fault continues:
 - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-002) and (Ref. AMM TASK 49-61-34-400-002).
- (6) If the fault continues:
 - replace the AUXILIARY POWER UNIT (4005KM) (Ref. AMM TASK 49-11-11-000-003) and (Ref. AMM TASK 49-11-11-400-003).

R **ON A/C 201-225, 227-227, 229-231, 233-244, 247-250, 252-299, 426-456, R 476-499, 503-549, 551-599, 701-749, R Post SB 49-1061 For A/C 201-225,227-227,229-231,233-244,247-250,252-253, R 276-299,426-450,476-499,503-549,551-599,701-749,

- A. Maintenance Action
 - (1) If the APU Last Leg Report gives the maintenance message:

CHECK OIL COOLER ASSY (8079KM): Fault Code Number: 046

NOTE : The APU SHUTDOWNS report gives the maintenance message: HIGH OIL TEMPERATURE - CHECK OIL COOLER ASSY (8079KM)

EFF: 201-225, 227-227, 229-231, 233-250, 252-299, 426-499, 503-549, 551-599, 701-749,

49-00-00

Page 252

TROUBLE SHOOTING MANUAL

APU Auto Shut Down Fault Code Number: 046

- replace the OIL COOLER (8079KM) (Ref. AMM TASK 49-91-44-000-003) and (Ref. AMM TASK 49-91-44-400-003).
- (a) If the fault continues:
 - do a check and repair the wiring from the ECB (59KD) AB/CD, D2 to the OIL TEMP SENSOR (8084KM) P25/1, 2 (Ref. ASM 49-61/02).
 - do a check and make sure that the LUBE-PUMP OIL FILTER (8076KM) and the GENERATOR OIL FILTER (8069KM) are serviceable (Ref. AMM TASK 49-91-00-210-002).
 - 1 If the fault continues:
 - replace the GEN-APU (8XS) (Ref. AMM TASK 24-23-51-000-001) and (Ref. AMM TASK 24-23-51-400-001).
 - 2 If the fault continues:
 - replace the COOLING FAN ASSEMBLY (8055KM) (Ref. AMM TASK 49-52-53-000-001) and (Ref. AMM TASK 49-52-53-400-001).
 - a If the fault continues:
 - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-002) and (Ref. AMM TASK 49-61-34-400-002).
 - b If the fault continues:
 - replace the AUXILIARY POWER UNIT (4005KM) (Ref. AMM TASK 49-11-11-000-003) and (Ref. AMM TASK 49-11-11-400-003).
- (2) If the APU Last Leg Report gives the maintenance message:

CHECK OIL COOLER ASSY (8079KM):

Fault Code Number: 046

Additionally:

Fault Code Number: 012 or 013

NOTE: FCN 012, 013 on the Class 3 Faults Page

NOTE: The APU SHUTDOWNS report gives the maintenance message:
HIGH OIL TEMPERATURE - CHECK OIL COOLER ASSY (8079KM)
APU Auto Shut Down Fault Code Number: 046

- do a check and repair the wiring between the ECB (59KD)
 AB-C2,D2 and the OIL TEMP SENSOR (8084KM) P25/1,2,3 (Ref. ASM 49-61/02).
- (a) If the fault continues:
 - replace the OIL TEMP SENSOR (8084KM) (Ref. AMM TASK 49-91-51-000-002) and (Ref. AMM TASK 49-91-51-400-002).
 - 1 If the fault continues:
 - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-002) and (Ref. AMM TASK 49-61-34-400-002).

EFF: 201-225, 227-227, 229-231, 233-244, 247-250, 252-299, 426-456, 476-499, 503-549, 551-599, 701-749, SROS

49-00-00Page 253
Config-1 May 01/08

TROUBLE SHOOTING MANUAL

R **ON A/C 201-225, 227-227, 229-231, 233-250, 252-299, 426-499, 503-549, R 551-599, 701-749,

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

EFF: 201-225, 227-227, 229-231, 233-250, 252-299, 426-499, 503-549, 551-599, 701-749,

49-00-00

Page 254 Config-1 May 01/08

GA319/A320/A321

TROUBLE SHOOTING MANUAL

TASK 49-00-00-810-897

APU AUTO SHUT DOWN - NO ACCELERATION, Start System Fault (APS 3200)

- 1. Possible Causes
 - STARTER MOTOR (8KA)
 - ECB (59KD)
 - STARTER MOTOR CLUTCH (8033KM)
 - AUXILIARY POWER UNIT (4005KM)
- 2. Job Set-up Information
 - A. Referenced Information

REFERENCE	DESIGNATION
49-00-81-810-900	APU SLOW START, Start System (APS 3200)
AMM 49-00-00-710-008	Operational Test of the APU (APS 3200)
AMM 49-11-11-000-003	Removal of the Power Plant (APU) (APS 3200)
AMM 49-11-11-400-003	Installation of the Power Plant (APU) (APS 3200)
AMM 49-42-51-000-007	Removal of the Starter Motor (8KA) (APS 3200)
AMM 49-42-51-200-006	Check Wear Indicator of Starter Motor Brush (APS 3200)
AMM 49-42-51-400-007	Installation of the Starter Motor (8KA) (APS 3200)
AMM 49-42-52-000-002	Removal of the Starter Motor Clutch (8033KM) (APS 3200)
AMM 49-42-52-400-002	Installation of the Starter Motor Clutch (8033KM) (APS 3200)
AMM 49-61-34-000-002	Removal of the Electronic Control Box (ECB) (59KD) (APS 3200)
AMM 49-61-34-400-002	<pre>Installation of the Electronic Control Box (ECB) (59KD) (APS 3200)</pre>

- 3. Fault Confirmation
 - A. Do the operational-test of the APU (Ref. AMM TASK 49-00-00-710-008).
- 4. Fault Isolation
- R **ON A/C 201-225, 227-227, 229-231, 233-250, 252-253, 276-299, 426-450, R 457-499, 503-549, 551-599, 701-749,
 - A. If an APU auto shutdown occurs during the APU start sequence and the APU SHUTDOWNS report gives the maintenance message:

NO ACCELERATION - STARTER MOTOR 8KA OR STARTER CLUTCH ASSY:

- remove the STARTER MOTOR (8KA) (Ref. AMM TASK 49-42-51-000-007),
- do a starter motor-brush inspection (Ref. AMM TASK 49-42-51-200-006),

EFF: 201-225, 227-227, 229-231, 233-250, 252-299, 426-499, 503-549, 551-599, 701-749,

49-00-00

Page 255

TROUBLE SHOOTING MANUAL

- examine the starter motor for the signs of a mechanical fault,
- do a check and make sure that the STARTER MOTOR CLUTCH operates correctly.

NOTE: Turn the STARTER MOTOR CLUTCH with your hand in a clockwise and then in a counterclockwise direction. Make sure that the clutch engages and disengages correctly.

- The starter motor clutch engages correctly if:
 - . it engages immediately,
 - it does not rub,
 - . it does not make unusual noise.
- The starter motor clutch disengages correctly if:
 - . it disengages immediately,
 - . it does not rub,
 - . it does not make unusual noise.
- turn manually the drive shaft of the cooling fan assembly and make sure that:
 - . you can turn the drive shaft of the cooling fan freely,
 - . the APU rotors, bearings and gears do not rub,
 - . the APU rotors, bearings and gears do not make unsual noise.
- (1) If the starter motor clutch engages/disengages correctly and the APU drag check is 0.K.:
 - install a new STARTER MOTOR (8KA) (Ref. AMM TASK 49-42-51-400-007).
 - (a) If the fault continues:
 - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-002) and (Ref. AMM TASK 49-61-34-400-002).
- (2) If the starter motor clutch does not engage/disengage correctly:
 - replace the STARTER MOTOR CLUTCH (8033KM) (Ref. AMM TASK 49-42-52-000-002) and (Ref. AMM TASK 49-42-52-400-002).
 - install a serviceable STARTER MOTOR (8KA) (Ref. AMM TASK 49-42-51-400-007).
- (3) If you find that the drag of the APU rotors, bearings and gears is too much, they do rub or they make unsual noise:
 - replace the AUXILIARY POWER UNIT (4005KM) (Ref. AMM TASK 49-11-11-000-003) and (Ref. AMM TASK 49-11-11-400-003).

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R **ON A/C 201-225, 227-227, 229-231, 233-244, 247-250, 252-299, 426-456, R 476-499, 503-549, 551-599, 701-749, R Post SB 49-1061 For A/C 201-225,227-227,229-231,233-244,247-250,252-253, R 276-299,426-450,476-499,503-549,551-599,701-749,
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A. If the APU Last Leg Report gives the maintenance message:

STARTER MOTOR (8KA) / STARTER CLUTCH (8033KM): Fault Code Number: 051 or 053

NOTE: The APU SHUTDOWNS report gives the maintenance message:

NO ACCELERATION - STARTER MOTOR (8KA) / STARTER CLUTCH (8033KM)

EFF: 201-225, 227-227, 229-231, 233-250, 252-299, 426-499, 503-549, 551-599, 701-749,

49-00-00

Page 256 Config-1 May 01/08

TROUBLE SHOOTING MANUAL

APU Auto Shut Down Fault Code Number: 051 or 053

- Do the TSM procedure (Ref. TASK 49-00-81-810-900).

R **ON A/C 201-225, 227-227, 229-231, 233-250, 252-299, 426-499, 503-549, R 551-599, 701-749,

B. Do the test given in para. 3.

EFF: 201-225, 227-227, 229-231, 233-250, 252-299, 426-499, 503-549, 551-599, 701-749,

SROS

49-00-00

Page 257

TROUBLE SHOOTING MANUAL

TASK 49-00-00-810-898

APU AUTO SHUT DOWN - NO ACCELERATION (Deceleration), Fuel System Fault (APS 3200)

1. Possible Causes

- FUEL FLOW DIVIDER (8024KM)
- FUEL CONTROL UNIT (8022KM)
- SECONDARY FUEL NOZZLES
- wiring
- ECB (59KD)
- INLET GUIDE-VANE ACTUATOR (8014KM)
- AUXILIARY POWER UNIT (4005KM)
- MAGNETIC DRAIN PLUG

2. Job Set-up Information

A. Referenced Information

REFERENCE		DESIGNATION
49-00-81-810-900		APU SLOW START, Start System (APS 3200)
DO	497300	
AMM	49-00-00-710-008	Operational Test of the APU (APS 3200)
AMM	49-11-11-000-003	Removal of the Power Plant (APU) (APS 3200)
AMM	49-11-11-400-003	Installation of the Power Plant (APU) (APS 3200)
AMM	49-23-51-000-003	Removal of the Inlet Guide Vane Actuator (8014KM)
		(APS 3200)
AMM	49-23-51-400-003	Installation of the Inlet Guide Vane Actuator (8014KM) (APS 3200)
AMM	49-31-42-000-003	Removal of the Main Fuel Nozzles and Manifold (APS 3200)
AMM	49-31-42-400-005	Installation of the Main Fuel Nozzles and Manifold (APS 3200)
AMM	49-32-11-000-002	Removal of the Fuel Control Unit (8022KM) (APS 3200)
AMM	49-32-11-400-002	Installation of the Fuel Control Unit (8022KM) (APS 3200)
AMM	49-32-12-000-002	Removal of the Flow Divider (8024KM) (APS 3200)
AMM	49-32-12-400-002	Installation of the Flow Divider (8024KM) (APS 3200)
AMM	49-61-34-000-002	Removal of the Electronic Control Box (ECB) (59KD) (APS 3200)
AMM	49-61-34-400-002	Installation of the Electronic Control Box (ECB) (59KD) (APS 3200)
AMM ASM	49-91-42-200-003 49-61/02	Inspection of the Magnetic Drain Plug (APS 3200)

3. Fault Confirmation

A. Do the operational test of the APU (Ref. AMM TASK 49-00-00-710-008).

EFF: 201-225, 227-227, 229-231, 233-250, 252-299, 426-499, 503-549, 551-599, 701-749,

49-00-00

Page 258 Config-1 May 01/08

TROUBLE SHOOTING MANUAL

4. Fault Isolation

**ON A/C 201-225, 234-250, 252-253, 276-278, 280-280, 282-299, 426-450, 479-499, 503-549, 551-599, 701-749,

A. If an APU auto shutdown occurs during the operational test of the APU and the APU SHUTDOWNS report gives the maintenance message:

NO ACCELERATION - FUEL CTL UNIT P19 OR OR IGV ACTR P21 OR FUEL FLOW DIVIDER:

- do a visual check through the Air Inlet Plenum to make sure that the the Inlet Guide Vanes (IGV) are in the closed position.
- (1) If the fault continues:
 - replace the FUEL FLOW DIVIDER (8024KM) (Ref. AMM TASK 49-32-12-000-002) and (Ref. AMM TASK 49-32-12-400-002).
- (2) If the IGV are in the closed position:
 - replace the FUEL CONTROL UNIT (8022KM) (Ref. AMM TASK 49-32-11-000-002) and (Ref. AMM TASK 49-32-11-400-002).
- (3) If the fault continues:
 - replace the SECONDARY FUEL NOZZLES (Ref. AMM TASK 49-31-42-000-003) and (Ref. AMM TASK 49-31-42-400-005).
- (4) If the fault continues:
 - do a check and repair the wiring from the ECB (59KD) AB/F11, H10, H11, J3 to the FUEL CONTROL UNIT P19/1, 3, 4, 2 (Ref. ASM 49-61/02).
- (5) If the fault continues:
 - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-002) and (Ref. AMM TASK 49-61-34-400-002).
- (6) If the IGV are not in the closed position:
 - remove the quick disconnect pin from the actuator support and make sure that the IGV are moving freely (Ref. AMM TASK 49-23-51-000-003).
 - (a) If the IGV are moving freely:
 - replace the INLET GUIDE-VANE ACTUATOR (8014KM) (Ref. AMM TASK 49-23-51-000-003) and (Ref. AMM TASK 49-23-51-400-003).
 - (b) If the IGV are not moving freely:
 - replace the AUXILIARY POWER UNIT (4005KM) (Ref. AMM TASK 49-11-11-000-003) and (Ref. AMM TASK 49-11-11-400-003).

EFF: 201-225, 227-227, 229-231, 233-250, 252-299, 426-499, 503-549, 551-599, 701-749,

49-00-00Page 259
Config-1 May 01/08

TROUBLE SHOOTING MANUAL

R **ON A/C 227-227, 229-231, 233-233, 279-279, 281-281, 457-478,

A. If an APU auto shutdown occurs during the operational test of the APU and the APU SHUTDOWNS report gives the maintenance message:

NO ACCELERATION - FUEL CTL UNIT P19 OR FUEL FLOW DIVIDER:

- replace the FUEL CONTROL UNIT (8022KM) (Ref. AMM TASK 49-32-11-000-002) and (Ref. AMM TASK 49-32-11-400-002).
- (1) If the fault continues:
 - replace the FUEL FLOW DIVIDER (8024KM) (Ref. AMM TASK 49-32-12-000-002) and (Ref. AMM TASK 49-32-12-400-002).
- (2) If the fault continues:
 - replace the SECONDARY FUEL NOZZLES (Ref. AMM TASK 49-31-42-000-003) and (Ref. AMM TASK 49-31-42-400-005).
- (3) If the fault continues:
 - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-002) and (Ref. AMM TASK 49-61-34-400-002).
- (4) If the fault continues:
 - do a check and repair the wiring from the ECB (59KD) AB/F11, H10, H11, J3 to the FUEL CONTROL UNIT P19/1, 3, 4, 2 (Ref. ASM 49-61/02).

R **ON A/C 201-225, 227-227, 229-231, 233-244, 247-250, 252-299, 426-456, R 476-499, 503-549, 551-599, 701-749, R Post SB 49-1061 For A/C 201-225,227-227,229-231,233-244,247-250,252-253, R 276-299,426-450,476-499,503-549,551-599,701-749,

A. If the APU Last Leg Report gives the maintenance message:

FUEL CTL UNIT (8022KM) / FUEL FLOW DIVIDER (8024KM): Fault Code Number: 052

NOTE: The APU SHUTDOWNS report gives the maintenance message:

NO ACCELERATION - FUEL CTL UNIT (8022KM) / FUEL FLOW DIVIDER

(8024KM)

APU Auto Shut Down Fault Code Number: 052

- do a check for blockage of the air inlet.
- (1) If the fault continues: Interrogate CFDS for APU fault message. Use prompts (>) to go to the fault conditions screen (Ref. DO 497300).

Print Fault Condition Screen and review EGT.

R EFF: 201-225, 227-227, 229-231, 233-244, 247-250, 252-299, 426-499, 503-549, 551-599, 701-749, SROS

49-00-00Page 260
Config-1 May 01/08

TROUBLE SHOOTING MANUAL

- (a) If EGT is more than or equal to 650 deg.C:
 - do a check for contamination of the MAGNETIC DRAIN PLUG (Ref. AMM TASK 49-91-42-200-003).
 - if there is no contamination, do the TSM procedure (Ref. TASK 49-00-81-810-900).
- (b) If the EGT is less than 650 deg.C:
 - replace the FUEL FLOW DIVIDER (8024KM) (Ref. AMM TASK 49-32-12-000-002) and (Ref. AMM TASK 49-32-12-400-002).
 - 1 If the fault continues:
 - replace the FUEL CONTROL UNIT (8022KM) (Ref. AMM TASK 49-32-11-000-002) and (Ref. AMM TASK 49-32-11-400-002).
 - 2 If the fault continues:
 - replace the SECONDARY FUEL NOZZLES (Ref. AMM TASK 49-31-42-000-003) and (Ref. AMM TASK 49-31-42-400-005).
 - 3 If the fault continues:
 - do a check and repair the wiring from the ECB (59KD) AB/F11, H10, H11, J3 to the FUEL CONTROL UNIT P19/1, 3, 4, 2 (Ref. ASM 49-61/02).
 - 4 If the fault continues:
 - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-002) and (Ref. AMM TASK 49-61-34-400-002).

R **ON A/C 201-225, 227-227, 229-231, 233-250, 252-299, 426-499, 503-549, R 551-599, 701-749,

B. Do the test given in para. 3.

EFF: 201-225, 227-227, 229-231, 233-250, 252-299, 426-499, 503-549, 551-599, 701-749,

49-00-00

Page 261

TROUBLE SHOOTING MANUAL

TASK 49-00-00-810-899

APU AUTO SHUT DOWN - NO FLAME (APS 3200)

1. Possible Causes

- IGNITER PLUGS
- IGNITION UNIT (8030KM)
- ELECTRICAL LEADS
- FCU splined coupling-shaft in the APU is not rotating (broken) or damaged
- APU (4005KM)
- FUEL CONTROL UNIT P19
- FUEL FLOW DIVIDER (8024KM)
- PRIMARY FUEL NOZZLES
- ECB (59KD)
- wiring
- AUXILIARY POWER UNIT (4005KM)

2. Job Set-up Information

A. Referenced Information

49-00-81-810-900	REFERENCE		DESIGNATION
DO 49730000 AMM 49-00-00-710-008 AMM 49-11-11-000-003 AMM 49-11-11-400-003 AMM 49-31-41-000-002 AMM 49-31-41-400-002 AMM 49-32-11-000-002 AMM 49-32-11-400-002 AMM 49-32-12-000-002 AMM 49-32-12-000-002 AMM 49-32-12-000-002 AMM 49-32-12-000-002 AMM 49-32-12-000-002 AMM 49-32-12-400-002 AMM 49-32-12-400-002 AMM 49-32-12-400-002 AMM 49-32-12-400-002 AMM 49-41-38-000-002 AMM 49-41-38-000-002 AMM 49-41-38-400-002 AMM 49-41-43-400-002 AMM 49-41-43-400-002 AMM 49-41-41-000-003 AMM 49-41-41-400-002 AMM 49-41-41-400-002 AMM 49-41-43-400-002 AMM 49-41-41-400-002 AMM 49-41-41-400-402 AMM 49-41-41-400-402 AMM 49-41-41-400-402 AMM 49-41			
AMM 49-00-00-710-008 AMM 49-11-11-000-003 AMM 49-11-11-400-003 AMM 49-31-41-000-002 AMM 49-31-41-400-002 AMM 49-32-11-000-002 AMM 49-32-11-400-002 AMM 49-32-12-000-002 AMM 49-32-12-000-002 AMM 49-32-12-000-002 AMM 49-32-12-000-002 AMM 49-32-12-000-002 AMM 49-32-12-000-002 AMM 49-32-12-000-002 AMM 49-32-12-000-002 AMM 49-32-12-000-002 AMM 49-32-12-000-002 AMM 49-41-38-000-002 AMM 49-41-438-400-002 AMM 49-41-41-000-003 AMM 49-41-43-400-002 AMM 49-41-43-400-002 AMM 49-41-41-000-003 AMM 49-41-43-400-002 AMM 49-41-41-400-002 AMM 49-41-41-400-002 AMM 49-41-41-400-002 AMM 49-41-41-400-002 AMM 49-41-41-400-002 AMM 49-41-41-400-002 AMM 49-41-41-400-002 AMM 49-41-41-400-002 AM	49-0	0-81-810-900	APU SLOW START, Start System (APS 3200)
AMM 49-11-11-000-003 Removal of the Power Plant (APU) (APS 3200) AMM 49-31-41-000-002 Removal of the Power Plant (APU) (APS 3200) AMM 49-31-41-000-002 Removal of the Pilot Fuel Nozzles and Manifold (APS 3200) AMM 49-32-11-000-002 Removal of the Fuel Control Unit (8022KM) (APS 3200) AMM 49-32-11-400-002 Installation of the Fuel Control Unit (8022KM) (APS 3200) AMM 49-32-12-000-002 Removal of the Flow Divider (8024KM) (APS 3200) AMM 49-32-12-400-002 Installation of the Flow Divider (8024KM) (APS 3200) AMM 49-41-38-000-002 Removal of the Ignition Unit (8030KM) (APS 3200) AMM 49-41-41-000-003 Removal of the Ignition Unit (8030KM) (APS 3200) AMM 49-41-43-000-002 Removal of the Igniter Plug(s) (APS 3200) AMM 49-41-43-400-002 Installation of the Igniter Plug(s) (APS 3200) AMM 49-41-43-400-002 Removal of the Igniter Electrical Lead (APS 3200) AMM 49-61-34-000-002 Removal of the Igniter Electrical Lead (APS 3200) AMM 49-61-34-400-002 Installation of the Igniter Electrical Lead (APS 3200) AMM 49-61-34-400-002 Installation of the Electronic Control Box (ECB) (59KD) (APS 3200)	DO	49730000	
AMM 49-11-11-400-003	AMM	49-00-00-710-008	Operational Test of the APU (APS 3200)
AMM 49-31-41-000-002 Removal of the Pilot Fuel Nozzles and Manifold (APS 3200) AMM 49-31-41-400-002 Installation of the Pilot Fuel Nozzles and Manifold (APS 3200) AMM 49-32-11-000-002 Removal of the Fuel Control Unit (8022KM) (APS 3200) AMM 49-32-12-000-002 Removal of the Flow Divider (8024KM) (APS 3200) AMM 49-32-12-000-002 Removal of the Flow Divider (8024KM) (APS 3200) AMM 49-32-12-400-002 Installation of the Flow Divider (8024KM) (APS 3200) AMM 49-41-38-000-002 Removal of the Ignition Unit (8030KM) (APS 3200) AMM 49-41-38-400-002 Installation of the Ignition Unit (8030KM) (APS 3200) AMM 49-41-41-000-003 Removal of the Igniter Plug(s) (APS 3200) AMM 49-41-43-000-002 Removal of the Igniter Plug(s) (APS 3200) AMM 49-41-43-400-002 Installation of the Igniter Electrical Lead (APS 3200) AMM 49-61-34-000-002 Removal of the Electronic Control Box (ECB) (59KD) (APS 3200) Installation of the Electronic Control Box (ECB) (59KD) (APS 3200)	AMM	49-11-11-000-003	Removal of the Power Plant (APU) (APS 3200)
3200) AMM 49-31-41-400-002	AMM	49-11-11-400-003	Installation of the Power Plant (APU) (APS 3200)
(APS 3200) AMM 49-32-11-000-002 Removal of the Fuel Control Unit (8022KM) (APS 3200) AMM 49-32-11-400-002 Installation of the Flow Divider (8024KM) (APS 3200) AMM 49-32-12-400-002 Removal of the Flow Divider (8024KM) (APS 3200) AMM 49-32-12-400-002 Installation of the Flow Divider (8024KM) (APS 3200) AMM 49-41-38-000-002 Removal of the Ignition Unit (8030KM) (APS 3200) AMM 49-41-41-000-003 Removal of the Igniter Plug(s) (APS 3200) AMM 49-41-41-400-002 Installation of the Igniter Plug(s) (APS 3200) AMM 49-41-43-000-002 Removal of the Igniter Electrical Lead (APS 3200) AMM 49-41-43-400-002 Installation of the Igniter Electrical Lead (APS 3200) AMM 49-61-34-000-002 Removal of the Electronic Control Box (ECB) (59KD) (APS 3200) Installation of the Electronic Control Box (ECB) (59KD) (APS 3200)	AMM	49-31-41-000-002	·
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AMM 49-32-12-400-002 Installation of the Flow Divider (8024KM) (APS 3200) AMM 49-41-38-000-002 Removal of the Ignition Unit (8030KM) (APS 3200) AMM 49-41-38-400-002 Installation of the Ignition Unit (8030KM) (APS 3200) AMM 49-41-41-000-003 Removal of the Igniter Plug(s) (APS 3200) AMM 49-41-43-000-002 Removal of the Igniter Plug(s) (APS 3200) AMM 49-41-43-400-002 Removal of the Igniter Electrical Lead (APS 3200) AMM 49-61-34-000-002 Removal of the Igniter Electrical Lead (APS 3200) AMM 49-61-34-000-002 Removal of the Electronic Control Box (ECB) (59KD) (APS 3200) AMM 49-61-34-400-002 Installation of the Electronic Control Box (ECB) (59KD) (APS 3200)	AMM	49-32-11-400-002	
AMM 49-41-38-000-002 Removal of the Ignition Unit (8030KM) (APS 3200) AMM 49-41-41-000-003 Removal of the Ignition Unit (8030KM) (APS 3200) AMM 49-41-41-400-002 Removal of the Igniter Plug(s) (APS 3200) AMM 49-41-43-000-002 Removal of the Igniter Electrical Lead (APS 3200) AMM 49-41-43-400-002 Installation of the Igniter Electrical Lead (APS 3200) AMM 49-61-34-000-002 Removal of the Igniter Electrical Lead (APS 3200) AMM 49-61-34-000-002 Removal of the Electronic Control Box (ECB) (59KD) (APS 3200) AMM 49-61-34-400-002 Installation of the Electronic Control Box (ECB) (59KD) (APS 3200)	AMM	49-32-12-000-002	Removal of the Flow Divider (8024KM) (APS 3200)
AMM 49-41-38-400-002 Installation of the Ignition Unit (8030KM) (APS 3200) AMM 49-41-41-000-003 Removal of the Igniter Plug(s) (APS 3200) AMM 49-41-43-000-002 Removal of the Igniter Plug(s) (APS 3200) AMM 49-41-43-400-002 Installation of the Igniter Electrical Lead (APS 3200) AMM 49-41-43-400-002 Removal of the Igniter Electrical Lead (APS 3200) AMM 49-61-34-000-002 Removal of the Electronic Control Box (ECB) (59KD) (APS 3200) AMM 49-61-34-400-002 Installation of the Electronic Control Box (ECB) (59KD) (APS 3200)	AMM	49-32-12-400-002	Installation of the Flow Divider (8024KM) (APS 3200)
AMM 49-41-41-000-003 Removal of the Igniter Plug(s) (APS 3200) AMM 49-41-41-400-002 Installation of the Igniter Plug(s) (APS 3200) AMM 49-41-43-000-002 Removal of the Igniter Electrical Lead (APS 3200) AMM 49-41-43-400-002 Installation of the Igniter Electrical Lead (APS 3200) AMM 49-61-34-000-002 Removal of the Electronic Control Box (ECB) (59KD) (APS 3200) AMM 49-61-34-400-002 Installation of the Electronic Control Box (ECB) (59KD) (APS 3200)	AMM	49-41-38-000-002	Removal of the Ignition Unit (8030KM) (APS 3200)
AMM 49-41-41-000-003 Removal of the Igniter Plug(s) (APS 3200) AMM 49-41-41-400-002 Installation of the Igniter Plug(s) (APS 3200) AMM 49-41-43-000-002 Removal of the Igniter Electrical Lead (APS 3200) AMM 49-41-43-400-002 Installation of the Igniter Electrical Lead (APS 3200) AMM 49-61-34-000-002 Removal of the Electronic Control Box (ECB) (59KD) (APS 3200) AMM 49-61-34-400-002 Installation of the Electronic Control Box (ECB) (59KD) (APS 3200)	AMM	49-41-38-400-002	Installation of the Ignition Unit (8030KM) (APS 3200)
AMM 49-41-43-000-002 Installation of the Igniter Plug(s) (APS 3200) AMM 49-41-43-000-002 Removal of the Igniter Electrical Lead (APS 3200) AMM 49-41-43-400-002 Installation of the Igniter Electrical Lead (APS 3200) AMM 49-61-34-000-002 Removal of the Electronic Control Box (ECB) (59KD) (APS 3200) AMM 49-61-34-400-002 Installation of the Electronic Control Box (ECB) (59KD) (APS 3200)	AMM	49-41-41-000-003	
AMM 49-41-43-000-002 Removal of the Igniter Electrical Lead (APS 3200) Installation of the Igniter Electrical Lead (APS 3200) AMM 49-61-34-000-002 Removal of the Electronic Control Box (ECB) (59KD) (APS 3200) AMM 49-61-34-400-002 Installation of the Electronic Control Box (ECB) (59KD) (APS 3200)	AMM	49-41-41-400-002	
AMM 49-41-43-400-002 Installation of the Igniter Electrical Lead (APS 3200) AMM 49-61-34-000-002 Removal of the Electronic Control Box (ECB) (59KD) (APS 3200) AMM 49-61-34-400-002 Installation of the Electronic Control Box (ECB) (59KD) (APS 3200)	AMM	49-41-43-000-002	
(APS 3200) AMM 49-61-34-400-002 Installation of the Electronic Control Box (ECB) (59KD) (APS 3200)	AMM	49-41-43-400-002	Installation of the Igniter Electrical Lead (APS
(59KD) (APS 3200)	AMM	49-61-34-000-002	
, , , , , ,	AMM	49-61-34-400-002	Installation of the Electronic Control Box (ECB)
	ASM	49-61/02	

EFF: 201-225, 227-227, 229-231, 233-250, 252-299, 426-499, 503-549, 551-599, 701-749,

49-00-00Page 262
Config-1 May 01/08

TROUBLE SHOOTING MANUAL

3. Fault Confirmation

- A. Do the operational-test of the APU (Ref. AMM TASK 49-00-00-710-008).
- 4. Fault Isolation
- R **ON A/C 201-225, 227-227, 229-231, 233-250, 252-253, 276-299, 426-450, R 457-499, 503-549, 551-599, 701-749,
 - A. If an APU auto shutdown occurs during the APU start sequence and the APU SHUTDOWNS report gives the maintenance message:

NO FLAME - IGNITION UNIT P10 OR FUEL CTL P19:

- replace the IGNITER PLUGS (Ref. AMM TASK 49-41-41-000-003) and (Ref. AMM TASK 49-41-41-400-002).
- (1) If the fault continues:
 - replace the IGNITION UNIT (8030KM) (Ref. AMM TASK 49-41-38-000-002) and (Ref. AMM TASK 49-41-38-400-002).
- (2) If the fault continues:
 - replace the ELECTRICAL LEADS (Ref. AMM TASK 49-41-43-000-002) and (Ref. AMM TASK 49-41-43-400-002).
- (3) If the fault continues:
 - remove the Fuel Control Unit (Ref. AMM TASK 49-32-11-000-002),
 - turn manually the drive shaft of the cooling fan assy and make sure that the FCU splined coupling-shaft in the APU is rotating and in good condition.
 - (a) If the FCU splined coupling-shaft in the APU is not rotating (broken) or damaged:
 - replace the APU (4005KM) (Ref. AMM TASK 49-11-11-000-003) and (Ref. AMM TASK 49-11-11-400-003).
 - (b) If the FCU splined coupling-shaft in the APU is OK:
 - replace the FUEL CONTROL UNIT P19 (Ref. AMM TASK 49-32-11-000-002) and (Ref. AMM TASK 49-32-11-400-002).
 - (c) If the fault continues:
 - replace the FUEL FLOW DIVIDER (8024KM) (Ref. AMM TASK 49-32-12-000-002) and (Ref. AMM TASK 49-32-12-400-002).
 - (d) If the fault continues:
 - replace the PRIMARY FUEL NOZZLES (Ref. AMM TASK 49-31-41-000-002) and (Ref. AMM TASK 49-31-41-400-002).
 - (e) If the fault continues:
 - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-002) and (Ref. AMM TASK 49-61-34-400-002).

EFF: 201-225, 227-227, 229-231, 233-250, 252-299, 426-499, 503-549, 551-599, 701-749,

49-00-00 Page 263 Config-1 May 01/08

TROUBLE SHOOTING MANUAL

R **ON A/C 201-225, 227-227, 229-231, 233-244, 247-250, 252-299, 426-456, R 476-499, 503-549, 551-599, 701-749, R Post SB 49-1061 For A/C 201-225,227-227,229-231,233-244,247-250,252-253, R 276-299,426-450,476-499,503-549,551-599,701-749,

- A. Maintenance Action
 - (1) If the APU Last Leg Report gives the maintenance message:

IGNITION UNIT (8030KM) / FUEL CTL UNIT (8022KM):

Fault Code Number: 042

Additionally:

Fault Code Number: 081 or 083

NOTE: FCN 081 or 083 on Class 3 Faults Page

NOTE: The APU SHUTDOWNS report gives the maintenance message:

NO FLAME - IGNITION UNIT (8030KM) / FUEL CTL UNIT (8022KM)

APU Auto Shut Down Fault Code Number: 042

- replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-002) and (Ref. AMM TASK 49-61-34-400-002).
- (2) If the APU Last Leg Report gives the maintenance message:

IGNITION UNIT (8030KM) / FUEL CTL UNIT (8022KM): Fault Code Number: 042

NOTE: The APU SHUTDOWNS report gives the maintenance message:

NO FLAME - IGNITION UNIT (8030KM) / FUEL CTL UNIT (8022KM)

APU Auto Shut Down Fault Code Number: 042

- remove the obstruction in the air inlet
- (a) If the fault continues:
 - replace the IGNITER PLUGS (Ref. AMM TASK 49-41-41-000-003) and (Ref. AMM TASK 49-41-41-400-002).
 - 1 If the fault continues:
 - do a check and repair the wiring from the ECB (59KD) AB/F7,
 F6 to the IGNITION UNIT (8030KM) P10/1, 2 (Ref. ASM 49-61/02).
 - a If the fault continues:
 - replace the IGNITION UNIT (8030KM) (Ref. AMM TASK 49-41-38-000-002) and (Ref. AMM TASK 49-41-38-400-002).
 - b If the fault continues:
 - replace the ELECTRICAL LEADS (Ref. AMM TASK 49-41-43-000-002) and (Ref. AMM TASK 49-41-43-400-002).

EFF: 201-225, 227-227, 229-231, 233-244, 247-250, 252-299, 426-456, 476-499, 503-549, 551-599, 701-749, SROS

49-00-00 Page 264 Config-1 May 01/08

TROUBLE SHOOTING MANUAL

- c If the fault continues:
 - replace the FUEL FLOW DIVIDER (8024KM) (Ref. AMM TASK 49-32-12-000-002) and (Ref. AMM TASK 49-32-12-400-002).
- d If the fault continues:
 - replace the PRIMARY FUEL NOZZLES (Ref. AMM TASK 49-31-41-000-002) and (Ref. AMM TASK 49-31-41-400-002).
- e If the fault continues:
 - replace the FUEL CONTROL UNIT (8022KM) (Ref. AMM TASK 49-32-11-000-002) and (Ref. AMM TASK 49-32-11-400-002).
- f If the fault continues: Interrogate CFDS for APU fault message. Use prompts (>) to go to the fault conditions screen (Ref. DO 49730000).

Print Fault Condition Screen and review APU speed (NA).

- If speed (NA) is less than 15%:
 - . Do the TSM procedure (Ref. TASK 49-00-81-810-900).
- If speed (NA) is more than or equal to 15%:
 replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-002)
 and (Ref. AMM TASK 49-61-34-400-002).
- g If the fault continues:
 - replace the AUXILIARY POWER UNIT (4005KM) (Ref. AMM TASK 49-11-11-000-003) and (Ref. AMM TASK 49-11-11-400-003).
- R **ON A/C 201-225, 227-227, 229-231, 233-250, 252-299, 426-499, 503-549, R 551-599, 701-749,
 - B. Do the test given in para. 3.

EFF: 201-225, 227-227, 229-231, 233-250, 252-299, 426-499, 503-549, 551-599, 701-749,

49-00-00

Page 265

TROUBLE SHOOTING MANUAL

TASK 49-00-00-810-900

APU AUTO SHUT DOWN - NO ACCELERATION (Low Acceleration) (APS 3200)

1. Possible Causes

- INLET GUIDE-VANE ACTUATOR (8014KM)
- wiring
- ECB (59KD)
- AUXILIARY POWER UNIT (4005KM)
- INLET TEMPERATURE/PRESSURE SENSOR (8013KM)
- FUEL FLOW DIVIDER (8024KM)
- FUEL CONTROL UNIT (8022KM)
- DE-OILING SOLENOID-VALVE P15
- DE-OILING SOLENOID-VALVE

2. Job Set-up Information

A. Referenced Information

REFERENCE		DESIGNATION
	0-81-810-900	APU SLOW START, Start System (APS 3200)
DO	497300	
	49-00-00-710-008	Operational Test of the APU (APS 3200)
AMM		Removal of the Power Plant (APU) (APS 3200)
AMM	49-11-11-400-003	Installation of the Power Plant (APU) (APS 3200)
AMM	49-23-17-000-001	Removal of the Inlet Pressure/Temperature Sensor (8013KM) (APS 3200)
AMM	49-23-17-400-001	<pre>Installation of the Inlet Pressure/Temperature Sensor (8013KM) (APS 3200)</pre>
AMM	49-23-51-000-003	Removal of the Inlet Guide Vane Actuator (8014KM) (APS 3200)
AMM	49-23-51-400-003	Installation of the Inlet Guide Vane Actuator (8014KM) (APS 3200)
AMM	49-31-41-000-002	Removal of the Pilot Fuel Nozzles and Manifold (APS 3200)
AMM	49-31-41-400-002	Installation of the Pilot Fuel Nozzles and Manifold (APS 3200)
AMM	49-32-11-000-002	Removal of the Fuel Control Unit (8022KM) (APS 3200)
AMM	49-32-11-400-002	Installation of the Fuel Control Unit (8022KM) (APS 3200)
AMM	49-32-12-000-002	Removal of the Flow Divider (8024KM) (APS 3200)
AMM	49-32-12-400-002	Installation of the Flow Divider (8024KM) (APS 3200)
AMM	49-61-34-000-002	Removal of the Electronic Control Box (ECB) (59KD) (APS 3200)
AMM	49-61-34-400-002	Installation of the Electronic Control Box (ECB) (59KD) (APS 3200)
AMM	49-91-49-000-002	Removal of the De-oiling Solenoid Valve (8083KM) (APS 3200)

EFF: 201-225, 227-227, 229-231, 233-250, 252-299, 426-499, 503-549, 551-599, 701-749,

49-00-00 Page 266 Config-1 May 01/08

TROUBLE SHOOTING MANUAL

REFERENCE DESIGNATION

AMM 49-91-49-400-002

Installation of the De-oiling Solenoid Valve (8083KM) (APS 3200)

ASM 49-61/02

- 3. Fault Confirmation
 - A. Do the operational-test of the APU (Ref. AMM TASK 49-00-00-710-008).
- 4. Fault Isolation

**ON A/C 201-225, 234-250, 252-253, 276-278, 280-280, 282-299, 426-450, 479-499, 503-549, 551-599, 701-749,

A. If an APU shutdown occurs during the operational test of the APU and the APU SHUTDOWNS report gives the maintenance message:

NO ACCELERATION - FCU P19 OR IGV ACTR P21 OR T/P SNSR P22:

- NOTE: Refer to 49-00-00 P. Block 301 TASK SUPPORTING DATA and/or SIL 49-035 for further information regarding to APU starting problems with the associated autoshutdown message

 NO ACCELERATION FCU P19 OR IGV ACTR P21 OR T/P SNSR P22
- do a visual check through the Air Inlet Plenum to make sure that the Inlet Guide Vanes (IGV) are in the closed position.
- (1) If the IGV are not in the closed position:
 - remove the quick disconnect pin from the actuator support and make sure that the IGVs are moving freely (Ref. AMM TASK 49-23-51-000-003).
 - (a) If the IGVs are moving freely:
 - replace the INLET GUIDE-VANE ACTUATOR (8014KM) (Ref. AMM TASK 49-23-51-000-003) and (Ref. AMM TASK 49-23-51-400-003).
 - 1 If the fault continues:
 - check and repair the wiring from the ECB (59KD) AB/E8, E9, E11, E12, G8, G9 to the INLET GUIDE-VANE ACTUATOR P21/1, 2, 3, 4, 5, 6 (Ref. ASM 49-61/02).
 - 2 If the fault continues:
 - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-002) and (Ref. AMM TASK 49-61-34-400-002).
 - (b) If the IGVs are not moving freely:
 - replace the AUXILIARY POWER UNIT (4005KM) (Ref. AMM TASK 49-11-11-000-003) and (Ref. AMM TASK 49-11-11-400-003).

EFF: 201-225, 227-227, 229-231, 233-250, 252-299, 426-499, 503-549, 551-599, 701-749,

49-00-00

Page 267 Config-1 May 01/08

TROUBLE SHOOTING MANUAL

- (2) If the IGV are in the closed position:
 - replace the INLET TEMPERATURE/PRESSURE SENSOR (8013KM) (Ref. AMM TASK 49-23-17-000-001) and (Ref. AMM TASK 49-23-17-400-001).
 - (a) If the fault continues:
 - do a check if the pilot (primary) fuel nozzles are correctly attached (Ref. AMM TASK 49-31-41-000-002) and (Ref. AMM TASK 49-31-41-400-002).
 Attach as necessary.
 - (b) If the fault continues:
 - replace the FUEL FLOW DIVIDER (8024KM) (Ref. AMM TASK 49-32-12-000-002) and (Ref. AMM TASK 49-32-12-400-002).
 - (c) If the fault continues:
 - replace the FUEL CONTROL UNIT (8022KM) (Ref. AMM TASK 49-32-11-000-002) and (Ref. AMM TASK 49-32-11-400-002).
 - (d) If the fault continues:
 - replace the DE-OILING SOLENOID-VALVE P15 (Ref. AMM TASK 49-91-49-000-002) and (Ref. AMM TASK 49-91-49-400-002).
 - (e) If the fault continues:
 - do a check of the wiring from the ECB (59KD) AB/F11, H10, H11,
 J3 to the FUEL CONTROL UNIT P19/1, 3, 4, 2 (Ref. ASM 49-61/02).
 - do a check of the wiring from the ECB (59KD) AB/C6, J4 to the DE-OILING SOLENOID VALVE P15/1, 2 (Ref. ASM 49-61/02).
 - 1 If there is no continuity:
 - repair the wiring from the ECB (59KD) AB/F11, H10, H11, J3 to the FUEL CONTROL UNIT P19/1, 3, 4, 2 (Ref. ASM 49-61/02).
 - repair the wiring from the ECB (59KD) AB/C6, J4 to the DE-OILING SOLENOID VALVE P15/1,2 (Ref. ASM 49-61/02).
 - 2 If there is continuity:
 - replace the AUXILIARY POWER UNIT (4005KM) (Ref. AMM TASK 49-11-11-000-003) and (Ref. AMM TASK 49-11-11-400-003).
- R **ON A/C 227-227, 229-231, 233-233, 279-279, 281-281, 457-478,
 - A. If an APU shutdown occurs during the operational test of the APU and the APU SHUTDOWNS report gives the maintenance message:

NO ACCELERATION - FUEL CONTROL UNIT P19 OR DE-OILING SOL P15:

- NOTE: If an OVERTEMP shutdown is displayed at the same time disregard this OVERTEMP shutdown.
 - do a visual check through the Air Inlet Plenum to make sure that the Inlet Guide Vanes (IGV) are in the closed position.

EFF: 201-225, 227-227, 229-231, 233-250, 252-253, 276-299, 426-450, 457-499, 503-549, 551-599, 701-749, SROS

49-00-00Page 268
Config-1 May 01/08

TROUBLE SHOOTING MANUAL

- (1) If the IGV are not in the closed position:
 - remove the quick disconnect pin from the actuator support and make sure that the IGVs are moving freely (Ref. AMM TASK 49-23-51-000-003).
 - (a) If the IGVs are moving freely:
 - replace the INLET GUIDE-VANE ACTUATOR (8014KM) (Ref. AMM TASK 49-23-51-000-003) and (Ref. AMM TASK 49-23-51-400-003).
 - 1 If the fault continues:
 - check and repair the wiring from the ECB (59KD) AB/E8, E9, E11, E12, G8, G9 to the INLET GUIDE-VANE ACTUATOR P21/1, 2, 3, 4, 5, 6 (Ref. ASM 49-61/02).
 - 2 If the fault continues:
 - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-002) and (Ref. AMM TASK 49-61-34-400-002).
 - (b) If the IGVs are not moving freely:
 - replace the AUXILIARY POWER UNIT (4005KM) (Ref. AMM TASK 49-11-11-000-003) and (Ref. AMM TASK 49-11-11-400-003).
- (2) If the IGV are in the closed position:
 - replace the INLET TEMPERATURE/PRESSURE SENSOR (8013KM) (Ref. AMM TASK 49-23-17-000-001) and (Ref. AMM TASK 49-23-17-400-001).
 - (a) If the fault continues:
 - replace the FUEL FLOW DIVIDER (8024KM) (Ref. AMM TASK 49-32-12-000-002) and (Ref. AMM TASK 49-32-12-400-002).
 - (b) If the fault continues:
 - replace the FUEL CONTROL UNIT (8022KM) (Ref. AMM TASK 49-32-11-000-002) and (Ref. AMM TASK 49-32-11-400-002).
 - (c) If the fault continues:
 - replace the DE-OILING SOLENOID-VALVE (Ref. AMM TASK 49-91-49-000-002) and (Ref. AMM TASK 49-91-49-400-002).
 - (d) If the fault continues:
 - do a check of the wiring from the ECB (59KD) AB/F11, H10, H11, J3 to the FUEL CONTROL UNIT P19/1, 3, 4, 2 (Ref. ASM 49-61/02).
 - do a check of the wiring from the ECB (59KD) AB/C6, J4 to the DE-OILING SOLENOID VALVE P15/1, 2 (Ref. ASM 49-61/02).
 - 1 If there is no continuity:
 - repair the wiring from the ECB (59KD) AB/F11, H10, H11, J3 to the FUEL CONTROL UNIT P19/1, 3, 4, 2 (Ref. ASM 49-61/02).
 - repair the wiring from the ECB (59KD) AB/C6, J4 to the DE-OILING SOLENOID VALVE P15/1,2 (Ref. ASM 49-61/02).

EFF: 227-227, 229-231, 233-233, 279-279, 281-281, 457-478,

49-00-00 Page 269 Config-1 May 01/08

TROUBLE SHOOTING MANUAL

2 If there is continuity:

- replace the AUXILIARY POWER UNIT (4005KM) (Ref. AMM TASK 49-11-11-000-003) and (Ref. AMM TASK 49-11-11-400-003).

R **ON A/C 201-225, 227-227, 229-231, 233-244, 247-250, 252-299, 426-456, R 476-499, 503-549, 551-599, 701-749, R Post SB 49-1061 For A/C 201-225,227-227,229-231,233-244,247-250,252-253, R 276-299,426-450,476-499,503-549,551-599,701-749,

- A. Maintenance Action
 - (1) If the APU Last Leg Report gives the maintenance message:

FUEL CTL UNIT (8022KM): Fault Code Number: 053

Additionally:

Fault Code Number(s): 21 or 89 or 59 or 60

NOTE: The APU SHUTDOWNS report gives the maintenance message:

NO ACCELERATION - FUEL CTL UNIT (8022KM)

APU Auto Shut Down Fault Code Number: 053

- do a check and repair the wiring from the ECB (59KD)
 AB/F11,H10,H11,J3 to the FUEL CONTROL UNIT (8022KM) P19/1,3,4,2
 (Ref. ASM 49-61/02).
- (a) If the fault continues:
 - replace the FUEL CONTROL UNIT (8022KM) (Ref. AMM TASK 49-32-11-000-002) and (Ref. AMM TASK 49-32-11-400-002).
 - 1 If the fault continues:
 - replace the AUXILIARY POWER UNIT (4005KM) (Ref. AMM TASK 49-11-11-000-003) and (Ref. AMM TASK 49-11-11-400-003).
- (2) If the APU Last Leg Report gives the maintenance message:

FUEL CTL UNIT (8022KM): Fault Code Number: 053

NOTE: The APU SHUTDOWNS report gives the maintenance message:

NO ACCELERATION - FUEL CTL UNIT (8022KM)

APU Auto Shut Down Fault Code Number: 053

- replace the FUEL CONTROL UNIT (8022KM) (Ref. AMM TASK 49-32-11-000-002) and (Ref. AMM TASK 49-32-11-400-002).
- (a) If the fault continues:
 - replace the FUEL FLOW DIVIDER (8024KM) (Ref. AMM TASK 49-32-12-000-002) and (Ref. AMM TASK 49-32-12-400-002).

R EFF: 201-225, 227-227, 229-231, 233-244, 247-250, 252-299, 426-499, 503-549, 551-599, 701-749, SROS

49-00-00Page 270
Config-1 May 01/08

TROUBLE SHOOTING MANUAL

- 1 If the fault continues:
 - do a check if the pilot (primary) fuel nozzles are correctly attached (Ref. AMM TASK 49-31-41-000-002) and (Ref. AMM TASK 49-31-41-400-002).

Attach as necessary.

(b) If the fault continues:

Interrogate CFDS for APU fault message. Use prompts (>) to go to the fault conditions screen (Ref. DO 497300).

Print Fault Condition Screen and review APU speed (NA).

- 1 If speed (NA) is less than 30%:
 Do the TSM procedure (Ref. TASK 49-00-81-810-900).
- 2 If speed (NA) is more than or equal to 30%:
 - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-002) and
 (Ref. AMM TASK 49-61-34-400-002).
 - a If the fault continues:
 - replace the AUXILIARY POWER UNIT (4005KM) (Ref. AMM TASK 49-11-11-000-003) and (Ref. AMM TASK 49-11-11-400-003).
- R **ON A/C 201-225, 227-227, 229-231, 233-250, 252-299, 426-499, 503-549, R 551-599, 701-749,
 - B. Do the test given in para. 3.

TROUBLE SHOOTING MANUAL

R **ON A/C 201-225, 227-227, 229-231, 233-250, 252-299, 426-456, 479-499, R 503-549, 551-599, 701-749,

TASK 49-00-00-810-901

APU AUTO SHUT DOWN - REVERSE FLOW, Bleed Ctl Valve and APU Bleed Check Valve Fault (APS 3200)

1. Possible Causes

- APU BLEED CHECK-VALVE (7260HM)
- BLEED CONTROL VALVE (8051KM)
- ECB (59KD)

2. Job Set-up Information

A. Referenced Information

REFERENCE		DESIGNATION
AMM	36-12-51-000-001	Removal of the Check Valve
AMM	36-12-51-400-001	Installation of the Check Valve
AMM	49-00-00-710-008	Operational Test of the APU (APS 3200)
AMM	49-51-53-000-001	Removal of the Bleed Control Valve (8051KM) (APS 3200)
AMM	49-51-53-400-001	Installation of the Bleed Control Valve (8051KM) (APS 3200)
AMM	49-61-34-000-002	Removal of the Electronic Control Box (ECB) (59KD) (APS 3200)
AMM	49-61-34-400-002	<pre>Installation of the Electronic Control Box (ECB) (59KD) (APS 3200)</pre>

3. Fault Confirmation

- A. Do the subsequent checks and the operational test of the APU.
 - (1) do a check for the quick disconnect pin of the IGV-ACTUATOR.
 - (2) Do the operational test of the APU (Ref. AMM TASK 49-00-00-710-008).

4. Fault Isolation

A. If an APU auto shutdown occurs during the operational test of the APU and the APU SHUTDOWNS report gives the maintenance message

REVERSE FLOW - BCV P33 AND BLEED CHECK VALVE 7260HM

- replace the APU BLEED CHECK-VALVE (7260HM) (Ref. AMM TASK 36-12-51-000-001) and (Ref. AMM TASK 36-12-51-400-001).

EFF: 201-225, 227-227, 229-231, 233-250, 252-299, 426-456, 479-499, 503-549, 551-599, 701-749, SROS

49-00-00Page 272
Config-1 May 01/08

TROUBLE SHOOTING MANUAL

- (1) If the fault continues:
 - replace the BLEED CONTROL VALVE (8051KM) (Ref. AMM TASK 49-51-53-000-001) and (Ref. AMM TASK 49-51-53-400-001).
- (2) If the fault continues:
 - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-002) and (Ref. AMM TASK 49-61-34-400-002).
- B. Do the test given in para. 3.

TROUBLE SHOOTING MANUAL

R **ON A/C 201-225, 227-227, 229-231, 233-250, 252-299, 426-499, 503-549, R 551-599, 701-749,

TASK 49-00-00-810-902

APU AUTO SHUT DOWN - GEN HIGH OIL TEMP (APS 3200)

- 1. Possible Causes
 - oil level in the APU oil reservoir is not sufficient
 - LUBE-PUMP OIL FILTER (8076KM)
 - GENERATOR OIL FILTER (8069KM)
 - leaks on the oil system components or oil lines
 - GEN-APU 8XS
 - wiring
 - GEN-APU (8XS)
 - ECB (59KD)
 - AUXILIARY POWER UNIT (4005KM)
- 2. Job Set-up Information
 - A. Referenced Information

REFERENCE		DESIGNATION	
AMM	24-23-51-000-001	Removal of the APU Generator 8XS	
AMM	24-23-51-400-001	Installation of the APU Generator 8XS	
AMM	31-32-00-860-001	Procedure to Get Access to the SYSTEM REPORT/TEST Menu Page	
AMM	49-00-00-710-008	Operational Test of the APU (APS 3200)	
AMM	49-11-11-000-003	Removal of the Power Plant (APU) (APS 3200)	
AMM	49-11-11-400-003	Installation of the Power Plant (APU) (APS 3200)	
AMM	49-61-34-000-002	Removal of the Electronic Control Box (ECB) (59KD) (APS 3200)	
AMM	49-61-34-400-002	Installation of the Electronic Control Box (ECB) (59KD) (APS 3200)	
AMM	49-90-00-600-004	Check Oil Level and Replenish (APS 3200)	
AMM	49-91-00-210-002	Visual Inspection of the Lube Pump Filter (8076KM) and Generator-Scavenge Filter (8069KM) Differential-Pressure Indicator Position (APS 3200)	
ASM	49-61/02	2	

3. Fault Confirmation

- A. Do the subsequent checks and the operational test of the APU.
 - (1) Do a check and make sure that the cooling fan inlet duct, the oil cooler inlet duct and the oil cooler outlet duct are correctly attached and in the correct condition.
 correct/replace as necessary.

EFF: 201-225, 227-227, 229-231, 233-250, 252-299, 426-499, 503-549, 551-599, 701-749,

49-00-00

Page 274 Config-1 May 01/08

TROUBLE SHOOTING MANUAL

- (2) Do a check of the oil level via the MCDU SYSTEM/REPORT TEST page APU:

 _push the APU MASTER SW p/bsw to ON,
 - .select the SYSTEM/REPORT TEST page APU (Ref. AMM TASK 31-32-00-860-
 - .select the APU DATA/OIL page.
 - if the oil level in the APU oil reservoir is not sufficient, do the oil servicing (Ref. AMM TASK 49-90-00-600-004).
- (3) Do a check and make sure that the LUBE-PUMP OIL FILTER (8076KM) and the GENERATOR OIL FILTER (8069KM) are serviceable (Ref. AMM TASK 49-91-00-210-002).
- (4) Carefully examine the APU externally:
 - make sure that you do not find leaks on the oil system components or oil lines:
 - (a) If you find external oil leaks: - correct/replace as necessary.
- (5) Do the operational test of the APU (Ref. AMM TASK 49-00-00-710-008).

NOTE: Operate the APU for min. 10 minutes under full load. This makes sure that the oil temperature increases sufficiently.

4. Fault Isolation

- R **ON A/C 201-225, 227-227, 229-231, 233-250, 252-253, 276-299, 426-450, R 457-499, 503-549, 551-599, 701-749,
 - A. If an APU auto shutdown occurs during the operational test of the APU and the APU SHUTDOWNS report gives the maintenance message:

GEN HIGH OIL TEMP - CHECK OIL SYSTEM OR GENERATOR 8XS:

replace the GEN-APU 8XS (Ref. AMM TASK 24-23-51-000-001) and (Ref. AMM TASK 24-23-51-400-001).

R **ON A/C 201-225, 227-227, 229-231, 233-244, 247-250, 252-299, 426-456, R 476-499, 503-549, 551-599, 701-749, R Post SB 49-1061 For A/C 201-225,227-227,229-231,233-244,247-250,252-253, R 276-299,426-450,476-499,503-549,551-599,701-749,

- A. Maintenance Action
 - (1) If the APU Last Leg Report gives the maintenance message:

CHECK OIL SYSTEM / GENERATOR (8XS):

Fault Code Number: 047

Additionally:

Fault Code Number: 010 or 011

NOTE: FCN 010, 011 on the Class 3 Faults Page

EFF: 201-225, 227-227, 229-231, 233-250, 252-299, 426-499, 503-549, 551-599, 701-749,

49-00-00

Page 275

TROUBLE SHOOTING MANUAL

NOTE : The APU SHUTDOWNS report gives the maintenance message:

GEN HIGH OIL TEMP - CHECK OIL SYSTEM / GENERATOR 8XS

APU Auto Shut Down Fault Code Number: 047

- do a check and repair the wiring between ECB (59KD) AB-C3,C4 and GEN-APU (8XS) P4,3 and 4 (Ref. ASM 49-61/02).
- (a) If the fault continues:
 - replace the GEN-APU (8XS) (Ref. AMM TASK 24-23-51-000-001) and (Ref. AMM TASK 24-23-51-400-001).
 - 1 If the fault continues:
 - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-002) and (Ref. AMM TASK 49-61-34-400-002).
 - 2 If the fault continues:
 - replace the AUXILIARY POWER UNIT (4005KM) (Ref. AMM TASK 49-11-11-000-003) and (Ref. AMM TASK 49-11-11-400-003).
- (2) If the APU Last Leg Report gives the maintenance message:

CHECK OIL SYSTEM / GENERATOR (8XS): Fault Code Number: 047

- NOTE: The APU SHUTDOWNS report gives the maintenance message:

 GEN HIGH OIL TEMP CHECK OIL SYSTEM / GENERATOR 8XS

 APU Auto Shut Down Fault Code Number: 047
- replace the GEN-APU (8XS) (Ref. AMM TASK 24-23-51-000-001) and (Ref. AMM TASK 24-23-51-400-001).
- (a) If the fault continues:
 - do a check and repair the wiring between ECB (59KD) AB/C3,C4 and GEN-APU (8XS) P4-3 and 4 (Ref. ASM 49-61/02).
- (b) If the fault continues:
 - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-002) and (Ref. AMM TASK 49-61-34-400-002).
- (c) If the fault continues:
 - replace the AUXILIARY POWER UNIT (4005KM) (Ref. AMM TASK 49-11-11-000-003) and (Ref. AMM TASK 49-11-11-400-003).
- R **ON A/C 201-225, 227-227, 229-231, 233-250, 252-299, 426-499, 503-549, R 551-599, 701-749,
 - B. Do the test given in para. 3.

EFF: 201-225, 227-227, 229-231, 233-250, 252-299, 426-499, 503-549, 551-599, 701-749,

49-00-00

Page 276

TROUBLE SHOOTING MANUAL

TASK 49-00-00-810-903

Bleed Flow-Transducer Fault (APS 3200)

- 1. Possible Causes
 - COMPRESSOR DISCHARGE-PRESSURE SENSOR (8039KM)
 - wiring
 - ECB (59KD)
 - INLET T-P SENSOR (8013KM)
- 2. Job Set-up Information
 - A. Referenced Information

REFERENCE		DESIGNATION
AMM	49-00-00-710-008	Operational Test of the APU (APS 3200)
AMM	49-23-17-000-001	Removal of the Inlet Pressure/Temperature Sensor (8013KM) (APS 3200)
AMM	49-23-17-400-001	<pre>Installation of the Inlet Pressure/Temperature Sensor (8013KM) (APS 3200)</pre>
AMM	49-51-19-000-002	Removal of the Sensor - Compressor Discharge Pressure (8039KM) (APS 3200)
AMM	49-51-19-400-002	<pre>Installation of the Sensor - Compressor Discharge Pressure (8039KM) (APS 3200)</pre>
AMM	49-61-34-000-002	Removal of the Electronic Control Box (ECB) (59KD) (APS 3200)
AMM	49-61-34-400-002	Installation of the Electronic Control Box (ECB) (59KD) (APS 3200)
ASM	49-61/02	

- 3. Fault Confirmation
 - A. Do the operational test of the APU (Ref. AMM TASK 49-00-00-710-008).
- 4. Fault Isolation
- R **ON A/C 201-225, 227-227, 229-231, 233-250, 252-253, 276-299, 426-450, R 457-499, 503-549, 551-599, 701-749,
 - A. If the test gives the maintenance message:

BLEED FLOW XDCR P24:

- replace the COMPRESSOR DISCHARGE-PRESSURE SENSOR (8039KM) (Ref. AMM TASK 49-51-19-000-002) and (Ref. AMM TASK 49-51-19-400-002).

EFF: 201-225, 227-227, 229-231, 233-250, 252-299, 426-499, 503-549, 551-599, 701-749,

49-00-00

Page 277

SROS

TROUBLE SHOOTING MANUAL

- (1) If the fault continues:
 - do a check and repair the wiring from the ECB (59KD) AB/A1, A4, B2, B3, A2, A3 to the COMPRESSOR DISCHARGE-PRESSURE SENSOR P24/1, 2, 3, 4, 5, 6 (Ref. ASM 49-61/02).
- (2) If the fault continues:
 - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-002) and (Ref. AMM TASK 49-61-34-400-002).

R **ON A/C 201-225, 227-227, 229-231, 233-244, 247-250, 252-299, 426-456, R 476-499, 503-549, 551-599, 701-749, R Post SB 49-1061 For A/C 201-225,227-227,229-231,233-244,247-250,252-253, R 276-299,426-450,476-499,503-549,551-599,701-749,

- A. Maintenance Action
 - (1) If the APU Last Leg Report gives the maintenance message:

BLD FLOW XDCR (8039KM):

Fault Code Number: 000 or 001

- replace the COMPRESSOR DISCHARGE-PRESSURE SENSOR (8039KM) (Ref. AMM TASK 49-51-19-000-002) and (Ref. AMM TASK 49-51-19-400-002).
- (a) If the fault continues:
 - do a check and repair the wiring from the ECB (59KD) AB/A1, A4, B2, B3, A2, A3 to the COMPRESSOR DISCHARGE-PRESSURE SENSOR P24/1, 2, 3, 4, 5, 6 (Ref. ASM 49-61/02).
 - 1 If the fault continues:
 - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-002) and (Ref. AMM TASK 49-61-34-400-002).
- (2) If the APU Last Leg Report gives the maintenance message:

BLD FLOW XDCR (8039KM):

Fault Code Number: 003 or 103 or 149

- do a check and repair the wiring between the Delta P Sensor (P24) and the ECB (59KD) (Ref. ASM 49-61/02).
- (a) replace the COMPRESSOR DISCHARGE-PRESSURE SENSOR (8039KM) (Ref. AMM TASK 49-51-19-000-002) and (Ref. AMM TASK 49-51-19-400-002).
 - 1 If the fault continues:
 - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-002) and (Ref. AMM TASK 49-61-34-400-002).
- (3) If the APU Last Leg Report gives the maintenance message:

BLD FLOW XDCR (8039KM):

Fault Code Number: 170

EFF: 201-225, 227-227, 229-231, 233-250, 252-299, 426-499, 503-549, 551-599, 701-749,

49-00-00

Page 278

TROUBLE SHOOTING MANUAL

- replace the COMPRESSOR DISCHARGE-PRESSURE SENSOR (8039KM) (Ref. AMM TASK 49-51-19-000-002) and (Ref. AMM TASK 49-51-19-400-002).
- (a) If the fault continues:
 - do a check and repair the wiring from ECB (59KD) AB/A1, A4, B2, B3, A2, A3 to the COMPRESSOR DISCHARGE-PRESSURE SENSOR (8039KM) P24/1, 2, 3, 4, 5, 6 (Ref. ASM 49-61/02).
 - 1 If the fault continues:
 - replace the INLET T-P SENSOR (8013KM) (Ref. AMM TASK 49-23-17-000-001) and (Ref. AMM TASK 49-23-17-400-001).
 - a If the fault continues:
 - do a check and repair the wiring from ECB (59KD) AB/A1, A4, C8, C9 to the INLET T-P SENSOR P22/1, 2, 3, 4 (Ref. ASM 49-61/02).
 - b If the fault continues:
 - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-002) and (Ref. AMM TASK 49-61-34-400-002).
- (4) If the APU Last Leg Report gives the maintenance message:

BLD FLOW XDCR (8039KM): Fault Code Number: 171

- replace the COMPRESSOR DISCHARGE-PRESSURE SENSOR (8039KM) (Ref. AMM TASK 49-51-19-000-002) and (Ref. AMM TASK 49-51-19-400-002).
- (a) do a check and repair the wiring between the Delta P Sensor (P24) and the ECB (59KD) (Ref. ASM 49-61/02).
 - 1 If the fault continues:
 - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-002) and (Ref. AMM TASK 49-61-34-400-002).
- R **ON A/C 201-225, 227-227, 229-231, 233-250, 252-299, 426-499, 503-549, R 551-599, 701-749,
 - B. Do the test given in para. 3.

EFF: 201-225, 227-227, 229-231, 233-250, 252-299, 426-499, 503-549, 551-599, 701-749,

49-00-00

Page 279 Config-1 May 01/08

TROUBLE SHOOTING MANUAL

TASK 49-00-00-810-904

APU AUTO SHUT DOWN - SURGE /REVERSE FLOW, Bleed Control Valve Fault (APS3200)

1. Possible Causes

- fuel leaks
- BLEED CONTROL VALVE (8051KM)
- wiring
- ECB (59KD)
- INLET T-P SENSOR (8013KM)
- BLD FLOW XDCR (8039KM)

2. Job Set-up Information

A. Referenced Information

REFE	RENCE	DESIGNATION
49-0	0-00-810-937	No APU Bleed-Air Pressure, Low or Fluctuating APU Bleed-Air Pressure (with AIDS support) (APS 3200)
AMM	49-00-00-710-008	Operational Test of the APU (APS 3200)
AMM	49-20-00-290-001	APU Power Plant Borescope Inspection (APS 3200)
AMM	49-23-17-000-001	Removal of the Inlet Pressure/Temperature Sensor (8013KM) (APS 3200)
AMM	49-23-17-400-001	<pre>Installation of the Inlet Pressure/Temperature Sensor (8013KM) (APS 3200)</pre>
AMM	49-23-51-710-001	Push/Pull Test of the Inlet Guide Vane Mechanism (8014KM) (APS 3200)
AMM	49-51-19-000-002	Removal of the Sensor - Compressor Discharge Pressure (8039KM) (APS 3200)
AMM	49-51-19-400-002	<pre>Installation of the Sensor - Compressor Discharge Pressure (8039KM) (APS 3200)</pre>
AMM	49-51-53-000-001	Removal of the Bleed Control Valve (8051KM) (APS 3200)
AMM	49-51-53-400-001	<pre>Installation of the Bleed Control Valve (8051KM) (APS 3200)</pre>
AMM	49-61-34-000-002	Removal of the Electronic Control Box (ECB) (59KD) (APS 3200)
AMM	49-61-34-400-002	Installation of the Electronic Control Box (ECB) (59KD) (APS 3200)
ASM	49-61/01	
ASM	49-61/02	

EFF: 201-225, 227-227, 229-231, 233-250, 252-299, 426-499, 503-549, 551-599, 701-749,

49-00-00Page 280
Config-1 May 01/08

TROUBLE SHOOTING MANUAL

3. Fault Confirmation

A. Do the operational test of the APU (4005KM) (Ref. AMM TASK 49-00-00-710-008).

NOTE: During the operational test of the APU, carefully examine the fuel lines from the fuel control unit to the bleed control valve:

- fuel leaks are not permitted, correct/replace as necessary.

- 4. Fault Isolation
- R **ON A/C 201-225, 227-227, 229-231, 233-250, 252-253, 276-299, 426-450, R 457-499, 503-549, 551-599, 701-749,
 - A. If an APU auto shutdown occurs during the operational test of the APU and the APU SHUTDOWNS report gives the maintenance message:

SURGE LIMIT EXCEEDED - BLEED CTL VLV P33:

- replace the BLEED CONTROL VALVE (8051KM) (Ref. AMM TASK 49-51-53-000-001) and (Ref. AMM TASK 49-51-53-400-001).
- (1) If the fault continues:
 - do a check and repair the wiring from the ECB (59KD) AB/G6, G7, H3, F10, D7, J5 to the BLEED CONTROL VALVE P33/1, 2, 3, 4, 5, 6 (Ref. ASM 49-61/02).
- (2) If the fault continues:
 - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-002) and (Ref. AMM TASK 49-61-34-400-002).

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R **ON A/C 201-225, 227-227, 229-231, 233-244, 247-250, 252-299, 426-456, R 476-499, 503-549, 551-599, 701-749, R Post SB 49-1061 For A/C 201-225,227-227,229-231,233-244,247-250,252-253, R 276-299,426-450,476-499,503-549,551-599,701-749,
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A. If the APU Last Leg Report gives the maintenance message:

BLEED CTL VLV (8051KM):

Fault Code Number: 097

Additionally:

Fault Code Number: 096

or

Fault Code Number: 143

Additionally:

Fault Code Number: 169

NOTE : The APU SHUTDOWNS report gives the maintenance message: SURGE / REVERSE FLOW - BLEED CTL VLV (8051KM)

APU Auto Shut Down Fault Code Number: 097 or 143

EFF: 201-225, 227-227, 229-231, 233-250, 252-299, 426-499, 503-549, 551-599, 701-749,

49-00-00

Page 281

TROUBLE SHOOTING MANUAL

- (1) Do a check of the IGV Actuator guide pin for correct installation. If the pin is disengaged, replace the pin.
 - (a) If the fault continues:
 - do the push/pull test of the INLET GUIDE VANE mechanism (Ref. AMM TASK 49-23-51-710-001).

NOTE: If FCN 169 is related.

- replace the INLET T-P SENSOR (8013KM) (Ref. AMM TASK 49-23-17-000-001) and (Ref. AMM TASK 49-23-17-400-001).
- (b) If the fault continues:
 - replace the BLEED CONTROL VALVE (8051KM) (Ref. AMM TASK 49-51-53-000-001) and (Ref. AMM TASK 49-51-53-400-001).
 - 1 If the fault continues:
 - do a check and repair the aircraft wiring between the ECB (59KD) AB/D7, J5, H3, F10, G6, G7 to the BLEED CONTROL VALVE (8051KM) P33/5, 6, 3, 4, 1, 2 (Ref. ASM 49-61/01).
 - . If the fault continues:
 - replace the BLD FLOW XDCR (8039KM) (Ref. AMM TASK 49-51-19-000-002) and (Ref. AMM TASK 49-51-19-400-002).
- (c) If the fault continues:
 - do a check and repair the aircraft wiring from the ECB (59KD)
 AB/A4, A1, B2, B3, A2, A3 to the BLD FLOW XDCR (8039KM) P24/1,
 2, 3, 4, 5, 6 (Ref. ASM 49-61/02).
- (d) If the fault continues:
 - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-002) and (Ref. AMM TASK 49-61-34-400-002).
- (e) If the fault continues:
 - do the borescope inspection of the load compressor (Ref. AMM TASK 49-20-00-290-001).
- (f) If the fault continues:
 - do the TSM procedure (Ref. TASK 49-00-00-810-937).
- R **ON A/C 201-225, 227-227, 229-231, 233-250, 252-299, 426-499, 503-549, R 551-599, 701-749,
 - B. Do the test given in para. 3.

TROUBLE SHOOTING MANUAL

TASK 49-00-00-810-905

APU AUTO SHUT DOWN - OVERTEMPERATURE, Inlet Guide Vane Actuator Fault (APS 3200)

1. Possible Causes

- fuel leaks
- AUXILIARY POWER UNIT (4005KM)
- INLET GUIDE-VANE ACTUATOR (8014KM)
- wiring
- ECB (59KD)
- FUEL CONTROL UNIT (8022KM)
- FUEL FLOW DIVIDER (8024KM)

2. Job Set-up Information

A. Referenced Information

REFERENCE		DESIGNATION
28-22	2-00-810-801	APU Fuel System - Low Pressure
AMM	28-22-00-710-002	Operational Test of the APU Fuel-Pump System
AMM	49-00-00-710-008	Operational Test of the APU (APS 3200)
AMM	49-11-11-000-003	Removal of the Power Plant (APU) (APS 3200)
AMM	49-11-11-400-003	Installation of the Power Plant (APU) (APS 3200)
AMM	49-23-51-000-003	Removal of the Inlet Guide Vane Actuator (8014KM)
		(APS 3200)
AMM	49-23-51-400-003	Installation of the Inlet Guide Vane Actuator
		(8014KM) (APS 3200)
AMM	49-23-51-710-001	Push/Pull Test of the Inlet Guide Vane Mechanism
		(8014KM) (APS 3200)
AMM	49-32-11-000-002	Removal of the Fuel Control Unit (8022KM) (APS 3200)
AMM	49-32-11-400-002	Installation of the Fuel Control Unit (8022KM) (APS
		3200)
AMM	49-32-12-000-002	Removal of the Flow Divider (8024KM) (APS 3200)
AMM	49-32-12-400-002	Installation of the Flow Divider (8024KM) (APS 3200)
AMM	49-61-34-000-002	Removal of the Electronic Control Box (ECB) (59KD)
		(APS 3200)
AMM	49-61-34-400-002	Installation of the Electronic Control Box (ECB)
		(59KD) (APS 3200)
ASM	49-61/02	

201-225, 227-227, 229-231, 233-250, 252-299, 426-499, 503-549, 551-599, 701-749,

49-00-0 Page 283

TROUBLE SHOOTING MANUAL

3. Fault Confirmation

A. Check/Test

(1) Do the operational test of the APU (Ref. AMM TASK 49-00-00-710-008).

NOTE: Make sure that the fuel supply to the APU is correct (Ref. AMM TASK 28-22-00-710-002). If the fuel supply is not correct, do the trouble shooting of APU low fuel pressure (Ref. TASK 28-22-00-810-801).

<u>NOTE</u>: During the operational test of the APU, carefully examine the fuel lines from the fuel control unit to the inlet guide-vane actuator:

- fuel leaks are not permitted, correct/replace as necessary.

4. Fault Isolation

R **ON A/C 201-225, 227-227, 229-231, 233-250, 252-253, 276-299, 426-450, R 457-499, 503-549, 551-599, 701-749,

A. If an APU auto shutdown occurs during the operational test of the APU and the APU SHUTDOWNS report gives the maintenance message:

OVERTEMPERATURE - INLET GUIDE VANE ACTR P21:

- do the push/pull test of the IGV mechanism (Ref. AMM TASK 49-23-51-710-001).
- (1) If the push/pull test fails:
 - replace the AUXILIARY POWER UNIT (4005KM) (Ref. AMM TASK 49-11-11-000-003) and (Ref. AMM TASK 49-11-11-400-003).
- (2) If the push/pull test is OK:
 - replace the INLET GUIDE-VANE ACTUATOR (8014KM) (Ref. AMM TASK 49-23-51-000-003) and (Ref. AMM TASK 49-23-51-400-003).
- (3) If the fault continues:
 - do a check and repair the wiring from the ECB (59KD) AB/G8, G9, E12, E11, E8, E9 to the INLET GUIDE-VANE ACTUATOR P21/1, 2, 3, 4, 5, 6 (Ref. ASM 49-61/02).
- (4) If the fault continues:
 - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-002) and (Ref. AMM TASK 49-61-34-400-002).

EFF: 201-225, 227-227, 229-231, 233-250, 252-299, 426-499, 503-549, 551-599, 701-749,

49-00-00 Page 284 Config-1 May 01/08

TROUBLE SHOOTING MANUAL

R **ON A/C 201-225, 227-227, 229-231, 233-244, 247-250, 252-299, 426-456, R 476-499, 503-549, 551-599, 701-749, R Post SB 49-1061 For A/C 201-225,227-227,229-231,233-244,247-250,252-253, R 276-299,426-450,476-499,503-549,551-599,701-749,

A. Maintenance Action

(1) If the APU Last Leg Report gives the maintenance message:

IGV ACTR (8014KM)

Additionally:

- If the APU Last Leg Report gives the maintenance message: ECB 59KD:

Fault Code Number: 064 or 066

NOTE : The APU SHUTDOWNS report gives the maintenance message:

OVERTEMPERATURE - IGV ACTR (8014KM)

APU Auto Shut Down Fault Code Number: 098

- do a check and repair the wiring from the ECB (59KD) AB/G8, G9, E12, E11, E8, E9 to the INLET GUIDE-VANE ACTUATOR (8014KM) P21/1, 2, 3, 4, 5, 6 (Ref. ASM 49-61/02).
- (a) If the fault continues:
 - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-002) and (Ref. AMM TASK 49-61-34-400-002).
- (2) If the APU Last Leg Report gives the maintenance message:

IGV ACTR (8014KM)

Fault Code Number: 098

NOTE: The APU SHUTDOWNS report gives the maintenance message:

OVERTEMPERATURE - IGV ACTR (8014KM)

APU Auto Shut Down Fault Code Number: 098

- do the push/pull test of the IGV mechanism (Ref. AMM TASK 49-23-51-710-001).
- (a) If the push/pull test is OK:
 - replace the INLET GUIDE-VANE ACTUATOR (8014KM) (Ref. AMM TASK 49-23-51-000-003) and (Ref. AMM TASK 49-23-51-400-003).
 - 1 If the fault continues:
 - replace the FUEL CONTROL UNIT (8022KM) (Ref. AMM TASK 49-32-11-000-002) and (Ref. AMM TASK 49-32-11-400-002).
 - a If the fault continues:
 - replace the FUEL FLOW DIVIDER (8024KM) (Ref. AMM TASK 49-32-12-000-002) and (Ref. AMM TASK 49-32-12-400-002).

EFF: 201-225, 227-227, 229-231, 233-244, 247-250, 252-299, 426-456, 476-499, 503-549, 551-599, 701-749, SROS

49-00-00 Page 285 Config-1 May 01/08

TROUBLE SHOOTING MANUAL

- b If the fault continues:
 - do a check and repair the wiring from the ECB (59KD) AB/G8, G9, E12, E11, E8, E9 to the INLET GUIDE-VANE ACTUATOR (8014KM) P21/1, 2, 3, 4, 5, 6 (Ref. ASM 49-61/02).
- c If the fault continues:
 - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-002) and (Ref. AMM TASK 49-61-34-400-002).

R **ON A/C 201-225, 227-227, 229-231, 233-250, 252-299, 426-499, 503-549, R 551-599, 701-749,

B. Do the test given in para. 3.

EFF: 201-225, 227-227, 229-231, 233-250, 252-299, 426-499, 503-549, 551-599, 701-749,

49-00-00

Page 286

TROUBLE SHOOTING MANUAL

TASK 49-00-00-810-905- 01

APU AUTO SHUT DOWN - OVERTEMPERATURE, Inlet Guide Vane Actuator Fault (with AIDS support) (APS 3200)

1. Possible Causes

- AUXILIARY POWER UNIT (4005KM)
- INLET GUIDE-VANE ACTUATOR (8014KM)
- fuel leaks
- ECB (59KD)
- FUEL CONTROL UNIT (4005KM2)
- FUEL CONTROL UNIT (8022KM)

2. Job Set-up Information

A. Referenced Information

REFERENCE	DESIGNATION
28-22-00-810-801	APU Fuel System - Low Pressure
AMM 28-22-00-710-002	Operational Test of the APU Fuel-Pump System
AMM 31-36-00-740-008	Access to the Parameter Call-Up Menus
AMM 49-00-00-710-008	Operational Test of the APU (APS 3200)
AMM 49-11-11-000-003	Removal of the Power Plant (APU) (APS 3200)
AMM 49-11-11-400-003	Installation of the Power Plant (APU) (APS 3200)
AMM 49-23-51-000-003	Removal of the Inlet Guide Vane Actuator (8014KM)
AMM 47 23 31 000 003	(APS 3200)
AMM 49-23-51-400-003	Installation of the Inlet Guide Vane Actuator (8014KM) (APS 3200)
AMM 49-23-51-710-001	Push/Pull Test of the Inlet Guide Vane Mechanism (8014KM) (APS 3200)
AMM 49-32-11-000-002	Removal of the Fuel Control Unit (8022KM) (APS 3200)
AMM 49-32-11-400-002	Installation of the Fuel Control Unit (8022KM) (APS 3200)
AMM 49-61-34-000-002	Removal of the Electronic Control Box (ECB) (59KD) (APS 3200)
AMM 49-61-34-400-002	Installation of the Electronic Control Box (ECB) (59KD) (APS 3200)

EFF: 201-225, 227-227, 229-231, 233-250, 252-299, 426-499, 503-549, 551-599, 701-749,

49-00-00Page 287
Config-1 May 01/08

TROUBLE SHOOTING MANUAL

3. Fault Confirmation

- A. Check/Test
 - (1) Get access to the AIDS parameters (ALPHA CALL UP) (Ref. AMM TASK 31-36-00-740-008).
 - (a) Record the parameter IGV (APU Inlet Guide Vanes)
 - during **APU** start
 - and
 - during APU operation.
 - (2) Do the operational test of the APU (Ref. AMM TASK 49-00-00-710-008).

NOTE: Make sure that the fuel supply to the APU is correct (Ref. AMM TASK 28-22-00-710-002). If the fuel supply is not correct, do the trouble shooting of APU low fuel pressure (Ref. TASK 28-22-00-810-801).

4. Fault Isolation

- R **ON A/C 201-225, 227-227, 229-231, 233-250, 252-253, 276-299, 426-450, R 457-499, 503-549, 551-599, 701-749,
 - A. If an APU auto shutdown occurs during the operational test of the APU and the APU SHUTDOWNS report gives the maintenance message:

OVERTEMPERATURE - INLET GUIDE VANE ACTR P21

and the IGV parameter is less than 72 deg (+/- 2 deg) during APU start sequence or 82 deg during APU run (without load):

- do the push/pull test of the IGV mechanism (Ref. AMM TASK 49-23-51-710-001).
- (1) If the push/pull test fails:
 - replace the AUXILIARY POWER UNIT (4005KM) (Ref. AMM TASK 49-11-11-000-003) and (Ref. AMM TASK 49-11-11-400-003).
- (2) If the push/pull test is OK:
 - replace the INLET GUIDE-VANE ACTUATOR (8014KM) (Ref. AMM TASK 49-23-51-000-003) and (Ref. AMM TASK 49-23-51-400-003).
- (3) If the fault continues:
 - do a check of the fuel lines from the FCU to the IGV actuator.
 - fuel leaks are not permitted, correct/replace as necessary.
- (4) If the fault continues:
 - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-002) and (Ref. AMM TASK 49-61-34-400-002).

EFF: 201-225, 227-227, 229-231, 233-250, 252-299, 426-499, 503-549, 551-599, 701-749,

49-00-00

Page 288

TROUBLE SHOOTING MANUAL

B. If an APU auto shutdown occurs during the operational test of the APU and the APU SHUTDOWNS report gives the maintenance message:

OVERTEMPERATURE - INLET GUIDE VANE ACTR P21

and the IGV parameter is 72 deg (+/- 2 deg) during APU start sequence and 82 deg during APU run (without load):

- replace the FUEL CONTROL UNIT (4005KM2) (Ref. AMM TASK 49-32-11-000-002) and (Ref. AMM TASK 49-32-11-400-002).
- (1) If the fault continues:
 - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-002) and (Ref. AMM TASK 49-61-34-400-002).

R **ON A/C 201-225, 227-227, 229-231, 233-244, 247-250, 252-299, 426-456, R 476-499, 503-549, 551-599, 701-749, R Post SB 49-1061 For A/C 201-225,227-227,229-231,233-244,247-250,252-253, R 276-299,426-450,476-499,503-549,551-599,701-749,

B. If an APU auto shutdown occurs during the operational test of the APU and the APU SHUTDOWNS report gives the maintenance message:

OVERTEMPERATURE - INLET GUIDE VANE ACTR (8014KM)

and the IGV parameter is 72 deg (+/- 2 deg) during APU start sequence and 82 deg during APU run (without load):

- replace the FUEL CONTROL UNIT (8022KM) (Ref. AMM TASK 49-32-11-000-002) and (Ref. AMM TASK 49-32-11-400-002).
- (1) If the fault continues:
 - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-002) and (Ref. AMM TASK 49-61-34-400-002).

R **ON A/C 201-225, 227-227, 229-231, 233-250, 252-299, 426-499, 503-549, R 551-599, 701-749,

C. Do the test given in para. 3.

EFF: 201-225, 227-227, 229-231, 233-250, 252-299, 426-499, 503-549, 551-599, 701-749,

SROS

49-00-00

Page 289

TROUBLE SHOOTING MANUAL

TASK 49-00-00-810-906

10V Pressure-Reference Fault (APS 3200)

- 1. Possible Causes
 - ECB (59KD)
 - wiring
 - INLET PRESSURE/TEMPERATURE SENSOR (8013KM)
 - COMPRESSOR DISCHARGE-PRESSURE SENSOR P24
- 2. Job Set-up Information
 - A. Referenced Information

REFERENCE		DESIGNATION
AMM	49-00-00-710-005	Self-Test of the ECB (APS 3200)
AMM	49-23-17-000-001	Removal of the Inlet Pressure/Temperature Sensor (8013KM) (APS 3200)
AMM	49-23-17-400-001	<pre>Installation of the Inlet Pressure/Temperature Sensor (8013KM) (APS 3200)</pre>
AMM	49-51-19-000-002	Removal of the Sensor - Compressor Discharge Pressure (8039KM) (APS 3200)
AMM	49-51-19-400-002	<pre>Installation of the Sensor - Compressor Discharge Pressure (8039KM) (APS 3200)</pre>
AMM	49-61-34-000-002	Removal of the Electronic Control Box (ECB) (59KD) (APS 3200)
AMM	49-61-34-400-002	<pre>Installation of the Electronic Control Box (ECB) (59KD) (APS 3200)</pre>
ASM	49-61/02	

- 3. Fault Confirmation
 - A. Do the self test of the ECB (Ref. AMM TASK 49-00-00-710-005).
- 4. Fault Isolation
- R **ON A/C 201-225, 227-227, 229-231, 233-250, 252-253, 276-299, 426-450, R 457-499, 503-549, 551-599, 701-749,
 - A. If the test gives the maintenance message:

ECB 59KD OR APU HARNESS:

- replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-002) and (Ref. AMM TASK 49-61-34-400-002).

EFF: 201-225, 227-227, 229-231, 233-250, 252-299, 426-499, 503-549, 551-599, 701-749,

49-00-00

Page 290 Config-1 May 01/08

TROUBLE SHOOTING MANUAL

- (1) If the fault continues:
 - do a check of the wiring from the ECB (59KD) AB/A1, A4, B2, B3, A2, A3 to the COMPRESSOR DISCHARGE-PRESSURE SENSOR P24/1, 2, 3, 4, 5, 6 (Ref. ASM 49-61/02).
 - do a check of the wiring from the ECB (59KD) AB/A1, A4, C8, C9, D3, E6 to the INLET PRESSURE/TEMPERATURE SENSOR P22/1, 2, 3, 4, 6, 5 (Ref. ASM 49-61/02).
 - (a) If there is no continuity:
 - repair the wiring from the ECB (59KD) AB/A1, A4, B2, B3, A2, A3 to the COMPRESSOR DISCHARGE-PRESSURE SENSOR P24/1, 2, 3, 4, 5, 6 (Ref. ASM 49-61/02).
 - repair the wiring from the ECB (59KD) AB/A1, A4, C8, C9, D3, E6 to the INLET PRESSURE/TEMPERATURE SENSOR P22/1, 2, 3, 4, 6, 5 (Ref. ASM 49-61/02).
 - 1 If the fault continues:
 - replace the INLET PRESSURE/TEMPERATURE SENSOR (8013KM) (Ref. AMM TASK 49-23-17-000-001) and (Ref. AMM TASK 49-23-17-400-001).
 - 2 If the fault continues:
 - replace the COMPRESSOR DISCHARGE-PRESSURE SENSOR P24 (Ref. AMM TASK 49-51-19-000-002) and (Ref. AMM TASK 49-51-19-400-002).
 - (b) If there is continuity:
 - replace the INLET PRESSURE/TEMPERATURE SENSOR (8013KM) and (Ref. AMM TASK 49-23-17-000-001) (Ref. AMM TASK 49-23-17-400-001).
 - 1 If the fault continues:
 - replace the COMPRESSOR DISCHARGE-PRESSURE SENSOR P24 (Ref. AMM TASK 49-51-19-000-002) and (Ref. AMM TASK 49-51-19-400-002).

R **ON A/C 201-225, 227-227, 229-231, 233-244, 247-250, 252-299, 426-456, R 476-499, 503-549, 551-599, 701-749, R Post SB 49-1061 For A/C 201-225,227-227,229-231,233-244,247-250,252-253, R 276-299,426-450,476-499,503-549,551-599,701-749,

A. If the APU Last Leg Report gives the maintenance message:

ECB (59KD) / APU HARNESS (8001KM): Fault Code Number: 123

 replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-002) and (Ref. AMM TASK 49-61-34-400-002).

EFF: 201-225, 227-227, 229-231, 233-250, 252-299, 426-499, 503-549, 551-599, 701-749,

49-00-00

Page 291

TROUBLE SHOOTING MANUAL

- (1) If the fault continues:
 - do a check and repair the wiring from the ECB (59KD) AB/A1, A4 to the COMPRESSOR DISCHARGE-PRESSURE SENSOR (8039KM) P24/1, 2, (Ref. ASM 49-61/02).
 - (a) If the fault continues:
 - do a check and repair the wiring from the ECB (59KD) AB/A1, A4 to the INLET PRESSURE/TEMPERATURE SENSOR (8013KM) P22/1, 2 (Ref. ASM 49-61/02).
 - 1 If the fault continues:
 - replace the INLET PRESSURE/TEMPERATURE SENSOR (8013KM) (Ref. AMM TASK 49-23-17-000-001) and (Ref. AMM TASK 49-23-17-400-001).
 - a If the fault continues:
 - replace the COMPRESSOR DISCHARGE-PRESSURE SENSOR (Ref. AMM TASK 49-51-19-000-002) and (Ref. AMM TASK 49-51-19-400-002).
- R **ON A/C 201-225, 227-227, 229-231, 233-250, 252-299, 426-499, 503-549, R 551-599, 701-749,
 - B. Do the test given in para. 3.

TROUBLE SHOOTING MANUAL

TASK 49-00-00-810-907

Load-Compressor Discharge Temperature-Sensor Fault (APS 3200)

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

REFERENCE

DESIGNATION

AMM 49-00-00-710-005 Self-Test of the ECB (APS 3200)

- 3. Fault Confirmation
 - A. Do the self-test of the ECB (Ref. AMM TASK 49-00-00-710-005).
- 4. Fault Isolation
- R **ON A/C 201-225, 227-227, 229-231, 233-250, 252-253, 276-299, 426-450, R 457-499, 503-549, 551-599, 701-749,
 - A. If the test gives the maintenance message:

LCDT SENSOR P29:

- disregard this Fault Message.
- NOTE: The LCDT sensor P29 is no longer used by ECB for APU control, but is still monitored by ECB BITE. Refer to 49-00-00 P. Block 301 TASK SUPPORTING DATA and/or SIL 49-033 for further information.
- R **ON A/C 201-225, 227-227, 229-231, 233-250, 252-299, 426-499, 503-549, R 551-599, 701-749,
 - B. Not applicable

201-225, 227-227, 229-231, 233-250, 252-299, 426-499, 503-549, 551-599, 701-749,

49-00-

Page 293 Config-1 May 01/08

TROUBLE SHOOTING MANUAL

TASK 49-00-00-810-908

Inlet Pressure/Temperature Sensor Fault (APS 3200)

- 1. Possible Causes
 - INLET PRESSURE/TEMPERATURE SENSOR (8013KM)
 - wiring
 - ECB (59KD)
 - INLET T-P SENSOR (8013KM)
 - wiring (Pressure Side of the Sensor)
 - wiring (Temperature Side of the Sensor)
- 2. Job Set-up Information
 - A. Referenced Information

REFERENCE		DESIGNATION
AMM	49-00-00-710-005	Self-Test of the ECB (APS 3200)
AMM	49-23-17-000-001	Removal of the Inlet Pressure/Temperature Sensor (8013KM) (APS 3200)
AMM	49-23-17-400-001	<pre>Installation of the Inlet Pressure/Temperature Sensor (8013KM) (APS 3200)</pre>
AMM	49-61-34-000-002	Removal of the Electronic Control Box (ECB) (59KD) (APS 3200)
AMM	49-61-34-400-002	<pre>Installation of the Electronic Control Box (ECB) (59KD) (APS 3200)</pre>
ASM	49-61/02	

- 3. Fault Confirmation
 - A. Do the self-test of the ECB (Ref. AMM TASK 49-00-00-710-005).
- 4. Fault Isolation
- R **ON A/C 201-225, 227-227, 229-231, 233-250, 252-253, 276-299, 426-450, R 457-499, 503-549, 551-599, 701-749,
 - A. If the test gives the maintenance message:

INLET TEMP/PRESS SNSR P22:

- replace the INLET PRESSURE/TEMPERATURE SENSOR (8013KM) (Ref. AMM TASK 49-23-17-000-001) and (Ref. AMM TASK 49-23-17-400-001).
- (1) If the fault continues:
 - do a check and repair the wiring from the ECB (59KD) AB/A1, A4, C8, C9, D3, E6 to the INLET PRESSURE/TEMPERATURE SENSOR P22/1, 2, 3, 4, 6, 5 (Ref. ASM 49-61/02).

EFF: 201-225, 227-227, 229-231, 233-250, 252-299, 426-499, 503-549, 551-599, 701-749,

49-00-00

Page 294

TROUBLE SHOOTING MANUAL

- (2) If the fault continues:
 - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-002) and (Ref. AMM TASK 49-61-34-400-002).

R **ON A/C 201-225, 227-227, 229-231, 233-244, 247-250, 252-299, 426-456, R 476-499, 503-549, 551-599, 701-749, R Post SB 49-1061 For A/C 201-225,227-227,229-231,233-244,247-250,252-253, R 276-299,426-450,476-499,503-549,551-599,701-749,

- A. Maintenance Action
 - (1) If the APU Last Leg Report gives the maintenance message:

INLET T-P SNSR (8013KM):

Fault Code Number: 004 or 005 or 006 or 170

- replace the INLET T-P SENSOR (8013KM) (Ref. AMM TASK 49-23-17-000-001) and (Ref. AMM TASK 49-23-17-400-001).
- (a) If the fault continues:
 - do a check and repair the wiring (Pressure Side of the Sensor) from the ECB (59KD) AB/A1, A4, C8, C9 to the INLET T-P SENSOR P22/1, 2, 3, 4 (Ref. ASM 49-61/02).
 - 1 If the fault continues:
 - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-002) and (Ref. AMM TASK 49-61-34-400-002).
- (2) If the APU Last Leg Report gives the maintenance message:

INLET T-P SNSR (8013KM):

Fault Code Number: 008 or 009

- replace the INLET T-P SENSOR (8013KM) (Ref. AMM TASK 49-23-17-000-001) and (Ref. AMM TASK 49-23-17-400-001).
- (a) If the fault continues:
 - do a check and repair the wiring (Temperature Side of the Sensor) from the ECB (59KD) D3, E6 to the INLET T-P SENSOR P22/ 6, 5 (Ref. ASM 49-61/02).
 - 1 If the fault continues:
 - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-002) and (Ref. AMM TASK 49-61-34-400-002).
- R **ON A/C 201-225, 227-227, 229-231, 233-250, 252-299, 426-499, 503-549, R 551-599, 701-749,
 - B. Do the test given in para. 3.

EFF: 201-225, 227-227, 229-231, 233-250, 252-299, 426-499, 503-549, 551-599, 701-749,

SROS

49-00-00 Pa

TROUBLE SHOOTING MANUAL

TASK 49-00-00-810-909

Fuel Supply Fault (APS 3200)

1. Possible Causes

- APU fuel pump-system
- air is in the APU fuel line
- APU FUEL LP-SWITCH (5030QM)
- wiring
- ECB (59KD)
- APU fuel low pressure

2. Job Set-up Information

A. Referenced Information

REFERENCE	DESIGNATION	
28-22-00-810-801		
AMM 28-22-00-710-001	Operational Test of the APU Fuel-Pump System on Ground to Purge the Fuel Line	
AMM 28-22-14-000-001	Removal of the APU Fuel LP-Switch 5030QM	
AMM 28-22-14-400-001	Installation of the APU Fuel LP-Switch 5030QM	
AMM 49-00-00-710-008	Operational Test of the APU (APS 3200)	
AMM 49-31-00-710-002	Operational Test of the APU Fuel Low Pressure Circuit (APS 3200)	
AMM 49-61-34-000-002	Removal of the Electronic Control Box (ECB) (59KD) (APS 3200)	
AMM 49-61-34-400-002	<pre>Installation of the Electronic Control Box (ECB) (59KD) (APS 3200)</pre>	
ASM 49-61/02		

3. Fault Confirmation

A. Test

- (1) Do the operational test of the APU fuel low pressure warning (Ref. AMM TASK 49-31-00-710-002).
- (2) Do the operational test of the APU (Ref. AMM TASK 49-00-00-710-008).

EFF: 201-225, 227-227, 229-231, 233-250, 252-299, 426-499, 503-549, 551-599, 701-749,

49-00-00

Page 296 Config-1 May 01/08

TROUBLE SHOOTING MANUAL

4. Fault Isolation

R **ON A/C 201-225, 227-227, 229-231, 233-250, 252-253, 276-299, 426-450, R 457-499, 503-549, 551-599, 701-749,

A. If the operational test of the APU gives the maintenance message:

FUEL LOW PRESSURE OR LOW FUEL PRESS SW P17:

- do the operational test of the APU fuel pump-system (Ref. AMM TASK 28-22-00-710-001) and make sure that no air is in the APU fuel line.
- (1) If the fault continues:
 - replace the APU FUEL LP-SWITCH (5030QM) (Ref. AMM TASK 28-22-14-000-001) and (Ref. AMM TASK 28-22-14-400-001).
- (2) If the fault continues:
 - do a check and repair the wiring from the ECB 59KD AB/B7, B8 to the APU FUEL LP-SWITCH P17/1, 2 (Ref. ASM 49-61/02).
- (3) If the fault continues:
 - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-002) and (Ref. AMM TASK 49-61-34-400-002).

R **ON A/C 201-225, 227-227, 229-231, 233-244, 247-250, 252-299, 426-456, R 476-499, 503-549, 551-599, 701-749, R Post SB 49-1061 For A/C 201-225,227-227,229-231,233-244,247-250,252-253, R 276-299,426-450,476-499,503-549,551-599,701-749,

A. If the APU Last Leg Report gives the maintenance message:

FUEL LOW PRESS / LOW FUEL PRESS SW (5030QM): Fault Code Number: 112

- do the operational test of the APU fuel pump-system (Ref. AMM TASK 28-22-00-710-001) and make sure that no air is in the APU fuel line.
- (1) If the fault continues:
 - replace the APU FUEL LP-SWITCH (5030QM) (Ref. AMM TASK 28-22-14-000-001) and (Ref. AMM TASK 28-22-14-400-001).
 - (a) If the fault continues:
 - do a check and repair the wiring from the ECB 59KD AB/B7, B8 to the APU FUEL LP-SWITCH (5030QM) P17/1, 2 (Ref. ASM 49-61/02).
 - 1 If the fault continues:
 - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-002) and (Ref. AMM TASK 49-61-34-400-002).

EFF: 201-225, 227-227, 229-231, 233-250, 252-299, 426-499, 503-549, 551-599, 701-749,

49-00-00

Page 297

TROUBLE SHOOTING MANUAL

R **ON A/C 201-225, 227-227, 229-231, 233-250, 252-299, 426-499, 503-549, R 551-599, 701-749,

- B. If the operational test of the APU fuel low pressure warning gives that the FUEL LO PR advisory is abnormally on:
 - do the trouble shooting of the APU fuel low pressure (Ref. TASK 28-22-00-810-801).
- C. Do the test given in para. 3.

EFF: 201-225, 227-227, 229-231, 233-250, 252-299, 426-499, 503-549, 551-599, 701-749,

SROS

49-00-00

Page 298 Config-1 May 01/08

TROUBLE SHOOTING MANUAL

TASK 49-00-00-810-910

Air-Intake Flap-Actuator Fault (APS 3200)

1. Possible Causes

- AIR INTAKE FLAP-ACTUATOR (4015KM)
- wiring
- ECB (59KD)

2. Job Set-up Information

A. Referenced Information

REFERENCE		DESIGNATION	
AMM	49-16-00-210-002	Detailed Inspection of APU Air Intake, Diffuser Elbow, Seals and Felt Metal (APS 3200)	
AMM	49-16-00-710-002	Operational Test of the Air Intake Flap and Diverter (APS 3200)	
AMM	49-16-51-000-002	Removal of the Air-Intake Flap Actuator (4015KM) (APS 3200)	
AMM	49-16-51-400-002	Installation of the Air-Intake Flap Actuator (4015KM) (APS 3200)	
AMM	49-61-34-000-002	Removal of the Electronic Control Box (ECB) (59KD) (APS 3200)	
AMM	49-61-34-400-002	<pre>Installation of the Electronic Control Box (ECB) (59KD) (APS 3200)</pre>	
ASM	49-16/01		

3. Fault Confirmation

- R **ON A/C 201-225, 227-227, 229-231, 233-250, 252-253, 276-299, 426-450, R 457-499, 503-549, 551-599, 701-749,
 - A. Do the operational test of the air intake flap actuator (Ref. AMM TASK 49-16-00-710-002).

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R **ON A/C 201-225, 227-227, 229-231, 233-244, 247-250, 252-299, 426-456, R 476-499, 503-549, 551-599, 701-749, R Post SB 49-1061 For A/C 201-225,227-227,229-231,233-244,247-250,252-253, R 276-299,426-450,476-499,503-549,551-599,701-749,
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A. Do the operational test of the air intake flap actuator (4015KM) (Ref. AMM TASK 49-16-00-710-002).

EFF: 201-225, 227-227, 229-231, 233-250, 252-299, 426-499, 503-549, 551-599, 701-749,

49-00-00

Page 299

TROUBLE SHOOTING MANUAL

R **ON A/C 201-225, 227-227, 229-231, 233-250, 252-299, 426-499, 503-549, R 551-599, 701-749,

4. Fault Isolation

- R **ON A/C 201-225, 227-227, 229-231, 233-250, 252-253, 276-299, 426-450, R 457-499, 503-549, 551-599, 701-749,
 - A. If the test gives the maintenance message:

AIR INTAKE FLAP ACTR:

- replace the AIR INTAKE FLAP-ACTUATOR (4015KM) (Ref. AMM TASK 49-16-51-000-002) and (Ref. AMM TASK 49-16-51-400-002).
- (1) If the fault continues:
 - do a check and repair the wiring from the ECB (59KD) AC/5, 4 to the electrical connector 7527VCA/J, K. (Ref. ASM 49-16/01).
 - do a check and repair the wiring from the ECB (59KD) AB/G2, G3, G4,
 G5 to the electrical connector 7527VCA/D, C, E, B. (Ref. ASM 49-16/01).
 - do a check and repair the wiring from the electrical connector 7527VCA/A, L, F, to the ground (Ref. ASM 49-16/01).
- (2) If the fault continues:
 - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-002) and (Ref. AMM TASK 49-61-34-400-002).

R **ON A/C 201-225, 227-227, 229-231, 233-244, 247-250, 252-299, 426-456, R 476-499, 503-549, 551-599, 701-749, R Post SB 49-1061 For A/C 201-225,227-227,229-231,233-244,247-250,252-253, R 276-299,426-450,476-499,503-549,551-599,701-749,

A. Maintenance Action

(1) If the APU Last Leg Report gives the maintenance message:

INLET FLAP ACTR (4015KM)
Fault Code Number: 025 or 026 or 057

- do a check and repair the wiring from the ECB (59KD) AC/5, 4 to the electrical connector 7527VCA/J, K. (Ref. ASM 49-16/01).
- do a check and repair the wiring from the ECB (59KD) AB/G2, G3, G4,
 G5 to the electrical connector 7527VCA/D, C, E, B. (Ref. ASM 49-16/01).
- do a check and repair the wiring from the electrical connector 7527VCA/A, L, F, to the ground (Ref. ASM 49-16/01).
- (a) If the fault continues:
 - replace the AIR INTAKE FLAP-ACTUATOR (4015KM) (Ref. AMM TASK 49-16-51-000-002) and (Ref. AMM TASK 49-16-51-400-002).

EFF: 201-225, 227-227, 229-231, 233-250, 252-299, 426-499, 503-549, 551-599, 701-749,

49-00-00 Page A200 Config-1 May 01/08

TROUBLE SHOOTING MANUAL

- 1 If the fault continues:
 - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-002) and (Ref. AMM TASK 49-61-34-400-002).
- (2) If the APU Last Leg Report gives the maintenance message:

INLET FLAP ACTR (4015KM)
Fault Code Number: 058 or 120

- do a visual check of the Air-Intake (Ref. AMM TASK 49-16-00-210-002).
- (a) If the fault continues:
 - do a check and repair the wiring from the ECB (59KD) AC/5, 4 to the electrical connector 7527VCA/J, K. (Ref. ASM 49-16/01).
 - do a check and repair the wiring from the ECB (59KD) AB/G2, G3, G4, G5 to the electrical connector 7527VCA/D, C, E, B. (Ref. ASM 49-16/01).
 - do a check and repair the wiring from the electrical connector 7527VCA/A, L, F, to the ground (Ref. ASM 49-16/01).
 - 1 If the fault continues:
 - replace the AIR INTAKE FLAP-ACTUATOR (4015KM) (Ref. AMM TASK 49-16-51-000-002) and (Ref. AMM TASK 49-16-51-400-002).
 - a If the fault continues:
 - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-002) and (Ref. AMM TASK 49-61-34-400-002).
- R **ON A/C 201-225, 227-227, 229-231, 233-250, 252-299, 426-499, 503-549, R 551-599, 701-749,
 - B. Do the test given in para. 3.

EFF: 201-225, 227-227, 229-231, 233-250, 252-299, 426-499, 503-549, 551-599, 701-749,

49-00-00Config-1 May 01/08

TROUBLE SHOOTING MANUAL

TASK 49-00-00-810-911

ECB 59KD Fault (APS 3200)

- 1. Possible Causes
 - ECB (59KD)
- 2. Job Set-up Information
 - A. Referenced Information

REFERENCE		DESIGNATION
АММ	49-00-00-710-008	Operational Test of the APU (APS 3200)
AMM	49-61-34-000-002	Removal of the Electronic Control Box (ECB) (59KD) (APS 3200)
AMM	49-61-34-400-002	<pre>Installation of the Electronic Control Box (ECB) (59KD) (APS 3200)</pre>

- 3. Fault Confirmation
 - A. Do the operational test of the APU (Ref. AMM TASK 49-00-00-710-008).
- 4. Fault Isolation
- R **ON A/C 201-225, 227-227, 229-231, 233-250, 252-253, 276-299, 426-450, R 457-499, 503-549, 551-599, 701-749,
 - A. If the test gives the maintenance message:

ECB 59KD:

- replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-002) and (Ref. AMM TASK 49-61-34-400-002).

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R **ON A/C 201-225, 227-227, 229-231, 233-244, 247-250, 252-299, 426-456, R 476-499, 503-549, 551-599, 701-749, R Post SB 49-1061 For A/C 201-225,227-227,229-231,233-244,247-250,252-253, R 276-299,426-450,476-499,503-549,551-599,701-749,
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A. If the APU Last Leg Report gives the maintenance message:

ECB 59KD:

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Fault Code Number: 024 or 064 or 066 or 071 or 073 or 082 or 089 or 100 or 101 or 107 or 117

- replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-002) and (Ref. AMM TASK 49-61-34-400-002).

EFF: 201-225, 227-227, 229-231, 233-250, 252-299, 426-499, 503-549, 551-599, 701-749,

49-00-00 Page A202 Config-1 May 01/08

TROUBLE SHOOTING MANUAL

R **ON A/C 201-225, 227-227, 229-231, 233-250, 252-299, 426-499, 503-549, R 551-599, 701-749,

B. Do the test given in para. 3.

EFF: 201-225, 227-227, 229-231, 233-250, 252-299, 426-499, 503-549, 551-599, 701-749,

49-00-00 Page A203 Config-1 May 01/08

TROUBLE SHOOTING MANUAL

TASK 49-00-00-810-912

Oil Filter Indication (APS 3200)

1. Possible Causes

- GEN-APU (8XS)
- DIFFERENTIAL PRESSURE INDICATOR-SWITCH P5
- wiring
- ECB (59KD)
- AUXILIARY POWER UNIT (4005KM)
- DIFFERENTIAL PRESSURE INDICATOR-SWITCH P6
- DIFFERENTIAL PRESSURE INDICATOR-SWITCH (8069KM)
- GENERATOR SCAVENGE-FILTER (8069KM)
- LUBRICATION FILTER (8076KM)
- DIFFERENTIAL PRESSURE INDICATOR-SWITCH (8076KM)

2. Job Set-up Information

A. Referenced Information

REFERENCE		DESIGNATION
AMM	24-23-51-000-001	Removal of the APU Generator 8XS
AMM	24-23-51-400-001	Installation of the APU Generator 8XS
AMM	49-00-00-710-008	Operational Test of the APU (APS 3200)
AMM	49-11-11-000-003	Removal of the Power Plant (APU) (APS 3200)
AMM	49-11-11-400-003	Installation of the Power Plant (APU) (APS 3200)
AMM	49-61-34-000-002	Removal of the Electronic Control Box (ECB) (59KD)
		(APS 3200)
AMM	49-61-34-400-002	Installation of the Electronic Control Box (ECB)
		(59KD) (APS 3200)
	49-90-00-600-005	Oil Change (Drain Method) (APS 3200)
AMM	49-91-21-000-002	Removal of the Differential Pressure Switch and
		Indicator (APS 3200)
AMM	49-91-21-400-002	Installation of the Differential Pressure Switch and
		Indicator (APS 3200)
AMM	49-91-23-000-001	Removal of the Lube Pump-Filter Differential-Pressure
	(a a a a a a a a a a a a a a a a a a a	Switch and Indicator (APS 3200)
AMM	49-91-23-400-001	Installation of the Lube Pump-Filter
	10 04 14 000 004	Differential-Pressure Switch and Indicator (APS 3200)
AMM	49-91-41-920-001	Discard Pressure Oil Filter Element (APS 3200)
AMM	49-91-41-920-002	Replace AC-Generator Scavenge Filter-Element (8069KM) (APS 3200)
AMM	49-91-42-000-002	Removal of the Magnetic Drain Plug (APS 3200)
AMM	49-91-42-200-003	Inspection of the Magnetic Drain Plug (APS 3200)
AMM	49-91-42-400-002	Installation of the Magnetic Drain Plug (APS 3200)
ASM	49-61/02	

201-225, 227-227, 229-231, 233-250, 252-299, 426-499, 503-549, 551-599, 701-749,

49-00-0 Page A204 Config-1 May 01/08

TROUBLE SHOOTING MANUAL

3. Fault Confirmation

A. Do the operational test of the APU (Ref. AMM TASK 49-00-00-710-008).

4. Fault Isolation

**ON A/C 201-205, 234-241, 276-278, 280-280, 282-283,

A. If the test gives the maintenance message:

CHECK GEN SCAV FILTER P5 AND LUBE FILTER P6

- do a visual check of the DIFFERENTIAL PRESSURE INDICATORS of the APU GENERATOR SCAVENGE-FILTER and the APU LUBRICATION FILTER.
- (1) If the DIFFERENTIAL PRESSURE INDICATORS do not confirm that the APU GENERATOR SCAVENGE-FILTER and/or the APU LUBRICATION FILTER is/are clogged:
 - replace the DIFFERENTIAL PRESSURE INDICATOR-SWITCH P5 (Ref. AMM TASK 49-91-21-000-002) and (Ref. AMM TASK 49-91-21-400-002).
 - (a) If the fault continues:
 - do a check and repair the wiring from the ECB (59KD) AB/J2, J4 to the OIL FLITER DELTA P-SWITCH P5/1,2 (Ref. ASM 49-61/02)
 - (b) If the fault continues:
 - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-002) and (Ref. AMM TASK 49-61-34-400-002).
- (2) If the DIFFERENTIAL PRESSURE INDICATOR confirms that the APU GENERATOR SCAVENGE-FILTER and/or the APU LUBRICATION FILTER is/are cloaged:
 - replace the oil filter elements (Ref. AMM TASK 49-91-41-920-001) and (Ref. AMM TASK 49-91-41-920-002),
 - do an inspection of the removed oil filter elements,
 - remove the magnetic drain plug (Ref. AMM TASK 49-91-42-000-002),
 - do an inspection of the magnetic drain plug (Ref. AMM TASK 49-91-42-200-003).
 - (a) If the inspections show that only the element of the generator scavenge filter has caught particles:
 - replace the GEN-APU (8XS) (Ref. AMM TASK 24-23-51-000-001) and (Ref. AMM TASK 24-23-51-400-001),
 - install the magnetic drain plug (Ref. AMM TASK 49-91-42-400-002),
 - change the APU oil (Ref. AMM TASK 49-90-00-600-005),
 - start and operate the APU for 5 minutes (Ref. AMM TASK 49-00-00-710-008)
 - remove the oil filter elements (Ref. AMM TASK 49-91-41-920-001) and (Ref. AMM TASK 49-91-41-920-002),
 - do an inspection of the removed oil filter elements,

201-225, 227-227, 229-231, 233-250,

49-00-0 Page A205 Config-1 May 01/08

252-299, 426-499, 503-549, 551-599, 701-749,

TROUBLE SHOOTING MANUAL

- remove the magnetic drain plug (Ref. AMM TASK 49-91-42-000-002).
- do an inspection of the magnetic drain plug (Ref. AMM TASK 49-91-42-200-003).
- 1 If you do not find contamination:
 - install the serviceable oil filter elements (Ref. AMM TASK 49-91-41-920-001) and (Ref. AMM TASK 49-91-41-920-002),
 - install the magnetic drain plug (Ref. AMM TASK 49-91-42-400-002),
 - make an entry in the applicable logbook to tell people the facts of your inspections.
- 2 If you find contamination:
 - install the oil filter elements (Ref. AMM TASK 49-91-41-920-001) and (Ref. AMM TASK 49-91-41-920-002),
 - install the magnetic drain plug (Ref. AMM TASK 49-91-42-400-002),
 - replace the AUXILIARY POWER UNIT (4005KM) (Ref. AMM TASK 49-11-11-000-003) and (Ref. AMM TASK 49-11-11-400-003),
- (b) If the inspections show that the two oil filter elements have caught more than 20 particles or particles larger than 1.52 mm (0.0598 in.):
 - install the magnetic drain plug (Ref. AMM TASK 49-91-42-400-002),
 - replace the AUXILIARY POWER UNIT (4005KM) (Ref. AMM TASK 49-11-11-000-003) and (Ref. AMM TASK 49-11-11-400-003).
- (c) If the inspections show that the two oil filter elements and the magnetic drain plug have caught less than 20 particles and the particles are smaller than 1.52 mm (0.0598 in.):
 - install the magnetic drain plug (Ref. AMM TASK 49-91-42-400-002),
 - change the APU oil (Ref. AMM TASK 49-90-00-600-005),
 - start and operate the APU for 5 minutes (Ref. AMM TASK 49-00-00-710-008).
 - remove the oil filter elements (Ref. AMM TASK 49-91-41-920-001) and (Ref. AMM TASK 49-91-41-920-002),
 - do an inspection of the removed oil filter elements,
 - remove the magnetic drain plug (Ref. AMM TASK 49-91-42-000-002),
 - do an inspection of the magnetic drain plug (Ref. AMM TASK 49-91-42-200-003).
 - 1 If you do not find contamination:
 - install the serviceable oil filter elements (Ref. AMM TASK 49-91-41-920-001) and (Ref. AMM TASK 49-91-41-920-002),
 - install the magnetic drain plug (Ref. AMM TASK 49-91-42-400-002),
 - make an entry in the applicable logbook to tell people the facts of your inspections.

EFF: 201-205, 234-241, 276-278, 280-280, 282-283,

49-00-00

Page A206 Config-1 Feb 01/07

| -02 -00

TROUBLE SHOOTING MANUAL

- 2 If you find contamination:
 - install the oil filter elements (Ref. AMM TASK 49-91-41-920-001) and (Ref. AMM TASK 49-91-41-920-002),
 - install the magnetic drain plug (Ref. AMM TASK 49-91-42-400-002),
 - replace the AUXILIARY POWER UNIT (4005KM) (Ref. AMM TASK 49-11-11-000-003) and (Ref. AMM TASK 49-11-11-400-003),
 - make an entry in the applicable logbook to tell people the facts of your inspections.

R **ON A/C 206-225, 242-250, 252-253, 284-299, 426-450, 479-499, 503-549, R 551-599, 701-749,

A. If the test gives the maintenance message:

CHECK GEN SCAV FILTER P5 AND LUBE FILTER P6

- do a visual check of the DIFFERENTIAL PRESSURE INDICATORS of the APU GENERATOR SCAVENGE-FILTER and the APU LUBRICATION FILTER.
- (1) If the DIFFERENTIAL PRESSURE INDICATORS do not confirm that the APU GENERATOR SCAVENGE-FILTER and/or the APU LUBRICATION FILTER is/are clogged:
 - replace the DIFFERENTIAL PRESSURE INDICATOR-SWITCH P5 (Ref. AMM TASK 49-91-21-000-002) and (Ref. AMM TASK 49-91-21-400-002).
 - (a) If the fault continues:
 - replace the DIFFERENTIAL PRESSURE INDICATOR-SWITCH P6 (Ref. AMM TASK 49-91-23-000-001) and (Ref. AMM TASK 49-91-23-400-001).
 - 1 If the fault continues:
 - do a check and repair the wiring from the ECB (59KD) AB/J2,
 J4 to the OIL FLITER DELTA P-SWITCH P5/1,2 (Ref. ASM 49-61/02)
 - a If the fault continues:
 - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-002)
 and (Ref. AMM TASK 49-61-34-400-002).
- (2) If the DIFFERENTIAL PRESSURE INDICATOR confirms that the APU GENERATOR SCAVENGE-FILTER and/or the APU LUBRICATION FILTER is/are clogged:
 - replace the oil filter elements (Ref. AMM TASK 49-91-41-920-001) and (Ref. AMM TASK 49-91-41-920-002),
 - do an inspection of the removed oil filter elements,
 - remove the magnetic drain plug (Ref. AMM TASK 49-91-42-000-002),
 - do an inspection of the magnetic drain plug (Ref. AMM TASK 49-91-42-200-003).

EFF: 201-225, 234-250, 252-253, 276-278, 280-280, 282-299, 426-450, 479-499, 503-549, 551-599, 701-749, SROS

49-00-00 Page A207 Config-1 Feb 01/08

TROUBLE SHOOTING MANUAL

- (a) If the inspections show that only the element of the generator scavenge filter has caught particles:
 - replace the GEN-APU (8XS) (Ref. AMM TASK 24-23-51-000-001) and (Ref. AMM TASK 24-23-51-400-001),
 - install the magnetic drain plug (Ref. AMM TASK 49-91-42-400-002),
 - change the APU oil (Ref. AMM TASK 49-90-00-600-005),
 - start and operate the APU for 5 minutes (Ref. AMM TASK 49-00-00-710-008),
 - remove the oil filter elements (Ref. AMM TASK 49-91-41-920-001) and (Ref. AMM TASK 49-91-41-920-002),
 - do an inspection of the removed oil filter elements,
 - remove the magnetic drain plug (Ref. AMM TASK 49-91-42-000-002),
 - do an inspection of the magnetic drain plug (Ref. AMM TASK 49-91-42-200-003).
 - 1 If you do not find contamination:
 - install the serviceable oil filter elements (Ref. AMM TASK 49-91-41-920-001) and (Ref. AMM TASK 49-91-41-920-002),
 - install the magnetic drain plug (Ref. AMM TASK 49-91-42-400-002),
 - make an entry in the applicable logbook to tell people the facts of your inspections.
 - 2 If you find contamination:
 - install the oil filter elements (Ref. AMM TASK 49-91-41-920-001) and (Ref. AMM TASK 49-91-41-920-002),
 - install the magnetic drain plug (Ref. AMM TASK 49-91-42-400-002),
 - replace the AUXILIARY POWER UNIT (4005KM) (Ref. AMM TASK 49-11-11-000-003) and (Ref. AMM TASK 49-11-11-400-003),
- (b) If the inspections show that the two oil filter elements have caught more than 20 particles or particles larger than 1.52 mm (0.0598 in.):
 - install the magnetic drain plug (Ref. AMM TASK 49-91-42-400-002),
 - replace the AUXILIARY POWER UNIT (4005KM) (Ref. AMM TASK 49-11-11-000-003) and (Ref. AMM TASK 49-11-11-400-003).
- (c) If the inspections show that the two oil filter elements and the magnetic drain plug have caught less than 20 particles and the particles are smaller than 1.52 mm (0.0598 in.):
 - install the magnetic drain plug (Ref. AMM TASK 49-91-42-400-002),
 - change the APU oil (Ref. AMM TASK 49-90-00-600-005),
 - start and operate the APU for 5 minutes (Ref. AMM TASK 49-00-00-710-008).
 - remove the oil filter elements (Ref. AMM TASK 49-91-41-920-001) and (Ref. AMM TASK 49-91-41-920-002),
 - do an inspection of the removed oil filter elements,

EFF: 206-225, 242-250, 252-253, 284-299, 426-450, 479-499, 503-549, 551-599, 701-749,

49-00-00 Page A208 Config-1 Feb 01/08

TROUBLE SHOOTING MANUAL

- remove the magnetic drain plug (Ref. AMM TASK 49-91-42-000-002).
- do an inspection of the magnetic drain plug (Ref. AMM TASK 49-91-42-200-003).
- 1 If you do not find contamination:
 - install the serviceable oil filter elements (Ref. AMM TASK 49-91-41-920-001) and (Ref. AMM TASK 49-91-41-920-002),
 - install the magnetic drain plug (Ref. AMM TASK 49-91-42-400-002),
 - make an entry in the applicable logbook to tell people the facts of your inspections.
- 2 If you find contamination:
 - install the oil filter elements (Ref. AMM TASK 49-91-41-920-001) and (Ref. AMM TASK 49-91-41-920-002),
 - install the magnetic drain plug (Ref. AMM TASK 49-91-42-400-002),
 - replace the AUXILIARY POWER UNIT (4005KM) (Ref. AMM TASK 49-11-11-000-003) and (Ref. AMM TASK 49-11-11-400-003),
 - make an entry in the applicable logbook to tell people the facts of your inspections.
- R **ON A/C 227-227, 229-231, 233-233, 279-279, 281-281, 457-478,
 - A. If the test gives the maintenance message:

OIL FILTER P5:

- do a visual check of the DIFFERENTIAL PRESSURE INDICATORS of the APU GENERATOR SCAVENGE-FILTER and the APU LUBRICATION FILTER.
- (1) If the DIFFERENTIAL PRESSURE INDICATORS do not confirm that the APU GENERATOR SCAVENGE-FILTER and/or the APU LUBRICATION FILTER is/are clogged:
 - replace the DIFFERENTIAL PRESSURE INDICATOR-SWITCH (8069KM) (Ref. AMM TASK 49-91-21-000-002) and (Ref. AMM TASK 49-91-21-400-002).
 - (a) If the fault continues:
 - do a check and repair the wiring from the ECB (59KD) AB/J2, J4 to the OIL FLITER DIFFERENTIAL P-SWITCH P5/1,2 (Ref. ASM 49-61/02)
 - (b) If the fault continues:
 - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-002) and (Ref. AMM TASK 49-61-34-400-002).

EFF: 206-225, 227-227, 229-231, 233-233, 242-250, 252-253, 279-279, 281-281, 284-299, 426-450, 457-499, 503-549, 551-599, 701-749, SROS

49-00-00 Page A209 Config-1 May 01/08

TROUBLE SHOOTING MANUAL

- (2) If the DIFFERENTIAL PRESSURE INDICATOR confirms that the APU GENERATOR SCAVENGE-FILTER and/or the APU LUBRICATION FILTER is/are clogged:
 - replace the oil filter elements (Ref. AMM TASK 49-91-41-920-001) and (Ref. AMM TASK 49-91-41-920-002),
 - do an inspection of the removed oil filter elements,
 - remove the magnetic drain plug (Ref. AMM TASK 49-91-42-000-002),
 - do an inspection of the magnetic drain plug (Ref. AMM TASK 49-91-42-200-003).
 - (a) If the inspections show that only the element of the generator scavenge filter has caught particles:
 - replace the GEN-APU (8XS) (Ref. AMM TASK 24-23-51-000-001) and (Ref. AMM TASK 24-23-51-400-001),
 - install the magnetic drain plug (Ref. AMM TASK 49-91-42-400-002),
 - change the APU oil (Ref. AMM TASK 49-90-00-600-005),
 - start and operate the APU for 5 minutes (Ref. AMM TASK 49-00-00-710-008),
 - remove the oil filter elements (Ref. AMM TASK 49-91-41-920-001) and (Ref. AMM TASK 49-91-41-920-002),
 - do an inspection of the removed oil filter elements,
 - remove the magnetic drain plug (Ref. AMM TASK 49-91-42-000-002),
 - do an inspection of the magnetic drain plug (Ref. AMM TASK 49-91-42-200-003).
 - 1 If you do not find contamination:
 - install the serviceable oil filter elements (Ref. AMM TASK 49-91-41-920-001) and (Ref. AMM TASK 49-91-41-920-002),
 - install the magnetic drain plug (Ref. AMM TASK 49-91-42-400-002),
 - make an entry in the applicable logbook to tell people the facts of your inspections.
 - 2 If you find contamination:
 - install the oil filter elements (Ref. AMM TASK 49-91-41-920-001) and (Ref. AMM TASK 49-91-41-920-002),
 - install the magnetic drain plug (Ref. AMM TASK 49-91-42-400-002),
 - replace the AUXILIARY POWER UNIT (4005KM) (Ref. AMM TASK 49-11-11-000-003) and (Ref. AMM TASK 49-11-11-400-003),
 - (b) If the inspections show that the two oil filter elements have caught more than 20 particles or particles larger than 1.52 mm (0.0598 in.):
 - install the magnetic drain plug (Ref. AMM TASK 49-91-42-400-002),
 - replace the AUXILIARY POWER UNIT (4005KM) (Ref. AMM TASK 49-11-11-000-003) and (Ref. AMM TASK 49-11-11-400-003).

EFF: 227-227, 229-231, 233-233, 279-279, 281-281, 457-478,

49-00-00 Page A210 Config-1 May 01/08

TROUBLE SHOOTING MANUAL

- (c) If the inspections show that the two oil filter elements and the magnetic drain plug have caught less than 20 particles and the particles are smaller than 1.52 mm (0.0598 in.):
 - install the magnetic drain plug (Ref. AMM TASK 49-91-42-400-002),
 - change the APU oil (Ref. AMM TASK 49-90-00-600-005),
 - start and operate the APU for 5 minutes (Ref. AMM TASK 49-00-00-710-008).
 - remove the oil filter elements (Ref. AMM TASK 49-91-41-920-001) and (Ref. AMM TASK 49-91-41-920-002),
 - do an inspection of the removed oil filter elements,
 - remove the magnetic drain plug (Ref. AMM TASK 49-91-42-000-002),
 - do an inspection of the magnetic drain plug (Ref. AMM TASK 49-91-42-200-003).
 - 1 If you do not find contamination:
 - install the serviceable oil filter elements (Ref. AMM TASK 49-91-41-920-001) and (Ref. AMM TASK 49-91-41-920-002),
 - install the magnetic drain plug (Ref. AMM TASK 49-91-42-400-002),
 - make an entry in the applicable logbook to tell people the facts of your inspections.
 - 2 If you find contamination:
 - install the oil filter elements (Ref. AMM TASK 49-91-41-920-001) and (Ref. AMM TASK 49-91-41-920-002),
 - install the magnetic drain plug (Ref. AMM TASK 49-91-42-400-002),
 - replace the AUXILIARY POWER UNIT (4005KM) (Ref. AMM TASK 49-11-11-000-003) and (Ref. AMM TASK 49-11-11-400-003),
 - make an entry in the applicable logbook to tell people the facts of your inspections.

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R **ON A/C 201-225, 227-227, 229-231, 233-244, 247-250, 252-299, 426-456, R 476-499, 503-549, 551-599, 701-749, R Post SB 49-1061 For A/C 201-225,227-227,229-231,233-244,247-250,252-253, R 276-299,426-450,476-499,503-549,551-599,701-749,
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A. Maintenance Action

(1) If the APU Last Leg Report gives the maintenance message:

GEN SCAV FILTER (8069KM) AND LUBE FILTER (8076KM) Fault Code Number: 039

 do a visual check of the DIFFERENTIAL PRESSURE INDICATORS of the APU GENERATOR SCAVENGE-FILTER (8069KM) and the APU LUBRICATION FILTER (8076KM).

R EFF: 201-225, 227-227, 229-231, 233-244, 247-250, 252-299, 426-499, 503-549, 551-599, 701-749, SROS

49-00-00 Page A211 Config-1 May 01/08

TROUBLE SHOOTING MANUAL

- (a) If the DIFFERENTIAL PRESSURE INDICATORS do not confirm that the APU GENERATOR SCAVENGE-FILTER (8069KM) and/or the APU LUBRICATION FILTER (8076KM) is/are clogged:
 - replace the DIFFERENTIAL PRESSURE INDICATOR-SWITCH (8069KM) (Ref. AMM TASK 49-91-21-000-002) and (Ref. AMM TASK 49-91-21-400-002).
- (b) If the fault continues:
 - replace the DIFFERENTIAL PRESSURE INDICATOR-SWITCH (8076KM) (Ref. AMM TASK 49-91-23-000-001) and (Ref. AMM TASK 49-91-23-400-001).
 - 1 If the fault continues:
 - do a check and repair the wiring from the ECB (59KD) AB/J2,
 J4 to the OIL FILTER DELTA P-SWITCH P5/1,2 (Ref. ASM 49-61/02)
 - a If the fault continues:
 - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-002)
 and (Ref. AMM TASK 49-61-34-400-002).
- (2) If the DIFFERENTIAL PRESSURE INDICATOR confirms that the APU GENERATOR SCAVENGE-FILTER (8069KM) and/or the APU LUBRICATION FILTER (8076KM) is/are cloqqed:
 - replace the oil filter elements (Ref. AMM TASK 49-91-41-920-001) and (Ref. AMM TASK 49-91-41-920-002),
 - do an inspection of the removed oil filter elements,
 - remove the magnetic drain plug (Ref. AMM TASK 49-91-42-000-002),
 - do an inspection of the magnetic drain plug (Ref. AMM TASK 49-91-42-200-003).
 - (a) If the inspections show that only the element of the generator scavenge filter has caught particles:
 - replace the GEN-APU (8XS) (Ref. AMM TASK 24-23-51-000-001) and (Ref. AMM TASK 24-23-51-400-001),
 - install the magnetic drain plug (Ref. AMM TASK 49-91-42-400-002),
 - change the APU oil (Ref. AMM TASK 49-90-00-600-005),
 - start and operate the APU for 5 minutes (Ref. AMM TASK 49-00-00-710-008),
 - remove the oil filter elements (Ref. AMM TASK 49-91-41-920-001) and (Ref. AMM TASK 49-91-41-920-002),
 - do an inspection of the removed oil filter elements,
 - remove the magnetic drain plug (Ref. AMM TASK 49-91-42-000-002),
 - do an inspection of the magnetic drain plug (Ref. AMM TASK 49-91-42-200-003).
 - 1 If you do not find contamination:
 - install the serviceable oil filter elements (Ref. AMM TASK 49-91-41-920-001) and (Ref. AMM TASK 49-91-41-920-002),

EFF: 201-225, 227-227, 229-231, 233-244, 247-250, 252-299, 426-456, 476-499, 503-549, 551-599, 701-749, SROS

49-00-00 Page A212 Config-1 May 01/08

TROUBLE SHOOTING MANUAL

- install the magnetic drain plug (Ref. AMM TASK 49-91-42-400-002),
- make an entry in the applicable logbook to tell people the facts of your inspections.
- 2 If you find contamination:
 - install the oil filter elements (Ref. AMM TASK 49-91-41-920-001) and (Ref. AMM TASK 49-91-41-920-002),
 - install the magnetic drain plug (Ref. AMM TASK 49-91-42-400-002),
 - replace the AUXILIARY POWER UNIT (4005KM) (Ref. AMM TASK 49-11-11-000-003) and (Ref. AMM TASK 49-11-11-400-003),
- (b) If the inspections show that the two oil filter elements have caught more than 20 particles or particles larger than 1.52 mm (0.0598 in.):
 - install the magnetic drain plug (Ref. AMM TASK 49-91-42-400-002),
 - replace the AUXILIARY POWER UNIT (4005KM) (Ref. AMM TASK 49-11-11-000-003) and (Ref. AMM TASK 49-11-11-400-003).
- (c) If the inspections show that the two oil filter elements and the magnetic drain plug have caught less than 20 particles and the particles are smaller than 1.52 mm (0.0598 in.):
 - install the magnetic drain plug (Ref. AMM TASK 49-91-42-400-002),
 - change the APU oil (Ref. AMM TASK 49-90-00-600-005),
 - start and operate the APU for 5 minutes (Ref. AMM TASK 49-00-00-710-008).
 - remove the oil filter elements (Ref. AMM TASK 49-91-41-920-001) and (Ref. AMM TASK 49-91-41-920-002),
 - do an inspection of the removed oil filter elements,
 - remove the magnetic drain plug (Ref. AMM TASK 49-91-42-000-002),
 - do an inspection of the magnetic drain plug (Ref. AMM TASK 49-91-42-200-003).
 - 1 If you do not find contamination:
 - install the serviceable oil filter elements (Ref. AMM TASK 49-91-41-920-001) and (Ref. AMM TASK 49-91-41-920-002),
 - install the magnetic drain plug (Ref. AMM TASK 49-91-42-400-002).
 - make an entry in the applicable logbook to tell people the facts of your inspections.
 - $\underline{2}$ If you find contamination:
 - install the oil filter elements (Ref. AMM TASK 49-91-41-920-001) and (Ref. AMM TASK 49-91-41-920-002),
 - install the magnetic drain plug (Ref. AMM TASK 49-91-42-400-002),
 - replace the AUXILIARY POWER UNIT (4005KM) (Ref. AMM TASK 49-11-11-000-003) and (Ref. AMM TASK 49-11-11-400-003),

EFF: 201-225, 227-227, 229-231, 233-244, 247-250, 252-299, 426-456, 476-499, 503-549, 551-599, 701-749, SROS

49-00-00 Page A213 Config-1 May 01/08

TROUBLE SHOOTING MANUAL

- make an entry in the applicable logbook to tell people the facts of your inspections.

R **ON A/C 201-225, 227-227, 229-231, 233-250, 252-299, 426-499, 503-549, R 551-599, 701-749,

B. Start and operate the APU for 5 minutes (Ref. AMM TASK 49-00-00-710-008).

201-225, 227-227, 229-231, 233-250, 252-299, 426-499, 503-549, 551-599, 701-749,

49-00-0 Page A214

TROUBLE SHOOTING MANUAL

TASK 49-00-00-810-914

Oil Pressure-Switch Fault (APS 3200)

- 1. Possible Causes
 - OIL PRESSURE SWITCH (8091KM)
 - wiring
 - ECB (59KD)
 - ECB (59KD) software 2.02 failure
- 2. Job Set-up Information
 - A. Referenced Information

REFERENCE	DESIGNATION
49-00-00-810-930	APU AUTO SHUT DOWN (APS 3200)
AMM 49-00-00-710-005	Self-Test of the ECB (APS 3200)
AMM 49-61-34-000-002	Removal of the Electronic Control Box (ECB) (59KD) (APS 3200)
AMM 49-61-34-400-002	<pre>Installation of the Electronic Control Box (ECB) (59KD) (APS 3200)</pre>
AMM 49-94-14-000-002	Removal of the Oil Pressure Switch (8091KM) (APS 3200)
AMM 49-94-14-400-002	<pre>Installation of the Oil Pressure Switch (8091KM) (APS 3200)</pre>
ASM 49-61/02	

- 3. Fault Confirmation
 - A. Do the self-test of the ECB (Ref. AMM TASK 49-00-00-710-005).
- 4. Fault Isolation

**ON A/C 201-225, 234-250, 252-253, 276-278, 280-280, 282-299, 426-450, 479-499, 503-549, 551-599, 701-749,

A. If the test gives the maintenance message:

OIL PRESS SW P14:

- replace the OIL PRESSURE SWITCH (8091KM) (Ref. AMM TASK 49-94-14-000-002) and (Ref. AMM TASK 49-94-14-400-002).
- (1) If the fault continues:
 - do a check and repair the wiring from the ECB (59KD) AB/C5, J4 to the OIL PRESSURE SWITCH P14/1, 2 (Ref. ASM 49-61/02).

EFF: 201-225, 227-227, 229-231, 233-250, 252-299, 426-499, 503-549, 551-599, 701-749,

49-00-00 Page A215 Config-1 May 01/08

TROUBLE SHOOTING MANUAL

- (2) If the fault continues:
 - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-002) and (Ref. AMM TASK 49-61-34-400-002).
- R **ON A/C 227-227, 229-231, 233-233, 279-279, 281-281, 457-478,
 - A. If the test gives the maintenance message:

OIL PRESS SW P14:

NOTE : The APU SHUTDOWNS report gives the maintenance message: SENSOR FAILURE - OIL PRESS SW P14

NOTE : This message is also triggered in case of an autoshutdown due to ECB (59KD) software 2.02 failure (Ref. TASK 49-00-00-810-930).

- replace the OIL PRESSURE SWITCH (8091KM) (Ref. AMM TASK 49-94-14-000-002) and (Ref. AMM TASK 49-94-14-400-002).
- (1) If the fault continues:
 - do a check and repair the wiring from the ECB (59KD) AB/C5, J4 to the OIL PRESSURE SWITCH P14/1, 2 (Ref. ASM 49-61/02).
- (2) If the fault continues:
 - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-002) and (Ref. AMM TASK 49-61-34-400-002).

R **ON A/C 201-225, 227-227, 229-231, 233-244, 247-250, 252-299, 426-456, R 476-499, 503-549, 551-599, 701-749, R Post SB 49-1061 For A/C 201-225,227-227,229-231,233-244,247-250,252-253, R 276-299,426-450,476-499,503-549,551-599,701-749,

A. If the APU Last Leg Report gives the maintenance message:

OIL PRESS SW (8091KM): Fault Code Number: 043

- replace the OIL PRESSURE SWITCH (8091KM) (Ref. AMM TASK 49-94-14-000-002) and (Ref. AMM TASK 49-94-14-400-002).
- (1) If the fault continues:
 - do a check and repair the wiring from the ECB (59KD) AB/C5, J4 to the OIL PRESSURE SWITCH (8091KM) P14/1, 2 (Ref. ASM 49-61/02).
 - (a) If the fault continues:
 - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-002) and (Ref. AMM TASK 49-61-34-400-002).

EFF: 201-225, 227-227, 229-231, 233-250, 252-299, 426-499, 503-549, 551-599, 701-749,

49-00-00

Page A216 Config-1 May 01/08

TROUBLE SHOOTING MANUAL

R **ON A/C 201-225, 227-227, 229-231, 233-250, 252-299, 426-499, 503-549, R 551-599, 701-749,

B. Do the test given in para. 3.

EFF: 201-225, 227-227, 229-231, 233-250, 252-299, 426-499, 503-549, 551-599, 701-749,

SROS

49-00-00 Page A217 Config-1 May 01/08

TROUBLE SHOOTING MANUAL

TASK 49-00-00-810-915

Oil Level-Sensor Fault (APS 3200)

- 1. Possible Causes
 - OIL LEVEL SENSOR (8089KM)
 - wiring
 - ECB (59KD)
- 2. Job Set-up Information
 - A. Referenced Information

REFERENCE		DESIGNATION	
AMM	49-00-00-710-005	Self-Test of the ECB (APS 3200)	
AMM	49-61-34-000-002	Removal of the Electronic Control Box (ECB) (59KD) (APS 3200)	
AMM	49-61-34-400-002	<pre>Installation of the Electronic Control Box (ECB) (59KD) (APS 3200)</pre>	
AMM	49-93-17-000-001	Removal of the Oil Level Sensor (8089KM) (APS 3200)	
AMM	49-93-17-400-001	Installation of the Oil Level Sensor (8089KM) (APS 3200)	
ASM	49-61/02		

- 3. Fault Confirmation
 - A. Do the self-test of the ECB (Ref. AMM TASK 49-00-00-710-005).
- 4. Fault Isolation
- R **ON A/C 201-225, 227-227, 229-231, 233-250, 252-253, 276-299, 426-450, R 457-499, 503-549, 551-599, 701-749,
 - A. If the test gives the maintenance message:

OIL LEVEL SENSOR P8:

- replace the OIL LEVEL SENSOR (8089KM) (Ref. AMM TASK 49-93-17-000-001) and (Ref. AMM TASK 49-93-17-400-001).
- (1) If the fault continues:
 - do a check and repair the wiring from the ECB (59KD) AB/H2, J4 to the OIL LEVEL SENSOR P8/1, 2, (Ref. ASM 49-61/02).
- (2) If the fault continues:
 - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-002) and (Ref. AMM TASK 49-61-34-400-002)

201-225, 227-227, 229-231, 233-250, 252-299, 426-499, 503-549, 551-599, 701-749,

49-00-Config-1 May 01/08

Page A218

TROUBLE SHOOTING MANUAL

R **ON A/C 201-225, 227-227, 229-231, 233-244, 247-250, 252-299, 426-456, R 476-499, 503-549, 551-599, 701-749, R Post SB 49-1061 For A/C 201-225,227-227,229-231,233-244,247-250,252-253, R 276-299,426-450,476-499,503-549,551-599,701-749,

A. If the APU Last Leg Report gives the maintenance message:

OIL LEVEL SNSR (8089KM): Fault Code Number: 049 or 050

- replace the OIL LEVEL SENSOR (8089KM) (Ref. AMM TASK 49-93-17-000-001) and (Ref. AMM TASK 49-93-17-400-001).
- (1) If the fault continues:
 - do a check and repair the wiring from the ECB (59KD) AB/H2, J4 to the OIL LEVEL SENSOR (8089KM) P8/1, 2, (Ref. ASM 49-61/02).
 - (a) If the fault continues:
 - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-002) and (Ref. AMM TASK 49-61-34-400-002)
- R **ON A/C 201-225, 227-227, 229-231, 233-250, 252-299, 426-499, 503-549, R 551-599, 701-749,
 - B. Do the test given in para. 3.

EFF: 201-225, 227-227, 229-231, 233-250, 252-299, 426-499, 503-549, 551-599, 701-749,

49-00-00 P

Page A219

TROUBLE SHOOTING MANUAL

TASK 49-00-00-810-916

Low Oil-Level Indication (APS 3200)

1. Possible Causes

- the oil level is not sufficient
- internal oil leakage
- AUXILIARY POWER UNIT (4005KM)
- wiring
- ECB (59KD)
- internal oil leakage.
- OIL LEVEL SENSOR (8089KM)

2. Job Set-up Information

A. Referenced Information

REFERENCE		DESIGNATION
AMM	49-00-00-710-005	Self-Test of the ECB (APS 3200)
AMM	49-11-11-000-003	Removal of the Power Plant (APU) (APS 3200)
AMM	49-11-11-400-003	Installation of the Power Plant (APU) (APS 3200)
AMM	49-61-34-000-002	Removal of the Electronic Control Box (ECB) (59KD) (APS 3200)
AMM	49-61-34-400-002	Installation of the Electronic Control Box (ECB) (59KD) (APS 3200)
AMM	49-90-00-600-004	Check Oil Level and Replenish (APS 3200)
AMM	49-93-17-000-001	Removal of the Oil Level Sensor (8089KM) (APS 3200)
AMM	49-93-17-400-001	Installation of the Oil Level Sensor (8089KM) (APS 3200)
ASM	49-61/02	

- 3. Fault Confirmation
 - A. Do the self-test of the ECB (Ref. AMM TASK 49-00-00-710-005).
- 4. Fault Isolation
- R **ON A/C 201-225, 227-227, 229-231, 233-250, 252-253, 276-299, 426-450, R 457-499, 503-549, 551-599, 701-749,
 - A. If the test gives the maintenance message:

LOW OIL LEVEL:

 do a visual check on the oil sight glass on the accessory drive gearbox and make sure that the oil level in the APU oil reservoir is sufficient.

EFF: 201-225, 227-227, 229-231, 233-250, 252-299, 426-499, 503-549, 551-599, 701-749,

49-00-00

Page A220

TROUBLE SHOOTING MANUAL

- (1) If the oil level is not sufficient:
 - do the oil servicing (Ref. AMM TASK 49-90-00-600-004).
 - calculate the APU oil consumption (Ref. AMM TASK 49-90-00-600-004)

NOTE : If the APU page of the ECAM shows 'Low Oil Level' and there is no oil leakage, Airbus recommends to do oil servicing before 10 flight hours.

- (a) If there is a sudden increase in the APU oil consumption:
 - carefully examine the APU externally and make sure that you do not find leaks on the oil system components or oil lines.
 - 1 If you find external oil leaks: - correct/replace as necessary.
 - If you do not find external oil leaks:examine the APU for internal oil leakage.
 - a If the fault continues:
 - replace the AUXILIARY POWER UNIT (4005KM) (Ref. AMM TASK 49-11-11-000-003) and (Ref. AMM TASK 49-11-11-400-003).
- (2) If the oil level is sufficient:
 - do a check and repair the wiring from the ECB (59KD) AB/H2, J4 to the OIL LEVEL SENSOR P8/1, 2, (Ref. ASM 49-61/02).
 - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-002) and (Ref. AMM TASK 49-61-34-400-002)

R **ON A/C 201-225, 227-227, 229-231, 233-244, 247-250, 252-299, 426-456, R 476-499, 503-549, 551-599, 701-749, R Post SB 49-1061 For A/C 201-225,227-227,229-231,233-244,247-250,252-253, R 276-299,426-450,476-499,503-549,551-599,701-749,

A. If the APU Last Leg Report gives the maintenance message:

LOW OIL LEVEL:

Fault Code Number: 048

- do a visual check on the oil sight glass on the accessory drive gearbox and make sure that the oil level in the APU oil reservoir is sufficient.
- (1) If the oil level is not sufficient:
 - do the oil servicing (Ref. AMM TASK 49-90-00-600-004).
 - calculate the APU oil consumption (Ref. AMM TASK 49-90-00-600-004)

NOTE : If the APU page of the ECAM shows 'Low Oil Level' and there is no oil leakage, Airbus recommends to do oil servicing before 10 flight hours.

EFF: 201-225, 227-227, 229-231, 233-250, 252-299, 426-499, 503-549, 551-599, 701-749,

49-00-00 Pag

Page A221

TROUBLE SHOOTING MANUAL

- (a) If there is a sudden increase in the APU oil consumption:
 - carefully examine the APU externally and make sure that you do not find leaks on the oil system components or oil lines.
 - 1 If you find external oil leaks: - correct/replace as necessary.
 - 2 If you do not find external oil leaks:
 examine the APU for internal oil leakage..
 - a If the fault continues:
 - replace the AUXILIARY POWER UNIT (4005KM) (Ref. AMM TASK 49-11-11-000-003) and (Ref. AMM TASK 49-11-11-400-003).
- (b) If the oil level is sufficient:
 - replace the OIL LEVEL SENSOR (8089KM) (Ref. AMM TASK 49-93-17-000-001) and (Ref. AMM TASK 49-93-17-400-001).
 - 1 If the fault continues:
 - do a check and repair the wiring from the ECB (59KD) AB/H2,
 J4 to the OIL LEVEL SENSOR (8089KM) P8/1, 2 (Ref. ASM 49-61/02).
 - 2 If the fault continues:
 - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-002) and (Ref. AMM TASK 49-61-34-400-002)

R **ON A/C 201-225, 227-227, 229-231, 233-250, 252-299, 426-499, 503-549, R 551-599, 701-749,

B. Do the test given in para. 3.

EFF: 201-225, 227-227, 229-231, 233-250, 252-299, 426-499, 503-549, 551-599, 701-749,

49-00-00

Page A222

TROUBLE SHOOTING MANUAL

TASK 49-00-00-810-921

Fumes in the Cabin/Oil Smoke at the APU Exhaust (APS 3200)

1. Possible Causes

- plumbing
- PMG and COOLING FAN ASSEMBLY (8055KM)
- OIL COOLER
- oil pump assembly
- oil filler cap and scupper
- pressure fill and overflow ports
- GEN-APU 8XS
- Oil Pressure Switch
- AUXILIARY POWER UNIT (4005KM)
- AUXILIARY POWER UNIT 4005KM
- unwanted material in the internal areas of the air inlet duct, the air intake diffuser and elbow
- flexible seals on the air intake system
- alignment of the air inlet duct

2. Job Set-up Information

A. Consumable Materials

REFERENCE	DESIGNATION

No specific

overflow drain tool

B. Referenced Information

REFERENCE		DESIGNATION
AMM	12-33-21-618-001	Pre-conditioning with the APU
AMM	21-00-00-615-001	Decontamination of the Environmental Control System
		(ECS) when the Temperature is below 24 deg.C (APU)
AMM	21-00-00-615-002	Decontamination of the Environmental Control System
		(ECS) when the Temperature is above 24 deg.C (APU)
AMM	21-00-00-615-003	Decontamination of the Environmental Control System
		(ECS) when the Temperature is below 24 deg.C
		(Engine/s)
AMM	21-00-00-615-004	Decontamination of the Environmental Control System
		(ECS) when the Temperature is above 24 deg.C
		(Engine/s)
AMM	24-23-51-000-001	Removal of the APU Generator 8XS
AMM	24-23-51-400-001	Installation of the APU Generator 8XS
AMM	49-00-00-100-002	Cleaning of the APU Compartment with installed APU

EFF: 201-225, 227-227, 229-231, 233-250, 252-299, 426-499, 503-549, 551-599, 701-749,

49-00-00 Page A223 Config-1 May 01/08

TROUBLE SHOOTING MANUAL

	REFE	RENCE	DESIGNATION
R R	AMM	49-00-00-790-007	Check APU Compartment and Air Intake Duct for Oil Contamination (APS 3200)
	AMM	49-11-11-000-003	Removal of the Power Plant (APU) (APS 3200)
	AMM	49-11-11-400-003	Installation of the Power Plant (APU) (APS 3200)
	AMM	49-16-00-100-002	Cleaning of the APU Air Intake (APS 3200)
	AMM	49-16-00-210-002	Detailed Inspection of APU Air Intake, Diffuser Elbow, Seals and Felt Metal (APS 3200)
	AMM	49-20-00-290-001	APU Power Plant Borescope Inspection (APS 3200)
	AMM	49-52-53-000-001	Removal of the PMG and Cooling Fan Assembly (8055KM) (APS 3200)
	AMM	49-52-53-400-001	Installation of the PMG and Cooling Fan Assembly (8055KM) (APS 3200)
	AMM	49-90-00-600-004	Check Oil Level and Replenish (APS 3200)
	AMM	49-91-44-000-003	Removal of the Oil Cooler (8079KM) (APS 3200)
	AMM	49-91-44-400-003	Installation of the Oil Cooler (8079KM) (APS 3200)
	AMM	49-94-14-000-002	Removal of the Oil Pressure Switch (8091KM) (APS 3200)
	AMM	49-94-14-400-002	Installation of the Oil Pressure Switch (8091KM) (APS 3200)

3. Fault Confirmation

A. Do the pre-conditioning with the APU (Ref. AMM TASK 12-33-21-618-001).

4. Fault Isolation

A. If you smell fumes in the cabin during the pre-conditioning with the APU:

WARNING : DO NOT TOUCH THE APU UNTIL IT IS SUFFICIENTLY COOL TO PREVENT BURNS WHEN YOU DO THE MAINTENANCE TASK(S).

- do a check for signs of oil, fuel and other unwanted material on the internal areas of the air inlet duct and the air intake diffuser and elbow,
- do a check for signs of oil and/or fuel on the external areas and the flexible seals on the air intake diffuser and elbow,
- do a check for signs of oil and/or fuel in the APU access doors.
- (1) If you find signs of oil and/or fuel in the external and/or the internal areas of the air inlet duct, the air intake diffuser and elbow and/or the APU access doors:
 - follow the signs of the oil and/or fuel and check the external of the APU in that area for leaks from there the oil and/or fuel came (Ref. AMM TASK 49-00-00-790-007).

NOTE: Do the check very carefully on the:

- plumbing,
- PMG and COOLING FAN ASSEMBLY (8055KM),

EFF: 201-225, 227-227, 229-231, 233-250, 252-299, 426-499, 503-549, 551-599, 701-749,

49-00-00

Page A224

Config-1 May 01/08

R

TROUBLE SHOOTING MANUAL

- OIL COOLER,
- oil pump assembly,
- oil filler cap and scupper,
- pressure fill and overflow ports,
- GEN-APU 8XS
- Oil Pressure Switch.
- (a) If you find a leak on the plumbing:
 - do the repair and replace the tubes, connectors and packings as necessary.
- (b) If you find leak oil in the area of the PMG and cooling fan assembly:
 - replace the PMG and COOLING FAN ASSEMBLY (Ref. AMM TASK 49-52-53-000-001) and (Ref. AMM TASK 49-52-53-400-001).
- (c) If you find leak oil in the area of the oil cooler:
 - replace the OIL COOLER (Ref. AMM TASK 49-91-44-000-003) and (Ref. AMM TASK 49-91-44-400-003) and/or the packings of the oil line connectors as necessary.
- (d) If you find that the oil filler cap is not tight:
 - make sure that the oil level in the oil reservoir is not more than the FULL mark on the sight glass and correct it with the overflow drain tool if necessary (Ref. AMM TASK 49-90-00-600-004).
 - make sure that the oil filler cap and the packing are in the correct condition and replace them if necessary,
 - make sure that the oil scupper packing seals correctly and replace if it necessary.
- (e) If you find that the valves of the pressure fill and overflow ports are not tight:
 - replace the valves as necessary.
- (f) If you find leak oil in the area of the oil pump assy:
 - replace the packings as necessary or replace the AUXILIARY POWER UNIT (4005KM).
- (g) If you find leak oil in the area of the APU generator:
 - replace the GEN-APU 8XS and/or the SEALING PLATE as necessary (Ref. AMM TASK 24-23-51-000-001) and (Ref. AMM TASK 24-23-51-400-001).
- (h) If you find leak oil in the area of the oil cooler:
 - replace the Oil Pressure Switch (Ref. AMM TASK 49-94-14-000-002) and (Ref. AMM TASK 49-94-14-400-002) and/or the packings of the oil line connectors as necessary.
- (i) If the fault continues:
 - replace the AUXILIARY POWER UNIT 4005KM (Ref. AMM TASK 49-11-11-000-003) and (Ref. AMM TASK 49-11-11-400-003).

EFF: 201-225, 227-227, 229-231, 233-250, 252-299, 426-499, 503-549, 551-599, 701-749,

49-00-00

Page A225

TROUBLE SHOOTING MANUAL

- (2) If you find other unwanted material in the internal areas of the air inlet duct, the air intake diffuser and elbow:
 - make sure what material it is and where it came from,
 - if you think that the unwanted material has damaged the APU compressors, do the boroscope inspection of the compressors (Ref. AMM TASK 49-20-00-290-001).
 - (a) If the fault continues:
 - replace the AUXILIARY POWER UNIT (4005KM) (Ref. AMM TASK 49-11-11-000-003) and (Ref. AMM TASK 49-11-11-400-003).
- B. If you see oil smoke at the exhaust during the operation of the APU: - replace the APU AUXILIARY POWER UNIT (4005KM) (Ref. AMM TASK 49-11-11-000-003) and (Ref. AMM TASK 49-11-11-400-003).
- C. Cleaning and Testing

WARNING: DO NOT TOUCH THE APU UNTIL IT IS SUFFICIENTLY COOL TO PREVENT BURNS WHEN YOU DO THE MAINTENANCE TASK(S).

- (1) Clean the APU (Ref. AMM TASK 49-00-00-100-002),
- (2) Make sure that:
 - the flexible seals on the air intake system are in the correct condition
 - the alignment of the air inlet duct is correct (Ref. AMM TASK 49-16-00-210-002).
- (3) Clean the air inlet duct and the air intake diffuser and elbow (Ref. AMM TASK 49-16-00-100-002),
- (4) Clean the APU bleed air duct, the pneumatic ducts of the aircraft and the environmental control system (Ref. AMM TASK 21-00-00-615-001) or (Ref. AMM TASK 21-00-00-615-002) and (Ref. AMM TASK 21-00-00-615-003) or (Ref. AMM TASK 21-00-00-615-004).
- (5) Do the pre-conditioning with the APU (Ref. AMM TASK 12-33-21-618-001) and make sure that you do not smell fumes in the cabin and/or see oil smoke at the APU exhaust.
- (6) Do a check and make sure that you do not find an oil leak on the APU, the APU generator and check for Oil leak at the Oil Press SW (8091KM).

TROUBLE SHOOTING MANUAL

TASK 49-00-00-810-923

Emergency Shutdown on the Ground (APS 3200)

1. Possible Causes

- water ingress in panel 108VU
- FIRE EMERG-STOP RELAY (5WF)
- APU SHUT OFF PUSHBUTTON-SWITCH (1KL)
- APU FIRE/WARN MODULE (1WD)
- wiring
- ECB (59KD)

2. Job Set-up Information

A. Referenced Information

REFERENCE		DESIGNATION
AMM	05-23-10-200-003	Zonal Inspection of Tail Cone APU and Accessory
		Compartment
AMM	26-22-00-710-001	Operational Test of the APU Fire-Extinguishing
		Loop/Squib
AMM	26-22-00-710-002	Operational Test of APU Auto-Fire-Exting. Circuit and
		the APU LP Fuel-Valve operation using each indiv.
		motor in turn and Test APU Emerg. Shutdown Circuit
AMM	49-00-00-710-005	Self-Test of the ECB (APS 3200)
AMM	49-11-11-000-003	Removal of the Power Plant (APU) (APS 3200)
AMM	49-11-11-400-003	Installation of the Power Plant (APU) (APS 3200)
AMM	49-61-34-000-002	Removal of the Electronic Control Box (ECB) (59KD)
		(APS 3200)
AMM	49-61-34-400-002	Installation of the Electronic Control Box (ECB)
		(59KD) (APS 3200)
AMM	49-62-00-710-004	Operational Test of the Emergency Shutdown Circuit
		(using the APU Shut Off Switch 1KL) (APS 3200)
AMM	49-81-41-000-002	Removal of the Exhaust Muffler (APS 3200)
AMM	49-81-41-400-002	Installation of the Exhaust Muffler (APS 3200)

3. Fault Confirmation

- A. Do the subsequent checks.
 - (1) Make sure the APU FIRE pushbutton switch on the APU FIRE/WARN module (1WD) was not pushed by a person accidentally.
 - (2) Make sure the APU SHUT OFF (1KL) switch on the external power-control panel 108VU was not pushed by a person accidentally.
 - (3) Make sure that there is no water ingress in the external power-control panel 108VU.

EFF: 201-225, 227-227, 229-231, 233-250, 252-299, 426-499, 503-549, 551-599, 701-749,

49-00-00

Page A227 Config-1 May 01/08

TROUBLE SHOOTING MANUAL

- (4) Make sure that the FDU is not triggered.
- (5) Do the test of the APU fire detection system (Ref. AMM TASK 26-22-00-710-001).
- (6) Do the test of the APU emergency shutdown system with the APU SHUT OFF pushbutton switch (1KL) (Ref. AMM TASK 49-62-00-710-004).
- (7) Do the operational test of the APU AUTO Fire Extinguishing (Ref. AMM TASK 26-22-00-710-002).
- (8) Do the ECB BITE Test (Ref. AMM TASK 49-00-00-710-005).

4. Fault Isolation

- A. If you find signs of water ingress in panel 108VU:
 - remove the APU SHUT OFF switch (1KL).
 - do a check for moisture/corrosion on the electrical connections.
 - dry the electrical connections.
 - re-install the APU SHUT OFF switch (1KL).
- B. If you do not find the signs of a fire and the tests do not confirm the fault:
 - do an inspection of the APU and the APU compartment and make sure that you do not find the signs of a fire (Ref. AMM TASK 05-23-10-200-003),
 - do a check and make sure that the APU bleed-air duct is in the correct condition and connected correctly,
 - do a check and make sure that the APU exhaust duct is in the correct condition and connected correctly.
 - (1) If you find the signs of a fire when you do the inspection of the APU and the APU compartment:
 - do the applicable repair(s).
 - (2) If the APU bleed-air duct is not in the correct condition and/or connected correctly:
 - replace and/or connect the APU bleed-air duct correctly (Ref. AMM TASK 49-11-11-000-003) and (Ref. AMM TASK 49-11-11-400-003).
 - (3) If the APU exhaust muffler is not in the correct condition and/or connected correctly:
 - replace and/or connect the APU exhaust muffler correctly (Ref. AMM TASK 49-81-41-000-002) and (Ref. AMM TASK 49-81-41-400-002).
 - (4) If the APU bleed-air duct and the APU exhaust muffler are in the correct condition and connected correctly: - refer to Para. 4.B.

201-225, 227-227, 229-231, 233-250,

49-00-0 Page A228 Config-1 May 01/08

TROUBLE SHOOTING MANUAL

- C. If the tests confirm the fault:
 - do a check and make sure that the FIRE EMERG-STOP relay (5WF) is serviceable,
 - do a check and make sure that the APU SHUT OFF pushbutton switch (1KL) is serviceable,
 - do a check and make sure the APU FIRE/WARN module (1WD) is serviceable.
 - (1) If the FIRE EMERG STOP relay (5WF) is not serviceable: - replace the FIRE EMERG-STOP RELAY (5WF).
 - (2) If the APU SHUT OFF pushbutton switch (1KL) is not serviceable: replace the APU SHUT OFF PUSHBUTTON-SWITCH (1KL).
 - (3) If the APU FIRE/WARN module (1WD) is not serviceable: replace the APU FIRE/WARN MODULE (1WD).
 - (4) If the FIRE EMERG STOP relay (5WF), the APU SHUT OFF pushbutton switch (1KL) and the APU FIRE/WARN module (1WD) are serviceable:
 - do a check and repair the wiring:
 - from the FIRE EMERG STOP relay (5WF) A/D1 to the ECB (59KD) AB/B4.
 - from the APU FIRE/WARN module (1WD) F/S to the ECB (59KD) AB/B4.
 - from the APU SHUT OFF pushbutton switch (1KL) 1 to the ECB (59KD) AB/B4.
 - (a) If the fault continues:
 - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-002) and (Ref. AMM TASK 49-61-34-400-002).
- R **ON A/C 201-225, 227-227, 229-231, 233-250, 252-253, 276-299, 426-450, R 457-499, 503-549, 551-599, 701-749,
 - D. If the APU BITE Test gives the maintenance message:

ECB 59KD:

(1) Replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-002) and (Ref. AMM TASK 49-61-34-400-002).

R **ON A/C 201-225, 227-227, 229-231, 233-244, 247-250, 252-299, 426-456, R 476-499, 503-549, 551-599, 701-749, R Post SB 49-1061 For A/C 201-225,227-227,229-231,233-244,247-250,252-253, R 276-299,426-450,476-499,503-549,551-599,701-749,

D. If the APU Last Leg Report gives the maintenance message:

Fault Code Number: 113, 136

NOTE: The APU SHUTDOWNS report gives the maintenance message:

EMERGENCY STOP

APU Auto Shut Down Fault Code Number: 113, 136

EFF: 201-225, 227-227, 229-231, 233-250, 252-299, 426-499, 503-549, 551-599, 701-749,

49-00-00

Page A229

TROUBLE SHOOTING MANUAL

- (1) Replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-002) and (Ref. AMM TASK 49-61-34-400-002).
- R **ON A/C 201-225, 227-227, 229-231, 233-250, 252-299, 426-499, 503-549, R 551-599, 701-749,
 - E. If you do not find the signs of a fire and the tests give a different maintenance message, do the trouble shooting procedure related to the maintenance message.
 - F. Do the tests as given in the Para. 3.

EFF: 201-225, 227-227, 229-231, 233-250, 252-299, 426-499, 503-549, 551-599, 701-749,

49-00-00

Page A230

TROUBLE SHOOTING MANUAL

TASK 49-00-00-810-924

APU AUTO SHUT DOWN - BACKUP OVERSPEED CIRCUIT FAILURE, Cooling Fan/PMG Assy or ECB Fault (APS 3200)

- 1. Possible Causes
 - COOLING FAN/PMG ASSY (8055KM)
 - wiring
 - ECB (59KD)
- 2. Job Set-up Information
 - A. Referenced Information

REFERENCE		DESIGNATION	
AMM	49-00-00-710-008	Operational Test of the APU (APS 3200)	
AMM		Removal of the PMG and Cooling Fan Assembly (8055KM) (APS 3200)	
AMM	49-52-53-400-001	Installation of the PMG and Cooling Fan Assembly (8055KM) (APS 3200)	
AMM	49-61-34-000-002	Removal of the Electronic Control Box (ECB) (59KD) (APS 3200)	
AMM	49-61-34-400-002	<pre>Installation of the Electronic Control Box (ECB) (59KD) (APS 3200)</pre>	
ASM	49-61/02		

- 3. Fault Confirmation
 - A. Do the operational test of the APU (Ref. AMM TASK 49-00-00-710-008).
- 4. Fault Isolation
- R **ON A/C 201-225, 227-227, 229-231, 233-250, 252-299, 426-456, 479-499, R 503-549, 551-599, 701-749,

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- A. Maintenance Action
 - (1) If an APU auto shutdown occurs during the operational test of the APU and the APU SHUTDOWNS report gives the maintenance message:

BACKUP OVERSPEED CIRCUIT FAILURE, ECB (59KD)
- replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-002) and (Ref. AMM TASK 49-61-34-400-002).

EFF: 201-225, 227-227, 229-231, 233-250, 252-299, 426-499, 503-549, 551-599, 701-749,

49-00-00

Page A231 Config-1 May 01/08

TROUBLE SHOOTING MANUAL

(2) If an APU auto shutdown occurs during the operational test of the APU and the APU SHUTDOWNS report gives the maintenance message:

BACKUP OVERSPEED CIRCUIT FAILURE, ECB (59KD) or COOLING FAN/PMG ASSY

- disconnect the connector P28 from the COOLING FAN/PMG ASSY (8055KM).
- do a check of the wiring from the COOLING FAN/PMG ASSY (8055KM) P28/1 to the ECB (59KD) AB/H4 (Ref. ASM 49-61/02).
- (a) If the fault continues:
 - replace the COOLING FAN/PMG ASSY (8055KM) (Ref. AMM TASK 49-52-53-000-001) and (Ref. AMM TASK 49-52-53-400-001).
 - 1 If the fault continues:
 - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-002) and (Ref. AMM TASK 49-61-34-400-002).

R **ON A/C 201-225, 227-227, 229-231, 233-250, 252-299, 426-499, 503-549, R 551-599, 701-749,

B. Do the operational test of the APU (Ref. AMM TASK 49-00-00-710-008).

EFF: 201-225, 227-227, 229-231, 233-250, 252-299, 426-499, 503-549, 551-599, 701-749,

49-00-00 Page A232 Config-1 May 01/08

TROUBLE SHOOTING MANUAL

TASK 49-00-00-810-927

APU AUTO SHUT DOWN - NO ACCELERATION, Main Start Contactor Fault (APS 3200)

1. Possible Causes

- CONTACTOR-MAIN START (5KA)
- the BAT 1 and 2 pushbutton switches are selected OFF
- aircraft wiring
- ECB (59KD)
- wiring

2. Job Set-up Information

A. Referenced Information

REFERENCE		DESIGNATION
AMM	24-38-00-710-001	Operational Test of the Battery Charge Limiter (BCL), (with the CFDS)
AMM	24-38-00-710-001	Operational Test of the Battery Charge Limiter (BCL), (without the CFDS)
AMM	49-00-00-710-008	Operational Test of the APU (APS 3200)
AMM	49-42-55-000-001	Removal of the Start Contactors (5KA,10KA)
AMM	49-42-55-400-001	Installation of the Start Contactors (5KA,10KA)
AMM	49-61-34-000-002	Removal of the Electronic Control Box (ECB) (59KD) (APS 3200)
AMM	49-61-34-400-002	<pre>Installation of the Electronic Control Box (ECB) (59KD) (APS 3200)</pre>
ASM	49-42/01	

3. Fault Confirmation

A. Do the operational test of the APU (Ref. AMM TASK 49-00-00-710-008).

NOTE: Before you start the operational test of the APU, make sure that:

- the battery charge limiters 1PB1 and 1PB2 are serviceable (Ref. AMM TASK 24-38-00-710-001) or (Ref. AMM TASK 24-38-00-710-001),
- the BAT 1 and 2 pushbutton switches are pushed (the FAULT and OFF legends areoff). If the BAT 1 and 2 pushbutton switches are selected OFF, the start contactors are disconnected from the power supply,
- the Ram Air Turbine is in the retracted position.

EFF: 201-225, 227-227, 229-231, 233-250, 252-299, 426-499, 503-549, 551-599, 701-749,

49-00-00 Page A233 Config-1 May 01/08

TROUBLE SHOOTING MANUAL

4. Fault Isolation

- R **ON A/C 201-225, 227-227, 229-231, 233-250, 252-299, 426-456, 479-499, R 503-549, 551-599, 701-749,
 - A. If an APU auto shutdown occurs during the APU start sequence and the APU SHUTDOWNS report gives the maintenance message:

NO ACCELERATION - CONTACTOR 5KA OR ECB 59KD:

- do a check for short to ground of the aircraft wiring from the ECB (59KD) AC/1 to the START CONTACTOR (5KA) B/3 (Ref. ASM 49-42/01).
- (1) If there is a short to ground:
 - repair the aircraft wiring from the ECB (59KD) AC/1 to the MAIN START CONTACTOR (5KA) B/3 (Ref. ASM 49-42/01).
 - (a) If there is no short to ground:
 - replace the CONTACTOR-MAIN START (5KA) (Ref. AMM TASK 49-42-55-000-001) and (Ref. AMM TASK 49-42-55-400-001).
 - (b) If the fault continues:
 - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-002) and (Ref. AMM TASK 49-61-34-400-002).

**ON A/C 457-478,

A. If an APU auto shutdown occurs during the APU start sequence and the APU SHUTDOWNS report gives the maintenance message:

NO ACCELERATION - CONTACTOR 5KA OR ECB 59KD:

- do a check of the wiring from the START CONTACTOR (5KA) B/5 to the ground (Ref. ASM 49-42/01).
- do a check of the wiring from the ECB (59KD) AC/1 to the MAIN START CONTACTOR (5KA) B/3 (Ref. ASM 49-42/01).
- (1) If there is no continuity:
 - repair the wiring from the START CONTACTOR (5KA) B/5 to the ground (Ref. ASM 49-42/01).
 - repair the wiring from the ECB (59KD) AC/1 to the MAIN START CONTACTOR (5KA) B/3 (Ref. ASM 49-42/01).
 - (a) If the fault continues:
 - replace the CONTACTOR-MAIN START (5KA) (Ref. AMM TASK 49-42-55-000-001) and (Ref. AMM TASK 49-42-55-400-001).
 - (b) If the fault continues:
 - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-002) and (Ref. AMM TASK 49-61-34-400-002).

EFF: 201-225, 227-227, 229-231, 233-250, 252-299, 426-499, 503-549, 551-599, 701-749,

49-00-00 Page A234 Config-1 May 01/08

TROUBLE SHOOTING MANUAL

- - (a) If the fault continues:
 replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-002) and (Ref. AMM TASK 49-61-34-400-002).
- R **ON A/C 201-225, 227-227, 229-231, 233-250, 252-299, 426-499, 503-549, R 551-599, 701-749,
 - B. Do the test given in para. 3.

EFF: 201-225, 227-227, 229-231, 233-250, 252-299, 426-499, 503-549, 551-599, 701-749,

49-00-00

Page A235 Config-1 May 01/08

TROUBLE SHOOTING MANUAL

TASK 49-00-00-810-928

APU AUTO SHUT DOWN - NO ACCELERATION, Back-up Start Contactor Fault (APS 3200)

- 1. Possible Causes
 - CONTACTOR-BACK-UP START (10KA)
 - wiring
 - ECB (59KD)
- 2. Job Set-up Information
 - A. Referenced Information

REFERENCE		DESIGNATION	
AMM	49-00-00-710-008	Operational Test of the APU (APS 3200)	
AMM	49-42-55-000-001	Removal of the Start Contactors (5KA,10KA)	
AMM	49-42-55-400-001	Installation of the Start Contactors (5KA,10KA)	
AMM	49-61-34-000-002	Removal of the Electronic Control Box (ECB) (59KD) (APS 3200)	
AMM	49-61-34-400-002	<pre>Installation of the Electronic Control Box (ECB) (59KD) (APS 3200)</pre>	
ASM	49-42/01		

- 3. Fault Confirmation
 - A. Do the operational test of the APU (Ref. AMM TASK 49-00-00-710-008).
- 4. Fault Isolation
- R **ON A/C 201-225, 227-227, 229-231, 233-250, 252-253, 276-299, 426-450, R 457-499, 503-549, 551-599, 701-749,
 - A. If an APU auto shutdown occurs during the APU start sequence and the APU SHUTDOWNS report gives the maintenance message

NO ACCELERATION - CONTACTOR 10KA OR ECB 59KD:

- do a check of the wiring from the BACK-UP START CONTACTOR (10KA) B/5 to the ground (Ref. ASM 49-42/01).
- do a check of the wiring from the ECB (59KD) AC/6 to the BACK-UP START CONTACTOR (10KA) B/3 (Ref. ASM 49-42/01).
- (1) If there is no continuity:
 - repair the wiring from the BACK-UP START CONTACTOR (10KA) B/5 to the ground (Ref. ASM 49-42/01).
 - repair the wiring from the ECB (59KD) AC/6 to the BACK-UP START CONTACTOR (10KA) B/3 (Ref. ASM 49-42/01).

EFF: 201-225, 227-227, 229-231, 233-250, 252-299, 426-499, 503-549, 551-599, 701-749,

49-00-00Page A236
Config-1 May 01/08

TROUBLE SHOOTING MANUAL

- (2) If there is continuity:
 - replace the CONTACTOR-BACK-UP START (10KA) (Ref. AMM TASK 49-42-55-000-001) and (Ref. AMM TASK 49-42-55-400-001).
 - (a) If the fault continues:
 - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-002) and (Ref. AMM TASK 49-61-34-400-002). (a)

R **ON A/C 201-225, 227-227, 229-231, 233-244, 247-250, 252-299, 426-456, R 476-499, 503-549, 551-599, 701-749, R Post SB 49-1061 For A/C 201-225,227-227,229-231,233-244,247-250,252-253, R 276-299,426-450,476-499,503-549,551-599,701-749,

A. If the APU Last Leg Report gives the maintenance message:

CONTACTOR 10KA:

Fault Code Number: 051

Additionally:

Fault Code Number: 018 or 086

NOTE: The APU SHUTDOWNS report gives the maintenance message:

NO ACCELERATION - CONTACTOR 10KA

APU Auto Shut Down Fault Code Number: 051

- do a check and repair the wiring from the BACK-UP START CONTACTOR (10KA) B/5 to the ground (Ref. ASM 49-42/01).
- (1) If the fault continues:
 - do a check and repair the wiring from the ECB (59KD) AC/6 to the BACK-UP START CONTACTOR (10KA) B/3 (Ref. ASM 49-42/01).
 - (a) If the fault continues:
 - replace the CONTACTOR-BACK-UP START (10KA) (Ref. AMM TASK 49-42-55-000-001) and (Ref. AMM TASK 49-42-55-400-001).
 - 1 If the fault continues:
 - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-002) and (Ref. AMM TASK 49-61-34-400-002).
- R **ON A/C 201-225, 227-227, 229-231, 233-250, 252-299, 426-499, 503-549, R 551-599, 701-749,
 - B. Do the test given in para. 3.

EFF: 201-225, 227-227, 229-231, 233-250, 252-299, 426-499, 503-549, 551-599, 701-749,

49-00-00

Page A237

Config-1 May 01/08

TROUBLE SHOOTING MANUAL

TASK 49-00-00-810-930

APU AUTO SHUT DOWN (APS 3200)

- 1. Possible Causes
 - ECB 59KD (software 2.0.2 watchdog time out/lock-up)
- 2. Job Set-up Information
 - A. Referenced Information

REFERENCE DESIGNATION

AMM 49-00-00-710-008

Operational Test of the APU (APS 3200)

- 3. Fault Confirmation
 - A. Do the operational test of the APU (Ref. AMM TASK 49-00-00-710-008).
- 4. Fault Isolation

**ON A/C 457-478,

A. If the test gives no maintenance message, no other maintenance action is necessary.

NOTE : An APU auto shutdown with no applicable entry in the APU Shutdown menu (CFDS) can occur due to the ECB 59KD (software 2.0.2 watchdog time out/lock-up).

- R **ON A/C 201-203, 227-227, 229-231, 233-237, 276-281, 457-478,
 - B. If the test gives a maintenance message, you can find the related trouble shooting procedure in the applicable Page Block 101.

NOTE: If this kind of shutdown occurs while the APU is running, the ECB (59KD) will automatically power-up/reset and the message OIL PRESSURE SWITCH P14 will be displayed on CFDS. This message should be disregarded.

| EFF : 201-225, 227-227, 229-231, 233-250, | 252-299, 426-499, 503-549, 551-599, 701-749,

49-00-00 Page A238 Config-1 May 01/08

TROUBLE SHOOTING MANUAL

R **ON A/C 201-225, 227-227, 229-231, 233-250, 252-299, 426-456, 476-499, R 503-549, 551-599, 701-749,

TASK 49-00-00-810-931

Low PMG Voltage (APS 3200)

1. Possible Causes

- PMG/COOLING FAN ASSEMBLY (8055KM)
- aircraft wiring
- ECB (59KD)
- wiring
- COOLING FAN/PMG ASSY (8053KM)

2. Job Set-up Information

A. Referenced Information

REFERENCE		DESIGNATION
A MM	/0.00.00.740.000	Occasticant Took of the ADU (ADC 7000)
AMM	49-00-00-710-008	Operational Test of the APU (APS 3200)
AMM	49-52-53-000-001	Removal of the PMG and Cooling Fan Assembly (8055KM) (APS 3200)
AMM	49-52-53-400-001	Installation of the PMG and Cooling Fan Assembly (8055KM) (APS 3200)
AMM	49-61-34-000-002	Removal of the Electronic Control Box (ECB) (59KD) (APS 3200)
AMM	49-61-34-400-002	Installation of the Electronic Control Box (ECB) (59KD) (APS 3200)
ASM	49-61/02	

3. Fault Confirmation

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R **ON A/C 201-225, 229-231, 233-250, 252-275, 282-299, 426-456, 479-499, R 503-549, 551-599, 701-749,
```

A. Do the operational test of the APU (Ref. AMM TASK 49-00-00-710-008).

R EFF: 201-225, 227-227, 229-231, 233-250, 252-299, 426-456, 476-499, 503-549, 551-599, 701-749, SROS

49-00-00 Page A239 Config-1 May 01/08

TROUBLE SHOOTING MANUAL

R **ON A/C 201-225, 227-227, 229-231, 233-250, 252-299, 426-456, 476-499, R 503-549, 551-599, 701-749,

4. Fault Isolation

**ON A/C 201-225, 234-250, 252-253, 280-280, 282-299, 426-450, 479-499, 503-549, 551-599, 701-749,

A. If the test gives the maintenance message:

COOLING FAN/PMG ASSY

- replace the PMG/COOLING FAN ASSEMBLY (8055KM) (Ref. AMM TASK 49-52-53-000-001) and (Ref. AMM TASK 49-52-53-400-001).
- (1) If the fault continues:
 - do a check for continuity of the aircraft wiring from the ECB (59KD) AC/10, 11 to the PMG/COOLING FAN ASSY P28/2, 3 (Ref. ASM 49-61/02).
 - (a) If there is continuity:
 - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-002) and (Ref. AMM TASK 49-61-34-400-002).
 - (b) If there is no continuity:repair the aircraft wiring.

R **ON A/C 201-225, 227-227, 229-231, 233-244, 247-250, 252-299, 426-456,
R 476-499, 503-549, 551-599, 701-749,
Post SB 49-1051 For A/C 227-227,276-281,
R Post SB 49-1061 For A/C 201-225,227-227,229-231,233-244,247-250,252-253,
R 276-299,426-450,476-499,503-549,551-599,701-749,

A. If the APU SHUTDOWNS report gives the maintenance message:

COOLING FAN PMG ASSY (8055KM)

Fault Code Number: 002

- do a check and repair the wiring from the ECB (59KD) AC10/11 to the PMG/Cooling Fan Assy Connector P28/2, 3 (Ref. ASM 49-61/02).
- (1) If the fault continues:
 - do a test of the PMG fuse with a multimeter (diode scale):
 place the positive lead on PIN 3 of P28 Connector and the negative lead on PIN 2.
 - if it is approx. 0.9V, the fuse is OK.
 - (a) if the fuse is OK:
 - replace the COOLING FAN/PMG ASSY (8053KM) (Ref. AMM TASK 49-52-53-000-001) and (Ref. AMM TASK 49-52-53-400-001).

EFF: 201-225, 227-227, 229-231, 233-250, 252-299, 426-456, 476-499, 503-549, 551-599, 701-749, SROS

49-00-00Config-1 May 01/08

TROUBLE SHOOTING MANUAL

- 1 If the fault continues:
 - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-002) and (Ref. AMM TASK 49-61-34-400-002).
- (b) if the fuse is blown:
 - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-002) and (Ref. AMM TASK 49-61-34-400-002) and the COOLING FAN/PMG ASSY (8053KM) (Ref. AMM TASK 49-52-53-000-001) and (Ref. AMM TASK 49-52-53-400-001) at the same time.

R **ON A/C 201-225, 229-231, 233-250, 252-275, 282-299, 426-456, 479-499, R 503-549, 551-599, 701-749,

B. Do the test given in para. 3.

TROUBLE SHOOTING MANUAL

R **ON A/C 201-225, 227-227, 229-231, 233-250, 252-299, 426-499, 503-549, R 551-599, 701-749,

TASK 49-00-00-810-932

APU AUTO SHUT DOWN - BACKUP OVERSPEED, ECB 59KD or Cooling Fan/PMG Assy(8055KM) or Fuel Control-Unit or Fault or Speed Sensors Failures, (APS 3200)

1. Possible Causes

- ECB (59KD)
- PMG/COOLING FAN connector P28
- wiring
- ECB (59KD)
- PMG COOLING FAN ASSEMBLY (8055KM)
- FUEL CONTROL UNIT (8022KM)
- PMG COOLING FAN connector P28
- SPEED SENSOR 1 (8060KM1)
- SPEED SENSOR 2 (8060KM2)

2. Job Set-up Information

A. Referenced Information

REFERENCE		DESIGNATION
49-00-00-810-893		APU AUTO SHUT DOWN - OVERSPEED, Fuel Control Unit or ECB Fault (APS 3200)
AMM	49-00-00-710-008	Operational Test of the APU (APS 3200)
AMM	49-32-11-000-002	Removal of the Fuel Control Unit (8022KM) (APS 3200)
AMM	49-32-11-400-002	<pre>Installation of the Fuel Control Unit (8022KM) (APS 3200)</pre>
AMM	49-52-53-000-001	Removal of the PMG and Cooling Fan Assembly (8055KM) (APS 3200)
AMM	49-52-53-400-001	<pre>Installation of the PMG and Cooling Fan Assembly (8055KM) (APS 3200)</pre>
AMM	49-61-34-000-002	Removal of the Electronic Control Box (ECB) (59KD) (APS 3200)
AMM	49-61-34-400-002	<pre>Installation of the Electronic Control Box (ECB) (59KD) (APS 3200)</pre>
AMM	49-71-13-000-002	Removal of the Speed Sensor (APS 3200)
AMM ASM		Installation of the Speed Sensor (APS 3200)

EFF: 201-225, 227-227, 229-231, 233-250, 252-299, 426-499, 503-549, 551-599, 701-749,

49-00-00 Page A242 Config-1 May 01/08

TROUBLE SHOOTING MANUAL

3. Fault Confirmation

A. Do the operational test of the APU (Ref. AMM TASK 49-00-00-710-008).

NOTE : If the APU SHUTDOWNS report gives the message OVERSPEED - FUEL CTL UNIT P19 OR ECB 59KD do the applicable trouble shooting procedure (Ref. TASK 49-00-00-810-893).

4. Fault Isolation

**ON A/C 201-225, 234-250, 252-253, 280-280, 282-299, 426-450, 479-499, 503-549, 551-599, 701-749,

A. If an APU auto shutdown occurs during the operational test of the APU and the APU SHUTDOWNS report gives the maintenance message:

BACKUP OVERSPEED - ECB 59KD OR FAN/PMG ASSY OR FUEL CTL UNIT P19

- do a check of the PMG/COOLING FAN connector P28 and replace if necessary.
- (1) If the fault continues:
 - do a check and repair the wiring from the ECB (59KD) AC/10, 11 to the PMG COOLING FAN ASSEMBLY (8055KM) P28/2, 3 (Ref. ASM 49-61/02).
- (2) If the fault continues:
 - replace the PMG COOLING FAN ASSEMBLY (8055KM) (Ref. AMM TASK 49-52-53-000-001) and (Ref. AMM TASK 49-52-53-400-001).
- (3) If the fault continues:
 - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-002) and (Ref. AMM TASK 49-61-34-400-002).
 - (a) If the fault continues:
 - do a check and repair the wiring from the ECB (59KD) AB/H10, H11 to the FUEL CONTROL UNIT P19/3, 4 (Ref. ASM 49-61/02).
 - 1 If the fault continues:
 - replace the FUEL CONTROL UNIT (8022KM) (Ref. AMM TASK 49-32-11-000-002) and (Ref. AMM TASK 49-32-11-400-002).
- R **ON A/C 201-225, 227-227, 229-231, 233-244, 247-250, 252-299, 426-456,
 R 476-499, 503-549, 551-599, 701-749,
 Post SB 49-1051 For A/C 227-227,276-281,
 R Post SB 49-1061 For A/C 201-225,227-227,229-231,233-244,247-250,252-253,
 R 276-299,426-450,476-499,503-549,551-599,701-749,
 - A. If the APU Last Leg Report gives the maintenance message:

COOLING FAN PMG ASSY (8055KM) Fault Code Number: 115

EFF: 201-225, 227-227, 229-231, 233-250, 252-299, 426-499, 503-549, 551-599, 701-749,

SROS

49-00-00 Page A243 Config-1 May 01/08

TROUBLE SHOOTING MANUAL

NOTE: The APU SHUTDOWNS report gives the maintenance message:

BACKUP OVERSPEED - COOLING FAN PMG ASSY (8055KM)

APU Auto Shut Down Fault Code Number: 115

- do a check of the PMG COOLING FAN connector P28 and replace if necessary.
- do a check and repair the wiring from the ECB (59KD) AC/10, 11 to the PMG COOLING FAN ASSEMBLY (8055KM) P28/2, 3 (Ref. ASM 49-61/02).
- (1) If the fault continues:
 - replace the PMG COOLING FAN ASSEMBLY (8055KM) (Ref. AMM TASK 49-52-53-000-001) and (Ref. AMM TASK 49-52-53-400-001).
 - (a) If the fault continues:
 - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-002) and (Ref. AMM TASK 49-61-34-400-002).
- R **ON A/C 201-225, 227-227, 229-231, 233-250, 252-299, 426-499, 503-549, R 551-599, 701-749, Post SB 49-1061 For A/C 204-225,238-244,247-250,252-253,282-299,426-450, 479-499,503-549,551-599,701-749,
 - B. If the APU Last Leg Report gives the maintenance message:

FUEL CTL UNIT (8022KM)

Fault Code Number: 115

Additionally:

Fault Code Number: 068

- NOTE: The APU SHUTDOWNS report gives the maintenance message: BACKUP OVERSPEED FUEL CTL UNIT (8022KM) APU Auto Shut Down Fault Code Number: 115.
- replace the FUEL CONTROL UNIT (8022KM) (Ref. AMM TASK 49-52-53-000-001) and (Ref. AMM TASK 49-52-53-400-001).
- (1) If the fault continues:
 - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-002) and (Ref. AMM TASK 49-61-34-400-002).
 - (a) If the fault continues:
 - do a check and repair the wiring from the ECB (59KD) AC/10, 11 to the FUEL CONTROL UNIT (8022KM) P19/3, 4 (Ref. ASM 49-61/02).

EFF: 201-225, 227-227, 229-231, 233-250, 252-299, 426-499, 503-549, 551-599, 701-749,

49-00-00

Page A244

Config-1 May 01/08

TROUBLE SHOOTING MANUAL

R **ON A/C 201-225, 227-227, 229-231, 233-250, 252-299, 426-499, 503-549, R 551-599, 701-749,

C. If the APU Last Leg Report gives the maintenance message:

ECB (59KD):

Fault Code Number: 115

Additionally:

Fault Code Number: 061

NOTE: The APU SHUTDOWNS report gives the maintenance message:

BACKUP OVERSPEED - ECB (59KD)

APU Auto Shut Down Fault Code Number: 115

NOTE: The APU SHUTDOWNS report gives the maintenance message: ECB

FAILURE - ECB (59KD) One out of APU Auto Shut Down Fault Code

Number: 061.

- replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-002) and (Ref. AMM TASK 49-61-34-400-002).

R **ON A/C 201-225, 227-227, 229-231, 233-250, 252-299, 426-499, 503-549,

R 551-599, 701-749,

Post SB 49-1061 For A/C 204-225,238-244,247-250,252-253,282-299,426-450, 479-499,503-549,551-599,701-749,

D. If the APU Last Leg Report gives the maintenance message:

SPD SNSR1 (8061KM1) and SPD SNSR2 (8060KM2)

Fault Code Number: 115

Additionally:

Fault Code Number: 034

NOTE: The APU SHUTDOWNS report gives the maintenance message: BACKUP

OVERSPEED - FUEL CTL UNIT (8022KM) - APU Auto Shut Down Fault Code

Number: 115.

NOTE: FCN 034 on Class 3 Faults Page.

- replace the SPEED SENSOR 1 (8060KM1) and the SPEED SENSOR 2 (8060KM2) (Ref. AMM TASK 49-71-13-000-002) and (Ref. AMM TASK 49-71-13-400-002).
- (1) If the fault continues:
 - do a check and repair the wiring from the ECB (59KD) AB/A10, A11 to the SPEED SENSOR 1 (8060KM1) P26/1, 2 (Ref. ASM 49-61/02).
 - (a) If the fault continues:
 - do a check and repair the wiring from the ECB (59KD) AB/B5, B6 to the SPEED SENSOR 2 (8060KM2) P27/1, 2 (Ref. ASM 49-61/02).

EFF: 201-225, 227-227, 229-231, 233-250, 252-299, 426-499, 503-549, 551-599, 701-749,

49-00-00

Page A245 Config-1 May 01/08

TROUBLE SHOOTING MANUAL

R **ON A/C 201-225, 229-231, 233-250, 252-275, 282-299, 426-456, 479-499, R 503-549, 551-599, 701-749,

E. Do the test given in para. 3.

EFF: 201-225, 227-227, 229-231, 233-250, 252-299, 426-499, 503-549, 551-599, 701-749,

49-00-00Page A246
Config-1 May 01/08

TROUBLE SHOOTING MANUAL

TASK 49-00-00-810-933

APU AUTO SHUT DOWN - REVERSE FLOW, Bleed Flow Transducer Fault (APS 3200)

- 1. Possible Causes
 - ECB (59KD)
 - COMPRESSOR DISCHARGE-PRESSURE SNSR P24
 - aircraft wiring
- 2. Job Set-up Information
 - A. Referenced Information

REFERENCE		DESIGNATION	
AMM	49-00-00-710-008	Operational Test of the APU (APS 3200)	
AMM	49-51-19-000-002	Removal of the Sensor - Compressor Discharge Pressure (8039KM) (APS 3200)	
AMM	49-51-19-400-002	<pre>Installation of the Sensor - Compressor Discharge Pressure (8039KM) (APS 3200)</pre>	
AMM	49-61-34-000-002	Removal of the Electronic Control Box (ECB) (59KD) (APS 3200)	
AMM	49-61-34-400-002	<pre>Installation of the Electronic Control Box (ECB) (59KD) (APS 3200)</pre>	
ASM	49-61/02		

- 3. Fault Confirmation
 - A. Do the operational test of the APU (Ref. AMM TASK 49-00-00-710-008).
- 4. Fault Isolation
 - A. If an APU auto shutdown occurs during the operational test of the APU and the APU SHUTDOWNS report gives the maintenance message

REVERSE FLOW - BLEED FLOW XDCR P24

- replace the COMPRESSOR DISCHARGE-PRESSURE SNSR P24 (Ref. AMM TASK 49-51-19-000-002) and (Ref. AMM TASK 49-51-19-400-002).
- <u>NOTE</u>: Do a check and make sure that the orifices and the lines which are connected to the compressor discharge pressure sensor are not clogged. Clean if necessary.
- (1) If the fault continues:
 - do a check and repair the aircraft wiring from the ECB (59KD)
 AB/A1, A4, B2, B3, A2, A3 to the COMPRESSOR DISCHARGE PRESSURE SNSR
 P24/1, 2, 3, 4, 5, 6 (Ref. ASM 49-61/02).

EFF: 201-225, 229-231, 233-250, 252-275, 282-299, 426-456, 479-499, 503-549, 551-599, 701-749, SROS

49-00-00 Page A247 Config-1 May 01/08

TROUBLE SHOOTING MANUAL

- (2) If the fault continues:
 - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-002) and (Ref. AMM TASK 49-61-34-400-002).
- B. Do the test given in para. 3.

EFF: 201-225, 229-231, 233-250, 252-275, 282-299, 426-456, 479-499, 503-549, 551-599, 701-749, SROS

49-00-00 Page A248 Config-1 May 01/08

TROUBLE SHOOTING MANUAL

R **ON A/C 201-225, 227-227, 229-231, 233-250, 252-299, 426-456, 476-499,

R 503-549, 551-599, 701-749,

TASK 49-00-00-810-934

APU AUTO SHUT DOWN - APU FUEL VALVE OPEN, Fuel Control Unit Fault (APS 3200)

- 1. Possible Causes
 - FUEL CONTROL UNIT (8022KM)
 - ECB (59KD)
- 2. Job Set-up Information
 - A. Referenced Information

REFERENCE		DESIGNATION
AMM	49-00-00-710-008	Operational Test of the APU (APS 3200)
AMM AMM	49-32-11-000-002 49-32-11-400-002	Removal of the Fuel Control Unit (8022KM) (APS 3200) Installation of the Fuel Control Unit (8022KM) (APS 3200)
AMM	49-61-34-000-002	Removal of the Electronic Control Box (ECB) (59KD) (APS 3200)
AMM	49-61-34-400-002	<pre>Installation of the Electronic Control Box (ECB) (59KD) (APS 3200)</pre>

- 3. Fault Confirmation
- R **ON A/C 201-225, 229-231, 233-250, 252-275, 282-299, 426-456, 479-499, R 503-549, 551-599, 701-749,
 - A. Do the operational test of the APU (Ref. AMM TASK 49-00-00-710-008).

NOTE: To clear the fault cycle the circuit breaker APU/APU/CTL 2KD (L42) on panel 121VU.

R **ON A/C 201-225, 227-227, 229-231, 233-250, 252-299, 426-456, 476-499, R 503-549, 551-599, 701-749,

4. Fault Isolation

**ON A/C 201-225, 234-250, 252-253, 280-280, 282-299, 426-450, 479-499, 503-549, 551-599, 701-749,

A. If an APU auto shutdown occurs during the operational test of the APU and the APU SHUTDOWNS report gives the maintenance message:

APU FUEL VALVE FAILED OPEN - FUEL CTL UNIT P19:

R EFF: 201-225, 227-227, 229-231, 233-250, 252-299, 426-456, 476-499, 503-549, 551-599, 701-749, SROS

49-00-00Page A249
Config-1 May 01/08

TROUBLE SHOOTING MANUAL

- (1) If the fault continues:
 - replace the FUEL CONTROL UNIT (8022KM) (Ref. AMM TASK 49-32-11-000-002) and (Ref. AMM TASK 49-32-11-400-002).
- (2) If the fault continues:
 - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-002) and (Ref. AMM TASK 49-61-34-400-002).

R **ON A/C 201-225, 227-227, 229-231, 233-244, 247-250, 252-299, 426-456,
R 476-499, 503-549, 551-599, 701-749,
Post SB 49-1051 For A/C 227-227,276-281,
R Post SB 49-1061 For A/C 201-225,227-227,229-231,233-244,247-250,252-253,
R 276-299,426-450,476-499,503-549,551-599,701-749,

A. If the APU Last Leg Report gives the maintenance message:

FUEL CTL UNIT (8022KM): Fault Code Number: 099

NOTE: The APU SHUTDOWNS report gives the maintenance message:

APU FUEL VALVE FAILED OPEN - FUEL CTL UNIT (8022KM)

APU Auto Shut Down Fault Code Number: 099

- replace the FUEL CONTROL UNIT (8022KM) (Ref. AMM TASK 49-32-11-000-002) and (Ref. AMM TASK 49-32-11-400-002).
- (1) If the fault continues:
 - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-002) and (Ref. AMM TASK 49-61-34-400-002).

R **ON A/C 201-225, 229-231, 233-250, 252-275, 282-299, 426-456, 479-499, R 503-549, 551-599, 701-749,

B. Do the test given in para. 3.

R EFF: 201-225, 227-227, 229-231, 233-250, 252-299, 426-456, 476-499, 503-549, 551-599, 701-749, SROS

49-00-00 Page A250 Config-1 May 01/08

TROUBLE SHOOTING MANUAL

R **ON A/C 201-225, 227-227, 229-231, 233-250, 252-299, 426-499, 503-549, R 551-599, 701-749,

TASK 49-00-00-810-937

R No APU Bleed-Air Pressure, Low or Fluctuating APU Bleed-Air Pressure (with AIDS R support) (APS 3200)

1. Possible Causes

- VALVE-FLOW CTL (11HB)
- BLEED CONTROL VALVE (8051KM)
- R LOAD COMPRESSOR DISCHARGE-PRESSURE SENSOR (8051KM)

R

- ECB (59KD)
- R BLEED CHECK VALVE (7260HM)
- R IGV ACTUATOR (8014KM)
- R FUEL CONTROL UNIT (8022KM)
- R FUEL FLOW DIVIDER (8024KM)
- R EGT THERMOCOUPLE 1 (8057KM1)
- R EGT THERMOCOUPLE 2 (8057KM2)
- R EBC (59KD)
- R INLET GUIDE-VANE ACTUATOR (8014KM)
- R INLET TEMP/INLET PRESSURE SENSOR (8013KM)
- R LOAD COMPRESSOR DISCHARGE PRESSURE SENSOR (8039KM)
 - INLET TEMP/INLET PRESSURE SENSOR (8013MD)

R R

- RELAY (17HB)

2. Job Set-up Information

A. Referenced Information

REFERENCE	DESIGNATION
36-12-00-810-804	Low Air Pressure in the Right Crossbleed Duct
49-00-00-810-903	Bleed Flow-Transducer Fault (APS 3200)
49-00-00-810-904	APU AUTO SHUT DOWN - SURGE /REVERSE FLOW, Bleed
	Control Valve Fault (APS3200)
49-00-00-810-905	APU AUTO SHUT DOWN - OVERTEMPERATURE, Inlet Guide
	Vane Actuator Fault (APS 3200)
49-00-00-810-907	Load-Compressor Discharge Temperature-Sensor Fault (APS 3200)
49-00-00-810-908	Inlet Pressure/Temperature Sensor Fault (APS 3200)
49-00-00-810-942	Bleed Control Valve Fault (APS 3200)
AMM 21-51-51-000-001	Removal of the Pack Flow-Control Valve/ Pack
	Flow-Control Unit
AMM 21-51-51-400-001	Installation of the Pack Flow-Control Valve/ Pack
	Flow-Control Unit

EFF: 201-225, 227-227, 229-231, 233-250, 252-299, 426-499, 503-549, 551-599, 701-749,

49-00-00 Page A251 Config-1 May 01/08

TROUBLE SHOOTING MANUAL

	REFE	RENCE	DESIGNATION
R R	AMM	36-11-00-720-004	Leak Check of Engine Bleed Air Supply System and Packs Components
• • • • • • • • • • • • • • • • • • • •	AMM	36-11-00-740-001	BITE Test of the BMC 1(2)
R	AMM	36-12-51-200-001	Remove and Check Auxiliary Power Unit Bleed
R			Check-Valve (7260HM) for Condition
	AMM	49-00-00-710-005	Self-Test of the ECB (APS 3200)
R	AMM	49-00-00-790-005	Air Leak Test with closed APU Doors
	AMM	49-00-00-860-005	APU Start by External Power (APS 3200)
	AMM	49-00-00-860-006	APU Shutdown by External Power (APS 3200)
	AMM	49-11-11-000-003	Removal of the Power Plant (APU) (APS 3200)
	AMM	49-11-11-400-003	Installation of the Power Plant (APU) (APS 3200)
R	AMM	49-20-00-290-001	APU Power Plant Borescope Inspection (APS 3200)
R			
	AMM	49-23-17-000-001	Removal of the Inlet Pressure/Temperature Sensor
		((8013KM) (APS 3200)
	AMM	49-23-17-400-001	Installation of the Inlet Pressure/Temperature Sensor
		/O 27 E4 000 007	(8013KM) (APS 3200)
	AMM	49-23-51-000-003	Removal of the Inlet Guide Vane Actuator (8014KM) (APS 3200)
	AMM	49-23-51-400-003	Installation of the Inlet Guide Vane Actuator
	APIPI	49-23-31-400-003	(8014KM) (APS 3200)
R	AMM	49-23-51-710-001	Push/Pull Test of the Inlet Guide Vane Mechanism
R	A1111	47 23 31 110 001	(8014KM) (APS 3200)
R	AMM	49-32-11-000-002	Removal of the Fuel Control Unit (8022KM) (APS 3200)
R	AMM	49-32-11-400-002	Installation of the Fuel Control Unit (8022KM) (APS
R			3200)
R	AMM	49-32-12-000-002	Removal of the Flow Divider (8024KM) (APS 3200)
R	AMM	49-32-12-400-002	Installation of the Flow Divider (8024KM) (APS 3200)
	AMM	49-51-19-000-002	Removal of the Sensor - Compressor Discharge Pressure
			(8039KM) (APS 3200)
	AMM	49-51-19-400-002	Installation of the Sensor - Compressor Discharge
			Pressure (8039KM) (APS 3200)
	AMM	49-51-53-000-001	Removal of the Bleed Control Valve (8051KM) (APS 3200)
	AMM	49-51-53-400-001	Installation of the Bleed Control Valve (8051KM) (APS
			3200)
	AMM	49-61-34-000-002	Removal of the Electronic Control Box (ECB) (59KD) (APS 3200)
	AMM	49-61-34-400-002	Installation of the Electronic Control Box (ECB)
			(59KD) (APS 3200)
R	AMM	49-72-15-000-001	Removal of the Thermocouple (8057KM1) and (8057KM2)
R			(APS 3200)
R	AMM	49-72-15-400-002	Installation of the Thermocouple (8057KM1) and
R			(8057KM2) (APS 3200)
	AMM	71-00-00-710-001	Dry Motoring Check
R	ASM	49-61/02	
R	ASM	49-61/04	

R EFF: 201-225, 227-227, 229-231, 233-250, 252-299, 426-499, 503-549, 551-599, 701-749, SROS

49-00-00Page A252
Config-1 May 01/08

TROUBLE SHOOTING MANUAL

3. Fault Confirmation

A. Test

WARNING: MAKE SURE THAT THE FWD AVIONICS ACCESS DOOR 811 IS OPEN. WITH A WARNING PLACARD ATTACHED TO IT.

THE WARNING NOTICE MUST TELL PERSONS NOT TO CLOSE THE DOOR.

THIS PREVENTS ACCIDENTAL PRESSURIZATION OF THE AIRCRAFT.

NOTE: Examine and record all indications shown on the APU system page (lower ECAM display unit) under the different mode conditions (specially the EGT and the BLEED pressure), during the test.

(1) Do the self test of the ECB (Ref. AMM TASK 49-00-00-710-005).

NOTE: If the self test gives a maintenance message, do the related trouble shooting procedure first before you continue with this test.

(2) Start and operate the APU (Ref. AMM TASK 49-00-00-860-005):

NOTE: On the AIR COND section on the overhead panel 30VU, make sure that the ENG 1 BLEED and the ENG 2 BLEED pushbutton switches are in the OFF position.

- record the EGT on the APU page (lower ECAM display unit).
- (3) On the AIR COND section on the overhead panel 30VU, push the APU BLEED pushbutton switch to ON.
 - record the EGT and the BLEED pressure on the APU page (lower ECAM display unit).
- (4) On the AIR COND section on the overhead panel 30VU, push the PACK 1 pushbutton switch to on (the OFF legend is off).
 - record the BLEED pressure on the APU page (lower ECAM display unit).
- (5) On the AIR COND section on the overhead panel 30VU, push the PACK 1 pushbutton switch to OFF (the OFF legend is off).
 - record the BLEED pressure on the APU page (lower ECAM display unit).
- (6) On the AIR COND section on the overhead panel 30VU, push the PACK 2 pushbutton switch to on (the OFF legend is off).
 - record the BLEED pressure on the APU page (lower ECAM display unit).
- (7) On the AIR COND section on the overhead panel 30VU, push also the PACK 1 pushbutton switch to on (the PACK 1 and PACK 2 OFF legends are off).
 - record the BLEED pressure on the APU page (lower ECAM display unit).

EFF: 201-225, 227-227, 229-231, 233-250, 252-299, 426-499, 503-549, 551-599, 701-749,

49-00-00 Page A253 Config-1 May 01/08

TROUBLE SHOOTING MANUAL

- (8) On the AIR COND section on the overhead panel 30VU, push the PACK 1 and the PACK 2 pushbutton switches to OFF (the OFF legends are on). record the BLEED pressure on the APU page (lower ECAM display unit).
- (9) Do the dry motoring of the engine 1 (Ref. AMM TASK 71-00-00-710-001), - record the BLEED pressure on the APU page (lower ECAM display unit).
- (11) Do the APU shutdown (Ref. AMM TASK 49-00-00-860-006).

4. Fault Isolation

R **ON A/C 201-225, 227-227, 229-231, 233-250, 252-253, 276-299, 426-450, R 457-499, 503-549, 551-599, 701-749,

- A. If the self test gives the maintenance message:
 - BLEED CTL VLV P33 (Ref. TASK 49-00-00-810-904) if APU Autoshutdown,
 - BLEED CTL VLV P33 (Ref. TASK 49-00-00-810-942) if no APU Autoshutdown,
 - BLEED FLOW XDCR P24 (Ref. TASK 49-00-00-810-903),
 - INLET TEMP/PRESS SNSR P22 (Ref. TASK 49-00-00-810-908),
 - INLET GUIDE VANE ACTR P21 (Ref. TASK 49-00-00-810-905),
 - LOAD COMPRESSOR DISCHARGE TEMP SENSOR P29 (Ref. TASK 49-00-00-810-907).

B. If:

R R R

R

R

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R R

R R

R R

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R R

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SROS

R (1) WB and/or PT are below the range.

- do an inspection of the APU Air Inlet for air flow blockage.

If the fault continues:

 replace the BLEED CONTROL VALVE (8051KM) (Ref. AMM TASK 49-51-53-000-001) and (Ref. AMM TASK 49-51-53-400-001).

If the fault continues:

- replace the LOAD COMPRESSOR DISCHARGE-PRESSURE SENSOR (8051KM) (Ref. AMM TASK 49-51-19-000-002) and (Ref. AMM TASK 49-51-19-400-002).

If the fault continues:

- do a check for clogging/damage of the LCDP sensor lines.

If the fault continues:

replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-002) and (Ref. AMM TASK 49-61-34-400-002).

If the fault continues:

EFF: 201-225, 227-227, 229-231, 233-250, 252-299, 426-499, 503-549, 551-599, 701-749,

49-00-00 Page A254 Config-1 May 01/08

TROUBLE SHOOTING MANUAL

- do a check of the BLEED CHECK VALVE (7260HM) (Ref. AMM TASK 36-12-R R 51-200-001). C. If: R R (1) EGT does not rise and PT does not increase on the APU system page. - replace the BLEED CONTROL VALVE (8051KM) (Ref. AMM TASK 49-51-53-000-001) and (Ref. AMM TASK 49-51-53-400-001). R **ON A/C 201-225, 227-227, 229-231, 233-244, 247-250, 252-299, 426-456, 476-499, 503-549, 551-599, 701-749, Post SB 49-1061 For A/C 201-225,227-227,229-231,233-244,247-250,252-253, R 276-299,426-450,476-499,503-549,551-599,701-749,

- A. If the self test gives the maintenance message:
 - BLEED CTL VLV (8051KM) (Ref. TASK 49-00-00-810-904) if APU Autoshutdown,
 - BLEED CTL VLV (8051KM) (Ref. TASK 49-00-00-810-942) if no APU Autoshutdown,
 - BLEED FLOW XDCR (8039KM) (Ref. TASK 49-00-00-810-903),
 - INLET TEMP/PRESS SNSR (8013KM) (Ref. TASK 49-00-00-810-908),
 - INLET GUIDE VANE ACTR (8014KM) (Ref. TASK 49-00-00-810-905),
- B. If:
 - there is no or low bleed pressure,
 - .the APU self test gives no maintenance message,
 - .the EGT does not rise and no increase in BLEED (PSI) pressure on the APU system page.

NOTE: Aircraft configuration:

- the PACK 1 and 2 pushbutton switches are off,
- the APU BLEED valve pushbutton switches is ON.
- check the bleed control valve position during the APU operation.
- (1) If the bleed control valve is not open:
 - replace the BLEED CONTROL VALVE (8051KM) (Ref. AMM TASK 49-51-53-000-001) and (Ref. AMM TASK 49-51-53-400-001).
- C. If:
 - .there is no or low bleed pressure,
 - .the APU self test gives no maintenance message,
 - .the EGT rises and the BLEED (PSI) pressure is low on the APU system page.

NOTE: Aircraft configuration:

- the PACK 1 and 2 pushbutton switches are off,
- the APU BLEED valve pushbutton switches is ON.

EFF: 201-225, 227-227, 229-231, 233-250, 252-299, 426-499, 503-549, 551-599, 701-749,

49-00-00

Page A255

Config-1 May 01/08

TROUBLE SHOOTING MANUAL

- do a check of the bleed control valve position and the movement of the IGVs, during the APU operation.
- (1) If the bleed control valve is not fully open:
 - replace the BLEED CONTROL VALVE (8051KM) (Ref. AMM TASK 49-51-53-000-001) and (Ref. AMM TASK 49-51-53-400-001).
- (2) If the load control valve is fully open and the IGVs does not move:
 replace the IGV ACTUATOR (8014KM) (Ref. AMM TASK 49-23-51-000-003)
 and (Ref. AMM TASK 49-23-51-400-003).
 - (a) If the fault continues:
 - replace the APU (4005KM) (Ref. AMM TASK 49-11-11-000-003) and (Ref. AMM TASK 49-11-11-400-003).
 - (b) If the fault continues:
 - do a check of the aircraft bleed system for leaks.

R **ON A/C 201-225, 227-227, 229-231, 233-250, 252-299, 426-499, 503-549, R 551-599, 701-749,

D. If:

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R

SROS

(1) IGV and EGT are out of range

 do a check of the APU Bleed Ducts for cracks or leaks (Ref. AMM TASK 49-00-00-790-005).

If the fault continues:

- replace the FUEL CONTROL UNIT (8022KM) (Ref. AMM TASK 49-32-11-000-002) and (Ref. AMM TASK 49-32-11-400-002).

If the fault continues:

- do a check and repair the wiring from the ECB (59KD) AB/11F,3J,10H,11H to the FUEL CONTROL UNIT (8022KM) P19/1,2,3,4 (Ref. ASM 49-61/04).

If the fault continues:

- replace the FUEL FLOW DIVIDER (8024KM) (Ref. AMM TASK 49-32-12-000-002) and (Ref. AMM TASK 49-32-12-400-002).

If the fault continues:

 replace the EGT THERMOCOUPLE 1 (8057KM1) and EGT THERMOCOUPLE 2 (8057KM2) (Ref. AMM TASK 49-72-15-000-001) and (Ref. AMM TASK 49-72-15-400-002).

If the fault continues:

replace the EBC (59KD) (Ref. AMM TASK 49-61-34-000-002) and (Ref. AMM TASK 49-61-34-400-002).

If the fault continues:

EFF: 201-225, 227-227, 229-231, 233-250, 252-299, 426-499, 503-549, 551-599, 701-749,

49-00-00 Page A256 Config-1 May 01/08

TROUBLE SHOOTING MANUAL

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R
             - do a borescope inspection of the APU (Ref. AMM TASK 49-20-00-290-
R
               001).
R
  **ON A/C 201-225, 227-227, 229-231, 233-250, 252-253, 276-299, 426-450,
  457-499, 503-549, 551-599, 701-749,
      E. If:
         (1) IGV is out of range
R
             - do a push/pull test of the IGV Mechanism (Ref. AMM TASK 49-23-51-
R
R
               710-001).
             (a) If the push/pull test is OK
R
                 - replace the INLET GUIDE-VANE ACTUATOR (8014KM) (Ref. AMM TASK
R
                   49-23-51-000-003) and (Ref. AMM TASK 49-23-51-400-003).
R
R
                 If the fault continues:
R
                 - replace the FUEL CONTROL UNIT (8022KM) (Ref. AMM TASK 49-32-11-
R
                   000-002) and (Ref. AMM TASK 49-32-11-400-002).
R
R
R
                 If the fault continues:
                 - do a check and repair the wiring from the ECB (59KD)
R
R
                   AB/11F,3J,10H,11H to the FUEL CONTROL UNIT (8022KM) P19/1,2,3,4
                   (Ref. ASM 49-61/04).
R
R
R
                 If the fault continues:
R
                 - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-002) and
                   (Ref. AMM TASK 49-61-34-400-002).
R **ON A/C 201-225, 227-227, 229-231, 233-244, 247-250, 252-299, 426-456,
  476-499, 503-549, 551-599, 701-749,
  Post SB 49-1061 For A/C 201-225,227-227,229-231,233-244,247-250,252-253,
                            276-299,426-450,476-499,503-549,551-599,701-749,
      E. If:
         the bleed pressure is low with both packs in operation,
         .the APU self test gives no maintenance message.
         NOTE: Aircraft configuration:
                - the PACK 1 and 2 pushbutton switches are on,
                - the APU BLEED valve pushbutton switches is ON.
         - replace the BLEED CONTROL VALVE (8051KM) (Ref. AMM TASK 49-51-53-000-
           001) and (Ref. AMM TASK 49-51-53-400-001).
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EFF: 201-225, 227-227, 229-231, 233-250, 252-299, 426-499, 503-549, 551-599, 701-749,

SROS

49-00-00 Page A257 Config-1 May 01/08

TROUBLE SHOOTING MANUAL (1) If the fault continues: - replace the INLET TEMP/INLET PRESSURE SENSOR (8013KM) (Ref. AMM TASK 49-23-17-000-001) and (Ref. AMM TASK 49-23-17-400-001). - replace the LOAD COMPRESSOR DISCHARGE PRESSURE SENSOR (8039KM) (Ref. AMM TASK 49-51-19-000-002) and (Ref. AMM TASK 49-51-19-400-002). (2) If the fault continues: - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-002) and (Ref. AMM TASK 49-61-34-400-002). R **ON A/C 201-225, 227-227, 229-231, 233-250, 252-299, 426-499, 503-549, 551-599, 701-749, F. If: The LCIT value differs from Ambient Temperature of more than 10 deg.C R R (50.00 deg.F), do a check for APU hot gas ingestion R R If the fault continues: - replace the INLET TEMP/INLET PRESSURE SENSOR (8013KM) (Ref. AMM TASK R 49-23-17-000-001) and (Ref. AMM TASK 49-23-17-400-001). R If the fault continues: R R - do a check and repair of the wiring from the ECB (59KD) AB/D3,E6 to the INLET TEMP/INLET PRESSURE SENSOR (8013MD) P22/6,5 (Ref. ASM 49-61/02). R R R If the fault continues: - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-002) and (Ref. AMM R TASK 49-61-34-400-002). R R **ON A/C 201-225, 227-227, 229-231, 233-250, 252-253, 276-299, 426-450, 457-499, 503-549, 551-599, 701-749, G. If: .the bleed pressure is normal on one pack but is low with 2 Packs in R R operation R .the APU self test gives no maintenance message. NOTE: Aircraft configuration: R R - the PACK 1 or 2 pushbutton switch is ON, R - the APU BLEED valve pushbutton switch is ON. - do the trouble shooting procedure of low air pressure in the right R cross bleed duct (Ref. TASK 36-12-00-810-804). R

EFF: 201-225, 227-227, 229-231, 233-250, 252-299, 426-499, 503-549, 551-599, 701-749,

(1) If the fault continues:

R

R R

SROS

- do a check of the isolated pack for leaks.

TROUBLE SHOOTING MANUAL

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H. If:
R
         .the bleed pressure is low or fluctuating.
         - do the operational test of the BMCs (Ref. AMM TASK 36-11-00-740-001).
R
R
R
         (1) If the test gives a maintenance message:
             - do the related trouble shooting procedure. end
R
R
             (a) If the test is OK:
R

    do a leak check of the aircraft bleed system (Ref. AMM TASK 36-

R
                   11-00-720-004).
R
  **ON A/C 201-225, 227-227, 229-231, 233-244, 247-250, 252-299, 426-456,
  476-499, 503-549, 551-599, 701-749,
R Post SB 49-1061 For A/C 201-225,227-227,229-231,233-244,247-250,252-253,
R
                            276-299,426-450,476-499,503-549,551-599,701-749,
      G. If:
         .the bleed pressure is low with both engines in operation,
         .the bleed pressure is also low in ECS mode,
         .the APU self test gives no maintenance message.
         - replace the BLEED CONTROL VALVE (8051KM) (Ref. AMM TASK 49-51-53-000-
           001) and (Ref. AMM TASK 49-51-53-400-001).
         (1) If the fault continues:
             - replace the INLET TEMP/INLET PRESSURE SENSOR (8013KM) (Ref. AMM
               TASK 49-23-17-000-001) and (Ref. AMM TASK 49-23-17-400-001).
             - replace the LOAD COMPRESSOR DISCHARGE PRESSURE SENSOR (8039KM)
               (Ref. AMM TASK 49-51-19-000-002) and (Ref. AMM TASK 49-51-19-400-
               002).
         (2) If the fault continues:
             - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-002) and (Ref.
               AMM TASK 49-61-34-400-002).
         (3) If the fault continues:

    do a check of the aircraft bleed system for leaks.

      H. If:
         .the bleed pressure fluctuates during MES motoring test,
         NOTE: The N2 speed of the engine must not more than 25%.
         .the APU self test gives no maintenance message.
         NOTE: Aircraft configuration:
                - the PACK 1 and 2 pushbutton switches are OFF,
                - the APU BLEED valve pushbutton switches is ON,
                - both engines BLEED pushbutton switches are off,
                - MES motoring test with one engine.
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EFF: 201-225, 227-227, 229-231, 233-250, 252-299, 426-499, 503-549, 551-599, 701-749,

49-00-00

Page A259

Config-1 May 01/08

TROUBLE SHOOTING MANUAL

- replace the BLEED CONTROL VALVE (8051KM) (Ref. AMM TASK 49-51-53-000-001) and (Ref. AMM TASK 49-51-53-400-001).

**ON A/C 209-225, 247-250, 252-275, 285-299, 429-475, 479-499, 503-549, 551-599, 701-749,

- J. If.
 - . a low APU bleed pressure cannot be confirmed,
 - . there is a pilot/maintenance report of a low APU pressure during Engine
 1 start:
 - replace RELAY (17HB)
 - (1) If the fault continues:
 - replace VALVE-FLOW CTL (11HB)
 (Ref. AMM TASK 21-51-51-000-001) and (Ref. AMM TASK 21-51-51-400-001).
- R **ON A/C 201-225, 227-227, 229-231, 233-250, 252-299, 426-499, 503-549, R 551-599, 701-749,
 - K. Do the test given in para. 3.

EFF: 201-225, 227-227, 229-231, 233-250, 252-299, 426-499, 503-549, 551-599, 701-749,

49-00-00

Page A260 Config-1 May 01/08

TROUBLE SHOOTING MANUAL

TASK 49-00-00-810-942

Bleed Control Valve Fault (APS 3200)

1. Possible Causes

- fuel leaks
- BLEED CONTROL VALVE (8051KM)
- ECB (59KD)
- wiring
- FUEL FLOW DIVIDER (8024KM)
- FUEL CONTROL UNIT
- FUEL CONTROL UNIT (8022KM)

2. Job Set-up Information

A. Referenced Information

REFERENCE		DESIGNATION
DO	497300	
AMM		Operational Test of the APU (APS 3200)
AMM	49-23-17-000-001	Removal of the Inlet Pressure/Temperature Sensor (8013KM) (APS 3200)
AMM	49-23-17-400-001	<pre>Installation of the Inlet Pressure/Temperature Sensor (8013KM) (APS 3200)</pre>
AMM	49-32-11-000-002	Removal of the Fuel Control Unit (8022KM) (APS 3200)
AMM	49-32-11-400-002	<pre>Installation of the Fuel Control Unit (8022KM) (APS 3200)</pre>
AMM	49-32-12-000-002	Removal of the Flow Divider (8024KM) (APS 3200)
AMM	49-32-12-400-002	Installation of the Flow Divider (8024KM) (APS 3200)
AMM	49-51-19-000-002	Removal of the Sensor - Compressor Discharge Pressure (8039KM) (APS 3200)
AMM	49-51-19-400-002	<pre>Installation of the Sensor - Compressor Discharge Pressure (8039KM) (APS 3200)</pre>
AMM	49-51-53-000-001	Removal of the Bleed Control Valve (8051KM) (APS 3200)
AMM	49-51-53-400-001	Installation of the Bleed Control Valve (8051KM) (APS 3200)
AMM	49-61-34-000-002	Removal of the Electronic Control Box (ECB) (59KD) (APS 3200)
AMM	49-61-34-400-002	Installation of the Electronic Control Box (ECB) (59KD) (APS 3200)
ASM	49-61/02	

EFF: 201-225, 227-227, 229-231, 233-250, 252-299, 426-499, 503-549, 551-599, 701-749,

49-00-00 Page A261 Config-1 May 01/08

TROUBLE SHOOTING MANUAL

3. Fault Confirmation

A. Do the operational test of the APU (Ref. AMM TASK 49-00-00-710-008).

NOTE: During the operational test of the APU, carefully examine the fuel lines from the fuel control unit to the bleed control valve:

- fuel leaks are not permitted, correct/replace as necessary.

4. Fault Isolation

R **ON A/C 201-225, 227-227, 229-231, 233-250, 252-253, 276-299, 426-450, R 457-499, 503-549, 551-599, 701-749,

A. If the test gives the maintenance message:

BLEED CTL VLV P33:

- replace the BLEED CONTROL VALVE (8051KM) (Ref. AMM TASK 49-51-53-000-001) and (Ref. AMM TASK 49-51-53-400-001).
- (1) If the fault continues:
 - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-002) and (Ref. AMM TASK 49-61-34-400-002).
- (2) If the fault continues:
 - do a check and repair the wiring from the ECB (59KD) AB/G6, G7, H3, F10, D7, J5 to the BLEED CONTROL VALVE P33/1, 2, 3, 4, 5, 6 (Ref. ASM 49-61/02).
- (3) If the fault continues:
 - replace the FUEL FLOW DIVIDER (8024KM) (Ref. AMM TASK 49-32-12-000-002) and (Ref. AMM TASK 49-32-12-400-002).
- (4) If the fault continues:
 - replace the FUEL CONTROL UNIT (Ref. AMM TASK 49-32-11-000-002) and (Ref. AMM TASK 49-32-11-400-002).

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R **ON A/C 201-225, 227-227, 229-231, 233-244, 247-250, 252-299, 426-456, R 476-499, 503-549, 551-599, 701-749, R Post SB 49-1061 For A/C 201-225,227-227,229-231,233-244,247-250,252-253, R 276-299,426-450,476-499,503-549,551-599,701-749,
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A. Maintenance Action

SROS

(1) If the APU Last Leg Report gives the maintenance message:

BLEED CTL VLV (8051KM): Fault Code Number(s): 69 or 70

- do a check and repair the wiring from the ECB (59KD) AB/G6, G7 to the BLEED CONTROL VALVE (8051KM) P33/1, 2 (Ref. ASM 49-61/02).

EFF: 201-225, 227-227, 229-231, 233-250, 252-299, 426-499, 503-549, 551-599, 701-749,

49-00-00

Page A262

Config-1 May 01/08

TROUBLE SHOOTING MANUAL

- (a) If the fault continues:
 - replace the BLEED CONTROL VALVE (8051KM) (Ref. AMM TASK 49-51-53-000-001) and (Ref. AMM TASK 49-51-53-400-001).
 - 1 If the fault continues:
 - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-002) and (Ref. AMM TASK 49-61-34-400-002).
- (2) If the APU Last Leg Report gives the maintenance message:

BLEED CTL VLV (8051KM): Fault Code Number: 96

- do a check of the IGV Actuator Guide pin with the IGV for correct installation. If the pin is disengaged, replace the pin.
- (a) If the fault continues:
 - replace the BLEED CONTROL VALVE (8051KM) (Ref. AMM TASK 49-51-53-000-001) and (Ref. AMM TASK 49-51-53-400-001).
 - 1 If the fault continues:
 - do a check and repair the wiring from the ECB (59KD) AB/G6,
 G7, H3, F10, D7, J5 to the BLEED CONTROL VALVE (8051KM)
 P33/1, 2, 3, 4, 5, 6 (Ref. ASM 49-61/02).
- (b) If the fault continues:

Interrogate CFDS for APU fault message. Use prompts (>) to go to the fault conditions screen (Ref. DO 497300).

Print Fault Condition Screen and do an inspection of the APU Inlet Pressure (P2A) and Bleed Air Pressure (PT).

1 If an unusual P2A value is shown, compare with Ambient Static Pressure.

NOTE: At Standard Sea Level, P2A is 1013 mbar (14.69 psi).

- \underline{a} replace the INLET PRESSURE/TEMPERATURE SENSOR (8013KM) (Ref. AMM TASK 49-23-17-000-001) and (Ref. AMM TASK 49-23-17-400-001).
 - If the fault continues: . do a check of the wiring from the ECB (59KD) AB/A1. A4, C8, C9, D3, E6 to the INLET PRESSURE/TEMPERATURE SENSOR (8013KM) p22/1, 2, 3, 4, 6, 5 (Ref. ASM 49-61/02).
- 2 If an unusual PT value is shown.

NOTE: The possible values of PT must be around 1.2 bar (17.4045 psi).

EFF: 201-225, 227-227, 229-231, 233-244, 247-250, 252-299, 426-456, 476-499, 503-549, 551-599, 701-749, SROS

49-00-00 Page A263 Config-1 May 01/08

TROUBLE SHOOTING MANUAL

- a replace the COMPRESSOR DISCHARGE-PRESSURE SENSOR (8039KM) (Ref. AMM TASK 49-51-19-000-002) and (Ref. AMM TASK 49-51-19-400-002).
 - If the fault continues:
 - do a check and repair the wiring from the ECB (59KD)
 AB/A4, A1, B2, B3, A2, A3 to the COMPRESSOR
 DISCHARGE-PRESSURE SENSOR (8039KM) P24/2, 1, 3, 4, 5, 6
 (Ref. ASM 49-61/02).
- (c) If the fault continues:
 - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-002) (Ref. AMM TASK 49-61-34-400-002).
- (3) If the APU Last Leg Report gives the maintenance message:

BLEED CTL VLV (8051KM): Fault Code Number: 138

- replace the BLEED CONTROL VALVE (8051KM) (Ref. AMM TASK 49-51-53-000-001) and (Ref. AMM TASK 49-51-53-400-001).
- (a) If the fault continues:
 - do a check and repair the wiring between the ECB (59KD) AB/H3, F10, D7, J5 and the BLEED CONTROL VALVE LVDT P33/3, 4, 5, 6 (Ref. ASM 49-61/02).
 - 1 If the fault continues:
 - replace the FUEL CONTROL UNIT (8022KM) (Ref. AMM TASK 49-32-11-000-002) and (Ref. AMM TASK 49-32-11-400-002).
 - a If the fault continues:
 - replace the FUEL FLOW DIVIDER (8024KM) (Ref. AMM TASK 49-32-12-000-002) and (Ref. AMM TASK 49-32-12-400-002).
 - b If the fault continues:
 - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-002)
 and (Ref. AMM TASK 49-61-34-400-002).
- (4) If the APU Last Leg Report gives the maintenance message:

BLEED CTL VLV (8051KM):

Fault Code Number: 119 or 172

- replace the BLEED CONTROL VALVE (8051KM) (Ref. AMM TASK 49-51-53-000-001) and (Ref. AMM TASK 49-51-53-400-001).
- (a) If the fault continues:
 - do a check and repair the wiring between the ECB (59KD) AB/H3, F10, D7, J5 and the BLEED CONTROL VALVE LVDT P33/3, 4, 5, 6 (Ref. ASM 49-61/02).

EFF: 201-225, 227-227, 229-231, 233-244, 247-250, 252-299, 426-456, 476-499, 503-549, 551-599, 701-749, SROS

49-00-00 Page A264 Config-1 May 01/08

TROUBLE SHOOTING MANUAL

- R **ON A/C 201-225, 227-227, 229-231, 233-250, 252-299, 426-499, 503-549, R 551-599, 701-749,
 - B. Do the test given in para. 3.

EFF: 201-225, 227-227, 229-231, 233-250, 252-299, 426-499, 503-549, 551-599, 701-749,

49-00-00

Page A265

Config-1 May 01/08

TROUBLE SHOOTING MANUAL

TASK 49-00-00-810-943

Inlet Guide-Vane Actuator Fault (APS 3200)

1. Possible Causes

- fuel leaks
- INLET GUIDE-VANE ACTUATOR (8014KM)
- wiring
- ECB (59KD)
- INLET GUIDE VANE MECHANISM
- FUEL CONTROL UNIT (8022KM)
- FUEL FLOW DIVIDER (8024KM)

2. Job Set-up Information

A. Referenced Information

REFERENCE	DESIGNATION
28-22-00-810-801	APU Fuel System - Low Pressure
AMM 28-22-00-710-002	Operational Test of the APU Fuel-Pump System
AMM 49-00-00-710-008	Operational Test of the APU (APS 3200)
AMM 49-23-51-000-003	Removal of the Inlet Guide Vane Actuator (8014KM) (APS 3200)
AMM 49-23-51-400-003	<pre>Installation of the Inlet Guide Vane Actuator (8014KM) (APS 3200)</pre>
AMM 49-23-51-710-001	Push/Pull Test of the Inlet Guide Vane Mechanism (8014KM) (APS 3200)
AMM 49-32-11-000-002	Removal of the Fuel Control Unit (8022KM) (APS 3200)
AMM 49-32-11-400-002	<pre>Installation of the Fuel Control Unit (8022KM) (APS 3200)</pre>
AMM 49-32-12-000-002	Removal of the Flow Divider (8024KM) (APS 3200)
AMM 49-32-12-400-002	Installation of the Flow Divider (8024KM) (APS 3200)
AMM 49-61-34-000-002	Removal of the Electronic Control Box (ECB) (59KD) (APS 3200)
AMM 49-61-34-400-002	<pre>Installation of the Electronic Control Box (ECB) (59KD) (APS 3200)</pre>
ASM 49-61/02	

EFF: 201-225, 227-227, 229-231, 233-250, 252-299, 426-499, 503-549, 551-599, 701-749,

49-00-00 Page A266 Config-1 May 01/08

TROUBLE SHOOTING MANUAL

3. Fault Confirmation

R **ON A/C 201-225, 227-227, 229-231, 233-250, 252-253, 276-299, 426-450, R 457-499, 503-549, 551-599, 701-749,

A. Check/Test

(1) Push the IGV operating rod with the quick-release pin towards the CLOSE position

NOTE: As an alternative you can operate one of the LH BOOST pumps to support the APU fuel pump during the operational test. The additional pressure by the LH BOOST pump may close the IGVs.

(2) Do the operational test of the APU (Ref. AMM TASK 49-00-00-710-008).

NOTE: Make sure that the fuel supply to the APU is correct (Ref. AMM TASK 28-22-00-710-002). If the fuel supply is not correct, do the trouble shooting of APU low fuel pressure (Ref. TASK 28-22-00-810-801).

<u>NOTE</u>: During the operational test of the APU, carefully examine the fuel lines from the fuel control unit to the inlet guide-vane actuator:

- fuel leaks are not permitted, correct/replace as necessary.

R **ON A/C 201-225, 227-227, 229-231, 233-244, 247-250, 252-299, 426-456, R 476-499, 503-549, 551-599, 701-749, R Post SB 49-1061 For A/C 201-225,227-227,229-231,233-244,247-250,252-253, R 276-299,426-450,476-499,503-549,551-599,701-749,

A. Check/Test

(1) Push the IGV operating rod with the quick-release pin towards the CLOSE position

NOTE: As an alternative you can operate one of the LH BOOST pumps to support the APU fuel pump during the operational test. The additional pressure by the LH BOOST pump may close the IGVs.

(2) Do the operational test of the APU (Ref. AMM TASK 49-00-00-710-008).

NOTE: During the operational test of the APU, carefully examine the fuel lines from the fuel control unit to the inlet guide-vane actuator:

- fuel leaks are not permitted, correct/replace as necessary.

EFF: 201-225, 227-227, 229-231, 233-250, 252-299, 426-499, 503-549, 551-599, 701-749,

49-00-00

Page A267

Config-1 May 01/08

TROUBLE SHOOTING MANUAL

R **ON A/C 201-225, 227-227, 229-231, 233-250, 252-299, 426-499, 503-549, R 551-599, 701-749,

4. Fault Isolation

R **ON A/C 201-225, 227-227, 229-231, 233-250, 252-253, 276-299, 426-450, R 457-499, 503-549, 551-599, 701-749,

A. If the test gives the maintenance message:

INLET GUIDE VANE ACTR P21:

- replace the INLET GUIDE-VANE ACTUATOR (8014KM) (Ref. AMM TASK 49-23-51-000-003) and (Ref. AMM TASK 49-23-51-400-003).
- (1) If the fault continues:
 - do a check and repair the wiring from the ECB (59KD) AB/G8, G9, E12, E11, E8, E9 to the INLET GUIDE-VANE ACTUATOR P21/1, 2, 3, 4, 5, 6 (Ref. ASM 49-61/02).
- (2) If the fault continues:
 - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-002) and (Ref. AMM TASK 49-61-34-400-002).

R **ON A/C 201-225, 227-227, 229-231, 233-244, 247-250, 252-299, 426-456, 476-499, 503-549, 551-599, 701-749, Post SB 49-1061 For A/C 201-225,227-227,229-231,233-244,247-250,252-253, 276-299,426-450,476-499,503-549,551-599,701-749,

- A. Maintenance Action
 - (1) If the APU Last Leg Report gives the maintenance message:

IGV ACTR (8014KM):

Fault Code Number: 62 or 63

- do a check and repair the wiring from the ECB (59KD) AB/G8, G9, E12, E11, E8, E9 to the INLET GUIDE-VANE ACTUATOR (8014KM) P21/1, 2, 3, 4, 5, 6 (Ref. ASM 49-61/02).
- (a) If the fault continues:
 - replace the INLET GUIDE-VANE ACTUATOR (8014KM) (Ref. AMM TASK 49-23-51-000-003) and (Ref. AMM TASK 49-23-51-400-003).
 - 1 If the fault continues:
 - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-002) and (Ref. AMM TASK 49-61-34-400-002).
- (2) If the APU Last Leg Report gives the maintenance message:

IGV ACTR (8014KM): Fault Code Number: 118

49-00-0

Config-1 May 01/08

201-225, 227-227, 229-231, 233-250,

252-299, 426-499, 503-549, 551-599, 701-749,

TROUBLE SHOOTING MANUAL

- do the Push/Pull Test of the INLET GUIDE VANE MECHANISM (Ref. AMM TASK 49-23-51-710-001).
- (a) If the fault continues:
 - do a check and repair the wiring from the ECB (59KD) AB/E12, E11, E8, E9 to the LVDT P21/3, 4, 5, 6 (Ref. ASM 49-61/02).
 - 1 If the fault continues:
 - do a check of the fuel line for damage and replace if necessary.
 - 2 If the fault continues:
 - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-002) and (Ref. AMM TASK 49-61-34-400-002).
- (3) If the APU Last Leg Report gives the maintenance message:

IGV ACTR (8014KM):

Fault Code Number: 139

- do the Push/Pull Test of the INLET GUIDE VANE MECHANISM (Ref. AMM TASK 49-23-51-710-001).
- (a) If the fault continues:
 - do a check and repair the wiring from the ECB (59KD) AB/E12,
 E11, E8, E9 to the LVDT P21/3, 4, 5, 6 (Ref. ASM 49-61/02).
 - 1 If the fault continues:
 - do a check of the fuel line for damage and replace if necessary.
 - 2 If the fault continues:
 - replace the FUEL CONTROL UNIT (8022KM) (Ref. AMM TASK 49-32-11-000-002) and (Ref. AMM TASK 49-32-11-400-002).
 - a If the fault continues:
 - replace the FUEL FLOW DIVIDER (8024KM) (Ref. AMM TASK 49-32-12-000-002) and (Ref. AMM TASK 49-32-12-400-002).
 - b If the fault continues:
 - replace the INLET GUIDE-VANE ACTUATOR (8014KM) (Ref. AMM TASK 49-23-51-000-003) and (Ref. AMM TASK 49-23-51-400-003).
 - \underline{c} If the fault continues:
 - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-002)
 and (Ref. AMM TASK 49-61-34-400-002).
- R **ON A/C 201-225, 227-227, 229-231, 233-250, 252-299, 426-499, 503-549, R 551-599, 701-749,
 - B. Do the test given in para. 3.

SROS

EFF: 201-225, 227-227, 229-231, 233-250, 252-299, 426-499, 503-549, 551-599, 701-749,

49-00-00Page A269

Config-1 May 01/08

TROUBLE SHOOTING MANUAL

TASK 49-00-00-810-945

Fuel Control Unit Fault during APU Start without AUTO SHUTDOWN (APS 3200)

- 1. Possible Causes
 - ECB software 2.0.2 nuisance fault
- 2. Job Set-up Information

Not Applicable

- 3. Fault Confirmation
 - A. Not applicable, you cannot confirm this intermittent ECB software 2.0.2 nuisance fault.
- 4. Fault Isolation

**ON A/C 457-478,

A. The inductance of some Main Fuel Valves can cause a FUEL CTL UNIT P19 class 1 fault message on CFDS during APU start.

If this fault has occured, class 1 fault without shutdown, and the APU had started and operated correctly, then this fault can be disregarded.

EFF: 201-225, 227-227, 229-231, 233-250, 252-299, 426-499, 503-549, 551-599, 701-749,

49-00-00 Page A270 Config-1 May 01/08

TROUBLE SHOOTING MANUAL

R **ON A/C 201-225, 227-227, 229-231, 233-250, 252-299, 426-499, 503-549, R 551-599, 701-749,

TASK 49-00-00-810-946

Metal Chip contamination on Magnetic Drain Plug or Speed Sensors (APS 3200)

- 1. Possible Causes
 - APU (internal wear)
 - APU (front bearing failure)
- 2. Job Set-up Information
 - A. Consumable Materials

REFERENCE	DESIGNATION
No specific Material No. 11-002	lint-free cloth USA MIL-PRF-680 DRY CLEANING SOLVENT (VARSOL/WHITE SPIRIT) (Ref. 20-31-00)

B. Referenced Information

REFERENCE		DESIGNATION
AMM	49-00-00-860-005	APU Start by External Power (APS 3200)
AMM	49-00-00-860-006	APU Shutdown by External Power (APS 3200)
AMM	49-11-11-000-003	Removal of the Power Plant (APU) (APS 3200)
AMM	49-11-11-400-003	Installation of the Power Plant (APU) (APS 3200)
AMM	49-71-13-000-002	Removal of the Speed Sensor (APS 3200)
AMM	49-71-13-400-002	Installation of the Speed Sensor (APS 3200)
AMM	49-90-00-600-005	Oil Change (Drain Method) (APS 3200)
AMM	49-91-41-920-001	Discard Pressure Oil Filter Element (APS 3200)
AMM	49-91-41-920-002	Replace AC-Generator Scavenge Filter-Element (8069KM) (APS 3200)
AMM	49-91-42-000-002	Removal of the Magnetic Drain Plug (APS 3200)
AMM	49-91-42-400-002	Installation of the Magnetic Drain Plug (APS 3200)

- 3. Fault Confirmation
 - A. Not applicable.

EFF: 201-225, 227-227, 229-231, 233-250, 252-299, 426-499, 503-549, 551-599, 701-749,

SROS

49-00-00 Page A271 Config-1 May 01/08

TROUBLE SHOOTING MANUAL

4. Fault Isolation

- A. Maintenance Action for Magnetic Drain Plug metal chip contamination
 - (1) If you find a small quantity of metal particles not larger than 1.50 mm (0.0590 in.) in any shape:
 - in this permitted case install the magnetic element in the drain plug (Ref. AMM TASK 49-91-42-400-002).
 - (2) If you find a large quantity of metal particles smaller than 1.50 mm (0.0590 in.), do the following steps:

WARNING: OBEY THE MANUFACTURER'S INSTRUCTIONS WHEN YOU USE THIS/THESE MATERIAL/S.

USE PROTECTIVE CLOTHING, RUBBER GLOVES, GOGGLES AND A MASK.

WARNING: MAKE SURE THAT THERE IS A GOOD FLOW OF AIR THROUGH THE WORK AREA WHEN YOU USE SPECIAL MATERIALS.

IF YOU GET ONE OF THESE MATERIALS ON YOUR SKIN, IN YOUR

MOUTH OR IN YOUR EYES :

-FLUSH IT AWAY WITH A FLOW OF CLEAN WATER FOR BETWEEN 10 AND 15 MINUTES.

-GET IMMEDIATE MEDICAL AID IF IRRITATION OCCURS.

DO NOT BREATHE THE FUMES FROM THE MATERIAL.

DO NOT SMOKE WHEN YOU USE THE MATERIAL.

DO NOT USE THE MATERIAL NEAR A FLAME, SPARKS OR SOURCES OF HEAT.

THESE MATERIALS ARE DANGEROUS: THEY ARE POISONOUS, FLAMMABLE AND SKIN IRRITANTS.

CAUTION: DO NOT CLEAN THE OIL FILTER ELEMENTS. YOU MUST DISCARD THEM AND INSTALL NEW FILTER ELEMENTS. IF YOU CLEAN THE OIL FILTER ELEMENTS, YOU CAN CAUSE DAMAGE TO THEM. THIS WILL CAUSE DAMAGE TO THE APU.

- (a) Clean the magnetic element in the CLEANING AGENTS (Material No. 11-002).
- (b) Dry the magnetic element with a clean, lint-free cloth.
- (c) Replace the oil filters (Ref. AMM TASK 49-91-41-920-002) and (Ref. AMM TASK 49-91-41-920-001).
- (d) Install the magnetic element (Ref. AMM TASK 49-91-42-400-002).
- (e) Do the servicing to change the oil in the APU oil reservoir (Ref. AMM TASK 49-90-00-600-005).
- (f) Start the APU (Ref. AMM TASK 49-00-00-860-005) and operate it for 15 minutes.
- (g) Do the APU shutdown procedure (Ref. AMM TASK 49-00-00-860-006).

EFF: 201-225, 227-227, 229-231, 233-250, 252-299, 426-499, 503-549, 551-599, 701-749,

49-00-00 Page A272 Config-1 May 01/08

TROUBLE SHOOTING MANUAL

- (h) Remove the magnetic element (Ref. AMM TASK 49-91-42-000-002).
- (i) Remove the oil filters for inspection (Ref. AMM TASK 49-91-41-920-001) and (Ref. AMM TASK 49-91-41-920-002).
- (j) Inspect the magnetic element and the oil filter elements under a source of white light for metal particles.
 - if you find any metal particles on the magnetic element or the oil filter elements:
 - Replace the APU (internal wear) (Ref. AMM TASK 49-11-11-000-003) and (Ref. AMM TASK 49-11-11-400-003)
- (3) If you find metal particles larger than 1.50 mm (0.0590 in.): - replace the APU (internal wear) (Ref. AMM TASK 49-11-11-000-003) and (Ref. AMM TASK 49-11-11-400-003).

R **ON A/C 201-225, 227-227, 229-231, 233-250, 252-253, 276-299, 426-450, R 457-499, 503-549, 551-599, 701-749,

- B. Maintenance Action for Speed Sensor(s) metal chip contamination
 - (1) If you find a small quantity of metal particles do the following steps:

WARNING: OBEY THE MANUFACTURER'S INSTRUCTIONS WHEN YOU USE THIS/THESE MATERIAL/S. USE PROTECTIVE CLOTHING, RUBBER GLOVES, GOGGLES AND A MASK.

WARNING: MAKE SURE THAT THERE IS A GOOD FLOW OF AIR THROUGH THE WORK AREA WHEN YOU USE SPECIAL MATERIALS. IF YOU GET ONE OF THESE MATERIALS ON YOUR SKIN, IN YOUR MOUTH OR IN YOUR EYES :

> -FLUSH IT AWAY WITH A FLOW OF CLEAN WATER FOR BETWEEN 10 AND 15 MINUTES.

-GET IMMEDIATE MEDICAL AID IF IRRITATION OCCURS.

DO NOT BREATHE THE FUMES FROM THE MATERIAL.

DO NOT SMOKE WHEN YOU USE THE MATERIAL.

DO NOT USE THE MATERIAL NEAR A FLAME, SPARKS OR SOURCES OF HEAT.

THESE MATERIALS ARE DANGEROUS : THEY ARE POISONOUS,

FLAMMABLE AND SKIN IRRITANTS.

CAUTION: DO NOT CLEAN THE OIL FILTER ELEMENTS. YOU MUST DISCARD THEM AND INSTALL NEW FILTER ELEMENTS. IF YOU CLEAN THE OIL FILTER ELEMENTS, YOU CAN CAUSE DAMAGE TO THEM. THIS WILL CAUSE DAMAGE TO THE APU.

- (a) Clean the speed sensor(s) in the CLEANING AGENTS (Material No. 11-002).
- (b) Dry the speed sensor(s) with a clean, lint-free cloth.

201-225, 227-227, 229-231, 233-250, 252-299, 426-499, 503-549, 551-599, 701-749,

49-00-00

Page A273 Config-1 May 01/08

TROUBLE SHOOTING MANUAL

- (c) Install the speed sensor(s) (Ref. AMM TASK 49-71-13-400-002).
- (d) Start the APU (Ref. AMM TASK 49-00-00-860-005) and operate it for 15 minutes.
- (e) Do the APU shutdown procedure (Ref. AMM TASK 49-00-00-860-006).
- (f) Remove the speed sensor(s) (Ref. AMM TASK 49-71-13-000-002).
- (g) Inspect the speed sensor(s) under a source of white light for metal particles and if you find any metal particles on the speed sensor(s):
 - 1 Replace the APU (front bearing failure) (Ref. AMM TASK 49-11-11-000-003) and (Ref. AMM TASK 49-11-11-400-003).
- (2) If you find a large quantity of metal particles:
 - replace the APU (front bearing failure) (Ref. AMM TASK 49-11-11-000-003) and (Ref. AMM TASK 49-11-11-400-003).

R **ON A/C 201-225, 227-227, 229-231, 233-244, 247-250, 252-299, 426-456, R 476-499, 503-549, 551-599, 701-749, R Post SB 49-1061 For A/C 201-225,227-227,229-231,233-244,247-250,252-253, R 276-299,426-450,476-499,503-549,551-599,701-749,

- B. Maintenance Action for Speed Sensor(s) metal chip contamination
 - (1) If you find a small quantity of metal particles do the following steps:

WARNING: OBEY THE MANUFACTURER'S INSTRUCTIONS WHEN YOU USE THIS/THESE MATERIAL/S.

USE PROTECTIVE CLOTHING, RUBBER GLOVES, GOGGLES AND A MASK.

WARNING : MAKE SURE THAT THERE IS A GOOD FLOW OF AIR THROUGH THE WORK AREA WHEN YOU USE SPECIAL MATERIALS.

IF YOU GET ONE OF THESE MATERIALS ON YOUR SKIN, IN YOUR MOUTH OR IN YOUR EYES:

-FLUSH IT AWAY WITH A FLOW OF CLEAN WATER FOR BETWEEN 10 AND 15 MINUTES.

-GET IMMEDIATE MEDICAL AID IF IRRITATION OCCURS.

DO NOT BREATHE THE FUMES FROM THE MATERIAL.

DO NOT SMOKE WHEN YOU USE THE MATERIAL.

DO NOT USE THE MATERIAL NEAR A FLAME, SPARKS OR SOURCES OF HEAT.

THESE MATERIALS ARE DANGEROUS: THEY ARE POISONOUS, FLAMMABLE AND SKIN IRRITANTS.

CAUTION : DO NOT CLEAN THE OIL FILTER ELEMENTS. YOU MUST DISCARD THEM

AND INSTALL NEW FILTER ELEMENTS. IF YOU CLEAN THE OIL FILTER ELEMENTS, YOU CAN CAUSE DAMAGE TO THEM. THIS WILL

CAUSE DAMAGE TO THE APU.

EFF: 201-225, 227-227, 229-231, 233-250, 252-299, 426-499, 503-549, 551-599, 701-749,

49-00-00

Page A274 Config-1 May 01/08

TROUBLE SHOOTING MANUAL

- (a) Clean the speed sensor(s) (8060KM1), (8060KM2) in the CLEANING AGENTS (Material No. 11-002).
- (b) Dry the speed sensor(s) (8060KM1), (8060KM2) with a clean, lint-free cloth.
- (c) Install the speed sensor(s) (8060KM1), (8060KM2) (Ref. AMM TASK 49-71-13-400-002).
- (d) Start the APU (Ref. AMM TASK 49-00-00-860-005) and operate it for 15 minutes.
- (e) Do the APU shutdown procedure (Ref. AMM TASK 49-00-00-860-006).
- (f) Remove the speed sensor(s) (8060KM1), (8060KM2) (Ref. AMM TASK 49-71-13-000-002).
- (g) Inspect the speed sensor(s) under a source of white light for metal particles and if you find any metal particles on the speed sensor(s):
 - Replace the APU (front bearing failure) (Ref. AMM TASK 49-11-11-000-003) and (Ref. AMM TASK 49-11-11-400-003).
- (2) If you find a large quantity of metal particles:
 - replace the APU (front bearing failure) (Ref. AMM TASK 49-11-11-000-003) and (Ref. AMM TASK 49-11-11-400-003).

TROUBLE SHOOTING MANUAL

R **ON A/C 201-225, 227-227, 229-231, 233-250, 252-299, 426-456, 476-499, R 503-549, 551-599, 701-749,

TASK 49-00-00-810-947

Continuous Load-Compressor Surge or Load-Compressor Reverse Flow (APS 3200)

1. Possible Causes

- COMPRESSOR DISCHARGE-PRESSURE SENSOR (8039KM)
- INLET PRESSURE/TEMPERATURE SENSOR (8013KM)
- wiring
- ECB (59KD)
- BLD CTL VLV (8051KM)
- INLET GUIDE-VANE ACTUATOR (8014KM)

2. Job Set-up Information

A. Referenced Information

	REFE	RENCE	DESIGNATION
R	49-0	0-00-810-937	No APU Bleed-Air Pressure, Low or Fluctuating APU Bleed-Air Pressure (with AIDS support) (APS 3200)
	AMM	49-00-00-710-008	Operational Test of the APU (APS 3200)
	AMM	49-20-00-290-001	APU Power Plant Borescope Inspection (APS 3200)
	AMM	49-23-17-000-001	Removal of the Inlet Pressure/Temperature Sensor (8013KM) (APS 3200)
	AMM	49-23-17-400-001	<pre>Installation of the Inlet Pressure/Temperature Sensor (8013KM) (APS 3200)</pre>
	AMM	49-23-51-000-003	Removal of the Inlet Guide Vane Actuator (8014KM) (APS 3200)
	AMM	49-23-51-400-003	Installation of the Inlet Guide Vane Actuator (8014KM) (APS 3200)
	AMM	49-51-19-000-002	Removal of the Sensor - Compressor Discharge Pressure (8039KM) (APS 3200)
	AMM	49-51-19-400-002	Installation of the Sensor - Compressor Discharge Pressure (8039KM) (APS 3200)
	AMM	49-51-53-000-001	Removal of the Bleed Control Valve (8051KM) (APS 3200)
	AMM	49-51-53-400-001	Installation of the Bleed Control Valve (8051KM) (APS 3200)
	AMM	49-61-34-000-002	Removal of the Electronic Control Box (ECB) (59KD) (APS 3200)
	AMM	49-61-34-400-002	Installation of the Electronic Control Box (ECB) (59KD) (APS 3200)
	ASM	49-61/02	(SAR) (ALGO)

R EFF: 201-225, 227-227, 229-231, 233-250, 252-299, 426-456, 476-499, 503-549, 551-599, 701-749, SROS

49-00-00 Page A276 Config-1 May 01/08

TROUBLE SHOOTING MANUAL

3. Fault Confirmation

- R **ON A/C 201-225, 227-227, 229-231, 233-250, 252-299, 426-456, 479-499, R 503-549, 551-599, 701-749,
 - A. Do the operational test of the APU (Ref. AMM TASK 49-00-00-710-008).
- R **ON A/C 201-225, 227-227, 229-231, 233-250, 252-299, 426-456, 476-499, R 503-549, 551-599, 701-749,
 - 4. Fault Isolation

**ON A/C 201-225, 234-250, 252-253, 276-278, 280-280, 282-299, 426-450, 479-499, 503-549, 551-599, 701-749,

A. If the test gives the maintenance message:

BLEED FLOW XDCR P24 OR IN TMP/PRSS SNSR P22

<u>NOTE</u>: Do a check and make sure that the orifices and the lines which are connected to the compressor discharge-pressure sensor are not clogged.

Clean the orifices and the lines if necessary.

Make sure that the Load Control Valve sense line is correctly installed and torqued.

- NOTE: Do a check of the IGV Actuator guide pin for correct installation.

 If the the fin is disengaged, replace the pin or carry out the

 APIC VSB 4500001-49-84.
- replace the COMPRESSOR DISCHARGE-PRESSURE SENSOR (8039KM) (Ref. AMM TASK 49-51-19-000-002) and (Ref. AMM TASK 49-51-19-400-002).
- (1) If the fault continues:
 - replace the INLET PRESSURE/TEMPERATURE SENSOR (8013KM) (Ref. AMM TASK 49-23-17-000-001) and (Ref. AMM TASK 49-23-17-400-001).
 - (a) If the fault continues:
 - do a check of the wiring from the ECB (59KD) AB/A1, A4, B2, B3, A2, A3 to the COMPRESSOR DISCHARGE-PRESSURE SENSOR P24/1, 2, 3, 4, 5, 6 (Ref. ASM 49-61/02).
 - do a check of the wiring from the ECB (59KD) AB/A1, A4, C8, C9, D3, E6 to the INLET PRESSURE/TEMPERATURE SENSOR P22/1, 2, 3, 4, 6, 5 (Ref. ASM 49-61/02).
 - 1 If the fault continues:
 - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-002) and (Ref. AMM TASK 49-61-34-400-002).

R EFF: 201-225, 227-227, 229-231, 233-250, 252-299, 426-456, 476-499, 503-549, 551-599, 701-749, SROS

49-00-00 Page A277 Config-1 May 01/08

TROUBLE SHOOTING MANUAL

R **ON A/C 201-225, 227-227, 229-231, 233-244, 247-250, 252-299, 426-456, R 476-499, 503-549, 551-599, 701-749, R Post SB 49-1061 For A/C 201-225,227-227,229-231,233-244,247-250,252-253, R 276-299,426-450,476-499,503-549,551-599,701-749,

A. If the APU Last Leg Report gives the maintenance message:

BLD FLOW XDCR (8039KM) / BLD CTL VLV (8051KM) Fault Code Number: 169

NOTE : Do a check and make sure that the orifices and the lines which are connected to the compressor discharge-pressure sensor are not cloqqed.

Clean the orifices and the lines if necessary.

Make sure that the Load Control Valve sense line is correctly installed and torqued.

NOTE: Do a check of the IGV Actuator guide pin for correct installation.

If the pin is disengaged, replace the pin or carry out the APIC

VSB 4500001-49-84.

- replace the COMPRESSOR DISCHARGE-PRESSURE SENSOR (8039KM) (Ref. AMM TASK 49-51-19-000-002) and (Ref. AMM TASK 49-51-19-400-002).
- (1) If the fault continues:
 - replace the BLD CTL VLV (8051KM) (Ref. AMM TASK 49-51-53-000-001)
 and (Ref. AMM TASK 49-51-53-400-001).
 - (a) If the fault continues:
 - replace the INLET PRESSURE/TEMPERATURE SENSOR (8013KM) (Ref. AMM TASK 49-23-17-000-001) and (Ref. AMM TASK 49-23-17-400-001).
 - 1 If the fault continues:
 - do a check of the wiring from the ECB (59KD) AB/A1, A4, B2, B3, A2, A3 to the COMPRESSOR DISCHARGE-PRESSURE SENSOR P24/1, 2, 3, 4, 5, 6 (Ref. ASM 49-61/02).
 - a If the fault continues:
 - do a check of the wiring from the ECB (59KD) AB/A1, A4, C8, C9, D3, E6 to the INLET PRESSURE/TEMPERATURE SENSOR (8013KM) P22/1, 2, 3, 4, 6, 5 (Ref. ASM 49-61/02).
 - b If the fault continues:
 - replace the INLET GUIDE-VANE ACTUATOR (8014KM) (Ref. AMM TASK 49-23-51-000-003) and (Ref. AMM TASK 49-23-51-400-003).
 - 2 If the fault continues:
 - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-002) and (Ref. AMM TASK 49-61-34-400-002).

EFF: 201-225, 227-227, 229-231, 233-244, 247-250, 252-299, 426-456, 476-499, 503-549, 551-599, 701-749, SROS

49-00-00 Page A278 Config-1 May 01/08

TROUBLE SHOOTING MANUAL

- 3 If the fault continues:
 - do a check for air flow blockage by external parts or damaged plenum baffle of the air inlet.
- 4 If the fault continues:
 - do the borescope inspection of the load compressor (Ref. AMM TASK 49-20-00-290-001).
- If the fault continues:do the TSM procedure (Ref. TASK 49-00-00-810-937).
- R **ON A/C 201-225, 227-227, 229-231, 233-250, 252-299, 426-456, 479-499, R 503-549, 551-599, 701-749,
 - B. Do the test given in para. 3.

TROUBLE SHOOTING MANUAL

R **ON A/C 201-225, 227-227, 229-231, 233-250, 252-299, 426-456, 476-499, R 503-549, 551-599, 701-749,

TASK 49-00-00-810-948

APU AUTO SHUT DOWN - OVERTEMPERATURE, EGT Mismatch (APS 3200)

1. Possible Causes

- EGT THERMOCOUPLE 1 (8057KM1)
- EGT THERMOCOUPLE 2 (8057KM2)
- connetctor P30 or P31
- FUEL CONTROL UNIT (8022KM)
- ECB (59KD)
- APU (4005KM)

2. Job Set-up Information

A. Referenced Information

49-70-00-810-813	
49-70-00-810-814EGT-Thermocouple 2 Defective (APS 3200)AMM 49-00-00-710-008Operational Test of the APU (APS 3200)AMM 49-11-11-000-003Removal of the Power Plant (APU) (APS 3200)AMM 49-11-11-400-003Installation of the Power Plant (APU) (APS 3200)	
AMM 49-00-00-710-008 Operational Test of the APU (APS 3200) AMM 49-11-11-000-003 Removal of the Power Plant (APU) (APS 3200) AMM 49-11-11-400-003 Installation of the Power Plant (APU) (APS 3200)	
AMM 49-11-11-000-003 Removal of the Power Plant (APU) (APS 3200) AMM 49-11-11-400-003 Installation of the Power Plant (APU) (APS 3200)	
AMM 49-11-11-400-003 Installation of the Power Plant (APU) (APS 3200)	
AMM 49-32-11-000-001 Removal of the Fuel Control Unit (FCU) (8022KM)	
	(GTCP
36-300)	
AMM 49-32-11-400-001 Installation of the Fuel Control Unit (FCU) (802	2KM)
(GTCP 36-300)	
AMM 49-61-34-000-002 Removal of the Electronic Control Box (ECB) (59K	D)
(APS 3200)	
AMM 49-61-34-400-002 Installation of the Electronic Control Box (ECB)	
(59KD) (APS 3200)	
AMM 49-72-15-000-001 Removal of the Thermocouple (8057KM1) and (8057K	M2)
(APS 3200)	
AMM 49-72-15-400-001 Installation of the Thermocouple Probes (8057KM1) and
(8057KM2) (GTCP 36-300)	
AMM 49-72-15-400-002 Installation of the Thermocouple (8057KM1) and	
(8057KM2) (APS 3200)	

3. Fault Confirmation

R **ON A/C 201-225, 227-227, 229-231, 233-250, 252-299, 426-456, 479-499, R 503-549, 551-599, 701-749,

A. Do the operational test of the APU (Ref. AMM TASK 49-00-00-710-008).

R EFF: 201-225, 227-227, 229-231, 233-250, 252-299, 426-456, 476-499, 503-549, 551-599, 701-749, SROS

49-00-00 Page A280 Config-1 May 01/08

TROUBLE SHOOTING MANUAL

R **ON A/C 201-225, 227-227, 229-231, 233-250, 252-299, 426-456, 476-499, R 503-549, 551-599, 701-749,

4. Fault Isolation

**ON A/C 201-225, 234-250, 252-253, 276-278, 280-280, 282-299, 426-450, 479-499, 503-549, 551-599, 701-749,

A. If an APU autoshutdown occurs during the operational test of the APU and the APU SHUTDOWNS report gives the maintenance message:

OVERTEMPERATURE - EGT TC1 P30 OR FUEL CTL UNIT P19 or OVERTEMPERATURE - EGT TC2 P31 OR FUEL CTL UNIT P19

together with the following CLASS III maintenance message:

EGT TC1 P30 or EGT TC2 P31

- check the related EGT THERMOCOUPLE 1 (8057KM1) or EGT THERMOCOUPLE 2 (8057KM2) and its applicable connetctor P30 or P31 for good condition and replace if necessary (Ref. AMM TASK 49-72-15-000-001) and (Ref. AMM TASK 49-72-15-400-001).
- (1) If there is no related CLASS III maintenance message: - replace the FUEL CONTROL UNIT (8022KM) (Ref. AMM TASK 49-32-11-000-001) and (Ref. AMM TASK 49-32-11-400-001).
 - (a) If the fault continues:
 replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-002) and (Ref. AMM TASK 49-61-34-400-002).

R **ON A/C 201-225, 227-227, 229-231, 233-244, 247-250, 252-299, 426-456, R 476-499, 503-549, 551-599, 701-749, R Post SB 49-1061 For A/C 201-225,227-227,229-231,233-244,247-250,252-253, R 276-299,426-450,476-499,503-549,551-599,701-749,

A. If the APU Last Leg Report gives the maintenance message:

EGT TC1 (8057KM1)
or
EGT TC2 (8057KM2)
Fault Code Number: 098
Additionally possible:
Fault Code Number(s):
(035 or 036) for EGT TC1 (8057KM1)
or
(037 or 038) for EGT TC2 (8057KM2)
FCN 035-038 on Class 3 Faults Page

R EFF: 201-225, 227-227, 229-231, 233-250, 252-299, 426-456, 476-499, 503-549, 551-599, 701-749, SROS

49-00-00 Page A281 Config-1 May 01/08

TROUBLE SHOOTING MANUAL

NOTE: The APU SHUTDOWNS report gives the maintenance message:

OVERTEMPERATURE - EGT TC1 (8057KM1) or OVERTEMPERATURE - EGT TC2 (8057KM2)

APU Auto Shut Down Fault Code Number: 098

- check the related EGT THERMOCOUPLE 1 (8057KM1) or EGT THERMOCOUPLE 2 (8057KM2) and its applicable connetctor P30 or P31 for good condition and replace if necessary (Ref. AMM TASK 49-72-15-000-001) and (Ref. AMM TASK 49-72-15-400-002).
- (1) If the fault continues:
 - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-002) and (Ref. AMM TASK 49-61-34-400-002).
 - (a) If the fault continues:
 - replace the APU (4005KM) (Ref. AMM TASK 49-11-11-000-003) and (Ref. AMM TASK 49-11-11-400-003).
- R **ON A/C 201-225, 227-227, 229-231, 233-250, 252-299, 426-456, 476-499,
- R 503-549, 551-599, 701-749,
- R Post SB 49-1061 For A/C 201-203,227-227,229-231,233-237,276-281,476-478,
 - B. Do the operational test of the APU (Ref. AMM TASK 49-00-00-710-008).
 - <u>NOTE</u>: After the subsequent flight, make sure that the fault does not continue.
 - (1) If the APU CLASS 3 FAULTS page gives the maintenance message EGT TC1 P30 after the subsequent flight:
 - do the applicable trouble shooting procedure (Ref. TASK 49-70-00-810-813).
 - (2) If the APU CLASS 3 FAULTS page gives the maintenance message EGT TC2 P31 after the subsequent flight:
 - do the applicable trouble shooting procedure (Ref. TASK 49-70-00-810-814).

EFF: 201-225, 227-227, 229-231, 233-250, 252-299, 426-456, 476-499, 503-549, 551-599, 701-749, SROS

49-00-00 Page A282 Config-1 May 01/08

TROUBLE SHOOTING MANUAL

R **ON A/C 201-225, 227-227, 229-231, 233-250, 252-299, 426-456, 476-499,

R 503-549, 551-599, 701-749,

TASK 49-00-00-810-951

APU AUTO SHUT DOWN - NO ACCELERATION, De-Oiling Solenoid Fault (APS 3200)

- 1. Possible Causes
 - DE-OILING SOLENOID-VALVE (8083KM)
 - wiring
 - ECB (59KD)
- 2. Job Set-up Information
 - A. Referenced Information

REFERENCE		DESIGNATION
	(0.00.00.740.000	0 () 7 () () 400 7000
AMM	49-00-00-710-008	Operational Test of the APU (APS 3200)
AMM	49-61-34-000-002	Removal of the Electronic Control Box (ECB) (59KD) (APS 3200)
AMM	49-61-34-400-002	Installation of the Electronic Control Box (ECB) (59KD) (APS 3200)
AMM	49-91-49-000-002	Removal of the De-oiling Solenoid Valve (8083KM) (APS 3200)
AMM	49-91-49-400-002	<pre>Installation of the De-oiling Solenoid Valve (8083KM) (APS 3200)</pre>
ASM	49-61/02	

- 3. Fault Confirmation
- R **ON A/C 201-225, 227-227, 229-231, 233-250, 252-299, 426-456, 479-499, R 503-549, 551-599, 701-749,
 - A. Do the operational-test of the APU (Ref. AMM TASK 49-00-00-710-008).
- R **ON A/C 201-225, 227-227, 229-231, 233-250, 252-299, 426-456, 476-499, R 503-549, 551-599, 701-749,
 - 4. Fault Isolation

**ON A/C 201-225, 234-250, 252-253, 276-278, 280-280, 282-299, 426-450, 479-499, 503-549, 551-599, 701-749,

A. If an APU shutdown occurs during the operational test of the APU and the APU SHUTDOWNS report gives the maintenance message:

NO ACCELERATION - DE-OILING SOL P15

R EFF: 201-225, 227-227, 229-231, 233-250, 252-299, 426-456, 476-499, 503-549, 551-599, 701-749, SROS

49-00-00 Page A283 Config-1 May 01/08

TROUBLE SHOOTING MANUAL

- replace the DE-OILING SOLENOID-VALVE (8083KM) (Ref. AMM TASK 49-91-49-000-002) and (Ref. AMM TASK 49-91-49-400-002).
- (1) If the fault continues:
 - do a check and repair of the wiring from the ECB (59KD) AB/C6, J4 to the DE-OILING SOLENOID VALVE P15/1, 2 (Ref. ASM 49-61/02).
 - (a) If the fault continues:
 - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-002) and (Ref. AMM TASK 49-61-34-400-002).

R **ON A/C 201-225, 227-227, 229-231, 233-244, 247-250, 252-299, 426-456, R 476-499, 503-549, 551-599, 701-749, R Post SB 49-1061 For A/C 201-225,227-227,229-231,233-244,247-250,252-253, R 276-299,426-450,476-499,503-549,551-599,701-749,

- A. Maintenance Action
 - (1) If the APU Last Leg Report gives the maintenance message:

DE-OILING SOL (8083KM) Fault Code Number: 053

Additionally:

Fault Code Number: 016 or 084

NOTE: FCN 016, 084 on the Class 3 Faults Page

NOTE: The APU SHUTDOWNS report gives the maintenance message:

NO ACCELERATION - DE-OILING SOL (8083KM)

APU Auto Shut Down Fault Code Number: 053

- do a check and repair of the wiring from the ECB (59KD) AB/C6, J4 to the DE-OILING SOLENOID VALVE (8083KM) P15/1, 2 (Ref. ASM 49-61/02).
- (a) If the fault continues:
 - replace the DE-OILING SOLENOID-VALVE (8083KM) (Ref. AMM TASK 49-91-49-000-002) and (Ref. AMM TASK 49-91-49-400-002).
 - 1 If the fault continues:
 - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-002) and (Ref. AMM TASK 49-61-34-400-002).
- (2) If the APU Last Leg Report gives the maintenance message:

DE-OILING SOL (8083KM) Fault Code Number: 053

NOTE: The APU SHUTDOWNS report gives the maintenance message:

NO ACCELERATION - DE-OILING SOL (8083KM)

APU Auto Shut Down Fault Code Number: 053

R | EFF : 201-225, 227-227, 229-231, 233-250, 252-299, 426-456, 476-499, 503-549, 551-599, 701-749, SROS

49-00-00 Page A284 Config-1 May 01/08

TROUBLE SHOOTING MANUAL

- replace the DE-OILING SOLENOID-VALVE (8083KM) (Ref. AMM TASK 49-91-49-000-002) and (Ref. AMM TASK 49-91-49-400-002).
- (a) If the fault continues:
 - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-002) and (Ref. AMM TASK 49-61-34-400-002).
- R **ON A/C 201-225, 227-227, 229-231, 233-250, 252-299, 426-456, 479-499, R 503-549, 551-599, 701-749,
 - B. Do the test given in para. 3.

TROUBLE SHOOTING MANUAL

R **ON A/C 201-225, 227-227, 229-231, 233-250, 252-299, 426-456, 476-499, R 503-549, 551-599, 701-749,

TASK 49-00-00-810-952

APU AUTO SHUT DOWN - NO ACCELERATION, IGV Actuator Fault (APS 3200)

- 1. Possible Causes
 - INLET GUIDE-VANE ACTUATOR (8014KM)
 - wiring
 - ECB (59KD)
 - AUXILIARY POWER UNIT (4005KM)
- 2. Job Set-up Information
 - A. Referenced Information

REFERENCE		DESIGNATION	
	/0.00.00.740.000	Operational Test of the APU (ARC 7200)	
AMM	49-00-00-710-008	Operational Test of the APU (APS 3200)	
AMM	49-11-11-000-003	Removal of the Power Plant (APU) (APS 3200)	
AMM	49-11-11-400-003	Installation of the Power Plant (APU) (APS 3200)	
AMM	49-23-51-000-003	Removal of the Inlet Guide Vane Actuator (8014KM) (APS 3200)	
AMM	49-23-51-400-003	<pre>Installation of the Inlet Guide Vane Actuator (8014KM) (APS 3200)</pre>	
AMM	49-61-34-000-002	Removal of the Electronic Control Box (ECB) (59KD) (APS 3200)	
AMM	49-61-34-400-002	<pre>Installation of the Electronic Control Box (ECB) (59KD) (APS 3200)</pre>	
ASM	49-61/02		

3. Fault Confirmation

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R **ON A/C 201-225, 227-227, 229-231, 233-250, 252-299, 426-456, 479-499, R 503-549, 551-599, 701-749,
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A. Do the operational test of the APU (Ref. AMM TASK 49-00-00-710-008).

R EFF: 201-225, 227-227, 229-231, 233-250, 252-299, 426-456, 476-499, 503-549, 551-599, 701-749, SROS

49-00-00 Page A286 Config-1 May 01/08

TROUBLE SHOOTING MANUAL

R **ON A/C 201-225, 227-227, 229-231, 233-250, 252-299, 426-456, 476-499, R 503-549, 551-599, 701-749,

4. Fault Isolation

**ON A/C 201-225, 234-250, 252-253, 276-278, 280-280, 282-299, 426-450, 479-499, 503-549, 551-599, 701-749,

A. If an APU shutdown occurs during the operational test of the APU and the APU SHUTDOWNS report gives the maintenance message:

NO ACCELERATION - IGV ACTUATOR P21

- do a visual check through the Air Inlet Plenum to make sure that the Inlet Guide Vanes (IGV) are in the closed position.
- (1) If the IGV are not in the closed position:
 - remove the quick disconnect pin from the actuator support and make sure that the IGVs are moving freely (Ref. AMM TASK 49-23-51-000-003).
 - (a) If the IGVs are moving freely:
 - replace the INLET GUIDE-VANE ACTUATOR (8014KM) (Ref. AMM TASK 49-23-51-000-003) and (Ref. AMM TASK 49-23-51-400-003).
 - 1 If the fault continues:
 - check and repair the wiring from the ECB (59KD) AB/E8, E9, E11, E12, G8, G9 to the INLET GUIDE-VANE ACTUATOR (103KD) P21/1, 2, 3, 4, 5, 6 (Ref. ASM 49-61/02).
 - 2 If the fault continues:
 - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-002) and (Ref. AMM TASK 49-61-34-400-002).
 - (b) If the IGVs are not moving freely:
 - replace the AUXILIARY POWER UNIT (4005KM) (Ref. AMM TASK 49-11-11-000-003) and (Ref. AMM TASK 49-11-11-400-003).

R **ON A/C 201-225, 227-227, 229-231, 233-244, 247-250, 252-299, 426-456, R 476-499, 503-549, 551-599, 701-749, R Post SB 49-1061 For A/C 201-225,227-227,229-231,233-244,247-250,252-253, R 276-299,426-450,476-499,503-549,551-599,701-749,

A. If the APU Last Leg Report gives the maintenance message:

IGV ACTUATOR (8014KM) Fault Code Number: 053

NOTE: The APU SHUTDOWNS report gives the maintenance message:

NO ACCELERATION - IGV ACTUATOR (8014KM)

APU Auto Shut Down Fault Code Number: 053

R EFF: 201-225, 227-227, 229-231, 233-250, 252-299, 426-456, 476-499, 503-549, 551-599, 701-749, SROS

49-00-00 Page A287 Config-1 May 01/08

TROUBLE SHOOTING MANUAL

- do a visual check through the Air Inlet Plenum to make sure that the Inlet Guide Vanes (IGV) are in the closed position.
- (1) If the IGV are not in the closed position:
 - remove the quick disconnect pin from the actuator support and make sure that the IGVs are moving freely (Ref. AMM TASK 49-23-51-000-003).
 - (a) If the IGVs are moving freely:
 - replace the INLET GUIDE-VANE ACTUATOR (8014KM) (Ref. AMM TASK 49-23-51-000-003) and (Ref. AMM TASK 49-23-51-400-003).
 - 1 If the fault continues:
 - check and repair the wiring from the ECB (59KD) AB/E8, E9, E11, E12, G8, G9 to the INLET GUIDE-VANE ACTUATOR (8014KM) P21/1, 2, 3, 4, 5, 6 (Ref. ASM 49-61/02).
 - a If the fault continues:
 - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-002) and (Ref. AMM TASK 49-61-34-400-002).
 - (b) If the IGVs are not moving freely:
 - replace the AUXILIARY POWER UNIT (4005KM) (Ref. AMM TASK 49-11-11-000-003) and (Ref. AMM TASK 49-11-11-400-003).
- R **ON A/C 201-225, 227-227, 229-231, 233-250, 252-299, 426-456, 479-499, R 503-549, 551-599, 701-749,
 - B. Do the test given in para. 3.

TROUBLE SHOOTING MANUAL

R **ON A/C 201-225, 227-227, 229-231, 233-250, 252-299, 426-499, 503-549, R 551-599, 701-749,

TASK 49-00-00-810-959

APU Generator electrical-parameter indication(s) replaced by amber XX (APS 3200)

- 1. Possible Causes
 - GCU-APU (1XS)
 - EGIU-2 (22XU2)
 - connection between the EGIU-2 (22XU2) and the SDAC 1 and 2 (1WV1(2)) and/or the APU GCU (1XS)
- 2. Job Set-up Information
 - A. Referenced Information

REFERENCE		DESIGNATION
24-22	2-00-810-808	APU GEN Voltage, Frequency and Load Indication Lost or Incorrect
AMM AMM	24-22-33-000-001 24-22-33-400-002 24-23-34-000-001 24-23-34-400-001 49-00-00-710-008	Removal of the EGIU-1(2) (22XU1, 22XU2) Installation of the EGIU-1(2) (22XU1, 22XU2) Removal of the GCU-APU (1XS) Installation of the GCU-APU (1XS) Operational Test of the APU (APS 3200)

- 3. Fault Confirmation
 - A. Do the operational test of the APU (Ref. AMM TASK 49-00-00-710-008).

 Do a check of the APU GEN electrical-parameter indications on the lower ECAM DU (APU Page).
- 4. Fault Isolation
 - A. Maintenance Action
 - (1) If all electrical parameter indications are replaced by amber XX: - do the trouble shooting of the connection between the EGIU-2 (22XU2) and the SDAC 1 and 2 (1WV1(2)) and/or the APU GCU (1XS) (Ref. TASK 24-22-00-810-808).
 - (2) If one or two electrical parameter indications are replaced by amber XX:
 - replace the GCU-APU (1XS) (Ref. AMM TASK 24-23-34-000-001) and (Ref. AMM TASK 24-23-34-400-001).

EFF: 201-225, 227-227, 229-231, 233-250, 252-299, 426-499, 503-549, 551-599, 701-749,

49-00-00

Page A289 Config-1 May 01/08

TROUBLE SHOOTING MANUAL

- (a) If the fault continues:
 replace the EGIU-2 (22XU2) (Ref. AMM TASK 24-22-33-000-001) and (Ref. AMM TASK 24-22-33-400-002).
- B. Do the test given in para. 3.

EFF: 201-225, 227-227, 229-231, 233-250, 252-299, 426-499, 503-549, 551-599, 701-749,

49-00-00

Page A290

Config-1 May 01/08

TROUBLE SHOOTING MANUAL

TASK 49-00-00-810-960

APU Bleed Control Valve indication replaced by amber XX (APS 3200)

- 1. Possible Causes
 - BLEED CONTROL VALVE (8051KM) (LVDT Fault)
 - ECB (59KD)
- 2. Job Set-up Information
 - A. Referenced Information

REFE	RENCE	DESIGNATION
49-0	0-00-810-942	Bleed Control Valve Fault (APS 3200)
AMM	31-32-00-860-001	Procedure to Get Access to the SYSTEM REPORT/TEST Menu Page
AMM	49-00-00-710-008	Operational Test of the APU (APS 3200)
AMM	49-61-34-000-002	Removal of the Electronic Control Box (ECB) (59KD) (APS 3200)
AMM	49-61-34-400-002	<pre>Installation of the Electronic Control Box (ECB) (59KD) (APS 3200)</pre>

3. Fault Confirmation

- A. Do the operational test of the APU (Ref. AMM TASK 49-00-00-710-008).
 - (1) Do a check of the APU Bleed Control-Valve indication on the lower ECAM DU (APU Page).
 - (2) On the MCDU, get access to the APU menu page SYSTEM REPORT/TEST (Ref. AMM TASK 31-32-00-860-001).
 - (3) Select the LAST LEG REPORT page.
- 4. Fault Isolation
- R **ON A/C 201-225, 227-227, 229-231, 233-250, 252-253, 276-299, 426-450, R 457-499, 503-549, 551-599, 701-749,
 - A. Maintenance Action
 - (1) If there is a CLASS 1 Fault Message

BLEED CTL VLV P33

and the Bleed Control Valve indication is replaced by amber XX:
- do the trouble shooting of the BLEED CONTROL VALVE (8051KM) (LVDT Fault) (Ref. TASK 49-00-00-810-942).

EFF: 201-225, 227-227, 229-231, 233-250, 252-299, 426-499, 503-549, 551-599, 701-749,

49-00-00 Page A291 Config-1 May 01/08

TROUBLE SHOOTING MANUAL

- (2) If there is no CLASS 1 Fault Message and the Bleed Control Valve indication is replaced by amber XX:
 - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-002) and (Ref. AMM TASK 49-61-34-400-002).

R **ON A/C 201-225, 227-227, 229-231, 233-244, 247-250, 252-299, 426-456, R 476-499, 503-549, 551-599, 701-749, R Post SB 49-1061 For A/C 201-225,227-227,229-231,233-244,247-250,252-253, R 276-299,426-450,476-499,503-549,551-599,701-749,

- A. Maintenance Action
 - (1) If there is a CLASS 1 Fault Message

BLEED CTL VLV (8051KM)

and the Bleed Control Valve indication is replaced by amber XX:
- do the trouble shooting of the BLEED CONTROL VALVE (8051KM) (LVDT Fault) (Ref. TASK 49-00-00-810-942).

- (2) If there is no CLASS 1 Fault Message and the Bleed Control Valve indication is replaced by amber XX:
 - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-002) and (Ref. AMM TASK 49-61-34-400-002).

R **ON A/C 201-225, 227-227, 229-231, 233-250, 252-299, 426-499, 503-549, R 551-599, 701-749,

B. Do the test given in para. 3.

EFF: 201-225, 227-227, 229-231, 233-250, 252-299, 426-499, 503-549, 551-599, 701-749,

49-00-00

Page A292

Config-1 May 01/08

TROUBLE SHOOTING MANUAL

TASK 49-00-00-810-961

APU Bleed Pressure indication replaced by amber XX (APS 3200)

- 1. Possible Causes
 - BLEED FLOW XDCR (8039KM)
 - ECB (59KD)
- 2. Job Set-up Information
 - A. Referenced Information

REFERENCE	DESIGNATION
49-00-00-810-903	Bleed Flow-Transducer Fault (APS 3200)
AMM 31-32-00-860-001	Procedure to Get Access to the SYSTEM REPORT/TEST
	Menu Page
AMM 34-10-00-860-002	ADIRS Start Procedure
AMM 49-00-00-710-008	Operational Test of the APU (APS 3200)
AMM 49-61-34-000-002	Removal of the Electronic Control Box (ECB) (59KD)
	(APS 3200)
AMM 49-61-34-400-002	<pre>Installation of the Electronic Control Box (ECB) (59KD) (APS 3200)</pre>

3. Fault Confirmation

A. Do the operational test of the APU (Ref. AMM TASK 49-00-00-710-008).

 $\underline{\underline{\text{NOTE}}}$: Make sure that the ADIRUs are energized (Ref. AMM TASK 34-10-00-860-002).

- (1) Do a check of the APU Bleed Pressure indication on the lower ECAM DU (APU Page).
- (2) On the MCDU, get access to the APU menu page SYSTEM REPORT/TEST (Ref. AMM TASK 31-32-00-860-001).
- (3) Select the LAST LEG REPORT page.

EFF: 201-225, 227-227, 229-231, 233-250, 252-299, 426-499, 503-549, 551-599, 701-749,

49-00-00 Page A293 Config-1 May 01/08

TROUBLE SHOOTING MANUAL

4. Fault Isolation

R **ON A/C 201-225, 227-227, 229-231, 233-250, 252-253, 276-299, 426-450, R 457-499, 503-549, 551-599, 701-749,

A. Maintenance Action

(1) If there is a fault message

BLEED FLOW XDCR P24

and the Bleed Pressure indication is replaced by amber XX:
- do the trouble shooting of the BLEED FLOW XDCR (8039KM) (Ref. TASK 49-00-00-810-903).

- (2) If there is no fault message and the Bleed Pressure indication is replaced by amber XX:
 - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-002) and (Ref. AMM TASK 49-61-34-400-002).

R **ON A/C 201-225, 227-227, 229-231, 233-244, 247-250, 252-299, 426-456, R 476-499, 503-549, 551-599, 701-749, R Post SB 49-1061 For A/C 201-225,227-227,229-231,233-244,247-250,252-253, R 276-299,426-450,476-499,503-549,551-599,701-749,

A. Maintenance Action

(1) If there is a fault message

BLEED FLOW XDCR (8039KM)

and the Bleed Pressure indication is replaced by amber XX:
- do the trouble shooting of the BLEED FLOW XDCR (8039KM) (Ref. TASK 49-00-00-810-903).

- (2) If there is no fault message and the Bleed Pressure indication is replaced by amber XX:
 - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-002) and (Ref. AMM TASK 49-61-34-400-002).

R **ON A/C 201-225, 227-227, 229-231, 233-250, 252-299, 426-499, 503-549, R 551-599, 701-749,

B. Do the test given in para. 3.

EFF: 201-225, 227-227, 229-231, 233-250, 252-299, 426-499, 503-549, 551-599, 701-749,

SROS

49-00-00

Page A294

Config-1 May 01/08

TROUBLE SHOOTING MANUAL

TASK 49-00-00-810-962

APU EGT indication replaced by amber XX (APS 3200)

- 1. Possible Causes
 - ECB (59KD)
- 2. Job Set-up Information
 - A. Referenced Information

REFERENCE	DESIGNATION
AMM 49-00-00-710-008 AMM 49-61-34-000-002	Operational Test of the APU (APS 3200) Removal of the Electronic Control Box (ECB) (59KD) (APS 3200)
AMM 49-61-34-400-002	Installation of the Electronic Control Box (ECB) (59KD) (APS 3200)

3. Fault Confirmation

- A. Do the operational test of the APU (Ref. AMM TASK 49-00-00-710-008).
 - (1) Do a check of the APU EGT indication on the lower ECAM DU (APU Page).

4. Fault Isolation

- A. If the APU EGT indication is replaced by amber XX:
 replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-002) and (Ref. AMM TASK 49-61-34-400-002).
- B. Do the test given in para. 3.

EFF: 201-225, 227-227, 229-231, 233-250, 252-299, 426-499, 503-549, 551-599, 701-749,

49-00-00 Page A295 Config-1 May 01/08

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TROUBLE SHOOTING MANUAL

TASK 49-00-00-810-963

APU SPEED (N) indication replaced by amber XX (APS 3200)

- 1. Possible Causes
 - ECB (59KD)
- 2. Job Set-up Information
 - A. Referenced Information

REFERE	ENCE	DESIGNATION
AMM 4	49-00-00-710-008	Operational Test of the APU (APS 3200)
AMM 4	49-61-34-000-002	Removal of the Electronic Control Box (ECB) (59KD) (APS 3200)
AMM 4	49-61-34-400-002	Installation of the Electronic Control Box (ECB) (59KD) (APS 3200)

3. Fault Confirmation

- A. Do the operational test of the APU (Ref. AMM TASK 49-00-00-710-008).
 - (1) Do a check of the APU SPEED (N) indication on the lower ECAM DU (APU Page).

4. Fault Isolation

- A. If the APU SPEED (N) indication is replaced by amber XX: - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-002) and (Ref. AMM TASK 49-61-34-400-002).
- B. Do the test given in para. 3.

201-225, 227-227, 229-231, 233-250,

49-00-0 Page A296 Config-1 May 01/08

TROUBLE SHOOTING MANUAL

R **ON A/C 201-225, 227-227, 229-231, 233-250, 252-299, 426-456, 476-499,

R 503-549, 551-599, 701-749,

TASK 49-00-00-810-964

APU AUTO SHUT DOWN - SENSOR FAILURE, Cooling Fan/PMG assy fault (APS3200)

- 1. Possible Causes
 - aircraft wiring
 - Cooling Fan/PMG Assy (8055KM)
 - ECB (59KD)
 - Cooling Fan PMG Assy (8055KM)
- 2. Job Set-up Information
 - A. Referenced Information

REFERENCE		DESIGNATION
AMM	49-00-00-710-008	Operational Test of the APU (APS 3200)
AMM	49-52-53-000-001	Removal of the PMG and Cooling Fan Assembly (8055KM) (APS 3200)
AMM	49-52-53-400-001	Installation of the PMG and Cooling Fan Assembly (8055KM) (APS 3200)
AMM	49-61-34-000-002	Removal of the Electronic Control Box (ECB) (59KD) (APS 3200)
AMM	49-61-34-400-002	Installation of the Electronic Control Box (ECB) (59KD) (APS 3200)
ASM	49-61/00	

- 3. Fault Confirmation
- R **ON A/C 201-225, 227-227, 229-231, 233-250, 252-299, 426-456, 479-499, R 503-549, 551-599, 701-749,
 - A. Do the operational test of the APU (Ref. AMM TASK 49-00-00-710-008).
- R **ON A/C 201-225, 227-227, 229-231, 233-250, 252-299, 426-456, 476-499, R 503-549, 551-599, 701-749,
 - 4. Fault Isolation

**ON A/C 201-225, 234-250, 252-253, 276-278, 280-280, 282-299, 426-450, 479-499, 503-549, 551-599, 701-749,

A. If an APU auto shutdown occurs during the APU start sequence and the APU SHUTDOWNS report gives the maintenance message:

BACKUP OVERSPEED CIRCUIT FAILURE - COOLING FAN/PMG ASSY

R EFF: 201-225, 227-227, 229-231, 233-250, 252-299, 426-456, 476-499, 503-549, 551-599, 701-749, SROS

49-00-00 Page A297 Config-1 May 01/08

TROUBLE SHOOTING MANUAL

- disconnect the connector P28 from the Cooling Fan/PMG Assy and do a continuity check of the aircraft wiring between:
 Cooling Fan/PMG Assy connector P28/1 and the ECB (59KD) connector 59KD-AB/H4 (Ref. ASM 49-61/00).
- (1) If the aircraft wiring is OK:
 - replace the Cooling Fan/PMG Assy (8055KM) (Ref. AMM TASK 49-52-53-000-001) and (Ref. AMM TASK 49-52-53-400-001).
 - (a) If the fault continues:
 - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-002) and (Ref. AMM TASK 49-61-34-400-002).

R **ON A/C 201-225, 227-227, 229-231, 233-244, 247-250, 252-299, 426-456, R 476-499, 503-549, 551-599, 701-749, R Post SB 49-1061 For A/C 201-225,227-227,229-231,233-244,247-250,252-253, R 276-299,426-450,476-499,503-549,551-599,701-749,

A. If the APU Last Leg Report gives the maintenance message:

COOLING FAN PMG ASSY (8055KM) Fault Code Number: 114 or 144

NOTE: The APU SHUTDOWNS report gives the maintenance message:

SENSOR FAILURE - COOLING FAN PMG ASSY (8055KM)

APU Auto Shut Down Fault Code Number: 114 or 144

- disconnect the connector P28 from the Cooling Fan PMG Assy (8055KM) and do a continuity check of the aircraft wiring between: Cooling Fan PMG Assy (8055KM) connector P28/1 and the ECB (59KD) connector 59KD-AB/H4 (Ref. ASM 49-61/00).
- (1) If the fault continues:
 - replace the Cooling Fan PMG Assy (8055KM) (Ref. AMM TASK 49-52-53-000-001) and (Ref. AMM TASK 49-52-53-400-001).
 - (a) If the fault continues:
 - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-002) and (Ref. AMM TASK 49-61-34-400-002).

R **ON A/C 201-225, 227-227, 229-231, 233-250, 252-299, 426-456, 479-499, R 503-549, 551-599, 701-749,

B. Do the test given in para. 3.

R EFF: 201-225, 227-227, 229-231, 233-250, 252-299, 426-456, 476-499, 503-549, 551-599, 701-749, SROS

49-00-00 Page A298 Config-1 May 01/08

TROUBLE SHOOTING MANUAL

R **ON A/C 201-225, 227-227, 229-231, 233-250, 252-299, 426-499, 503-549, R 551-599, 701-749,

TASK 49-00-00-810-967

APU Master Switch ON Legend inoperative

- 1. Possible Causes
 - P/BSW-APU/MASTER SW (14KD)
 - bulbs
 - aircraft wiring
- 2. Job Set-up Information
 - A. Referenced Information

REFERENCE **DESIGNATION**

ASM 49-61/01

33-14-00-810-801 Failure of One Annunciator Light Only AMM 33-14-00-710-001 Operational Test of the Lights

- 3. Fault Confirmation
 - A. Test
 - (1) Push the APU Master SW p/bsw and check that the ON legend comes on.
 - (2) Release the APU Master SW p/bsw.
- 4. Fault Isolation
 - A. If the ON legend is off:
 - do the Operational Test of the Annunciator Light Test System in the Cockpit (Ref. AMM TASK 33-14-00-710-001).
 - (1) If the fault continues:
 - replace the bulbs.
 - (a) If the fault continues:
 - do the trouble shooting of the anunciator light test system (Ref. TASK 33-14-00-810-801).
 - (2) If the Annunciator Light Test is OK:
 - do a check for a GND signal at the APU Master SW p/bsw (14KD) A/C1 (Ref. ASM 49-61/01).
 - (a) If there is no GND signal:
 - repair the aircraft wiring.

201-225, 227-227, 229-231, 233-250, 252-299, 426-499, 503-549, 551-599, 701-749,

49-00-

Page A299 Config-1 May 01/08

TROUBLE SHOOTING MANUAL

B. Do the test given in para. 3.

EFF: 201-225, 227-227, 229-231, 233-250, 252-299, 426-499, 503-549, 551-599, 701-749,

SROS

49-00-00Config-1 May 01/08

TROUBLE SHOOTING MANUAL

TASK 49-00-00-810-968

APU Start Switch ON Legend inoperative

- 1. Possible Causes
 - ECB (59KD)
 - bulbs
 - aircraft wiring
- 2. Job Set-up Information
 - A. Referenced Information

REFERENCE		DESIGNATION
33-14-00-810-801		Failure of One Annunciator Light Only
AMM	33-14-00-710-001	Operational Test of the Lights
AMM	49-61-34-000-002	Removal of the Electronic Control Box (ECB) (59KD) (APS 3200)
AMM	49-61-34-400-002	<pre>Installation of the Electronic Control Box (ECB) (59KD) (APS 3200)</pre>
ASM	49-42/01	

3. Fault Confirmation

- A. Test
 - (1) Release the BAT1 and BAT2 p/bsw to the OFF position.
 - (2) Push the APU Master SW p/bsw and wait until the air-intake flap is in the open position.
 - (3) Push the APU Start SW p/bsw and check that the ON legend comes on.
 - (4) Release the APU Master SW p/bsw.
 - (5) Push the BAT1 and BAT2 p/bsw to the ON position.

4. Fault Isolation

- A. If the ON legend is off:
 - do the Operational Test of the Annunciator Light Test System in the Cockpit (Ref. AMM TASK 33-14-00-710-001).
 - (1) If the fault continues:
 - replace the bulbs.
 - (a) If the fault continues: (Ref. TASK 33-14-00-810-801).

49-00-00Config-1 May 01/08

EFF: 201-225, 227-227, 229-231, 233-250, 252-299, 426-499, 503-549, 551-599, 701-749,

TROUBLE SHOOTING MANUAL

- (2) If the Annunciator Light Test is OK:
 - check and repair the aircraft wiring between ECB (59KD) AB/H9 and RELAY BOARD (7LP) A/15 (Ref. ASM 49-42/01).
 - (a) If the fault continues:
 replace the ECB (59KD).
 (Ref. AMM TASK 49-61-34-000-002) and (Ref. AMM TASK 49-61-34-
- B. Do the test given in para. 3.

400-002).

EFF: 201-225, 227-227, 229-231, 233-250, 252-299, 426-499, 503-549, 551-599, 701-749,

49-00-00 Page B202

Config-1 May 01/08

TROUBLE SHOOTING MANUAL

TASK 49-00-00-810-969

APU AUTO SHUT DOWN - LOSS OF SPEED, ECB (59KD) Fault (APS 3200)

- 1. Possible Causes
 - ECB (59KD)
 - wiring
 - ECB (59KD)
 - SPEED SENSOR 1 (8060KM1)
 - SPEED SENSOR 2 (8060KM2)
- 2. Job Set-up Information
 - A. Referenced Information

REFERENCE	DESIGNATION
AMM 49-00-00-710-005	Self-Test of the ECB (APS 3200)
AMM 49-61-34-000-002	Removal of the Electronic Control Box (ECB) (59KD) (APS 3200)
AMM 49-61-34-400-002	Installation of the Electronic Control Box (ECB) (59KD) (APS 3200)
AMM 49-71-13-000-002	Removal of the Speed Sensor (APS 3200)
AMM 49-71-13-400-002	Installation of the Speed Sensor (APS 3200)

- 3. Fault Confirmation
 - A. Do the self test of the ECB (Ref. AMM TASK 49-00-00-710-005).
- 4. Fault Isolation
- R **ON A/C 201-225, 227-227, 229-231, 233-250, 252-253, 276-299, 426-450, R 457-499, 503-549, 551-599, 701-749,
 - A. If an APU auto shutdown occurs during the operational test of the APU and the APU SHUTDOWNS report gives the maintenance message:

LOSS OF SPEED - ECB 59KD:

 replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-002) and (Ref. AMM TASK 49-61-34-400-002).

EFF: 201-225, 227-227, 229-231, 233-250, 252-299, 426-499, 503-549, 551-599, 701-749,

49-00-00

Page B203 Config-1 May 01/08

TROUBLE SHOOTING MANUAL

R **ON A/C 201-225, 227-227, 229-231, 233-244, 247-250, 252-299, 426-456, R 476-499, 503-549, 551-599, 701-749, R Post SB 49-1061 For A/C 201-225,227-227,229-231,233-244,247-250,252-253, 276-299,426-450,476-499,503-549,551-599,701-749,

A. If the APU Last Leg Report gives the maintenance message:

ECB (59KD):

Fault Code Number: 142

Additionally:

Fault Code Number: 028 and 031

NOTE: FCN 028 and 031 on the Class 3 Faults Page

NOTE: The APU SHUTDOWNS report gives the maintenance message:

LOSS OF SPEED - ECB (59KD)

APU Auto Shut Down Fault Code Number: 142

NOTE: Message does not appear in case of self-test of the ECB.

- replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-002) and (Ref. AMM TASK 49-61-34-400-002).
- (1) If the fault continues:
 - do a check and repair the wiring from the ECB (59KD) AB/A10, A11 to the SPEED SENSOR 1 (8060KM1) P26/1, 2.
 - do a check and repair the wiring from the ECB (59KD) AB/B5, B6 to the SPEED SENSOR 2 (8060KM2) P27/1, 2.
- (2) If the fault continues:
 - replace the SPEED SENSOR 1 (8060KM1) and SPEED SENSOR 2 (8060KM2) (Ref. AMM TASK 49-71-13-000-002) and (Ref. AMM TASK 49-71-13-400-002).
- R **ON A/C 201-225, 227-227, 229-231, 233-250, 252-299, 426-499, 503-549, R 551-599, 701-749,
 - B. Do the test given in para. 3.

201-225, 227-227, 229-231, 233-250, 252-299, 426-499, 503-549, 551-599, 701-749,

SROS

49-00-Page B204 Config-1 May 01/08

TROUBLE SHOOTING MANUAL

TASK 49-00-00-810-971

APU AUTO SHUT DOWN - BACKUP OVERSPEED CIRCUIT FAILURE, ECB (59KD) Fault (APS 3200)

- 1. Possible Causes
 - ECB (59KD)
- 2. Job Set-up Information
 - A. Referenced Information

REFERENCE		DESIGNATION
АММ	49-00-00-710-008	Occasticant Took of the ARU (ARC 7200)
AMM	49-61-34-000-002	Operational Test of the APU (APS 3200) Removal of the Electronic Control Box (ECB) (59KD)
		(APS 3200)
AMM	49-61-34-400-002	<pre>Installation of the Electronic Control Box (ECB) (59KD) (APS 3200)</pre>

- 3. Fault Confirmation
 - A. Do the operational-test of the APU (Ref. AMM TASK 49-00-00-710-008).
- 4. Fault Isolation
- R **ON A/C 201-225, 227-227, 229-231, 233-250, 252-253, 276-299, 426-450, R 457-499, 503-549, 551-599, 701-749,
 - A. If an APU auto shutdown occurs during the operational test of the APU and the APU SHUTDOWNS report gives the maintenance message:

BACKUP OVERSPEED CIRCUIT FAILURE - ECB 59KD:

 replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-002) and (Ref. AMM TASK 49-61-34-400-002).

```
R **ON A/C 201-225, 227-227, 229-231, 233-244, 247-250, 252-299, 426-456, R 476-499, 503-549, 551-599, 701-749, R Post SB 49-1061 For A/C 201-225,227-227,229-231,233-244,247-250,252-253, R 276-299,426-450,476-499,503-549,551-599,701-749,
```

A. If the APU Last Leg Report gives the maintenance message:

ECB (59KD):

SROS

Fault Code Number: 116

NOTE : The APU SHUTDOWNS report gives the maintenance message:
BACKUP OVERSPEED CIRCUIT FAILURE - ECB (59KD)

EFF: 201-225, 227-227, 229-231, 233-250, 252-299, 426-499, 503-549, 551-599, 701-749,

49-00-00

Page B205

TROUBLE SHOOTING MANUAL

APU Auto Shut Down Fault Code Number: 116

- replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-002) and (Ref. AMM TASK 49-61-34-400-002).

R **ON A/C 201-225, 227-227, 229-231, 233-250, 252-299, 426-499, 503-549, R 551-599, 701-749,

B. Do the test given in para. 3.

EFF: 201-225, 227-227, 229-231, 233-250, 252-299, 426-499, 503-549, 551-599, 701-749,

49-00-00 P

Page B206 Config-1 May 01/08

TROUBLE SHOOTING MANUAL

TASK 49-00-00-810-972

APU AUTO SHUT DOWN - APU FUEL VALVE FAILED OPEN, ECB (59KD) Fault (APS 3200)

- 1. Possible Causes
 - ECB (59KD)
- 2. Job Set-up Information
 - A. Referenced Information

REFERENCE		DESIGNATION
AMM AMM	49-00-00-710-008 49-61-34-000-002	Operational Test of the APU (APS 3200) Removal of the Electronic Control Box (ECB) (59KD)
AMM	49-61-34-400-002	(APS 3200) Installation of the Electronic Control Box (ECB) (59KD) (APS 3200)

- 3. Fault Confirmation
 - A. Do the operational-test of the APU (Ref. AMM TASK 49-00-00-710-008).
- 4. Fault Isolation
- R **ON A/C 201-225, 227-227, 229-231, 233-250, 252-253, 276-299, 426-450, R 457-499, 503-549, 551-599, 701-749,
 - A. If an APU auto shutdown occurs during the operational test of the APU and the APU SHUTDOWNS report gives the maintenance message:

APU FUEL VALVE FAILED OPEN - ECB 59KD:

 replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-002) and (Ref. AMM TASK 49-61-34-400-002).

```
R **ON A/C 201-225, 227-227, 229-231, 233-244, 247-250, 252-299, 426-456, R 476-499, 503-549, 551-599, 701-749, R Post SB 49-1061 For A/C 201-225,227-227,229-231,233-244,247-250,252-253, R 276-299,426-450,476-499,503-549,551-599,701-749,
```

A. If the APU Last Leg Report gives the maintenance message:

ECB (59KD):

Fault Code Number: 168

NOTE : The APU SHUTDOWNS report gives the maintenance message:
APU FUEL VALVE FAILED OPEN - ECB (59KD)
APU Auto Shut Down Fault Code Number: 168

EFF: 201-225, 227-227, 229-231, 233-250, 252-299, 426-499, 503-549, 551-599, 701-749,

49-00-00

TUU Page B207 Config-1 May 01/08

TROUBLE SHOOTING MANUAL

 replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-002) and (Ref. AMM TASK 49-61-34-400-002).

R **ON A/C 201-225, 227-227, 229-231, 233-250, 252-299, 426-499, 503-549, R 551-599, 701-749,

B. Do the test given in para. 3.

EFF: 201-225, 227-227, 229-231, 233-250, 252-299, 426-499, 503-549, 551-599, 701-749,

49-00-00 Page B208 Config-1 May 01/08

TROUBLE SHOOTING MANUAL

TASK 49-00-00-810-973

APU AUTO SHUT DOWN - UNDERSPEED, ECB (59KD) Fault (APS 3200)

- 1. Possible Causes
 - ECB (59KD)
- 2. Job Set-up Information
 - A. Referenced Information

REFERENCE	DESIGNATION
AMM 49-00-00-710-008 AMM 49-61-34-000-002	Removal of the Electronic Control Box (ECB) (59KD) (APS 3200)
7111 47 01 34 400 001	(59KD) (APS 3200)

- 3. Fault Confirmation
 - A. Do the operational test of the APU (Ref. AMM TASK 49-00-00-710-008).
- 4. Fault Isolation
- R **ON A/C 201-225, 227-227, 229-231, 233-250, 252-253, 276-299, 426-450, R 457-499, 503-549, 551-599, 701-749,
 - A. If an APU auto shutdown occurs during the operational test of the APU and the APU SHUTDOWNS report gives the maintenance message:

UNDERSPEED - ECB 59KD:

 replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-002) and (Ref. AMM TASK 49-61-34-400-002).

```
R **ON A/C 201-225, 227-227, 229-231, 233-244, 247-250, 252-299, 426-456, R 476-499, 503-549, 551-599, 701-749, R Post SB 49-1061 For A/C 201-225,227-227,229-231,233-244,247-250,252-253, R 276-299,426-450,476-499,503-549,551-599,701-749,
```

A. If the APU Last Leg Report gives the maintenance message:

ECB (59KD):

Fault Code Number: 067

Additionally:

Fault Code Number: 061

NOTE: The APU SHUTDOWNS report gives the maintenance message:

EFF: 201-225, 227-227, 229-231, 233-250, 252-299, 426-499, 503-549, 551-599, 701-749,

49-00-00

Page B209 Config-1 May 01/08

TROUBLE SHOOTING MANUAL

UNDERSPEED - ECB (59KD)
APU Auto Shut Down Fault Code Number: 067

 replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-002) and (Ref. AMM TASK 49-61-34-400-002).

R **ON A/C 201-225, 227-227, 229-231, 233-250, 252-299, 426-499, 503-549, R 551-599, 701-749,

B. Do the test given in para. 3.

EFF: 201-225, 227-227, 229-231, 233-250, 252-299, 426-499, 503-549, 551-599, 701-749,

49-00-00

Page B210

TROUBLE SHOOTING MANUAL

TASK 49-00-00-810-974

APU AUTO SHUT DOWN - NO ACCELERATION, ECB (59KD) Fault (APS 3200)

- 1. Possible Causes
 - ECB (59KD)
- 2. Job Set-up Information
 - A. Referenced Information

REFE	RENCE	DESIGNATION
AMM AMM	49-00-00-710-008 49-61-34-000-002	Operational Test of the APU (APS 3200) Removal of the Electronic Control Box (ECB) (59KD)
	., 0. 0. 000 00=	(APS 3200)
AMM	49-61-34-400-002	<pre>Installation of the Electronic Control Box (ECB) (59KD) (APS 3200)</pre>

- 3. Fault Confirmation
 - A. Do the operational test of the APU (Ref. AMM TASK 49-00-00-710-008).
- 4. Fault Isolation
- R **ON A/C 201-225, 227-227, 229-231, 233-250, 252-253, 276-299, 426-450, R 457-499, 503-549, 551-599, 701-749,
 - A. If an APU auto shutdown occurs during the operational test of the APU and the APU SHUTDOWNS report gives the maintenance message:

NO ACCELERATION - ECB 59KD:

 replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-002) and (Ref. AMM TASK 49-61-34-400-002).

```
R **ON A/C 201-225, 227-227, 229-231, 233-244, 247-250, 252-299, 426-456, R 476-499, 503-549, 551-599, 701-749, R Post SB 49-1061 For A/C 201-225,227-227,229-231,233-244,247-250,252-253, R 276-299,426-450,476-499,503-549,551-599,701-749,
```

A. If the APU Last Leg Report gives the maintenance message:

ECB (59KD):

SROS

Fault Code Number: 052 or 053

Additionally:

Fault Code Number: 061 or 075

NOTE: FCN 075 on the class 3 Faults Page

EFF: 201-225, 227-227, 229-231, 233-250, 252-299, 426-499, 503-549, 551-599, 701-749,

49-00-00 Page B211 Config-1 May 01/08

TROUBLE SHOOTING MANUAL

NOTE: The APU SHUTDOWNS report gives the maintenance message:

NO ACCELERATION - ECB (59KD)

APU Auto Shut Down Fault Code Number: 052 or 053

replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-002) and (Ref. AMM TASK 49-61-34-400-002).

R **ON A/C 201-225, 227-227, 229-231, 233-250, 252-299, 426-499, 503-549, R 551-599, 701-749,

B. Do the test given in para. 3.

EFF: 201-225, 227-227, 229-231, 233-250, 252-299, 426-499, 503-549, 551-599, 701-749,

SROS

49-00-00

Page B212

TROUBLE SHOOTING MANUAL

TASK 49-00-00-810-975

APU AUTO SHUT DOWN - NO FLAME, ECB (59KD) Fault (APS 3200)

- 1. Possible Causes
 - ECB (59KD)
- 2. Job Set-up Information
 - A. Referenced Information

REFE	RENCE	DESIGNATION
AMM AMM	49-00-00-710-008 49-61-34-000-002	Operational Test of the APU (APS 3200) Removal of the Electronic Control Box (ECB) (59KD)
AMM	49-61-34-400-002	(APS 3200) Installation of the Electronic Control Box (ECB) (59KD) (APS 3200)

- 3. Fault Confirmation
 - A. Do the operational test of the APU (Ref. AMM TASK 49-00-00-710-008).
- 4. Fault Isolation
- R **ON A/C 201-225, 227-227, 229-231, 233-250, 252-253, 276-299, 426-450, R 457-499, 503-549, 551-599, 701-749,
 - A. If an APU auto shutdown occurs during the operational test of the APU and the APU SHUTDOWNS report gives the maintenance message:

NO FLAME - ECB 59KD:

 replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-002) and (Ref. AMM TASK 49-61-34-400-002).

```
R **ON A/C 201-225, 227-227, 229-231, 233-244, 247-250, 252-299, 426-456, R 476-499, 503-549, 551-599, 701-749, R Post SB 49-1061 For A/C 201-225,227-227,229-231,233-244,247-250,252-253, R 276-299,426-450,476-499,503-549,551-599,701-749,
```

A. If the APU Last Leg Report gives the maintenance message:

ECB (59KD):

Fault Code Number: 042

Additionally:

Fault Code Number: 061

NOTE: The APU SHUTDOWNS report gives the maintenance message:

EFF: 201-225, 227-227, 229-231, 233-250, 252-299, 426-499, 503-549, 551-599, 701-749,

49-00-00

Page B213

TROUBLE SHOOTING MANUAL

NO FLAME - ECB (59KD)
APU Auto Shut Down Fault Code Number: 042

 replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-002) and (Ref. AMM TASK 49-61-34-400-002).

R **ON A/C 201-225, 227-227, 229-231, 233-250, 252-299, 426-499, 503-549, R 551-599, 701-749,

B. Do the test given in para. 3.

EFF: 201-225, 227-227, 229-231, 233-250, 252-299, 426-499, 503-549, 551-599, 701-749,

49-00-00 Page B214

TROUBLE SHOOTING MANUAL

TASK 49-00-00-810-976

APU AUTO SHUT DOWN - OVERSPEED, ECB (59KD) Fault (APS 3200)

- 1. Possible Causes
 - ECB (59KD)
- 2. Job Set-up Information
 - A. Referenced Information

REFE	RENCE	DESIGNATION
AMM AMM	49-00-00-710-008 49-61-34-000-002	Operational Test of the APU (APS 3200) Removal of the Electronic Control Box (ECB) (59KD)
	., 0. 0. 000 00=	(APS 3200)
AMM	49-61-34-400-002	<pre>Installation of the Electronic Control Box (ECB) (59KD) (APS 3200)</pre>

- 3. Fault Confirmation
 - A. Do the operational test of the APU (Ref. AMM TASK 49-00-00-710-008).
- 4. Fault Isolation
- R **ON A/C 201-225, 227-227, 229-231, 233-250, 252-253, 276-299, 426-450, R 457-499, 503-549, 551-599, 701-749,
 - A. If an APU auto shutdown occurs during the operational test of the APU and the APU SHUTDOWNS report gives the maintenance message:

OVERSPEED - ECB 59KD:

 replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-002) and (Ref. AMM TASK 49-61-34-400-002).

```
R **ON A/C 201-225, 227-227, 229-231, 233-244, 247-250, 252-299, 426-456, R 476-499, 503-549, 551-599, 701-749, R Post SB 49-1061 For A/C 201-225,227-227,229-231,233-244,247-250,252-253, R 276-299,426-450,476-499,503-549,551-599,701-749,
```

A. If the APU Last Leg Report gives the maintenance message:

ECB (59KD):

Fault Code Number: 068

Additionally:

Fault Code Number: 061

NOTE: The APU SHUTDOWNS report gives the maintenance message:

EFF: 201-225, 227-227, 229-231, 233-250, 252-299, 426-499, 503-549, 551-599, 701-749,

49-00-00

Page B215

TROUBLE SHOOTING MANUAL

OVERSPEED - ECB 59KD

APU Auto Shut Down Fault Code Number: 068

 replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-002) and (Ref. AMM TASK 49-61-34-400-002).

R **ON A/C 201-225, 227-227, 229-231, 233-250, 252-299, 426-499, 503-549, R 551-599, 701-749,

B. Do the test given in para. 3.

EFF: 201-225, 227-227, 229-231, 233-250, 252-299, 426-499, 503-549, 551-599, 701-749,

49-00-00 Page B216

TROUBLE SHOOTING MANUAL

TASK 49-00-00-810-977

APU AUTO SHUT DOWN - NO FLAME, Fuel Control Unit Fault (APS 3200)

- 1. Possible Causes
 - wiring
 - FUEL CONTROL UNIT (8022KM)
 - ECB (59KD)
- 2. Job Set-up Information
 - A. Referenced Information

REFER	ENCE	DESIGNATION
28-22	-00-810-801	APU Fuel System - Low Pressure
AMM	28-21-00-710-008	Operational Check of Air Release Valves to Ensure Adequate Fuel Flow Under Suction Feed Conditions
AMM	28-21-00-710-011	Operational Leak Test of the Air Release Valve Float
AMM	28-22-00-710-002	Operational Test of the APU Fuel-Pump System
AMM	49-00-00-710-008	Operational Test of the APU (APS 3200)
AMM	49-32-11-000-002	Removal of the Fuel Control Unit (8022KM) (APS 3200)
AMM	49-32-11-400-002	<pre>Installation of the Fuel Control Unit (8022KM) (APS 3200)</pre>
AMM	49-61-34-000-002	Removal of the Electronic Control Box (ECB) (59KD) (APS 3200)
AMM	49-61-34-400-002	Installation of the Electronic Control Box (ECB) (59KD) (APS 3200)
ASM	49-61/02	

3. Fault Confirmation

- R **ON A/C 201-225, 227-227, 229-231, 233-250, 252-253, 276-299, 426-450, R 457-499, 503-549, 551-599, 701-749,
 - A. Do the operational test of the APU (Ref. AMM TASK 49-00-00-710-008).

<u>NOTE</u>: Air in fuel line occurs in the most time at first start in the morning.

NOTE: Make sure that the fuel supply to the APU is correct (Ref. AMM TASK 28-22-00-710-002), (Ref. AMM TASK 28-21-00-710-008) and (Ref. AMM TASK 28-21-00-710-011).

If the fuel supply is not correct, do the trouble shooting of APU

low fuel pressure (Ref. TASK 28-22-00-810-801).

EFF: 201-225, 227-227, 229-231, 233-250, 252-299, 426-499, 503-549, 551-599, 701-749,

49-00-00 Page B217 Config-1 May 01/08

TROUBLE SHOOTING MANUAL

R **ON A/C 201-225, 227-227, 229-231, 233-244, 247-250, 252-299, 426-456, R 476-499, 503-549, 551-599, 701-749, R Post SB 49-1061 For A/C 201-225,227-227,229-231,233-244,247-250,252-253, R 276-299,426-450,476-499,503-549,551-599,701-749,

A. Do the Operational-Test of the APU (Ref. AMM TASK 49-00-00-710-008).

R **ON A/C 201-225, 227-227, 229-231, 233-250, 252-299, 426-499, 503-549, R 551-599, 701-749,

- 4. Fault Isolation
- R **ON A/C 201-225, 227-227, 229-231, 233-250, 252-253, 276-299, 426-450, R 457-499, 503-549, 551-599, 701-749,
 - A. If an APU auto shutdown occurs during the operational test of the APU and the APU SHUTDOWNS report gives the maintenance message:

NO FLAME - FUEL CTL UNIT P19:

- do a check and repair the wiring from the ECB (59KD) AB/F11, H10, H11, J3 to the FUEL CONTROL UNIT P19/1, 3, 4, 2 (Ref. ASM 49-61/02).
- (1) If the fault continues:
 - replace the FUEL CONTROL UNIT (8022KM) (Ref. AMM TASK 49-32-11-000-002) and (Ref. AMM TASK 49-32-11-400-002).
- (2) If the fault continues:
 - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-002) and (Ref. AMM TASK 49-61-34-400-002).

R **ON A/C 201-225, 227-227, 229-231, 233-244, 247-250, 252-299, 426-456, R 476-499, 503-549, 551-599, 701-749, R Post SB 49-1061 For A/C 201-225,227-227,229-231,233-244,247-250,252-253, R 276-299,426-450,476-499,503-549,551-599,701-749,

A. If the APU Last Leg Report gives the maintenance message:

FUEL CTL UNIT (8022KM): Fault Code Number: 042

Additionally:

Fault Code Number: 021 or 089 or 059 or 060

NOTE: The APU SHUTDOWNS report gives the maintenance message:

NO FLAME - FUEL CTL UNIT (8022KM)

APU Auto Shut Down Fault Code Number: 042

 do a check and repair the wiring from the ECB (59KD) AB/F11, H10, H11, J3 to the FUEL CONTROL UNIT (8022KM) P19/1, 3, 4, 2 (Ref. ASM 49-61/02).

EFF: 201-225, 227-227, 229-231, 233-250, 252-299, 426-499, 503-549, 551-599, 701-749,

49-00-00 Page B218 Config-1 May 01/08

TROUBLE SHOOTING MANUAL

- (1) If the fault continues:
 - replace the FUEL CONTROL UNIT (8022KM) (Ref. AMM TASK 49-32-11-000-002) and (Ref. AMM TASK 49-32-11-400-002).
 - (a) If the fault continues:
 - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-002) and (Ref. AMM TASK 49-61-34-400-002).
- R **ON A/C 201-225, 227-227, 229-231, 233-250, 252-299, 426-499, 503-549, R 551-599, 701-749,
 - B. Do the test given in para. 3.

EFF: 201-225, 227-227, 229-231, 233-250, 252-299, 426-499, 503-549, 551-599, 701-749,

49-00-00 Page B219

TROUBLE SHOOTING MANUAL

TASK 49-00-00-810-978

APU AUTO SHUT DOWN - NO ACCELERATION, Fuel Control Unit Fault (APS 3200)

- 1. Possible Causes
 - wiring
 - FUEL CONTROL UNIT (8022KM)
 - ECB (59KD)
- 2. Job Set-up Information
 - A. Referenced Information

REFE	RENCE	DESIGNATION
28-2	2-00-810-801	APU Fuel System - Low Pressure
AMM	28-21-00-710-008	Operational Check of Air Release Valves to Ensure Adequate Fuel Flow Under Suction Feed Conditions
AMM	28-21-00-710-011	Operational Leak Test of the Air Release Valve Float
AMM	28-22-00-710-002	Operational Test of the APU Fuel-Pump System
AMM	49-00-00-710-008	Operational Test of the APU (APS 3200)
AMM	49-32-11-000-002	Removal of the Fuel Control Unit (8022KM) (APS 3200)
AMM	49-32-11-400-002	<pre>Installation of the Fuel Control Unit (8022KM) (APS 3200)</pre>
AMM	49-61-34-000-002	Removal of the Electronic Control Box (ECB) (59KD) (APS 3200)
AMM	49-61-34-400-002	Installation of the Electronic Control Box (ECB) (59KD) (APS 3200)
ASM	49-61/02	

- 3. Fault Confirmation
- R **ON A/C 201-225, 227-227, 229-231, 233-250, 252-253, 276-299, 426-450, R 457-499, 503-549, 551-599, 701-749,
 - A. Do the operational test of the APU (Ref. AMM TASK 49-00-00-710-008).

<u>NOTE</u>: Air in fuel line occurs in the most time at first start in the morning.

NOTE: Make sure that the fuel supply to the APU is correct (Ref. AMM TASK 28-22-00-710-002), (Ref. AMM TASK 28-21-00-710-008) and (Ref. AMM TASK 28-21-00-710-011).

If the fuel supply is not correct, do the trouble shooting of APU

low fuel pressure (Ref. TASK 28-22-00-810-801).

EFF: 201-225, 227-227, 229-231, 233-250, 252-299, 426-499, 503-549, 551-599, 701-749,

49-00-00

Page B220

TROUBLE SHOOTING MANUAL

R **ON A/C 201-225, 227-227, 229-231, 233-244, 247-250, 252-299, 426-456, R 476-499, 503-549, 551-599, 701-749, R Post SB 49-1061 For A/C 201-225,227-227,229-231,233-244,247-250,252-253, R 276-299,426-450,476-499,503-549,551-599,701-749,

A. Do the Operational Test of the APU (Ref. AMM TASK 49-00-00-710-008).

R **ON A/C 201-225, 227-227, 229-231, 233-250, 252-299, 426-499, 503-549, R 551-599, 701-749,

- 4. Fault Isolation
- R **ON A/C 201-225, 227-227, 229-231, 233-250, 252-253, 276-299, 426-450, R 457-499, 503-549, 551-599, 701-749,
 - A. If an APU auto shutdown occurs during the operational test of the APU and the APU SHUTDOWNS report gives the maintenance message:

NO ACCELERATION - FUEL CTL UNIT P19:

- do a check and repair the wiring from the ECB (59KD) AB/F11, H10, H11, J3 to the FUEL CONTROL UNIT P19/1, 3, 4, 2 (Ref. ASM 49-61/02).
- (1) If the fault continues:
 - replace the FUEL CONTROL UNIT (8022KM) (Ref. AMM TASK 49-32-11-000-002) and (Ref. AMM TASK 49-32-11-400-002).
- (2) If the fault continues:
 - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-002) and (Ref. AMM TASK 49-61-34-400-002).

R **ON A/C 201-225, 227-227, 229-231, 233-244, 247-250, 252-299, 426-456, R 476-499, 503-549, 551-599, 701-749, R Post SB 49-1061 For A/C 201-225,227-227,229-231,233-244,247-250,252-253, R 276-299,426-450,476-499,503-549,551-599,701-749,

A. If the APU Last Leg Report gives the maintenance message:

FUEL CTL UNIT (8022KM):

Fault Code Number: 052 or 053

Additionally:

Fault Code Number: 021 or 089 or 059 or 060

NOTE: The APU SHUTDOWNS report gives the maintenance message:

NO ACCELERATION - FUEL CTL UNIT (8022KM)

APU Auto Shut Down Fault Code Number: 052 or 053

 do a check and repair the wiring from the ECB (59KD) AB/F11, H10, H11, J3 to the FUEL CONTROL UNIT (8022KM) P19/1, 3, 4, 2 (Ref. ASM 49-61/02).

EFF: 201-225, 227-227, 229-231, 233-250, 252-299, 426-499, 503-549, 551-599, 701-749,

49-00-00 Pag

Page B221

TROUBLE SHOOTING MANUAL

- (1) If the fault continues:
 - replace the FUEL CONTROL UNIT (8022KM) (Ref. AMM TASK 49-32-11-000-002) and (Ref. AMM TASK 49-32-11-400-002).
 - (a) If the fault continues:
 - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-002) and (Ref. AMM TASK 49-61-34-400-002).
- R **ON A/C 201-225, 227-227, 229-231, 233-250, 252-299, 426-499, 503-549, R 551-599, 701-749,
 - B. Do the test given in para. 3.

EFF: 201-225, 227-227, 229-231, 233-250, 252-299, 426-499, 503-549, 551-599, 701-749,

SROS

49-00-00 Page B222 Config-1 May 01/08

TROUBLE SHOOTING MANUAL

TASK 49-00-00-810-979

APU - High Oil Consumption (APS 3200)

1. Possible Causes

- oil leaks on oil system components and oil lines
- AUXILIARY POWER UNIT (4005KM)

2. Job Set-up Information

A. Referenced Information

REFERENCE DESIGNATION

AMM 49-00-00-790-002 Leak Test of the APU (APS 3200)

AMM 49-11-11-000-003 Removal of the Power Plant (APU) (APS 3200)

AMM 49-90-00-600-004 Check Oil Level and Replenish (APS 3200)

49-00-00-991-003 Fig. 201

3. Fault Confirmation

- A. Do a visual check on the oil sight glass on the accessory drive gearbox:
 - do the oil servicing (Ref. AMM TASK 49-90-00-600-004).
 - calculate the APU oil consumption.

4. Fault Isolation

(Ref. Fig. 201/TASK 49-00-00-991-003)

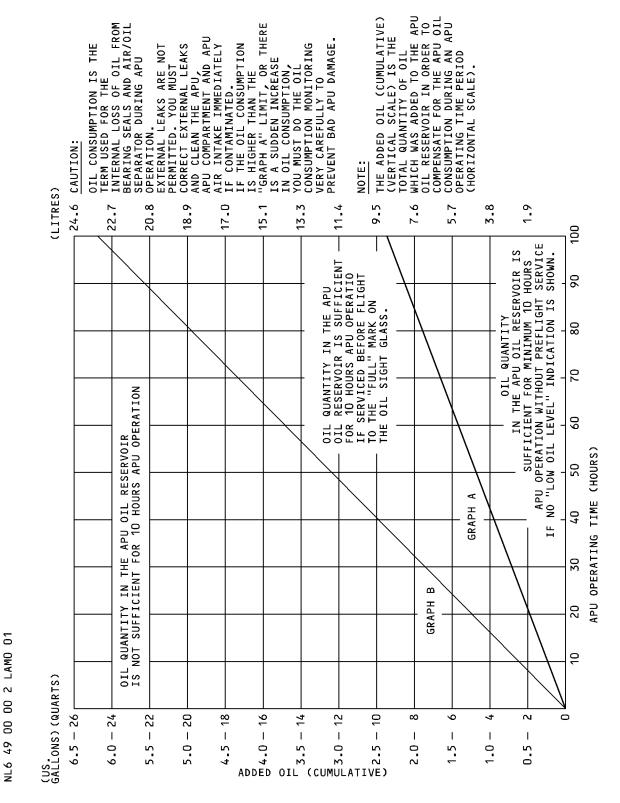
- A. If the APU oil consumption is higher than the GRAPH A on Fig. 001:
 - examine the APU externally for oil leaks on oil system components and oil lines (Ref. AMM TASK 49-00-00-790-002).
 - (1) If you find external oil leaks:
 - correct/replace as necessary.
 - (2) If you do not find external oil leaks:
 - examine the APU for internal oil leakage (Ref. AMM TASK 49-00-00-790-002).
 - (a) If the fault continues:
 - replace the AUXILIARY POWER UNIT (4005KM) (Ref. AMM TASK 49-11-11-000-003) and (Ref. AMM TASK 49-11-11-000-003).
- B. Do the test given in para. 3.

49-00-0

Page B223 Config-1 May 01/08

EFF: 201-225, 227-227, 229-231, 233-250, 252-299, 426-499, 503-549, 551-599, 701-749,

TROUBLE SHOOTING MANUAL



Guideline for the Oil Consumption of APU APS 3200 in Service Figure 201/TASK 49-00-00-991-003

R EFF: 201-225, 227-227, 229-231, 233-250, 252-299, 426-499, 503-549, 551-599, 701-749, SROS

49-00-00 Page B224 Config-1 May 01/08

TROUBLE SHOOTING MANUAL

TASK 49-00-00-810-980

Fuel Control Unit Fault (APS 3200)

1. Possible Causes

- FUEL CONTROL UNIT connector P19
- wiring
- FUEL CONTROL UNIT (8022KM)
- ECB 59kd
- ECB (59KD)

2. Job Set-up Information

A. Referenced Information

REFERENCE	DESIGNATION
AMM 49-00-00-710-008	Operational Test of the APU (APS 3200)
AMM 49-32-11-000-002	Removal of the Fuel Control Unit (8022KM) (APS 3200)
AMM 49-32-11-400-002	<pre>Installation of the Fuel Control Unit (8022KM) (APS 3200)</pre>
AMM 49-61-34-000-002	Removal of the Electronic Control Box (ECB) (59KD) (APS 3200)
AMM 49-61-34-400-002	<pre>Installation of the Electronic Control Box (ECB) (59KD) (APS 3200)</pre>
ASM 49-61/02	

3. Fault Confirmation

```
R **ON A/C 201-225, 227-227, 229-231, 233-250, 252-253, 276-299, 426-450, R 457-499, 503-549, 551-599, 701-749,
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A. Do the operational test of the APU (Ref. AMM TASK 49-00-00-710-008).

```
R **ON A/C 201-225, 227-227, 229-231, 233-244, 247-250, 252-299, 426-456, R 476-499, 503-549, 551-599, 701-749, R Post SB 49-1061 For A/C 201-225,227-227,229-231,233-244,247-250,252-253, R 276-299,426-450,476-499,503-549,551-599,701-749,
```

- A. Access the APU last leg report
 - If the fault message FUEL CTL UNIT (8022KM) is associated to fault code 59 or 60, access fault conditions screen from the prompt next to the failure message.
 - Check the APU operating state (OPST) and APU RPM (NA).
 - If OPST is O (power up), the fault is confirmed, follow the trouble-shooting instructions in 4A.

EFF: 201-225, 227-227, 229-231, 233-250, 252-299, 426-499, 503-549, 551-599, 701-749,

49-00-00

Page B225

TROUBLE SHOOTING MANUAL

- If OPST is 1,2,3....or 12 or if the APU RPM is not null, the fault message is spurious and may be disregarded. In this case performe the APU operational test (Ref. AMM TASK 49-00-00-710-008) and confirm that the message is not logged again.

NOTE : Make sure that 5 seconds elapsed between APU MASTER P/BSW ON and the APU START P/BSW is pressed in.

- R **ON A/C 201-225, 227-227, 229-231, 233-250, 252-299, 426-499, 503-549, R 551-599, 701-749,
 - 4. Fault Isolation
- R **ON A/C 201-225, 227-227, 229-231, 233-250, 252-253, 276-299, 426-450, R 457-499, 503-549, 551-599, 701-749,
 - A. If the test gives the maintenance message:

FUEL CTL UNIT P19:

- do a check of the FUEL CONTROL UNIT connector P19 for good condition.
 Replace if necessary.
- (1) If the fault continues:
 - do a check and repair the wiring from the ECB (59KD) AB/F11, H10, H11, J3 to the FUEL CONTROL UNIT P19/1, 3, 4, 2 (Ref. ASM 49-61/02).
- (2) If the fault continues:
 - replace the FUEL CONTROL UNIT (8022KM) (Ref. AMM TASK 49-32-11-000-002) and (Ref. AMM TASK 49-32-11-400-002).
- (3) If the fault continues:
 - replace the ECB 59kd (Ref. AMM TASK 49-61-34-000-002) and (Ref. AMM TASK 49-61-34-400-002).

```
R **ON A/C 201-225, 227-227, 229-231, 233-244, 247-250, 252-299, 426-456, R 476-499, 503-549, 551-599, 701-749, R Post SB 49-1061 For A/C 201-225,227-227,229-231,233-244,247-250,252-253, R 276-299,426-450,476-499,503-549,551-599,701-749,
```

A. Maintenance Action

SROS

(1) If the APU Last Leg Report gives the maintenance message:

FUEL CTL UNIT (8022KM): Fault Code Number: 021 or 089

 do a check of the FUEL CONTROL UNIT connector P19 for good condition. Replace if necessary.

EFF: 201-225, 227-227, 229-231, 233-250, 252-299, 426-499, 503-549, 551-599, 701-749,

49-00-00 Page B226 Config-1 May 01/08

TROUBLE SHOOTING MANUAL

- (a) If the fault continues:
 - do a check and repair the wiring from the ECB (59KD) AB/F11, J3 to the FUEL CONTROL UNIT (8022KM) P19/1, 2 (Ref. ASM 49-61/02).
 - 1 If the fault continues:
 - replace the FUEL CONTROL UNIT (8022KM) (Ref. AMM TASK 49-32-11-000-002) and (Ref. AMM TASK 49-32-11-400-002).
 - a If the fault continues:
 - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-002) and (Ref. AMM TASK 49-61-34-400-002).
- (2) If the APU Last Leg Report gives the maintenance message:

FUEL CTL UNIT (8022KM):

Fault Code Number: 059 or 060

- do a check of the FUEL CONTROL UNIT connector P19 for good condition. Replace if necessary.
- (a) If the fault continues:
 - do a check and repair the wiring from the ECB (59KD) AB/H10, H11 to the FUEL CONTROL UNIT (8022KM) P19/3, 4 (Ref. ASM 49-61/02).
 - 1 If the fault continues:
 - replace the FUEL CONTROL UNIT (8022KM) (Ref. AMM TASK 49-32-11-000-002) and (Ref. AMM TASK 49-32-11-400-002).
 - a If the fault continues:
 - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-002) and (Ref. AMM TASK 49-61-34-400-002).
- R **ON A/C 201-225, 227-227, 229-231, 233-250, 252-299, 426-499, 503-549, R 551-599, 701-749,
 - B. Do the test given in para. 3.

EFF: 201-225, 227-227, 229-231, 233-250, 252-299, 426-499, 503-549, 551-599, 701-749,

49-00-00

Page B227 Config-1 May 01/08

TROUBLE SHOOTING MANUAL

R **ON A/C 201-225, 227-227, 229-231, 233-250, 252-299, 426-456, 476-499, R 503-549, 551-599, 701-749,

TASK 49-00-00-810-981

APU AUTO SHUT DOWN - NO ACCELERATION, Main Start Contactor Fault or Batteries not selected (APS 3200)

1. Possible Causes

- the BAT 1 and 2 pushbutton switches are selected OFF
- aircraft wiring
- CONTACTOR-MAIN START 5KA
- ECB 59KD
- APU MASTER SW (14KD)

2. Job Set-up Information

A. Referenced Information

REFERENCE		DESIGNATION
AMM	24-38-00-710-001	Operational Test of the Battery Charge Limiter (BCL), (with the CFDS)
AMM	24-38-00-710-001	Operational Test of the Battery Charge Limiter (BCL), (without the CFDS)
AMM	49-00-00-710-008	Operational Test of the APU (APS 3200)
AMM	49-61-34-000-002	Removal of the Electronic Control Box (ECB) (59KD) (APS 3200)
AMM	49-61-34-400-002	Installation of the Electronic Control Box (ECB) (59KD) (APS 3200)
ASM	49-42/01	
AWM	49-42-01	

3. Fault Confirmation

- R **ON A/C 201-225, 227-227, 229-231, 233-250, 252-299, 426-456, 479-499, R 503-549, 551-599, 701-749,
 - A. Do the operational test of the APU (Ref. AMM TASK 49-00-00-710-008).

NOTE: Before you start the operational test of the APU, make sure that:

- the battery charge limiters 1PB1 and 1PB2 are serviceable (Ref. AMM TASK 24-38-00-710-001) or (Ref. AMM TASK 24-38-00-710-001),

- the BAT 1 and 2 pushbutton switches are pushed (the FAULT and OFF legends areoff). If the BAT 1 and 2 pushbutton switches are selected OFF, the start contactors are disconnected from the

- power supply,
 the Ram Air Turbine is in the retracted position.
- R EFF: 201-225, 227-227, 229-231, 233-250, 252-299, 426-456, 476-499, 503-549, 551-599, 701-749, SROS

49-00-00 Page B228 Config-1 May 01/08

TROUBLE SHOOTING MANUAL

R **ON A/C 201-225, 227-227, 229-231, 233-250, 252-299, 426-456, 476-499, R 503-549, 551-599, 701-749,

4. Fault Isolation

**ON A/C 201-225, 234-250, 252-253, 276-278, 280-280, 282-299, 426-450, 479-499, 503-549, 551-599, 701-749,

A. If an APU auto shutdown occurs during the APU start sequence and the APU SHUTDOWNS report gives the maintenance message:

NO ACCELERATION - A/C BAT NOT SELECTED OR CONT 5KA OR ECB 59KD

although the A/C batteries are selected ON:

- do a check for continuity of the aircraft wiring from the ECB (59KD) AC/1 to the START CONTACTOR (5KA) B/3 (Ref. ASM 49-42/01).
- (1) If there is no continuity: - repair the aircraft wiring.
- (2) If there is continuity:
 - do a check for a ground signal (with APU MASTER SW pushed) at the MAIN START CONTACTOR (5KA) B/5 (Ref. ASM 49-42/01).
 - (a) If there is a ground signal:
 - replace the CONTACTOR-MAIN START 5KA.
 - 1 If the fault continues:
 - replace the ECB 59KD (Ref. AMM TASK 49-61-34-000-002) and (Ref. AMM TASK 49-61-34-400-002).
 - (b) If there is no ground signal:
 - replace the APU MASTER SW (14KD).
 - 1 If the fault continues:
 - do a check and repair of the aircraft wiring between the MAIN START CONTACTOR (5KA) B5 and the terminal block 2266VT/4 (Ref. AWM 49-42-01).

R **ON A/C 201-225, 227-227, 229-231, 233-244, 247-250, 252-299, 426-456, R 476-499, 503-549, 551-599, 701-749, R Post SB 49-1061 For A/C 201-225,227-227,229-231,233-244,247-250,252-253, R 276-299,426-450,476-499,503-549,551-599,701-749,

A. If the APU Last Leg Report gives the maintenance message:

ACFT BAT NOT SELECTED / CONTACTOR (5KA)

Fault Code Number: 051

Additionally:

Fault Code Number: 085

NOTE: The APU SHUTDOWNS report gives the maintenance message:

EFF: 201-225, 227-227, 229-231, 233-250, 252-299, 426-456, 476-499, 503-549, 551-599, 701-749, SROS

49-00-00 Page B229 Config-1 May 01/08

TROUBLE SHOOTING MANUAL

NO ACCELERATION - ACFT BAT NOT SELECTED / CONTACTOR (5KA)
APU Auto Shut Down Fault Code Number: 051

although the A/C batteries are selected ON:

- do a check for continuity of the aircraft wiring from the ECB (59KD) AC/1 to the START CONTACTOR (5KA) B/3 (Ref. ASM 49-42/01).
- (1) If there is no continuity:
 repair the aircraft wiring.
- (2) If there is continuity:
 - do a check for a ground signal (with APU MASTER SW pushed) at the MAIN START CONTACTOR (5KA) B/5 (Ref. ASM 49-42/01).
 - (a) If there is a ground signal:replace the CONTACTOR-MAIN START 5KA.
 - - 1 If the fault continues:
 - do a check and repair of the aircraft wiring between the MAIN START CONTACTOR (5KA) B5 and the terminal block 2266VT/4 (Ref. AWM 49-42-01).

R **ON A/C 201-225, 227-227, 229-231, 233-250, 252-299, 426-456, 479-499, R 503-549, 551-599, 701-749,

B. Do the test given in para. 3.

R EFF: 201-225, 227-227, 229-231, 233-250, 252-299, 426-456, 476-499, 503-549, 551-599, 701-749, SROS

49-00-00 Page B230 Config-1 May 01/08

TROUBLE SHOOTING MANUAL

R **ON A/C 201-225, 227-227, 229-231, 233-250, 252-299, 426-456, 476-499, R 503-549, 551-599, 701-749,

TASK 49-00-00-810-982

PMG Fault (PMG and Cooling Fan Assy) (APS 3200)

- 1. Possible Causes
 - PMG and COOLING FAN ASSEMBLY (8055KM)
 - wiring
 - ECB (59KD)
- 2. Job Set-up Information
 - A. Referenced Information

REFERENCE		DESIGNATION	
AMM	49-00-00-710-008	Operational Test of the APU (APS 3200)	
AMM	49-52-53-000-001	Removal of the PMG and Cooling Fan Assembly (8055KM) (APS 3200)	
AMM	49-52-53-400-001	Installation of the PMG and Cooling Fan Assembly (8055KM) (APS 3200)	
AMM	49-61-34-000-002	Removal of the Electronic Control Box (ECB) (59KD) (APS 3200)	
AMM	49-61-34-400-002	Installation of the Electronic Control Box (ECB) (59KD) (APS 3200)	
ASM	49-61/02		

3. Fault Confirmation

- R **ON A/C 201-225, 227-227, 229-231, 233-250, 252-299, 426-456, 479-499, R 503-549, 551-599, 701-749,
 - A. Do the operational test of the APU (Ref. AMM TASK 49-00-00-710-008).

R | EFF : 201-225, 227-227, 229-231, 233-250, 252-299, 426-456, 476-499, 503-549, 551-599, 701-749, SROS

49-00-00 Page B231 Config-1 May 01/08

TROUBLE SHOOTING MANUAL

R **ON A/C 201-225, 227-227, 229-231, 233-250, 252-299, 426-456, 476-499, R 503-549, 551-599, 701-749,

4. Fault Isolation

**ON A/C 201-225, 234-250, 252-253, 276-278, 280-280, 282-299, 426-450, 479-499, 503-549, 551-599, 701-749,

A. If the test gives the maintenance message:

COOLING FAN/PMG ASSY:

- replace the PMG and COOLING FAN ASSEMBLY (8055KM) (Ref. AMM TASK 49-52-53-000-001) and (Ref. AMM TASK 49-52-53-400-001).
- (1) If the fault continues:
 - do a check and repair the wiring from the ECB (59KD) AC/10, 11 to the PMG and COOLING FAN ASSEMBLY P28/2, 3 (Ref. ASM 49-61/02).
 - do a check and repair the wiring from the ECB (59KD) AB/H4 to the PMG and COOLING FAN ASSEMBLY P28/1 (Ref. ASM 49-61/02).
- (2) If the fault continues:
 - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-002) and (Ref. AMM TASK 49-61-34-400-002).

R **ON A/C 201-225, 227-227, 229-231, 233-244, 247-250, 252-299, 426-456, R 476-499, 503-549, 551-599, 701-749, R Post SB 49-1061 For A/C 201-225,227-227,229-231,233-244,247-250,252-253, R 276-299,426-450,476-499,503-549,551-599,701-749,

A. If the test gives the maintenance message:

COOLING FAN/PMG ASSY (8055KM):

- replace the PMG and COOLING FAN ASSEMBLY (8055KM) (Ref. AMM TASK 49-52-53-000-001) and (Ref. AMM TASK 49-52-53-400-001).
- (1) If the fault continues:
 - do a check and repair the wiring from the ECB (59KD) AC/10, 11 to the PMG and COOLING FAN ASSEMBLY (8055KM) P28/2, 3 (Ref. ASM 49-61/02).
 - do a check and repair the wiring from the ECB (59KD) AB/H4 to the PMG and COOLING FAN ASSEMBLY (8055KM) P28/1 (Ref. ASM 49-61/02).
 - (a) If the fault continues:
 - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-002) and (Ref. AMM TASK 49-61-34-400-002).

R EFF: 201-225, 227-227, 229-231, 233-250, 252-299, 426-456, 476-499, 503-549, 551-599, 701-749, SROS

49-00-00 Page B232 Config-1 May 01/08

TROUBLE SHOOTING MANUAL

R **ON A/C 201-225, 227-227, 229-231, 233-250, 252-299, 426-456, 479-499, R 503-549, 551-599, 701-749,

B. Do the operational test of the APU (Ref. AMM TASK 49-00-00-710-008).

NOTE : After the subsequent flight, make sure that the fault does not continue.

EFF: 201-225, 227-227, 229-231, 233-250, 252-299, 426-456, 479-499, 503-549, 551-599, 701-749, SROS

49-00-00 Page B233 Config-1 May 01/08

TROUBLE SHOOTING MANUAL

R **ON A/C 201-225, 227-227, 229-231, 233-250, 252-299, 426-499, 503-549, R 551-599, 701-749,

TASK 49-00-00-810-983

Speed Sensor 1 Low Fault (APS 3200)

- 1. Possible Causes
 - wiring
 - SPEED SENSOR (8060KM1)
 - ECB 59KD
- 2. Job Set-up Information
 - A. Referenced Information

REFERENCE		DESIGNATION	
AMM	49-00-00-710-008	Operational Test of the APU (APS 3200)	
AMM	49-61-34-000-002	Removal of the Electronic Control Box (ECB) (59KD) (APS 3200)	
AMM	49-61-34-400-002	<pre>Installation of the Electronic Control Box (ECB) (59KD) (APS 3200)</pre>	
AMM	49-71-13-000-002	Removal of the Speed Sensor (APS 3200)	
AMM ASM	49-71-13-400-002 49-61/02	Installation of the Speed Sensor (APS 3200)	

- 3. Fault Confirmation
 - A. Do the operational test of the APU (Ref. AMM TASK 49-00-00-710-008).
- 4. Fault Isolation
- R **ON A/C 201-225, 227-227, 229-231, 233-250, 252-253, 276-299, 426-450, R 457-499, 503-549, 551-599, 701-749,
 - A. If the test gives the maintenance message

ECB 59KD OR SPEED SNSR P26

- do a check and repair the wiring between the ECB (59KD) and the SPEED SNSR (8060KM1) (Ref. ASM 49-61/02).
- (1) If the fault continues:
 - replace the SPEED SENSOR (8060KM1) (Ref. AMM TASK 49-71-13-000-002) and (Ref. AMM TASK 49-71-13-400-002).

EFF: 201-225, 227-227, 229-231, 233-250, 252-299, 426-499, 503-549, 551-599, 701-749,

49-00-00

Config-1 May 01/08

TROUBLE SHOOTING MANUAL

- (2) If the fault continues:
 - replace the ECB 59KD (Ref. AMM TASK 49-61-34-000-002) and (Ref. AMM TASK 49-61-34-400-002).
- R **ON A/C 201-225, 227-227, 229-231, 233-250, 252-299, 426-499, 503-549, R 551-599, 701-749,
 - B. Do the test given in para. 3.

EFF: 201-225, 227-227, 229-231, 233-250, 252-299, 426-499, 503-549, 551-599, 701-749,

SROS

49-00-00

Page B235

TROUBLE SHOOTING MANUAL

TASK 49-00-00-810-984

Speed Sensor 2 Low Fault (APS 3200)

- 1. Possible Causes
 - wiring
 - SPEED SENSOR (8060KM2)
 - ECB 59KD
- 2. Job Set-up Information
 - A. Referenced Information

REFERENCE		DESIGNATION
A M M	/0.00.00.740.000	0
AMM	49-00-00-710-008	Operational Test of the APU (APS 3200)
AMM	49-61-34-000-002	Removal of the Electronic Control Box (ECB) (59KD) (APS 3200)
AMM	49-61-34-400-002	<pre>Installation of the Electronic Control Box (ECB) (59KD) (APS 3200)</pre>
AMM	49-71-13-000-002	Removal of the Speed Sensor (APS 3200)
AMM ASM	49-71-13-400-002 49-61/02	Installation of the Speed Sensor (APS 3200)

- 3. Fault Confirmation
 - A. Do the operational test of the APU (Ref. AMM TASK 49-00-00-710-008).
- 4. Fault Isolation
- R **ON A/C 201-225, 227-227, 229-231, 233-250, 252-253, 276-299, 426-450, R 457-499, 503-549, 551-599, 701-749,
 - A. If the test gives the maintenance message

ECB 59KD OR SPEED SNSR P27

- do a check and repair the wiring between the ECB (59KD) and the SPEED SNSR (Ref. ASM 49-61/02).
- (1) If the fault continues:
 - replace the SPEED SENSOR (8060KM2) (Ref. AMM TASK 49-71-13-000-002) and (Ref. AMM TASK 49-71-13-400-002).
- (2) If the fault continues:
 - replace the ECB 59KD (Ref. AMM TASK 49-61-34-000-002) and (Ref. AMM TASK 49-61-34-400-002).

EFF: 201-225, 227-227, 229-231, 233-250, 252-299, 426-499, 503-549, 551-599, 701-749,

49-00-00

Page B236

TROUBLE SHOOTING MANUAL

R **ON A/C 201-225, 227-227, 229-231, 233-250, 252-299, 426-499, 503-549, R 551-599, 701-749,

B. Do the test given in para. 3.

EFF: 201-225, 227-227, 229-231, 233-250, 252-299, 426-499, 503-549, 551-599, 701-749,

SROS

49-00-00 Page B237 Config-1 May 01/08

TROUBLE SHOOTING MANUAL

TASK 49-00-00-810-985

Ignition Unit Fault (APS 3200)

- 1. Possible Causes
 - ECB (59KD)
 - IGNITION UNIT (8030KM)
 - wiring
 - ECB 59KD
- 2. Job Set-up Information
 - A. Referenced Information

REFERENCE		DESIGNATION
	/0.00.00.740.000	0
AMM	49-00-00-710-008	Operational Test of the APU (APS 3200)
AMM	49-41-38-000-002	Removal of the Ignition Unit (8030KM) (APS 3200)
AMM	49-41-38-400-002	Installation of the Ignition Unit (8030KM) (APS 3200)
AMM	49-61-34-000-002	Removal of the Electronic Control Box (ECB) (59KD) (APS 3200)
AMM	49-61-34-400-002	Installation of the Electronic Control Box (ECB) (59KD) (APS 3200)
ASM	49-61/02	

- 3. Fault Confirmation
 - A. Do the operational test of the APU (Ref. AMM TASK 49-00-00-710-008).
- 4. Fault Isolation
- R **ON A/C 201-225, 227-227, 229-231, 233-250, 252-253, 276-299, 426-450, R 457-499, 503-549, 551-599, 701-749,
 - A. If the test gives the maintenance message:

IGNITION UNIT P10

- replace the IGNITION UNIT (8030KM) (Ref. AMM TASK 49-41-38-000-002) and (Ref. AMM TASK 49-41-38-400-002).
- (1) If the fault continues:
 - do a check and repair the wiring from the ECB (59KD) AB/F7, F6 to the IGNITION UNIT P10/1, 2 (Ref. ASM 49-61/02).
- (2) If the fault continues:
 - replace the ECB 59KD (Ref. AMM TASK 49-61-34-000-002) and (Ref. AMM TASK 49-61-34-400-002).

EFF: 201-225, 227-227, 229-231, 233-250, 252-299, 426-499, 503-549, 551-599, 701-749,

49-00-00 Page B238 Config-1 May 01/08

TROUBLE SHOOTING MANUAL

R **ON A/C 201-225, 227-227, 229-231, 233-244, 247-250, 252-299, 426-456, R 479-499, 503-549, 551-599, 701-749, R Post SB 49-1061 For A/C 201-225,227-227,229-231,233-244,247-250,252-253, R 276-299,426-450,479-499,503-549,551-599,701-749,

A. If the APU Last Leg Report gives the maintenance message:

IGNITION UNIT (8030KM)

Fault Code Number: 023 or 091

- replace the IGNITION UNIT (8030KM) (Ref. AMM TASK 49-41-38-000-002) and (Ref. AMM TASK 49-41-38-400-002).
- (1) If the fault continues:
 - do a check and repair the wiring from the ECB (59KD) AB/F7, F6 to the IGNITION UNIT (8030KM) P10/1, 2 (Ref. ASM 49-61/02).
 - (a) If the fault continues:
 - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-002) and (Ref. AMM TASK 49-61-34-400-002).
- R **ON A/C 201-225, 227-227, 229-231, 233-250, 252-299, 426-499, 503-549, R 551-599, 701-749,
 - B. Do the test given in para. 3.

EFF: 201-225, 227-227, 229-231, 233-250, 252-299, 426-499, 503-549, 551-599, 701-749,

49-00-00

Page B239 Config-1 May 01/08

TROUBLE SHOOTING MANUAL

TASK 49-00-00-810-986

Main Start Contactor output open (APS 3200)

1. Possible Causes

- ECB (59KD)
- wiring
- aircraft wiring
- CONTACTOR-MAIN START (5KA)
- ECB 59KD
- APU MASTER SW (14KD)

2. Job Set-up Information

A. Referenced Information

REFERENCE		DESIGNATION	
AMM	49-00-00-710-008	Operational Test of the APU (APS 3200)	
AMM	49-61-34-000-002	Removal of the Electronic Control Box (ECB) (59KD) (APS 3200)	
AMM	49-61-34-400-002	Installation of the Electronic Control Box (ECB) (59KD) (APS 3200)	
ASM	49-42/01		
AWM	49-42-01		

3. Fault Confirmation

A. Do the operational test of the APU (Ref. AMM TASK 49-00-00-710-008).

4. Fault Isolation

R **ON A/C 201-225, 227-227, 229-231, 233-250, 252-253, 276-299, 426-450, R 457-499, 503-549, 551-599, 701-749,

A. If the test gives the maintenabnce message:

A/C BAT NOT SELECTED OR CONT 5KA OR ECB 59KD

- replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-002) and (Ref. AMM TASK 49-61-34-400-002).
 and
- do a and repair of the wiring from the ECB (59KD) AB/J10 to the STARTER MOTOR (8KA) positive terminal (Ref. ASM 49-42/01).

EFF: 201-225, 227-227, 229-231, 233-250, 252-299, 426-499, 503-549, 551-599, 701-749,

49-00-00

Page B240 Config-1 May 01/08

TROUBLE SHOOTING MANUAL

R **ON A/C 201-225, 227-227, 229-231, 233-244, 247-250, 252-299, 426-456, R 479-499, 503-549, 551-599, 701-749, R Post SB 49-1061 For A/C 201-225,227-227,229-231,233-244,247-250,252-253, R 276-299,426-450,479-499,503-549,551-599,701-749,

A. If the APU Last Leg Report gives the maintenance message:

ACFT BAT NOT SELECTED / CONTACTOR (5KA) Fault Code Number: 085

select the A/C batteries ON:

- check and repair the aircraft wiring from the ECB (59KD) AC/1 to the START CONTACTOR (5KA) B/3 (Ref. ASM 49-42/01).
- (1) If the fault continues:
 - do a check for a ground signal (with APU MASTER SW pushed) at the MAIN START CONTACTOR (5KA) B/5 (Ref. ASM 49-42/01).
 - (a) If there is a ground signal:
 - replace the CONTACTOR-MAIN START (5KA).
 - 1 If the fault continues:
 - replace the ECB 59KD (Ref. AMM TASK 49-61-34-000-002) and (Ref. AMM TASK 49-61-34-400-002).
 - (b) If there is no ground signal:
 - replace the APU MASTER SW (14KD).
 - 1 If the fault continues:
 - do a check and repair of the aircraft wiring between the MAIN START CONTACTOR (5KA) B5 and the terminal block 2266VT/4 (Ref. AWM 49-42-01).
- R **ON A/C 201-225, 227-227, 229-231, 233-250, 252-299, 426-499, 503-549, R 551-599, 701-749,
 - B. Do the test given in para. 3.

EFF: 201-225, 227-227, 229-231, 233-250, 252-299, 426-499, 503-549, 551-599, 701-749,

49-00-00

Page B241

TROUBLE SHOOTING MANUAL

TASK 49-00-00-810-987

Backup Start Contactor output open (APS 3200)

- 1. Possible Causes
 - wiring
 - ECB 59KD
 - B/U START CONTACTOR (10KA)
- 2. Job Set-up Information
 - A. Referenced Information

REFERENCE		DESIGNATION
AMM	49-00-00-710-008	Operational Test of the APU (APS 3200)
AMM	49-42-55-000-001	Removal of the Start Contactors (5KA,10KA)
AMM	49-42-55-400-001	Installation of the Start Contactors (5KA,10KA)
AMM	49-61-34-000-002	Removal of the Electronic Control Box (ECB) (59KD) (APS 3200)
AMM	49-61-34-400-002	Installation of the Electronic Control Box (ECB) (59KD) (APS 3200)
ASM	49-42/01	

- 3. Fault Confirmation
 - A. Do the operational test of the APU (Ref. AMM TASK 49-00-00-710-008).
- 4. Fault Isolation
- R **ON A/C 201-225, 227-227, 229-231, 233-250, 252-253, 276-299, 426-450, R 457-499, 503-549, 551-599, 701-749,
 - A. If the test gives the maintenance message:

CONTACTOR 10KA OR ECB 59KD

- do a check and repair the wiring between the Back-Up Start Contactor(10KA) and the ECB (59KD) (Ref. ASM 49-42/01).
- (1) If the fault continues:
 - replace the ECB 59KD (Ref. AMM TASK 49-61-34-000-002) and (Ref. AMM TASK 49-61-34-400-002).

EFF: 201-225, 227-227, 229-231, 233-250, 252-299, 426-499, 503-549, 551-599, 701-749,

49-00-00

Page B242 Config-1 May 01/08

TROUBLE SHOOTING MANUAL

R **ON A/C 201-225, 227-227, 229-231, 233-244, 247-250, 252-299, 426-456, R 479-499, 503-549, 551-599, 701-749, R Post SB 49-1061 For A/C 201-225,227-227,229-231,233-244,247-250,252-253, R 276-299,426-450,479-499,503-549,551-599,701-749,

A. If the APU Last Leg Report gives the maintenance message:

CONTACTOR (10KA)

Fault Code Number: 018 or 086

- replace the B/U START CONTACTOR (10KA) (Ref. AMM TASK 49-42-55-000-001) and (Ref. AMM TASK 49-42-55-400-001).
- (1) If the fault continues:
 - do a check and repair the wiring between the Back-Up Start Contactor(10KA) and the ECB (59KD) (Ref. ASM 49-42/01).
 - (a) If the fault continues:
 - replace the ECB 59KD (Ref. AMM TASK 49-61-34-000-002) and (Ref. AMM TASK 49-61-34-400-002).
- R **ON A/C 201-225, 227-227, 229-231, 233-250, 252-299, 426-499, 503-549, R 551-599, 701-749,
 - B. Do the test given in para. 3.

EFF: 201-225, 227-227, 229-231, 233-250, 252-299, 426-499, 503-549, 551-599, 701-749,

49-00-00 •

Page B243 Config-1 May 01/08

TROUBLE SHOOTING MANUAL

TASK 49-00-00-810-988

Backup Start Contactor failed open (APS 3200)

- 1. Possible Causes
 - ECB (59KD)
 - wiring
- 2. Job Set-up Information
 - A. Referenced Information

REFERENCE		DESIGNATION
AMM	49-00-00-710-008	Operational Test of the APU (APS 3200)
AMM	49-61-34-000-002	Removal of the Electronic Control Box (ECB) (59KD) (APS 3200)
AMM	49-61-34-400-002	<pre>Installation of the Electronic Control Box (ECB) (59KD) (APS 3200)</pre>
ASM	49-42/01	

- 3. Fault Confirmation
 - A. Do the operational test of the APU (Ref. AMM TASK 49-00-00-710-008).
- 4. Fault Isolation
- R **ON A/C 201-225, 227-227, 229-231, 233-250, 252-253, 276-299, 426-450, R 457-499, 503-549, 551-599, 701-749,
 - A. If the test gives the maintenance message:

CURRENT LIMITER 6KA OR CONTACTOR 10KA

- do a check and repair of the wiring between ECB (59KD) AB/E3 and the BACKUP START CONTACTOR (10KA) A/G (Ref. ASM 49-42/01).
- (1) If the fault continues:
 - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-002) (Ref. AMM TASK 49-61-34-400-002).

EFF: 201-225, 227-227, 229-231, 233-250, 252-299, 426-499, 503-549, 551-599, 701-749,

49-00-00

Page B244 Config-1 May 01/08

TROUBLE SHOOTING MANUAL

R **ON A/C 201-225, 227-227, 229-231, 233-244, 247-250, 252-299, 426-456, R 479-499, 503-549, 551-599, 701-749, R Post SB 49-1061 For A/C 201-225,227-227,229-231,233-244,247-250,252-253, R 276-299,426-450,479-499,503-549,551-599,701-749,

A. If the APU Last Leg Report gives the maintenance message:

CURRENT LIMITER 6KA / CONTACTOR 10KA Fault Code Number: 126

- do a check and repair of the wiring between ECB (59KD) AB/E3 and the BACKUP START CONTACTOR (10KA) A/G (Ref. ASM 49-42/01).
- (1) If the fault continues:
 replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-002) (Ref. AMM TASK 49-61-34-400-002).
- R **ON A/C 201-225, 227-227, 229-231, 233-250, 252-299, 426-499, 503-549, R 551-599, 701-749,
 - B. Do the test given in para. 3.

EFF: 201-225, 227-227, 229-231, 233-250, 252-299, 426-499, 503-549, 551-599, 701-749,

SROS

49-00-00 Page B245 Config-1 May 01/08

TROUBLE SHOOTING MANUAL

TASK 49-00-00-810-989

Main Start Contactor failed open (APS 3200)

- 1. Possible Causes
 - ECB (59KD)
 - wiring
 - aircraft wiring
 - CONTACTOR-MAIN START (5KA)
 - ECB 59KD
- 2. Job Set-up Information
 - A. Referenced Information

REFE	RENCE	DESIGNATION	
AMM	49-00-00-710-008	Operational Test of the APU (APS 3200)	
AMM	49-61-34-000-002	Removal of the Electronic Control Box (ECB) (59KD) (APS 3200)	
AMM	49-61-34-400-002	Installation of the Electronic Control Box (ECB) (59KD) (APS 3200)	
ASM	49-42/01		

- 3. Fault Confirmation
 - A. Do the operational test of the APU (Ref. AMM TASK 49-00-00-710-008).
- 4. Fault Isolation
- R **ON A/C 201-225, 227-227, 229-231, 233-250, 252-253, 276-299, 426-450, R 457-499, 503-549, 551-599, 701-749,
 - A. If the test gives the maintenance message

CONTACTOR 5KA

- do a check and repair of the wiring between ECB (59KD) AB/J10 and STARTER MOTOR (8KA) positive terminal (Ref. ASM 49-42/01).
- (1) If the fault continues:
 - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-002) and (Ref. AMM TASK 49-61-34-400-002).

EFF: 201-225, 227-227, 229-231, 233-250, 252-299, 426-499, 503-549, 551-599, 701-749,

49-00-00 Page B246 Config-1 May 01/08

TROUBLE SHOOTING MANUAL

R **ON A/C 201-225, 227-227, 229-231, 233-244, 247-250, 252-299, 426-456, R 476-499, 503-549, 551-599, 701-749, R Post SB 49-1061 For A/C 201-225,227-227,229-231,233-244,247-250,252-253, R 276-299,426-450,476-499,503-549,551-599,701-749,

- A. Maintenance Action
 - (1) If the APU Last Leg Report gives the maintenance message:

CONTACTOR 5KA

Fault Code Number: 128

- do a check and repair of the wiring between ECB (59KD) AB/J10 and STARTER MOTOR (8KA) positive terminal (Ref. ASM 49-42/01).
- (a) If the fault continues:
 - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-002) and (Ref. AMM TASK 49-61-34-400-002).
- (2) If the APU Last Leg Report gives the maintenance message:

CONTACTOR 5KA

Fault Code Number: 017

select the A/C batteries ON:

- check and repair the aircraft wiring from the ECB (59KD) AC/1 to the START CONTACTOR (5KA) B/3 for a short circuit (Ref. ASM 49-42/01).
- (a) If the fault continues:
 - replace the CONTACTOR-MAIN START (5KA).
 - 1 If the fault continues:
 - replace the ECB 59KD (Ref. AMM TASK 49-61-34-000-002) and (Ref. AMM TASK 49-61-34-400-002).
- R **ON A/C 201-225, 227-227, 229-231, 233-250, 252-299, 426-499, 503-549, R 551-599, 701-749,
 - B. Do the test given in para. 3.

EFF: 201-225, 227-227, 229-231, 233-250, 252-299, 426-499, 503-549, 551-599, 701-749,

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49-00-00 Page B247 Config-1 May 01/08

TROUBLE SHOOTING MANUAL

**ON A/C 232-232, 247-248, 252-252,

Post SB 49-1073001 For A/C 232-232,247-248,252-252,

AIRBORNE AUXILIARY POWER - GENERAL ((GTCP 36-300)) - FAULT ISOLATION PROCEDURES

TASK 49-00-00-810-801

APU AUTO SHUT DOWN - Slow Start Shutdown, Main Start Contactor Fault (GTCP 36-300)

1. Possible Causes

- CONTACTOR-MAIN START (5KA)
- the BAT 1 and 2 pushbutton switches are selected OFF
- wiring
- ECB (59KD)

2. Job Set-up Information

A. Referenced Information

REFERENCE		DESIGNATION
AMM	49-00-00-710-004	Operational Test of the APU (4005KM) (GTCP 36-300)
AMM	49-42-55-000-001	Removal of the Start Contactors (5KA,10KA)
AMM	49-42-55-400-001	Installation of the Start Contactors (5KA,10KA)
AMM	49-61-34-000-001	Removal of the Electronic Control Box (ECB) (59KD) (GTCP 36-300)
AMM	49-61-34-400-001	<pre>Installation of the Electronic Control Box (ECB) (59KD) (GTCP 36-300)</pre>
ASM	49-42/01	

3. Fault Confirmation

A. Check/Test

NOTE: Make sure that the Battery Charge Limiters 1PB1 and 1PB2 are available. If not, do the related trouble shooting.

- (1) Before you start the operational test, make sure that:
 - on the overhead panel 35VU, the BAT 1 and BAT 2 pushbutton switches are in the on position (the OFF legends are off). If the BAT 1 and 2 pushbutton switches are selected OFF, the APU start contactor 5KA is disconnected from the power supply,
 - the Ram Air Turbine is in the retracted position.
- (2) Do the operational test of the APU (Ref. AMM TASK 49-00-00-710-004).

EFF: 232-232, 247-248, 252-252,

49-00-00

Page 201

Config-2 May 01/08

TROUBLE SHOOTING MANUAL

**ON A/C 232-232, 247-248, 252-252,

Post SB 49-1073 For A/C 232-232,247-248,252-252,

A. Do the operational test of the APU (Ref. AMM TASK 49-00-00-710-004).

**ON A/C 232-232, 247-248, 252-252,

4. Fault Isolation

A. If an APU auto shutdown occurs during the APU start sequence and the APU SHUTDOWNS report gives maintenance message:

START TIME EXCEEDED - CONTACTOR 5KA:

- replace the CONTACTOR-MAIN START (5KA) (Ref. AMM TASK 49-42-55-000-001) and (Ref. AMM TASK 49-42-55-400-001).
- (1) If the fault continues:
 - do a check for a ground signal at the START CONTACTOR (5KA) B/5.
 - (a) If there is no ground signal:
 - do a check and repair the wiring from the START CONTACTOR (5KA)
 B/5 to the ground (Ref. ASM 49-42/01).
 - (b) If there is a ground signal:
 - do a check and repair of the wiring from the ECB (59KD) AC/1 to the MAIN START CONTACTOR (5KA) B/3 (Ref. ASM 49-42/01).
 - do a check and repair of the wiring from the BACK-UP START CONTACTOR (10KA) A/F to the MAIN START CONTACTOR (5KA) A/D (Ref. ASM 49-42/01).
 - do a check and repair of the wiring from the ECB (59KD) AB/J10 to the STARTER MOTOR (8KA) positive terminal (Ref. ASM 49-42/01).
 - 1 If the fault continues:
 - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-001) and (Ref. AMM TASK 49-61-34-400-001).

**ON A/C 232-232, 247-248, 252-252,

Post SB 49-1073 For A/C 232-232,247-248,252-252,

- A. Maintenance Action
 - (1) If an APU auto shutdown occurs during the APU start sequence and the APU SHUTDOWNS report gives maintenance message:

NO ACCELERATION - ACFT BAT NOT SELECTED/CONTACTOR 5KA:

EFF: 232-232, 247-248, 252-252,

49-00-00

Page 202

Config-2 May 01/08

TROUBLE SHOOTING MANUAL

with the LRU TROUBLE SHOOT DATA menu information MAIN START CONTACTOR SHOWS OPEN CIRCUIT Fault Code Number: 123

- do a check and repair of the wiring from the ECB (59KD) AB/J10 to the STARTER MOTOR (8KA) positive terminal (Ref. ASM 49-42/01).
- do a check and repair the wiring from the START CONTACTOR (5KA) B/5 to the ground (Ref. ASM 49-42/01).
- (a) If the fault continues:
 - replace the CONTACTOR-MAIN START (5KA) (Ref. AMM TASK 49-42-55-000-001) and (Ref. AMM TASK 49-42-55-400-001).
 - 1 If the fault continues:
 - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-001) and (Ref. AMM TASK 49-61-34-400-001).
- (2) If an APU auto shutdown occurs during the APU start sequence and the APU SHUTDOWNS report gives maintenance message:

NO ACCELERATION - CONTACTOR 5KA:

with the LRU TROUBLE SHOOT DATA menu information MAIN START CONTACTOR SHOWS CIRCUIT FAILURE Fault Code Number: 142

- replace the CONTACTOR-MAIN START (5KA) (Ref. AMM TASK 49-42-55-000-001) and (Ref. AMM TASK 49-42-55-400-001).
- (a) If the fault continues:
 - do a check and repair of the wiring from the ECB (59KD) AC/1 to the MAIN START CONTACTOR (5KA) B/3 (Ref. ASM 49-42/01).
 - 1 If the fault continues:
 - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-001) and (Ref. AMM TASK 49-61-34-400-001).

**ON A/C 232-232, 247-248, 252-252,

B. If the test gives the maintenance message (CLASS I):

CONTACTOR 5KA:

- do a check and repair of the wiring from the ECB (59KD) AC/1 to the MAIN START CONTACTOR (5KA) B/3 (Ref. ASM 49-42/01).
- C. Do the test as given in the Para. 3.

EFF: 232-232, 247-248, 252-252,

49-00-00

Page 203

Config-2 May 01/08

TROUBLE SHOOTING MANUAL

TASK 49-00-00-810-802

APU AUTO SHUT DOWN - Slow Start Shutdown, Back-Up Start Contactor Fault (GTCP 36-300)

- 1. Possible Causes
 - FUSE (6KA)
 - CONTACTOR-BACK-UP START (10KA)
 - wiring
 - ECB (59KD)
- 2. Job Set-up Information
 - A. Referenced Information

REFERENCE		DESIGNATION
AMM	49-00-00-710-004	Operational Test of the APU (4005KM) (GTCP 36-300)
AMM	49-42-00-960-001	Replacement of the APU Start Fuse (6KA)
AMM	49-42-55-000-001	Removal of the Start Contactors (5KA,10KA)
AMM	49-42-55-400-001	Installation of the Start Contactors (5KA,10KA)
AMM	49-61-34-000-001	Removal of the Electronic Control Box (ECB) (59KD) (GTCP 36-300)
AMM	49-61-34-400-001	<pre>Installation of the Electronic Control Box (ECB) (59KD) (GTCP 36-300)</pre>
ASM	49-42/00	
ASM	49-42/01	

- 3. Fault Confirmation
 - A. Do the operational test of the APU (Ref. AMM TASK 49-00-00-710-004).
- 4. Fault Isolation
 - A. If an APU auto shutdown occurs during the APU start sequence and the APU SHUTDOWNS report gives maintenance message:

START TIME EXCEEDED - CONTACTOR 10KA:

- do a check for 28VDC at the BACK-UP START CONTACTOR (10KA) A/D (Ref. ASM 49-42/01).
- (1) If there are no 28VDC:
 - replace the FUSE (6KA) (Ref. AMM TASK 49-42-00-960-001).

EFF: 232-232, 247-248, 252-252,

49-00-00

Page 204

Config-2 May 01/08

TROUBLE SHOOTING MANUAL

- (2) If there are 28VDC:
 - replace the CONTACTOR-BACK-UP START (10KA) (Ref. AMM TASK 49-42-55-000-001) and (Ref. AMM TASK 49-42-55-400-001).
 - (a) If the fault continues:
 - do a check and repair the wiring from the BACK-UP START CONTACTOR (10KA) B/5 to the ground (Ref. ASM 49-42/01).
 - do a check and repair the wiring from the ECB (59KD) AC/6 to the BACK-UP START CONTACTOR (10KA) B/3 (Ref. ASM 49-42/01).
 - do a check and repair the wiring from the ECB (59KD) AB/E3 to the BACK-UP START CONTACTOR (10KA) A/G (Ref. ASM 49-42/01).
 - do a check for 28VDC at the BACK-UP START CONTACTOR (10KA) A/D (Ref. ASM 49-42/00).
 - 1 If the fault continues:
 - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-001) and (Ref. AMM TASK 49-61-34-400-001).

**ON A/C 232-232, 247-248, 252-252,

Post SB 49-1073 For A/C 232-232,247-248,252-252,

- A. Maintenence Action
 - (1) If an APU auto shutdown occurs during the APU start sequence and the APU SHUTDOWNS report gives maintenance message:

NO ACCELERATION - CONTACTOR 10KA:

with the LRU TROUBLE SHOOT DATA menu information: BACKUP START CONTACTOR SHOWS OPEN CIRCUIT Fault Code Number: 120

- do a check for 28VDC at the BACK-UP START CONTACTOR (10KA) A/D (Ref. ASM 49-42/01).
- (a) If there are no 28VDC:
 - replace the FUSE (6KA) (Ref. AMM TASK 49-42-00-960-001).
- (b) If there are 28VDC:
 - replace the CONTACTOR-BACK-UP START (10KA) (Ref. AMM TASK 49-42-55-000-001) and (Ref. AMM TASK 49-42-55-400-001).
 - 1 If the fault continues:
 - do a check and repair the wiring from the ECB (59KD) AB/E3 to the BACK-UP START CONTACTOR (10KA) A/G (Ref. ASM 49-42/01).
 - do a check and repair the wiring from the BACK-UP START CONTACTOR (10KA) B/5 to the ground (Ref. ASM 49-42/01).

EFF: 232-232, 247-248, 252-252,

49-00-00

Page 205

Config-2 May 01/08

TROUBLE SHOOTING MANUAL

- a If the fault continues:
 - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-001) and (Ref. AMM TASK 49-61-34-400-001).
- (2) If an APU auto shutdown occurs during the APU start sequence and the APU SHUTDOWNS report gives maintenance message:

NO ACCELERATION - CONTACTOR 10KA:

with the LRU TROUBLE SHOOT DATA menu information: BACKUP START CONTACTOR SHOWS CIRCUIT FAILURE Fault Code Number: 132

- replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-001) and (Ref. AMM TASK 49-61-34-400-001).
- (a) If the fault continues:
 - do a check and repair the wiring from the ECB (59KD) AC/6 to the BACK-UP START CONTACTOR (10KA) B/3 (Ref. ASM 49-42/01).

**ON A/C 232-232, 247-248, 252-252,

B. If the test gives the maintenance message (CLASS I):

CONTACTOR 10KA:

- do a check and repair of the wiring from the ECB (59KD) AC/6 to the BACKUP START CONTACTOR (10KA) B/3 (Ref. ASM 49-42/01).
- C. Do the test as given in the Para. 3.

EFF: 232-232, 247-248, 252-252,

49-00-00

Page 206

TROUBLE SHOOTING MANUAL

TASK 49-00-00-810-803

APU AUTO SHUT DOWN - Slow Start Shutdown, Starter System Fault (GTCP 36-300)

1. Possible Causes

- GEN-APU (8XS)
- STARTER MOTOR (8KA)
- STARTER MOTOR CLUTCH
- wiring
- ECB (59KD)
- AUXILIARY POWER UNIT (4005KM)

2. Job Set-up Information

A. Referenced Information

REFERENCE		DESIGNATION
		APU AUTO SHUT DOWN - LOSS OF SPEED, Speed Sensor P26/P27 Fault (GTCP 36-300)
49-00-00-810-810		APU AUTO SHUT DOWN - LOSS OF SPEED, Speed Indication System 1 Fault (GTCP 36-300)
49-00	0-00-810-811	APU AUTO SHUT DOWN - LOSS OF SPEED, Speed Indication System 2 Fault (GTCP 36-300)
AMM	24-23-51-000-001	Removal of the APU Generator 8XS
AMM	24-23-51-400-001	Installation of the APU Generator 8XS
AMM	49-00-00-710-004	Operational Test of the APU (4005KM) (GTCP 36-300)
AMM	49-11-11-000-001	Removal of the Auxiliary Power Unit (APU) - 4005KM (GTCP 36-300)
AMM	49-11-11-400-001	Installation of the Auxiliary Power Unit (APU) - 4005KM (GTCP 36-300)
AMM	49-42-51-000-005	Removal of the Starter Motor (8KA) (GTCP36-300)
AMM	49-42-51-400-005	Installation of the Starter Motor (8KA) (GTCP36-300)
AMM	49-42-52-000-001	Removal of the Starter Motor Clutch (8033KM) (GTCP 36-300)
AMM	49-42-52-400-001	Installation of the Starter Motor Clutch (8033KM) (GTCP 36-300)
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)
ASM	49-42/01	

EFF: 232-232, 247-248, 252-252,

49-00-00

Page 207

Config-2 May 01/08

TROUBLE SHOOTING MANUAL

3. Fault Confirmation

A. Do the operational test of the APU (Ref. AMM TASK 49-00-00-710-004).

NOTE: If there was a previous APU AUTO SHUTDOWN and the LAST LEG/PREVIOUS LEG report(s) contain the following maintenance message, do the applicable trouble shooting procedure first: SPEED SNSR P26 AND ECB 59KD (Ref. TASK 49-00-00-810-810) SPEED SNSR P27 AND ECB 59KD (Ref. TASK 49-00-00-810-811) SPEED SNSRS P26, P27 (Ref. TASK 49-00-00-810-808)

**ON A/C 232-232, 247-248, 252-252,

Post SB 49-1073 For A/C 232-232,247-248,252-252,

A. Do the operational test of the APU (Ref. AMM TASK 49-00-00-710-004).

**ON A/C 232-232, 247-248, 252-252,

4. Fault Isolation

A. If an APU auto shutdown occurs during the APU start sequence and the APU SHUTDOWNS report gives the maintenance message:

START TIME EXCEEDED - STARTER MOTOR 8KA:

- do a brush wear check (if installed),
- examine the starter motor for the signs of a mechanical fault.
- (1) If the brush wear indicator-pin (if installed) does not extend into the transparent cover and/or you find the signs of a mechanical fault:
 - replace the STARTER MOTOR (8KA) (Ref. AMM TASK 49-42-51-000-005) and (Ref. AMM TASK 49-42-51-400-005).
- (2) If the brush wear indicator-pin (if installed) extends into the transparent cover and/or you do not find the signs of a mechanical fault:
 - turn the manual drive shaft of the starter motor 8KA in a clockwise direction to make sure that the starter motor clutch disengages correctly and the starter motor is not seized.
 - turn the manual drive shaft on the starter motor in a counterclockwise direction (in the direction of the arrow on the housing) and make sure that the starter motor clutch engages correctly.

NOTE: THE TORQUE LIMIT IS 29 lbf.ft (3.93 m.dan). DO NOT TURN THE SHAFT WITH A TORQUE MORE THAN THE LIMIT. A TORQUE MORE THAN THE LIMIT WILL DAMAGE THE COMPONENT.

EFF: 232-232, 247-248, 252-252,

49-00-00

Page 208

Config-2 May 01/08

TROUBLE SHOOTING MANUAL

NOTE: Turn the manual drive shaft of the starter motor 8KA with a torque wrench.

Make sure that the drag is 15 to 45 lbf.in (0.17 to 0.51 m.daN).

NOTE: The starter motor clutch engages correctly if:

- it engages immediately,
- it does not rub,
- it does not make unusual noise.

NOTE: The starter motor clutch disengages correctly if:

- it disengages immediately,
 - you can turn the manual drive shaft of the starter motor 8KA freely,
 - it does not rub,
 - it does not make unusual noise.
- (a) If the starter motor clutch does not engage/disengage correctly: - replace the STARTER MOTOR CLUTCH (Ref. AMM TASK 49-42-52-000-001) and (Ref. AMM TASK 49-42-52-400-001).
- (b) If the starter motor clutch engages and disengages correctly, the drag is 15 to 45 lbf.in (0.34 to 0.51 m.daN) and the APU does not rub or make unsual noise when you turn the manual drive shaft of the starter motor:
 - replace the STARTER MOTOR (8KA) (Ref. AMM TASK 49-42-51-000-005) and (Ref. AMM TASK 49-42-51-400-005).
 - 1 If the fault continues:
 - do a check and repair the wiring from the negative terminal of the STARTER MOTOR (8KA) to the ground (Ref. ASM 49-42/01).
 - a If the APU rotates and there is NO speed indication:
 - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-001) and (Ref. AMM TASK 49-61-34-400-001).
- (c) If the drag is more than 15 to 45 lbf.in (0.34 to 0.51 m.daN) or the APU rubs or makes an unusual noise when you turn the manual drive shaft of the starter motor:
 - do a check of the Differential Pressure Indicator of the Gen Scav Filter:
 - 1 If the indicator is popped out:
 - replace the GEN-APU (8XS) (Ref. AMM TASK 24-23-51-000-001) and (Ref. AMM TASK 24-23-51-400-001).
 - 2 If the indicator is not popped out:
 - replace the AUXILIARY POWER UNIT (4005KM) (Ref. AMM TASK 49-11-11-000-001) and (Ref. AMM TASK 49-11-11-400-001).

EFF: 232-232, 247-248, 252-252,

49-00-00Page 209
Config-2 May 01/08

TROUBLE SHOOTING MANUAL

**ON A/C 232-232, 247-248, 252-252,

Post SB 49-1073 For A/C 232-232,247-248,252-252,

A. If an APU auto shutdown occurs during the APU start sequence and the APU SHUTDOWNS report gives the maintenance message:

NO ACCELERATION - STARTER MOTOR 8KA:

with the LRU TROUBLE SHOOT DATA menu information:

STARTER MOTOR SHOWS OPEN CIRCUIT

Fault Code Number: 113

or

STARTER MOTOR SHOWS SHORT CIRCUIT

Fault Code Number: 114

- replace the STARTER MOTOR (8KA) (Ref. AMM TASK 49-42-51-000-005) and (Ref. AMM TASK 49-42-51-400-005).

(1) If the fault continues:

replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-001) and (Ref. AMM TASK 49-61-34-400-001).

**ON A/C 232-232, 247-248, 252-252,

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

EFF: 232-232, 247-248, 252-252,

49-00-00

Page 210

Config-2 May 01/08

TROUBLE SHOOTING MANUAL

TASK 49-00-00-810-804

APU AUTO SHUT DOWN - SENSOR FAILURE, Oil-Pressure Switch Fault (GTCP 36-300)

- 1. Possible Causes
 - OIL PRESSURE SWITCH P14
 - ECB (59KD)
 - oil level
 - LOW OIL PRESS SWITCH (8091KM)
- 2. Job Set-up Information
 - A. Referenced Information

REFERENCE		DESIGNATION
AMM	49-00-00-710-001	Self-Test of the ECB (59KD) (GTCP 36-300)
AMM	49-61-34-000-001	Removal of the Electronic Control Box (ECB) (59KD) (GTCP 36-300)
AMM	49-61-34-400-001	<pre>Installation of the Electronic Control Box (ECB) (59KD) (GTCP 36-300)</pre>
AMM	49-90-00-600-001	Check Oil Level and Replenish (GTCP 36-300)
AMM	49-94-14-000-001	Removal of the Low Oil-Pressure Switch (8091KM) (GTCP 36-300)
AMM	49-94-14-400-001	<pre>Installation of the Low Oil-Pressure Switch (8091KM) (GTCP 36-300)</pre>
ASM	49-61/02	

3. Fault Confirmation

A. Do the self test of the ECB (Ref. AMM TASK 49-00-00-710-001).

NOTE: This fault inhibits an APU Start.

4. Fault Isolation

A. If the test gives the maintenance message:

OIL PRESS SW P14:

NOTE : The APU AUTOSHUTDOWNS report gives the maintenance message: SENSOR FAILURE - OIL PRESS SW P14

- replace the OIL PRESSURE SWITCH P14 (Ref. AMM TASK 49-94-14-000-001) and (Ref. AMM TASK 49-94-14-400-001).

EFF: 232-232, 247-248, 252-252,

49-00-00

Page 211

Config-2 May 01/08

TROUBLE SHOOTING MANUAL

- (1) If the fault continues:
 - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-001) and (Ref. AMM TASK 49-61-34-400-001).
- (2) If the fault continues:
 - disconnect the connector P14 and do a check for GND at P14/1, 2
 (Ref. ASM 49-61/02).

**ON A/C 232-232, 247-248, 252-252,

Post SB 49-1073 For A/C 232-232,247-248,252-252,

A. If the test gives the maintenance message:

LOW OIL PRESS SW (8091KM)

with the LRU TROUBLE SHOOT DATA menu information: LOW OIL PRESSURE SWITCH SWITCH SHOWS ELECTRICAL GROUND Fault Code Number: 098

LOW OIL LOW OIL LEVEL

with the LRU TROUBLE SHOOT DATA menu information: OIL LEVEL SHOWS LOW Fault Code Number: 099

NOTE: The APU AUTOSHUTDOWNS report gives the maintenance message: SENSOR FAILURE - LOW OIL PRESS SW (8091KM)
LOW OIL LEVEL

- do a check of the oil level (Ref. AMM TASK 49-90-00-600-001).
- replace the LOW OIL PRESS SWITCH (8091KM) (Ref. AMM TASK 49-94-14-000-001) and (Ref. AMM TASK 49-94-14-400-001).
- (1) If the fault continues:
 - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-001) and (Ref. AMM TASK 49-61-34-400-001).
- (2) If the fault continues:
 - disconnect the connector P14 and do a check for GND at P14/1, 2 (Ref. ASM 49-61/02).

**ON A/C 232-232, 247-248, 252-252,

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

EFF: 232-232, 247-248, 252-252,

49-00-00

Page 212

TROUBLE SHOOTING MANUAL

TASK 49-00-00-810-805

APU AUTO SHUT DOWN - AIR INTAKE NOT OPEN (GTCP 36-300)

1. Possible Causes

- AIR INTAKE-FLAP ACTUATOR (4015KM)
- ECB (59KD)
- wiring

2. Job Set-up Information

A. Referenced Information

REFERENCE		DESIGNATION
AMM	49-16-00-710-001	Operational Test of the Air Intake and Diverter (GTCP 36-300)
AMM	49-16-51-000-001	Removal of the Air-Intake Flap Actuator (4015KM) (GTCP 36-300)
AMM	49-16-51-400-001	<pre>Installation of the Air-Intake FLap Actuator (4015KM) (GTCP 36-300)</pre>
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)
ASM	49-16/01	(5) (5.0. 55 550)

3. Fault Confirmation

A. Do the test of the air intake flap-actuator (Ref. AMM TASK 49-16-00-710-001).

4. Fault Isolation

A. If the test gives the maintenance message:

AIR INTAKE FLAP ACTR

or

AIR INTAKE FLAP ACTR OR ECB 59KD:

NOTE : The APU SHUTDOWNS report gives the maintenance message:
AIR INTAKE NOT OPEN - AIR INTAKE FLAP ACTR

- replace the AIR INTAKE-FLAP ACTUATOR (4015KM) (Ref. AMM TASK 49-16-51-000-001) and (Ref. AMM TASK 49-16-51-400-001).

EFF: 232-232, 247-248, 252-252,

49-00-00

Page 213

Config-2 May 01/08

TROUBLE SHOOTING MANUAL

- (1) If the fault continues:
 - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-001) and (Ref. AMM TASK 49-61-34-400-001).
- (2) If the fault continues:
 - do a check and repair the wiring from the ECB (59KD) AC/5, 4 to the electrical connector 7527VCA/J, K (Ref. ASM 49-16/01).
 - do a check and repair the wiring from the ECB (59KD) AB/G2, G3, G4,
 G5 to the electrical connector 7527VCA/D, C, E, B. (Ref. ASM 49-16/01).
 - do a check and repair the wiring from the electrical connector 7527VCA/A, L, F, to the ground (Ref. ASM 49-16/01).

**ON A/C 232-232, 247-248, 252-252,

Post SB 49-1073 For A/C 232-232,247-248,252-252,

A. If the test gives the maintenance message:

AIR INTAKE FLAP ACTUATOR (4005KM)

with the LRU TROUBLE SHOOT DATA menu information:

INLET FLAP SHOWS FLAP OPEN CIRCUIT SHORT

Fault Code Number: 067

or

INLET FLAP SHOWS FLAP OPEN CIRCUIT OPEN

Fault Code Number: 066

or

INLET FLAP SHOWS FLAP OPEN HIGH CURRENT

Fault Code Number: 068

or

INLET FLAP SHOWS FLAP FAILED TO OPEN

Fault Code Number: 070

or

INLET FLAP SHOWS FLAP LOSS OF OPEN INDICATION

Fault Code Number: 071

NOTE: The APU SHUTDOWNS report gives the maintenance message:
AIR INTAKE NOT OPEN - AIR INTAKE FLAP ACTUATOR (4005KM)

- replace the AIR INTAKE-FLAP ACTUATOR (4015KM) (Ref. AMM TASK 49-16-51-000-001) and (Ref. AMM TASK 49-16-51-400-001).
- (1) If the fault continues:
 - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-001) and (Ref. AMM TASK 49-61-34-400-001).

EFF: 232-232, 247-248, 252-252,

49-00-00

Page 214

Config-2 May 01/08

TROUBLE SHOOTING MANUAL

- (2) If the fault continues:
 - do a check and repair the wiring from the ECB (59KD) AC/5, 4 to the electrical connector 7527VCA/J, K (Ref. ASM 49-16/01).
 - do a check and repair the wiring from the ECB (59KD) AB/G2, G3, G4,
 G5 to the electrical connector 7527VCA/D, C, E, B. (Ref. ASM 49-16/01).
 - do a check and repair the wiring from the electrical connector 7527VCA/A, L, F, to the ground (Ref. ASM 49-16/01).

**ON A/C 232-232, 247-248, 252-252,

B. Do the operational test of the AIR INTAKE FLAP-ACTUATOR (Ref. AMM TASK 49-16-00-710-001).

EFF: 232-232, 247-248, 252-252,

49-00-00

Page 215

Config-2 May 01/08

TROUBLE SHOOTING MANUAL

TASK 49-00-00-810-806

APU AUTO SHUT DOWN - Shutdown in conjunction with APU Fuel Control fault (GTCP 36-300)

1. Possible Causes

- FUEL SHUTOFF SOLENOID VALVE
- FUEL SHUTOFF SOLENOID VALVE P13
- FUEL CONTROL UNIT P19
- wiring
- ECB (59KD)
- FUEL SHUTOFF SOLENOID VALVE (8026KM)
- FUEL CONTROL UNIT (8022KM)

2. Job Set-up Information

A. Referenced Information

REFERENCE		DESIGNATION
AMM	49-00-00-710-004	Operational Test of the APU (4005KM) (GTCP 36-300)
AMM	49-32-11-000-001	Removal of the Fuel Control Unit (FCU) (8022KM) (GTCP 36-300)
AMM	49-32-11-400-001	Installation of the Fuel Control Unit (FCU) (8022KM) (GTCP 36-300)
AMM	49-32-17-000-001	Removal of the Fuel Shutoff Solenoid-Valve (8026KM) (GTCP 36-300)
AMM	49-32-17-400-001	<pre>Installation of the Fuel Shutoff Solenoid-Valve (8026KM) (GTCP 36-300)</pre>
AMM	49-61-34-000-001	Removal of the Electronic Control Box (ECB) (59KD) (GTCP 36-300)
AMM	49-61-34-400-001	<pre>Installation of the Electronic Control Box (ECB) (59KD) (GTCP 36-300)</pre>
ASM	49-61/02	

3. Fault Confirmation

A. Do the operational test of the APU (Ref. AMM TASK 49-00-00-710-004).

4. Fault Isolation

A. If an APU shutdown occurs during the APU start sequence and the test gives the maintenance message:

NO FLAME - FUEL CTL UNIT:

or

EFF: 232-232, 247-248, 252-252,

49-00-00

Page 216

Config-2 May 01/08

TROUBLE SHOOTING MANUAL

NO ACCELERATION - FUEL CTL UNIT:

- remove the electrical connector P13 and do a check of the solenoid of the FUEL SHUTOFF SOLENOID VALVE P13 /1, 2 (Ref. ASM 49-61/02).
- (1) If there is a short to ground or no continuity:
 - replace the FUEL SHUTOFF SOLENOID VALVE P13 (Ref. AMM TASK 49-32-17-000-001) and (Ref. AMM TASK 49-32-17-400-001).
- (2) If there is continuity and no short to ground:
 - replace the FUEL CONTROL UNIT P19 (Ref. AMM TASK 49-32-11-000-001) and (Ref. AMM TASK 49-32-11-400-001).
 - (a) If the fault continues:
 - do a check and repair the wiring from the ECB (59KD) AB/F6, F7 to the FUEL SHUTOFF SOLENOID VALVE P13/1, 2 (Ref. ASM 49-61/02).
 - do a check and repair the wiring from the ECB (59KD) AB/H10, H11 to the FUEL CONTROL UNIT P19/1, 2 (Ref. ASM 49-61/02).
 - (b) If the fault continues:
 - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-001) and (Ref. AMM TASK 49-61-34-400-001).

**ON A/C 232-232, 247-248, 252-252,

Post SB 49-1073 For A/C 232-232,247-248,252-252,

- A. Maintenance Action
 - (1) If an APU shutdown occurs during the APU start sequence and the test gives the maintenance message:

UNDERSPEED - FUEL CONTROL UNIT (8022KM)

or

NO FLAME - FUEL CONTROL UNIT (8022KM)

or

NO ACCELERATION - FUEL CONTROL UNIT (8022KM)

with the LRU TROUBLE SHOOT DATA menu information: FUEL SOLENOID SHOWS CIRCUIT FAILURE Fault Code Number: 125

 remove the electrical connector P13 and do a check of the solenoid of the FUEL SHUTOFF SOLENOID VALVE (8026KM) P13 /1, 2 (Ref. ASM 49-61/02).

EFF: 232-232, 247-248, 252-252,

49-00-00 Page 217 Config-2 May 01/08

TROUBLE SHOOTING MANUAL

- (a) If there is a short to ground or no continuity:
 - replace the FUEL SHUTOFF SOLENOID VALVE (8026KM) (Ref. AMM TASK 49-32-17-000-001) and (Ref. AMM TASK 49-32-17-400-001).
- (b) If there is continuity and no short to ground:
 - do a check and repair the wiring from the ECB (59KD) AB/F6, F7 to the FUEL SHUTOFF SOLENOID VALVE P13/1, 2 (Ref. ASM 49-61/02).
 - 1 If the fault continues:
 - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-001) and (Ref. AMM TASK 49-61-34-400-001).
- (2) If an APU shutdown occurs during the APU start sequence and the test gives the maintenance message:

UNDERSPEED - FUEL CONTROL UNIT (8022KM)

or

NO FLAME - FUEL CONTROL UNIT (8022KM)

or

NO ACCELERATION - FUEL CONTROL UNIT (8022KM)

with the LRU TROUBLE SHOOT DATA menu information:

FUEL TORQUE MOTOR SHOWS OPEN CIRCUIT

Fault Code Number: 105 or 106

or

FUEL TORQUE MOTOR SHOWS SHORT CIRCUIT

Fault Code Number: 107 or 108

- do a check and repair the wiring from the ECB (59KD) AB/H10, H11 to the FUEL CONTROL UNIT (8022KM) P20/1, 2 (Ref. ASM 49-61/02).
- (a) If the fault continues:
 - replace the FUEL CONTROL UNIT (8022KM) (Ref. AMM TASK 49-32-11-000-001) and (Ref. AMM TASK 49-32-11-400-001).
 - 1 If the fault continues:
 - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-001) and (Ref. AMM TASK 49-61-34-400-001).

**ON A/C 232-232, 247-248, 252-252,

B. Do the test given in para. 3.

EFF: 232-232, 247-248, 252-252,

49-00-00

Page 218

TROUBLE SHOOTING MANUAL

TASK 49-00-00-810-807

APU AUTO SHUT DOWN - NO FLAME, Ignition System Fault (GTCP 36-300)

- 1. Possible Causes
 - IGNITION UNIT P10
 - wiring
 - ECB (59KD)
 - IGNITION UNIT (8030KM)
- 2. Job Set-up Information
 - A. Referenced Information

REFERENCE		DESIGNATION
AMM	49-00-00-710-004	Operational Test of the APU (4005KM) (GTCP 36-300)
AMM	49-41-38-000-001	Removal of the Ignition Unit (8030KM) (GTCP 36-300)
AMM	49-41-38-400-001	Installation of the Ignition Unit (8030KM) (GTCP 36-300)
AMM	49-61-34-000-001	Removal of the Electronic Control Box (ECB) (59KD) (GTCP 36-300)
AMM	49-61-34-400-001	<pre>Installation of the Electronic Control Box (ECB) (59KD) (GTCP 36-300)</pre>
ASM	49-61/02	

- 3. Fault Confirmation
 - A. Do the operational test of the APU (Ref. AMM TASK 49-00-00-710-004).
- 4. Fault Isolation
 - A. If an APU shutdown occurs during the APU start sequence and the APU SHUTDOWNS report gives the maintenance message:

NO FLAME - IGNITION UNIT P10:

- replace the IGNITION UNIT P10 (Ref. AMM TASK 49-41-38-000-001) and (Ref. AMM TASK 49-41-38-400-001).
- (1) If the fault continues:
 - do a check for an open circuit or short to ground of the wiring from the ECB (59KD) AC/10, 11 to the IGNITION UNIT P10 P10/1, 2 (Ref. ASM 49-61/02).

EFF: 232-232, 247-248, 252-252,

49-00-00

Page 219

Config-2 May 01/08

TROUBLE SHOOTING MANUAL

- (2) If the fault continues:
 - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-001) and (Ref. AMM TASK 49-61-34-400-001).

**ON A/C 232-232, 247-248, 252-252,

Post SB 49-1073 For A/C 232-232,247-248,252-252,

A. If an APU shutdown occurs during the APU start sequence and the APU SHUTDOWNS report gives the maintenance message:

NO FLAME - IGNITION UNIT (8030KM)

with the LRU TROUBLE SHOOT DATA menu information:

IGNITION UNIT SHOWS OPEN CIRCUIT

Fault Code Number: 128

or

IGNITION UNIT SHOWS SHORT CIRCUIT

Fault Code Number: 146

- replace the IGNITION UNIT (8030KM) (Ref. AMM TASK 49-41-38-000-001) and (Ref. AMM TASK 49-41-38-400-001).
- (1) If the fault continues:
 - do a check for an open circuit or short to ground of the wiring from the ECB (59KD) AC/10, 11 to the IGNITION UNIT (8030KM) P10 P10/1, 2 (Ref. ASM 49-61/02).
- (2) If the fault continues:
 - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-001) and (Ref. AMM TASK 49-61-34-400-001).

**ON A/C 232-232, 247-248, 252-252,

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

EFF: 232-232, 247-248, 252-252,

49-00-00

Page 220

TROUBLE SHOOTING MANUAL

TASK 49-00-00-810-808

APU AUTO SHUT DOWN - LOSS OF SPEED, Speed Sensor P26/P27 Fault (GTCP 36-300)

1. Possible Causes

- SPEED SENSOR 1 P26
- SPEED SENSOR 2 P27
- wiring
- ECB (59KD)
- SPEED SENSOR (8060KM1)
- SPEED SENSOR (8060KM2)

2. Job Set-up Information

A. Referenced Information

REFERENCE	DESIGNATION
49-70-00-810-801	Speed Sensor 1 (P26) Defective (GTCP 36-300)
49-70-00-810-802	Speed Sensor 2 (P27) Defective (GTCP 36-300)
AMM 49-00-00-710-004	Operational Test of the APU (4005KM) (GTCP 36-300)
AMM 49-61-34-000-001	Removal of the Electronic Control Box (ECB) (59KD) (GTCP 36-300)
AMM 49-61-34-400-001	<pre>Installation of the Electronic Control Box (ECB) (59KD) (GTCP 36-300)</pre>
AMM 49-71-13-000-001	Removal of the Speed Sensors (8060KM1) and (8060KM2) (GTCP 36-300)
AMM 49-71-13-400-001	<pre>Installation of the Speed Sensor (8060KM1) and (8060KM2) (GTCP 36-300)</pre>
ASM 49-61/02	

3. Fault Confirmation

A. Do the operational test of the APU (Ref. AMM TASK 49-00-00-710-004).

NOTE: If this fault has occured, the APU will not start again. If you try to start the APU again, the maintenance message will be START TIME EXCEEDED - STARTER MOTOR 8KA.

**ON A/C 232-232, 247-248, 252-252,

Post SB 49-1073 For A/C 232-232,247-248,252-252,

A. Do the operational test of the APU (Ref. AMM TASK 49-00-00-710-004).

EFF: 232-232, 247-248, 252-252,

49-00-00

Page 221

Config-2 May 01/08

TROUBLE SHOOTING MANUAL

**ON A/C 232-232, 247-248, 252-252,

4. Fault Isolation

A. If an APU shutdown occurs during the operational test of the APU and the APU SHUTDOWNS report gives the maintenance message:

START TIME EXCEEDED - STARTER MOTOR 8KA

and the previous APU SHUTDOWNS report gives

LOSS OF SPEED - SPEED SNSRS P26, P27:

- replace the SPEED SENSOR 1 P26 and the SPEED SENSOR 2 P27 (Ref. AMM TASK 49-71-13-000-001) and (Ref. AMM TASK 49-71-13-400-001).
- (1) If the fault continues:
 - do a check and repair the wiring from the ECB (59KD) AB/A10, A11 to the SPEED SENSOR 1 P26/1, 2 (Ref. ASM 49-61/02).
 - do a check and repair the wiring from the ECB (59KD) AB/B5, B6 to the SPEED SENSOR 2 P27/1, 2 (Ref. ASM 49-61/02).
- (2) If the fault continues:
 - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-001) and (Ref. AMM TASK 49-61-34-400-001).
- B. Do the test given in para. 3.
 - NOTE: It is recommended to make an entry in the applicable logbook that you must read the APU CLASS 3 FAULTS after the first following flight.

If the APU CLASS 3 FAULTS page gives the maintenance message SPEED SNSR P26 after the first following flight:

 do the applicable trouble shooting procedure (Ref. TASK 49-70-00-810-801).

If the APU CLASS 3 FAULTS page gives the maintenance message SPEED SNSR P27 after the first following flight:

 do the applicable trouble shooting procedure (Ref. TASK 49-70-00-810-802).

**ON A/C 232-232, 247-248, 252-252,

Post SB 49-1073 For A/C 232-232,247-248,252-252,

A. If an APU shutdown occurs during the operational test of the APU and the APU SHUTDOWNS report gives the maintenance message:

LOSS OF SPEED - SPEED SENSORS (8060KM1) AND (8060KM2)

with the LRU TROUBLE SHOOT DATA menu information: SPEED SENSORS SHOW AMPLITUDE FAILURE

EFF: 232-232, 247-248, 252-252,

49-00-00

Page 222

Config-2 May 01/08

TROUBLE SHOOTING MANUAL

Fault Code Number: 001

- replace the SPEED SENSOR (8060KM1) and the SPEED SENSOR (8060KM2) (Ref. AMM TASK 49-71-13-000-001) and (Ref. AMM TASK 49-71-13-400-001).
- (1) If the fault continues:
 - do a check and repair the wiring from the ECB (59KD) AB/A10, A11 to the SPEED SENSOR (8060KM1) P26/1, 2 (Ref. ASM 49-61/02).
 - do a check and repair the wiring from the ECB (59KD) AB/B5, B6 to the SPEED SENSOR (8060KM2) P27/1, 2 (Ref. ASM 49-61/02).
- (2) If the fault continues:
 - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-001) and (Ref. AMM TASK 49-61-34-400-001).
- B. Do the test given in para. 3.
 - NOTE: It is recommended to make an entry in the applicable logbook that you must read the APU CLASS 3 FAULTS after the first following flight.
 - If the APU CLASS 3 FAULTS page gives the maintenance message SPEED SENSOR (8060KM1) after the first following flight:
 - do the applicable trouble shooting procedure (Ref. TASK 49-70-00-810-801).
 - If the APU CLASS 3 FAULTS page gives the maintenance message SPEED SENSOR (8060KM2) after the first following flight:
 - do the applicable trouble shooting procedure (Ref. TASK 49-70-00-810-802).

EFF: 232-232, 247-248, 252-252,

49-00-00

Page 223

TROUBLE SHOOTING MANUAL

**ON A/C 232-232, 247-248, 252-252,

TASK 49-00-00-810-809

APU AUTO SHUT DOWN - Shutdown in conjunction with ECB failure (GTCP 36-300)

1. Possible Causes

- ECB (59KD)
- IGV ACTUATOR (TORQUE MOTOR)
- SURGE CTL VALVE (TORQUE MOTOR)
- FCU (TORQUE MOTOR)

2. Job Set-up Information

A. Referenced Information

REFE	RENCE	DESIGNATION
AMM	49-00-00-710-004	Operational Test of the APU (4005KM) (GTCP 36-300)
AMM	49-23-51-000-002	Removal of the Inlet Guide Vane-Actuator (8014KM) (GTCP 36-300)
AMM	49-23-51-400-002	<pre>Installation of the Inlet Guide Vane-Actuator (8014KM) (GTCP 36-300)</pre>
AMM	49-32-11-000-001	Removal of the Fuel Control Unit (FCU) (8022KM) (GTCP 36-300)
AMM	49-32-11-400-001	Installation of the Fuel Control Unit (FCU) (8022KM) (GTCP 36-300)
AMM	49-51-52-000-002	Removal of the Surge Control Valve (8058KM) (GTCP 36-300)
AMM	49-51-52-400-002	Installation of the Surge Control Valve (8058KM) (GTCP 36-300)
AMM	49-61-34-000-001	Removal of the Electronic Control Box (ECB) (59KD) (GTCP 36-300)
AMM	49-61-34-400-001	<pre>Installation of the Electronic Control Box (ECB) (59KD) (GTCP 36-300)</pre>

3. Fault Confirmation

A. Do the operational test of the APU (Ref. AMM TASK 49-00-00-710-004).

4. Fault Isolation

A. If an APU shutdown occurs during the operational test and the APU SHUTDOWNS report gives the maintenance message:

ECB 59KD:

EFF: 232-232, 247-248, 252-252,

49-00-00

Page 224

Config-2 May 01/08

TROUBLE SHOOTING MANUAL

or

ECB FAILURE - ECB 59KD:

or

ECB FAILURE - ECB 59KD TASK 05:

or

ECB FAILURE - ECB 59KD TASK 20:

or

ECB FAILURE - ECB 59KD TASK 100:

or

START TIME EXCEEDED - ECB 59KD:

or

NO ACCELERATION - ECB 59KD:

or

LOW OIL PRESSURE - ECB 59KD:

or

LOSS OF SPEED - ECB 59KD:

- replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-001) and (Ref. AMM TASK 49-61-34-400-001).
- (1) If the fault continues:
 - disconnect the connector P21 of the IGV ACTUATOR (TORQUE MOTOR).
 - do the operational test of the APU again and ignore IGV ACTUATOR related fault messages.
 - (a) If there is no ECB related fault message:
 - replace the INLET GUIDE VANE ACTUATOR P21 (Ref. AMM TASK 49-23-51-000-002) and (Ref. AMM TASK 49-23-51-400-002).
 - (b) If the fault continues:
 - disconnect the connector P18 of the SURGE CTL VALVE (TORQUE MOTOR).
 - do the operational test of the APU again and ignore SCV related fault messages.

EFF: 232-232, 247-248, 252-252,

49-00-00

Page 225

TROUBLE SHOOTING MANUAL

- 1 If there is no ECB related fault message:
 - replace the SURGE CONTROL VALVE P18 (Ref. AMM TASK 49-51-52-000-002) and (Ref. AMM TASK 49-51-52-400-002).
- 2 If the fault continues:
 - disconnect the connector P19 of the FCU (TORQUE MOTOR).
 - do the operational test of the APU again and ignore FCU related fault messages.
 - a If there is no ECB related fault message:
 - replace the FUEL CONTROL UNIT P19 (Ref. AMM TASK 49-32-11-000-001) and (Ref. AMM TASK 49-32-11-400-001).

**ON A/C 232-232, 247-248, 252-252,

Post SB 49-1073 For A/C 232-232,247-248,252-252,

A. If an APU shutdown occurs during the operational test and the APU SHUTDOWNS report gives the maintenance message:

ECB FAILURE - ECB 59KD:

with the LRU TROUBLE SHOOT DATA menu information

ECB INTERNAL FAILURE

Fault Code Number: 005 or 176 or 177 or 178 or 179 or 180 or 230

or

UNDERSPEED - ECB 59KD
with the LRU TROUBLE SHOOT DATA menu information
ECB INTERNAL FAILURE
Fault Code Number: 173

or

NO FLAME - ECB 59KD
with the LRU TROUBLE SHOOT DATA menu information
ECB INTERNAL FAILURE
Fault Code Number: 173

or

SENSOR FAILURE - ECB 59KD with the LRU TROUBLE SHOOT DATA menu information ECB INTERNAL FAILURE Fault Code Number: 038

or

NO ACCELERATION - ECB 59KD: with the LRU TROUBLE SHOOT DATA menu information ECB INTERNAL FAILURE Fault Code Number: 173

EFF: 232-232, 247-248, 252-252,

49-00-00

Page 226

TROUBLE SHOOTING MANUAL

or

LOSS OF SPEED - ECB 59KD: with the LRU TROUBLE SHOOT DATA menu information ECB INTERNAL FAILURE Fault Code Number: 004

- replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-001) and (Ref. AMM TASK 49-61-34-400-001).

**ON A/C 232-232, 247-248, 252-252,

B. Do the test given in para. 3.

EFF: 232-232, 247-248, 252-252,

49-00-00 P

Page 227

Config-2 May 01/08

TROUBLE SHOOTING MANUAL

TASK 49-00-00-810-810

APU AUTO SHUT DOWN - LOSS OF SPEED, Speed Indication System 1 Fault (GTCP 36-300)

1. Possible Causes

- SPEED SENSOR 1 P26
- ECB (59KD)
- SPEED SENSOR (8060KM1)

2. Job Set-up Information

A. Referenced Information

REFERENCE	DESIGNATION
/0.70.00.840.804	Const Constant (D24) Potenting (CTCD 74 700)
49-70-00-810-801	Speed Sensor 1 (P26) Defective (GTCP 36-300)
AMM 49-00-00-710-004	Operational Test of the APU (4005KM) (GTCP 36-300)
AMM 49-61-34-000-001	Removal of the Electronic Control Box (ECB) (59KD) (GTCP 36-300)
AMM 49-61-34-400-001	<pre>Installation of the Electronic Control Box (ECB) (59KD) (GTCP 36-300)</pre>
AMM 49-71-13-000-001	Removal of the Speed Sensors (8060KM1) and (8060KM2) (GTCP 36-300)
AMM 49-71-13-400-001	<pre>Installation of the Speed Sensor (8060KM1) and (8060KM2) (GTCP 36-300)</pre>

3. Fault Confirmation

A. Do the operational test of the APU (Ref. AMM TASK 49-00-00-710-004).

NOTE: If this fault has occured, the APU will not start again. If you try to start the APU again, the maintenance message will be START TIME EXCEEDED - STARTER MOTOR 8KA.

**ON A/C 232-232, 247-248, 252-252,

Post SB 49-1073 For A/C 232-232,247-248,252-252,

A. Do the operational test of the APU (Ref. AMM TASK 49-00-00-710-004).

EFF: 232-232, 247-248, 252-252,

49-00-00

Page 228

Config-2 May 01/08

TROUBLE SHOOTING MANUAL

**ON A/C 232-232, 247-248, 252-252,

4. Fault Isolation

A. If an APU auto shutdown occurs during the operational test of the APU and the APU SHUTDOWNS report gives the maintenance message:

START TIME EXCEEDED - STARTER MOTOR 8KA

and the previous APU SHUTDOWNS report gives

LOSS OF SPEED - SPEED SNSR P26 AND ECB 59KD:

- replace the SPEED SENSOR 1 P26 (Ref. AMM TASK 49-71-13-000-001) and (Ref. AMM TASK 49-71-13-400-001).
 and
- replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-001) and (Ref. AMM TASK 49-61-34-400-001).
- B. Do the test given in para. 3.
 - NOTE: It is recommended to make an entry in the applicable logbook that you must read the APU CLASS 3 FAULTS after the first following flight.

If the APU CLASS 3 FAULTS page gives the maintenance message SPEED SNSR P26 after the first following flight:

 do the applicable trouble shooting procedure (Ref. TASK 49-70-00-810-801).

**ON A/C 232-232, 247-248, 252-252,

Post SB 49-1073 For A/C 232-232,247-248,252-252,

A. If an APU auto shutdown occurs during the operational test of the APU and the APU SHUTDOWNS report gives the maintenance message:

LOSS OF SPEED - SPEED SENSOR (8060KM1) AND ECB (59KD)

with the LRU TROUBLE SHOOT DATA menu information: SPEED SENSOR 1 FAILURE AND ECB INTERNAL FAILURE Fault Code Number: 002

- replace the SPEED SENSOR (8060KM1) (Ref. AMM TASK 49-71-13-000-001) and (Ref. AMM TASK 49-71-13-400-001).
 and
- replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-001) and (Ref. AMM TASK 49-61-34-400-001).

EFF: 232-232, 247-248, 252-252,

49-00-00

Page 229

TROUBLE SHOOTING MANUAL

- B. Do the test given in para. 3.
 - NOTE: It is recommended to make an entry in the applicable logbook that you must read the APU CLASS 3 FAULTS after the first following flight.

If the APU CLASS 3 FAULTS page gives the maintenance message SPEED SENSOR (8060KM1) after the first following flight:

- do the applicable trouble shooting procedure (Ref. TASK 49-70-00-810-801).

EFF: 232-232, 247-248, 252-252,

49-00-00

Page 230

TROUBLE SHOOTING MANUAL

**ON A/C 232-232, 247-248, 252-252,

TASK 49-00-00-810-811

APU AUTO SHUT DOWN - LOSS OF SPEED, Speed Indication System 2 Fault (GTCP 36-300)

- 1. Possible Causes
 - SPEED SENSOR 2 P27
 - ECB (59KD)
 - SPEED SENSOR (8060KM2)
- 2. Job Set-up Information
 - A. Referenced Information

REFERENCE	DESIGNATION
49-70-00-810-802	Speed Sensor 2 (P27) Defective (GTCP 36-300)
AMM 49-00-00-710-004	Operational Test of the APU (4005KM) (GTCP 36-300)
AMM 49-61-34-000-001	Removal of the Electronic Control Box (ECB) (59KD) (GTCP 36-300)
AMM 49-61-34-400-001	<pre>Installation of the Electronic Control Box (ECB) (59KD) (GTCP 36-300)</pre>
AMM 49-71-13-000-001	Removal of the Speed Sensors (8060KM1) and (8060KM2) (GTCP 36-300)
AMM 49-71-13-400-001	<pre>Installation of the Speed Sensor (8060KM1) and (8060KM2) (GTCP 36-300)</pre>

3. Fault Confirmation

A. Do the operational test of the APU (Ref. AMM TASK 49-00-00-710-004).

NOTE: If this fault has occured, the APU will not start again. If you try to start the APU again, the maintenance message will be START TIME EXCEEDED - STARTER MOTOR 8KA.

**ON A/C 232-232, 247-248, 252-252,

Post SB 49-1073 For A/C 232-232,247-248,252-252,

A. Do the operational test of the APU (Ref. AMM TASK 49-00-00-710-004).

EFF: 232-232, 247-248, 252-252,

49-00-00

Page 231 Config-2 May 01/08

TROUBLE SHOOTING MANUAL

**ON A/C 232-232, 247-248, 252-252,

4. Fault Isolation

A. If an APU auto shutdown occurs during the operational test of the APU and the APU SHUTDOWNS report gives the maintenance message:

START TIME EXCEEDED - STARTER MOTOR 8KA

and the previous APU SHUTDOWNS report gives

LOSS OF SPEED - SPEED SNSR P27 AND ECB 59KD:

- replace the SPEED SENSOR 2 P27 (Ref. AMM TASK 49-71-13-000-001) and (Ref. AMM TASK 49-71-13-400-001).
 and
- replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-001) and (Ref. AMM TASK 49-61-34-400-001).
- B. Do the test given in para. 3.
 - NOTE: It is recommended to make an entry in the applicable logbook that you must read the APU CLASS 3 FAULTS after the first flight on the subsequent day.

If the APU CLASS 3 FAULTS page gives the maintenance message SPEED SENSOR P27 after the first flight on the subsequent day:

 do the applicable trouble shooting procedure (Ref. TASK 49-70-00-810-802).

**ON A/C 232-232, 247-248, 252-252,

Post SB 49-1073 For A/C 232-232,247-248,252-252,

A. If an APU auto shutdown occurs during the operational test of the APU and the APU SHUTDOWNS report gives the maintenance message:

LOSS OF SPEED - SPEED SENSOR (8060KM2) AND ECB (59KD)

with the LRU TROUBLE SHOOT DATA menu information: SPEED SENSOR 2 FAILURE AND ECB INTERNAL FAILURE Fault Code Number: 003

- replace the SPEED SENSOR (8060KM2) (Ref. AMM TASK 49-71-13-000-001) and (Ref. AMM TASK 49-71-13-400-001).
- replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-001) and (Ref. AMM TASK 49-61-34-400-001).

EFF: 232-232, 247-248, 252-252,

49-00-00

Page 232

Config-2 May 01/08

TROUBLE SHOOTING MANUAL

B. Do the test given in para. 3.

NOTE: It is recommended to make an entry in the applicable logbook that you must read the APU CLASS 3 FAULTS after the first flight on the subsequent day.

If the APU CLASS 3 FAULTS page gives the maintenance message SPEED SENSOR (8060KM2) after the first flight on the subsequent day:

- do the applicable trouble shooting procedure (Ref. TASK 49-70-

00-810-802).

EFF: 232-232, 247-248, 252-252,

49-00-00

Page 233

Config-2 May 01/08

TROUBLE SHOOTING MANUAL

**ON A/C 232-232, 247-248, 252-252,

TASK 49-00-00-810-812

APU AUTO SHUT DOWN - SENSOR FAILURE (GTCP 36-300)

- 1. Possible Causes
 - EGT THERMOCOUPLE RAKE 1
 - EGT THERMOCOUPLE RAKE 2
 - wiring
 - ECB (59KD)
 - EGT THERMOCOUPLE RAKE (8057KM1)
 - EGT THERMOCOUPLE RAKE (8057KM2)
- 2. Job Set-up Information
 - A. Referenced Information

REFERENCE	DESIGNATION
49-70-00-810-803	Thermocouple Rake 1 Defective (GTCP 36-300)
49-70-00-810-804	Thermocouple Rake 2 Defective (GTCP 36-300)
AMM 49-00-00-710-004	Operational Test of the APU (4005KM) (GTCP 36-300)
AMM 49-61-34-000-001	Removal of the Electronic Control Box (ECB) (59KD) (GTCP 36-300)
AMM 49-61-34-400-001	<pre>Installation of the Electronic Control Box (ECB) (59KD) (GTCP 36-300)</pre>
AMM 49-72-15-000-001	Removal of the Thermocouple (8057KM1) and (8057KM2) (APS 3200)
AMM 49-72-15-000-003	Removal of the Thermocouple Probes (8057KM1) and (8057KM2) (GTCP 36-300)
AMM 49-72-15-400-001	Installation of the Thermocouple Probes (8057KM1) and (8057KM2) (GTCP 36-300)
ASM 49-61/02	

- 3. Fault Confirmation
 - A. Do the operational test of the APU (Ref. AMM TASK 49-00-00-710-004).
- 4. Fault Isolation
 - A. If an APU auto shutdown occurs during the operational test of the APU and the APU SHUTDOWNS report gives the maintenance message:

SENSOR FAILURE - BOTH EGT TC RAKES:

- replace the EGT THERMOCOUPLE RAKE 1 and the EGT THERMOCOUPLE RAKE 2

EFF: 232-232, 247-248, 252-252,

49-00-00

Page 234

Config-2 May 01/08

TROUBLE SHOOTING MANUAL

(Ref. AMM TASK 49-72-15-000-001) and (Ref. AMM TASK 49-72-15-400-001).

- (1) If the fault continues:
 - do a check and repair the wiring from the ECB (59KD) AB/A6, A7 to the EGT THERMOCOUPLE RAKE 1 studs/alumel, chromel (Ref. ASM 49-61/02).
 - do a check and repair the wiring from the ECB (59KD) AB/A8, A9 to the EGT THERMOCOUPLE RAKE 2 studs/alumel, chromel (Ref. ASM 49-61/02).
- (2) If the fault continues:
 - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-001) and (Ref. AMM TASK 49-61-34-400-001).
- B. Do the test given in para. 3.
 - NOTE: It is recommended to make an entry in the applicable logbook that you must read the APU CLASS 3 FAULTS after the first following flight.

If the APU CLASS 3 FAULTS page gives the maintenance message EGT TC RAKE 1 after the first following flight:

- do the applicable trouble shooting procedure (Ref. TASK 49-70-00-810-803).
 - If the APU CLASS 3 FAULTS page gives the maintenance message EGT TC RAKE 2 after the first following flight:
- do the applicable trouble shooting procedure (Ref. TASK 49-70-00-810-804).

**ON A/C 232-232, 247-248, 252-252,

Post SB 49-1073 For A/C 232-232,247-248,252-252,

A. If an APU auto shutdown occurs during the operational test of the APU and the APU SHUTDOWNS report gives the maintenance message:

SENSOR FAILURE - EGT TCPLE RAKES (8057KM1) AND (8057KM2)

with the LRU TROUBLE SHOOT DATA menu information: BOTH EGT SENSORS FAILED Fault Code Number: 035

- replace the EGT THERMOCOUPLE RAKE (8057KM1) and the EGT THERMOCOUPLE RAKE (8057KM2)

(Ref. AMM TASK 49-72-15-000-003) and (Ref. AMM TASK 49-72-15-400-001).

EFF: 232-232, 247-248, 252-252,

49-00-00

Page 235

TROUBLE SHOOTING MANUAL

- (1) If the fault continues:
 - do a check and repair the wiring from the ECB (59KD) AB/A6, A7 to the EGT THERMOCOUPLE RAKE (8057KM1) studs/alumel, chromel (Ref. ASM 49-61/02).
 - do a check and repair the wiring from the ECB (59KD) AB/A8, A9 to the EGT THERMOCOUPLE RAKE (8057KM2) studs/alumel, chromel (Ref. ASM 49-61/02).
- (2) If the fault continues:
 - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-001) and (Ref. AMM TASK 49-61-34-400-001).
- B. Do the test given in para. 3.
 - NOTE: It is recommended to make an entry in the applicable logbook that you must read the APU CLASS 3 FAULTS after the first following flight.

If the APU CLASS 3 FAULTS page gives the maintenance message EGT TCPLE RAKE (8057KM1) after the first following flight:

- do the applicable trouble shooting procedure (Ref. TASK 49-70-00-810-803).
 - If the APU CLASS 3 FAULTS page gives the maintenance message EGT TCPLE RAKE (8057KM2) after the first following flight:
- do the applicable trouble shooting procedure (Ref. TASK 49-70-00-810-804).

EFF: 232-232, 247-248, 252-252,

SROS

49-00-00

Page 236 Config-2 May 01/08

TROUBLE SHOOTING MANUAL

**ON A/C 232-232, 247-248, 252-252,

TASK 49-00-00-810-813

APU AUTO SHUT DOWN - SENSOR FAILURE, EGT Indication System 1 Fault (GTCP 36-300)

- 1. Possible Causes
 - EGT THERMOCOUPLE RAKE 1
 - ECB (59KD)
 - EGT THERMOCOUPLE RAKE (8057KM1)
- 2. Job Set-up Information
 - A. Referenced Information

REFE	RENCE	DESIGNATION
	49-70-00-810-803 Thermocouple Rake 1 Defective (GTCP 36-300)	
AMM	49-00-00-710-004	Operational Test of the APU (4005KM) (GTCP 36-300)
AMM	49-61-34-000-001	Removal of the Electronic Control Box (ECB) (59KD) (GTCP 36-300)
AMM	49-61-34-400-001	<pre>Installation of the Electronic Control Box (ECB) (59KD) (GTCP 36-300)</pre>
AMM	49-72-15-000-001	Removal of the Thermocouple (8057KM1) and (8057KM2) (APS 3200)
AMM	49-72-15-000-003	Removal of the Thermocouple Probes (8057KM1) and (8057KM2) (GTCP 36-300)
AMM	49-72-15-400-001	Installation of the Thermocouple Probes (8057KM1) and (8057KM2) (GTCP 36-300)

3. Fault Confirmation

A. Do the operational test of the APU (Ref. AMM TASK 49-00-00-710-004).

4. Fault Isolation

A. If an APU auto shutdown occurs during the operational test of the APU and the APU SHUTDOWNS report gives the maintenance message:

SENSOR FAILURE - EGT TC RAKE 1 AND ECB 59KD:

- replace the EGT THERMOCOUPLE RAKE 1 (Ref. AMM TASK 49-72-15-000-001)
 and (Ref. AMM TASK 49-72-15-400-001).
 and
- replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-001) and (Ref. AMM TASK 49-61-34-400-001).

EFF: 232-232, 247-248, 252-252,

49-00-00

Page 237

Config-2 May 01/08

TROUBLE SHOOTING MANUAL

- B. Do the test given in para. 3.
 - NOTE: It is recommended to make an entry in the applicable logbook that you must read the APU CLASS 3 FAULTS after the first following flight.

If the APU CLASS 3 FAULTS page gives the maintenance message EGT TC RAKE 1 after the first following flight:

- do the applicable trouble shooting procedure (Ref. TASK 49-70-00-810-803).

**ON A/C 232-232, 247-248, 252-252,

Post SB 49-1073 For A/C 232-232,247-248,252-252,

A. If an APU auto shutdown occurs during the operational test of the APU and the APU SHUTDOWNS report gives the maintenance message:

SENSOR FAILURE - EGT TCPLE RAKE (8057KM1) AND ECB (59KD)

with the LRU TROUBLE SHOOT DATA menu information: EGT1 SENSOR FAILURE AND ECB INTERNAL FAILURE Fault Code Number: 036

- replace the EGT THERMOCOUPLE RAKE (8057KM1) (Ref. AMM TASK 49-72-15-000-003) and (Ref. AMM TASK 49-72-15-400-001).
 and
- replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-001) and (Ref. AMM TASK 49-61-34-400-001).
- B. Do the test given in para. 3.
 - NOTE: It is recommended to make an entry in the applicable logbook that you must read the APU CLASS 3 FAULTS after the first following flight.

If the APU CLASS 3 FAULTS page gives the maintenance message EGT TPCLE RAKE (8057KM1) after the first following flight:

 do the applicable trouble shooting procedure (Ref. TASK 49-70-00-810-803).

EFF: 232-232, 247-248, 252-252,

49-00-00

Page 238

TROUBLE SHOOTING MANUAL

**ON A/C 232-232, 247-248, 252-252,

TASK 49-00-00-810-814

APU AUTO SHUT DOWN - SENSOR FAILURE, EGT Indication System 2 Fault (GTCP 36-300)

- 1. Possible Causes
 - EGT THERMOCOUPLE RAKE 2
 - ECB (59KD)
 - EGT THERMOCOUPLE RAKE (8057KM2)
- 2. Job Set-up Information
 - A. Referenced Information

REFERENCE	DESIGNATION
49-70-00-810-804	Thermocouple Rake 2 Defective (GTCP 36-300)
AMM 49-00-00-710-004	Operational Test of the APU (4005KM) (GTCP 36-300)
AMM 49-61-34-000-001	Removal of the Electronic Control Box (ECB) (59KD) (GTCP 36-300)
AMM 49-61-34-400-001	<pre>Installation of the Electronic Control Box (ECB) (59KD) (GTCP 36-300)</pre>
AMM 49-72-15-000-003	Removal of the Thermocouple Probes (8057KM1) and (8057KM2) (GTCP 36-300)
AMM 49-72-15-400-001	<pre>Installation of the Thermocouple Probes (8057KM1) and (8057KM2) (GTCP 36-300)</pre>

3. Fault Confirmation

A. Do the operational test of the APU (Ref. AMM TASK 49-00-00-710-004).

4. Fault Isolation

A. If an APU auto shutdown occurs during the operational test of the APU and the APU SHUTDOWNS report gives the maintenance message:

SENSOR FAILURE - EGT TC RAKE 2 AND ECB 59KD:

- replace the EGT THERMOCOUPLE RAKE 2 (Ref. AMM TASK 49-72-15-400-001) and (Ref. AMM TASK 49-72-15-400-001).
- replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-001) and (Ref. AMM TASK 49-61-34-400-001).

EFF: 232-232, 247-248, 252-252,

49-00-00

Page 239

Config-2 May 01/08

TROUBLE SHOOTING MANUAL

- B. Do the test given in para. 3.
 - NOTE: It is recommended to make an entry in the applicable logbook that you must read the APU CLASS 3 FAULTS after the first following flight.

If the APU CLASS 3 FAULTS page gives the maintenance message EGT TC RAKE 2 after the first following flight:

 do the applicable trouble shooting procedure (Ref. TASK 49-70-00-810-804).

**ON A/C 232-232, 247-248, 252-252,

Post SB 49-1073 For A/C 232-232,247-248,252-252,

A. If an APU auto shutdown occurs during the operational test of the APU and the APU SHUTDOWNS report gives the maintenance message:

SENSOR FAILURE - EGT TCPLE RAKE (8057KM2) AND ECB (59KD)

with the LRU TROUBLE SHOOT DATA menu information: EGT2 SENSOR FAILURE AND ECB INTERNAL FAILURE Fault Code Number: 037

- replace the EGT THERMOCOUPLE RAKE (8057KM2) (Ref. AMM TASK 49-72-15-000-003) and (Ref. AMM TASK 49-72-15-400-001).
 and
- replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-001) and (Ref. AMM TASK 49-61-34-400-001).
- B. Do the test given in para. 3.
 - NOTE: It is recommended to make an entry in the applicable logbook that you must read the APU CLASS 3 FAULTS after the first following flight.

If the APU CLASS 3 FAULTS page gives the maintenance message EGT TCPLE RAKE (8057KM2) after the first following flight:

- do the applicable trouble shooting procedure (Ref. TASK 49-70-00-810-804).

EFF: 232-232, 247-248, 252-252,

49-00-00

Page 240

TROUBLE SHOOTING MANUAL

**ON A/C 232-232, 247-248, 252-252,

TASK 49-00-00-810-815

APU AUTO SHUT DOWN - OVERSPEED, FCU and ECB 59KD Fault (GTCP 36-300)

- 1. Possible Causes
 - FUEL CONTROL UNIT P19
 - ECB (59KD)
 - FUEL CONTROL UNIT (8022KM)
- 2. Job Set-up Information
 - A. Referenced Information

REFE	RENCE	DESIGNATION
A M M	/0.00.00.740.00/	0
AMM	49-00-00-710-004	Operational Test of the APU (4005KM) (GTCP 36-300)
AMM	49-32-11-000-001	Removal of the Fuel Control Unit (FCU) (8022KM) (GTCP 36-300)
AMM	49-32-11-400-001	<pre>Installation of the Fuel Control Unit (FCU) (8022KM) (GTCP 36-300)</pre>
AMM	49-61-34-000-001	Removal of the Electronic Control Box (ECB) (59KD) (GTCP 36-300)
AMM	49-61-34-400-001	<pre>Installation of the Electronic Control Box (ECB) (59KD) (GTCP 36-300)</pre>

- 3. Fault Confirmation
 - A. Do the operational test of the APU (Ref. AMM TASK 49-00-00-710-004).
- 4. Fault Isolation
 - A. If an APU auto shutdown occurs during the operational test of the APU and the APU SHUTDOWNS report gives the maintenance message:

OVERSPEED - FUEL CONTROL UNIT OR ECB 59KD:

- replace the FUEL CONTROL UNIT P19 (Ref. AMM TASK 49-32-11-000-001) and (Ref. AMM TASK 49-32-11-400-001).
- (1) If the fault continues:
 - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-001) and (Ref. AMM TASK 49-61-34-400-001).

EFF: 232-232, 247-248, 252-252,

49-00-00

Page 241

Config-2 May 01/08

TROUBLE SHOOTING MANUAL

**ON A/C 232-232, 247-248, 252-252,

Post SB 49-1073 For A/C 232-232,247-248,252-252,

A. If an APU auto shutdown occurs during the operational test of the APU and the APU SHUTDOWNS report gives the maintenance message:

OVERSPEED - FUEL CONTROL UNIT (8022KM) / ECB (59KD)

with the LRU TROUBLE SHOOT DATA menu information: NO LRU FAULT DETECTED Fault Code Number: 201

- replace the FUEL CONTROL UNIT (8022KM) (Ref. AMM TASK 49-32-11-000-001) and (Ref. AMM TASK 49-32-11-400-001).
- (1) If the fault continues:
 - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-001) and (Ref. AMM TASK 49-61-34-400-001).

**ON A/C 232-232, 247-248, 252-252,

B. Do the test given in para. 3.

EFF: 232-232, 247-248, 252-252,

49-00-00

Page 242

Config-2 May 01/08

TROUBLE SHOOTING MANUAL

TASK 49-00-00-810-816

APU AUTO SHUT DOWN - OVERTEMPERATURE, during APU Start (GTCP 36-300)

1. Possible Causes

- FUEL CONTROL UNIT P19
- ECB (59KD)
- AUXILIARY POWER UNIT (4005KM)
- FUEL CONTROL UNIT (8022KM)
- IGV ACTUATOR (8014KM)
- STARTER MOTOR (8KA)

2. Job Set-up Information

A. Referenced Information

REFE	RENCE	DESIGNATION
AMM	49-00-00-710-004	Operational Test of the APU (4005KM) (GTCP 36-300)
AMM	49-11-11-000-001	Removal of the Auxiliary Power Unit (APU) - 4005KM (GTCP 36-300)
AMM	49-11-11-400-001	<pre>Installation of the Auxiliary Power Unit (APU) - 4005KM (GTCP 36-300)</pre>
AMM	49-23-51-000-003	Removal of the Inlet Guide Vane Actuator (8014KM) (APS 3200)
AMM	49-23-51-400-003	<pre>Installation of the Inlet Guide Vane Actuator (8014KM) (APS 3200)</pre>
AMM	49-32-11-000-001	Removal of the Fuel Control Unit (FCU) (8022KM) (GTCP 36-300)
AMM	49-32-11-400-001	<pre>Installation of the Fuel Control Unit (FCU) (8022KM) (GTCP 36-300)</pre>
AMM	49-42-51-000-007	Removal of the Starter Motor (8KA) (APS 3200)
AMM	49-42-51-400-007	Installation of the Starter Motor (8KA) (APS 3200)
AMM	49-61-34-000-001	Removal of the Electronic Control Box (ECB) (59KD) (GTCP 36-300)
AMM	49-61-34-400-001	<pre>Installation of the Electronic Control Box (ECB) (59KD) (GTCP 36-300)</pre>

3. Fault Confirmation

A. Check/Test

- (1) Use a strong torch and do a visual check through the APU exhaust, to make sure that there is no APU turbine failure.
- (2) Do the operational test of the APU (Ref. AMM TASK 49-00-00-710-004).

EFF: 232-232, 247-248, 252-252,

49-00-00

Page 243

Config-2 May 01/08

TROUBLE SHOOTING MANUAL

4. Fault Isolation

A. If an APU shutdown occurs during the APU start sequence and the test gives the maintenance message:

OVERTEMPERATURE - FCU OR IGV ACTR P21 OR STARTER MOTOR 8KA:

- replace the FUEL CONTROL UNIT P19 (Ref. AMM TASK 49-32-11-000-001) and (Ref. AMM TASK 49-32-11-400-001).
- (1) If the fault continues:
 - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-001) and (Ref. AMM TASK 49-61-34-400-001).
 - (a) If the fault continues:
 - replace the AUXILIARY POWER UNIT (4005KM) (Ref. AMM TASK 49-11-11-000-001) and (Ref. AMM TASK 49-11-11-400-001).

**ON A/C 232-232, 247-248, 252-252,

Post SB 49-1073 For A/C 232-232,247-248,252-252,

A. If an APU shutdown occurs during the APU start sequence and the test gives the maintenance message:

OVERTEMPERATURE - FCU (8022KM)/IGV ACTUATOR (8014KM)/START MOT (8KA)

with the LRU TROUBLE SHOOT DATA menu information: NO LRU FAULT DETECTED Fault Code Number: 206

- replace the FUEL CONTROL UNIT (8022KM) (Ref. AMM TASK 49-32-11-000-001) and (Ref. AMM TASK 49-32-11-400-001).
- (1) If the fault continues:
 - replace the IGV ACTUATOR (8014KM) (Ref. AMM TASK 49-23-51-000-003) and (Ref. AMM TASK 49-23-51-400-003).
 - (a) If the fault continues:
 - replace the STARTER MOTOR (8KA) (Ref. AMM TASK 49-42-51-000-007) and (Ref. AMM TASK 49-42-51-400-007).
 - 1 If the fault continues:
 - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-001) and (Ref. AMM TASK 49-61-34-400-001).
 - a If the fault continues:
 - replace the AUXILIARY POWER UNIT (4005KM) (Ref. AMM TASK 49-11-11-000-001) and (Ref. AMM TASK 49-11-11-400-001).

EFF: 232-232, 247-248, 252-252,

49-00-00

Page 244

TROUBLE SHOOTING MANUAL

**ON A/C 232-232, 247-248, 252-252,

B. Do the test given in para. 3.

EFF: 232-232, 247-248, 252-252,

49-00-00

Page 245

Config-2 May 01/08

TROUBLE SHOOTING MANUAL

TASK 49-00-00-810-817

APU AUTO SHUT DOWN - OVERTEMPERATURE, during APU Operation (GTCP 36-300)

1. Possible Causes

- damage and/or unwanted material in the air intake system and/or on the engine air-intake screen
- damage and/or unwanted material in the exhaust system and/or on the turbine exducer blades and stators
- INLET GUIDE-VANE ACTUATOR P21
- FLOW DIVIDER AND DRAIN VALVE ASSY
- ECB (59KD)
- PRIMARY FUEL NOZZLE AND MANIFOLD
- SECONDARY FUEL NOZZLE AND MANIFOLD
- AUXILIARY POWER UNIT (4005KM)
- INLET GUIDE-VANE ACTUATOR (8014KM)
- FUEL CONTROL UNIT (8022KM)

2. Job Set-up Information

A. Referenced Information

	RENCE	DESIGNATION
AMM	49-00-00-710-004	Operational Test of the APU (4005KM) (GTCP 36-300)
AMM	49-11-11-000-001	Removal of the Auxiliary Power Unit (APU) - 4005KM (GTCP 36-300)
AMM	49-11-11-400-001	Installation of the Auxiliary Power Unit (APU) - 4005KM (GTCP 36-300)
AMM	49-16-00-210-001	Detailed Inspection of the Air Intake, Diffuser Elbow, Seals and Felt Metal (GTCP 36-300)
AMM	49-20-00-200-001	Inspection/Check of the Engine (4005KM) (GTCP 36-300)
AMM	49-23-51-000-002	Removal of the Inlet Guide Vane-Actuator (8014KM) (GTCP 36-300)
AMM	49-23-51-400-002	<pre>Installation of the Inlet Guide Vane-Actuator (8014KM) (GTCP 36-300)</pre>
AMM	49-31-41-000-001	Removal of the Primary Fuel Nozzle and Manifold (8020KM) (GTCP 36-300)
AMM	49-31-41-400-001	<pre>Installation of the Primary Fuel Nozzle and Manifold (8020KM) (GTCP 36-300)</pre>
AMM	49-31-42-000-002	Removal of the Secondary Fuel Nozzle and Manifold (8021KM) (GTCP 36-300)
AMM	49-31-42-400-004	Installation of the Secondary Fuel Nozzle and Manifold (8021KM) (GTCP 36-300)
AMM	49-32-11-000-001	Removal of the Fuel Control Unit (FCU) (8022KM) (GTCP 36-300)
AMM	49-32-11-400-001	Installation of the Fuel Control Unit (FCU) (8022KM) (GTCP 36-300)

EFF: 232-232, 247-248, 252-252,

49-00-00

Page 246

TROUBLE SHOOTING MANUAL

REFERENCE	DESIGNATION
AMM 49-32-12-000-001	Removal of the Flow Divider and Drain Valve Assembly (8023KM) (GTCP 36-300)
AMM 49-32-12-400-001	Installation of the Flow Divider and Drain Valve Assembly (8023KM) (GTCP 36-300)
AMM 49-61-34-000-001	Removal of the Electronic Control Box (ECB) (59KD) (GTCP 36-300)
AMM 49-61-34-400-001	<pre>Installation of the Electronic Control Box (ECB) (59KD) (GTCP 36-300)</pre>

3. Fault Confirmation

A. Check/Test

- (1) Before you start the APU for the operational test:
 - do a visual inspection and make sure that you do not find damage and/or unwanted material in the air intake system and/or on the engine air-intake screen (Ref. AMM TASK 49-16-00-210-001).
 - do a visual inspection and make sure that you do not find damage and/or unwanted material in the exhaust system and/or on the turbine exducer blades and stators (Ref. AMM TASK 49-20-00-200-001)

NOTE: THE TORQUE LIMIT IS 29 lbf.ft (3.93 m.dan). DO NOT TURN THE SHAFT WITH A TORQUE MORE THAN THE LIMIT. A TORQUE MORE THAN THE LIMIT WILL DAMAGE THE COMPONENT.

- turn the manual drive shaft of the starter motor (8KA) in a counterclockwise direction (in the direction of the arrow on the housing) and make sure that:
 - . you can turn the manual drive shaft of the starter motor equally,
 - . the APU rotors, bearings and gears do not rub,
 - . the APU rotors, bearings and gears do not make unsual noise.
- NOTE: Turn the manual drive shaft of the starter motor with a torque wrench.

 Make sure that the drag is 15 to 45 lbf.in (0.17 to 0.51 m.daN).
- (a) If you find that the drag of the APU rotors, bearings and gears is too much, they do rub or they make unsual noise, replace the AUXILIARY POWER UNIT (4005KM) (Ref. AMM TASK 49-11-11-000-001) and (Ref. AMM TASK 49-11-11-400-001).
- (2) Do the operational test of the APU (Ref. AMM TASK 49-00-00-710-004).

EFF: 232-232, 247-248, 252-252,

49-00-00

Page 247 Config-2 May 01/08

TROUBLE SHOOTING MANUAL

4. Fault Isolation

A. If an APU auto shutdown occurs during the operational test of the APU and the APU SHUTDOWNS report gives the maintenance message:

OVERTEMPERATURE - IGV ACTR P21 OR FDDVA OR ECB 59KD:

- replace the INLET GUIDE-VANE ACTUATOR P21 (Ref. AMM TASK 49-23-51-000-002) and (Ref. AMM TASK 49-23-51-400-002).
- (1) If the fault continues:
 - replace the FLOW DIVIDER AND DRAIN VALVE ASSY (Ref. AMM TASK 49-32-12-000-001) and (Ref. AMM TASK 49-32-12-400-001).
- (2) If the fault continues:
 - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-001) and (Ref. AMM TASK 49-61-34-400-001).
- (3) If the fault continues:
 - replace the PRIMARY FUEL NOZZLE AND MANIFOLD (Ref. AMM TASK 49-31-41-000-001) and (Ref. AMM TASK 49-31-41-400-001).
 - replace the SECONDARY FUEL NOZZLE AND MANIFOLD (Ref. AMM TASK 49-31-42-000-002) and (Ref. AMM TASK 49-31-42-400-004).
- (4) If the fault continues:

 Replace the AUXILIARY POWER UNIT (4005KM) (Ref. AMM TASK 49-11-11-000-001) and (Ref. AMM TASK 49-11-11-400-001).

**ON A/C 232-232, 247-248, 252-252,

Post SB 49-1073 For A/C 232-232,247-248,252-252,

A. If an APU auto shutdown occurs during the operational test of the APU and the APU SHUTDOWNS report gives the maintenance message:

OVERTEMPERATURE - IGV ACTUATOR (8014KM)/FCU (8022KM)/ECB (59KD)

with the LRU TROUBLE SHOOT DATA menu information: NO LRU FAULT DETECTED Fault Code Number: 205

- replace the INLET GUIDE-VANE ACTUATOR (8014KM) (Ref. AMM TASK 49-23-51-000-002) and (Ref. AMM TASK 49-23-51-400-002).
- (1) If the fault continues:
 - replace the FUEL CONTROL UNIT (8022KM) (Ref. AMM TASK 49-32-11-000-001) and (Ref. AMM TASK 49-32-11-400-001).
- (2) If the fault continues:
 - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-001) and (Ref. AMM TASK 49-61-34-400-001).

EFF: 232-232, 247-248, 252-252,

49-00-00

Page 248

TROUBLE SHOOTING MANUAL

(3) If the fault continues: Replace the AUXILIARY POWER UNIT (4005KM) (Ref. AMM TASK 49-11-11-000-001) and (Ref. AMM TASK 49-11-11-400-001).

**ON A/C 232-232, 247-248, 252-252,

B. Do the test given in para. 3.

EFF: 232-232, 247-248, 252-252,

49-00-00

Page 249

SROS

Printed in France

TROUBLE SHOOTING MANUAL

TASK 49-00-00-810-818

APU AUTO SHUT DOWN - LOW OIL PRESSURE, Oil Pressure Switch -, or Oil Pump Assy -, or De-Oil Solenoid Valve - Fault (GTCP 36-300)

1. Possible Causes

- LUBE-PUMP OIL FILTER
- GENERATOR OIL FILTER
- low oil-level condition
- OIL PRESSURE SWITCH P14
- DE-OILING SOLENOID VALVE P15
- OIL PUMP ASSY
- wiring
- ECB (59KD)
- LOW OIL PRESSURE SWITCH (8091KM)
- DE-OILING SOLENOID VALVE (8083KM)
- OIL PUMP ASSY (8080KM)
- REGULATING GEARBOX VALVE
- DE-OILING SOLENOID VALVE

2. Job Set-up Information

A. Referenced Information

REFE	RENCE	DESIGNATION
49-0	0-00-810-832	Low Oil-Level Condition (GTCP 36-300)
AMM	31-36-00-740-010	Printout of Stored Reports
AMM	49-00-00-710-004	Operational Test of the APU (4005KM) (GTCP 36-300)
AMM	49-26-53-000-001	Removal of the Regulating Gearbox Valve (8016KM) (GTCP 36-300)
AMM	49-26-53-400-001	Installation of the Regulating Gearbox Valve (8016KM) (GTCP 36-300)
AMM	49-61-34-000-001	Removal of the Electronic Control Box (ECB) (59KD) (GTCP 36-300)
AMM	49-61-34-400-001	<pre>Installation of the Electronic Control Box (ECB) (59KD) (GTCP 36-300)</pre>
AMM	49-91-00-210-001	Check Lube and Alternator-Scavenge Filter Differential Pressure Indicator Position (Pop out not protruding) (GTCP 36-300)
AMM	49-91-45-000-001	Removal of the Oil Pump (8080KM) (GTCP 36-300)
AMM	49-91-45-400-001	Installation of the Oil Pump (8080KM) (GTCP 36-300)
AMM	49-91-49-000-001	Removal of the De-Oiling Solenoid Valve (8083KM) (GTCP 36-300)
AMM	49-91-49-400-001	Installation of the De-Oiling Solenoid Valve (8083KM) (GTCP 36-300)
AMM	49-94-14-000-001	Removal of the Low Oil-Pressure Switch (8091KM) (GTCP 36-300)

EFF: 232-232, 247-248, 252-252,

49-00-00 Page 250 Config-2 May 01/08

TROUBLE SHOOTING MANUAL

REFERENCE DESIGNATION

AMM 49-94-14-400-001

Installation of the Low Oil-Pressure Switch (8091KM) (GTCP 36-300)

ASM 49-61/02

3. Fault Confirmation

- A. Do the subsequent checks and the operational test of the APU.
 - (1) Do a check and make sure that the LUBE-PUMP OIL FILTER and the GENERATOR OIL FILTER pop-out indicators are not protruded (Ref. AMM TASK 49-91-00-210-001).
 - (2) Do a check of the oil level in the APU oil reservoir:
 - if you add more than 1 liter do the low oil-level condition trouble shooting (Ref. TASK 49-00-00-810-832).
 - (3) Do the operational test of the APU (Ref. AMM TASK 49-00-00-710-004).

NOTE: Operate the APU for min. 15 minutes under full load. This makes sure that the oil temperature increases sufficiently.

4. Fault Isolation

A. If an APU auto shutdown occurs during the operational test of the APU and the APU SHUTDOWNS report gives the maintenance message:

LOW OIL PRESSURE - OIL PR SW P14 OR OIL PUMP ASSY OR G/B PR VLV:

- replace the OIL PRESSURE SWITCH P14 (Ref. AMM TASK 49-94-14-000-001) and (Ref. AMM TASK 49-94-14-400-001).
- (1) If the fault continues:
 - replace the DE-OILING SOLENOID VALVE P15 (Ref. AMM TASK 49-91-49-000-001) and (Ref. AMM TASK 49-91-49-400-001).
- (2) If the fault continues:
 - replace the OIL PUMP ASSY (Ref. AMM TASK 49-91-45-000-001) and (Ref. AMM TASK 49-91-45-400-001).
- (3) If the fault continues:
 - do a continuity check of the wiring from ECB (59KD) AB/C5, C8 to the OIL PRESS SWITCH P14/1, 2 (Ref. ASM 49-61/02).
- (4) If the fault continues:
 - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-001) and (Ref. AMM TASK 49-61-34-400-001).

EFF: 232-232, 247-248, 252-252,

49-00-00

Page 251 Config-2 May 01/08

TROUBLE SHOOTING MANUAL

**ON A/C 232-232, 247-248, 252-252,

Post SB 49-1073 For A/C 232-232,247-248,252-252,

A. If an APU auto shutdown occurs during the operational test of the APU and the APU SHUTDOWNS report gives the maintenance message:

LOW OIL PRESSURE - LOP SW(8091KM)/OIL PUMP/GEARBOX PRESS VALVE

with the LRU TROUBLE SHOOT DATA menu information: NO LRU FAULT DETECTED Fault Code Number: 208

- replace the LOW OIL PRESSURE SWITCH (8091KM) (Ref. AMM TASK 49-94-14-000-001) and (Ref. AMM TASK 49-94-14-400-001).
- (1) If the fault continues:
 - replace the DE-OILING SOLENOID VALVE (8083KM) (Ref. AMM TASK 49-91-49-000-001) and (Ref. AMM TASK 49-91-49-400-001).
- (2) If the fault continues:
 - replace the OIL PUMP ASSY (8080KM) (Ref. AMM TASK 49-91-45-000-001) and (Ref. AMM TASK 49-91-45-400-001).
- (3) If the fault continues:
 - do a continuity check of the wiring from ECB (59KD) AB/C5, C8 to the LOW OIL PRESS SWITCH (8091KM) P14/1, 2 (Ref. ASM 49-61/02).
- (4) If the fault continues:
 - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-001) and (Ref. AMM TASK 49-61-34-400-001).

**ON A/C 232-232, 247-248, 252-252,

- **B.** If no APU auto shutdown occurs during the operational test of the APU and the low oil pressure shutdown occured during the flight:
 - replace the REGULATING GEARBOX VALVE (Ref. AMM TASK 49-26-53-000-001) and (Ref. AMM TASK 49-26-53-400-001).
- C. If no APU auto shutdown occurs during the operational test of the APU and the low oil pressure shutdown occured when the APU was cold soaked:

NOTE: Cold Soaked Condition do a print-out of the APU shutdown report <14> of the DMU (Ref. AMM TASK 31-36-00-740-010), check APU oil sump temperature 'OTA', if less than 4 deg.C (39 deg.F) the APU was in cold soaked condition.

- replace the DE-OILING SOLENOID VALVE (Ref. AMM TASK 49-91-49-000-001) and (Ref. AMM TASK 49-91-49-400-001).

EFF: 232-232, 247-248, 252-252,

49-00-00

Page 252

Config-2 May 01/08

TROUBLE SHOOTING MANUAL

D. Do the test given in para. 3.

EFF: 232-232, 247-248, 252-252,

SROS

49-00-00

Page 253

TROUBLE SHOOTING MANUAL

TASK 49-00-00-810-819

APU AUTO SHUT DOWN - HIGH OIL TEMPERATURE, Oil Cooler -, or Cooling Fan -, or Generator Scavenge Pump - Fault (GTCP 36-300)

1. Possible Causes

- cooling fan inlet-duct (collapsed)
- cooling fan outlet-duct
- oil cooler inlet-duct
- LUBE-PUMP OIL FILTER
- GENERATOR OIL FILTER
- OIL TEMPERATURE SWITCH P11
- OIL COOLER
- COOLING FAN
- GENERATOR SCAVENGE PUMP
- APU GENERATOR(8XS)
- ECB (59KD)
- AUXILIARY POWER UNIT (4005KM)
- OIL TEMPERATURE SWITCH (8090KM)
- OIL COOLER (8079KM)
- COOLING FAN (8055KM)

2. Job Set-up Information

A. Referenced Information

REFE	RENCE	DESIGNATION
AMM	24-23-51-000-001	Removal of the APU Generator 8XS
AMM	24-23-51-400-001	Installation of the APU Generator 8XS
AMM	49-00-00-710-004	Operational Test of the APU (4005KM) (GTCP 36-300)
AMM	49-00-00-860-003	APU Start by External Power (GTCP 36-300)
AMM	49-11-11-000-001	Removal of the Auxiliary Power Unit (APU) - 4005KM (GTCP 36-300)
AMM	49-11-11-400-001	<pre>Installation of the Auxiliary Power Unit (APU) - 4005KM (GTCP 36-300)</pre>
AMM	49-52-51-000-001	Removal of the Fan Assembly (8053KM) (GTCP 36-300)
AMM	49-52-51-400-001	Installation of the Fan Assembly (8053KM) (GTCP 36-300)
AMM	49-61-34-000-001	Removal of the Electronic Control Box (ECB) (59KD) (GTCP 36-300)
AMM	49-61-34-400-001	<pre>Installation of the Electronic Control Box (ECB) (59KD) (GTCP 36-300)</pre>
AMM	49-91-00-210-001	Check Lube and Alternator-Scavenge Filter Differential Pressure Indicator Position (Pop out not protruding) (GTCP 36-300)
AMM	49-91-44-000-001	Removal of the Oil Cooler (8079KM) (GTCP 36-300)
AMM	49-91-44-400-001	Installation of the Oil Cooler (8079KM) (GTCP 36-300)

EFF: 232-232, 247-248, 252-252,

49-00-00

Page 254

Config-2 May 01/08

TROUBLE SHOOTING MANUAL

REFERENCE	DESIGNATION
AMM 49-91-52-000-00	Removal of the Generator Scavenge Pump (8085KM) (GTCP 36-300)
AMM 49-91-52-400-00	Installation of the Generator Scavenge Pump (8085KM) (GTCP 36-300)
AMM 49-94-13-000-00	1 Removal of the High Oil-Temperature Switch (8090KM) (GTCP 36-300)
AMM 49-94-13-400-00	<pre>1 Installation of the High Oil-Temperature Switch (8090KM) (GTCP 36-300)</pre>

3. Fault Confirmation

- A. Do the subsequent checks and the operational test of the APU.
 - (1) Do a check and make sure that the cooling fan inlet duct, the oil cooler inlet duct and the oil cooler outlet duct are correctly attached and in the correct condition.
 - correct/replace as necessary.
 - (2) Do a check with your hand for soft areas and damage for components which follow:
 - cooling fan inlet-duct (collapsed);
 - cooling fan outlet-duct;
 - oil cooler inlet-duct.

NOTE: Replace damaged component as necessary.

- (a) If a hand check does not confirm the fault but a damaged duct is still suspected:
 - do a start (Ref. AMM TASK 49-00-00-860-003) of the APU to look for duct collapse.
- (3) Do a check and make sure that the LUBE-PUMP OIL FILTER and the GENERATOR OIL FILTER indicators are not protruded (Ref. AMM TASK 49-91-00-210-001).
- (4) Do the operational test of the APU (Ref. AMM TASK 49-00-00-710-004).

<u>NOTE</u>: Operate the APU for min. 15 minutes under full load. This makes sure that the oil temperature increases sufficiently.

EFF: 232-232, 247-248, 252-252,

49-00-00

Page 255

TROUBLE SHOOTING MANUAL

4. Fault Isolation

A. If an APU auto shutdown occurs during the operational test of the APU and the APU SHUTDOWNS report gives the maintenance message:

HIGH OIL TEMPERATURE - OIL COOLER OR COOLING FAN OR GEN SCAVENGE PUMP:

- replace the OIL TEMPERATURE SWITCH P11 (Ref. AMM TASK 49-94-13-000-001) and (Ref. AMM TASK 49-94-13-400-001).
- (1) If the fault continues:
 - replace the OIL COOLER (Ref. AMM TASK 49-91-44-000-001) and (Ref. AMM TASK 49-91-44-400-001).
- (2) If the fault continues:
 - replace the COOLING FAN (Ref. AMM TASK 49-52-51-000-001) and (Ref. AMM TASK 49-52-51-400-001).
- (3) If the fault continues:
 - replace the GENERATOR SCAVENGE PUMP (Ref. AMM TASK 49-91-52-000-001) and (Ref. AMM TASK 49-91-52-400-001).
- (4) If the fault continues:
 - replace the APU GENERATOR(8XS) (Ref. AMM TASK 24-23-51-000-001) and (Ref. AMM TASK 24-23-51-400-001).
- (5) If the fault continues:
 - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-001) and (Ref. AMM TASK 49-61-34-400-001).
- (6) If the fault continues:
 - replace the AUXILIARY POWER UNIT (4005KM) (Ref. AMM TASK 49-11-11-000-001) and (Ref. AMM TASK 49-11-11-400-001).

**ON A/C 232-232, 247-248, 252-252,

Post SB 49-1073 For A/C 232-232,247-248,252-252,

A. If an APU auto shutdown occurs during the operational test of the APU and the APU SHUTDOWNS report gives the maintenance message:

HIGH OIL TEMPERATURE - OIL COOLER OR COOLING FAN OR GEN SCAVENGE PUMP:

with the LRU TROUBLE SHOOT DATA menu information: NO LRU FAULT DETECTED Fault Code Number: 211

- replace the OIL TEMPERATURE SWITCH (8090KM) (Ref. AMM TASK 49-94-13-000-001) and (Ref. AMM TASK 49-94-13-400-001).

EFF: 232-232, 247-248, 252-252,

49-00-00

Page 256 Config-2 May 01/08

TROUBLE SHOOTING MANUAL

- (1) If the fault continues:
 - replace the OIL COOLER (8079KM) (Ref. AMM TASK 49-91-44-000-001) and (Ref. AMM TASK 49-91-44-400-001).
- (2) If the fault continues:
 - replace the COOLING FAN (8055KM) (Ref. AMM TASK 49-52-51-000-001) and (Ref. AMM TASK 49-52-51-400-001).
- (3) If the fault continues:
 - replace the GENERATOR SCAVENGE PUMP (Ref. AMM TASK 49-91-52-000-001) and (Ref. AMM TASK 49-91-52-400-001).
- (4) If the fault continues:
 - replace the APU GENERATOR(8XS) (Ref. AMM TASK 24-23-51-000-001) and (Ref. AMM TASK 24-23-51-400-001).
- (5) If the fault continues:
 - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-001) and (Ref. AMM TASK 49-61-34-400-001).
- (6) If the fault continues:
 - replace the AUXILIARY POWER UNIT (4005KM) (Ref. AMM TASK 49-11-11-000-001) and (Ref. AMM TASK 49-11-11-400-001).

**ON A/C 232-232, 247-248, 252-252,

B. Do the test given in para. 3.

EFF: 232-232, 247-248, 252-252,

49-00-00

Page 257

TROUBLE SHOOTING MANUAL

TASK 49-00-00-810-820

APU AUTO SHUT DOWN - Slow Start Shutdown, IGV Actuator -, or Starter Motor -, or Fuel Ctl Unit - Fault (GTCP 36-300)

1. Possible Causes

- air in the fuel system
- damage and/or unwanted material in the air intake system and/or on the engine air-intake screen
- damage and/or unwanted material in the exhaust system and/or on the turbine exducer blades and stators
- DE-OILING SOLENOID VALVE P15
- STARTER MOTOR (8KA)
- FUEL CONTROL UNIT P19
- COMPRESSOR INLET-PRESSURE TRANSDUCER P22
- FLOW DIVIDER AND DRAIN VALVE ASSY
- INLET GUIDE-VANE ACTUATOR (103KD)
- DE-OILING SOLENOID VALVE (8083KM)
- FUEL CONTROL UNIT (8022KM)
- COMPRESSOR INLET-PRESSURE TRANSDUCER (8048KM)
- FLOW DIVIDER AND DRAIN VALVE ASSY (8024KM)
- INLET GUIDE-VANE ACTUATOR (8014KM)
- ECB (59KD)

2. Job Set-up Information

A. Referenced Information

REFE	RENCE	DESIGNATION
AMM	28-22-00-710-001	Operational Test of the APU Fuel-Pump System on Ground to Purge the Fuel Line
AMM	49-00-00-710-004	Operational Test of the APU (4005KM) (GTCP 36-300)
AMM	49-11-11-000-001	Removal of the Auxiliary Power Unit (APU) - 4005KM (GTCP 36-300)
AMM	49-11-11-400-001	Installation of the Auxiliary Power Unit (APU) - 4005KM (GTCP 36-300)
AMM	49-16-00-210-001	Detailed Inspection of the Air Intake, Diffuser Elbow, Seals and Felt Metal (GTCP 36-300)
AMM	49-20-00-200-001	Inspection/Check of the Engine (4005KM) (GTCP 36-300)
AMM	49-23-51-000-002	Removal of the Inlet Guide Vane-Actuator (8014KM) (GTCP 36-300)
AMM	49-23-51-400-002	<pre>Installation of the Inlet Guide Vane-Actuator (8014KM) (GTCP 36-300)</pre>
AMM	49-32-11-000-001	Removal of the Fuel Control Unit (FCU) (8022KM) (GTCP 36-300)
AMM	49-32-11-400-001	Installation of the Fuel Control Unit (FCU) (8022KM) (GTCP 36-300)

EFF: 232-232, 247-248, 252-252,

49-00-00

Page 258

Config-2 May 01/08

TROUBLE SHOOTING MANUAL

REFERENCE		DESIGNATION
AMM	49-32-12-000-001	Removal of the Flow Divider and Drain Valve Assembly (8023KM) (GTCP 36-300)
AMM	49-32-12-400-001	Installation of the Flow Divider and Drain Valve Assembly (8023KM) (GTCP 36-300)
AMM	49-42-51-000-005	Removal of the Starter Motor (8KA) (GTCP36-300)
AMM	49-42-51-400-005	Installation of the Starter Motor (8KA) (GTCP36-300)
AMM	49-51-18-000-001	Removal of the Compressor Inlet-Pressure Sensor (GTCP 36-300)
AMM	49-51-18-400-001	<pre>Installation of the Compressor Inlet-Pressure Sensor (GTCP 36-300)</pre>
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)
AMM	49-91-49-000-001	Removal of the De-Oiling Solenoid Valve (8083KM) (GTCP 36-300)
AMM	49-91-49-400-001	Installation of the De-Oiling Solenoid Valve (8083KM) (GTCP 36-300)

3. Fault Confirmation

A. Check/Test

- (1) Before you start the APU for the operational test:
 - purge the APU fuel feed line to make sure that there is no air in the fuel system (Ref. AMM TASK 28-22-00-710-001).
 - do a visual inspection and make sure that you do not find damage and/or unwanted material in the air intake system and/or on the engine air-intake screen (Ref. AMM TASK 49-16-00-210-001).
 - do a visual inspection and make sure that you do not find damage and/or unwanted material in the exhaust system and/or on the turbine exducer blades and stators (Ref. AMM TASK 49-20-00-200-001)

NOTE: THE TORQUE LIMIT IS 29 lbf.ft (3.93 m.dan). DO NOT TURN THE SHAFT WITH A TORQUE MORE THAN THE LIMIT. A TORQUE MORE THAN THE LIMIT WILL DAMAGE THE COMPONENT.

- turn the manual drive shaft of the starter motor (8KA) in a counterclockwise direction (in the direction of the arrow on the housing) and make sure that:
- you can turn the manual drive shaft of the starter motor equally,
- the APU rotors, bearings and gears do not rub,
- the APU rotors, bearings and gears do not make unusual noise.

<u>NOTE</u>: Turn the manual drive shaft of the starter motor with a torque wrench.

Make sure that the drag is 15 lbf.in to 45 lbf.in (0.17 to 0.51 m.daN).

EFF: 232-232, 247-248, 252-252,

49-00-00

Page 259

Config-2 May 01/08

TROUBLE SHOOTING MANUAL

- (a) If you find that the drag of the APU rotors, bearings and gears is too much, they do rub or they make unusual noise, replace the AUXILIARY POWER UNIT (4005KM) (Ref. AMM TASK 49-11-11-000-001) and (Ref. AMM TASK 49-11-11-400-001).
- (2) Do the operational test of the APU (Ref. AMM TASK 49-00-00-710-004).

4. Fault Isolation

A. If an APU auto shutdown occurs during the APU START SEQUENCE and the APU SHUTDOWNS report gives the maintenance message:

START TIME EXCEEDED - IGV ACTR P21 OR STARTER MOTOR 8KA OR FCU: or

NO ACCELERATION - IGV ACTR P21 OR STARTER MOTOR 8KA OR FCU:

- replace the DE-OILING SOLENOID VALVE P15 if the shutdown occurred when the APU was cold soaked (Ref. AMM TASK 49-91-49-000-001) and (Ref. AMM TASK 49-91-49-400-001).
- (1) If the fault continues:
 - replace the STARTER MOTOR (8KA) (Ref. AMM TASK 49-42-51-000-005) and (Ref. AMM TASK 49-42-51-400-005).
- (2) If the fault continues:
 - replace the FUEL CONTROL UNIT P19 (Ref. AMM TASK 49-32-11-000-001)
 and (Ref. AMM TASK 49-32-11-400-001).
- (3) If the fault continues:
 - replace the COMPRESSOR INLET-PRESSURE TRANSDUCER P22 (Ref. AMM TASK 49-51-18-000-001) and (Ref. AMM TASK 49-51-18-400-001).
- (4) If the fault continues:
 - replace the FLOW DIVIDER AND DRAIN VALVE ASSY (Ref. AMM TASK 49-32-12-000-001) and (Ref. AMM TASK 49-32-12-400-001).
- (5) If the fault continues:
 - replace the INLET GUIDE-VANE ACTUATOR (103KD) (Ref. AMM TASK 49-23-51-000-002) and (Ref. AMM TASK 49-23-51-400-002).

**ON A/C 232-232, 247-248, 252-252,

Post SB 49-1073 For A/C 232-232,247-248,252-252,

A. If an APU auto shutdown occurs during the APU START SEQUENCE and the APU SHUTDOWNS report gives the maintenance message:

NO ACCELERATION - IGV ACTUATOR(8014KM)/FCU(8022KM)/START MOT (8KA)

with the LRU TROUBLE SHOOT DATA menu information: NO LRU FAULT DETECTED Fault Code Number: 212

EFF: 232-232, 247-248, 252-252,

49-00-00

Page 260

TROUBLE SHOOTING MANUAL

- replace the DE-OILING SOLENOID VALVE (8083KM) if the shutdown occurred when the APU was cold soaked (Ref. AMM TASK 49-91-49-000-001) and (Ref. AMM TASK 49-91-49-400-001).
- (1) If the fault continues:
 - replace the STARTER MOTOR (8KA) (Ref. AMM TASK 49-42-51-000-005) and (Ref. AMM TASK 49-42-51-400-005).
- (2) If the fault continues:
 - replace the FUEL CONTROL UNIT (8022KM) (Ref. AMM TASK 49-32-11-000-001) and (Ref. AMM TASK 49-32-11-400-001).
- (3) If the fault continues:

(only if the fault has occured in flight)

- replace the COMPRESSOR INLET-PRESSURE TRANSDUCER (8048KM) (Ref. AMM TASK 49-51-18-000-001) and (Ref. AMM TASK 49-51-18-400-001).
- (4) If the fault continues:
 - replace the FLOW DIVIDER AND DRAIN VALVE ASSY (8024KM) (Ref. AMM TASK 49-32-12-000-001) and (Ref. AMM TASK 49-32-12-400-001).
- (5) If the fault continues:
 - replace the INLET GUIDE-VANE ACTUATOR (8014KM) (Ref. AMM TASK 49-23-51-000-002) and (Ref. AMM TASK 49-23-51-400-002).

**ON A/C 232-232, 247-248, 252-252,

B. If an APU auto shutdown occurs during the APU ON SPEED and the APU SHUTDOWNS report gives the maintenance message:

START TIME EXCEEDED - IGV ACTR P21 OR STARTER MOTOR 8KA OR FCU:

NO ACCELERATION - IGV ACTR P21 OR STARTER MOTOR 8KA OR FCU:

- replace the FUEL CONTROL UNIT P19 (Ref. AMM TASK 49-32-11-000-001) and (Ref. AMM TASK 49-32-11-400-001).
- (1) If the fault continues:
 - replace the FLOW DIVIDER AND DRAIN VALVE ASSY (Ref. AMM TASK 49-32-12-000-001) and (Ref. AMM TASK 49-32-12-400-001).
- (2) If the fault continues:
 - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-001) and (Ref. AMM TASK 49-61-34-400-001).
- C. Do the test given in para. 3.

EFF: 232-232, 247-248, 252-252,

49-00-00

Page 261

TROUBLE SHOOTING MANUAL

TASK 49-00-00-810-821

APU AUTO SHUT DOWN - NO FLAME, Ignition System -, or Fuel Control Unit -, or ECB 59KD - Fault (GTCP 36-300)

1. Possible Causes

- IGNITER PLUG
- IGNITION UNIT P10
- OIL PUMP
- FUEL CONTROL UNIT
- FLOW DIVIDER AND DRAIN VALVE ASSY
- PRIMARY FUEL NOZZLE AND MANIFOLD
- SECONDARY FUEL NOZZLE AND MANIFOLD
- ECB (59KD)
- IGNITER PLUG (8031KM)
- IGNITION UNIT (8030KM)
- OIL PUMP (8080KM)
- FUEL CONTROL UNIT (8022KM)
- FLOW DIVIDER AND DRAIN VALVE ASSY (8024KM)
- PRIMARY FUEL NOZZLE AND MANIFOLD (8020KM)
- SECONDARY FUEL NOZZLE AND MANIFOLD (8021KM)

2. Job Set-up Information

A. Referenced Information

REFERENCE		DESIGNATION		
	20 22 00 740 004	Occupational Total of the ABU Field Bins Contained		
AMM	28-22-00-710-001	Operational Test of the APU Fuel-Pump System on		
		Ground to Purge the Fuel Line		
AMM	49-00-00-710-004	Operational Test of the APU (4005KM) (GTCP 36-300)		
AMM	49-31-41-000-001	Removal of the Primary Fuel Nozzle and Manifold		
		(8020KM) (GTCP 36-300)		
AMM	49-31-41-400-001	Installation of the Primary Fuel Nozzle and Manifold		
		(8020KM) (GTCP 36-300)		
AMM	49-32-11-000-001	Removal of the Fuel Control Unit (FCU) (8022KM) (GTCP		
		36-300)		
AMM	49-32-11-400-001	Installation of the Fuel Control Unit (FCU) (8022KM)		
,	7, 32 11 100 00 1	(GTCP 36-300)		
AMM	49-32-12-000-001	Removal of the Flow Divider and Drain Valve Assembly		
Altin	47-32-12-000-001	(8023KM) (GTCP 36-300)		
	/0.72.42./00.004	,		
AMM	49-32-12-400-001	Installation of the Flow Divider and Drain Valve		
		Assembly (8023KM) (GTCP 36-300)		
AMM	49-41-38-000-001	Removal of the Ignition Unit (8030KM) (GTCP 36-300)		
AMM	49-41-38-400-001	Installation of the Ignition Unit (8030KM) (GTCP		
		36-300)		
AMM	49-41-41-000-001	Removal of the Igniter Plug (8031KM) (GTCP 36-300)		
AMM	49-41-41-400-001	Installation of the Igniter Plug (8031KM) (GTCP		
		36-300)		
		36-300)		

EFF: 232-232, 247-248, 252-252,

49-00-00 Page 262 Config-2 May 01/08

TROUBLE SHOOTING MANUAL

REFERENCE		DESIGNATION
AMM	49-41-43-000-001	Removal of the Electrical Lead - Igniter Plug (GTCP 36-300)
AMM	49-41-43-400-001	<pre>Installation of the Electrical Lead - Igniter Plug (GTCP 36-300)</pre>
AMM	49-61-34-000-001	Removal of the Electronic Control Box (ECB) (59KD) (GTCP 36-300)
AMM	49-61-34-400-001	<pre>Installation of the Electronic Control Box (ECB) (59KD) (GTCP 36-300)</pre>
AMM	49-91-45-000-001	Removal of the Oil Pump (8080KM) (GTCP 36-300)
AMM	49-91-45-400-001	Installation of the Oil Pump (8080KM) (GTCP 36-300)

3. Fault Confirmation

- A. Purging of the APU Fuel Feed-Line and Test
 - (1) Purge the APU fuel-feed line (Ref. AMM TASK 28-22-00-710-001).

NOTE: If the fuel supply to the APU is not correct, do the applicable troubleshooting procedure(s) in the Chapter 28.

(2) Do the operational test of the APU (Ref. AMM TASK 49-00-00-710-004).

4. Fault Isolation

A. If an APU auto shutdown occurs during the APU start sequence and the APU SHUTDOWNS report gives the maintenance message:

NO FLAME - CHECK IGNITION SYSTEM OR FCU OR ECB 59KD:

- do a check at the APU compartment drain-mast for fuel drain.
- (2) If there is fuel drain:
 - replace the IGNITER PLUG (Ref. AMM TASK 49-41-41-000-001) and (Ref. AMM TASK 49-41-41-400-001).
- (3) If the fault continues:
 - replace the IGNITER PLUG ELECTRICAL-LEAD (Ref. AMM TASK 49-41-43-000-001) and (Ref. AMM TASK 49-41-43-400-001).
- (4) If the fault continues:
 - replace the IGNITION UNIT P10 (Ref. AMM TASK 49-41-38-000-001) and (Ref. AMM TASK 49-41-38-400-001).

EFF: 232-232, 247-248, 252-252,

49-00-00

Page 263

TROUBLE SHOOTING MANUAL

- (5) If the fault continues:
 - remove the FUEL CONTROL UNIT P19 (Ref. AMM TASK 49-32-11-000-001),
 - NOTE: TURN THE MANUAL DRIVE SHAFT OF THE STARTER MOTOR WITH A TORQUE WRENCH. THE TORQUE LIMIT IS 29 Lbf.ft (3.93 m.dan). DO NOT TURN THE SHAFT WITH A TORQUE MORE THAN THE LIMIT. A TORQUE MORE THAN THE LIMIT WILL DAMAGE THE COMPONENT.
 - to make sure that the oil pump input-shaft is not broken, turn the manual drive shaft of the starter motor (8KA) in a counterclockwise direction (the direction of the arrow on the housing) and make sure that the oil pump output-shaft (which drives the FCU) turns constantly.
 - (a) If the oil pump output-shaft does not turn constantly (the oil pump input-shaft is broken):
 - replace the OIL PUMP (Ref. AMM TASK 49-91-45-000-001) and (Ref. AMM TASK 49-91-45-400-001),
 - install a serviceable FUEL CONTROL UNIT P19 (Ref. AMM TASK 49-32-11-400-001).
 - 1 If the oil pump output-shaft turns constantly (the oil pump input-shaft is not broken):
 - install a new FUEL CONTROL UNIT (Ref. AMM TASK 49-32-11-400-001).
 - (b) If the fault continues:
 - replace the FLOW DIVIDER AND DRAIN VALVE ASSY (Ref. AMM TASK 49-32-12-000-001) and (Ref. AMM TASK 49-32-12-400-001).
 - (c) If the fault continues:
 - replace the PRIMARY FUEL NOZZLE AND MANIFOLD (Ref. AMM TASK 49-31-41-000-001) and (Ref. AMM TASK 49-31-41-400-001).
 - replace the SECONDARY FUEL NOZZLE AND MANIFOLD (Ref. AMM TASK 49-31-41-000-001) and (Ref. AMM TASK 49-31-41-400-001).
 - (d) If the fault continues:
 - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-001) and (Ref. AMM TASK 49-61-34-400-001).

**ON A/C 232-232, 247-248, 252-252,

Post SB 49-1073 For A/C 232-232,247-248,252-252,

A. If an APU auto shutdown occurs during the APU start sequence and the APU SHUTDOWNS report gives the maintenance message:

NO FLAME - CHECK IGNITION SYSTEM/FCU (8022KM)/ECB (59KD)

with the LRU TROUBLE SHOOT DATA menu information: NO LRU FAULT DETECTED

EFF: 232-232, 247-248, 252-252,

49-00-00

Page 264

TROUBLE SHOOTING MANUAL

Fault Code Number: 209

- do a check at the APU compartment drain-mast for fuel drain.
- (2) If there is fuel drain:
 - replace the IGNITER PLUG (8031KM) (Ref. AMM TASK 49-41-41-000-001) and (Ref. AMM TASK 49-41-41-400-001).
- (3) If the fault continues:
 - replace the IGNITION UNIT (8030KM) (Ref. AMM TASK 49-41-38-000-001) and (Ref. AMM TASK 49-41-38-400-001).
- (4) If the fault continues:
 - replace the IGNITER PLUG ELECTRICAL-LEAD (8032KM) (Ref. AMM TASK 49-41-43-000-001) and (Ref. AMM TASK 49-41-43-400-001).
- (5) If the fault continues:
 - remove the FUEL CONTROL UNIT P19 (8022KM) (Ref. AMM TASK 49-32-11-000-001),
 - NOTE: TURN THE MANUAL DRIVE SHAFT OF THE STARTER MOTOR WITH A TORQUE WRENCH. THE TORQUE LIMIT IS 29 lbf.ft (3.93 m.dan). DO NOT TURN THE SHAFT WITH A TORQUE MORE THAN THE LIMIT. A TORQUE MORE THAN THE LIMIT WILL DAMAGE THE COMPONENT.
 - to make sure that the oil pump input-shaft is not broken, turn the manual drive shaft of the starter motor (8KA) in a counterclockwise direction (the direction of the arrow on the housing) and make sure that the oil pump output-shaft (which drives the FCU) turns constantly.
 - (a) If the oil pump output-shaft does not turn constantly (the oil pump input-shaft is broken):
 - replace the OIL PUMP (8080KM) (Ref. AMM TASK 49-91-45-000-001) and (Ref. AMM TASK 49-91-45-400-001),
 - install a serviceable FUEL CONTROL UNIT (8022KM) (Ref. AMM TASK 49-32-11-400-001).
 - 1 If the oil pump output-shaft turns constantly (the oil pump input-shaft is not broken):
 - install a new FUEL CONTROL UNIT (8022KM) (Ref. AMM TASK 49-32-11-400-001).
 - (b) If the fault continues:
 - replace the FLOW DIVIDER AND DRAIN VALVE ASSY (8024KM) (Ref. AMM TASK 49-32-12-000-001) and (Ref. AMM TASK 49-32-12-400-001).

EFF: 232-232, 247-248, 252-252,

49-00-00

Page 265

TROUBLE SHOOTING MANUAL

- (c) If the fault continues:
 - replace the PRIMARY FUEL NOZZLE AND MANIFOLD (8020KM) (Ref. AMM TASK 49-31-41-400-001).
 - replace the SECONDARY FUEL NOZZLE AND MANIFOLD (8021KM) (Ref. AMM TASK 49-31-41-000-001) and (Ref. AMM TASK 49-31-41-400-001).
- (d) If the fault continues:
 - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-001) and (Ref. AMM TASK 49-61-34-400-001).

**ON A/C 232-232, 247-248, 252-252,

B. Do the operational test of the APU (Ref. AMM TASK 49-00-00-710-004).

EFF: 232-232, 247-248, 252-252,

49-00-00 Pa

Page 266 Config-2 May 01/08

TROUBLE SHOOTING MANUAL

TASK 49-00-00-810-822

APU AUTO SHUT DOWN - REVERSE FLOW, Differential Pressure Transducer P24 -, or Total Pressure Transducer P23 -, or Surge Ctl Valve - Fault (GTCP 36-300)

1. Possible Causes

- ECB (59KD)
- PNEUMAIC-SENSOR-ASSY
- SURGE CONTROL VALVE P18
- LOAD-COMPRESSOR INLET-TEMPERATURE SENSOR P22
- wiring
- PNEUMAIC-SENSOR-ASSY (8039KM)
- SURGE CONTROL VALVE (8058KM)
- LOAD-COMPRESSOR INLET-TEMPERATURE SENSOR (8011KM)

2. Job Set-up Information

A. Referenced Information

REFE	RENCE	DESIGNATION
AMM	49-00-00-710-004	Operational Test of the APU (4005KM) (GTCP 36-300)
AMM	49-23-15-000-001	Removal of the Load-Compressor Inlet
		Temperature-Sensor (8011KM) ((GTCP 36-300))
AMM	49-23-15-400-001	Installation of the Load-Compressor Inlet
		Temperature-Sensor (8011KM) ((GTCP 36-300))
AMM	49-51-13-000-001	Removal of the Pneumatic Sensor Assy (GTCP 36-300)
AMM	49-51-13-400-001	Installation of the Pneumatic Sensor Assy (GTCP
		36-300)
AMM	49-51-52-000-002	Removal of the Surge Control Valve (8058KM) (GTCP
		36-300)
AMM	49-51-52-400-002	Installation of the Surge Control Valve (8058KM)
		(GTCP 36-300)
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)
4.014	10 (4102	(59KD) (GTCP 36-300)
ASM	49-61/02	

3. Fault Confirmation

A. Do the operational test of the APU (Ref. AMM TASK 49-00-00-710-004).

EFF: 232-232, 247-248, 252-252,

49-00-00

Page 267

Config-2 May 01/08

TROUBLE SHOOTING MANUAL

4. Fault Isolation

A. If an APU auto shutdown occurs and the APU SHUTDOWNS report gives the maintenance message:

REVERSE FLOW - DP XDCR P24 OR PT XDCR P23 OR SCV:

NOTE : If an APU auto shutdown occurs with the Bleed Ctl Valve closed (NO BLEED Demand) then start with step (2) (LCIT P22 Replacement).

- replace the PNEUMAIC-SENSOR-ASSY

(Ref. AMM TASK 49-51-13-000-001) (Ref. AMM TASK 49-51-13-400-001).

(1) If the fault continues:

- replace the SURGE CONTROL VALVE P18

(Ref. AMM TASK 49-51-52-000-002) (Ref. AMM TASK 49-51-52-400-002).

- (a) If the fault continues:
 - replace the LOAD-COMPRESSOR INLET-TEMPERATURE SENSOR P22

(Ref. AMM TASK 49-23-15-000-001) (Ref. AMM TASK 49-23-15-400-001).

- (b) If the fault continues:
 - do a check and repair the wiring from the ECB (59KD) AB/E6, E7 to the LOAD-COMPRESSOR INLET-TEMPERATURE SENSOR P22 studs/alumel, chromel (Ref. ASM 49-61/02).
- (c) If the fault continues:
 - replace the ECB (59KD)

(Ref. AMM TASK 49-61-34-000-001) (Ref. AMM TASK 49-61-34-400-001).

**ON A/C 232-232, 247-248, 252-252,

Post SB 49-1073 For A/C 232-232,247-248,252-252,

A. If an APU auto shutdown occurs and the APU SHUTDOWNS report gives the maintenance message:

REVERSE FLOW - PRESS XDCRS (8048KM)/(8043KM)/SCV (8058KM)

with the LRU TROUBLE SHOOT DATA menu information:

EFF: 232-232, 247-248, 252-252,

49-00-00

Page 268

Config-2 May 01/08

TROUBLE SHOOTING MANUAL

NO LRU FAULT DETECTED Fault Code Number: 217

NOTE : If an APU auto shutdown occurs with the Bleed Ctl Valve closed (NO BLEED Demand) then start with step (2) (LCIT P22 Replacement).

- replace the PNEUMAIC-SENSOR-ASSY (8039KM)

(Ref. AMM TASK 49-51-13-000-001) (Ref. AMM TASK 49-51-13-400-001).

(1) If the fault continues:

- replace the SURGE CONTROL VALVE (8058KM)

(Ref. AMM TASK 49-51-52-000-002) (Ref. AMM TASK 49-51-52-400-002).

(a) If the fault continues:

- replace the LOAD-COMPRESSOR INLET-TEMPERATURE SENSOR (8011KM)

(Ref. AMM TASK 49-23-15-000-001) (Ref. AMM TASK 49-23-15-400-001).

- (b) If the fault continues:
 - do a check and repair the wiring from the ECB (59KD) AB/E6, E7 to the LOAD-COMPRESSOR INLET-TEMPERATURE SENSOR (8011KM) studs/alumel, chromel (Ref. ASM 49-61/02).
- (c) If the fault continues:
 replace the ECB (59KD)

(Ref. AMM TASK 49-61-34-000-001) (Ref. AMM TASK 49-61-34-400-001).

**ON A/C 232-232, 247-248, 252-252,

B. Do the test given in para. 3.

EFF: 232-232, 247-248, 252-252,

49-00-00

Page 269

TROUBLE SHOOTING MANUAL

TASK 49-00-00-810-823

APU AUTO SHUT DOWN - GENERATOR HIGH OIL TEMP, Generator Scavenge Pump -, or APU Generator -, or ECB 59KD - Fault (GTCP 36-300)

1. Possible Causes

- GEN-APU (8XS)
- LUBE-PUMP OIL FILTER
- GENERATOR OIL FILTER
- GENERATOR SCAVENGE PUMP
- ECB (59KD)
- wiring
- AUXILIARY POWER UNIT (4005KM)
- GENERATOR SCAVENGE PUMP (8085KM)

2. Job Set-up Information

A. Referenced Information

REFERENCE		DESIGNATION
AMM	24-23-51-000-001	Removal of the APU Generator 8XS
AMM	24-23-51-400-001	Installation of the APU Generator 8XS
AMM	49-00-00-710-004	Operational Test of the APU (4005KM) (GTCP 36-300)
AMM	49-11-11-000-001	Removal of the Auxiliary Power Unit (APU) - 4005KM (GTCP 36-300)
AMM	49-11-11-400-001	Installation of the Auxiliary Power Unit (APU) - 4005KM (GTCP 36-300)
AMM	49-61-34-000-001	Removal of the Electronic Control Box (ECB) (59KD) (GTCP 36-300)
AMM	49-61-34-400-001	<pre>Installation of the Electronic Control Box (ECB) (59KD) (GTCP 36-300)</pre>
AMM	49-91-52-000-001	Removal of the Generator Scavenge Pump (8085KM) (GTCP 36-300)
AMM	49-91-52-400-001	<pre>Installation of the Generator Scavenge Pump (8085KM) (GTCP 36-300)</pre>
ASM	49-61/02	

3. Fault Confirmation

A. Check/Test

- (1) Before you start the APU for the operational test, do the subsequent checks:
 - (a) Do a check and make sure that the cooling fan inlet duct, the oil cooler inlet duct and the oil cooler outlet duct are correctly attached and in the correct condition.
 - correct/replace as necessary.

EFF: 232-232, 247-248, 252-252,

49-00-00 Page 270 Config-2 May 01/08

TROUBLE SHOOTING MANUAL

- (b) Do a check and make sure that the LUBE-PUMP OIL FILTER and the GENERATOR OIL FILTER are not protruded.
- (2) Do the operational test of the APU (Ref. AMM TASK 49-00-00-710-004).

NOTE: Operate the APU for min. 15 minutes under full load. This makes sure that the oil temperature increases sufficiently.

4. Fault Isolation

A. If an APU shutdown occurs during the operational test of the APU and the test gives the maintenance message:

GENERATOR HIGH OIL TEMP - GEN SCAVENGE PUMP OR GENERATOR 8XS OR ECB 59KD:

- replace the GEN-APU (8XS) (Ref. AMM TASK 24-23-51-000-001) and (Ref. AMM TASK 24-23-51-400-001).
- (1) If the fault continues:
 - replace the GENERATOR SCAVENGE PUMP (Ref. AMM TASK 49-91-52-000-001) and (Ref. AMM TASK 49-91-52-400-001).
- (2) If the fault continues:
 - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-001) and (Ref. AMM TASK 49-61-34-400-001).
- (3) If the fault continues:
 - do a check and repair the wiring from the ECB (59KD) AB/C3, C4 to the APU GENERATOR (8XS) P4/3, 4 (Ref. ASM 49-61/02)
- (4) If the fault continues:
 - replace the AUXILIARY POWER UNIT (4005KM) (Ref. AMM TASK 49-11-11-000-001) and (Ref. AMM TASK 49-11-11-400-001).

**ON A/C 232-232, 247-248, 252-252,

Post SB 49-1073 For A/C 232-232,247-248,252-252,

A. If an APU shutdown occurs during the operational test of the APU and the test gives the maintenance message:

GENERATOR HIGH OIL TEMP - GEN SCAVENGE PMP(8085KM)/GEN (8XS)/ECB 59KD:

with the LRU TROUBLE SHOOT DATA menu information: NO LRU FAULT DETECTED Fault Code Number: 213

- replace the GEN-APU (8XS) (Ref. AMM TASK 24-23-51-000-001) and (Ref. AMM TASK 24-23-51-400-001).

EFF: 232-232, 247-248, 252-252,

49-00-00

Page 271 Config-2 May 01/08

TROUBLE SHOOTING MANUAL

- (1) If the fault continues:
 - replace the GENERATOR SCAVENGE PUMP (8085KM) (Ref. AMM TASK 49-91-52-000-001) and (Ref. AMM TASK 49-91-52-400-001).
- (2) If the fault continues:
 - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-001) and (Ref. AMM TASK 49-61-34-400-001).
- (3) If the fault continues:
 - do a check and repair the wiring from the ECB (59KD) AB/C3, C4 to the APU GENERATOR (8XS) P4/3, 4 (Ref. ASM 49-61/02)
- (4) If the fault continues:
 - replace the AUXILIARY POWER UNIT (4005KM) (Ref. AMM TASK 49-11-11-000-001) and (Ref. AMM TASK 49-11-11-400-001).

**ON A/C 232-232, 247-248, 252-252,

B. Do the test given in para. 3.

EFF: 232-232, 247-248, 252-252,

49-00-00

Page 272

TROUBLE SHOOTING MANUAL

TASK 49-00-00-810-824

APU AUTO SHUT DOWN - IGV FAILURE, Inlet Guide Vanes Fault (GTCP36-300)

1. Possible Causes

- Air-in-Fuel
- fuel leaks
- INLET GUIDE-VANE ACTUATOR P21
- FUEL CONTROL UNIT P19
- wiring
- ECB (59KD)
- AUXILIARY POWER UNIT (4005KM)
- INLET GUIDE-VANE ACTUATOR (8014KM)
- AIR RELEASE VALVE 86QM

2. Job Set-up Information

A. Referenced Information

REFERENCE		DESIGNATION
AMM	28-21-00-710-008	Operational Check of Air Release Valves to Ensure Adequate Fuel Flow Under Suction Feed Conditions
AMM	28-21-41-000-001	Removal of the Low Pressure (LP) Air-Release-Valve 86QM(87QM)
AMM	28-21-41-400-001	<pre>Installation of the Low Pressure (LP) Air-Release-Valve 86QM(87QM)</pre>
AMM	28-22-00-710-001	Operational Test of the APU Fuel-Pump System on Ground to Purge the Fuel Line
AMM	49-00-00-710-004	Operational Test of the APU (4005KM) (GTCP 36-300)
AMM	49-11-11-000-001	Removal of the Auxiliary Power Unit (APU) - 4005KM (GTCP 36-300)
AMM	49-11-11-400-001	<pre>Installation of the Auxiliary Power Unit (APU) - 4005KM (GTCP 36-300)</pre>
AMM	49-23-51-000-002	Removal of the Inlet Guide Vane-Actuator (8014KM) (GTCP 36-300)
AMM	49-23-51-400-002	<pre>Installation of the Inlet Guide Vane-Actuator (8014KM) (GTCP 36-300)</pre>
AMM	49-32-11-000-001	Removal of the Fuel Control Unit (FCU) (8022KM) (GTCP 36-300)
AMM	49-32-11-400-001	Installation of the Fuel Control Unit (FCU) (8022KM) (GTCP 36-300)
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)
ASM	49-61/02	

EFF: 232-232, 247-248, 252-252,

49-00-00

Page 273

Config-2 May 01/08

TROUBLE SHOOTING MANUAL

3. Fault Confirmation

- A. Check/Test
 - (1) Do a check on the APU Shutdowns report if a

NO FLAME - LOW FUEL PRESSURE CHECK APU FUEL SUPPLY autoshutdown or a

NO ACCELERATION - LOW FUEL PRESSURE CHECK APU FUEL SUPPLY autoshutdown

has occured BEFORE the IGV FAILURE - INLET GUIDE VANE ACTR P21 autoshutdown.

- (2) Purge the APU fuel feed-line (Ref. AMM TASK 28-22-00-710-001).
 - (a) If you find Air-in-Fuel then purge the fuel line from the Fuel Control Unit to the IGV-Actuator (Ref. AMM TASK 49-32-11-000-001) and (Ref. AMM TASK 49-32-11-400-001).
- (3) Do the operational test of the APU (Ref. AMM TASK 49-00-00-710-004).

NOTE : During the operational test of the APU, examine carefully the fuel lines from the fuel control unit to the inlet guide-vane actuator:

- fuel leaks are not permitted, correct/replace as necessary.

**ON A/C 232-232, 247-248, 252-252,

Post SB 49-1073 For A/C 232-232,247-248,252-252,

- A. Check/Test
 - (1) Do the operational test of the APU (Ref. AMM TASK 49-00-00-710-004).

**ON A/C 232-232, 247-248, 252-252,

4. Fault Isolation

A. If there is no record of a

 ${\bf NO}$ FLAME - LOW FUEL PRESSURE CHECK APU FUEL SUPPLY autoshutdown or a

NO ACCELERATION - LOW FUEL PRESSURE CHECK FUEL SUPPLY autoshutdown

in the APU Shutdowns report and an APU shutdown occurs during the APU operational test and the APU SHUTDOWNS report gives the maintenance message:

IGV FAILURE - INLET GUIDE VANE ACTR P21:

EFF: 232-232, 247-248, 252-252,

49-00-00

Page 274

Config-2 May 01/08

TROUBLE SHOOTING MANUAL

- remove the INLET GUIDE VANE ACTUATOR P21 (Ref. AMM TASK 49-23-51-000-002) and do a push/pull test on the IGVs to check the IGV movement:
 - . make sure that the IGV has a travel range of 1 in. (25.4 mm),
 - . measure the force of the IGV movement.
- (1) If a force less than 30lbf (13.34daN) is necessary to move the IGVs and the travel range is OK:
 - replace the INLET GUIDE-VANE ACTUATOR P21 (Ref. AMM TASK 49-23-51-000-002) and (Ref. AMM TASK 49-23-51-400-002).
 - (a) If the fault continues:
 - replace the FUEL CONTROL UNIT P19 (Ref. AMM TASK 49-32-11-000-001) and (Ref. AMM TASK 49-32-11-400-001).
 - (b) If the fault continues:
 - do a check and repair the wiring from the ECB (59KD) AB/G8, G9, E8, E9, E11, E12 to the INLET GUIDE-VANE ACTUATOR P21/1, 2, 5, 6, 3, 4 (Ref. ASM 49-61/02).
 - (c) If the fault continues:
 - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-001) and (Ref. AMM TASK 49-61-34-400-001).
- (2) If a force more than 30lbf (13.34daN) is necessary to move the IGVs or the travel range is NOT OK:
 - replace the AUXILIARY POWER UNIT (4005KM) (Ref. AMM TASK 49-11-11-000-001) and (Ref. AMM TASK 49-11-11-400-001).

**ON A/C 232-232, 247-248, 252-252,

Post SB 49-1073 For A/C 232-232,247-248,252-252,

A. If an APU shutdown occurs during the APU operational test and the APU SHUTDOWNS report gives the maintenance message:

IGV FAILURE - IGV ACTUATOR (8014KM)

with the LRU TROUBLE SHOOT DATA menu information:

IGV TORQUE MOTOR SHOWS OPEN CIRCUIT

Fault Code Number: 103 or 109

or

IGV TORQUE MOTOR SHOWS SHORT CIRCUIT

Fault Code Number: 104 or 110

- replace the INLET GUIDE-VANE ACTUATOR (8014KM) (Ref. AMM TASK 49-23-51-000-002) and (Ref. AMM TASK 49-23-51-400-002).
- (1) If the fault continues:
 - do a check and repair the wiring from the ECB (59KD) AB/G8, G9, E8, E9, E11, E12 to the INLET GUIDE-VANE ACTUATOR P21/1, 2, 5, 6, 3, 4 (Ref. ASM 49-61/02).

EFF: 232-232, 247-248, 252-252,

49-00-00 Page 275 Config-2 May 01/08

TROUBLE SHOOTING MANUAL

- (a) If the fault continues:
 - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-001) and (Ref. AMM TASK 49-61-34-400-001).

**ON A/C 232-232, 247-248, 252-252,

B. If a

NO FLAME - LOW FUEL PRESSURE CHECK APU FUEL SUPPLY autoshutdown or a

NO ACCELERATION - LOW FUEL PRESSURE APU FUEL SUPPLY autoshutdown

has been occured before and if an APU shutdown occurs during the APU operational test and the APU SHUTDOWNS report gives the maintenance message:

IGV FAILURE - INLET GUIDE VANE ACTR P21:

- do the operational test of the LH air release valves (Ref. AMM TASK 28-21-00-710-008). If the test is not correct, replace the AIR RELEASE VALVE 86QM (Ref. AMM TASK 28-21-41-000-001) and (Ref. AMM TASK 28-21-41-400-001).
- remove the IGV ACTUATOR (Ref. AMM TASK 49-23-51-000-002).
- do a push/pull test on the IGVs to check the IGV movement.
 - . make sure that the IGV has a travel range of 1 in. (25.4 mm),
 - . measure the force of the IGV movement.
- (1) If a force less than 30 lbf (13.34 m.daN) is necessary to move the IGVs and the travel range is OK:
 - replace the INLET GUIDE-VANE ACTUATOR P21 (Ref. AMM TASK 49-23-51-000-002) and (Ref. AMM TASK 49-23-51-400-002).
 - (a) If the fault continues:
 - replace the FUEL CONTROL UNIT P19 (Ref. AMM TASK 49-32-11-000-001) and (Ref. AMM TASK 49-32-11-400-001).
 - (b) If the fault continues:
 - do a check and repair the wiring from the ECB (59KD) AB/G8, G9, E8, E9, E11, E12 to the INLET GUIDE-VANE ACTUATOR P21/1, 2, 5, 6, 3, 4 (Ref. ASM 49-61/02).
 - (c) If the fault continues:
 - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-001) and (Ref. AMM TASK 49-61-34-400-001).
- (2) If a force more than 30 lbf (13.4 m.daN) is necessary to move the IGVs or the travel range is NOT OK:
 - replace the AUXILIARY POWER UNIT (4005KM) (Ref. AMM TASK 49-11-11-000-001) and (Ref. AMM TASK 49-11-11-400-001).
- C. Do the test as given in the Para. 3.

EFF: 232-232, 247-248, 252-252,

49-00-00

Page 276 Config-2 May 01/08

TROUBLE SHOOTING MANUAL

TASK 49-00-00-810-825

APU AUTO SHUT DOWN - Slow Start Shutdown, Oil Sump Temperature Fault (GTCP 36-300)

1. Possible Causes

- OIL SUMP TEMPERATURE-SENSOR P25
- wiring
- ECB (59KD)
- OIL SUMP TEMPERATURE-SENSOR (8084KM)

2. Job Set-up Information

A. Referenced Information

REFERENCE		DESIGNATION
AMM	49-00-00-710-001	Self-Test of the ECB (59KD) (GTCP 36-300)
AMM	49-61-34-000-001	Removal of the Electronic Control Box (ECB) (59KD) (GTCP 36-300)
AMM	49-61-34-400-001	<pre>Installation of the Electronic Control Box (ECB) (59KD) (GTCP 36-300)</pre>
AMM	49-91-51-000-001	Removal of the Oil Sump Temperature-Sensor (8084KM) (GTCP 36-300)
AMM	49-91-51-400-001	<pre>Installation of the Oil Sump Temperature-Sensor (8084KM) (GTCP 36-300)</pre>
ASM	49-61/02	

3. Fault Confirmation

A. Do the Self Test of the ECB (Ref. AMM TASK 49-00-00-710-001).

4. Fault Isolation

A. If the test gives the maintenance message:

OIL SUMP TEMP SNSR P25

and the previous APU SWHUTDOWNS report gives the maintenance message:

START TIME EXCEEDED - OIL SUMP TEMP SNSR P25 or NO ACCELERATION - OIL SUMP TEMP SNSR P25

- replace the OIL SUMP TEMPERATURE-SENSOR P25 (Ref. AMM TASK 49-91-51-000-001) and (Ref. AMM TASK 49-91-51-400-001).

EFF: 232-232, 247-248, 252-252,

49-00-00

Page 277

TROUBLE SHOOTING MANUAL

- (1) If the fault continues:
 - do a check and repair the wiring from the ECB (59KD) AB/C2, D2 to the OIL SUMP TEMPERATURE SENSOR P25/1, 2 (Ref. ASM 49-61/02).
- (2) If the fault continues:
 - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-001) and (Ref. AMM TASK 49-61-34-400-001).

**ON A/C 232-232, 247-248, 252-252,

Post SB 49-1073 For A/C 232-232,247-248,252-252,

A. If the test gives the maintenance message:

OIL SUMP TEMP SENSOR (8084KM)

with LRU TROUBLE SHOOTING DATA menu information OIL SUMP TEMP SENSOR SHOWS OUT OF RANGE HIGH Fault Code Number: 055

and the previous APU SHUTDOWNS report gives the maintenance message:

NO ACCELERATION - OIL SUMP TEMP SENSOR (8084KM)

- replace the OIL SUMP TEMPERATURE-SENSOR (8084KM) (Ref. AMM TASK 49-91-51-000-001) and (Ref. AMM TASK 49-91-51-400-001).
- (1) If the fault continues:
 - do a check and repair the wiring from the ECB (59KD) AB/C2, D2 to the OIL SUMP TEMPERATURE SENSOR (8084KM) P25/1, 2 (Ref. ASM 49-61/02).
- (2) If the fault continues:
 - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-001) and (Ref. AMM TASK 49-61-34-400-001).

**ON A/C 232-232, 247-248, 252-252,

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

EFF: 232-232, 247-248, 252-252,

49-00-00

Page 278

TROUBLE SHOOTING MANUAL

TASK 49-00-00-810-826

APU AUTO SHUT DOWN - Slow Start Shutdown, De-Oiling Solenoid Fault (GTCP 36-300)

- 1. Possible Causes
 - DE-OILING SOLENOID VALVE P15
 - wiring
 - ECB (59KD)
 - DE-OILING SOLENOID VALVE (8083KM)
- 2. Job Set-up Information
 - A. Referenced Information

REFERENCE		DESIGNATION	
AMM	49-00-00-710-001	Self-Test of the ECB (59KD) (GTCP 36-300)	
AMM	49-61-34-000-001	Removal of the Electronic Control Box (ECB) (59KD) (GTCP 36-300)	
AMM	49-61-34-400-001	<pre>Installation of the Electronic Control Box (ECB) (59KD) (GTCP 36-300)</pre>	
AMM	49-91-49-000-001	Removal of the De-Oiling Solenoid Valve (8083KM) (GTCP 36-300)	
AMM	49-91-49-400-001	Installation of the De-Oiling Solenoid Valve (8083KM) (GTCP 36-300)	
ASM	49-61/02		

- 3. Fault Confirmation
 - A. Do the Self Test of the ECB (Ref. AMM TASK 49-00-00-710-001).
- 4. Fault Isolation
 - A. If the test gives the maintenance message:

DE-OILING SOL P15:

and the previous APU SHUTDOWNS report gives the maintenance message

START TIME EXCEEDED - DE-OILING SOL P15 or NO ACCELERATION - DE-OILING SOL P15

- replace the DE-OILING SOLENOID VALVE P15 (Ref. AMM TASK 49-91-49-000-001) and (Ref. AMM TASK 49-91-49-400-001).

EFF: 232-232, 247-248, 252-252,

49-00-00

Page 279

Config-2 May 01/08

TROUBLE SHOOTING MANUAL

- (1) If the fault continues:
 - do a check and repair the wiring from the ECB (59KD) AB/J4, J5 to the DE-OILING SOLENOID VALVE P15/1, 2 to the (Ref. ASM 49-61/02).
- (2) If the fault continues:
 - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-001) and (Ref. AMM TASK 49-61-34-400-001).

**ON A/C 232-232, 247-248, 252-252,

Post SB 49-1073 For A/C 232-232,247-248,252-252,

A. If the test gives the maintenance message:

DEOIL SOLENOID (8083KM)

with the LRU TROUBLE SHOOT DATA menu information:

DEOIL SOLENOID SHOWS OPEN CIRCUIT

Fault Code Number: 133

or

DEOIL SOLENOID SHOWS CIRCUIT FAILURE

Fault Code Number: 134

and the previous APU SHUTDOWNS report gives the maintenance message

NO ACCELERATION - DEOIL SOLENOID (8083KM)

- replace the DE-OILING SOLENOID VALVE (8083KM) (Ref. AMM TASK 49-91-49-000-001) and (Ref. AMM TASK 49-91-49-400-001).
- (1) If the fault continues:
 - do a check and repair the wiring from the ECB (59KD) AB/J4, J5 to the DE-OILING SOLENOID VALVE (8083KM) P15/1, 2 to the (Ref. ASM 49-61/02).
- (2) If the fault continues:
 - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-001) and (Ref. AMM TASK 49-61-34-400-001).

**ON A/C 232-232, 247-248, 252-252,

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

EFF: 232-232, 247-248, 252-252,

49-00-00

Page 280

Config-2 May 01/08

TROUBLE SHOOTING MANUAL

TASK 49-00-00-810-827

Differential Pressure-Sensor Fault (GTCP 36-300)

1. Possible Causes

- DIFFERENTIAL PRESSURE TRANSDUCER P24
- VARIABLE VOLUME CHAMBER
- DIFFERENTIAL PRESSURE TRANSDUCER (8043KM)
- wiring
- ECB (59KD)

2. Job Set-up Information

A. Referenced Information

REFERENCE		DESIGNATION
AMM	49-00-00-710-001	Self-Test of the ECB (59KD) (GTCP 36-300)
AMM	49-00-00-710-004	Operational Test of the APU (4005KM) (GTCP 36-300)
AMM	49-51-14-000-001	Removal of the Airflow Sensor (GTCP 36-300)
AMM	49-51-14-400-001	Installation of the Airflow Sensor (GTCP 36-300)
AMM	49-51-16-000-001	Removal of the Differential Pressure Transducer (8043KM) (GTCP 36-300)
AMM	49-51-16-400-001	<pre>Installation of the Differential Pressure Transducer (8043KM) (GTCP 36-300)</pre>
AMM	49-61-34-000-001	Removal of the Electronic Control Box (ECB) (59KD) (GTCP 36-300)
AMM	49-61-34-400-001	<pre>Installation of the Electronic Control Box (ECB) (59KD) (GTCP 36-300)</pre>
ASM	49-61/02	

3. Fault Confirmation

A. Test

- (1) Do the self-test of the ECB (Ref. AMM TASK 49-00-00-710-001).
- (2) Do the operational test of the APU (Ref. AMM TASK 49-00-00-710-004).

**ON A/C 232-232, 247-248, 252-252,

Post SB 49-1073 For A/C 232-232,247-248,252-252,

A. Do the operational test of the APU (Ref. AMM TASK 49-00-00-710-004).

EFF: 232-232, 247-248, 252-252,

49-00-00

Page 281

Config-2 May 01/08

TROUBLE SHOOTING MANUAL

**ON A/C 232-232, 247-248, 252-252,

4. Fault Isolation

A. If the operational test gives the maintenance message:

DIFFERENTIAL PRESS XDCR P24:

- replace the DIFFERENTIAL PRESSURE TRANSDUCER P24 (Ref. AMM TASK 49-51-16-000-001) and (Ref. AMM TASK 49-51-16-400-001).
- (1) If the fault continues:
 - replace the VARIABLE VOLUME CHAMBER (Ref. AMM TASK 49-51-14-000-001) and (Ref. AMM TASK 49-51-14-400-001).

NOTE: The replacement of the Variable Volume Chamber is part of the R/I procedure of the Airflow Sensor.

**ON A/C 232-232, 247-248, 252-252,

Post SB 49-1073 For A/C 232-232,247-248,252-252,

- A. Maintenance Action
 - (1) If the operational test gives the maintenance message:

DIFFERENTIAL PRESS XDCR (8043KM)

with the LRU TROUBLE SHOOT DATA menu information: DELTA PRESSURE SENSOR SHOWS OUT OF RANGE DRIFT Fault Code Number: 016 or 017

- replace the DIFFERENTIAL PRESSURE TRANSDUCER (8043KM) (Ref. AMM TASK 49-51-16-000-001) and (Ref. AMM TASK 49-51-16-400-001).
- (a) If the fault continues:
 - replace the VARIABLE VOLUME CHAMBER (Ref. AMM TASK 49-51-14-000-001) and (Ref. AMM TASK 49-51-14-400-001).

NOTE : The replacement of the Variable Volume Chamber is part of the R/I procedure of the Airflow Sensor.

(2) If the operational test gives the maintenance message:

DIFFERENTIAL PRESS XDCR (8043KM)

with the LRU TROUBLE SHOOT DATA menu information: DELTA PRESSURE SENSOR SHOWS OUT OF RANGE HIGH

EFF: 232-232, 247-248, 252-252,

49-00-00

Page 282

Config-2 May 01/08

TROUBLE SHOOTING MANUAL

Fault Code Number: 019

or

DELTA PRESSURE SENSOR SHOWS OUT OF RANGE LOW

Fault Code Number: 018

- replace the DIFFERENTIAL PRESSURE TRANSDUCER (8043KM) (Ref. AMM TASK 49-51-16-000-001) and (Ref. AMM TASK 49-51-16-400-001).
- (3) If the fault continues:
 - do a check and repair the wiring from the ECB (59KD) AB/A1, A4, B2, B3 to the DIFFERENTIAL PRESSURE TRANSDUCER (8043KM) P24/1, 2, 3, 4 (Ref. ASM 49-61/02).
- (4) If the fault continues:
 - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-001) and (Ref. AMM TASK 49-61-34-400-001).

**ON A/C 232-232, 247-248, 252-252,

B. If the self-test of the ECB gives the maintenance message:

DIFFERENTIAL PRESS XDCR P24:

- replace the DIFFERENTIAL PRESSURE TRANSDUCER P24 (Ref. AMM TASK 49-51-16-000-001) and (Ref. AMM TASK 49-51-16-400-001).
- (1) If the fault continues:
 - do a check and repair the wiring from the ECB (59KD) AB/A1, A4, B2, B3 to the DIFFERENTIAL PRESSURE TRANSDUCER P24/1, 2, 3, 4 (Ref. ASM 49-61/02).
- (2) If the fault continues:
 - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-001) and (Ref. AMM TASK 49-61-34-400-001).
- C. Do the test as given in the Para. 3.

EFF: 232-232, 247-248, 252-252,

49-00-00

Page 283

TROUBLE SHOOTING MANUAL

TASK 49-00-00-810-828

Total Pressure-Sensor Fault (GTCP 36-300)

1. Possible Causes

- TOTAL PRESSURE TRANSDUCER P23
- COMPRESSOR INLET- PRESSURE TRANSDUCER P22
- wiring
- ECB (59KD)
- TOTAL PRESSURE TRANSDUCER (8044KM)

2. Job Set-up Information

A. Referenced Information

REFERENCE		DESIGNATION
AMM	49-00-00-710-004	Operational Test of the APU (4005KM) (GTCP 36-300)
AMM	49-51-17-000-001	Removal of the Total Pressure Sensor (8044KM) (GTCP 36-300)
AMM	49-51-17-400-001	<pre>Installation of the Total Pressure Sensor (8044KM) (GTCP 36-300)</pre>
AMM	49-51-18-000-001	Removal of the Compressor Inlet-Pressure Sensor (GTCP 36-300)
AMM	49-51-18-400-001	<pre>Installation of the Compressor Inlet-Pressure Sensor (GTCP 36-300)</pre>
AMM	49-61-34-000-001	Removal of the Electronic Control Box (ECB) (59KD) (GTCP 36-300)
AMM	49-61-34-400-001	<pre>Installation of the Electronic Control Box (ECB) (59KD) (GTCP 36-300)</pre>
ASM	49-61/02	

3. Fault Confirmation

A. Do the operational test of the APU (Ref. AMM TASK 49-00-00-710-004).

4. Fault Isolation

A. If the test gives the maintenance message:

TOTAL PRESS XDCR P23:

- replace the TOTAL PRESSURE TRANSDUCER P23 (Ref. AMM TASK 49-51-17-000-001) and (Ref. AMM TASK 49-51-17-400-001).
- (1) If the fault continues:
 - replace the COMPRESSOR INLET- PRESSURE TRANSDUCER P22 (Ref. AMM TASK 49-51-18-000-001) and (Ref. AMM TASK 49-51-18-400-001).

EFF: 232-232, 247-248, 252-252,

49-00-00

Page 284

Config-2 May 01/08

TROUBLE SHOOTING MANUAL

- (2) If the fault continues:
 - do a check and repair the wiring from the ECB (59KD) AB/A1, A4, A2,
 A3 to the TOTAL PRESSURE TRANSDUCER P23/1, 2, 3, 4 (Ref. ASM 49-61/02).
- (3) If the fault continues:
 - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-001) and (Ref. AMM TASK 49-61-34-400-001).

**ON A/C 232-232, 247-248, 252-252,

Post SB 49-1073 For A/C 232-232,247-248,252-252,

A. If the test gives the maintenance message:

TOTAL PRESS XDCR (8044KM)

with the LRU TROUBLE SHOOT DATA menu information:

TOTAL PRESSURE SENSOR SHOWS OUT OF RANGE

Fault Code Number: 026

or

TOTAL PRESSURE SENSOR SHOWS OUT OF RANGE HIGH

Fault Code Number: 029

or

TOTAL PRESSURE SENSOR SHOWS OUT OF RANGE LOW

Fault Code Number: 028

- replace the TOTAL PRESSURE TRANSDUCER (8044KM) (Ref. AMM TASK 49-51-17-000-001) and (Ref. AMM TASK 49-51-17-400-001).
- (1) If the fault continues:
 - do a check and repair the wiring from the ECB (59KD) AB/A1, A4, A2, A3 to the TOTAL PRESSURE TRANSDUCER (8044KM) P23/1, 2, 3, 4 (Ref. ASM 49-61/02).
- (2) If the fault continues:
 - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-001) and (Ref. AMM TASK 49-61-34-400-001).

**ON A/C 232-232, 247-248, 252-252,

B. Do the test given in para. 3.

EFF: 232-232, 247-248, 252-252,

49-00-00

Page 285

TROUBLE SHOOTING MANUAL

TASK 49-00-00-810-829

Load Control-Valve Fault (GTCP 36-300)

- 1. Possible Causes
 - LOAD CONTROL VALVE P12
 - wiring
 - ECB (59KD)
 - LOAD CONTROL VALVE (8050KM)
- 2. Job Set-up Information
 - A. Referenced Information

REFERENCE		DESIGNATION	
AMM	49-00-00-710-001	Self-Test of the ECB (59KD) (GTCP 36-300)	
AMM	49-51-51-000-001	Removal of the Bleed Load Control-Valve (8050KM) (GTCP 36-300)	
AMM	49-51-51-400-001	<pre>Installation of the Bleed Load Control-Valve (8050KM) (GTCP 36-300)</pre>	
AMM	49-61-34-000-001	Removal of the Electronic Control Box (ECB) (59KD) (GTCP 36-300)	
AMM	49-61-34-400-001	<pre>Installation of the Electronic Control Box (ECB) (59KD) (GTCP 36-300)</pre>	
ASM	49-61/02		

- 3. Fault Confirmation
 - A. Do the self-test of the ECB (Ref. AMM TASK 49-00-00-710-001).
- 4. Fault Isolation
 - A. If the test gives the maintenance message:

LOAD CTL VALVE P12:

- replace the LOAD CONTROL VALVE P12 (Ref. AMM TASK 49-51-51-000-001) and (Ref. AMM TASK 49-51-51-400-001).
- (1) If the fault continues:
 - disconnect connector P7 from the LOAD CONTROL VALVE P12 and check for a ground signal at pin P7/1 and P7/2. Do a repair if necessary (Ref. ASM 49-61/02).
 - do a check and repair the wiring from the ECB (59KD) AB/F10, F11 to the LOAD CONTROL VALVE P12/1, 2 (Ref. ASM 49-61/02).
 - do a check and repair the wiring from the ECB (59KD) AB/D7, D14 to the LOAD VALVE POSITION SWITCH P7/3, 4 (Ref. ASM 49-61/02).

EFF: 232-232, 247-248, 252-252,

49-00-00

Config-2 May 01/08

TROUBLE SHOOTING MANUAL

- (2) If the fault continues:
 - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-001) and (Ref. AMM TASK 49-61-34-400-001).

**ON A/C 232-232, 247-248, 252-252,

Post SB 49-1073 For A/C 232-232,247-248,252-252,

A. If the test gives the maintenance message:

LOAD CONTROL VALVE (8050KM)

with the LRU TROUBLE SHOOT DATA menu information: LOAD CONTROL VALVE SHOWS OPEN SWITCH FAILURE

Fault Code Number: 096

or

LOAD CONTROL VALVE SHOWS CLOSED SWITCH FAILURE

Fault Code Number: 097

or

LOAD CONTROL VALVE SHOWS NOT OPEN

Fault Code Number: 088

or

LOAD VALVE SOLENOID SHOWS CIRCUIT FAILURE

Fault Code Number: 127

- replace the LOAD CONTROL VALVE (8050KM) (Ref. AMM TASK 49-51-51-000-001) and (Ref. AMM TASK 49-51-51-400-001).
- (1) If the fault continues:
 - disconnect connector P7 from the LOAD CONTROL VALVE (8050KM) P12 and check for a ground signal at pin P7/1 and P7/2. Do a repair if necessary (Ref. ASM 49-61/02).
 - do a check and repair the wiring from the ECB (59KD) AB/F10, F11 to the LOAD CONTROL VALVE (8050KM) P12/1, 2 (Ref. ASM 49-61/02).
 - do a check and repair the wiring from the ECB (59KD) AB/D7, D14 to the LOAD VALVE POSITION SWITCH P7/3, 4 (Ref. ASM 49-61/02).
- (2) If the fault continues:
 - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-001) and (Ref. AMM TASK 49-61-34-400-001).

**ON A/C 232-232, 247-248, 252-252,

B. Do the test given in para. 3.

EFF: 232-232, 247-248, 252-252,

49-00-00

Page 287

Config-2 May 01/08

TROUBLE SHOOTING MANUAL

TASK 49-00-00-810-830

Surge Control-Valve Fault (GTCP 36-300)

- 1. Possible Causes
 - SURGE CONTROL VALVE P18
 - wiring
 - ECB (59KD)
 - SURGE CONTROL VALVE (8058KM)
- 2. Job Set-up Information
 - A. Referenced Information

REFERENCE		DESIGNATION
AMM	49-00-00-710-001	Self-Test of the ECB (59KD) (GTCP 36-300)
AMM	49-51-52-000-002	Removal of the Surge Control Valve (8058KM) (GTCP 36-300)
AMM	49-51-52-400-002	<pre>Installation of the Surge Control Valve (8058KM) (GTCP 36-300)</pre>
AMM	49-61-34-000-001	Removal of the Electronic Control Box (ECB) (59KD) (GTCP 36-300)
AMM	49-61-34-400-001	<pre>Installation of the Electronic Control Box (ECB) (59KD) (GTCP 36-300)</pre>
ASM	49-61/02	

- 3. Fault Confirmation
 - A. Do the self test of the ECB (59KD) (Ref. AMM TASK 49-00-00-710-001).
- 4. Fault Isolation
 - A. If the test gives the maintenance message:

SURGE CTL VALVE P18:

- replace the SURGE CONTROL VALVE P18 (Ref. AMM TASK 49-51-52-000-002) and (Ref. AMM TASK 49-51-52-400-002).
- (1) If the fault continues:
 - do a check and repair the wiring from the ECB (59KD) AB/G6, G7 to the SURGE CONTROL VALVE P18/1, 2 (Ref. ASM 49-61/02).
- (2) If the fault continues:
 - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-001) and (Ref. AMM TASK 49-61-34-400-001).

EFF: 232-232, 247-248, 252-252,

49-00-00

Page 288

Config-2 May 01/08

TROUBLE SHOOTING MANUAL

**ON A/C 232-232, 247-248, 252-252,

Post SB 49-1073 For A/C 232-232,247-248,252-252,

A. If the test gives the maintenance message:

SURGE CONTROL VALVE (8058KM)

with the LRU TROUBLE SHOOT DATA menu information:

SCV TORQUE MOTOR SHOWS OPEN CIRCUIT

Fault Code Number: 111 or 116

or

SCV TORQUE MOTOR SHOWS SHORT CIRCUIT

Fault Code Number: 112 or 117

- replace the SURGE CONTROL VALVE (8058KM) (Ref. AMM TASK 49-51-52-000-002) and (Ref. AMM TASK 49-51-52-400-002).
- (1) If the fault continues:
 - do a check and repair the wiring from the ECB (59KD) AB/G6, G7 to the SURGE CONTROL VALVE (8058KM) P18/1, 2 (Ref. ASM 49-61/02).
- (2) If the fault continues:
 - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-001) and (Ref. AMM TASK 49-61-34-400-001).

**ON A/C 232-232, 247-248, 252-252,

B. Do the test given in para. 3.

EFF: 232-232, 247-248, 252-252,

49-00-00

Page 289

Config-2 May 01/08

TROUBLE SHOOTING MANUAL

TASK 49-00-00-810-831

10V Pressure Reference not Correct (GTCP 36-300)

1. Possible Causes

- DIFFERENTIAL PRESSURE TRANSDUCER (8043KM)
- wiring
- ECB (59KD)

2. Job Set-up Information

A. Referenced Information

REFERENCE		DESIGNATION
AMM	49-00-00-710-001	Self-Test of the ECB (59KD) (GTCP 36-300)
AMM	49-51-13-000-001	Removal of the Pneumatic Sensor Assy (GTCP 36-300)
AMM	49-51-13-400-001	<pre>Installation of the Pneumatic Sensor Assy (GTCP 36-300)</pre>
AMM	49-51-16-000-001	Removal of the Differential Pressure Transducer (8043KM) (GTCP 36-300)
AMM	49-51-16-400-001	<pre>Installation of the Differential Pressure Transducer (8043KM) (GTCP 36-300)</pre>
AMM	49-51-17-000-001	Removal of the Total Pressure Sensor (8044KM) (GTCP 36-300)
AMM	49-51-17-400-001	<pre>Installation of the Total Pressure Sensor (8044KM) (GTCP 36-300)</pre>
AMM	49-51-18-000-001	Removal of the Compressor Inlet-Pressure Sensor (GTCP 36-300)
AMM	49-51-18-400-001	<pre>Installation of the Compressor Inlet-Pressure Sensor (GTCP 36-300)</pre>
AMM	49-61-34-000-001	Removal of the Electronic Control Box (ECB) (59KD) (GTCP 36-300)
AMM	49-61-34-400-001	
PM ASM	49000071000100 49-61/02	

3. Fault Confirmation

A. Do the self test of the ECB (59KD) (Ref. AMM TASK 49-00-00-710-001).

NOTE: The self test of the ECB is not required if the fault is repetitive or if NO BLEED OR LOW/FLUCTUATING BLEED AIR PRESSURE has been reported.

EFF: 232-232, 247-248, 252-252,

49-00-00

Page 290

Config-2 May 01/08

TROUBLE SHOOTING MANUAL

4. Fault Isolation

A. This data is applicable for the ECB P/Ns 304640-3;-4.

- If the test gives the maintenance message:

CHECK PRESS XDCR WIRING OR ECB 59KD:

- (1) replace the ECB 59KD (Ref. AMM TASK 49-61-34-000-001) and (Ref. AMM TASK 49-61-34-400-001).
- (2) if the fault continues.
 - (a) replace the Sensor Assy (Ref. AMM TASK 49-51-13-000-001) and (Ref. AMM TASK 49-51-13-400-001)
- (3) if the fault continues:
 - (a) check the wiring.
 - do the check of the wiring from the ECB (59KD) A1, A4, B2, B3 to the DIFFERENTIAL PRESSURE TRANSDUCER P24 1, 2, 3, 4 (Ref. ASM 49-61/02).
 - do a check of the wiring from the ECB (59KD) A1, A4, A2, A3 to the TOTAL PRESSURE TRANSDUCER P23 1, 2, 3, 4 (Ref. ASM 49-61/02).
 - do a check of the wiring from the ECB (59KD) A1, A4, C8, C9 to the COMPRESSOR INLET-PRESSURE TRANSDUCER P22 1, 2, 3, 4 (Ref. ASM 49-61/02).
- (4) if there is no continuity:
 - (a) repair the defective wiring.

**ON A/C 232-232, 247-248, 252-252,

Post SB 49-1073 For A/C 232-232,247-248,252-252,

A. If the test gives the maintenance message:

CHECK PRESS XDCR WIRING (8001KM)/ ECB 59KD:

with the LRU TROUBLE SHOOT DATA menu information: PRESS XDCR WIRING OPEN OR ECB INTERNAL FAILURE Fault Code Number: 031

 remove the connector P22 from the COMPRESSOR INLET-PRESSURE TRANSDUCER (8048KM) and do the self test of the ECB (Ref. AMM TASK 49-00-00-710-001)

EFF: 232-232, 247-248, 252-252,

49-00-00

Page 291

TROUBLE SHOOTING MANUAL

(1) If the self test gives the maintenance messages:

INLET PRESSSURE TRANSDUCER (8048KM)

- replace the COMPRESSOR INLET-PRESSURE TRANSDUCER (8048KM) (Ref. AMM TASK 49-51-18-000-001) (Ref. AMM TASK 49-51-18-400-001)
- (2) If the self test gives the maintenance messages: INLET PRESSURE XDCR (8048KM)

and

CHECK PRESSURE XDCR WIRING (8001KM)/ ECB 59KD:

- connect connector P22 to the COMPRESSOR INLET-PRESSURE TRANSDUCER (8048KM),
- remove the connector P23 from the TOTAL PRESSURE TRANSDUCER (8044KM) and do the self test of the ECB (Ref. PM 49000071000100).
- (a) If the self test gives the maintenance messages:

TOTAL PRESS XDCR (8044KM)

- replace the TOTAL PRESSURE TRANSDUCER (8044KM) (Ref. AMM TASK 49-51-17-000-001) and (Ref. AMM TASK 49-51-17-400-001).
- (b) If the self test gives the maintenance messages:

TOTAL PRESS XDCR (8044KM)

and

CHECK PRESS XDCR WIRING (8001KM)/ ECB 59KD:

- connect connector P23 to the TOTAL PRESS XDCR (8044KM),
- remove the connector P24 from the DIFFERENTIAL PRESSURE TRANSDUCER (8043KM) and do the self test of the ECB (Ref. AMM TASK 49-00-00-710-001).
- $\underline{1}$ If the self test gives the maintenance messages:

DIFFERENTIAL PRESS XDCR (8043KM)

- replace the DIFFERENTIAL PRESSURE TRANSDUCER (8043KM) (Ref. AMM TASK 49-51-16-000-001) and (Ref. AMM TASK 49-51-16-400-001).
- 2 If the self test gives the maintenance messages:

DIFFERENTIAL PRESS XDCR (8043KM)

and

CHECK PRESS XDCR WIRING (8001KM)/ ECB 59KD:

 connect connector P24 to the DIFFERENTIAL PRESS XDCR (8043KM),

EFF: 232-232, 247-248, 252-252,

49-00-00

Page 292

TROUBLE SHOOTING MANUAL

- do a check of the wiring from the ECB (59KD) A1, A4, B2, B3 to the DIFFERENTIAL PRESSURE TRANSDUCER (8043KM) P24 1, 2, 3, 4 (Ref. ASM 49-61/02).
- do a check of the wiring from the ECB (59KD) A1, A4, A2, A3 to the TOTAL PRESSURE TRANSDUCER P23 (8044KM) 1, 2, 3, 4 (Ref. ASM 49-61/02).
- do a check of the wiring from the ECB (59KD) A1, A4, C8, C9 to the COMPRESSOR INLET-PRESSURE TRANSDUCER (8048KM) P22 1, 2, 3, 4 (Ref. ASM 49-61/02).
- <u>a</u> If there is no continuity:repair the defective wiring.
- <u>b</u> If there is continuity:
 replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-001)
 and (Ref. AMM TASK 49-61-34-400-001).

**ON A/C 232-232, 247-248, 252-252,

B. This data is applicable for ECB P/Ns different to 304640 -3,-4.

- If the test gives the maintenance message:

CHECK PRESS XDCR WIRING OR ECB 59KD:

- (1) replace the Sensor-assy (Ref. AMM TASK 49-51-13-000-001) and (Ref. AMM TASK 49-51-13-400-001)
- (2) if the fault continues:
 - (a) replace the ECB (Ref. AMM TASK 49-61-34-000-001) and (Ref. AMM TASK 49-61-34-400-001)
- (3) if the fault continues:
 - (a) check the wiring.
 - do a check of the wiring from the ECB (59KD) A1, A4, B2, B3 to the DIFFERENTIAL PRESSURE TRANSDUCER (8043KM) P24 1, 2, 3, 4 (Ref. ASM 49-61/02).
 - do a check of the wiring from the ECB (59KD) A1, A4, A2, A3 to the TOTAL PRESSURE TRANSDUCER P23 (8044KM) 1, 2, 3, 4 (Ref. ASM 49-61/02)
 - do a check of the wiring from the ECB (59KD) A1, A2, C8, C9 to the COMPRESSOR INLET-PRESSURE TRANSDUCER (8048KM) P22 1, 2, 3, 4 (Ref. ASM 49-61/02).
- (4) if there is no continuity.
 - (a) repair the defective wiring.

EFF: 232-232, 247-248, 252-252,

SROS

49-00-00

Page 293 Config-2 May 01/08

TROUBLE SHOOTING MANUAL

C. Do the test given in para. 3.

EFF: 232-232, 247-248, 252-252,

49-00-00Page 294
Config-2 May 01/08

TROUBLE SHOOTING MANUAL

TASK 49-00-00-810-832

Low Oil-Level Condition (GTCP 36-300)

1. Possible Causes

- the oil level is below the ADD mark
- TURBINE BEARING CAVITY VENT
- AUXILIARY POWER UNIT (4005KM)
- OIL LEVEL SWITCH P8
- wiring
- ECB (59KD)
- OIL LEVEL SWITCH (8087KM)

2. Job Set-up Information

A. Referenced Information

REFERENCE		DESIGNATION
	10.00.00.710.001	- 16 6
AMM	49-00-00-710-001	Self-Test of the ECB (59KD) (GTCP 36-300)
AMM	49-00-00-790-001	Check APU Compartment and Air Intake Duct for Oil Contamination (GTCP 36-300)
AMM	49-11-11-000-001	Removal of the Auxiliary Power Unit (APU) - 4005KM (GTCP 36-300)
AMM	49-61-34-000-001	Removal of the Electronic Control Box (ECB) (59KD) (GTCP 36-300)
AMM	49-61-34-400-001	<pre>Installation of the Electronic Control Box (ECB) (59KD) (GTCP 36-300)</pre>
AMM	49-90-00-600-001	Check Oil Level and Replenish (GTCP 36-300)
AMM	49-91-53-000-001	Removal of turbine bearing cavity vent and lubrication tube packing (GTCP 36-300)
AMM	49-93-16-000-001	Removal of the Oil Level Switch (8087KM) (GTCP 36-300)
AMM	49-93-16-400-001	<pre>Installation of the Oil Level Switch (8087KM) (GTCP 36-300)</pre>
ASM	49-61/02	

3. Fault Confirmation

A. Do the self test of the ECB (59KD) (Ref. AMM TASK 49-00-00-710-001).

EFF: 232-232, 247-248, 252-252,

49-00-00

Page 295

TROUBLE SHOOTING MANUAL

4. Fault Isolation

A. If the test gives the maintenance message:

LOW OIL LEVEL:

- do a visual check on the oil sight glass on the accessory drive gearbox and make sure that the oil level in the APU oil reservoir is sufficient.
- (1) If the oil level is below the ADD mark:
 - do the oil servicing (Ref. AMM TASK 49-90-00-600-001).
 - calculate the APU oil consumption.
 - (a) If the APU oil consumption is more than 65 cm3 (3.96 in.3) per APU operating hour:
 - examine the APU externally for oil leaks on the oil system components or oil lines (Ref. AMM TASK 49-00-00-790-001).
 - 1 If you find external oil leaks: - correct/replace as necessary.
 - 2 If you do not find external oil leaks:
 - examine the APU for internal oil leakage (Ref. AMM TASK 49-00-00-790-001).
 - remove, clean and install the TURBINE BEARING CAVITY VENT (Ref. AMM TASK 49-91-53-000-001) and (Ref. AMM TASK 49-91-53-000-001).
 - a If the fault continues:
 - replace the AUXILIARY POWER UNIT (4005KM) (Ref. AMM TASK 49-11-11-000-001) and (Ref. AMM TASK 49-11-11-000-001).
- (2) If the oil level is above the ADD mark:
 - replace the OIL LEVEL SWITCH P8 (Ref. AMM TASK 49-93-16-000-001) and (Ref. AMM TASK 49-93-16-400-001).
 - (a) If the fault continues:
 - do a check and repair the wiring from the ECB (59KD) AB/H2, H3,
 H4 to the OIL LEVEL SWITCH P8/3, 2, 1 (Ref. ASM 49-61/02).
 - (b) If the fault continues:
 - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-001) and (Ref. AMM TASK 49-61-34-400-001)

EFF: 232-232, 247-248, 252-252,

49-00-00

Page 296

TROUBLE SHOOTING MANUAL

**ON A/C 232-232, 247-248, 252-252,

Post SB 49-1073 For A/C 232-232,247-248,252-252,

A. If the test gives the maintenance message:

LOW OIL LEVEL:

with the LRU TROUBLE SHOOT DATA menu information: OIL LEVEL SHOWS LOW Fault Code Number: 099

- do a visual check on the oil sight glass on the accessory drive gearbox and make sure that the oil level in the APU oil reservoir is sufficient.
- (1) If the oil level is below the ADD mark:
 - do the oil servicing (Ref. AMM TASK 49-90-00-600-001).
 - calculate the APU oil consumption.
 - (a) If the APU oil consumption is more than 65 cm3 (3.96 in.3) per APU operating hour:
 - examine the APU externally for oil leaks on the oil system components or oil lines (Ref. AMM TASK 49-00-00-790-001).
 - 1 If you find external oil leaks: - correct/replace as necessary.
 - 2 If you do not find external oil leaks:
 - examine the APU for internal oil leakage (Ref. AMM TASK 49-00-00-790-001).
 - remove, clean and install the TURBINE BEARING CAVITY VENT (Ref. AMM TASK 49-91-53-000-001) and (Ref. AMM TASK 49-91-53-000-001).
 - a If the fault continues:
 - replace the AUXILIARY POWER UNIT (4005KM) (Ref. AMM TASK 49-11-11-000-001) and (Ref. AMM TASK 49-11-11-000-001).
- (2) If the oil level is above the ADD mark:
 - replace the OIL LEVEL SWITCH (8087KM) (Ref. AMM TASK 49-93-16-000-001) and (Ref. AMM TASK 49-93-16-400-001).
 - (a) If the fault continues:
 - do a check and repair the wiring from the ECB (59KD) AB/H2, H3, H4 to the OIL LEVEL SWITCH (8087KM) P8/3, 2, 1 (Ref. ASM 49-61/02).
 - (b) If the fault continues:
 - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-001) and (Ref. AMM TASK 49-61-34-400-001)

232-232, 247-248, 252-252, EFF:

49-00-Config-2 May 01/08

Page 297

TROUBLE SHOOTING MANUAL

**ON A/C 232-232, 247-248, 252-252,

B. Do the test given in para. 3.

EFF: 232-232, 247-248, 252-252,

49-00-00

Page 298

TROUBLE SHOOTING MANUAL

TASK 49-00-00-810-833

APU AUTO SHUT DOWN - Shutdown in conjunction with Fuel Low Pressure (GTCP 36-300)

1. Possible Causes

- VALVE-AIR RELEASE, L WING TK (86QM)
- air in fuel

2. Job Set-up Information

A. Referenced Information

REFERENCE		DESIGNATION
28-2	2-00-810-801	APU Fuel System - Low Pressure
AMM	28-21-00-710-008	Operational Check of Air Release Valves to Ensure
		Adequate Fuel Flow Under Suction Feed Conditions
AMM	28-21-41-000-001	Removal of the Low Pressure (LP) Air-Release-Valve
		86QM(87QM)
AMM	28-21-41-400-001	Installation of the Low Pressure (LP)
		Air-Release-Valve 86QM(87QM)
AMM	28-22-00-710-001	Operational Test of the APU Fuel-Pump System on
		Ground to Purge the Fuel Line
AMM	28-22-00-710-002	Operational Test of the APU Fuel-Pump System
AMM	49-00-00-710-004	Operational Test of the APU (4005KM) (GTCP 36-300)
AMM	49-31-00-710-001	Operational Test of the APU Fuel Low Pressure Circuit (GTCP 36-300)

3. Fault Confirmation

A. Test

- (1) Purge the APU fuel feed-line to make sure that there is no air in fuel (Ref. AMM TASK 28-22-00-710-001).
- (2) Do the operational test of the APU (Ref. AMM TASK 49-00-00-710-004). Make sure that no MAIN fuel pumps are operating.

4. Fault Isolation

A. If an APU auto shutdown occurs during the APU start sequence and the APU SHUTDOWNS report gives the maintenance message:

NO ACCELERATION - LOW FUEL PRESSURE CHECK APU FUEL SUPPLY:

or

EFF: 232-232, 247-248, 252-252,

49-00-00

Page 299

Config-2 May 01/08

TROUBLE SHOOTING MANUAL

NO FLAME - LOW FUEL PRESSURE CHECK APU FUEL SUPPLY:

- do the operational test of the APU fuel pump system (Ref. AMM TASK 28-22-00-710-002). If the test is not correct, do the trouble shooting of the APU fuel system low pressure (Ref. TASK 28-22-00-810-801),
- do the operational test of the LH air release valves (Ref. AMM TASK 28-21-00-710-008). If the test is not correct, replace the VALVE-AIR RELEASE, L WING TK (86QM) (Ref. AMM TASK 28-21-41-000-001) and (Ref. AMM TASK 28-21-41-400-001).
- do the operational test of the APU fuel low pressure warning (Ref. AMM TASK 49-31-00-710-001),
- (1) If the operational test of the APU fuel low pressure warning gives a FUEL LO PR advisory abnormally:
 - do the trouble shooting of the APU fuel low pressure (Ref. TASK 28-22-00-810-801).
- (2) If the test gives a different maintenance message, do the trouble shooting procedure related to the maintenance message.

**ON A/C 232-232, 247-248, 252-252,

Post SB 49-1073 For A/C 232-232,247-248,252-252,

A. If an APU auto shutdown occurs during the APU start sequence and the APU SHUTDOWNS report gives the maintenance message:

NO ACCELERATION - LOW FUEL PRESSURE CHECK APU FUEL SUPPLY:

or

NO FLAME - LOW FUEL PRESSURE CHECK APU FUEL SUPPLY:

or

UNDERSPEED - LOW FUEL PRESSURE CHECK APU FUEL SUPPLY:

with the LRU TROUBLE SHOOT DATA menu information FUEL PRESSURE SHOWS LOW DURING APU RUN Fault Code Number: 100

- do the operational test of the APU fuel pump system (Ref. AMM TASK 28-22-00-710-002). If the test is not correct, do the trouble shooting of the APU fuel system low pressure (Ref. TASK 28-22-00-810-801),
- do the operational test of the LH air release valves (Ref. AMM TASK 28-21-00-710-008). If the test is not correct, replace the VALVE-AIR RELEASE, L WING TK (86QM) (Ref. AMM TASK 28-21-41-000-001) and (Ref. AMM TASK 28-21-41-400-001).
- do the operational test of the APU fuel low pressure warning (Ref. AMM TASK 49-31-00-710-001),

EFF: 232-232, 247-248, 252-252,

49-00-00 Page A200 Config-2 May 01/08

TROUBLE SHOOTING MANUAL

- (1) If the operational test of the APU fuel low pressure warning gives a FUEL LO PR advisory abnormally:
 - do the trouble shooting of the APU fuel low pressure (Ref. TASK 28-22-00-810-801).
- (2) If the test gives a different maintenance message, do the trouble shooting procedure related to the maintenance message.

**ON A/C 232-232, 247-248, 252-252,

B. Do the operational test of the APU (Ref. AMM TASK 49-00-00-710-004).

EFF: 232-232, 247-248, 252-252,

49-00-00 Page A201 Config-2 May 01/08

TROUBLE SHOOTING MANUAL

TASK 49-00-00-810-835

Inlet Guide-Vane-Actuator Fault (GTCP 36-300)

- 1. Possible Causes
 - INLET GUIDE-VANE ACTUATOR (8014KM)
 - wiring
 - ECB (59KD)
- 2. Job Set-up Information
 - A. Referenced Information

REFERENCE		DESIGNATION
AMM	49-00-00-710-001	Self-Test of the ECB (59KD) (GTCP 36-300)
AMM	49-23-51-000-002	Removal of the Inlet Guide Vane-Actuator (8014KM) (GTCP 36-300)
AMM	49-23-51-400-002	<pre>Installation of the Inlet Guide Vane-Actuator (8014KM) (GTCP 36-300)</pre>
AMM	49-61-34-000-001	Removal of the Electronic Control Box (ECB) (59KD) (GTCP 36-300)
AMM	49-61-34-400-001	<pre>Installation of the Electronic Control Box (ECB) (59KD) (GTCP 36-300)</pre>
ASM	49-61/02	

3. Fault Confirmation

**ON A/C 232-232, 247-248, 252-252,

Post SB 49-1073 For A/C 232-232,247-248,252-252,

A. Do the self test of the ECB (Ref. AMM TASK 49-00-00-710-001).

**ON A/C 232-232, 247-248, 252-252,

4. Fault Isolation

**ON A/C 232-232, 247-248, 252-252,

Post SB 49-1073 For A/C 232-232,247-248,252-252,

A. If the test gives the maintenance message:

IGV ACTUATOR (8014KM) / ECB (59KD)

with the LRU TROUBLE SHOOT DATA menu information: IGV LVDT EXCITATION SHOWS FAILURE

EFF: 232-232, 247-248, 252-252,

49-00-00

Page A202

Config-2 May 01/08

TROUBLE SHOOTING MANUAL

Fault Code Number: 080

- replace the INLET GUIDE-VANE ACTUATOR (8014KM) (Ref. AMM TASK 49-23-51-000-002) and (Ref. AMM TASK 49-23-51-400-002).
- (1) If the fault continues:
 - do a check and repair the wiring from the ECB (59KD) AB/G8, G9, E8, E9, E11, E12 to the INLET GUIDE-VANE ACTUATOR (8014KM) P21/1, 2, 5, 6, 3, 4 (Ref. ASM 49-61/02).
- (2) If the fault continues:
 - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-001) and (Ref. AMM TASK 49-61-34-400-001).
- B. Do the test given in para. 3.

EFF: 232-232, 247-248, 252-252,

49-00-00 Page A203 Config-2 May 01/08

TROUBLE SHOOTING MANUAL

**ON A/C 232-232, 247-248, 252-252,

TASK 49-00-00-810-836

ECB 59KD Fault (GTCP 36-300)

- 1. Possible Causes
 - ECB (59KD)
- 2. Job Set-up Information
 - A. Referenced Information

REFERENCE	DESIGNATION
24-23-00-810-803 AMM 49-00-00-710-004 AMM 49-61-34-000-001	Failure of the APU GEN found by the ECB Operational Test of the APU (4005KM) (GTCP 36-300) 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)

- 3. Fault Confirmation
 - A. Do the operational test of the APU (Ref. AMM TASK 49-00-00-710-004).
- 4. Fault Isolation
 - A. If the test gives the maintenance message ECB 59KD: - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-001) and (Ref. AMM TASK 49-61-34-400-001).

NOTE: If the class II maintenance message ECB 59KD comes on when the APU is manually shutdown after the operational test, then trouble shoot the APU generator (Ref. TASK 24-23-00-810-803).

**ON A/C 232-232, 247-248, 252-252,

Post SB 49-1073 For A/C 232-232,247-248,252-252,

A. If the test gives the maintenance message ECB 59KD:

associated Fault Code(s): 015, 020, 025, 032, 053, 169, 170, 171, 172, 181, 182, 185, 233, 236

- replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-001) and (Ref. AMM TASK 49-61-34-400-001).

EFF: 232-232, 247-248, 252-252,

49-00-00Page A204
Config-2 May 01/08

TROUBLE SHOOTING MANUAL

**ON A/C 232-232, 247-248, 252-252,

B. Do the test given in para. 3.

EFF: 232-232, 247-248, 252-252,

49-00-00 Page A205 Config-2 May 01/08

TROUBLE SHOOTING MANUAL

TASK 49-00-00-810-837

Oil-Temperature Switch Fault (GTCP 36-300)

- 1. Possible Causes
 - OIL TEMPERATURE SWITCH P11
 - wiring
 - ECB (59KD)
 - OIL TEMPERATURE SWITCH (8090KM)
- 2. Job Set-up Information
 - A. Referenced Information

REFERENCE		DESIGNATION	
A MM	/0.00.00.740.004	Calf Tank of the ECR (EOVA) (CTCR 7/ 700)	
AMM	49-00-00-710-001	Self-Test of the ECB (59KD) (GTCP 36-300)	
AMM	49-61-34-000-001	Removal of the Electronic Control Box (ECB) (59KD) (GTCP 36-300)	
AMM	49-61-34-400-001	<pre>Installation of the Electronic Control Box (ECB) (59KD) (GTCP 36-300)</pre>	
AMM	49-94-13-000-001	Removal of the High Oil-Temperature Switch (8090KM) (GTCP 36-300)	
AMM	49-94-13-400-001	<pre>Installation of the High Oil-Temperature Switch (8090KM) (GTCP 36-300)</pre>	
ASM	49-61/02		

- 3. Fault Confirmation
 - A. Do the self test of the ECB (59KD) (Ref. AMM TASK 49-00-00-710-001).
- 4. Fault Isolation
 - A. If the test gives the maintenance message:

OIL TEMP SW P11:

- replace the OIL TEMPERATURE SWITCH P11 (Ref. AMM TASK 49-94-13-000-001) and (Ref. AMM TASK 49-94-13-400-001).
- (1) If the fault continues:
 - do a check for short to ground of the wiring from the OIL TEMPERATURE SWITCH connector P11/1 (Ref. ASM 49-61/02).
- (2) If the fault continues:
 - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-001) and (Ref. AMM TASK 49-61-34-400-001).

EFF: 232-232, 247-248, 252-252,

49-00-00 Page A206 Config-2 May 01/08

TROUBLE SHOOTING MANUAL

**ON A/C 232-232, 247-248, 252-252,

Post SB 49-1073 For A/C 232-232,247-248,252-252,

A. If the test gives the maintenance message:

OIL TEMP SWITCH (8090KM)

with the LRU TROUBLE SHOOT DATA menu information: OIL TEMPERATURE SWITCH SHOWS OPEN CIRCUIT Fault Code Number: 094

- replace the OIL TEMPERATURE SWITCH (8090KM) (Ref. AMM TASK 49-94-13-000-001) and (Ref. AMM TASK 49-94-13-400-001).
- (1) If the fault continues:
 - do a check for short to ground of the wiring from the OIL TEMPERATURE SWITCH (8090KM) connector P11/1 (Ref. ASM 49-61/02).
- (2) If the fault continues:
 - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-001) and (Ref. AMM TASK 49-61-34-400-001).

**ON A/C 232-232, 247-248, 252-252,

B. Do the test given in para. 3.

EFF: 232-232, 247-248, 252-252,

49-00-00

Page A207 Config-2 May 01/08

TROUBLE SHOOTING MANUAL

TASK 49-00-00-810-838

Compressor Inlet-Pressure-Sensor Fault (GTCP 36-300)

1. Possible Causes

- COMPRESSOR INLET-PRESSURE TRANSDUCER P22
- wiring
- ECB (59KD)
- COMPRESSOR INLET-PRESSURE TRANSDUCER (8048KM)

2. Job Set-up Information

A. Referenced Information

REFERENCE		DESIGNATION	
		- 16 6	
AMM	49-00-00-710-001	Self-Test of the ECB (59KD) (GTCP 36-300)	
AMM	49-51-18-000-001	Removal of the Compressor Inlet-Pressure Sensor (GTCP 36-300)	
AMM	49-51-18-400-001	<pre>Installation of the Compressor Inlet-Pressure Sensor (GTCP 36-300)</pre>	
AMM	49-61-34-000-001	Removal of the Electronic Control Box (ECB) (59KD) (GTCP 36-300)	
AMM	49-61-34-400-001	<pre>Installation of the Electronic Control Box (ECB) (59KD) (GTCP 36-300)</pre>	
ASM	49-61/02		

3. Fault Confirmation

A. Do the self test of the ECB (Ref. AMM TASK 49-00-00-710-001).

4. Fault Isolation

A. If the test gives the maintenance message:

P2 PRESS XDCR P22:

- replace the COMPRESSOR INLET-PRESSURE TRANSDUCER P22 (Ref. AMM TASK 49-51-18-000-001) and (Ref. AMM TASK 49-51-18-400-001).
- (1) If the fault continues:
 - do a check and repair the wiring from the ECB (59KD) AB/A1, A4, C8,
 C9 to the COMPRESSOR INLET PRESSURE TRANSDUCER P22/1, 2, 3, 4 (Ref. ASM 49-61/02).
- (2) If the fault continues:
 - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-001) and (Ref. AMM TASK 49-61-34-400-001).

EFF: 232-232, 247-248, 252-252,

49-00-00 Page A208 Config-2 May 01/08

TROUBLE SHOOTING MANUAL

**ON A/C 232-232, 247-248, 252-252,

Post SB 49-1073 For A/C 232-232,247-248,252-252,

A. If the test gives the maintenance message:

INLET PRESS XDCR (8048KM)

with the LRU TROUBLE SHOOT DATA menu information:

INLET PRESSURE SENSOR SHOWS OUT OF RANGE

Fault Code Number: 021 or 026

or

INLET PRESSURE SENSOR SHOWS < 8 PSIA ON GROUND

Fault Code Number: 022

or

INLET PRESSURE SENSOR SHOWS OUT OF RANGE HIGH

Fault Code Number: 024

or

INLET PRESSURE SENSOR SHOWS OUT OF RANGE LOW

Fault Code Number: 023

- replace the COMPRESSOR INLET-PRESSURE TRANSDUCER (8048KM) (Ref. AMM TASK 49-51-18-000-001) and (Ref. AMM TASK 49-51-18-400-001).
- (1) If the fault continues:
 - do a check and repair the wiring from the ECB (59KD) AB/A1, A4, C8,
 C9 to the COMPRESSOR INLET PRESSURE TRANSDUCER (8048KM) P22/1, 2,
 3, 4 (Ref. ASM 49-61/02).
- (2) If the fault continues:
 - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-001) and (Ref. AMM TASK 49-61-34-400-001).

**ON A/C 232-232, 247-248, 252-252,

B. Do the test given in para. 3.

EFF: 232-232, 247-248, 252-252,

49-00-00

Page A209 Config-2 May 01/08

TROUBLE SHOOTING MANUAL

TASK 49-00-00-810-839

APU Oil-Heater Fault (GTCP 36-300)

1. Possible Causes

- OIL HEATER (8093KM)
- ECB (59KD)
- no 115VAC power supply
- APU AUX CTL RELAY (32KD)
- OIL HEATER P6

2. Job Set-up Information

A. Referenced Information

REFE	RENCE	DESIGNATION
AMM	49-61-34-000-001	Removal of the Electronic Control Box (ECB) (59KD) (GTCP 36-300)
AMM	49-61-34-400-001	<pre>Installation of the Electronic Control Box (ECB) (59KD) (GTCP 36-300)</pre>
AMM	49-96-51-000-001	Removal of the APU Oil Heater 2KT (GTCP 36-300)
AMM	49-96-51-400-001	Installation of the APU Oil Heater 2KT (GTCP 36-300)
ASM	49-96/01	

3. Fault Confirmation

**ON A/C 232-232, 247-248, 252-252,

Post SB 49-1045 For A/C 232-232,

A. Not applicable. To confirm the fault, the APU must be cold soaked.

NOTE: NO MAINT ACTION required on A/C Post SB 49-1026 and APU Honeywell 36-300 VSB 49-6702 and ECB P/N 3888394-230300 or ECB P/N 304817-1 or ECB P/N 304817-2 (Ref. SIL 00-028 Rev 27).

EFF: 232-232, 247-248, 252-252,

49-00-00

Page A210 Config-2 May 01/08

TROUBLE SHOOTING MANUAL

**ON A/C 232-232, 247-248, 252-252,

4. Fault Isolation

**ON A/C 232-232, 247-248, 252-252,

Post SB 49-1045 For A/C 232-232, Post SB 49-1073 For A/C 232-232,247-248,252-252,

A. If the APU LAST LEG REPORT and/or the APU PREVIOUS LEGS REPORT give the maintenance message:

APU OIL HEATER (8093KM)

with the LRU TROUBLE SHOOT DATA menu information: OIL HEATER FAILURE Fault Code Number: 115

- do a check for a ground signal at the APU OIL HEATER (8093KM) P6/2 (Ref. ASM 49-96/01),
- do a check for 115VAC at the APU OIL HEATER (8093KM) P6/1 (Ref. ASM 49-96/01).

NOTE: Make sure that:

- the APU MASTER SW pushbutton switch on the overhead panel 25VU is off,
- the circuit breaker APU OIL HEATER (1KT) on the circuit breaker panel 121VU is closed,
- the 115VAC power supply at the SERVICE BUS 2 (214XP-B) is correct.
- (1) If there is a ground signal and 115VAC:
 - replace the OIL HEATER (8093KM) (Ref. AMM TASK 49-96-51-000-001) and (Ref. AMM TASK 49-96-51-400-001).
 - (a) If the fault continues:
 - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-001) and (Ref. AMM TASK 49-61-34-400-001).
- (2) If there is no ground signal:
 - do a check and repair the wiring from the APU OIL HEATER (2KT) P6/2 to the ground (Ref. ASM 49-96/01).
- (3) If there is no 115VAC power supply.
 - replace the APU AUX CTL RELAY (32KD) (Ref. ASM 49-96/01).
 - (a) If the fault continues:
 - do a check and repair the wiring from the APU OIL HEATER (2KT) P6/1 to the SERVICE BUS 2 (214XP-B) (Ref. ASM 49-96/01).

EFF: 232-232, 247-248, 252-252,

49-00-00 Page A211 Config-2 May 01/08

TROUBLE SHOOTING MANUAL

**ON A/C 247-248, 252-252,

A. If the APU LAST LEG REPORT and/or the APU PREVIOUS LEGS REPORT give the maintenance message:

APU OIL HEATER

- do a check for a ground signal at the APU OIL HEATER P6/2 (Ref. ASM 49-96/01),
- do a check for 115VAC at the APU OIL HEATER P6/1 (Ref. ASM 49-96/01).

NOTE: Make sure that:

- the APU MASTER SW pushbutton switch on the overhead panel 25VU is off,
- the circuit breaker APU OIL HEATER (1KT) on the circuit breaker panel 121VU is closed,
- the 115VAC power supply at the SERVICE BUS 2 (214XP-B) is correct.
- (1) If there is a ground signal and 115VAC:
 - replace the OIL HEATER P6 (Ref. AMM TASK 49-96-51-000-001) and (Ref. AMM TASK 49-96-51-400-001).
 - (a) If the fault continues:
 - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-001) and (Ref. AMM TASK 49-61-34-400-001).
- (2) If there is no ground signal:
 - do a check and repair the wiring from the APU OIL HEATER (2KT) P6/2 to the ground (Ref. ASM 49-96/01).
- (3) If there is no 115VAC power supply.
 - replace the APU AUX CTL RELAY (32KD) (Ref. ASM 49-96/01).
 - (a) If the fault continues:
 - do a check and repair the wiring from the APU OIL HEATER (2KT) P6/1 to the SERVICE BUS 2 (214XP-B) (Ref. ASM 49-96/01).

EFF: 247-248, 252-252,

49-00-00

Page A212

Config-2 May 01/08

TROUBLE SHOOTING MANUAL

**ON A/C 232-232, 247-248, 252-252,

TASK 49-00-00-810-841

APU AUTO SHUT DOWN - LOW OIL PRESSURE, Low Oil Quantity (GTCP 36-300)

- 1. Possible Causes
 - the oil level is below the ADD mark
 - TURBINE BEARING CAVITY VENT
 - AUXILIARY POWER UNIT (4005KM)
- 2. Job Set-up Information
 - A. Referenced Information

REFERENCE		DESIGNATION
AMM	49-00-00-790-001	Check APU Compartment and Air Intake Duct for Oil Contamination (GTCP 36-300)
AMM	49-11-11-000-001	Removal of the Auxiliary Power Unit (APU) - 4005KM (GTCP 36-300)
AMM	49-90-00-600-001	Check Oil Level and Replenish (GTCP 36-300)
AMM	49-91-53-000-001	Removal of turbine bearing cavity vent and lubrication tube packing (GTCP 36-300)
AMM	49-91-53-400-001	Installation of turbine bearing cavity vent and lubrication tube packing (GTCP 36-300)

- 3. Fault Confirmation
 - A. Do a read out of the APU SHUTDOWNS report.
- 4. Fault Isolation
 - A. If the APU SHUTDOWNS report gives the the maintenance message:

LOW OIL PRESSURE - LOW OIL LEVEL:

- do a check of the oil level.
- (1) If the oil level is below the ADD mark:
 - do the oil servicing (Ref. AMM TASK 49-90-00-600-001).
 - calculate the APU oil consumption.
 - (a) If the APU oil consumption is more than 65 cm3 (3.96 in.3) per APU operating hour:
 - examine the APU externally for oil leaks on the oil system components or oil lines (Ref. AMM TASK 49-00-00-790-001).

EFF: 232-232, 247-248, 252-252,

19-00-00 Page A213 Config-2 May 01/08

TROUBLE SHOOTING MANUAL

- 1 If you find external oil leaks:
 - correct/replace as necessary.
- 2 If you do not find external oil leaks:
 - examine the APU for internal oil leakage (Ref. AMM TASK 49-00-00-790-001).
 - remove, clean and install the TURBINE BEARING CAVITY VENT (Ref. AMM TASK 49-91-53-000-001) and (Ref. AMM TASK 49-91-53-400-001).
 - a If the fault continues:
 - replace the AUXILIARY POWER UNIT (4005KM) (Ref. AMM TASK 49-11-11-000-001) and (Ref. AMM TASK 49-11-11-000-001).

**ON A/C 232-232, 247-248, 252-252,

Post SB 49-1073 For A/C 232-232,247-248,252-252,

A. If the APU SHUTDOWNS report gives the the maintenance message:

LOW OIL PRESSURE - LOW OIL LEVEL:

with the LRU TROUBLE SHOOT DATA menu information OIL LEVEL SHOWS LOW Fault Code Number: 099

- do a check of the oil level.
- (1) If the oil level is below the ADD mark:
 - do the oil servicing (Ref. AMM TASK 49-90-00-600-001).
 - calculate the APU oil consumption.
 - (a) If the APU oil consumption is more than 65 cm3 (3.96 in.3) per APU operating hour:
 - examine the APU externally for oil leaks on the oil system components or oil lines (Ref. AMM TASK 49-00-00-790-001).
 - 1 If you find external oil leaks:
 - correct/replace as necessary.
 - 2 If you do not find external oil leaks:
 - examine the APU for internal oil leakage (Ref. AMM TASK 49-00-00-790-001).
 - remove, clean and install the TURBINE BEARING CAVITY VENT (Ref. AMM TASK 49-91-53-000-001) and (Ref. AMM TASK 49-91-53-400-001).
 - a If the fault continues:
 - replace the AUXILIARY POWER UNIT (4005KM) (Ref. AMM TASK 49-11-11-000-001) and (Ref. AMM TASK 49-11-11-000-001).

EFF: 232-232, 247-248, 252-252,

49-00-00 Page A214 Config-2 May 01/08

TROUBLE SHOOTING MANUAL

**ON A/C 232-232, 247-248, 252-252,

B. Do the test given in para. 3.

EFF: 232-232, 247-248, 252-252,

49-00-00 Page A215 Config-2 May 01/08

TROUBLE SHOOTING MANUAL

TASK 49-00-00-810-842

Inlet Guide Vane Fault (GTCP 36-300)

- 1. Possible Causes
 - INLET GUIDE-VANE ACTUATOR P21
 - wiring
 - ECB (59KD)
 - INLET GUIDE-VANE ACTUATOR (8014KM)
- 2. Job Set-up Information
 - A. Referenced Information

REFERENCE		DESIGNATION	
A MM	/0.00.00.740.004	Calf Tank of the ECR (EOVA) (CTCR 7/ 700)	
AMM	49-00-00-710-001	Self-Test of the ECB (59KD) (GTCP 36-300)	
AMM	49-23-51-000-002	Removal of the Inlet Guide Vane-Actuator (8014KM) (GTCP 36-300)	
AMM	49-23-51-400-002	<pre>Installation of the Inlet Guide Vane-Actuator (8014KM) (GTCP 36-300)</pre>	
AMM	49-61-34-000-001	Removal of the Electronic Control Box (ECB) (59KD) (GTCP 36-300)	
AMM	49-61-34-400-001	<pre>Installation of the Electronic Control Box (ECB) (59KD) (GTCP 36-300)</pre>	
ASM	49-61/02		

- 3. Fault Confirmation
 - A. Do the self test of the APU (Ref. AMM TASK 49-00-00-710-001).
- 4. Fault Isolation
 - A. If the test gives the maintenance message:

INLET GUIDE VANE ACTR P21:

- replace the INLET GUIDE-VANE ACTUATOR P21 (Ref. AMM TASK 49-23-51-000-002) and (Ref. AMM TASK 49-23-51-400-002).
- (1) If the fault continues:
 - do a check and repair the wiring from the ECB (59KD) AB/G8, G9, E8, E9, E11, E12 to the INLET GUIDE-VANE ACTUATOR P21/1, 2, 5, 6, 3, 4 (Ref. ASM 49-61/02).
- (2) If the fault continues:
 - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-001) and (Ref. AMM TASK 49-61-34-400-001).

EFF: 232-232, 247-248, 252-252,

49-00-00 Page A216 Config-2 May 01/08

TROUBLE SHOOTING MANUAL

**ON A/C 232-232, 247-248, 252-252,

Post SB 49-1073 For A/C 232-232,247-248,252-252,

A. If the test gives the maintenance message:

IGV ACTUATOR (8014KM)

with the LRU TROUBLE SHOOT DATA menu information: IGV LVDT PRIMARY SHOWS OPEN CIRCUIT

Fault Code Number: 081

or

IGV LVDT SECONDARY SHOWS OPEN CIRCUIT

Fault Code Number: 082

- replace the INLET GUIDE-VANE ACTUATOR (8014KM) (Ref. AMM TASK 49-23-51-000-002) and (Ref. AMM TASK 49-23-51-400-002).
- (1) If the fault continues:
 - do a check and repair the wiring from the ECB (59KD) AB/G8, G9, E8, E9, E11, E12 to the INLET GUIDE-VANE ACTUATOR (8014KM) P21/1, 2, 5, 6, 3, 4 (Ref. ASM 49-61/02).
- (2) If the fault continues:
 - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-001) and (Ref. AMM TASK 49-61-34-400-001).

**ON A/C 232-232, 247-248, 252-252,

B. Do the test given in para. 3.

EFF: 232-232, 247-248, 252-252,

49-00-00 Pag

Page A217

Config-2 May 01/08

TROUBLE SHOOTING MANUAL

TASK 49-00-00-810-843

De-oiling Fault (GTCP 36-300)

- 1. Possible Causes
 - DE-OILING SOLENOID VALVE P15
 - wiring
 - ECB (59KD)
 - DE-OILING SOLENOID VALVE (8083KM)
- 2. Job Set-up Information
 - A. Referenced Information

REFERENCE		DESIGNATION
AMM	49-00-00-710-001	Self-Test of the ECB (59KD) (GTCP 36-300)
AMM	49-61-34-000-001	Removal of the Electronic Control Box (ECB) (59KD) (GTCP 36-300)
AMM	49-61-34-400-001	<pre>Installation of the Electronic Control Box (ECB) (59KD) (GTCP 36-300)</pre>
AMM	49-91-49-000-001	Removal of the De-Oiling Solenoid Valve (8083KM) (GTCP 36-300)
AMM	49-91-49-400-001	Installation of the De-Oiling Solenoid Valve (8083KM) (GTCP 36-300)
ASM	49-61/02	

- 3. Fault Confirmation
 - A. Do the self test of the ECB (Ref. AMM TASK 49-00-00-710-001).
- 4. Fault Isolation
 - A. If the test gives the maintenance message:

DE-OILING SOL P15:

- replace the DE-OILING SOLENOID VALVE P15 (Ref. AMM TASK 49-91-49-000-001) and (Ref. AMM TASK 49-91-49-400-001).
- (1) If the fault continues:
 - do a check and repair the wiring from the ECB (59KD) AB/J4, J5 to the DE-OILING SOLENOID VALVE P15/1, 2 to the (Ref. ASM 49-61/02).
- (2) If the fault continues:
 - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-001) and (Ref. AMM TASK 49-61-34-400-001).

EFF: 232-232, 247-248, 252-252,

49-00-00 Page A218 Config-2 May 01/08

TROUBLE SHOOTING MANUAL

**ON A/C 232-232, 247-248, 252-252,

Post SB 49-1073 For A/C 232-232,247-248,252-252,

A. If the test gives the maintenance message:

DEOIL SOLENOID (8083KM)

with the LRU TROUBLE SHOOT DATA menu information:

DEOIL SOLENOID SHOWS OPEN CIRCUIT

Fault Code Number: 133

or

DEOIL SOLENOID SHOWS SHORT CIRCUIT

Fault Code Number: 134

- replace the DE-OILING SOLENOID VALVE (8083KM) (Ref. AMM TASK 49-91-49-000-001) and (Ref. AMM TASK 49-91-49-400-001).
- (1) If the fault continues:
 - do a check and repair the wiring from the ECB (59KD) AB/J4, J5 to the DE-OILING SOLENOID VALVE (8083KM) P15/1, 2 to the (Ref. ASM 49-61/02).
- (2) If the fault continues:
 - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-001) and (Ref. AMM TASK 49-61-34-400-001).

**ON A/C 232-232, 247-248, 252-252,

B. Do the test given in para. 3.

EFF: 232-232, 247-248, 252-252,

49-00-00 Pag

Page A219 Config-2 May 01/08

TROUBLE SHOOTING MANUAL

TASK 49-00-00-810-844

Oil Sump Temperature Fault (GTCP 36-300)

1. Possible Causes

- OIL SUMP TEMPERATURE-SENSOR P25
- wiring
- ECB (59KD)
- OIL SUMP TEMPERATURE-SENSOR (8084KM)

2. Job Set-up Information

A. Referenced Information

REFERENCE		DESIGNATION
AMM	49-00-00-710-001	Self-Test of the ECB (59KD) (GTCP 36-300)
AMM	49-61-34-000-001	Removal of the Electronic Control Box (ECB) (59KD) (GTCP 36-300)
AMM	49-61-34-400-001	<pre>Installation of the Electronic Control Box (ECB) (59KD) (GTCP 36-300)</pre>
AMM	49-91-51-000-001	Removal of the Oil Sump Temperature-Sensor (8084KM) (GTCP 36-300)
AMM	49-91-51-400-001	<pre>Installation of the Oil Sump Temperature-Sensor (8084KM) (GTCP 36-300)</pre>
ASM	49-61/02	

3. Fault Confirmation

A. Do the self test of the ECB (Ref. AMM TASK 49-00-00-710-001).

4. Fault Isolation

A. If the test gives the maintenance message:

OIL SUMP TEMP SNSR P25:

- replace the OIL SUMP TEMPERATURE-SENSOR P25 (Ref. AMM TASK 49-91-51-000-001) and (Ref. AMM TASK 49-91-51-400-001).
- (1) If the fault continues:
 - do a check and repair the wiring from the ECB (59KD) AB/C2, D2 to the OIL SUMP TEMPERATURE SENSOR P25/1, 2 (Ref. ASM 49-61/02).
- (2) If the fault continues:
 - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-001) and (Ref. AMM TASK 49-61-34-400-001).

EFF: 232-232, 247-248, 252-252,

49-00-00 Page A220 Config-2 May 01/08

TROUBLE SHOOTING MANUAL

**ON A/C 232-232, 247-248, 252-252,

Post SB 49-1073 For A/C 232-232,247-248,252-252,

A. If the test gives the maintenance message:

OIL SUMP TEMP SENSOR (8084KM)

with the LRU TROUBLE SHOOT DATA menu information: OIL SUMP TEMP SENSOR SHOWS OUT OF RANGE LOW Fault Code Number: 054

or

OIL SUMP TEMP SENSOR SHOWS OUT OF RANGE HIGH

Fault Code Number: 055

- replace the OIL SUMP TEMPERATURE-SENSOR (8084KM) (Ref. AMM TASK 49-91-51-000-001) and (Ref. AMM TASK 49-91-51-400-001).
- (1) If the fault continues:
 - do a check and repair the wiring from the ECB (59KD) AB/C2, D2 to the OIL SUMP TEMPERATURE SENSOR (8084KM) P25/1, 2 (Ref. ASM 49-61/02).
- (2) If the fault continues:
 - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-001) and (Ref. AMM TASK 49-61-34-400-001).

**ON A/C 232-232, 247-248, 252-252,

B. Do the test given in para. 3.

EFF: 232-232, 247-248, 252-252,

49-00-00

Page A221 Config-2 May 01/08

TROUBLE SHOOTING MANUAL

TASK 49-00-00-810-848

APU EMER SHUT DOWN - EMERGENCY (GTCP 36-300)

1. Possible Causes

- water ingress in panel 108VU
- ECB (59KD)
- FIRE EMERG-STOP RELAY (5WF)
- APU SHUT OFF PUSHBUTTON-SWITCH (1KL)
- APU FIRE/WARN MODULE (1WD)
- wiring

2. Job Set-up Information

A. Referenced Information

REFE	RENCE	DESIGNATION	
AMM	05-23-10-200-003	Zonal Inspection of Tail Cone APU and Accessory Compartment	
AMM	26-13-00-710-001	Operational Test of the APU Fire and Overheat Detection System	
AMM	26-22-00-710-001	Operational Test of the APU Fire-Extinguishing Loop/Squib	
AMM	49-00-00-710-001	Self-Test of the ECB (59KD) (GTCP 36-300)	
AMM	49-11-11-000-001	Removal of the Auxiliary Power Unit (APU) - 4005KM (GTCP 36-300)	
AMM	49-11-11-400-001	Installation of the Auxiliary Power Unit (APU) - 4005KM (GTCP 36-300)	
AMM	49-61-34-000-001	Removal of the Electronic Control Box (ECB) (59KD) (GTCP 36-300)	
AMM	49-61-34-400-001	<pre>Installation of the Electronic Control Box (ECB) (59KD) (GTCP 36-300)</pre>	
AMM	49-62-00-710-001	Operational Test of Emergency Shutdown System (with APU SHUT OFF Switch 1KL) (GTCP 36-300)	
AMM	49-81-41-000-001	Removal of the Exhaust Muffler (GTCP 36-300)	
AMM	49-81-41-400-001	Installation of the Exhaust Muffler (GTCP 36-300)	

3. Fault Confirmation

- A. Do the subsequent checks.
 - (1) Make sure that the EMER SHUT DOWN was not caused by Maintenance Action.
 - (2) Make sure the APU FIRE pushbutton switch on the APU FIRE/WARN module (1WD) was not pushed by a person accidentally.

EFF: 232-232, 247-248, 252-252,

49-00-00 Page A222 Config-2 May 01/08

TROUBLE SHOOTING MANUAL

- (3) Make sure the APU SHUT OFF (1KL) switch on the external power-control panel 108VU was not pushed by a person accidentally.
- (4) Make sure that there is no water ingress in external power-control panel 108VU.
- (5) Do the test of the APU fire detection system (Ref. AMM TASK 26-22-00-710-001).
- (6) Do the ECB BITE Test (Ref. AMM TASK 49-00-00-710-001).

4. Fault Isolation

- A. If you find signs of water ingress in panel 108VU:
 - remove the APU SHUT OFF switch (1KL).
 - do a check for moisture/corrosion on the electrical connections.
 - dry the electrical connections.
 - re-install the APU SHUT OFF switch (1KL).
- B. If the tests do not confirm the fault:
 - do an inspection of the APU and the APU compartment and make sure that you do not find the signs of a fire (Ref. AMM TASK 05-23-10-200-003),
 - do a check and make sure that the APU bleed-air duct is in the correct condition and connected correctly,
 - do a check and make sure that the APU exhaust muffler is in the correct condition and connected correctly.
 - (1) If you find the signs of a fire when you do the inspection of the APU and the APU compartment:
 - do the applicable repair(s).
 - (2) If the APU bleed-air duct is not in the correct condition and/or connected correctly:
 - replace and/or connect the APU bleed-air duct correctly (Ref. AMM TASK 49-11-11-000-001) and (Ref. AMM TASK 49-11-11-400-001).
 - (3) If the APU exhaust muffler is not in the correct condition and/or connected correctly:
 - replace and/or connect the APU exhaust muffler correctly (Ref. AMM TASK 49-81-41-000-001) and (Ref. AMM TASK 49-81-41-400-001).
 - (4) If the APU bleed-air duct and the APU exhaust muffler are in the correct condition and connected correctly:
 - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-001) and (Ref. AMM TASK 49-61-34-400-001).

EFF: 232-232, 247-248, 252-252,

49-00-00 Page A223 Config-2 May 01/08

TROUBLE SHOOTING MANUAL

- C. If no fault was found in APU compartment:
 - do a check and make sure that the FIRE EMERG-STOP relay (5WF) is serviceable,
 - do a check and make sure that the APU SHUT OFF pushbutton switch (1KL) is serviceable (Ref. AMM TASK 49-62-00-710-001).
 - do a check and make sure the APU FIRE/WARN module (1WD) is serviceable (Ref. AMM TASK 26-13-00-710-001).
 - (1) If the FIRE EMERG STOP relay (5WF) is not serviceable: - replace the FIRE EMERG-STOP RELAY (5WF).
 - (2) If the APU SHUT OFF pushbutton switch (1KL) is not serviceable: replace the APU SHUT OFF PUSHBUTTON-SWITCH (1KL).
 - (3) If the APU FIRE/WARN module (1WD) is not serviceable: - replace the APU FIRE/WARN MODULE (1WD).
 - (4) If the FIRE EMERG STOP relay (5WF), the APU SHUT OFF pushbutton switch (1KL) and the APU FIRE/WARN module (1WD) are serviceable:
 - do a check and repair the wiring:
 - from the FIRE EMERG STOP relay (5WF) A/D1 to the ECB (59KD) AB/B4.
 - from the APU FIRE/WARN module (1WD) F/S to the ECB (59KD) AB/B4.
 - from the APU SHUT OFF pushbutton switch (1KL) 1 to the ECB (59KD) AB/B4.
 - (a) If the fault continues:
 - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-001) and (Ref. AMM TASK 49-61-34-400-001).
- D. If the APU BITE Test gives the maintenance message:

ECB 59KD:

- replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-001) and (Ref. AMM TASK 49-61-34-400-001).
- E. If you do not find the signs of a fire and the tests give a different maintenance message, do the trouble shooting procedure related to the maintenance message.
- F. Do the test given in para. 3.

EFF: 232-232, 247-248, 252-252,

49-00-00

Page A224 Config-2 May 01/08

TROUBLE SHOOTING MANUAL

TASK 49-00-00-810-859

Pressure Transducer Wiring Fault (GTCP 36-300)

- 1. Possible Causes
 - wiring
 - ECB (59KD)
- 2. Job Set-up Information
 - A. Referenced Information

REFERENCE		DESIGNATION
AMM	49-00-00-710-001	Self-Test of the ECB (59KD) (GTCP 36-300)
AMM	49-61-34-000-001	Removal of the Electronic Control Box (ECB) (59KD) (GTCP 36-300)
AMM	49-61-34-400-001	<pre>Installation of the Electronic Control Box (ECB) (59KD) (GTCP 36-300)</pre>
ASM	49-61/02	

3. Fault Confirmation

**ON A/C 232-232, 247-248, 252-252,

Post SB 49-1073 For A/C 232-232,247-248,252-252,

A. Do the self test of the ECB (59KD) (Ref. AMM TASK 49-00-00-710-001).

**ON A/C 232-232, 247-248, 252-252,

4. Fault Isolation

**ON A/C 232-232, 247-248, 252-252,

Post SB 49-1073 For A/C 232-232,247-248,252-252,

A. If the test gives the maintenance message:

CHECK PRESS XDCR WIRING (8001KM):

with the LRU TROUBLE SHOOT DATA menu information: PRESS XDCR WIRING SHOWS OPEN CIRCUIT Fault Code Number: 030

- do a check of the wiring from the ECB (59KD) A1, A4 to the DIFFERENTIAL PRESSURE TRANSDUCER (8043KM) P24 1, 2 (Ref. ASM 49-61/02).

EFF: 232-232, 247-248, 252-252,

49-00-00 Page A225 Config-2 May 01/08

TROUBLE SHOOTING MANUAL

- (1) If the wiring is OK:
 - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-001) and (Ref. AMM TASK 49-61-34-400-001).
- B. Do the test given in para. 3.

EFF: 232-232, 247-248, 252-252,

49-00-00 Page A226 Config-2 May 01/08

TROUBLE SHOOTING MANUAL

**ON A/C 232-232, 247-248, 252-252,

TASK 49-00-00-810-860

APU AUTO SHUTDOWN - UNDERSPEED, APU speed decreases with pneumatic/electrical load (GTCP 36-300)

1. Possible Causes

- COMPRESSOR INLET-PRESSURE TRANSDUCER (8048KM)
- clogged Fuel Filter
- FUEL CONTROL UNIT (8022KM)

2. Job Set-up Information

A. Referenced Information

REFERENCE		DESIGNATION
AMM	31-36-00-740-008	Access to the Parameter Call-Up Menus
AMM	49-00-00-860-003	APU Start by External Power (GTCP 36-300)
AMM	49-11-11-000-001	Removal of the Auxiliary Power Unit (APU) - 4005KM (GTCP 36-300)
AMM	49-11-11-400-001	<pre>Installation of the Auxiliary Power Unit (APU) - 4005KM (GTCP 36-300)</pre>
AMM	49-32-11-000-001	Removal of the Fuel Control Unit (FCU) (8022KM) (GTCP 36-300)
AMM	49-32-11-400-001	<pre>Installation of the Fuel Control Unit (FCU) (8022KM) (GTCP 36-300)</pre>
AMM	49-32-11-610-001	Servicing of the Fuel Filter (GTCP 36-300)
AMM	49-51-18-000-001	Removal of the Compressor Inlet-Pressure Sensor (GTCP 36-300)
AMM	49-51-18-400-001	<pre>Installation of the Compressor Inlet-Pressure Sensor (GTCP 36-300)</pre>

3. Fault Confirmation

**ON A/C 232-232, 247-248, 252-252,

Post SB 49-1073 For A/C 232-232,247-248,252-252,

A. Check/Test

- (1) Start the APU (Ref. AMM TASK 49-00-00-860-003)
- (2) Operate the APU in the Ready-to-Load condition (the blue AVAIL legend in the APU START pushbutton is on).

EFF: 232-232, 247-248, 252-252,

49-00-00 Page A227 Config-2 May 01/08

TROUBLE SHOOTING MANUAL

- (3) Read-out the parameter value of the ALPHA-CALL UP label P2A (P2 value) of the APU (Ref. AMM TASK 31-36-00-740-008).
- (4) Record the local, prevailing barometric pressure.
- (5) Release the APU GEN pushbutton-switch to switch on the APU generator.

**ON A/C 232-232, 247-248, 252-252,

4. Fault Isolation

**ON A/C 232-232, 247-248, 252-252,

Post SB 49-1073 For A/C 232-232,247-248,252-252,

A. If an APU auto shutdown occurs when the APU generator is switched on and the SHUTDOWNS report gives the maintenance message:

UNDERSPEED - FCU (8022KM)/APU FUEL SUPPLY/APU ROTATION

with LRU TROUBLE SHOOT DATA menu information: NO LRU FAULT DETECTED Fault Code Number: 204

- compare the ALPHA-CALL UP parameter value of the P2A label with the local barometric pressure.
- (1) If there is a noticable difference between both pressure values: - replace the COMPRESSOR INLET-PRESSURE TRANSDUCER (8048KM) (Ref. AMM TASK 49-51-18-400-001).
- (2) If there is no difference between the both pressure values:
 - do a check of the Fuel-Filter Differential-Pressure Indicator on the Fuel Control Unit.
 - (a) If the Fuel-Filter Differential-Pressure Indicator is extended: - do the servicing of the clogged Fuel Filter (Ref. AMM TASK 49-32-11-610-001).
 - 1 If the fault continues:
 - replace the FUEL CONTROL UNIT (8022KM) (Ref. AMM TASK 49-32-11-000-001) and (Ref. AMM TASK 49-32-11-400-001).
 - (b) If Fuel-Filter Differential-Pressure Indicator is not extended:
 - replace the FUEL CONTROL UNIT (8022KM) (Ref. AMM TASK 49-32-11-000-001) and (Ref. AMM TASK 49-32-11-400-001).

EFF: 232-232, 247-248, 252-252,

49-00-00

Page A228

Config-2 May 01/08

TROUBLE SHOOTING MANUAL

(c) If the fault continues:

NOTE: THE TORQUE LIMIT IS 29 lbf.ft (3.93 m.dan). DO NOT TURN THE SHAFT WITH A TORQUE MORE THAN THE LIMIT. A TORQUE MORE THAN THE LIMIT WILL DAMAGE THE COMPONENT.

- turn the manual drive shaft of the starter motor (8KA) in a counterclockwise direction (in the direction of the arrow on the housing) and make sure that:
 - you can turn the manual drive shaft of the starter motor equally,
 - . the APU rotors, bearings and gears do not rub,
 - . the APU rotors, bearings and gears do not make unsual noise.

NOTE: Turn the manual drive shaft of the starter motor with a torque wrench.

Make sure that the drag is 15 to 45 lbf.in (0.17 to 0.51 m.daN).

- If you find that the drag of the APU rotors, bearings and gears is too much, they do rub or they make unsual noise, replace the AUXILIARY POWER UNIT (4005KM) (Ref. AMM TASK 49-11-11-000-001) and (Ref. AMM TASK 49-11-11-400-001).
- B. Do the test given in para. 3.

EFF: 232-232, 247-248, 252-252,

49-00-00

Page A229

Config-2 May 01/08

TROUBLE SHOOTING MANUAL

**ON A/C 232-232, 247-248, 252-252,

TASK 49-00-00-810-861

APU AUTO SHUTDOWN - UNDERSPEED, Inlet Guide Vanes Fault (GTCP 36-300)

- 1. Possible Causes
 - ECB (59KD)
 - AUXILIARY POWER UNIT (4005KM)
- 2. Job Set-up Information
 - A. Referenced Information

REFERENCE		DESIGNATION
AMM 49-00	-00-710-004	Operational Test of the APU (4005KM) (GTCP 36-300)
AMM 49-11	-11-000-001	Removal of the Auxiliary Power Unit (APU) - 4005KM (GTCP 36-300)
AMM 49-11	-11-400-001	<pre>Installation of the Auxiliary Power Unit (APU) - 4005KM (GTCP 36-300)</pre>
AMM 49-23	-51-000-002	Removal of the Inlet Guide Vane-Actuator (8014KM) (GTCP 36-300)
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)

3. Fault Confirmation

**ON A/C 232-232, 247-248, 252-252,

Post SB 49-1073 For A/C 232-232,247-248,252-252,

A. Do the operational test of the APU (Ref. AMM TASK 49-00-00-710-004).

EFF: 232-232, 247-248, 252-252,

49-00-00

Page A230

Config-2 May 01/08

TROUBLE SHOOTING MANUAL

**ON A/C 232-232, 247-248, 252-252,

4. Fault Isolation

**ON A/C 232-232, 247-248, 252-252,

Post SB 49-1073 For A/C 232-232,247-248,252-252,

A. If an APU shutdown occurs during the APU operational test and the APU SHUTDOWNS report gives the maintenance message:

UNDERSPEED - CHECK IGV ASSEMBLY / IGV ACTUATOR (8014KM)

with the LRU TROUBLE SHOOT DATA menu information: IGV POSITION DISAGREES WITH COMMAND Fault Code Number: 084

- remove the IGV ACTUATOR (Ref. AMM TASK 49-23-51-000-002).
- (1) If the fault continues:
 - do a push/pull test on the IGVs to check the IGV movement.
 - . make sure that the IGV has a travel range of 1 in. (25.4 mm),
 - . measure the force of the IGV movement.
 - (a) If a force less than 30 lbf (13.34 m.daN) is necessary to move the IGVs and the travel range is OK:
 - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-001) and (Ref. AMM TASK 49-61-34-400-001).
 - (b) If a force more than 30 lbf (13.4 m.daN) is necessary to move the IGVs or the travel range is NOT OK:
 - replace the AUXILIARY POWER UNIT (4005KM) (Ref. AMM TASK 49-11-11-000-001) and (Ref. AMM TASK 49-11-11-400-001).
- B. Do the test given in para. 3.

EFF: 232-232, 247-248, 252-252,

49-00-00 Page A231 Config-2 May 01/08

TROUBLE SHOOTING MANUAL

**ON A/C 232-232, 247-248, 252-252,

TASK 49-00-00-810-862

Pressure Transducer Fault (GTCP 36-300)

1. Possible Causes

- COMPRESSOR INLET PRESSURE TRANSDUCER (8048KM)
- TOTAL PRESSURE TRANSDUCER (8044KM)
- ECB (59KD)

2. Job Set-up Information

A. Referenced Information

REFERENCE		DESIGNATION
AMM	49-00-00-710-004	Operational Test of the APU (4005KM) (GTCP 36-300)
AMM	49-51-17-000-001	Removal of the Total Pressure Sensor (8044KM) (GTCP 36-300)
AMM	49-51-17-400-001	<pre>Installation of the Total Pressure Sensor (8044KM) (GTCP 36-300)</pre>
AMM	49-51-18-000-001	Removal of the Compressor Inlet-Pressure Sensor (GTCP 36-300)
AMM	49-51-18-400-001	<pre>Installation of the Compressor Inlet-Pressure Sensor (GTCP 36-300)</pre>
AMM	49-61-34-000-001	Removal of the Electronic Control Box (ECB) (59KD) (GTCP 36-300)
AMM	49-61-34-400-001	<pre>Installation of the Electronic Control Box (ECB) (59KD) (GTCP 36-300)</pre>

3. Fault Confirmation

**ON A/C 232-232, 247-248, 252-252,

Post SB 49-1073 For A/C 232-232,247-248,252-252,

A. Do the operational test of the APU (Ref. AMM TASK 49-00-00-710-004).

EFF: 232-232, 247-248, 252-252,

49-00-00

Page A232

Config-2 May 01/08

TROUBLE SHOOTING MANUAL

**ON A/C 232-232, 247-248, 252-252,

4. Fault Isolation

**ON A/C 232-232, 247-248, 252-252,

Post SB 49-1073 For A/C 232-232,247-248,252-252,

A. If the test gives the maintenance message:

PRESS XDCRS (8044KM) / (8048KM)

with the LRU TROUBLE SHOOT DATA information: TOTAL PRESSURE AND INLET PRESSURE DISAGREE Fault Code Number: 027

- replace the COMPRESSOR INLET PRESSURE TRANSDUCER (8048KM) (Ref. AMM TASK 49-51-18-000-001) and (Ref. AMM TASK 49-51-18-400-001).
- (1) If the fault continues:
 - replace the TOTAL PRESSURE TRANSDUCER (8044KM) (Ref. AMM TASK 49-51-17-000-001) and (Ref. AMM TASK 49-51-17-400-001).
- (2) If the fault continues:
 - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-001) and (Ref. AMM TASK 49-61-34-400-001).
- B. Do the test given in para. 3.

EFF: 232-232, 247-248, 252-252,

49-00-00 Page A233 Config-2 May 01/08

TROUBLE SHOOTING MANUAL

**ON A/C 232-232, 247-248, 252-252,

TASK 49-00-00-810-863

Air Intake Actuator Fault (GTCP 36-300)

1. Possible Causes

- AIR INTAKE-FLAP ACTUATOR (4015KM)
- ECB (59KD)
- wiring

2. Job Set-up Information

A. Referenced Information

REFERENCE		DESIGNATION
AMM	49-16-00-710-001	Operational Test of the Air Intake and Diverter (GTCP 36-300)
AMM	49-16-51-000-001	Removal of the Air-Intake Flap Actuator (4015KM) (GTCP 36-300)
AMM	49-16-51-400-001	Installation of the Air-Intake FLap Actuator (4015KM) (GTCP 36-300)
AMM	49-61-34-000-001	Removal of the Electronic Control Box (ECB) (59KD) (GTCP 36-300)
AMM	49-61-34-400-001	<pre>Installation of the Electronic Control Box (ECB) (59KD) (GTCP 36-300)</pre>
ASM	49-16/01	

3. Fault Confirmation

A. Do the test of the air intake flap-actuator (Ref. AMM TASK 49-16-00-710-001).

4. Fault Isolation

A. If the test gives the maintenance message:

AIR INTAKE FLAP ACTR

or

AIR INTAKE FLAP ACTR OR ECB 59KD:

 $\underline{{\tt NOTE}}$: The APU SHUTDOWNS report gives the maintenance message: AIR INTAKE NOT OPEN - AIR INTAKE FLAP ACTR

EFF: 232-232, 247-248, 252-252,

49-00-00

Page A234

Config-2 May 01/08

TROUBLE SHOOTING MANUAL

- replace the AIR INTAKE-FLAP ACTUATOR (4015KM) (Ref. AMM TASK 49-16-51-000-001) and (Ref. AMM TASK 49-16-51-400-001).
- (1) If the fault continues:
 - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-001) and (Ref. AMM TASK 49-61-34-400-001).
- (2) If the fault continues:
 - do a check and repair the wiring from the ECB (59KD) AC/5, 4 to the electrical connector 7527VCA/J, K (Ref. ASM 49-16/01).
 - do a check and repair the wiring from the ECB (59KD) AB/G2, G3, G4,
 G5 to the electrical connector 7527VCA/D, C, E, B. (Ref. ASM 49-16/01).
 - do a check and repair the wiring from the electrical connector 7527VCA/A, L, F, to the ground (Ref. ASM 49-16/01).

**ON A/C 232-232, 247-248, 252-252,

Post SB 49-1073 For A/C 232-232,247-248,252-252,

A. If the test gives the maintenance message:

AIR INTAKE FLAP ACTR (4015KM)

with the LRU TROUBLE SHOOT DATA menu information:

INLET FLAP SHOWS FLAP CLOSE CIRCUIT OPEN

Fault Code Number: 064

or

INLET FLAP SHOWS FLAP CLOSE CIRCUIT SHORT

Fault Code Number: 065

or

INLET FLAP SHOWS FLAP CLOSE HIGH CURRENT

Fault Code Number: 069

or

INLET FLAP SHOWS FLAP OPEN CIRCUIT OPEN

Fault Code Number: 066

or

INLET FLAP SHOWS FLAP FAILED TO FULLY CLOSED

Fault Code Number: 072

or

INLET FLAP SHOWS FLAP OPEN CIRCUIT SHORT

Fault Code Number: 067

NOTE: The APU SHUTDOWNS report gives the maintenance message:

AIR INTAKE NOT OPEN - AIR INTAKE FLAP ACTR

- replace the AIR INTAKE-FLAP ACTUATOR (4015KM) (Ref. AMM TASK 49-16-51-000-001) and (Ref. AMM TASK 49-16-51-400-001).

EFF: 232-232, 247-248, 252-252,

49-00-00 Page A235

Config-2 May 01/08

TROUBLE SHOOTING MANUAL

- (1) If the fault continues:
 - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-001) and (Ref. AMM TASK 49-61-34-400-001).
- (2) If the fault continues:
 - do a check and repair the wiring from the ECB (59KD) AC/5, 4 to the electrical connector 7527VCA/J, K (Ref. ASM 49-16/01).
 - do a check and repair the wiring from the ECB (59KD) AB/G2, G3, G4, G5 to the electrical connector 7527VCA/D, C, E, B. (Ref. ASM 49-16/01).
 - do a check and repair the wiring from the electrical connector 7527VCA/A, L, F, to the ground (Ref. ASM 49-16/01).

**ON A/C 232-232, 247-248, 252-252,

B. Do the test given in para. 3.

EFF: 232-232, 247-248, 252-252,

49-00-00

Page A236

Config-2 May 01/08

TROUBLE SHOOTING MANUAL

TASK 49-00-00-810-864

Oil Level Switch Fault (Only for VECB P/N 3888394-230300 or P/N 3888394-230301) (GTCP 36-300)

1. Possible Causes

- OIL LEVEL SWITCH (8087KM)
- wiring
- ECB (59KD)

2. Job Set-up Information

A. Referenced Information

REFERENCE		DESIGNATION
AMM	49-00-00-710-004	Operational Test of the APU (4005KM) (GTCP 36-300)
AMM	49-61-34-000-001	Removal of the Electronic Control Box (ECB) (59KD) (GTCP 36-300)
AMM	49-61-34-400-001	<pre>Installation of the Electronic Control Box (ECB) (59KD) (GTCP 36-300)</pre>
AMM	49-93-16-000-001	Removal of the Oil Level Switch (8087KM) (GTCP 36-300)
AMM	49-93-16-400-001	<pre>Installation of the Oil Level Switch (8087KM) (GTCP 36-300)</pre>
ASM	49-61/02	

3. Fault Confirmation

A. Do the operational test of the APU (Ref. AMM TASK 49-00-00-710-004).

4. Fault Isolation

A. If the test gives the maintenance message:

OIL LEVEL SWITCH (8087KM)

with the LRU TROUBLE SHOOT DATA menu information: OIL QUANTITY SWITCHES DISAGREE Fault Code Number: 089

- replace the OIL LEVEL SWITCH (8087KM) (Ref. AMM TASK 49-93-16-000-001) and (Ref. AMM TASK 49-93-16-400-001).

EFF: 232-232, 247-248, 252-252,

49-00-00

Page A237

Config-2 May 01/08

TROUBLE SHOOTING MANUAL

- (1) If the fault continues:
 - do a check and repair the wiring from the ECB (59KD) AB/H1,H2,H3 to the OIL LEVEL SWITCH (8087KM) P8/1,2,3 (Ref. ASM 49-61/02).
 - (a) If the fault continues:
 - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-001) and (Ref. AMM TASK 49-61-34-400-001).
- B. Do the test given in para. 3.

EFF: 232-232, 247-248, 252-252,

49-00-00

Page A238

Config-2 May 01/08

TROUBLE SHOOTING MANUAL

TASK 49-00-00-810-865

APU AVAILABLE signal fault (GTCP 36-300)

1. Possible Causes

- RELAY APU AVAIL (6KD)
- wiring
- ECB (59KD)
- RELAY-BOARD ANN LT TEST (7LP)

2. Job Set-up Information

A. Referenced Information

REFERENCE		DESIGNATION		
AMM	33-14-00-710-001	Operational Test of the Lights		
AMM	33-14-33-000-001	Removal of the Annunciator-Light Test and		
		<pre>Interface-Board (1LP, 2LP, 3LP, 4LP, 5LP, 6LP, 7LP,</pre>		
		8LP, 9LP, 10LP, 11LP, 12LP, 18LP, 19LP, 20LP)		
AMM	33-14-33-400-001	Installation of the Annunciator-Light Test and		
		<pre>Interface-Board (1LP, 2LP, 3LP, 4LP, 5LP, 6LP, 7LP,</pre>		
		8LP, 9LP, 10LP, 11LP, 12LP, 18LP, 19LP, 20LP)		
AMM	49-00-00-710-001	Self-Test of the ECB (59KD) (GTCP 36-300)		
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)		
ASM	49-61/00			

3. Fault Confirmation

**ON A/C 232-232, 247-248, 252-252,

Post SB 49-1073 For A/C 232-232,247-248,252-252,

A. Do the self test of the ECB (59KD) (Ref. AMM TASK 49-00-00-710-001).

EFF: 232-232, 247-248, 252-252,

49-00-00

Page A239

Config-2 May 01/08

TROUBLE SHOOTING MANUAL

**ON A/C 232-232, 247-248, 252-252,

4. Fault Isolation

**ON A/C 232-232, 247-248, 252-252,

Post SB 49-1073 For A/C 232-232,247-248,252-252,

A. If the test gives the maintenence message:

WRG: APU AVAILABLE

with the LRU TROUBLE SHOOT DATA menu information: APU AVAILABLE SHOWS CIRCUIT FAILURE Fault Code Number: 130

- do the operational test of the annunciator light test (Ref. AMM TASK 33-14-00-710-001).
- (1) If the AVAIL legend in the APU START p/bsw comes on: - replace the RELAY - APU AVAIL (6KD).
 - (a) If the fault continues:
 - do a check for for short to ground of the wiring from the ECB (59KD) AB/J6 to RELAY-APU AVAIL (6KD) 6KD-A/X1 (Ref. ASM 49-61/00).
 - 1 If the fault continues:
 - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-001) and (Ref. AMM TASK 49-61-34-400-001).
- (2) If the AVAIL legend in the APU START p/bsw does not come on:
 - replace the RELAY-BOARD ANN LT TEST (7LP) (Ref. AMM TASK 33-14-33-000-001) and (Ref. AMM TASK 33-14-33-400-001).
 - (a) If the fault continues:
 - do a check for for short to ground of the wiring from the ECB (59KD) AB/J6 to RELAY-BOARD ANN LT TEST (7LP) 7LP-A/21 (Ref. ASM 49-61/00).
 - 1 If the fault continues:
 - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-001) and (Ref. AMM TASK 49-61-34-400-001).
- B. Do the test given in para. 3.

EFF: 232-232, 247-248, 252-252,

49-00-00

Page A240 Config-2 May 01/08

TROUBLE SHOOTING MANUAL

**ON A/C 232-232, 247-248, 252-252,

TASK 49-00-00-810-866

APU FAULT signal fault (GTCP 36-300)

- 1. Possible Causes
 - wiring
 - ECB (59KD)
 - RELAY-BOARD ANN LT TEST (7LP)
- 2. Job Set-up Information
 - A. Referenced Information

REFERENCE		DESIGNATION		
AMM	33-14-00-710-001	Operational Test of the Lights		
AMM	33-14-33-000-001	Removal of the Annunciator-Light Test and		
		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		
		<pre>Interface-Board (1LP, 2LP, 3LP, 4LP, 5LP, 6LP, 7LP,</pre>		
		8LP, 9LP, 10LP, 11LP, 12LP, 18LP, 19LP, 20LP)		
AMM	49-00-00-710-001	Self-Test of the ECB (59KD) (GTCP 36-300)		
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)		
ASM	49-61/00			

3. Fault Confirmation

**ON A/C 232-232, 247-248, 252-252,

Post SB 49-1073 For A/C 232-232,247-248,252-252,

A. Do the self test of the ECB (59KD) (Ref. AMM TASK 49-00-00-710-001).

EFF: 232-232, 247-248, 252-252,

49-00-00

Config-2 May 01/08

TROUBLE SHOOTING MANUAL

**ON A/C 232-232, 247-248, 252-252,

4. Fault Isolation

**ON A/C 232-232, 247-248, 252-252,

Post SB 49-1073 For A/C 232-232,247-248,252-252,

A. If the test gives the maintenance message:

WRG: APU FAULT RELAY

with the LRU TROUBLE SHOOT DATA menu information: APU AVAILABLE SHOWS CIRCUIT FAILURE Fault Code Number: 136

- do the operational test of the annunciator light test (Ref. AMM TASK 33-14-00-710-001).
- (1) If the FAULT legend in the APU MASTER p/bsw comes on: - do a check for for short to ground of the wiring from the ECB (59KD) AB/H5 to RELAY-BOARD ANN LT TEST (7LP) 7LP-A/39 (Ref. ASM 49-61/00).
 - (a) If the fault continues:
 - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-001) and (Ref. AMM TASK 49-61-34-400-001).
- (2) If the FAULT legend in the APU MASTER p/bsw does not come on: - replace the RELAY-BOARD ANN LT TEST (7LP) (Ref. AMM TASK 33-14-33-000-001) and (Ref. AMM TASK 33-14-33-400-001).
 - (a) If the fault continues:
 - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-001) and (Ref. AMM TASK 49-61-34-400-001).
- B. Do the test given in para. 3.

EFF: 232-232, 247-248, 252-252,

49-00-00

Page A242

Config-2 May 01/08

TROUBLE SHOOTING MANUAL

**ON A/C 232-232, 247-248, 252-252,

TASK 49-00-00-810-867

START IN PROGRESS signal fault (GTCP 36-300)

- 1. Possible Causes
 - wiring
 - ECB (59KD)
 - RELAY-BOARD ANN LT TEST (7LP)
- 2. Job Set-up Information
 - A. Referenced Information

REFERENCE		DESIGNATION		
	77 4/ 00 740 004			
AMM	33-14-00-710-001	Operational Test of the Lights		
AMM	33-14-33-000-001	Removal of the Annunciator-Light Test and		
		<pre>Interface-Board (1LP, 2LP, 3LP, 4LP, 5LP, 6LP, 7LP,</pre>		
		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,		
		8LP, 9LP, 10LP, 11LP, 12LP, 18LP, 19LP, 20LP)		
AMM	49-00-00-710-001	Self-Test of the ECB (59KD) (GTCP 36-300)		
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)		
ASM	49-42/01	(2)		
7311	7/ 72/01			

3. Fault Confirmation

**ON A/C 232-232, 247-248, 252-252,

Post SB 49-1073 For A/C 232-232,247-248,252-252,

A. Do the self test of the ECB (59KD) (Ref. AMM TASK 49-00-00-710-001).

EFF: 232-232, 247-248, 252-252,

49-00-00

Page A243

Config-2 May 01/08

TROUBLE SHOOTING MANUAL

**ON A/C 232-232, 247-248, 252-252,

4. Fault Isolation

**ON A/C 232-232, 247-248, 252-252,

Post SB 49-1073 For A/C 232-232,247-248,252-252,

A. If the test gives the maintenance message:

WRG: START IN PROGRESS

with the LRU TROUBLE SHOOT DATA menu information: APU START IN PROGRESS CIRCUIT FAILURE Fault Code Number: 144

- do the operational test of the annunciator light test (Ref. AMM TASK 33-14-00-710-001).
- (1) If the FAULT legend in the APU MASTER p/bsw comes on: - do a check for for short to ground of the wiring from the ECB (59KD) AB/H9 to RELAY-BOARD ANN LT TEST (7LP) 7LP-A/15 (Ref. ASM 49-42/01).
 - (a) If the fault continues:
 - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-001) and (Ref. AMM TASK 49-61-34-400-001).
- (2) If the FAULT legend in the APU MASTER p/bsw does not come on: - replace the RELAY-BOARD ANN LT TEST (7LP) (Ref. AMM TASK 33-14-33-000-001) and (Ref. AMM TASK 33-14-33-400-001).
 - (a) If the fault continues:
 - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-001) and (Ref. AMM TASK 49-61-34-400-001).
- B. Do the test given in para. 3.

EFF: 232-232, 247-248, 252-252,

49-00-00

Page A244

Config-2 May 01/08

TROUBLE SHOOTING MANUAL

**ON A/C 232-232, 247-248, 252-252,

TASK 49-00-00-810-868

APU AUTO SHUTDOWN - NO ACCELERATION, shutdown without LRU indication (GTCP 36-300)

1. Possible Causes

- aircraft BATTERIES
- APU internal damage
- APU GENERATOR (8XS)
- STARTER MOTOR CLUTCH
- STARTER MOTOR (8KA)
- ECB (59KD)

2. Job Set-up Information

A. Fixtures, Tools, Test and Support Equipment

REFERENCE QTY DESIGNATION

No specific ratchet No specific socket

B. Referenced Information

REFERENCE DESIGNATION

AMM	24-23-51-000-001	Removal of the APU Generator 8XS
AMM	24-23-51-400-001	Installation of the APU Generator 8XS
AMM	24-38-00-210-001	Visual Inspection of the Batteries (2PB1, 2PB2)
AMM	49-00-00-710-004	Operational Test of the APU (4005KM) (GTCP 36-300)
AMM	49-42-51-000-005	Removal of the Starter Motor (8KA) (GTCP36-300)
AMM	49-42-51-400-005	Installation of the Starter Motor (8KA) (GTCP36-300)
AMM	49-42-52-000-001	Removal of the Starter Motor Clutch (8033KM) (GTCP
		36-300)
AMM	49-42-52-400-001	Installation of the Starter Motor Clutch (8033KM)
		(GTCP 36-300)
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)
AMM	49-91-42-200-001	Check APU Magnetic Chip Detector (MCD) (GTCP 36-300)

EFF: 232-232, 247-248, 252-252,

49-00-00

Page A245

Config-2 May 01/08

TROUBLE SHOOTING MANUAL

3. Fault Confirmation

**ON A/C 232-232, 247-248, 252-252,

Post SB 49-1073 For A/C 232-232,247-248,252-252,

A. Do the operational test of the APU (Ref. AMM TASK 49-00-00-710-004).

**ON A/C 232-232, 247-248, 252-252,

4. Fault Isolation

**ON A/C 232-232, 247-248, 252-252,

Post SB 49-1073 For A/C 232-232,247-248,252-252,

A. If an APU auto shutdown occurs during the APU operation and the APU SHUTDOWN report gives the maintenance message:

NO ACCELERATION - STARTER MOTOR (8KA)/APU ROTATION

with the LRU TROUBLE SHOOT DATA menu information NO LRU DETECTED Fault Code Number: 216

- do a check of the aircraft BATTERIES (Ref. AMM TASK 24-38-00-210-001).

(1) If the fault continues:

- do a check for APU internal damage.

- do a check for contamination of the MAGNETIC-DRAIN PLUG (Ref. AMM TASK 49-91-42-200-001).

NOTE : If the MAGNETIC-DRAIN PLUG is not contaminated, continue without starting the APU.

- remove the end cap of the STARTER MOTOR (8KA).
- use a socket and a ratchet on the shaft of the STARTER MOTOR (8KA) to turn the APU counterclockwise (in the direction of the arrow on the housing).
- make sure that the APU rotates freely.
- (a) If the APU rotates freely:
 - replace the APU GENERATOR (8XS) (Ref. AMM TASK 24-23-51-000-001) and (Ref. AMM TASK 24-23-51-400-001).
 - 1 If the fault continues:
 - replace the STARTER MOTOR CLUTCH (Ref. AMM TASK 49-42-52-000-001) and (Ref. AMM TASK 49-42-52-400-001).

EFF: 232-232, 247-248, 252-252,

49-00-00 Page A246 Config-2 May 01/08

TROUBLE SHOOTING MANUAL

- 2 If the fault continues:
 - replace the STARTER MOTOR (8KA) (Ref. AMM TASK 49-42-51-000-005) and (Ref. AMM TASK 49-42-51-400-005).
- 3 If the fault continues:
 - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-001) and (Ref. AMM TASK 49-61-34-400-001).
- (b) If the APU does not rotate freely:
 - replace the APU (4005KM)
- B. Do the test given in para. 3.

EFF: 232-232, 247-248, 252-252,

49-00-00 Page A247 Config-2 May 01/08

TROUBLE SHOOTING MANUAL

**ON A/C 232-232, 247-248, 252-252,

TASK 49-00-00-810-869

LOAD VALVE OPEN signal Fault (GTCP 36-300)

- 1. Possible Causes
 - wiring
 - ECB (59KD)
- 2. Job Set-up Information
 - A. Referenced Information

REFERENCE		DESIGNATION
AMM	49-00-00-710-004	Operational Test of the APU (4005KM) (GTCP 36-300)
AMM	49-61-34-000-001	Removal of the Electronic Control Box (ECB) (59KD) (GTCP 36-300)
AMM	49-61-34-400-001	<pre>Installation of the Electronic Control Box (ECB) (59KD) (GTCP 36-300)</pre>
ASM	21-63/02	

3. Fault Confirmation

**ON A/C 232-232, 247-248, 252-252,

Post SB 49-1073 For A/C 232-232,247-248,252-252,

A. Do the operational test of the APU (Ref. AMM TASK 49-00-00-710-004).

**ON A/C 232-232, 247-248, 252-252,

4. Fault Isolation

**ON A/C 232-232, 247-248, 252-252,

Post SB 49-1073 For A/C 232-232,247-248,252-252,

A. If the test gives the maintenance message:

WRG: LOAD VALVE OPEN

with the LRU TROUBLE SHOOT DATA menu information: LOAD VALVE OPEN CIRCUIT FAILURE

Fault Code Number: 138

EFF: 232-232, 247-248, 252-252,

49-00-00

Page A248

Config-2 May 01/08

TROUBLE SHOOTING MANUAL

- do a check and repair of the wiring from the ECB (59KD) AB/H8 to CONT.
 ZONE TEMP (8HK) 8HK-AA/2A (Ref. ASM 21-63/02).
- (1) If the fault continues:
 - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-001) and (Ref. AMM TASK 49-61-34-400-001).
- B. Do the test given in para. 3.

EFF: 232-232, 247-248, 252-252,

49-00-00 Page A249 Config-2 May 01/08

TROUBLE SHOOTING MANUAL

**ON A/C 232-232, 247-248, 252-252,

TASK 49-00-00-810-871

Visual Oil-Filter Clogging-Indicator popped out (GTCP 36-300)

- 1. Possible Causes
 - GEN-APU (8XS)
 - AUXILIARY POWER UNIT (4005KM)
- 2. Job Set-up Information
 - A. Referenced Information

REFERENCE		DESIGNATION		
AMM	24-23-51-000-001	Removal of the APU Generator 8XS		
AMM	24-23-51-400-001	Installation of the APU Generator 8XS		
AMM	49-00-00-710-004	Operational Test of the APU (4005KM) (GTCP 36-300)		
AMM	49-00-00-860-003	APU Start by External Power (GTCP 36-300)		
AMM	49-00-00-860-004	APU Shutdown by External Power (GTCP 36-300)		
AMM	49-11-00-000-002	Removal of the Generator Substitution Kit after		
		Trouble Shooting (GTCP 36-300)		
AMM	49-11-00-400-002	Installation of the Generator Substitution Kit for		
		Trouble Shooting (GTCP 36-300)		
AMM	49-11-11-000-001	Removal of the Auxiliary Power Unit (APU) - 4005KM		
		(GTCP 36-300)		
AMM	49-11-11-400-001	Installation of the Auxiliary Power Unit (APU) -		
		4005KM (GTCP 36-300)		
AMM	49-90-00-600-002	Oil Change (Drain Method) (GTCP 36-300)		
AMM	49-91-42-200-001	Check APU Magnetic Chip Detector (MCD) (GTCP 36-300)		
AMM	49-91-45-200-002	Remove and discard Lube Filter and Generator Scavenge		
		Filter Elements (GTCP 36-300)		

3. Fault Confirmation

- A. Check/Test
 - (1) Do the operational test of the APU (Ref. AMM TASK 49-00-00-710-004).
 - (2) Do a visual check of the differential pressure indicators of the APU generator scavenge filter and the APU lubrication filter.

EFF: 232-232, 247-248, 252-252,

49-00-00

Page A250 Config-2 May 01/08

TROUBLE SHOOTING MANUAL

4. Fault Isolation

- A. If the differential pressure indicator confirms that the APU generator scavenge filter and/or the APU lubrication filter is/are clogged:
 - remove the oil filter elements (Ref. AMM TASK 49-91-45-200-002),
 - do an inspection of the removed oil filter elements (Ref. AMM TASK 49-91-45-200-002),
 - do an inspection of the magnetic drain plug (Ref. AMM TASK 49-91-42-200-001).
 - install the oil filter elements (Ref. AMM TASK 49-91-45-200-002),
 - (1) If the inspections show that the filter elements has caught:
 - .copper wire particles,
 - .nonmetallic flakes,
 - .phenolic resin.
 - remove the GEN-APU (8XS) (Ref. AMM TASK 24-23-51-000-001) and install a generator cover plate (Ref. AMM TASK 49-11-00-400-002),
 - change the APU oil (Ref. AMM TASK 49-90-00-600-002),
 - start and operate the APU for 15 minutes (Ref. AMM TASK 49-00-00-860-003),
 - shutdown the APU (Ref. AMM TASK 49-00-00-860-004),
 - remove the oil filter elements (Ref. AMM TASK 49-91-45-200-002),
 - do an inspection of the removed oil filter elements (Ref. AMM TASK 49-91-45-200-002),
 - do an inspection of the magnetic drain plug (Ref. AMM TASK 49-91-42-200-001).
 - (a) If you do not find contamination after 15 min. APU operation:
 - remove the generator cover plate (Ref. AMM TASK 49-11-00-000-002),
 - install a new GEN-APU (8XS) (Ref. AMM TASK 24-23-51-400-001)
 - install the serviceable oil filter elements (Ref. AMM TASK 49-91-45-200-002),
 - (b) If you find contamination after 15 min. APU operation:
 - install the oil filter elements (Ref. AMM TASK 49-91-45-200-002).
 - replace the AUXILIARY POWER UNIT (4005KM) (Ref. AMM TASK 49-11-11-000-001) and (Ref. AMM TASK 49-11-11-400-001),
 - (c) If the inspections show that the filter elements has caught brass or silver-plated steel particles:
 - replace the AUXILIARY POWER UNIT (4005KM) (Ref. AMM TASK 49-11-11-000-001) and (Ref. AMM TASK 49-11-11-400-001).
- B. Do the test given in para. 3.

EFF: 232-232, 247-248, 252-252,

49-00-00 Page A251 Config-2 May 01/08

TROUBLE SHOOTING MANUAL

TASK 49-00-00-810-991

APU AUTO Shutdown without Bite Message

- 1. Possible Causes
 - water ingress in Panel 121AL
 - Panel 108VU
- 2. Job Set-up Information
 - A. Referenced Information

REFERENCE DESIGNATION

AMM 31-10-00-700-001 Test Program after Removal/Installation of a VU panel

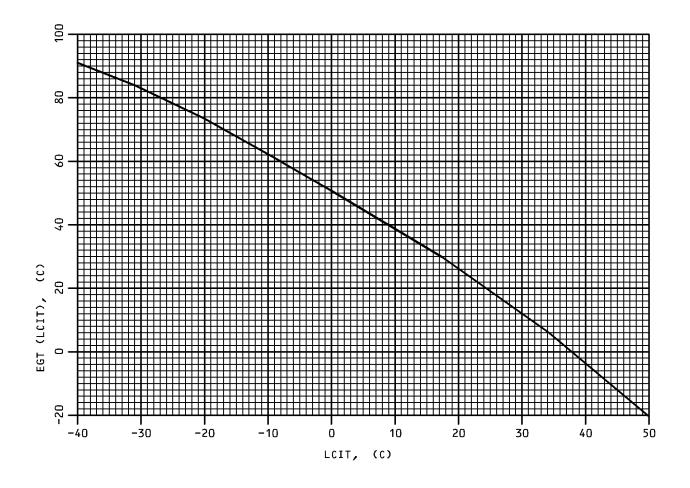
- 3. Fault Confirmation
 - A. Check
 - (1) Do a check for water ingress in Panel 121AL.
 - (2) Dry the panel 108VU.
 - (3) Do the test (Ref. AMM TASK 31-10-00-700-001) for panel 108VU.
- 4. Fault Isolation
 - A. If the test fails and/or the APU shutdown without BITE Message: - replace Panel 108VU.
 - B. Do the test as Para. 3.A.

232-232, 247-248, 252-252, EFF:

49-00-0

Config-2 May 01/08

TROUBLE SHOOTING MANUAL



> Correction for Inlet Temperature (LCIT), RTL Figure 201/TASK 49-00-00-991-002

> > Printed in France

EFF:

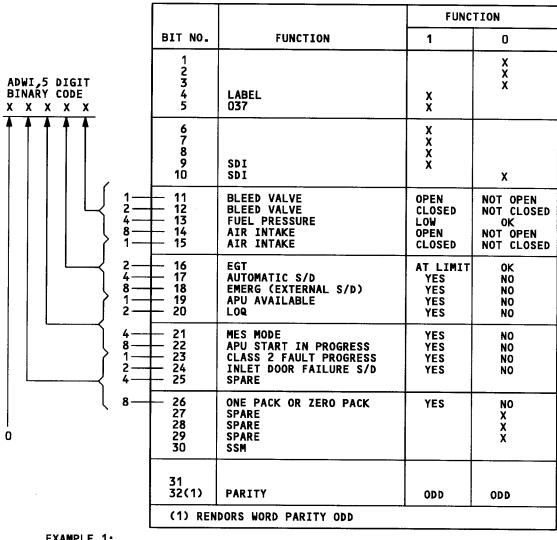
232-232, 247-248, 252-252,

SROS

49-00-00

Page A253 Config-2 May 01/08

TROUBLE SHOOTING MANUAL



EXAMPLE 1:

XXXXX=08509 BLEED VALVE OPEN, AND AIR INTAKE OPEN
NO BITS ACTIVATED
APU AVAILABLE, AND MES MODE
ONE PACK OR ZERO PACK MODE 8 NO BITS ACTIVATED **EXAMPLE 2:** 2 XXXXX=08109 8

- BLEED VALVE OPEN, AND AIR INTAKE OPEN NO BITS ACTIVATED
APU AVAILABLE, AND NOT MES MODE
ONE PACK OR ZERO PACK MODE NO BITS ACTIVATED

APU Descrete Word (ADW1) DMU Report Label 7A037 Figure 202/TASK 49-00-00-991-001

232-232, 247-248, 252-252, EFF:

49-00-00

Page A254 Config-2 May 01/08

SROS

8 49

NL6

TROUBLE SHOOTING MANUAL

AIRBORNE AUXILIARY POWER - GENERAL ((APS 3200)) - TASK SUPPORTING DATA

R **ON A/C 201-225, 227-227, 229-231, 233-244, 247-250, 252-299, 426-456, 476-499, 503-549, 551-599, 701-749, Post SB 49-1061 For A/C 201-225,227-227,229-231,233-244,247-250,252-253, 276-299,426-450,476-499,503-549,551-599,701-749,

1. LRU Location (Ref. Fig. 301)

R

R **ON A/C 201-203, 227-227, 229-231, 233-237, 276-281, 457-478,

- 2. APS 3200 ECB software 2.0.2 nuisance faults (Ref. SIL 49-027)
 - A. Fuel Low Pressure Valve Fault on ECAM after APU autoshutdown
 - (1) Problem

When an APU autoshutdown occurs, the ECB will energize the APU Fuel Low Pressure Valve (via the ECB Fault output). This causes the valve to close. In parallel the ECB transmits to the aircraft Flight Warning Computer that an APU autoshutdown has occured (via ARINC 429 interface).

The aircraft ECAM system will then instruct the operator to set the APU MASTER SW to OFF. With version 2.0.2, when the APU MASTER SW is set to OFF, the ECB de-ennergize the APU Fuel Low Pressure Valve. This causes the valve to open again.

The aircraft Flight Warning Computer expects the APU Fuel Low Pressure Valve to be closed but the action of ECB software 2.0.2 will result in a "fault" condition.

(2) Advice

Please disregard the "APU Fuel Low Pressure Valve Fault" if it occurs when the APU MASTER SW is set to OFF after an APU autoshutdown.

**ON A/C 201-225, 234-250, 252-253, 276-278, 280-280, 282-299, 426-450, 479-499, 503-549, 551-599, 701-749,

- 3. APS 3200 ECB Software 4.1 particularities
 - A. Load Compressor Discharge Temperature Sensor (LCDT P29) (Ref. SIL 49-033)
 - (1) Reason

With the introduction of ECB software version 4.1, the LCDT P29 sensor output signal is no longer used in the ECB control loop for APU surge protection, but it is still checked by the ECB for correct function.

Therefore the LCDT P29 can be flagged faulty with the class 1 fault message "LCDT Sensor P29".

201-225, 227-227, 229-231, 233-250, 252-299, 426-499, 503-549, 551-599, 701-749,

49-00-

Config-1 May 01/08

TROUBLE SHOOTING MANUAL

ITEM	CONNECTOR	FIN	LRU-DESIGNATION	ATA
1	P4	8XS	APU GENERATOR	24-23-51
2	P5	8073KM	GENERATOR SCAV PMP FILTER-SWITCH AND INDICATOR	49-91-21
3	Р6	8075KM	LUBE PMP FILTER-SWITCH AND INDICATOR	49-91-23
4	P8	8089KM	OIL LEVEL SENSOR	49-93-17
5	P10	8030KM	IGNITION UNIT	49-41-38
6	P14	8091KM	OIL PRESSURE SWITCH	49-94-14
7	P15	8083KM	DE-OILING SOLENOID VALVE	49-91-49
8	P17	5030QM	LOW FUEL PRESSURE SWITCH	28-22-14
9	P19	8022KM	FUEL CONTROL UNIT	49-32-11
10	P20	8061KM	ENGINE IDENTIFICATION MODULE	49-73-31
11	P21	8014KM	IGV ACTUATOR	49-23-51
12	P22	8013KM	INLET TEMP/INLET PRESS SENSOR	49-23-17
13	P24	8039KM	STATIC PRESS AND DIFFERENTIAL PRESS SENSOR	49-51-19
14	P25	8084KM	OIL SUMP TEMPERATURE SENSOR	49-91-51
15	P26	8060KM1	SPEED SENSOR 1	49-71-13
16	P27	8060KM2	SPEED SENSOR 2	49-71-13
17	P28	8055KM	COOLING FAN PMG ASSY	49-52-53
18	P30	8057KM1	THERMOCOUPLE	49-72-15
19	P31	8057KM2	THERMOCOUPLE	49-72-15
20	P32	8KA	STARTER MOTOR	49-42-51
21	P33	8051KM	BLEED CONTROL VALVE	49-51-53
22		8033KM	STARTER CLUTCH	49-42-52
23		8076KM	LUBE OIL FILTER	49-91-41
24		8069KM	GENERATOR SCAVENGE OIL FILTER	49-91-41
25		8077KM	MAGNETIC DRAIN PLUG	49-91-42
26		8079KM	OIL COOLER	49-91-44
27		8020KM	PRIMARY FUEL NOZZLE AND MANIFOLD	49-31-41
28		8021KM	SECONDARY FUEL NOZZLE AND MANIFOLD	49-31-42
29		8024KM	FLOW DIVIDER	49-32-12
30		8027KM	COMBUSTION CHAMBER DRAIN VALVE	49-32-51
31		8028KM	FUEL FILTER	
32		8031KM	IGNITION PLUG	49-41-41
33		8032KM	ELECTRICAL LEAD-IGNITER PLUG	49-41-43
34		8078KM	PRESSURE RELIEVE VALVE	49-91-43

8

APU LRUs - FIN/Connector/Location Figure 301 (SHEET 1)

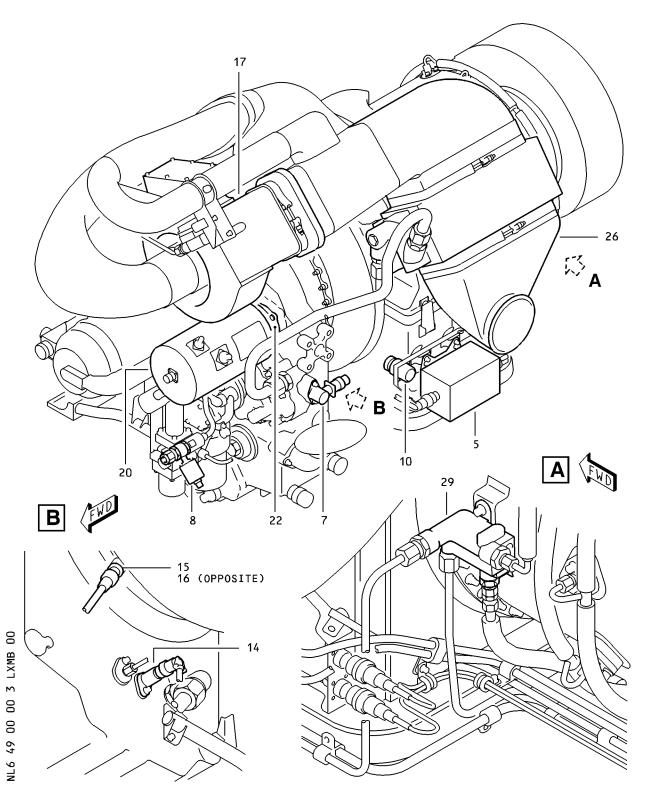
EFF: 201-225, 227-227, 229-231, 233-244, 247-250, 252-299, 426-456, 476-499, 503-549, 551-599, 701-749, SROS

49-00-00

Page 302

Config-1 May 01/08

TROUBLE SHOOTING MANUAL

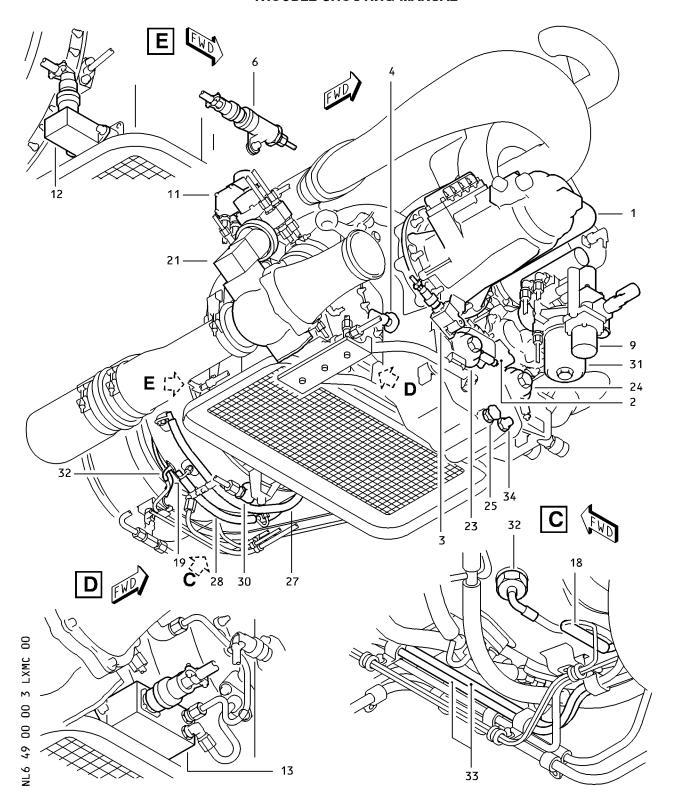


APU LRUs - FIN/Connector/Location Figure 301 (SHEET 2)

R EFF: 201-225, 227-227, 229-231, 233-244, 247-250, 252-299, 426-456, 476-499, 503-549, 551-599, 701-749, SROS

49-00-00Page 303
Config-1 May 01/08

TROUBLE SHOOTING MANUAL



APU LRUs - FIN/Connector/Location Figure 301 (SHEET 3)

R EFF: 201-225, 227-227, 229-231, 233-244, 247-250, 252-299, 426-456, 476-499, 503-549, 551-599, 701-749, SROS

49-00-00Page 304
Config-1 May 01/08

TROUBLE SHOOTING MANUAL

(2) Advise

In case of "LCDT Sensor P29" class 1 fault is flagged on the CFDS, disregard it, and do not proceed to the associated Trouble Shooting procedure.

- B. APU Low Starting Problem
 (Ref. SIL 49-035)
 - (1) Reason

With the introduction of ECB software 4.1 in combination with APU performance deterioration and the use of type two oil, induces extra drag during APU start. This results in an APU - NO ACCELERATION autoshutdown.

(2) Advise

As an interim solution it is recommended to disconnect the High Oil Temperature (HOT) sensor P25. This will result in a constant APU bearings de-oiling during start sequence, restoring normal APU start capability.

The APU system is designed with a redundant HOT sensor in the APU Generator 8XS for the oil system to protect it against High Oil Temperature.

With the HOT sensor P25 disconnected, the HOT sensor in the APU generator leads to an APU autoshutdown or inhibited start in case of real High Oil Temperature.

To make sure that the APU is still protected against High Oil Temperature, it is necessary to check the correct function of the APU generator HOT sensor (no class 3 fault "GENERATOR 8XS" present) prior to any disconnection of the HOT sensor P25.

R **ON A/C 201-225, 227-227, 229-231, 233-250, 252-299, 426-499, 503-549, R 551-599, 701-749,

APU Fault Symptom Peculiarities (Ref. Fig. 302)

Whenever the operation of the APU may result in damage to the aircraft, the APU or the Electronic Control Box (ECB) of the APU, the ECB shuts down the APU automatically. The cause of the Shutdown and associated LRUs are stored in the ECB memory. This information is available on the APU system related CFDS menu page APU SHUTDOWNS.

i.e. NO FLAME
IGNITION EXCITER P12

(shutdown cause)

(faulty LRU)

In parallel the ECB generates a maintenance message with associated ATA Chapter and related Fault Class of the faulty LRU. This maintenance message is available on the Post Flight Report (PFR), which is, in the AIRBUS TSM philosophy, the entry point to the TSM.

i.e. ATA 494138
CLASS: 1
IGNITION EXCITER P12

EFF: 201-225, 227-227, 229-231, 233-250, 252-299, 426-499, 503-549, 551-599, 701-749,

49-00-00

Page 305

Config-1 May 01/08

TROUBLE SHOOTING MANUAL

EXAMPLE AUTO SHUTDOWN

WARNINGS/MALFUNCTIONS		CFDS FAULT MESSAGES			FAULT ISOLATION	
WARRINGS / IMEL SHOT I SHO	SOURCE	MESSAGE	ATA	c	PROCEDURE	
APU AUTO SHUT DOWN	APU	NO ACCELERATION ASSOCIATED WITH	ASD _	*	490000 P 203	
	APU	CURRENT LIMTER 6KA OR CONTACTOR 10KA	494200	1	T 810 879	
APU AUTO SHUT DOWN	APU	NO ACCELERATION ASSOCIATED WITH	ASD	*	490000 P 236	
	APU	STARTER MOTOR 8KA OR STARTER CLUTCH ASSY	494251	1	T 810 897	
APU AUTO SHUT DOWN	APU	NO ACCELERATION ASSOCIATED WITH	ASD	*	490000 P 238	
	APU	FCU P19 OR IGV ACTR P21 OR FUEL FLOW DIVIDER	493211	1	T 810 898	
APU AUTO SHUT DOWN	APU	NO ACCELERATION ASSOCIATED WITH	ASD	*	490000 P 243	
	APU	FCU P19 OR IGV ACTR P21 OR IN T/P SNSR P22	493211	1	T 810 900	
APU AUTO SHUT DOWN	APU	NO ACCELERATION ————————————————————————————————————	ASD	*	490000 P 288	
	APU	CONTACTOR 5KA OR ECB 59KD	494241	1	т 810 927	
\ \						

SHUTDOWN CAUSE

NOTE:

THE (*) IN THE 49-ECAM INDEX "C" COLUMN DENOTES THAT THIS FAULT/MALFUNCTION IS ALSO AVAILABLE IN THE CFDS APU SHUTDOWNS MENU WITH ITS ASSOCIATED SHUTDOWN CAUSE

Example of APU Fault Symptom Page Figure 302

EFF: 201-225, 227-227, 229-231, 233-250, 252-299, 426-499, 503-549, 551-599, 701-749, SROS

49-00-00

Page 306 Config-1 May 01/08

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8

TROUBLE SHOOTING MANUAL

During several operator conferences concerning the APU TSM it has been shown that likely most operators prefer into TSM with the information of the APU SHUTDOWNS menu, which shows the same faulty LRU as the PFR but additionally the shutdown reason.

It has been decided to follow the operators preferences to combine the PFR maintenance message with the Shutdown cause in one Fault Symptom in TSM 49:

i.e.	Source	ce Message		Class
	ECB	NO FLAME	ASD	*
		associated with		
	ECB	IGNITION EXCITER P12	494138	1

C. Fault Code Numbers (FCN) (APS 3200)

A fixed Fault Code Number (FCN) is allocated to each detectable fault. Each FCN (with some exceptions) is linked to a CFDS maintenance message. Both, the FCN and the CFDS maintenance message, are shown the LAST LEG REPORT, PREVIOUS FLIGHT REPORT etc..

In many occasions two or more FCNs are linked to the same CFDS message. This happens when different FCNs (faults) are in conjunction with the same Line Replaceable Unit (LRU).

Example:

FCN FAULT DESCRIPTION	•		-
004 INLET PRESS. SENSOR LOW	29	INLET T-P SNSR (8013KM)	 1
005 INLET PRESS. SENSOR HIGH	29	INLET T-P SNSR (8013KM)	 1
006 INLET PRESS. SENSOR	29	INLET T-P SNSR (8013KM)	 1

You can find complete enumeration of all FCNs with their associated CFDS messages in table that follows:

EFF: 201-225, 227-227, 229-231, 233-250, 252-299, 426-499, 503-549, 551-599, 701-749,

49-00-00

Page 307 Config-1 May 01/08

TROUBLE SHOOTING MANUAL

(1) Fault Code Numbers (FCN) (APS 3200) Table

FCN	FAULT DESCRIPTION	 LRU ID	CFDS MESSAGE	S/D MESSAGE	CLASS
000	LCD STATIC PRESS. SENSOR FAIL LOW	13 	BLD FLOW XDCR (8039KM)	 	1
001	LCD STATIC PRESS. SENSOR FAIL HIGH	13 	BLD FLOW XDCR (8039KM)	 	1
002	LOW PMG VOLTAGE	53 	COOLING FAN PMG ASSY (8055KM)		1 1
	LCD DELTA P SENSOR FAIL HIGH	13 	BLD FLOW XDCR (8039KM)		1 1
004	INLET PRESS. SENSOR LOW	29 	INLET T-P SNSR (8013KM)		1 1
005	INLET PRESS. SENSOR HIGH	29 	INLET T-P SNSR (8013KM)	 	1
006	INLET PRESS. SENSOR RATE	29 	INLET T-P SNSR (8013KM)	 	1
007	NOT USED	+ 		 	-
008	INLET TEMPERATURE RTD OPEN	29 	INLET T-P SNSR (8013KM)	 	1
009	INLET TEMPERATURE RTD SHORTED	29 	INLET T-P SNSR (8013KM)		1 1
010	GEN. OIL TEMP. SENSOR OPEN	25 	GENERATOR (8XS)	 	3
011	GEN. OIL TEMP. SENSOR SHORTED	25 	GENERATOR (8XS)	 	3
012	GBX TEMP SENSOR OPEN	ĺ	(8084KM)	 	3
		38 	(8084KM)	 	3
014	COLD JUNCTION RTD	-	+ ECB (59KD) 	 	3
	COLD JUNCTION RTD	+ 14 	ECB (59KD) 		+ 3

EFF: 201-225, 227-227, 229-231, 233-250, 252-299, 426-499, 503-549, 551-599, 701-749, SROS

49-00-00Page 308
Config-1 May 01/08

TROUBLE SHOOTING MANUAL

FCN	FAULT DESCRIPTION	LRU ID	CFDS MESSAGE	S/D MESSAGE	CLASS
016	GBX DE-OILING VALVE	+ 12 	DE-OILING SOL	•	+ 3
017	MAIN START CONTACTOR OUTPUT SHORT CIRCUIT	59 	CONTACTOR (5KA)	 	+ 1
018	B/U START CONTACTOR OUTPUT SHORT CIRCUIT	10	CONTACTOR (10KA)	 	† 1
019	START IN PROGRESS OUTPUT SHORTED	45 	WRG: ECB PIN AB-H9	 	3
020	APU AVAILABLE OUTPUT	3	WRG: ECB PIN AB-J6	 	3
021	MAIN FUEL VALVE SHORTED	21	FUEL CTL UNIT (8022KM)	 	1 1
022	BLEED VALVE OPEN OUTPUT SHORTED	6	WRG: ECB PIN AB-H8		2
023	EXCITER SHORTED	26 	IGNITION UNIT (8030KM)		1 1
024	A/C RELAY WRAP FAULT	14 	ECB (59KD) 	 	2
025	FLAP ACTUATOR SHORTED-OPEN	2	INLET FLAP ACTR (4015KM)		2
026	FLAP ACTUATOR Shorted-close	2	INLET FLAP ACTR (4015KM)	 	2
027	SPEED ¹ 1 LOW FAULT	14	ECB (59KD)		3
028	SPEED ¹ 1 HIGH FAULT	14	ECB (59KD)		3
029	SPEED ¹ 1 DELTA FAULT 		(8060KM1)	 	3
030	SPEED ¹ 2 LOW FAULT	•		 	3
031	SPEED ¹ 2 HIGH FAULT	14	ECB (59KD)	 	+ 3
032	SPEED 12 DELTA FAULT		SPEED SNSR2 (8060KM2)	 	+ 3
033	BOTH SPEED SENSORS	44	SPD SNSR1	LOSS OF SPEED	1

EFF: 201-225, 227-227, 229-231, 233-250, 252-299, 426-499, 503-549, 551-599, 701-749, SROS

49-00-00Page 309
Config-1 May 01/08

TROUBLE SHOOTING MANUAL

FCN	FAULT DESCRIPTION	LRU ID	CFDS MESSAGE		CLASS
	FAILED 	 	(8060KM1) AND SPD SNSR2 (8060KM2)		
034	SPEED SENSORS DO NOT MATCH	+ 		 	3
035	THERMOCOUPLE 11 Shorted	15 	EGT TC1 (8057KM1)	 	3
036	THERMOCOUPLE ¹ 1 OPEN	15 	EGT TC1 (8057KM1)	 	3
037	THERMOCOUPLE ¹ 2 Shorted	18 	EGT TC2 (8057KM2)	 	3
038	THERMOCOUPLE ¹ 2 OPEN	18 	EGT TC2 (8057KM2)	 	3
039	OIL FILTER 	7 7 	GEN SCAV FILTER (8069KM) AND LUBE FILTER (8076KM)	 	2
040	LOW ECB VOLTAGE	+ 	 	•	1 1
041	ENGINE I.D. MODULE FAILED 	39 	SERIAL NUMBER ENCODER (8061KM)	 	3
042	+	+ 26 	IGNITION UNIT (8030KM)	+ NO FLAME 	+ 1
042	FAIL TO LIGHT	+ 14	ECB (59KD)	NO FLAME	+ 1
042	FAIL TO LIGHT		FUEL CTL UNIT (8022KM)	NO FLAME	1 1
042	FAIL TO LIGHT	•	CHECK APU FUEL SUPPLY	NO FLAME	1 1
042	+	 	IGNITION UNIT (8030KM)/ FUEL CTL UNIT (8022KM)	NO FLAME 	+ 1
043	ILLOGICAL OIL PRESS. SWITCH INPUT		OIL PRESS SW (8091KM)	+ 	+ 2

EFF: 201-225, 227-227, 229-231, 233-250, 252-299, 426-499, 503-549, 551-599, 701-749, SROS

49-00-00Page 310
Config-1 May 01/08

TROUBLE SHOOTING MANUAL

FCN	FAULT DESCRIPTION	LRU ID	CFDS MESSAGE	S/D MESSAGE	CLASS
4 044 	LOW OIL PRESSURE ON GROUND	+ 37 	:	LOW OIL PRESSURE	+ 1
045	LOW OIL PRESSURE IN FLIGHT	37 	:	LOW OIL PRESSURE	1
046	HIGH OIL TEMPERATURE	9	CHECK OIL COOLER ASSY (8079KM)		1
047	GEN. HIGH OIL TEMPERATURE	24 	CHECK OIL SYSTEM		1 1
048	LOW OIL LEVEL	 3 2	LOW OIL LEVEL		2
049	OIL LEVEL RTD OPEN	35 	OIL LEVEL SNSR (8089KM)		2
050	OIL LEVEL RTD SHORTED	35 	OIL LEVEL SNSR (8089KM)		2
051	FAIL TO CRANK	11 		NO ACCELERATION	1
051	FAIL TO CRANK	59 	CONTACTOR (5KA) 	NO ACCELERATION	1 1
051	FAIL TO CRANK	10 	CONTACTOR (10KA) 	NO ACCELERATION	1 1
051 	FAIL TO CRANK	51 51 	CURRENT LIMITER (6KA)/CONTACTOR (10KA)		1
051 	FAIL TO CRANK	46 	STARTER MOTOR (8KA)/STARTER CLUTCH (8033KM)		1
052	DECELERATION	+ 14 		NO ACCELERATION	+ 1
052	DECELERATION	21 21	FUEL CTL UNIT (8022KM)		+ 1 +

EFF: 201-225, 227-227, 229-231, 233-250, 252-299, 426-499, 503-549, 551-599, 701-749, SROS

49-00-00 Page 311 Config-1 May 01/08

TROUBLE SHOOTING MANUAL

FCN	FAULT DESCRIPTION	LRU ID	CFDS MESSAGE	S/D MESSAGE	CLASS
052	DECELERATION	70 	CHECK APU FUEL SUPPLY	NO ACCELERATION	+ 1
052 	DECELERATION	23 	FUEL CTL UNIT (8022KM)/FLOW DIVIDER (8024KM)	NO ACCELERATION	†
053	LOW ACCELERATION RATE	21	FUEL CTL UNIT (8022KM)	NO ACCELERATION	† 1
053	LOW ACCELERATION RATE	14 	ECB (59KD) 	NO ACCELERATION	†
053	LOW ACCELERATION RATE	12 	DE-OILING SOL (8083KM)	NO ACCELERATION	†
053	LOW ACCELERATION RATE	28 	IGV ACTR (8014KM)	NO ACCELERATION	† 1
053	LOW ACCELERATION RATE	46 	STARTER MOTOR (8KA)/STARTER CLUTCH (8033KM)	NO ACCELERATION	†
053	LOW ACCELERATION RATE	68 	FLOW DIVIDER (8024KM)	NO ACCELERATION	† 1
053	LOW ACCELERATION RATE	21 	FUEL CTL UNIT (8022KM)	NO ACCELERATION	†
054	INPUT HYBRID U5	14	ECB (59KD)		3
055	INPUT HYBRID U7	14	ECB (59KD)		3
056	INPUT HYBRID U11	14	ECB (59KD)	 	3
	ILLOGICAL INPUT FROM FLAP ACTUATOR		INLET FLAP ACTR (4015KM)		+ 2
058	FLAP ACTUATOR LOCKED	•	INLET FLAP ACTR (4015KM)		2
059	FUEL SERVO SHORTED		FUEL CTL UNIT (8022KM)	 	† 1
060	FUEL SERVO OPEN		FUEL CTL UNIT (8022KM)	 	+ 1
	FUEL SERVO WRAP FAULT				

EFF: 201-225, 227-227, 229-231, 233-250, 252-299, 426-499, 503-549, 551-599, 701-749,

49-00-00 Page 312 Config-1 May 01/08

TROUBLE SHOOTING MANUAL

FCN	FAULT DESCRIPTION	LRU ID	CFDS MESSAGE	S/D MESSAGE	CLASS
062	IGV SERVO OPEN	28 	IGV ACTR (8014KM)	 	1 1
063	IGV SERVO SHORTED	28 	IGV ACTR (8014KM)	 	1
064	IGV OUTPUT INTERNALLY SHORTED	14 	ECB (59KD) 	 	2
065	NOT USED	 			-
066	IGV OUTPUT INTERNALLY OPEN	14 	ECB (59KD) 		2
067	UNDERSPEED	14 	ECB (59KD) 	UNDERSPEED	1 1
067	UNDERSPEED	70 	CHECK APU FUEL SUPPLY	UNDERSPEED	1 1
067	UNDERSPEED	21 	FUEL CTL UNIT (8022KM)	UNDERSPEED	1 1
068	OVERSPEED	44 44 	SPD SNSR1 (8060KM1) AND SPD SNSR2 (8060KM2)	OVERSPEED	† 1
068	OVERSPEED	14	ECB (59KD)	+ OVERSPEED	1
068	OVERSPEED	21 	FUEL CTL UNIT (8022KM)	OVERSPEED	1 1
	BLEED CONTROL VALVE SERVO SHORTED	5 5	BLEED CTL VLV (8051KM)	 	1 1
	BLEED CONTROL VALVE SERVO OPEN	ĺ	BLEED CTL VLV (8051KM)	 	1 1
	BCV OUTPUT INTERNALLY SHORTED	14 			1 1
072	NOT USED	+ 	*	+ 	+ -
	BCV OUTPUT INTERNALLY OPEN	ĺ	ECB (59KD) 	 	+ 2
074					+ 1 +

EFF: 201-225, 227-227, 229-231, 233-250, 252-299, 426-499, 503-549, 551-599, 701-749, SROS

49-00-00 Page 313 Config-1 May 01/08

TROUBLE SHOOTING MANUAL

FCN	FAULT DESCRIPTION	LRU ID	CFDS MESSAGE	S/D MESSAGE	CLASS
075	GBX DE-OILING VALVE	14	ECB (59KD)		3
076	MAIN START CONTACTOR OUTPUT INTERNAL	14 	ECB (59KD) 		3
077	FAULT INDICATOR Internal	14 	ECB (59KD) 		3
078	B/U START CONTACTOR OUTPUT INTERNAL	14 	ECB (59KD) 		3
079	START IN PROGRESS OUTPUT INTERNAL	14 	ECB (59KD) 		3
080	APU AVAILABLE OUTPUT INTERNAL	14 	ECB (59KD) 		3
081	MAIN FUEL VALVE INTERNAL	14 	ECB (59KD) 		3
082	BLEED VALVE OPEN OUTPUT INTERNAL	14 	ECB (59KD) 		2
083	EXCITER INTERNAL	14	ECB (59KD)		3
084	GBX DE-OILING VALVE OPEN	12 	DE-OILING SOL (8083KM)		3
085	MAIN START CONTACTOR OUTPUT OPEN CIRCUIT	11 	ACFT BAT NOT SELECTED/ CONTACTOR (5KA)		1
086	B/U START CONTACTOR OUTPUT OPEN CIRCUIT	10 	CONTACTOR (10KA)		+ 1
	START IN PROGRESS OUTPUT OPEN		WRG: ECB PIN AB-H9		3
	APU AVAILABLE OUTPUT OPEN		WRG: ECB PIN AB-J6		3
089	MAIN FUEL VALVE OPEN	14	ECB (59KD)		 1
089	MAIN FUEL VALVE OPEN		FUEL CTL UNIT		1 1
090	BLEED VALVE OPEN OUTPUT OPEN		WRG: ECB PIN AB-H8		2

EFF: 201-225, 227-227, 229-231, 233-250, 252-299, 426-499, 503-549, 551-599, 701-749, SROS

49-00-00Page 314
Config-1 May 01/08

TROUBLE SHOOTING MANUAL

FCN	FAULT DESCRIPTION	LRU ID	CFDS MESSAGE	S/D MESSAGE	CLASS
091	EXCITER OPEN	26 	IGNITION UNIT (8030KM)		1
092	SPEED SENSOR ¹ 1 OPEN 	40 	SPEED SNSR1 (8060KM1)		3
093	SPEED SENSOR ¹ 1 SHORTED	40 	SPEED SNSR1 (8060KM1)		3
094	SPEED SENSOR 12 OPEN	42 	SPEED SNSR2 (8060KM2)		3
095	SPEED SENSOR 12 SHORTED	42 	SPEED SNSR2 (8060KM2)		3
096	LC SURGE	5 	BLEED CTL VLV (8051KM)		1
097	LC SURGE AND BCV	5 	BLEED CTL VLV (8051KM)	SURGE/REVERSE FLOW	1
098	OVERTEMPERATURE	28 	IGV ACTR (8014KM)	OVERTEMPERA- TURE	1
098	OVERTEMPERATURE	15 	EGT TC1 (8057KM1)	OVERTEMPERA- TURE	1
098	OVERTEMPERATURE	18 	EGT TC2 (8057KM2)	OVERTEMPERA- TURE	1
098	OVERTEMPERATURE	21 	FUEL CTL UNIT (8022KM)	OVERTEMPERA-	1
099	MAIN FUEL VALVE STUCK OPEN -	21 	FUEL CTL UNIT (8022KM) 	APU FUEL VALVE FAILED OPEN	1
100	SPEED ¹ 1 INJECTION TEST FAILURE	14 	ECB (59KD) 		2
101	SPEED ¹ 2 INJECTION TEST FAILURE	14 14	ECB (59KD) 		2
102	BOTH THERMOCOUPLES FAILED 	16 	EGT TC1 (8057KM1) AND EGT TC2 (8057KM2)	SENSOR FAILURE 	1
103	LCD DELTE P SENSOR	13	BLD FLOW XDCR		1

EFF: 201-225, 227-227, 229-231, 233-250, 252-299, 426-499, 503-549, 551-599, 701-749, SROS

49-00-00 Page 315 Config-1 May 01/08

TROUBLE SHOOTING MANUAL

FCN	FAULT DESCRIPTION	LRU ID	CFDS MESSAGE	S/D MESSAGE	CLASS
	FAIL	 	(8039KM)		
104	RAM FAIL	14	ECB (59KD)	ECB FAILURE	1
105	PROCESSOR FAIL	14	ECB (59KD)	ECB FAILURE	1
106	NO ECS DATA	34	NO DATA FROM ECS		3
107	ARINC FAULT TX/R FLAG STUCK LOW	14 	ECB (59KD) 		2
108	A/D CONVERSION TIME TOO LONG	14 	ECB (59KD) 	ECB FAILURE	1
109	A/D 5V REFERENCE HI	14	ECB (59KD)	ECB FAILURE	1
110	A/D 5V REFERENCE LO	14	ECB (59KD)	ECB FAILURE	1
111	A/D GROUND INPUT HI	14	ECB (59KD)	ECB FAILURE	1
112	FUEL FLOW PRESSURE 	31 	FUEL LOW PRESS/ LOW PRESS SW (5030QM)	 	2
113	TRUE EMERGENCY STOP	 		EMERGENCY STOP	1
114	BACKUP OVERSPEED CIRCUIT FAILURE 50% SPEED CHECK	53 	COOLING FAN PMG ASSY (8055KM)	SENSOR FAILURE	1
115	BACKUP OVERSPEED	14	ECB (59KD)	BACKUP OVERSPEED	1
115	BACKUP OVERSPEED 	44 	SPD SNSR1 (8060km1) and SPD SNSR2 (8060km2)	BACKUP OVERSPEED	1
115	BACKUP OVERSPEED	21 	FUEL CTL UNIT (8022KM)	BACKUP OVERSPEED	1
115	BACKUP OVERSPEED	53 	COOLING FAN PMG ASSY (8055KM)	BACKUP OVERSPEED	1
116	B/U OVERSPEED CIRCUIT FAILURE DURING POWER-UP 	14 	ECB (59KD) 	BACKUP OVERSPEED CIRCUIT FAILURE	1

EFF: 201-225, 227-227, 229-231, 233-250, 252-299, 426-499, 503-549, 551-599, 701-749,

49-00-00

Page 316

Config-1 May 01/08

TROUBLE SHOOTING MANUAL

FCN	FAULT DESCRIPTION	LRU ID	CFDS MESSAGE	S/D MESSAGE	CLASS
117	FUEL SERVO OPEN INTERNAL	14 	ECB (59KD)		1 1
	IGV ACTUATOR MECHANICALLY FAILED	70 	CHECK APU FUEL		1 1
	IGV ACTUATOR MECHANICALLY FAILED	28 	IGV ACTR (8014KM)		1 1
	BCV MECHANICALLY	70 	CHECK APU FUEL		1 1
	BCV MECHANICALLY	5 5	BLEED CTL VLV (8051KM)		1 1
	FLAP ACTUATOR NOT CLOSED	2	INLET FLAP ACTR (4015KM)		2
	FLAP ACTUATOR NOT OPEN	2	INLET FLAP ACTR (4015KM)	AIR INTAKE NOT OPEN	1
122	GEN AND GBX RTD'S FAILED 	50 	OIL TEMP SNSR (8084KM) AND GENERATOR (8XS)	SENSOR FAILURE	1
123	10 VOLT EXCITATION VOLTAGE FAILED	8 	ECB (59KD)/APU HARNESS (8001KM)		1 1
124	A/C PIN I.D. MISMATCH	47 	WRG: ACFT TYPE PIN/ECB (59KD)		3
125	FAULT OUTPUT SHORTED	4 	WRG: ECB PIN AB-H5		 3
126	B/U START CONTACTOR FAILED OPEN	51 51	CURRENT LIMITER (6KA)/CONTACTOR (10KA)		1
127	B/U START CONTACTOR FAILED CLOSED	10 	CONTACTOR (10KA)		 3
128	MAIN START CONTACTOR FAILED OPEN	 59 	CONTACTOR (5KA)		1 1
129	MAIN START CONTACTOR FAILED CLOSED	59 	CONTACTOR (5KA)		3
130	ALL ENGINE ID RESISTORS OPEN	39 	SERIAL NUMBER ENCODER (8061KM)	 	3

EFF: 201-225, 227-227, 229-231, 233-250, 252-299, 426-499, 503-549, 551-599, 701-749, SROS

49-00-00Page 317
Config-1 May 01/08

TROUBLE SHOOTING MANUAL

FCN	FAULT DESCRIPTION		CFDS MESSAGE	S/D MESSAGE	CLASS
131	NOT USED	+ 	+ 		 -
_	BOTH SPEED INJECTION TEST FAILURE	14	ECB (59KD) 	ECB FAILURE	1 1
	APU FUEL LOW PRESS VALVE OPEN		FIRE EMERG STOP RELAY (6WF)		3
_	APU FUEL LOW PRESS VALVE SHORTED	54 	FIRE EMERG STOP RELAY (6WF)		3
135	APU FUEL LOW PRESS VALVE INTERNAL	14 	ECB (59KD) 		3
136	TEST EMERGENCY STOP				3
137	NOT USED				- -
138	BCV LVDT FAIL DURING COMPENSATION		BLEED CTL VLV (8051KM)	 	1 1
139	IGV LVDT FAIL DURING COMPENSATION	28 	IGV ACTR (8014KM)	 	1 1
140	ILLOGICAL OIL PRESSURE SW INPUT & OIL LEVEL RTD OPEN OR SHORT	55 	OIL PRS SW (8091KM) AND OIL LVL SNSR (8089KM)	SENSOR FAILURE 	1 1
141	ILLOGICAL OIL PRESSURE SW INPUT & LOW OIL LEVEL	56 	OIL PRESS SW (8091KM) AND LOW OIL LEVEL	SENSOR FAILURE 	1 1
142	BOTH SPEEDS HIGH	14	ECB (59KD)	LOSS OF SPEED	1
	OSCILLATING LC SURGE AND BLEED VLV.FAILED OPEN		BLEED CTL VLV (8051KM) 		1 1
	BACKUP OVERSPEED CIRCUIT FAILURE -60% SPEED CHECK		+ COOLING FAN PMG ASSY (8055KM) 	SENSOR FAILURE	1 1
	SPD SENSOR 11 FAIL & ECB SPEED 12 FLT		SPD SNSR1 (8060km1) and ECB (59kd)	LOSS OF SPEED	1 1
146	+ SPD SENSOR ¹ 2 FAIL &	43	+ SPD SNSR2	LOSS OF SPEED	 1

EFF: 201-225, 227-227, 229-231, 233-250, 252-299, 426-499, 503-549, 551-599, 701-749, SROS

49-00-00 Page 318 Config-1 May 01/08

TROUBLE SHOOTING MANUAL

FCN	FAULT DESCRIPTION	LRU ID	CFDS MESSAGE		CLASS
	ECB SPEED ¹ 1 FLT		(8060KM2) AND ECB (59KD)		
147	NOT USED	 			-
148	NOT USED	+ 			-
149	LCD DELTA P SENSOR FAILED LOW	+ 13 	BLD FLOW XDCR (8039KM)		1
150	NULL TASK OVERRUN	14 14	ECB (59KD)	ECB FAILURE	1
151	DISPATH COMMAND OVERRUN	+ 14 	ECB (59KD) 	ECB FAILURE 	1
152	CFDS OVERRUN	14	ECB (59KD)	ECB FAILURE	1
153	LOW PR TASK OVERRUN	+ 14	ECB (59KD)	ECB FAILURE	1
154	SLOW TASK OVERRUN	+ 14	ECB (59KD)	ECB FAILURE	1
155	MED TASK OVERRUN	+ 14	ECB (59KD)	ECB FAILURE	1
156	MED TASK3 OVERRUN	+ 14	+ ECB (59KD)	+	1
157	ONE HZ TASK OVERRUN	+ 14	ECB (59KD)	ECB FAILURE	1
158	ROM CALC TASK OVERRUN	+ 14	ECB (59KD)	ECB FAILURE	1
159	POWER UP TASK OVERRUN	+ 14	+ ECB (59KD)	+	1
160	MIT TASK OVERRUN	+ 14	+ ECB (59KD)	+	1
161	RAM INT TASK OVERRUN	+ 14	+ ECB (59KD)	+	1
162	+ ROOT TASK OVERRUN	+ 14	+ ECB (59KD)	+	1
163	+ DIVIDE BY ZERO INTERRUPT	1	+ ECB (59KD) 		1
164	FAULTY INTERRUPT	14	ECB (59KD)	ECB FAILURE	1
165	+ ECS INT FREQ FLT	+ 14	•		3
	+ CFDS INT FREQ FLT	+	+	++	
167	+ STACK RETURN FAULT	+ 14	+ ECB (59KD)	++ ECB FAILURE	1
168	+ Main fuel valve	+ 14	+ ECB (59KD)	++ APU FUEL VALVE	1

EFF: 201-225, 227-227, 229-231, 233-250, 252-299, 426-499, 503-549, 551-599, 701-749, SROS

49-00-00 Page 319 Config-1 May 01/08

TROUBLE SHOOTING MANUAL

FCN	FAULT DESCRIPTION	LRU ID	CFDS MESSAGE	S/D MESSAGE	CLASS
	INTERNAL DURING WATCH OR SHUTDOWN			FAILED OPEN	
169	OSCILLATING LC SURGE	48 	BLD FLOW XDCR (8039km)/BLD CTL VLV (8051km)	 	1
170	PRESSURE MISMATCH FAULT	29 	INLET T-P SNSR (8013KM)		1
170	PRESSURE MISMATCH FAULT	13 	BLD FLOW XDCR (8039KM)		1
171	DELPQP LIMIT EXCEEDED	13	BLD FLOW XDCR (8039KM)		1 1
172	BCV MECHANICALLY	5	BLEED CTL VLV (8051KM)		1 1
173	TASK CONTROL DATA FAULT	14 	ECB (59KD) 	ECB FAILURE	1 1
174	BCV LVDT FAIL DURING MAX COMPENSATION	69 	BLEED CTL VLV (8051KM)/FUEL CTL UNIT (8022KM)		1
175	OVERTEMPERATURE DELAY ISOLATE	28 	IGV ACTR (8014KM)	 	1
175	OVERTEMPERATURE DELAY ISOLATE	15 	EGT TC1 (8057KM1)	 	1
175	OVERTEMPERATURE DELAY ISOLATE	18 	EGT TC2 (8057KM2)	 	1
175	OVERTEMPERATURE DELAY ISOLATE	21 	FUEL CTL UNIT (8022KM)	 	1

EFF: 201-225, 227-227, 229-231, 233-250, 252-299, 426-499, 503-549, 551-599, 701-749, SROS

49-00-00

Page 320



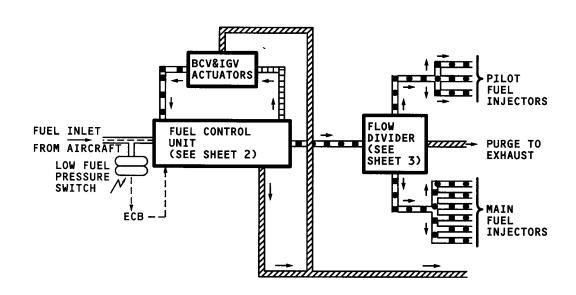
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49-00-00

Page 321

Config-1 Nov 01/06

TROUBLE SHOOTING MANUAL



CASE DRAIN

CASE DRAIN

FUEL INLET

REGULATED FUEL

METERED FUEL

FUEL RETURN TO
LOW PRESS PUMP
OUTLET

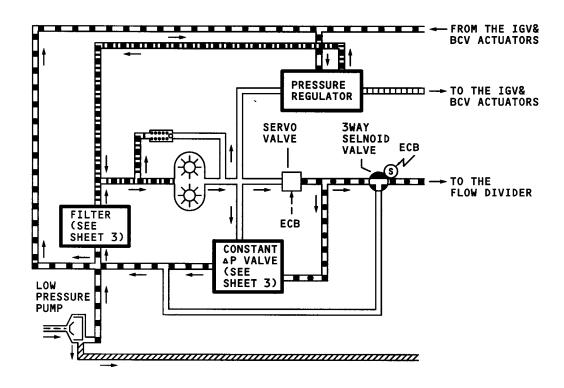
APU Fuel System - Schematic Figure 303 (SHEET 1)

R EFF: 201-225, 227-227, 229-231, 233-250, 252-299, 426-499, 503-549, 551-599, 701-749, SROS

49-00-00

Page 322

TROUBLE SHOOTING MANUAL



7//////////////////////////////////////	CASE DRAIN
	. OLL INCL! LOW
	PRESSURE PUMP REGULATED PRESS
	METERED FUEL
	FUEL RETURN TO LOW PRESS PUMP OUTLET
	LOW PRESS PUMP

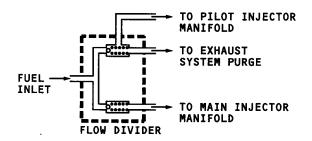
APU Fuel System - Schematic Figure 303 (SHEET 2)

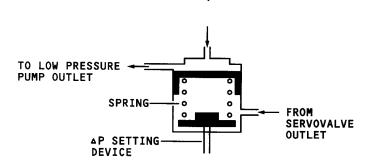
R EFF: 201-225, 227-227, 229-231, 233-250, 252-299, 426-499, 503-549, 551-599, 701-749, SROS

49-00-00

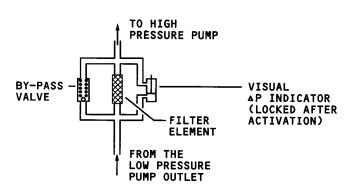
Page 323

TROUBLE SHOOTING MANUAL





CONSTANT AP VALVE



APU Fuel System - Schematic Figure 303 (SHEET 3)

8 8 64

8

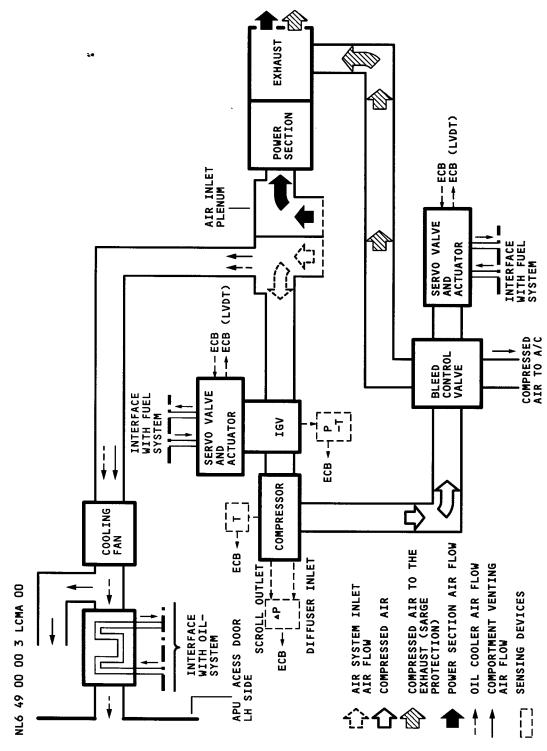
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EFF: 201-225, 227-227, 229-231, 233-250, 252-299, 426-499, 503-549, 551-599, 701-749, SROS

49-00-00

Page 324

TROUBLE SHOOTING MANUAL



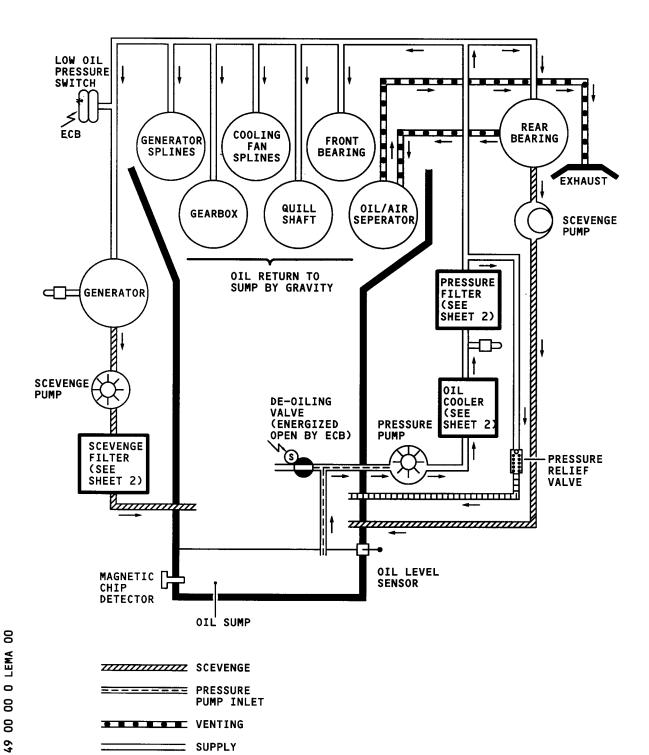
APU Pneumatic System - Schematic Figure 304

R EFF: 201-225, 227-227, 229-231, 233-250, 252-299, 426-499, 503-549, 551-599, 701-749, SROS

49-00-00

Page 325

TROUBLE SHOOTING MANUAL



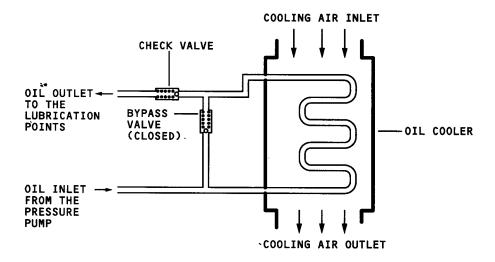
APU Oil System - Schematic Figure 305 (SHEET 1)

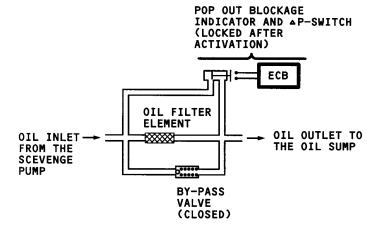
R EFF: 201-225, 227-227, 229-231, 233-250, 252-299, 426-499, 503-549, 551-599, 701-749, SROS

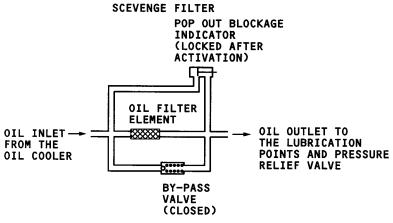
OVER PRESSURE

49-00-00 Page 326 Config-1 May 01/08

TROUBLE SHOOTING MANUAL







PRESSURE FILTER

APU Oil System - Schematic Figure 305 (SHEET 2)

R EFF: 201-225, 227-227, 229-231, 233-250, 252-299, 426-499, 503-549, 551-599, 701-749, SROS

49-00-00

Page 327 Config-1 May 01/08

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TROUBLE SHOOTING MANUAL

R **ON A/C 232-232, 247-248, 252-252,

R Post SB 49-1073001 For A/C 232-232,247-248,252-252,

AIRBORNE AUXILIARY POWER - GENERAL ((GTCP 36-300)) - TASK SUPPORTING DATA

1. Supporting Data

APU Fault Symptom Peculiarities

(Ref. Fig. 301)

Whenever the operation of the APU may result in damage to the aircraft, the APU or the Electronic Control Box (ECB) of the APU, the ECB shuts down the APU automatically. The cause of the Shutdown and associated LRUs are stored in the ECB memory. This information is available on the APU system related CFDS menu page APU SHUTDOWNS.

i.e. NO FLAME

(shutdown cause)

IGNITION EXCITER P12

(faulty LRU)

In parallel the ECB generates a maintenance message with associated ATA Chapter and related Fault Class of the faulty LRU. This maintenance message is available on the Post Flight Report (PFR), which is, in the AIRBUS TSM philosophy, the entry point to the TSM.

i.e. ATA 494138

CLASS: 1

IGNITION EXCITER P12

During several operator conferences concerning the APU TSM it has been shown that likely most operators prefer into TSM with the information of the APU SHUTDOWNS menu, which shows the same faulty LRU as the PFR but additionally the shutdown reason.

It has been decided to follow the operators preferences to combine the PFR maintenance message with the Shutdown cause in one Fault Symptom in TSM 49:

i.e. Source

Message

ATA

Class

ECB

NO FLAME

ASD

.

associated with

ECB

IGNITION EXCITER P12 494138

R **ON A/C 232-232, 247-248, 252-252,

- R Post SB 49-1073 For A/C 232-232,247-248,252-252,
 - A. LRU Faults, Shutdowns and Fault Tree, Fault Code Numbers (FCN) Three classes of LRU faults exist, class 1 are the most serious and class 3 are the least serious. When certain class 1 LRU faults are detected, the ECB initiates an APU shutdown (if not inhibited) due to the impact of the failed LRU on the overall system operation.

The class of the LRU faults and the text, sent to the CFDS, are shown in table 1, 2 and 3.

The protective shutdowns with their associated text, shown on the APU shutdown page of the CFDS, are presented in table 4.

The fault tree (table 4, col. 3) is used to associate a protective shutdown with a failed LRU that caused the shutdown. The fault tree is used in the following manner:

EFF: 232-232, 247-248, 252-252,

49-00-00

Page 301

Config-2 May 01/08

TROUBLE SHOOTING MANUAL

EXAMPLE AUTO SHUTDOWN

WARNINGS/MALFUNCTIONS		CFDS FAULT MESSAGES	s		FAULT ISOLATION
WARRINGS/ HALF ONC LIONS	SOURCE	SOURCE MESSAGE		c	PROCEDURE
APU AUTO SHUT DOWN	APU	NO ACCELERATION ASSOCIATED WITH	ASD —	*	490000 P 203
	APU	CURRENT LIMTER 6KA OR CONTACTOR 10KA	494200	1	T 810 879
APU AUTO SHUT DOWN	APU	NO ACCELERATION ASSOCIATED WITH	ASD	*	490000 P 236
	APU	STARTER MOTOR 8KA OR STARTER CLUTCH ASSY	494251	1	T 810 897
APU AUTO SHUT DOWN	APU	NO ACCELERATION ASSOCIATED WITH	ASD	*	490000 P 238
	APU	FCU P19 OR IGV ACTR P21 OR FUEL FLOW DIVIDER	493211	1	T 810 898
APU AUTO SHUT DOWN	APU	NO ACCELERATION ASSOCIATED WITH	ASD	*	490000 P 243
	APU	FCU P19 OR IGV ACTR P21 OR IN T/P SNSR P22	493211	1	T 810 900
APU AUTO SHUT DOWN	APU	NO ACCELERATION ————————————————————————————————————	ASD	 *	490000 P 288
	APU	CONTACTOR 5KA OR ECB 59KD	494241	1	T 810 927
\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \					

SHUTDOWN CAUSE

NOTE:

8

M

8

49 00

THE (*) IN THE 49-ECAM INDEX "C" COLUMN DENOTES THAT THIS FAULT/MALFUNCTION IS ALSO AVAILABLE IN THE CFDS APU SHUTDOWNS MENU WITH ITS ASSOCIATED SHUTDOWN CAUSE

Example of APU Fault Symptom Page Figure 301

R EFF: 232-232, 247-248, 252-252,

49-00-00

Page 302

Config-2 May 01/08

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TROUBLE SHOOTING MANUAL

If a protective shutdown occurs, the ECB search the fault tree for this particular shutdown. Once the shutdown is located, the ECB shall compare any failed LRUs that where detected on the current APU run with the LRU faults associated with the shutdown reason. If a failed LRU matches one of the LRUs associated with the shutdown reason, the failed LRU is displayed together with the shutdown reason on the APU shutdown page of the CFDS. If no current failed LRU matches an LRU associated with a particular shutdown reason, the ECB displays the shutdown reason and a list of LRUs which most probably caused the APU to shutdown (table 4, col. 2).

A fixed Fault Code Number (FCN) is allocated to each detectable fault. Each FCN (with some exceptions) is linked to a CFDS maintenance message. Both, the FCN and the CFDS maintenance message, are shown the LAST LEG REPORT, PREVIOUS FLIGHT REPORT etc..

In many occasions two or more FCNs are linked to the same CFDS message. This happens when different FCNs (faults) are in conjunction with the same Line Replaceable Unit (LRU).

Example:

	Fault Description	CFDS Message	•
021	Inlet Press. Sensor shows out of range	INLET PRESS XDCR(8048KM)	2
022	Inlet Press. Sensor shows < 8 psia on ground	INLET PRESS XDCR(8048KM)	2
	Inlet Press. Sensor shows out of range low	INLET PRESS XDCR(8048KM)	2
024	+		•

You can find a complete enumeration of all FCNs with their associated CFDS messages in Table 5.

EFF: 232-232, 247-248, 252-252,

49-00-00

Page 303 Config-2 May 01/08

TROUBLE SHOOTING MANUAL

B. BITE Detection

(1) CLASS 1 Faults

Table 1

Text for CFDS Indication	ATA	BITE Detection (Failed LRUs)
POWER SUPPLY INTERRUPT	24-00-00	Power Supply Interrupt
CHECK PRESS XDCR WIRING (8001KM)	49-11-15 	Press XDCR wiring shows open circuit
CHECK PRESS XDCR WIRING/ (800KM1) / ECB (59KD)	49-11-15	Press XDCR wiring open or ECB internal failure
AIR INTAKE FLAP ACTUATOR (4015KM)	49-16-51	Inlet Flap shows Flap open high current Inlet Flap shows Flap failed to open Inlet Flap shows Flap loss of open indication
CHECK IGV ASSEMBLY/ IGV ACTUATOR (8014KM)	49-23-00	IGV Position disagrees with command
IGV ACTUATOR (8014KM)	49-23-51	IGV Torque Motor shows open/short circuit
IGV ACTUATOR (8014KM)/ FCU (8022KM) / ECB (59KD)	49-23-51	No LRU detected
FUEL CONTROL UNIT (8022KM)	49-32-11 	Fuel Solenoid shows circuit failure Fuel Torque Motor shows open/short circuit
FUEL CONTROL UNIT (8022KM)/ ECB (59KD)	49-32-11	No LRU detected
FCU (8022KM)/IGV ACTUATOR (8014KM)/START MOT (8KA)	49-32-11 	No LRU detected
FCU (8022KM) / APU FUEL SUPPLY / APU ROTATION	49-32-11 	No LRU detected
CHECK IGNITION SYSTEM/ FCU(8022KM)/ECB (59KD)	49-41-00	No LRU detected
IGNITION UNIT (8030KM)		Ignition Unit shows open/short circuit
STARTER MOTOR (8KA)	49-42-51	Starter Motor shows open/short

EFF: 232-232, 247-248, 252-252,

49-00-00

Page 304

TROUBLE SHOOTING MANUAL

Text for CFDS Indication	ATA	BITE Detection (Failed LRUs)
IGV ACTUATOR(8014KM)/FCU (8022KM)/START MOT (8KA)	49-42-51	No LRU detected
STARTER MOTOR (8KA)/ APU ROTATION	49-42-51	No LRU detected
CONTACTOR (5KA)	49-42-55	Main Contactor shows circuit failure
CONTACTOR (10KA)	49-42-55	Backup Contactor shows circuit failure
ACFT BAT NOT SELECTED/ CONTACTOR (5KA)	49-42-55	Main Start Contactor shows open circuit
DIFFERENTIAL PRESS XDCR (8043KM)	49-51-16	DP XDCR shows out-of-range drift DP XDCR shows out-of-range low/high
PRESS XDCRS (8044KM) / (8043KM) / SCV (8058KM)	49-51-16 	No LRU detected
TOTAL PRESS XDCR (8044KM)	49-51-17 	PT XDCR shows out-of-range PT XDCR shows out-of-range high/low
PRESS XDCRS (8044KM)/ (8048KM)	49-51-17 	Total Pressure and Inlet Pressure disagree
LOAD CONTROL VALVE (8050KM)	49-51-51	LCV Solenoid shows circuit failure
SURGE CONTROL VALVE (8058KM)	49-51-52	SCV Torque Motor shows open/short circuit
ECB (59KD)	49-61-34	ECB internal failure
SPEED SENSOR (8060KM1) AND ECB (59KD)	49-71-13 	Speed sensor 1 fails and ECB internal failure
SPEED SENSORS (8060KM1) AND (8060KM2)	49-71-13 	Speed sensors show amplitude failure
SPEED SENSOR (8060KM2) AND ECB (59KD)		Speed sensor 2 fails and ECB internal failure
EGT TCPLE RAKES (8057KM1) AND (8057KM2)	49-72-15 	Both EGT sensors failed
EGT TCPLE RAKE (8057KM1) + ECB (59KD)		EGT1 sensor and internal ECB failure

EFF: 232-232, 247-248, 252-252,

19-00-00 Page 305 Config-2 May 01/08

TROUBLE SHOOTING MANUAL

Text for CFDS Indication	•	BITE Detection (Failed LRUs)
		EGT2 sensor and internal ECB failure
CHECK OIL FILTERS (8069KM)/(8076KM)	49-91-41 	Oil Filter shows clogged
OIL COOLER/COOLING FAN GEN SCAV PUMP	49-91-44 	No LRU detected
DEOIL SOLENOID (8083KM)	49-91-49 	Deoil Solenoid shows circuit failure Deoil Solenoid shows open circuit
GEN SCAVENG PMP (8085KM)/ GEN (8XS) / ECB (59KD)	49-91-52 	No LRU detected
LOP SW (8091KM)/OIL PUMP/ GEARBOX PRESS VALVE	49-94-14 	No LRU detected
	+	+

EFF: 232-232, 247-248, 252-252,

49-00-00 Page 306

TROUBLE SHOOTING MANUAL

C. BITE Detection

(1) CLASS 2 and CLASS 3 Faults

(a) CLASS 2 Faults Table 2

Text for CFDS Indication	ATA -=======	BITE Detection (Failed LRUs)	
POWER SUPPLY INTERRUPT	24-00-00	Power Supply Interrupt	
FIRE EMER STOP RLY (6WF)	26-22-00 	Low Fuel Pressure Relay shows open circuit/circuit failure	
LOW FUEL PRESSURE CHECK APU FUEL SUPPLY	28-20-00 	Fuel Pressure shows low during APU run	
AIR INTAKE FLAP ACTUATOR (4015KM)	49-16-51 	Inlet Flap shows Flap close circuit open/short Inlet Flap shows Flap open circuit open/short Inlet Flap shows Flap close high current Inlet Flap shows Flap failed to fully close	
IGV ACTUATOR (8014KM)	49-23-51 	IGV LVDT pri/sec shows open circuit	
IGV ACTUATOR (8014KM)/ ECB (59KD)	49-23-51 	IGV LVDT excitation shows failure	
INLET PRESS XDCR (8048KM)	49-51-21 	P2 XDCR out-of-range low/high P2 XDCR shows < 8psia on GND	
LOAD CONTROL VALVE (8050KM)	49-51-51 	LCV shows not open LCV shows open/closed switch failure	
INLET PRESS XDCR (8048KM)	49-51-21 	P2 XDCR out-of-range P2 XDCR shows < 8psia on GND	
WRG: APU AVAILABLE	49-61-00 	APU available shows circuit failure	
WRG: APU FAULT RELAY		APU fault relay shows circuit failure	
WRG: LOAD VALVE OPEN SIGNAL		LCV open signal shows circuit failure	
WRG: START IN PROGRESS		APU start in progress shows circuit failure	
		ECB internal failure	

EFF: 232-232, 247-248, 252-252,

19-00-00 Page 307 Config-2 May 01/08

TROUBLE SHOOTING MANUAL

		BITE Detection (Failed LRUs)
OIL SUMP TEMP SENSOR (8084KM)	49-91-51 	Oil sump temp sensor shows out of range low/high
OIL LEVEL SWITCH (8087KM)	49-93-00	0il quantity switches disagree
LOW OIL LEVEL	49-93-00	Oil level shows low
OIL TEMP SWITCH (8090KM)	49-94-13	Oil Temp Switch shows open circuit
LOW OIL PRESS SW (8091KM)	49-94-14	LOP Switch shows electrical gnd
APU OIL HEATER (8093KM)	49-96-51	

(b) CLASS 3 Faults

Table 3

Text for CFDS Indication	ATA	BITE Detection (Failed LRUs)
NO DEMAND DATA FROM ECS	21-63-34	ECS Zone Controller ECS Demand failure
NO PACK DATA FROM ECS	21-63-34 	ECS Zone Controller ECS Data failure
GENERATOR OIL TEMP SENSOR (8XS)	24-23-51 	Generator oil temp sensor shows out of range high/low
NO DATA FROM CFDIU	31-32-34 	AC ID failure, GMT failure, Date failure, BITE command failure, Flight phase failure, AC config fail
AIR INTAKE FLAP ACTUATOR (4015KM)	49-16-51 	Inlet Flap shows flap open and flap closed Inlet Flap shows Flap open switch open Inlet Flap shows Flap closed switch open
LOAD COMPRESSOR INLET TEMP SENSOR (8011KM)	+ 49-23-15 	LCIT sensor shows out of range low
LOAD COMPRESSOR DISCHARGE TEMP SENSOR (8012KM)	+ 49-23-16 	LCDT sensor shows out of range low
CONTACTOR (5KA)	+ 49-42-55	Main Start Contactor shows closed
CONTACTOR (10KA)	49-42-55	Backup Start Contactor shows closed

EFF: 232-232, 247-248, 252-252,

49-00-00 Page 308 Config-2 May 01/08

TROUBLE SHOOTING MANUAL

Text for CFDS Indication	ATA =+========	BITE Detection (Failed LRUs) +====================================	
WRG: ACFT TYPE PIN PROG/ ECB (59KD)	49-61-00 	+ A/C PIN Coding disagrees 	
ECB (59KD)	49-61-34	ECB internal failure	
SPEED SENSOR (8060KM1)	49-71-13 	Speed Sensor 1 shows open circuit Speed Sensor 1 shows amplitude failure	
SPEED SENSOR (8060KM2)	49-71-13 	Speed Sensor 2 shows open circuit Speed Sensor 2 shows amplitude failure	
EGT TCPLE RAKE (8057KM1)	49-72-15 	EGT1 Sensor shows out-of-range low EGT1 Sensor disagrees with EGT2 >166C	
EGT TCPLE RAKE (8057KM2)	49-72-15 	EGT2 Sensor shows out-of-range low EGT2 Sensor disagrees with EGT1 >166C	
APU S/N ENCODER (8063KM)	49-73-51 	APU S/N (1,2,3) shows incorrect resistance	
OIL FILTER SWITCHES (8070KM) / (8071KM)	49-91-14 	Oil Filter Switch shows elect. ground	

EFF: 232-232, 247-248, 252-252,

49-00-00Page 300

Config-2 May 01/00

TROUBLE SHOOTING MANUAL

(2) APU SHUTDOWNS

Table 4

Shutdown Text on Shutdown page	Text for CFDS Indication if no LRU failure found on Fault Tree (Default)	
OVERSPEED	FUEL CONTROL UNIT (8022KM) / ECB (59KD)	+=====================================
EMERGENCY		
ECB FAILURE	<u>+</u>	ECB (59KD)
UNDERSPEED	FCU (8022KM) / APU FUEL SUPPLY / APU ROTATION	CHECK IGV ASSEMBLY / IGV ACTUATOR (8014KM)
		FUEL CONTROL UNIT (8022KM
	 	LOW FUEL PRESSURE CHECK APU FUEL SUPPLY
		ECB (59KD)
OVERTEMPERATURE (onspeed)	IGV ACTUATOR (8014KM)/FCU (8022KM) / ECB 59KD	CHECK IGV ASSEMBLY/ IGV ACTUATOR (8014KM)
OVERTEMPERATURE (start)	FCU(8022KM)/IGV ACTUATOR (8014KM)/START MOT (8KA)	CHECK IGV ASSEMBLY/ IGV ACTUATOR (8014KM)
SENSOR FAILURE	*	EGT TCPLE RAKES (8057KM1) AND (8057KM2)
	 	EGT TCPLE RAKE (8057KM1) AND ECB (59KD)
	 	EGT TCPLE RAKE (8057KM2) AND ECB (59KD)
		+
	 	LOW OIL PRESS SW (8091KM) LOW OIL LEVEL
LOW OIL PRESSURE	LOP SW(8091KM)/OIL PUMP/ GEARBOX PRESS VALVE	LOW OIL LEVEL
NO FLAME	CHECK IGNITION SYSTEM / FCU(8022KM)/ ECB (59KD)	•

EFF: 232-232, 247-248, 252-252,

49-00-00Page 310
Config-2 May 01/08

TROUBLE SHOOTING MANUAL

-	Text for CFDS Indication if no LRU failure found on Fault Tree (Default)	if LRU failure found on
	=======================================	+=================================== FUEL CONTROL UNIT (8022KM)
		+ IGNITION UNIT (8030KM)
		+
AIR INTAKE NOT OPEN		AIR INTAKE FLAP ACTUATOR (4015km)
HIGH OIL TEMPERATURE	OIL COOLER / COOLING FAN GEN SCAV PUMP	
NO ACCELERATION (no speed)	IGV ACTUATOR(8041KM)/FCU (8022KM)/START MOT (8KA)	FUEL CONTROL UNIT (8022KM)
		CHECK IGV ASSEMBLY/
		DEOIL SOLENOID (8083KM)
		LOW FUEL PRESSURE CHECK APU FUEL SUPPLY
		+
		OIL SUMP TEMP SENSOR
		APU OIL HEATER (8093KM)
GENERATOR HIGH OIL TEMP	GEN SCAVENG PMP (8085KM)/ GEN (8XS) / ECB (59KD)	
LOSS OF SPEED		SPEED SENSORS (8060KM1) AND (8060KM2)
		SPEED SENSOR (8060KM1) AND ECB (59KD)
		+
		+
IGV FAILURE	IGV ACTUATOR (8014KM)	IGV ACTUATOR (8014KM)
		+

EFF: 232-232, 247-248, 252-252,

49-00-00Page 311
Config-2 May 01/08

TROUBLE SHOOTING MANUAL

	Text for CFDS Indication if no LRU failure found on Fault Tree (Default)	
		IGV ACTUATOR (8014KM)
NO ACCELERATION (slow start)	STARTER MOTOR (8KA) / APU ROTATION	ACFT BAT NOT SELECTED / CONTACTOR (5KA)
	 	CONTACTOR (10KA)
	 	STARTER MOTOR (10KA)
	 	DEOIL SOLENOID (8083KM)
		APU OIL HEATER (8093KM)
REVERSE FLOW	PRESS XDCRS (8044KM)/ (8043KM) / SCV (8058KM)	
CLOGGED OIL FILTER		CHECK OIL FILTERS (8069KM) / (8076KM)
LOSS OF DC POWER	POWER SUPPLY INTERRUPT	

EFF: 232-232, 247-248, 252-252,

49-00-00Page 312
Config-2 May 01/08

TROUBLE SHOOTING MANUAL

(3) Fault Code Numbers (FCN) Table 5

FCN	Fault Description	CFDS Message	Class
001	Speed Sensors show amplitude failure 	SPEED SENSORS (8060KM1) AND (8060KM2)	1 1
002	Speed Sensor 1 Failure and int. ECB failure	SPEED SENSOR (8060KM1) AND ECB (59KD)	1 1
003	Speed Sensor 2 Failure and int. ECB failure	SPEED SENSOR (8060KM2) AND ECB (59KD)	1 1
004	ECB internal Failure	ECB (59KD)	1 1
005	ECB internal Failure	ECB (59KD)	1
006	NOT USED	 	+
007	Speed Sensor 1 shows open circuit	SPEED SENSOR (8060KM1)	3
008	Speed Sensor 2 shows open circuit	SPEED SENSOR (8060KM2)	3
009	Speed Sensor 1 shows amplitude Failure	SPEED SENSOR (8060KM1)	3
010	Speed Sensor 2 shows amplitude Failure	SPEED SENSOR (8060KM2)	3
011	ECB internal Failure	ECB (59KD)	3
012	ECB internal Failure	ECB (59KD)	3
013	ECB internal Failure	ECB (59KD)	3
014	ECB internal Failure	ECB (59KD)	3
015	ECB internal Failure	ECB (59KD)	3
	Delta Press. Sensor shows out of range drift	DIFFERENTIAL PRESS XDCR (8043KM)	1 1
	Delta Press. Sensor shows out of range drift	DIFFERENTIAL PRESS XDCR (8043KM)	1
	Delta Press. Sensor shows out of range low	DIFFERENTIAL PRESS XDCR (8043KM)	1 1
	Delta Press. Sensor shows out of range high	DIFFERENTIAL PRESS XDCR (8043KM)	1 1
020		ECB (59KD)	2

EFF: 232-232, 247-248, 252-252,

49-00-00

Page 313 Config-2 May 01/08

@A319/A320/A321

TROUBLE SHOOTING MANUAL

FCN	Fault Description	CFDS Message	Class
021	Inlet Press. Sensor shows out of range	INLET PRESS XDCR(8048KM)	2
022	Inlet Press. Sensor shows < 8 psia on ground	INLET PRESS XDCR(8048KM) 	2
023	Inlet Press. Sensor shows out of range low	INLET PRESS XDCR(8048KM)	2
024	Inlet Press. Sensor shows out of range high	INLET PRESS XDCR(8048KM) 	2
025	ECB internal Failure	ECB (59KD)	1
026	Total Pressure Sensr. shows out of range	TOTAL PRESS XDCR(8044KM)	1
027	Total Pressure and Inlet Pressure disagree	PRESS XDCRS (8044KM) / (8048KM)	1
028	Total Pressure Sensr. shows out of range low	TOTAL PRESS XDCR(8044KM)	1
029	Total Pressure Sensr. shows out of range high	TOTAL PRESS XDCR(8044KM)	1
030	Press XDCR wiring shows open circuit	CHECK PRESS XDCR WIRING (8001KM)	1
031	Press XDCR wiring open or ECB internal failure	CHECK PRESS XDCR WIRING (8001KM) / ECB (59KD)	1
032	ECB internal Failure	ECB (59KD)	1
033	NOT USED		
034	NOT USED		
035	Both EGT Sensors failed	EGT TCPL RAKES(8057KM1) AND (8057KM2)	1
	EGT1 Sensor Failure and ECB Internal Failure		1
	EGT2 Sensor Failure and ECB Internal Failure	EGT TCPL RAKE (8057KM2)	1
038		ECB (59KD)	1

EFF: 232-232, 247-248, 252-252,

.9-00-00 Page 314 Config-2 May 01/08

TROUBLE SHOOTING MANUAL

FCN	Fault Description	CFDS Message	Class
039	NOT USED	<u> </u>	
040	ECB internal Failure	ECB (59KD)	3
041	NOT USED	 	
042	EGT1 Sensor shows out of range low	EGT TCPLE RAKE (8057KM1)	3
043	EGT1 Sensor disagrees with EGT2 Sensor > 166C	EGT TCPLE RAKE (8057KM1)	3
044	ECB internal Failure	ECB (59KD)	3
045	NOT USED	<u> </u>	
046	EGT2 Sensor shows out of range low	EGT TCPLE RAKE (8057KM2)	3
047	EGT2 Sensor disagrees with EGT1 Sensor > 166C	EGT TCPLE RAKE (8057KM2) 	3
048	ECB internal Failure	ECB (59KD)	3
049	LCDT Sensor shows out of range low	LOAD COMPRESSR DISCHARGE TEMP SENSOR (8012KM)	3
050	ECB internal Failure	ECB (59KD)	3
051	Generator oil Temp. Snsr. shows out of Range low	GENERATOR OIL TEMP SENSOR (8XS)	3
052	Generator oil Temp. Snsr. shows out of Range high	GENERATOR OIL TEMP SENSOR (8XS)	3
053	ECB internal Failure	ECB (59KD)	2
	Oil Sump Temp. Snr. shows out of Range low	(8084KM)	
055	Oil Sump Temp. Snr. shows out of	OIL SUMP TEMP SENSOR	2
056	ECB internal Failure	ECB (59KD)	3
057	LCIT Sensor shows out of Range low	LOAD COMPRESSOR INLET	
058	NOT USED		
059	NOT USED	-+	

EFF: 232-232, 247-248, 252-252,

49-00-00

Page 315

TROUBLE SHOOTING MANUAL

FCN	Fault Description	CFDS Message	Class
060	 Inlet Flap shows Flap open and Flap closed	++ AIR INTAKE FLAP ACTUATOR (4015KM)	3
061	Inlet Flap shows Flap open switch open	AIR INTAKE FLAP ACTUATOR (4015KM)	3
062	Inlet Flap shows Flap open and Flap closed	AIR INTAKE FLAP ACTUATOR (4015KM)	3
	Inlet Flap shows Flap closed switch open	AIR INTAKE FLAP ACTUATOR (4015KM)	3
	Inlet Flap shows Flap close circuit open	AIR INTAKE FLAP ACTUATOR (4015KM)	2
065	Inlet Flap shows Flap close short 	AIR INTAKE FLAP ACTUATOR (4015KM)	2
	Inlet Flap shows Flap open circuit open	AIR INTAKE FLAP ACTUATOR (4015KM)	2
067	Inlet Flap shows Flap open circuit short	AIR INTAKE FLAP ACTUATOR (4015KM)	2
068	Inlet Flap shows Flap open high current	AIR INTAKE FLAP ACTUATOR (4015KM)	1
069	Inlet Flap shows Flap close high current	AIR INTAKE FLAP ACTUATOR (4015KM)	2
070	Inlet Flap shows Flap failed to open	AIR INTAKE FLAP ACTUATOR (4015KM)	1
071	Inlet Flap shows Flap loss of open indication	AIR INTAKE FLAP ACTUATOR (4015KM)	1
	Inlet Flap shows Flap failed to fully close	AIR INTAKE FLAP ACTUATOR (4015KM)	2
073 to 079	 NOTUSED	 	
080		ECB (59KD)	2
081	IGV LVDT pri. shows open circuit	IGV ACTUATOR (8014KM)	2
082	IGV LVDT sec. shows open circuit	•	2

EFF: 232-232, 247-248, 252-252,

49-00-00

Page 316 Config-2 May 01/08

TROUBLE SHOOTING MANUAL

FCN	Fault Description	CFDS Message	Class
083	·	CHECK IGV ASSEMBLY / IGV ACTUATOR (8014KM)	+ 1
084	IGV Pos. disagrees with command close 	CHECK IGV ASSEMBLY / IGV ACTUATOR (8014KM)	1 1
085 to 087	 NOTUSED 		
088	Load Control Valve shows not open	LOAD CONTROL VALVE (8050KM)	2
089	Oil Quantity Switches disagree	OIL LEVEL SWITCH(8087KM)	2
090 to 093	 NOTUSED 		
094	Oil Temp. Switch shows open circuit	OIL TEMP SWITCH (8090KM)	2
095	A/C Pin coding disagree	WRG: ACFT TYPE PIN PROG / ECB (59KD)	3
096	Load Control Valve shows open switch failure	LOAD CONTROL VALVE (8050KM)	2
097	Load Control Valve shows closed switch failure	LOAD CONTROL VALVE (8050KM)	2
098	Low Oil Press. Switch shows electrical ground	LOW OIL PRESS SW(8091KM)	2
099	0il level shows low		2
	Fuel Pressure shows low during APU run	LOW FUEL PRESSURE CHECK APU FUEL SUPPLY	
101	Oil Filter Switch shows electrical ground	OIL FILTER SWITCHES	
102	0il Filter shows clogged	CHECK OIL FILTERS (8069KM)	1 1
103	IGV Torque Motor shows open circuit	•	1
104	IGV Torque Motor shows short circuit	IGV ACTUATOR (8014KM)	1

EFF: 232-232, 247-248, 252-252,

49-00-00

Page 317 Config-2 May 01/08

TROUBLE SHOOTING MANUAL

FCN	Fault Description		Class +
105	Fuel Torque Motor shows open circuit	+ FUEL CONTROL UNIT (8022KM)	+ 1
106	Fuel Torque Motor shows open circuit	FUEL CONTROL UNIT (8022KM)	+ 1
107	Fuel Torque Motor shows short circuit	FUEL CONTROL UNIT (8022KM)	+ 1
108	Fuel Torque Motor shows short circuit	FUEL CONTROL UNIT (8022KM)	+ 1
109	IGV Torque Motor shows open circuit	IGV ACTUATOR (8014KM)	+ 1
110	IGV Torque Motor shows short circuit	IGV ACTUATOR (8014KM)	+ 1
111	SCV Torque Motor shows open circuit	SURGE CONTROL VALVE (8058KM)	+ 1
112	SCV Torque Motor shows short circuit	SURGE CONTROL VALVE	1 1
113	Starter Motor shows open circuit	STARTER MOTOR (8KA)	+ 1
114	Starter Motor shows short circuit	STARTER MOTOR (8KA)	+ 1
115	Oil Heater failure	APU OIL HEATER (8093KM)	+ 2
116	SCV Torque Motor shows open circuit	SURGE CONTROL VALVE (8058KM)	+ 1
117	SCV Torque Motor shows short circuit	SURGE CONTROL VALVE (8058KM)	+ 1
118 to 119	NOT USED		+
	Backup Start Contactor shows open circuit	CONTACTOR (10KA)	+ 1
121	Backup Start Contactor shows closed	CONTACTOR (10KA)	+ 3
122	NOT USED	* 	+
123	Main Start Contactor shows open	+	+ 1

EFF: 232-232, 247-248, 252-252,

49-00-00

Page 318

TROUBLE SHOOTING MANUAL

FCN	Fault Description	CFDS Message	Class
124	Main Start Contactor shows closed	CONTACTOR (5KA)	3
125	Fuel Solenoid shows circuit failure 	FUEL CONTROL UNIT (8022KM)	1
126	NOT USED		
127	Load Valve Solenoid shows circuit failure	LOAD CONTROL VALVE (8050KM)	1
128	Ignition Unit shows open circuit	IGNITION UNIT (8030KM)	1
129	INTERNAL ECB		-
130	APU available shows circuit failure	WRG: APU AVAILABLE	2
131	INTERNAL ECB		-
132	Backup Start Contactor shows circuit failure	CONTACTOR (10KA)	1
133	Deoil Solenoid shows open circuit	DEOIL SOLENOID (8083KM)	1
134	Deoil Solenoid shows circuit failure	DEOIL SOLENOID (8083KM)	1
135	INTERNAL ECB		-
136	APU Fault Relay shows circuit failure	WRG: APU FAULT RELAY	2
137	INTERNAL ECB	<u></u>	-
138	Load Valve Open Signal shows circuit failure	WRG: LOAD VALVE OPEN SIGNAL	2
139	Low Fuel Pressure Relay shows open circuit		2
	Low Fuel Pressure Relay shows circuit failure		
141	+ INTERNAL ECB		-
	+ Main Start Contactor shows circuit failure	CONTACTOR (5KA)	1
143	+ INTERNAL ECB		-
144	+	WRG: START IN PROGRESS	2

EFF: 232-232, 247-248, 252-252,

49-00-00

Page 319

TROUBLE SHOOTING MANUAL

	Fault Description		
145	INTERNAL ECB		_
146	Ignition unit shows short circuit	IGNITION UNIT (8030KM)	1
147 to 149	NOT USED	 	
150	ECS Zone Controller ECS Demand failure	NO DEMAND DATA FROM ECS	3
151	ECS Zone Controller Pack Data failure	NO PACK DATA FROM ECS	3
152	CFDIU BITE Command failure	NO DATA FROM CFDIU	3
153	CFDIU Flight Phase failure	NO DATA FROM CFDIU	3
154	CFDIU AC Config. failure	NO DATA FROM CFDIU	3
155		NO DATA FROM CFDIU	3
156		NO DATA FROM CFDIU	3
157		NO DATA FROM CFDIU	3
158		NO DATA FROM CFDIU	3
159		NO DATA FROM CFDIU	3
160 to 169	NOT USED	 	
170	ECB internal Failure	ECB (59KD)	1
171	ECB internal Failure	_	1
172	ECB internal Failure		1
173		ECB (59KD)	1
174		ECB (59KD)	3
175		ECB (59KD)	3
176		ECB (59KD)	1 1
177		ECB (59KD)	1

EFF: 232-232, 247-248, 252-252,

49-00-00Page 320
Config-2 May 01/08

TROUBLE SHOOTING MANUAL

FCN	Fault Description	CFDS Message	Class
178	ECB internal Failure	ECB (59KD)	1
179	ECB internal Failure	ECB (59KD)	1
180	ECB internal Failure	ECB (59KD)	1
181	ECB internal Failure	ECB (59KD)	2
182	ECB internal Failure	ECB (59KD)	2
183	Power Supply Interrupt	POWER SUPPLY INTERRUPT	2
184	NOT USED		
185		ECB (59KD)	1
186 to 200	NOT USED		
201	No LRU Fault detected (used as default for OVERSPEED shutdown)	FUEL CONTROL UNIT (8022KM) / ECB (59KD)	1
202	No LRU Fault detected (used as default for EMERGENCY shutdown)		-
203	No LRU Fault detected (used as default for ECB 1A shutdown)		-
204	No LRU Fault detected (used as default for UNDERSPEED shutdown)	FCU (8022KM) / APU FUEL SUPPLY / APU ROTATION	1
205	No LRU Fault detected (used as default for OVERTEMP onspeed shutdown)	IGV ACTUATOR (8014KM) / FCU(8022KM) / ECB (59KD)	
	No LRU Fault detected (used as default for OVERTEMP start shutdown)		
207	No LRU Fault detected (used as default for SENSOR FAILURE shutdown)		-
	No LRU Fault detected (used as default for LOW OIL PRESS shutdown)	LOP SW(8091KM)/0IL PUMP/	1
	No LRU Fault detected (used as default for NO FLAME shutdown)	CHECK IGNITION SYSTEM OR	
210	No LRU Fault detected (used as default for FLAP NOT OPEN shutdown)		-

EFF: 232-232, 247-248, 252-252,

49-00-00

Page 321 Config-2 May 01/08

TROUBLE SHOOTING MANUAL

FCN	Fault Description	CFDS Message	Class
211	No LRU Fault detected (used as default for HIGH OIL TEMP shutdown)		1
212	No LRU Fault detected (used as default for NO ACCELERATION shutdown)		
	No LRU Fault detected (used as default for GEN HIGH OIL TEMP shutdown)	•	
	No LRU Fault detected (used as default for LOSS OF SPEED shutdown)		-
215	No LRU Fault detected (used as default for IGV shutdown)	IGV ACTUATOR (8014KM) GEN (8XS) / ECB (59KD)	1
	No LRU Fault detected (used as default for NO ACCEL (slow start) shutdown)		1
217	No LRU Fault detected (used as default for REVERSE FLOW shutdown)		1
218	No LRU Fault detected (used as default for CLOOGED OIL FILTER shutdown)	 	-
219	Power Supply Interrupt (used as default for POWER SUPPLY INTERRUPT shutdown)	POWER SUPPLY INTERRUPT	1
220 to 229	 NOTUSED 		
230	ECB internal Failure	ECB (59KD)	1
231		ECB (59KD)	3
232	•	ECB (59KD)	3
233		ECB (59KD)	2
234	•	ECB (59KD)	3
235	•	ECB (59KD)	3
236	•	ECB (59KD)	2
237	•	ECB (59KD)	3
238	•	ECB (59KD)	3

EFF: 232-232, 247-248, 252-252,

49-00-00

Page 322

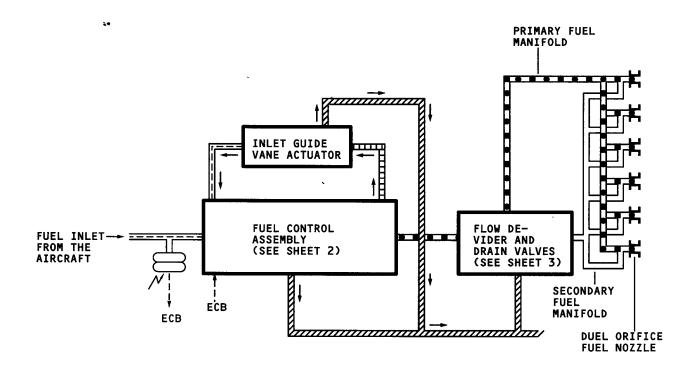
TROUBLE SHOOTING MANUAL

FCN	Fault Description	CFDS Message	
239	ECB internal Failure		
240	APU S/N 1 shows wrong resistance	APU S/N ENCODER (8063KM)	3
241	APU S/N 2 shows wrong resistance	APU S/N ENCODER (8063KM)	3
243	APU S/N 2 shows wrong resistance	APU S/N ENCODER (8063KM)	3
244 to 299	 NOT USED 		
300	ECB internal Failure		-
301	ECB internal Failure		- -
302	Software/Hardware configuration fault		
303	ECB internal Failure		- -

EFF: 232-232, 247-248, 252-252,

49-00-00 Page 323 Config-2 May 01/08

TROUBLE SHOOTING MANUAL



ORAIN

METERED FUEL

REGULATED FUEL

PURCHASE

REGULATED FUEL

PURCHASE

REGULATED FUEL

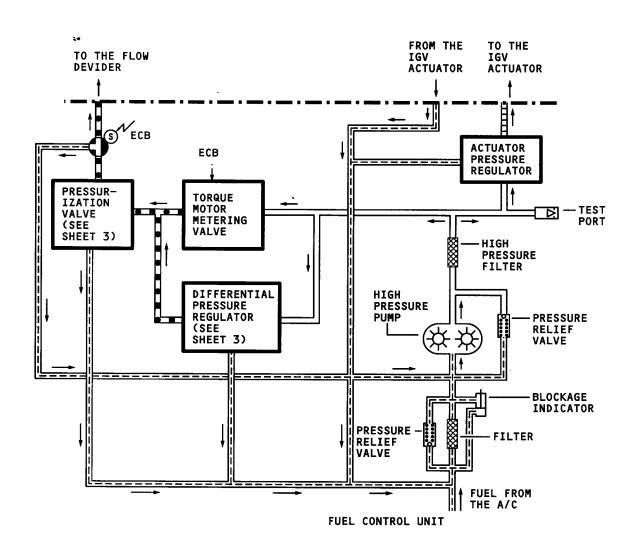
APU Fuel System - Schematic Figure 302 (SHEET 1)

R EFF: 232-232, 247-248, 252-252, SROS

49-00-00Page 324
Config-2 May 01/08

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TROUBLE SHOOTING MANUAL



HIGHT PRESSURE

HIGHT PRESSURE

METERED FUEL

METERED FUEL

REGULATED FUEL

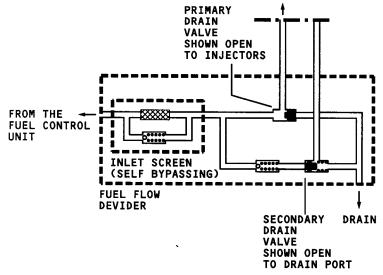
APU Fuel System - Schematic Figure 302 (SHEET 2)

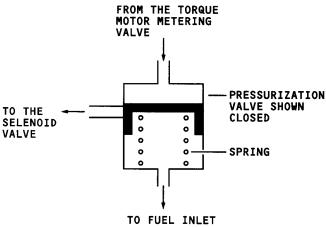
R EFF: 232-232, 247-248, 252-252, SROS

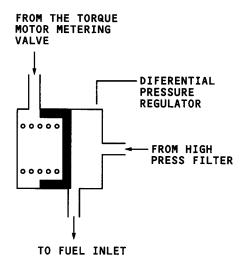
49-00-00

Page 325

TROUBLE SHOOTING MANUAL







APU Fuel System - Schematic Figure 302 (SHEET 3)

R EFF : 232-232, 247-248, 252-252, SROS

49-00-00Page 326
Config-2 May 01/08

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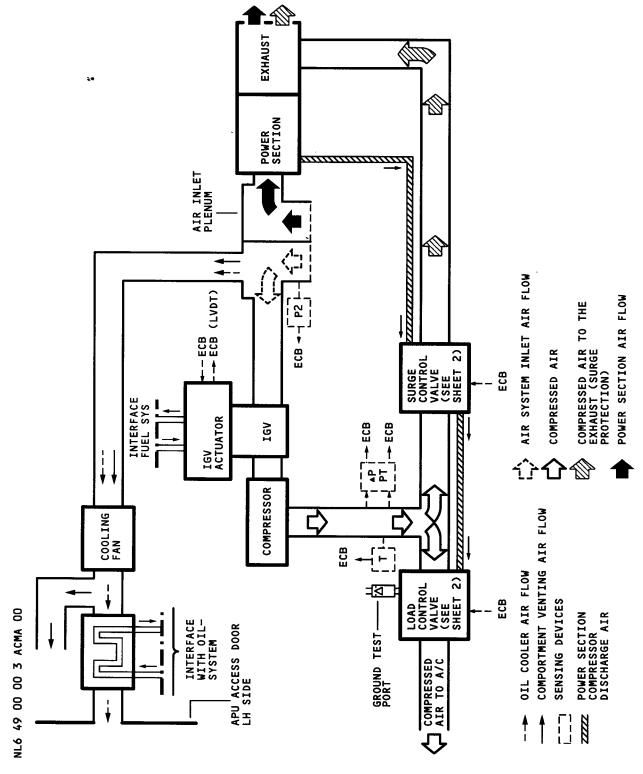
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49-00-00 Page 327 Config-2 May 01/07

TROUBLE SHOOTING MANUAL



APU Pneumatic System- Schematic Figure 303 (SHEET 1)

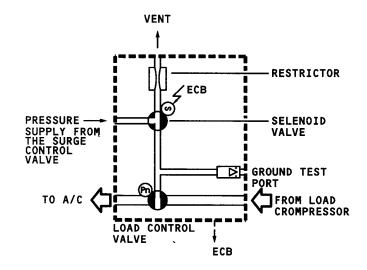
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49-00-00Page 328
Config-2 May 01/08

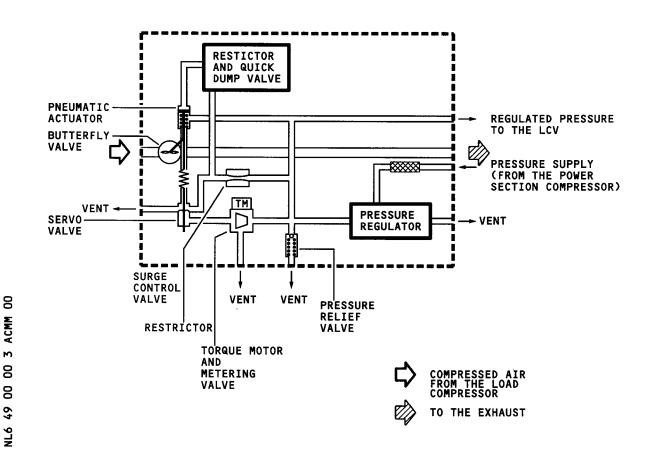
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TROUBLE SHOOTING MANUAL



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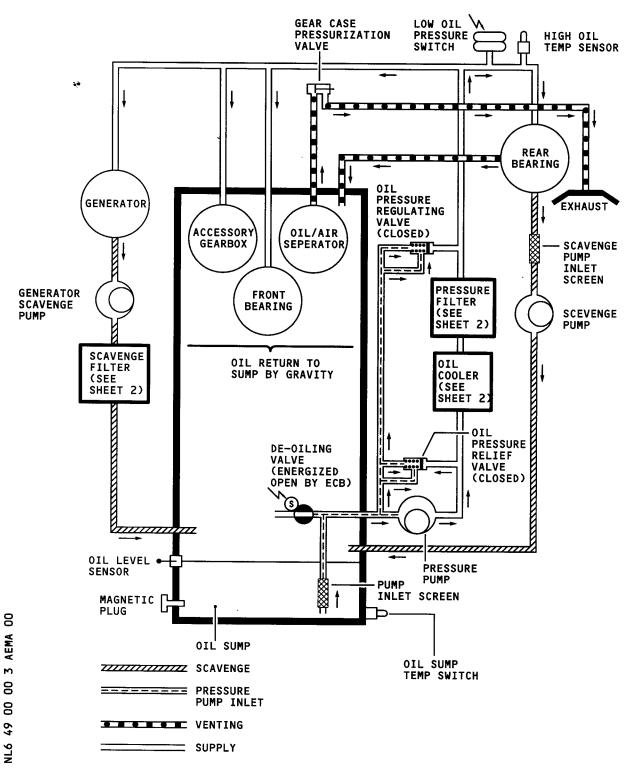


APU Pneumatic System- Schematic Figure 303 (SHEET 2)

R EFF: 232-232, 247-248, 252-252, SROS

49-00-00 Page 329 Config-2 May 01/08

TROUBLE SHOOTING MANUAL

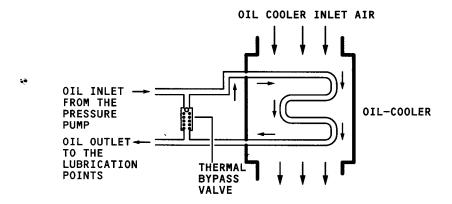


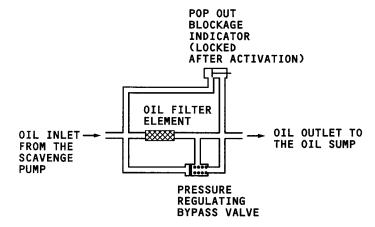
APU Oil System - Schematic Figure 304 (SHEET 1)

R EFF: 232-232, 247-248, 252-252, SROS

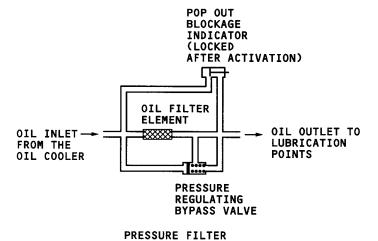
49-00-00 Page 330 Config-2 May 01/08

TROUBLE SHOOTING MANUAL





SCAVENGE FILTER



APU Oil System - Schematic Figure 304 (SHEET 2)

R EFF: 232-232, 247-248, 252-252, SROS

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NL6 49

49-00-00

Page 331

Config-2 May 01/08

TROUBLE SHOOTING MANUAL

R **ON A/C 247-253,

R Post SB 49-1069001 For A/C 247-250,252-253,

AIRBORNE AUXILIARY POWER - GENERAL ((131-9(A))) - TASK SUPPORTING DATA

1. APU Fault Symptom Peculiarities

(Ref. Fig. 301)

Whenever the operation of the APU may result in damage to the aircraft, the APU or the Electronic Control Box (ECB) of the APU, the ECB shuts down the APU automatically. The cause of the Shutdown and associated LRUs are stored in the ECB memory. This information is available on the APU system related CFDS menu page APU SHUTDOWNS.

i.e. NO FLAME

(shutdown cause)

IGNITION EXCITER P12

(faulty LRU)

In parallel the ECB generates a maintenance message with associated ATA Chapter and related Fault Class of the faulty LRU. This maintenance message is available on the Post Flight Report (PFR), which is, in the AIRBUS TSM philosophy, the entry point to the TSM.

i.e. ATA 494138

CLASS: 1

IGNITION EXCITER P12

During several operator conferences concerning the APU TSM it has been shown that likely most operators prefer into TSM with the information of the APU SHUTDOWNS menu, which shows the same faulty LRU as the PFR but additionally the shutdown reason.

It has been decided to follow the operators preferences to combine the PFR maintenance message with the Shutdown cause in one Fault Symptom in TSM 49:

i.e. Source Message ATA Class
ECB NO FLAME ASD *
associated with
ECB IGNITION EXCITER P12 494138 1

A. BITE Detection

(1) CLASS 1 Faults

Table 1

	•	BITE Detection (Failed LRUs)
POWER SUPPLY INTERRUPT	24-00-00	
CHECK APU INLET	49-16-00	No LRU detected
	49-16-51 	Inlet Flap shows Flap open high current Inlet Flap shows Flap failed to open Inlet Flap shows Flap loss of open indication

EFF: 247-253,

49-00-00

Page 301

Config-3 May 01/07

TROUBLE SHOOTING MANUAL

EXAMPLE AUTO SHUTDOWN

WARNINGS/MALFUNCTIONS	CFDS FAULT MESSAGES	1ESSAGES		FAULT ISOLATION	
WARRINGS / IMEL SHOT I SHO	SOURCE	MESSAGE	ATA	c	PROCEDURE
APU AUTO SHUT DOWN	APU	NO ACCELERATION ASSOCIATED WITH	ASD _	*	490000 P 203
	APU	CURRENT LIMTER 6KA OR CONTACTOR 10KA	494200	1	T 810 879
APU AUTO SHUT DOWN	APU	NO ACCELERATION ASSOCIATED WITH	ASD	*	490000 P 236
	APU	STARTER MOTOR 8KA OR STARTER CLUTCH ASSY	494251	1	T 810 897
APU AUTO SHUT DOWN	APU	NO ACCELERATION ASSOCIATED WITH	ASD	*	490000 P 238
	APU	FCU P19 OR IGV ACTR P21 OR FUEL FLOW DIVIDER	493211	1	T 810 898
APU AUTO SHUT DOWN	APU	NO ACCELERATION ASSOCIATED WITH	ASD	*	490000 P 243
	APU	FCU P19 OR IGV ACTR P21 OR IN T/P SNSR P22	493211	1	T 810 900
APU AUTO SHUT DOWN	APU	NO ACCELERATION ————————————————————————————————————	ASD	*	490000 P 288
	APU	CONTACTOR 5KA OR ECB 59KD	494241	1	т 810 927
\ \					

SHUTDOWN CAUSE

NOTE:

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THE (*) IN THE 49-ECAM INDEX "C" COLUMN DENOTES THAT THIS FAULT/MALFUNCTION IS ALSO AVAILABLE IN THE CFDS APU SHUTDOWNS MENU WITH ITS ASSOCIATED SHUTDOWN CAUSE

Example of APU Fault Symptom Page Figure 301

R EFF: 247-253,
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49-00-00

Page 302

TROUBLE SHOOTING MANUAL

Text for CFDS Indication	ATA	 BITE Detection (Failed LRUs) +
CHECK IGV ASSEMBLY/ IGV ACTUATOR P21	+ 49-23-00 	Bleed Shutoff due to high Temperature
IGV ACTUATOR P21	49-23-51 	IGV Torque Motor shows open/short circuit
IGV ACTUATOR P21/ ECB (59KD)	49-23-51 	No LRU detected
FUEL CONTROL UNIT P19	49-32-11 	Fuel Solenoid shows circuit failure Fuel Torque Motor shows open/short circuit
FUEL CONTROL UNIT P19/ APU FUEL SUPPLY	49-32-11 	Fuel Flow disagrees with command
FUEL CONTROL UNIT P19/ ECB (59KD)	49-32-11 	No LRU detected
FUEL CONTROL UNIT P19/ FLOW DIVIDER ASSEMBLY	49-32-11 	No LRU detected
FCU/APU FUEL SUPPLY/ APU ROTATION	49-32-11 	No LRU detected
CHECK IGNITION SYSTEM/ FCU/ECB (59KD)	49-41-00 	No LRU detected
IGNITION EXCITER P10	49-41-38 	Ignition Unit shows open/short circuit
ACFT BAT NOT SELECTED/ CONTACTOR (5KA)	49-42-55 	Main Start Contactor shows open circuit
STARTER MOTOR (8KA)	49-42-51 	Starter Motor shows open/short
STARTER MOTOR (8KA)/ APU ROTATION	49-42-51 	No LRU detected
CONTACTOR (10KA)	49-42-55	Backup Contactor shows open circuit
CHECK PRESS XDCR WIRING	49-51-00	Press XDCR wiring shows open circuit
CHECK PRESS XDCR WIRING/ ECB (59KD)		Press XDCR wiring short or ECB internal failure
DIFFERENTIAL PRESS XDCR	49-51-16	DP XDCR shows out-of-range drift

EFF: 247-253,

49-00-00Page 303
Config-3 May 01/07

TROUBLE SHOOTING MANUAL

P24 DP XDCR P24/PT XDCR P23/ 49-51-16 No LRU detected SURGE CONTROL VALVE P18 TOTAL PRESS XDCR P23 49-51-17 PT XDCR shows out-of-range PT and P2 disagree PT XDCR shows out-of-range higher	
SURGE CONTROL VALVE P18 TOTAL PRESS XDCR P23 49-51-17 PT XDCR shows out-of-range PT and P2 disagree PT XDCR shows out-of-range him	ah/l ow
PT and P2 disagree PT XDCR shows out-of-range him	ah/low
LOAD CONTROL VALVE P12 49-51-51 LCV Solenoid shows circuit fa	g.1/ COW
	ilure
SURGE CONTROL VALVE P18 49-51-52 SCV Torque Motor shows open/s circuit SCV LVDT pri/sec shows open c SCV position disagrees with contract SCV position disagrees with contract SCV position disagrees with contract SCV position disagrees with contract SCV position disagrees with contract SCV position disagrees with contract SCV position disagrees with contract SCV position disagrees with contract SCV position disagrees with contract SCV position disagrees with contract SCV position disagrees with contract SCV position disagrees with contract SCV position disagrees with contract SCV position disagrees with contract SCV position disagrees with contract SCV position disagrees with contract SCV position disagrees with contract SCV position disagrees with contract SCV position disagrees with contract SCV position disagrees SCV position disagr	ircuit
SCV P18/PRESS XDCR P24/ 49-51-52 Bleed shutoff due to reverse condition	flow
ECB (59KD) 49-61-34 ECB internal failure	
SPEED SENSOR P26 49-71-13 Speed sensor shows amplitude	failure
SPEED SENSOR P26/ 49-71-13 Speed sensor 1 or 2 fails and ECB (59KD) ECB internal failure	
EGT TCPLE RAKES 1 + 2 49-72-15 Both EGT sensors failed	
EGT TCPLE RAKE 1 49-72-15 EGT1 sensor and internal ECB + ECB (59KD)	failure
EGT TCPLE RAKE 2 49-72-15 EGT2 sensor and internal ECB + ECB (59KD)	failure
OIL COOLER/ 49-91-44 No LRU detected COOLING FAN ASSEMBLY	
LUBE PUMP FILTER P9 + 49-91-45 Oil Filter shows clogged GEN SCAV FILTER P5	
DEOIL SOLENOID P15 49-91-49 Deoil Solenoid shows open/clo	sed
LOP SW P14/OIL PUMP/ 49-94-44 No LRU detected DEOIL SOLENOID P15	

EFF: 247-253,

49-00-00 Page 30

TROUBLE SHOOTING MANUAL

(2) CLASS 2 Faults

Table 2

Text for CFDS Indication	ATA +=======	BITE Detection (Failed LRUs)
POWER SUPPLY INTERRUPT	24-00-00	Power Supply Interrupt
FIRE EMERG STOP RLY 6WF	26-22-00 	Low Fuel Pressure Relay shows open/short circuit
LOW FUEL PRESSURE	28-20-00 	Fuel Pressure shows low during APU run
AIR INTAKE FLAP ACTUATOR	49-16-51 	Inlet Flap shows Flap close circuit open/short Inlet Flap shows Flap open circuit open/short Inlet Flap shows Flap close high current Inlet Flap shows Flap failed to fully close
IGV ACTUATOR P21	49-23-51	IGV LVDT pri/sec shows open circuit
FUEL CONTROL UNIT P19	49-32-11 	Fuel Temp Sensor shows out-of-range Fuel Resolver pri/sec shows open circuit Fuel Resolver position shows incorrect position
FLOW DIVIDER SOL P13	49-32-14 	Flow Divider Solenoid shows circuit failure
LOAD CONTROL VALVE P12	49-51-51 	LCV shows not open LCV shows open/closed switch failure
INLET PRESS XDCR P22	49-51-21 	P2 XDCR out-of-range P2 XDCR shows < 8psia on GND
ECB (59KD)	49-61-34 	ECB internal failure
LOW OIL LEVEL	•	Oil level shows low
LOW OIL PRESS SW P14	49-94-14	LOP Switch shows open circuit
OIL TEMP SENSOR P11	49-94-15	Oil Temp Sensor shows out-of-range
APU OIL HEATER P7	49-96-51	+ Oil Heater Failure +
	+	+

EFF: 247-253,

49-00-00Page 305

Config-3 May 01/07

TROUBLE SHOOTING MANUAL

(3) CLASS 3 Faults

Table 3

Text for CFDS Indication	ATA	BITE Detection (Failed LRUs)
NO DEMAND DATA FROM ECS		ECS Zone Controller ECS Demand failure
NO PACK DATA FROM ECS	21-63-34 	ECS Zone Controller ECS Data failure
NO DATA FROM CFDIU	31-32-34 	AC ID failure, UTC failure, Date failure, BITE command failure
AIR INTAKE FLAP ACTUATOR	 	Inlet Flap shows open and switch closed Inlet Flap shows Flap open switch open Inlet Flap shows Flap closed switch open
INLET TEMP SENSOR	49-23-14 	T2 Sensor out-of-range
CONTACTOR (5KA)	+	Main Start Contactor shows closed
CONTACTOR (10KA)	+	Backup Start Contactor shows closed
WRG: ACFT TYPE PIN PROG/ ECB (59KD)	49-61-00 	A/C PIN Coding disagrees
ECB (59KD)	+ 49-61-34	ECB internal failure
SPEED SENSOR P26	+ 49-71-13 	Speed Sensor 1/2 shows open circuit Speed Sensor 1/2 shows amplitude failure
EGT TCPLE RAKE 1	+ 49-72-15 	EGT1 Sensor shows out-of-range low EGT1 Sensor disagrees with EGT2
EGT TCPLE RAKE 2	+ 49-72-15 	EGT2 Sensor shows out-of-range low EGT2 Sensor disagrees with EGT1
DATA MEMORY MODULE P20	+ 49-73-32	DMM shows failure
LUBE PUMP FILTER SW P9/ GEN SCAV FILTER SW P5	 49-91-14 	Oil Filter Switch shows elect. ground

EFF: 247-253,

49-00-00 Page 306 Config-3 May 01/07

TROUBLE SHOOTING MANUAL

(4) APU SHUTDOWNS

Table 4

Shutdown Text on Shutdown page	Text for CFDS Indication if no LRU failure found on Fault Tree (Default)	
OVERSPEED	FUEL CONTROL UNIT P19/ ECB (59KD)	FUEL CONTROL UNIT P19/ APU FUEL SUPPLY
EMERGENCY		
ECB FAILURE	!	ECB (59KD)
UNDERSPEED	FCU/APU FUEL SUPPLY/ APU ROTATION	FUEL CONTROL UNIT/ APU FUEL SUPPLY
		FUEL CONTROL UNIT P19
		LOW FUEL PRESSURE
		ECB (59KD)
OVERTEMPERATURE (onspeed)	IGV ACTUATOR P21/ ECB (59KD)	CHECK IGV ASSEMBLY/ IGV ACTUATOR P21
OVERTEMPERATURE (start)	FUEL CONTROL UNIT P19/ FLOW DIVIDER ASSEMBLY	FUEL CONTROL UNIT P19/ APU FUEL SUPPLY
SENSOR FAILURE		EGT TCPLE RAKES 1 + 2
		EGT TCPLE RAKE 1 + ECB (59KD)
		EGT TCPLE RAKE 2 + ECB (59KD)
		ECB (59KD)
		LOW OIL PRESSURE SW P14 LOW OIL LEVEL
LOW OIL PRESSURE	LOP SW P14 / OIL PUMP / DEOIL SOLENOID P15	LOW OIL LEVEL
NO FLAME	CHECK IGNITION SYSTEM / FCU / ECB (59KD)	LOW FUEL PRESSURE
		FUEL CONTROL UNIT P19

EFF: 247-253, SROS **49-00-00**Page 307
Config-3 May 01/07

TROUBLE SHOOTING MANUAL

	Text for CFDS Indication if no LRU failure found on Fault Tree (Default)	if LRU failure found on
		FUEL CONTROL UNIT P19/ APU FUEL SUPPLY
		FLOW DIVIDER SOL P13
		IGNITION EXCITER P10
		ECB (59KD)
AIR INTAKE NOT OPEN		AIR INTAKE FLAP ACTUATOR
HIGH OIL TEMPERATURE	OIL COOLER / COOLING FAN ASSEMBLY	
NO ACCELERATION	STARTER MOT (8KA) / APU ROTATION	ACFT BAT NOT SELECTED / CONTACTOR (5KA)
		CONTACTOR 10KA
		APU OIL HEATER P7
		STARTER MOTOR (8KA)
INLET OVERHEAT	CHECK APU INLET	<u> </u>
LOSS OF SPEED		SPEED SENSOR P26
		SPEED SENSOR P26 + ECB (59KD)
		ECB (59KD)
NO ACCELERATION	FUEL CONTROL UNIT P19	FUEL CONTROL UNIT P19 / APU FUEL SUPPLY
		ECB (59KD)
		DEOIL SOLENOID P15
		LOW FUEL PRESSURE
		STARTER MOTOR (8KA)
		CHECK IGV ASSEMBLY / IGV ACTUATOR P21
		FLOW DIVIDER SOL P13

EFF: 247-253,

49-00-00

Page 308 Config-3 May 01/07

TROUBLE SHOOTING MANUAL

Shutdown Text on Shutdown page	Text for CFDS Indication if no LRU failure found on Fault Tree (Default)	if LRU failure found on
	 	+
		OIL TEMP SENSOR P11
REVERSE FLOW	+ DP XDCR P24/PT XDCR P21/ SURGE CONTROL VALVE P18	
CLOGGED OIL FILTER	 	LUBE PUMP FILTER P9 + GEN SCAV FILTER P5
	POWER SUPPLY INTERRUPT	<u> </u>

EFF: 247-253,

SROS

49-00-00 Page 1 No. 1 No

TROUBLE SHOOTING MANUAL

B. Fault Code Numbers (FCN)

A fixed Fault Code Number (FCN) is allocated to each detectable fault. Each FCN (with some exceptions) is linked to a CFDS maintenance message. Both, the FCN and the CFDS maintenance message, are shown the LAST LEG REPORT, PREVIOUS FLIGHT REPORT etc..

In many occasions two or more FCNs are linked to the same CFDS message. This happens when different FCNs (faults) are in conjunction with the same Line Replaceable Unit (LRU).

Example:

FCN	Fault Description	-	Class
	Inlet Press. Sensor shows out of range	INLET PRESS XDCR P22	2
022		INLET PRESS XDCR P22 	2
023	Inlet Press. Sensor shows out of range low	INLET PRESS XDCR P22 	2
024	+ Inlet Press. Sensor shows out of range high		+ 2

You can find complete enumeration of all FCNs with their associated CFDS messages in Table 5 that follows:

(1) Fault Code Numbers (FCN)
 Table 5

FCN	Fault Description	CFDS Message	Class
001	Speed Sensor show amplitude failure	SPEED SENSOR P26	1 1
002	Speed Sensor 1 Failure and ECB int. failure	SPEED SENSOR P26 AND ECB (59KD)	1
003	Speed Sensor 2 Failure and ECB int. failure	SPEED SENSOR P26 AND ECB (59KD)	1 1
	ECB internal Failure	ECB (59KD)	1 1
		ECB (59KD)	1
006	NOT USED		
007	Speed Sensor 1 shows open circuit	SPEED SENSOR P26	3
008	Speed Sensor 2 shows open circuit	SPEED SENSOR P26	3
	 		+

EFF: 247-253,

49-00-00Page 310
Config-3 May 01/07

TROUBLE SHOOTING MANUAL

FCN	Fault Description	CFDS Message	Class
009	Speed Sensor 1 shows amplitude Failure	SPEED SENSOR P26	3
010	Speed Sensor 2 shows amplitude Failure	SPEED SENSOR P26	3
011	ECB internal Failure	ECB (59KD)	3
012	ECB internal Failure	ECB (59KD)	3
013	ECB internal Failure	ECB (59KD)	3
014	ECB internal Failure	ECB (59KD)	3
015	ECB internal Failure	ECB (59KD)	1
016	Delta Press. Sensor shows out of range drift	DIFFERENTIAL PRESS XDCR P24	1
017	Delta Press. Sensor shows out of range drift	DIFFERENTIAL PRESS XDCR	1
018	Delta Press. Sensor shows out of range low	DIFFERENTIAL PRESS XDCR	1
019	Delta Press. Sensor shows out of range high	DIFFERENTIAL PRESS XDCR	1 1
020	ECB internal Failure	ECB (59KD)	2
021	Inlet Press. Sensor shows out of range	INLET PRESS XDCR P22	2
022	Inlet Press. Sensor shows < 8 psia on ground	INLET PRESS XDCR P22	2
023	Inlet Press. Sensor shows out of range low	INLET PRESS XDCR P22	2
024	Inlet Press. Sensor shows out of range high	INLET PRESS XDCR P22 	2
025	,	ECB (59KD)	1
	Total Pressure Sensr. shows out of range	TOTAL PRESS XDCR P23	1
027	Total Pressure and Inlet Pressure disagree	TOTAL PRESS XDCR P23	1 1
	Total Pressure Sensr. shows out of range low	TOTAL PRESS XDCR P23	1 1

EFF: 247-253,

49-00-00 Page 311 Config-3 May 01/07

@A319/A320/A321

TROUBLE SHOOTING MANUAL

FCN	Fault Description	CFDS Message	Class
029	+ Total Pressure Sensr. shows out of range high	TOTAL PRESS XDCR P23	 1
030	Press XDCR wiring shows open circuit	CHECK PRESS XDCR WIRING	1
031	•	CHECK PRESS XDCR WIRING / ECB (59KD)	1
032	ECB internal Failure	ECB (59KD)	1
033	NOT USED		
034	NOT USED		
035		EGT TCPLE RAKES 1 + 2	1
036		EGT TCPLE RAKE 1 AND ECB (59KD)	1
037	EGT2 Sensor Failure and ECB Internal Failure	EGT TCPLE RAKE 2 AND ECB (59KD)	1
038		ECB (59KD)	1
039	NOT USED		
040	•	ECB (59KD)	3
041	NOT USED		
042	EGT1 Sensor shows out of range low		3
	EGT1 Sensor disagrees with EGT2 Sensor > 66C	EGT TCPLE RAKE 1	3
044		ECB (59KD)	3
045	NOT USED	l	
046	EGT2 Sensor shows out of range low	r	3
	EGT2 Sensor disagrees with EGT1 Sensor > 66C	EGT TCPLE RAKE 2	
048	NOTUSED	 	
049	N O T U S E D	I	
	ł	++	·

247-253, EFF :

SROS

49-00-00

TROUBLE SHOOTING MANUAL

FCN	Fault Description	CFDS Message	Class
050	ECB internal Failure	ECB (59KD)	2
051	Fuel Temp. Snsr. shows out of Range low	FUEL CONTROL UNIT P19	2
052	Fuel Temp. Snsr. shows out of Range high	FUEL CONTROL UNIT P19	2
053	ECB internal Failure	ECB (59KD)	2
054	Oil Temp. Snr. shows out of Range low	OIL TEMP SENSOR P11	2
055	Oil Sump Temp. Snr. shows out of Range high	OIL TEMP SENSOR P11	2
056	ECB internal Failure	ECB (59KD)	3
057	Inlet Temp Sensor shows out of range low	INLET TEMP SENSOR P6	3
058	Inlet Temp Sensor shows out of range high	INLET TEMP SENSOR P6	3
059	NOT USED		
060	Inlet Flap shows Flap open and Flap closed	AIR INTAKE FLAP ACTUATOR	3
061	Inlet Flap shows Flap open switch open	AIR INTAKE FLAP ACTUATOR	3
062	Inlet Flap shows Flap open and Flap closed	AIR INTAKE FLAP ACTUATOR	3
063	Inlet Flap shows Flap closed switch open	AIR INTAKE FLAP ACTUATOR	3
064	Inlet Flap shows Flap close circuit open	AIR INTAKE FLAP ACTUATOR	2
065	Inlet Flap shows Flap close circuit short	AIR INTAKE FLAP ACTUATOR	2
066	Inlet Flap shows Flap open circuit open	AIR INTAKE FLAP ACTUATOR	2
067	Inlet Flap shows Flap open circuit short	AIR INTAKE FLAP ACTUATOR	2

EFF: 247-253,

SROS

49-00-00

Page 313

TROUBLE SHOOTING MANUAL

FCN	Fault Description		Class
068	Inlet Flap shows Flap open high current	+ AIR INTAKE FLAP ACTUATOR 	1
069	Inlet Flap shows Flap close high current	AIR INTAKE FLAP ACTUATOR 	2
070	Inlet Flap shows Flap failed to open	AIR INTAKE FLAP ACTUATOR	1
071	Inlet Flap shows Flap loss of open indication	AIR INTAKE FLAP ACTUATOR	1
072	Inlet Flap shows Flap failed to fully close	AIR INTAKE FLAP ACTUATOR	2
073	NOT USED	! !	
074	NOT USED	<u> </u>	
075	ECB internal Failure	ECB (59KD)	2
076	Fuel Resolver primary shows open circuit	FUEL CONTROL UNIT P19	2
077	Fuel Resolver secondary shows open circuit	FUEL CONTROL UNIT P19	2
078	Fuel Resolver position shows incorrect position	FUEL CONTROL UNIT P19	2
079	Fuel flow disagrees with command	FUEL CONTROL UNIT P19/ APU FUEL SUPPLY	1
080	ECB internal failure	ECB (59KD)	2
081	IGV LVDT primary shows open circuit	IGV ACTUATOR P21	2
	IGV LVDT secondary shows open circuit	IGV ACTUATOR P21	2
083	IGV position disagrees with command	+ CHECK IGV ASSEMBLY/ IGV ACTUATOR P21	1
	ECB internal failure		
085	SCV LVDT primary shows open circuit	SURGE CONTROL VALVE P18	1
086	SCV LVDT secondary shows open circuit	SURGE CONTROL VALVE P18	1

EFF: 247-253,

49-00-00 footio-3

Config-3 May 01/07

TROUBLE SHOOTING MANUAL

FCN	Fault Description	CFDS Message	Class
087	SCV position disagrees with command	SURGE CONTROL VALVE P18	1
088	Load Control Valve shows not open	LOAD CONTROL VALVE P12	2
	Bleed Shutoff due to reverse flow condition	SCV P18 / PRESS XDCR P24	1
090	Bleed Shutoff due to high temperature	CHECK IGV ASSEMBLY / IGV ACTUATOR P21	1
	Bleed Shutoff due to reverse flow condition	SCV P18 / PRESS XDCR P24	1
092 to 094			
095	A/C pin coding disagrees	WRG: ACFT PIN PROG/ ECB (59KD)	3
	Load Control Valve shows open switch failure	LOAD CONTROL VALVE P12	2
	Load Control Valve shows closed switch failure	LOAD CONTROL VALVE P12	2
	Low Oil Pressure switch shows open circuit	LOW OIL PRESS SW P14 	2
099	'	LOW OIL LEVEL	2
		 LUBE PUMP FILTER SW P9/ GEN SCAV FILTER SW P5	3
102	55	LUBE PUMP FILTER P9 + GEN SCAV FILTER P5	1
103	NOT USED	+	
104	NOTUSED	i İ i	
105	Fuel Torque Motor shows open circuit		1
106	Fuel Torque Motor shows open circuit	FUEL CONTROL UNIT P19	1
107	Fuel Torque Motor shows short circuit	FUEL CONTROL UNIT P19	1
108	Fuel Torque Motor shows short circuit	FUEL CONTROL UNIT P19	1

EFF: 247-253,

SROS

49-00-00

Page 315

TROUBLE SHOOTING MANUAL

FCN	Fault Description	CFDS Message	 Class +
109	IGV Torque Motor shows open circuit	 IGV ACTUATOR P21	+ 1
110	IGV Torque Motor shows short circuit	IGV ACTUATOR P21	1
111	SCV Torque Motor shows open circuit	SURGE CONTROL VALVE P18	1
112	SCV Torque Motor shows short circuit	SURGE CONTROL VALVE P18	1 1
113	Starter Motor shows open circuit	STARTER MOTOR (8KA)	1 1
114	Starter Motor shows short circuit	STARTER MOTOR (8KA)	1 1
115	Oil Heater failure	APU OIL HEATER P7	2
116 to 119	NOTUSED	 	
120	Backup Start Contactor shows open circuit	CONTACTOR (10KA)	1 1
121	Backup Start Contactor shows closed	CONTACTOR (10KA)	3
122	NOT USED	 	
123	Main Start Contactor shows open circuit	ACFT BAT NOT SELECTED / CONTACTOR (5KA)	1 1
124	Main Start Contactor shows closed	CONTACTOR (5KA)	3
125	Fuel Solenoid shows circuit failure	FUEL CONTROL UNIT P19	1 1
_	Flow Divider Solenoid shows circuit failure	FLOW DIVIDER SOL P13 	1 1
	Load Valve Solenoid shows circuit failure	LOAD CONTROL VALVE P12 	1 1
128	Ignition Unit shows open circuit	IGNITION EXCITER P10	1 1
129	INTERNAL ECB		+ -
130	APU available shows circuit failure	WRG: APU AVAILABLE	2
131	INTERNAL ECB		+ -
132	INTERNAL ECB		I -

EFF: 247-253,

49-00-00

Page 316 Config-3 May 01/07

TROUBLE SHOOTING MANUAL

FCN	Fault Description	CFDS Message	Class
133	Deoil Solenoid shows open circuit	DEOIL SOLENOID P15	1 1
134	Deoil Solenoid shows circuit failure	DEOIL SOLENOID P15	1 1
135	INTERNAL ECB		- -
136	Fault Relay shows circuit failure	WRG: APU FAULT RELAY	2
137	INTERNAL ECB		- -
138		WRG: LOAD VALVE OPEN SIGNAL	2
139	Low Fuel Pressure Relay shows open circuit	FIRE EMERG STOP RLY 6WF	2
140		FIRE EMERG STOP RLY 6WF	2
141	INTERNAL ECB		- -
142	INTERNAL ECB		-
143	INTERNAL ECB		- -
144	APU Start in progress shows circuit failure	WRG: START IN PROGRESS	2
145	INTERNAL ECB		-
146	Ignition unit shows short circuit	IGNITION UNIT P10	1
147 to 149	 NOT USED 		
	ECS Zone Controller ECS Demand failure	NO DEMAND DATA FROM ECS	3
	ECS Zone Controller Pack Data failure	NO PACK DATA FROM ECS	-
152	CFDIU BITE Command failure	NO DATA FROM CFDIU	3
153	CFDIU Flight Phase failure	NO DATA FROM CFDIU	3
154		NO DATA FROM CFDIU	3
155	•	NO DATA FROM CFDIU	3
156		NO DATA FROM CFDIU	3

EFF: 247-253,

49-00-00

Page 317 Config-3 May 01/07

SROS

@A319/A320/A321

TROUBLE SHOOTING MANUAL

FCN	Fault Description	CFDS Message	 Class +
157	CFDIU AC ID failure	NO DATA FROM CFDIU	+ 3
158	CFDIU AC ID failure	NO DATA FROM CFDIU	3
159	CFDIU AC ID failure	NO DATA FROM CFDIU	3
160 to 169	NOT USED		+
170	·	ECB (59KD)	1
171	ECB internal Failure	ECB (59KD)	1
172	ECB internal Failure	ECB (59KD)	1
173	ECB internal Failure	ECB (59KD)	1
174	ECB internal Failure	ECB (59KD)	3
175	ECB internal Failure	ECB (59KD)	3
176	ECB internal Failure	ECB (59KD)	1
177	ECB internal Failure	ECB (59KD)	1
178	ECB internal Failure	ECB (59KD)	1
179		ECB (59KD)	1
180	ECB internal Failure	ECB (59KD)	1
181	ECB internal Failure	ECB (59KD)	2
182	ECB internal Failure	ECB (59KD)	2
		POWER SUPPLY INTERRUPT	•
184			2
	Fuel Solenoid driver failure		1
186	Flow Divider Solenoid driver failure		1
187 to 200	NOT USED		

EFF : 247-253, SROS **49-00-00** Page 318 Config-3 May 01/07

TROUBLE SHOOTING MANUAL

FCN	Fault Description	CFDS Message	Class
201	•	FUEL CONTROL UNIT P19 / ECB (59KD)	1
202	No LRU Fault detected		1
203	No LRU Fault detected		1
204	No LRU Fault detected 	FCU / APU FUEL SUPPLY / APU ROTATION	1
205	•	IGV ACTUATOR P21 / ECB (59KD)	1
206	•	FUEL CONTROL UNIT P19 / FLOW DIVIDER ASSEMBLY	1
207	No LRU Fault detected		
208	No LRU Fault detected 	LOP SW P14 / OIL PUMP / DEOIL SOLENOID P15	1
209	•	CHECK IGNITION SYSTEM / FCU / ECB (59KD)	1 1
210	No LRU Fault detected		
211	No LRU Fault detected 	OIL COOLER /	1
212		STARTER MOTOR (8KA) / APU ROTATION	1
213	No LRU Fault detected for GEN HIGH OIL TEMP shutdown)	CHECK APU INLET	1
214	No LRU Fault detected		-
215	•	FUEL CONTROL UNIT P19	1
216		DP XDCR P24/PT XDCR P23/ SURGE CONTROL VALVE P18	
217	No LRU Fault detected		1
218		POWER SUPPLY INTERRUPT	1
219 to 229	 NOTUSED	 	

EFF: 247-253, SROS **49-00-00** Page 319 Config-3 May 01/07

TROUBLE SHOOTING MANUAL

FCN	Fault Description	CFDS Message	 Class +
230	+ ECB internal Failure	+ ECB (59KD)	+ 1
231	ECB internal Failure	ECB (59KD)	3
232	ECB internal Failure	ECB (59KD)	3
233	ECB internal Failure	ECB (59KD)	2
234	ECB internal Failure	ECB (59KD)	2
235	ECB internal Failure	ECB (59KD)	3
236	ECB internal Failure	ECB (59KD)	2
237	ECB internal Failure	ECB (59KD)	3
238	ECB internal Failure	ECB (59KD)	3
239	NOT USED		- -
240	Data Memory Module shows wrap test failure	DATA MEMORY MODULE P20	3
241	Data Memory Module shows read failure	DATA MEMORY MODULE P20	3
242	Data Memory Module shows checkword failure	DATA MEMORY MODULE P20	3
243	Data Memory Module shows APU S/N failure	DATA MEMORY MODULE P20 	3
244	Data Memory Module shows write failure	DATA MEMORY MODULE P20 	3
245 to 299	 NOT USED 		
300	ECB internal Failure		1
301	ECB internal Failure		1
302	Software/Hardware configuration fault		1
303	ECB internal Failure		1 1

EFF : 247-253,

49-00-00

Page 320

TROUBLE SHOOTING MANUAL

R **ON A/C 247-253,

Post SB 49-1062 For A/C 251-251, R Post SB 49-1069 For A/C 247-250,252-253,

(1) Fault Code Numbers (FCN)
 Table 5

Fault Description	CFDS Message	Class
Speed Sensor show amplitude failure	SPEED SENSOR (8060KM)	1
Speed Sensor 1 Failure and ECB int. failure	SPEED SENSOR (8060KM) AND ECB (59KD)	1
Speed Sensor 2 Failure and ECB int. failure	SPEED SENSOR (8060KM) AND ECB (59KD)	1
	ECB (59KD)	1
ECB internal Failure	ECB (59KD)	1
	SPEED SENSOR (8060KM)	3
'		3
Speed Sensor 1 shows amplitude Failure	SPEED SENSOR (8060KM)	3
Speed Sensor 2 shows amplitude Failure	SPEED SENSOR (8060KM)	3
ECB internal Failure	ECB (59KD)	3
	ECB (59KD)	3
	ECB (59KD)	3
•	ECB (59KD)	3
'	ECB (59KD)	1
Delta Press. Sensor shows out of range drift	DIFFERENTIAL PRESS XDCR (8043KM)	1
Delta Press. Sensor shows out of range drift	DIFFERENTIAL PRESS XDCR (8043KM)	1
Delta Press. Sensor shows out of range low	DIFFERENTIAL PRESS XDCR (8043KM)	1
	Speed Sensor show amplitude failure Speed Sensor 1 Failure and ECB int. failure Speed Sensor 2 Failure and ECB int. failure ECB internal Failure ECB internal Failure N O T U S E D Speed Sensor 1 shows open circuit Speed Sensor 2 shows open circuit Speed Sensor 2 shows amplitude Failure Speed Sensor 2 shows amplitude Failure ECB internal Failure ECB internal Failure ECB internal Failure ECB internal Failure ECB internal Failure Delta Press. Sensor shows out of range drift Delta Press. Sensor shows out of range drift Delta Press. Sensor shows out of range drift	Speed Sensor show amplitude failure SPEED SENSOR (8060KM) Speed Sensor 1 Failure and ECB int. SPEED SENSOR (8060KM) failure AND ECB (59KD) Speed Sensor 2 Failure and ECB int. SPEED SENSOR (8060KM) failure AND ECB (59KD)

EFF: 247-253,

49-00-00

Page 321

TROUBLE SHOOTING MANUAL

FCN	Fault Description	CFDS Message	Class
019	Delta Press. Sensor shows out of range high	DIFFERENTIAL PRESS XDCR (8043KM)	1
020	ECB internal Failure	ECB (59KD)	2
021	Inlet Press. Sensor shows out of range	INLET PRESS XDCR(8048KM)	2
022	Inlet Press. Sensor shows < 8 psia on ground	INLET PRESS XDCR(8048KM)	2
023	Inlet Press. Sensor shows out of range low	INLET PRESS XDCR(8048KM)	2
024	Inlet Press. Sensor shows out of range high	INLET PRESS XDCR(8048KM)	2
025	ECB internal Failure	ECB (59KD)	1
026	Total Pressure Sensr. shows out of range	TOTAL PRESS XDCR(8044KM)	1
027	Total Pressure and Inlet Pressure disagree	PRESS XDCR(8044KM)/ (8048KM)	1
028	Total Pressure Sensr. shows out of range low	TOTAL PRESS XDCR(8044KM)	1
029	Total Pressure Sensr. shows out of range high	TOTAL PRESS XDCR(8044KM)	1
030	Press XDCR wiring shows open circuit	CHECK PRESS XDCR WIRING (8001KM)	1
031	Press XDCR wiring open or ECB internal failure	(8001KM)/ ECB (59KD)	1
032		ECB (59KD)	
033	NOT USED		
034	NOT USED		
	Both EGT Sensors failed	EGT TCPLE RAKES(8057KM1) AND (8057KM2)	
036	EGT1 Sensor Failure and ECB Internal Failure	EGT TCPLE RAKE (8057KM1)	1
037	EGT2 Sensor Failure and ECB Internal		

EFF : 247-253,

SROS

49-00-00

Page 322

TROUBLE SHOOTING MANUAL

FCN	Fault Description	CFDS Message	Class
	Failure	AND ECB (59KD)	
038	ECB internal Failure	ECB (59KD)	1
039	NOT USED		
040	ECB internal Failure	ECB (59KD)	3
041	NOT USED		
042	EGT1 Sensor shows out of range low	EGT TCPLE RAKE (8057KM1)	3
043	EGT1 Sensor disagrees with EGT2 Sensor > 66C	EGT TCPLE RAKE (8057KM1)	3
044	ECB internal Failure	ECB (59KD)	3
045	NOT USED		
046	EGT2 Sensor shows out of range low	EGT TCPLE RAKE (8057KM2)	3
047	EGT2 Sensor disagrees with EGT1 Sensor > 66C	EGT TCPLE RAKE (8057KM2)	3
048	ECB internal Failure	ECB (59KD)	3
049	LCDT Sensor Shows out of range low	LOAD COMPRESSR DISCHARGE TEMP SENSOR (8012KM)	3
050	ECB internal Failure	ECB (59KD)	2
051	Fuel Temp. Snsr. shows out of Range low	FUEL CONTROL UNIT (8022KM)	2
		FUEL CONTROL UNIT (8022KM)	
053		ECB (59KD)	
054	Oil Temp. Snr. shows out of	OIL SUMP TEMP SENSOR	2
	Oil Sump Temp. Snr. shows out of	OIL SUMP TEMP SENSOR	2
056	ECB internal Failure		
057	Inlet Temp Sensor shows out		3

EFF: 247-253,

49-00-00

Page 323

@A319/A320/A321

TROUBLE SHOOTING MANUAL

FCN	Fault Description		Class
058	Inlet Temp Sensor shows out of range high	+	3
059	NOT USED		
060	Inlet Flap shows Flap open and Flap closed	AIR INTAKE FLAP ACTUATOR (4015KM)	3
061	Inlet Flap shows Flap open switch open	AIR INTAKE FLAP ACTUATOR (4015KM)	3
062	Inlet Flap shows Flap open and Flap closed	AIR INTAKE FLAP ACTUATOR (4015KM)	3
	Inlet Flap shows Flap closed switch open	AIR INTAKE FLAP ACTUATOR (4015KM)	3
	Inlet Flap shows Flap close circuit open	AIR INTAKE FLAP ACTUATOR (4015KM)	2
065	Inlet Flap shows Flap close circuit short	AIR INTAKE FLAP ACTUATOR (4015KM)	2
066	Inlet Flap shows Flap open circuit open	AIR INTAKE FLAP ACTUATOR (4015KM)	2
067	Inlet Flap shows Flap open circuit short	AIR INTAKE FLAP ACTUATOR (4015KM)	2
068	Inlet Flap shows Flap open high current	AIR INTAKE FLAP ACTUATOR (4015KM)	1
	Inlet Flap shows Flap close high current	AIR INTAKE FLAP ACTUATOR (4015KM)	2
	•	(4015KM)	
		•	
	Inlet Flap shows Flap failed to fully close	(4015KM)	
073	NOT USED	+	
074	NOT USED	i i	

EFF: 247-253,

49-00-00 Page 32

TROUBLE SHOOTING MANUAL

FCN	Fault Description	CFDS Message	Class
075	Fuel Resolver Exitation Circuit Failure	FUEL CONTROL UNIT (8022KM) / ECB (59KD)	2
076	Fuel Resolver primary shows open circuit	FUEL CONTROL UNIT (8022KM)	2
077	Fuel Resolver secondary shows open circuit	FUEL CONTROL UNIT (8022KM)	2
078	Fuel Resolver position shows incorrect position	FUEL CONTROL UNIT (8022KM)	2
079	Fuel flow disagrees with command	FUEL CTRL UNIT (8022KM)/ APU FUEL SUPPLY	1
080	IGV LVDT Excitation IGV ACTUATOR (8014KM) / Shows Failure (ECB (59KD)		
081	IGV LVDT primary shows open circuit IGV ACTUATOR (8014KM)		2
082	IGV LVDT secondary shows open circuit	IGV ACTUATOR (8014KM)	2
083	IGV position disagrees with command	CHECK IGV ASSEMBLY/ IGV ACTUATOR (8014KM)	1 1
084	SCV LVDT Excitation Circuit Failure	SURGE CONTROL VALVE (8058KM)/ ECB (59KD))	1
085	SCV LVDT primary shows open circuit SURGE CONTROL VALVE (8058KM)/		1
086	SCV LVDT secondary shows open circuit SURGE CONTROL VALVE (8058KM)		1
	SCV position disagrees with command SURGE CONTROL VALVE (8058KM)		1
880	Load Control Valve shows not open LOAD CONTROL VALVE (8050KM)		2
089	+		1
090	Bleed Shutoff due to high temperature CHECK IGV ASSEMBLY / IGV ACTUATOR (8014KM)		1
091	Bleed Shutoff due to reverse flow	SCV (8058KM) / PRESS	1

EFF: 247-253,

49-00-00 Page 325 Config-3 May 01/07

TROUBLE SHOOTING MANUAL

FCN	Fault Description CFDS Message		Class
092 to 094	 NOTUSED 		
095		WRG: ACFT PIN PROG/ ECB (59KD)	3
	•	LOAD CONTROL VALVE (8050KM)	2
		LOAD CONTROL VALVE (8050KM)	2
	Low Oil Pressure switch shows LOW OIL PRESS SW(8091KM open circuit		2
099	NOTUSED		
100	Fuel Pressure Shows Low During APU Run		2
	Oil filter switch shows OIL FILTER SWITCHES electrical ground (8070KM)/(8071KM)		3
102		(8069KM) / (8076KM)	
103	NOT USED		
104	NOTUSED	 	
105	Fuel Torque Motor shows open circuit	FUEL CONTROL UNIT (8022KM)	1 1
106	Fuel Torque Motor shows open circuit 	FUEL CONTROL UNIT (8022KM)	1 1
	Fuel Torque Motor shows short circuit 	FUEL CONTROL UNIT	1
108	Fuel Torque Motor shows short circuit FUEL CONTROL UNIT (8022KM)		1
	IGV Torque Motor shows open circuit	IGV ACTUATOR (8014KM)	1
110	IGV Torque Motor shows short circuit IGV ACTUATOR (8014KM)		1
	SCV Torque Motor shows open circuit	(8058KM)	 1

EFF: 247-253,

49-00-00

Page 326 Config-3 May 01/07

TROUBLE SHOOTING MANUAL

FCN	Fault Description CFDS Message		Class
112	SCV Torque Motor shows short circuit SURGE CONTROL VALVE (8058KM)		1
113	Starter Motor shows open circuit	STARTER MOTOR (8KA)	1
114	Starter Motor shows short circuit	STARTER MOTOR (8KA)	1
115		APU OIL HEATER (8093KM)	2
116 to 119	NOT USED		
120	Backup Start Contactor shows CONTACTOR (10KA) open circuit		1
121	Backup Start Contactor shows closed	CONTACTOR (10KA)	3
122	NOT USED	·	
123	Main Start Contactor shows open		1
124	Main Start Contactor shows closed CONTACTOR (5KA)		3
125	Fuel Solenoid shows circuit failure FUEL CONTROL UNIT (8022KM)		1
	Flow Divider Solenoid shows circuit failure	·	
127	•	·	
128	Ignition Unit shows open circuit		1
	INTERNAL ECB		-
130	APU available shows circuit failure	tavailable shows circuit failure WRG: APU AVAILABLE	
	INTERNAL ECB		_
132	INTERNAL ECB		-
133	Deoil Solenoid shows open circuit	Solenoid shows open circuit DEOIL SOLENOID (8083KM)	
	Deoil Solenoid shows circuit failure	Deoil Solenoid shows circuit failure DEOIL SOLENOID (8083KM)	
135	INTERNAL ECB	+	-

247-253, EFF :

SROS

49-00-00

@A319/A320/A321

TROUBLE SHOOTING MANUAL

FCN	Fault Description	ion CFDS Message	
136	Fault Relay shows circuit failure	•	2
137	INTERNAL ECB		-
	Load Valve Open Signal shows circuit	+ WRG: LOAD VALVE OPEN SIGNAL	2
	Low Fuel Pressure Relay shows open circuit	1	2
	Low Fuel Pressure Relay shows circuit failure		
141	INTERNAL ECB		-
142	INTERNAL ECB		-
143	INTERNAL ECB	 	-
	APU Start in progress shows circuit failure	1	2
145	INTERNAL ECB		-
146	Ignition unit shows short circuit	'	1
147	ECB Internal failure	ECB (59KD)	1
148 to 149	NOT USED	 	
150	ECS Zone Controller ECS Demand failure	NO DEMAND DATA FROM ECS	3
151	ECS Zone Controller Pack Data failure		3
152	CFDIU BITE Command failure	NO DATA FROM CFDIU	3
153	CFDIU Flight Phase failure	NO DATA FROM CFDIU	3
	CFDIU AC Config failure		
155	CFDIU Date failure	NO DATA FROM CFDIU	3
156	CFDIU GMT failure	NO DATA FROM CFDIU	3
157	CFDIU AC ID failure	NO DATA FROM CFDIU	3

EFF: 247-253,

49-00-00

Page 328

SROS

TROUBLE SHOOTING MANUAL

FCN	Fault Description	CFDS Message	Class
158	CFDIU AC ID failure	NO DATA FROM CFDIU	3
159	CFDIU AC ID failure	NO DATA FROM CFDIU	3
160 to 169	NOT USED	 	
170	ECB internal Failure	ECB (59KD)	1 1
171	ECB internal Failure	ECB (59KD)	1 1
172	ECB internal Failure	ECB (59KD)	1 1
173	ECB internal Failure	ECB (59KD)	1 1
174	ECB internal Failure	ECB (59KD)	3
175	ECB internal Failure	ECB (59KD)	3
176	ECB internal Failure	ECB (59KD)	1
177	ECB internal Failure	ECB (59KD)	1
178	ECB internal Failure	ECB (59KD)	1
179	ECB internal Failure	ECB (59KD)	1
180	ECB internal Failure	ECB (59KD)	1
181	ECB internal Failure	ECB (59KD)	2
182	ECB internal Failure	ECB (59KD)	2
		POWER SUPPLY INTERRUPT	
	'	+ ECB (59KD) +	2
	ECB internal Failure	FCB (59KD)	1
186	ECB internal Failure	·	1
187 to 200	NOT USED	 	+
j	No LRU Fault detected	FUEL CONTROL UNIT (8022KM) / ECB (59KD)	

EFF: 247-253,
SROS

49-00-00Page 329
Config-3 May 01/07

TROUBLE SHOOTING MANUAL

FCN	Fault Description	CFDS Message	Class
202	No LRU Fault detected		1
203	No LRU Fault detected		1
204	No LRU Fault detected 	FCU (8022KM) / APU FUEL SUPPLY / APU ROTATION	1
205	No LRU Fault detected 	IGV ACTUATOR (8014KM)/ ECB (59KD)	1
206	No LRU Fault detected 	FUEL CTRL UNIT (8022KM)/ FLOW DIVIDER (8024KM)	1
207	No LRU Fault detected		-
208	No LRU Fault detected 	LOP SW(8091KM)/OIL PUMP (8080KM)/DEOIL (8083KM)	1
209	No LRU Fault detected 	CHECK IGNITION SYSTEM / FCU(8022KM)/FUEL SUPPLY	1
210	No LRU Fault detected		-
211	No LRU Fault detected 	OIL COOLER (8079KM) / COOLING FAN (8053KM)	1
212	No LRU Fault detected 	STARTER MOTOR (8KA) / APU ROTATION	1
213	No LRU Fault detected 	CHECK APU INLET	1
214	No LRU Fault detected		-
215	No LRU Fault detected	FCU(8022KM)/FUEL SUPPLY/	1
216	No LRU Fault detected	PRESS XDCRS (8044KM) / (8043KM) / SCV (8058KM)	
217	No LRU Fault detected		1
218	<u>'</u>	POWER SUPPLY INTERRUPT	1
229	 NOT USED 		
230		ECB (59KD)	1

247-253, EFF : SROS

49-00-00

Page 330 Config-3 May 01/07

TROUBLE SHOOTING MANUAL

FCN	Fault Description CFDS Messag		
231	+ ECB internal Failure +	ECB (59KD)	3
232	•	ECB (59KD)	3
233	ECB internal Failure	ECB (59KD)	2
234	ECB internal Failure	ECB (59KD)	3
235	ECB internal Failure	ECB (59KD)	3
236	ECB internal Failure	ECB (59KD)	2
237	ECB internal Failure	ECB (59KD)	3
238	ECB internal Failure	ECB (59KD)	3
239	NOT USED		-
240	Data Memory Module shows wrap test failure	DATA MEMORY MODULE (8062KM)	3
241	Data Memory Module shows read failure	DATA MEMORY MODULE (8062KM)	3
242	Data Memory Module shows checkword failure	DATA MEMORY MODULE (8062KM)	3
243	Data Memory Module shows APU S/N failure	DATA MEMORY MODULE (8062KM)	3
244	Data Memory Module shows write failure	DATA MEMORY MODULE (8062KM)	3
245	Oil Level Shows Low	LOW OIL LEVEL	2
246 to 299	 NOT USED		
300	ECB internal Failure	i	1
	ECB internal Failure		1
302	· 		1
303	++		1

EFF : 247-253, SROS **49-00-00** Page 331 Config-3 May 01/07

TROUBLE SHOOTING MANUAL

- R **ON A/C 247-253,
- R Post SB 49-1069001 For A/C 247-250,252-253,
- R AIRBONE AUXILIARY POWER GENERAL ((131-9(A))) FAULT ISOLATION PROCEDURES

TASK 49-00-81-810-801

APU AUTO SHUTDOWN - OVERSPEED, APU Speed higher than 106 % (N)

- 1. Possible Causes
 - NO LRU DETECTED
 - FUEL CONTROL UNIT (P19)
 - ECB (59KD)
 - FUEL CONTROL UNIT (8022KM)
- 2. Job Set-up Information
 - A. Referenced Information

REFERENCE		DESIGNATION	
AMM	49-00-00-860-008	APU Start by External Power (131-9(A))	
AMM	49-32-11-000-003	Removal of the Fuel Control Unit (FCU) (8022KM) (131-9(A))	
AMM	49-32-11-400-003	<pre>Installation of the Fuel Control Unit (FCU) (8022KM) (131-9(A))</pre>	
AMM	49-61-34-000-003	Removal of the Electronic Control Box (ECB) (131-9(A))	
AMM	49-61-34-400-003	<pre>Installation of the Electronic Control Box (ECB) (131-9(A))</pre>	

- 3. Fault Confirmation
 - A. Read-out of ECB Trouble-Shooting Data
 - (1) Put the APU MASTER SW to the ON position.
 - (2) Get access to the APU SHUTDOWN report.

 - (4) Start the APU and apply Bleed Air for 20 seconds, minimum (Ref. AMM TASK 49-00-00-860-008).

EFF: 247-253, SROS **49-00-81**Config-1 May 01/07

TROUBLE SHOOTING MANUAL

4. Fault Isolation

A. If an APU auto shutdown occurs during the APU operation and the APU SHUTDOWN report gives the maintenance message:

OVERSPEED

FUEL CONTROL UNIT P19 / ECB (59KD)

associated with the Fault Code Number (FCN) 201

- replace the FUEL CONTROL UNIT (P19) (Ref. AMM TASK 49-32-11-000-003) and (Ref. AMM TASK 49-32-11-400-003).
- (1) If the fault continues:
 - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-003) and (Ref. AMM TASK 49-61-34-400-003).

**ON A/C 247-253,

- R Post SB 49-1062 For A/C 251-251,
- R Post SB 49-1069 For A/C 247-250,252-253,
 - A. If an APU auto shutdown occurs during the APU operation and the APU SHUTDOWN report gives the maintenance message:

OVERSPEED

FUEL CONTROL UNIT (8022KM) / ECB (59KD)

associated with the Fault Code Number (FCN) 201

- replace the FUEL CONTROL UNIT (8022KM) (Ref. AMM TASK 49-32-11-000-003) and (Ref. AMM TASK 49-32-11-400-003).
- (1) If the fault continues:
 - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-003) and (Ref. AMM TASK 49-61-34-400-003).

**ON A/C 247-253,

B. Do the test given in para. 3.

EFF: 247-253,

49-00-81

Page 202

TROUBLE SHOOTING MANUAL

TASK 49-00-81-810-802

APU AUTO SHUTDOWN - OVERSPEED, Fuel-Flow disagrees with Command (131-9(A))

- 1. Possible Causes
 - FUEL FLOW DISAGREES WITH COMMAND
 - damage/contamination of electrical connector P19
 - FUEL CONTROL UNIT (P19)
 - aircraft wiring
 - ECB (59KD)
 - FUEL CONTROL UNIT (8022KM)
- 2. Job Set-up Information
 - A. Fixtures, Tools, Test and Support Equipment

______ REFERENCE **QTY DESIGNATION**

No specific

multimeter

B. Referenced Information

REFERENCE DESIGNATION AMM 49-00-00-860-008 APU Start by External Power (131-9(A)) Removal of the Fuel Control Unit (FCU) (8022KM) AMM 49-32-11-000-003 (131-9(A))AMM 49-32-11-400-003 Installation of the Fuel Control Unit (FCU) (8022KM)

(131-9(A))AMM 49-61-34-000-003 Removal of the Electronic Control Box (ECB) (131-9(A))

AMM 49-61-34-400-003 Installation of the Electronic Control Box (ECB) (131-9(A))

ASM 49-61/04

3. Fault Confirmation

- A. Read-out of ECB Trouble-Shooting Data
 - (1) Put the APU MASTER SW to the ON position.
 - (2) Get access to the APU SHUTDOWN report.
 - (3) Push the '>' adjacent to LRU DATA: - the MCDU menu shows FUEL FLOW DISAGREES WITH COMMAND

EFF: 247-253, **49-00-**

Page 203 Config-1 May 01/07

TROUBLE SHOOTING MANUAL

(4) Start the APU and apply Bleed Air for 20 seconds, minimum (Ref. AMM TASK 49-00-00-860-008).

4. Fault Isolation

A. If an APU auto shutdown occurs during the APU operation and the APU SHUTDOWN report gives the maintenance message:

OVERSPEED

FUEL CONTROL UNIT P19/APU FUEL SUPPLY

associated with Fault Code Number (FCN) 79

- do a check for damage/contamination of electrical connector P19 of the FUEL CONTROL UNIT (P19)
- (1) If the electrical connector P19 is damaged/contaminated:do a repair/cleaning.
- (2) If the electrical connector is OK:
 - use a multimeter to do a resistance check across pin 6 and pin 7 of the FUEL CONTROL UNIT (P19).
 - (a) If the resistance value is > 100 Ohms:
 - replace the FUEL CONTROL UNIT (P19) (Ref. AMM TASK 49-32-11-000-003) and (Ref. AMM TASK 49-32-11-400-003).
 - (b) If the resistance value is < 100 Ohms:
 - do a check and repair of the aircraft wiring from the ECB (59KD) AB/H11,G7 to the FUEL CONTROL UNIT (P19) P19/6,7 (Ref. ASM 49-61/04).
 - 1 If the fault continues:
 - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-003) and (Ref. AMM TASK 49-61-34-400-003).
- R **ON A/C 247-253,

Post SB 49-1062 For A/C 251-251,

- R Post SB 49-1069 For A/C 247-250,252-253,
 - A. If an APU auto shutdown occurs during the APU operation and the APU SHUTDOWN report gives the maintenance message:

OVERSPEED

FUEL CTRL UNIT(8022KM) / APU FUEL SUPPLY

associated with Fault Code Number (FCN) 79

 do a check for damage/contamination of electrical connector P19 of the FUEL CONTROL UNIT (8022KM)

R EFF: 247-253, SROS 49-00-81 Page 204 Config-1 May 01/07

TROUBLE SHOOTING MANUAL

- (1) If the electrical connector P19 is damaged/contaminated: - do a repair/cleaning.
- (2) If the electrical connector is OK:
 - use a multimeter to do a resistance check across pin 6 and pin 7 of the FUEL CONTROL UNIT (P19).
 - (a) If the resistance value is > 100 Ohms:
 - replace the FUEL CONTROL UNIT (8022KM) (Ref. AMM TASK 49-32-11-000-003) and (Ref. AMM TASK 49-32-11-400-003).
 - (b) If the resistance value is < 100 Ohms:
 - do a check and repair of the aircraft wiring from the ECB (59KD) AB/H11,G7 to the FUEL CONTROL UNIT (8022KM) P19/6,7 (Ref. ASM 49-61/04).
 - 1 If the fault continues:
 - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-003) and (Ref. AMM TASK 49-61-34-400-003).
- R **ON A/C 247-253,
 - B. Do the test given in para. 3.

EFF: 247-253, 49-0

49-00-81Page 205
Config-1 May 01/07

TROUBLE SHOOTING MANUAL

TASK 49-00-81-810-803

APU EMER SHUTDOWN - EMERGENCY, Emergency Switch active (131-9(A))

1. Possible Causes

- water ingress in panel 108VU
- ECB (59KD)
- FIRE EMERG-STOP RELAY (5WF)
- APU SHUT OFF PUSHBUTTON-SWITCH (1KL)
- APU FIRE/WARN MODULE (1WD)
- wiring

2. Job Set-up Information

A. Referenced Information

REFERENCE		DESIGNATION	
AMM	05-23-10-200-003	Zonal Inspection of Tail Cone APU and Accessory Compartment	
AMM	26-13-00-710-001	Operational Test of the APU Fire and Overheat Detection System	
AMM	26-22-00-710-001	Operational Test of the APU Fire-Extinguishing Loop/Squib	
AMM	49-00-00-710-009	Self-Test of the ECB (131-9(A))	
AMM	49-11-11-000-004	Removal of the Power Plant (APU) (131-9(A))	
AMM	49-11-11-400-004	Installation of the Power Plant (APU) (131-9(A))	
AMM	49-61-34-000-003	Removal of the Electronic Control Box (ECB) (131-9(A))	
AMM	49-61-34-400-003	<pre>Installation of the Electronic Control Box (ECB) (131-9(A))</pre>	
AMM	49-62-00-710-007	Operational Test of Emergency Shutdown System (with APU SHUT OFF Switch 1KL) (131-9(A))	
AMM AMM	49-81-41-000-003 49-81-41-400-003	Removal of the Exhaust Muffler (131-9(A)) Installation of the Exhaust Muffler (131-9(A))	

3. Fault Confirmation

- A. Do the subsequent checks.
 - (1) Make sure that the EMER SHUT DOWN was not caused by Maintenance Action.
 - (2) Make sure the APU FIRE pushbutton switch on the APU FIRE/WARN module (1WD) was not pushed by a person accidentally.
 - (3) Make sure the APU SHUT OFF (1KL) switch on the external power-control panel 108VU was not pushed by a person accidentally.

EFF: 247-253,

49-00-81 Page 206 Config-1 May 01/07

TROUBLE SHOOTING MANUAL

- (4) Make sure that there is no water ingress in external power-control panel 108VU.
- (5) Do the test of the APU fire detection system (Ref. AMM TASK 26-22-00-710-001).
- (6) Do the ECB BITE Test (Ref. AMM TASK 49-00-00-710-009).

4. Fault Isolation

- A. If you find signs of water ingress in panel 108VU:
 - remove the APU SHUT OFF switch (1KL).
 - do a check for moisture/corrosion on the electrical connections.
 - dry the electrical connections.
 - re-install the APU SHUT OFF switch (1KL).
- B. If the tests do not confirm the fault:
 - do an inspection of the APU and the APU compartment and make sure that you do not find the signs of a fire (Ref. AMM TASK 05-23-10-200-003),
 - do a check and make sure that the APU bleed-air duct is in the correct condition and connected correctly,
 - do a check and make sure that the APU exhaust muffler is in the correct condition and connected correctly.
 - (1) If you find the signs of a fire when you do the inspection of the APU and the APU compartment:
 - do the applicable repair(s).
 - (2) If the APU bleed-air duct is not in the correct condition and/or connected correctly:
 - replace and/or connect the APU bleed-air duct correctly (Ref. AMM TASK 49-11-11-000-004) and (Ref. AMM TASK 49-11-11-400-004).
 - (3) If the APU exhaust muffler is not in the correct condition and/or connected correctly:
 - replace and/or connect the APU exhaust muffler correctly (Ref. AMM TASK 49-81-41-000-003) and (Ref. AMM TASK 49-81-41-400-003).
 - (4) If the APU bleed-air duct and the APU exhaust muffler are in the correct condition and connected correctly:
 - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-003) and (Ref. AMM TASK 49-61-34-400-003).
- C. If no fault was found in APU compartment:
 - do a check and make sure that the FIRE EMERG-STOP relay (5WF) is serviceable,
 - do a check and make sure that the APU SHUT OFF pushbutton switch (1KL) is serviceable (Ref. AMM TASK 49-62-00-710-007).
 - do a check and make sure the APU FIRE/WARN module (1WD) is serviceable (Ref. AMM TASK 26-13-00-710-001).

49-00-81

■ Page 207 Config-1 May 01/07

EFF: 247-253,

TROUBLE SHOOTING MANUAL

- (1) If the FIRE EMERG STOP relay (5WF) is not serviceable: - replace the FIRE EMERG-STOP RELAY (5WF).
- (2) If the APU SHUT OFF pushbutton switch (1KL) is not serviceable: replace the APU SHUT OFF PUSHBUTTON-SWITCH (1KL).
- (3) If the APU FIRE/WARN module (1WD) is not serviceable: replace the APU FIRE/WARN MODULE (1WD).
- (4) If the FIRE EMERG STOP relay (5WF), the APU SHUT OFF pushbutton switch (1KL) and the APU FIRE/WARN module (1WD) are serviceable:
 - do a check and repair the wiring:
 - from the FIRE EMERG STOP relay (5WF) A/D1 to the ECB (59KD) AB/B4.
 - from the APU FIRE/WARN module (1WD) F/S to the ECB (59KD) AB/B4.
 - from the APU SHUT OFF pushbutton switch (1KL) 1 to the ECB (59KD) AB/B4.
 - (a) If the fault continues:
 - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-003) and (Ref. AMM TASK 49-61-34-400-003).
- D. If the APU BITE Test gives the maintenance message:

ECB 59KD:

R R

- replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-003) and (Ref. AMM TASK 49-61-34-400-003).
- E. If you do not find the signs of a fire and the tests give a different maintenance message, do the trouble shooting procedure related to the maintenance message.
- F. Do the test given in para. 3.

EFF: 247-253,

49-00-81

Page 208

Config-1 Feb 01/08

TROUBLE SHOOTING MANUAL

TASK 49-00-81-810-804

APU AUTO SHUTDOWN - ECB FAILURE, ECB Internal Fault (131-9(A))

- 1. Possible Causes
 - ECB INTERNAL FAILURE
 - ECB (59KD)
- 2. Job Set-up Information
 - A. Referenced Information

REFERENCE		DESIGNATION
AMM	49-00-00-860-008	APU Start by External Power (131-9(A))
AMM	49-61-34-000-003	Removal of the Electronic Control Box (ECB) (131-9(A))
AMM	49-61-34-400-003	<pre>Installation of the Electronic Control Box (ECB) (131-9(A))</pre>

3. Fault Confirmation

- A. Read-out of ECB Trouble-Shooting Data
 - (1) Put the APU MASTER SW to the ON position.
 - (2) Get access to the APU SHUTDOWN report.

 - (4) Start the APU and apply Bleed Air for 20 seconds, minimum (Ref. AMM TASK 49-00-00-860-008).

4. Fault Isolation

A. If an APU auto shutdown occurs during the APU operation and the APU SHUTDOWN report gives the maintenance message:

ECB FAILURE ECB (59KD)

with the associated Fault Code Numbers (FCN) 5, 176, 177, 178, 179, 180 or 230

- replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-003) and (Ref. AMM TASK 49-61-34-400-003).
- B. Do the test given in para. 3.

49-00-81Config-1 May 01/07

EFF: 247-253,

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TROUBLE SHOOTING MANUAL

TASK 49-00-81-810-805

APU AUTO SHUTDOWN - UNDERSPEED, APU is unable to hold Speed (131-9(A))

1. Possible Causes

- NO LRU DETECTED
- blockage of the APU inlet
- damage/leakage of the APU FUEL SYSTEM
- aircraft fuel-line of the APU-pump fuel-system.
- APU FUEL FILTER
- APU internal dammage
- FUEL CONTROL UNIT (P19)
- APU INLET PRESSURE TRANSDUCER (P22)
- SPEED SENSORS (P26)
- APU INLET TEMPERATURE SENSOR (P6)
- ECB (59KD)
- APU (4005KM)
- FUEL CONTROL UNIT (8022KM)
- APU INLET PRESSURE TRANSDUCER (8048KM)
- SPEED SENSORS (8060KM)
- APU INLET TEMPERATURE SENSOR (8010KM)

2. Job Set-up Information

A. Fixtures, Tools, Test and Support Equipment

DEFENSE OT DESCRIPTION

REFERENCE QTY DESIGNATION

No specific ratchet No specific socket

B. Referenced Information

REFERENCE DESIGNATION

AMM	28-22-00-710-001	Operational Test of the APU Fuel-Pump System on
		Ground to Purge the Fuel Line
AMM	49-00-00-860-008	APU Start by External Power (131-9(A))
		•
AMM	49-11-11-000-004	Removal of the Power Plant (APU) (131-9(A))
AMM	49-11-11-400-004	Installation of the Power Plant (APU) (131-9(A))
AMM	49-23-14-000-001	Removal of the Sensor-APU Inlet Temperature (8010KM)
		(131-9(A))
AMM	49-23-14-400-001	Installation of the Sensor-APU Inlet Temperature
		(8010KM) (131-9(A))
AMM	49-32-11-000-003	Removal of the Fuel Control Unit (FCU) (8022KM)
		(131-9(A))
		• · · · · · · · · · · · · · · · · · · ·

EFF: 247-253,

49-00-81

Page 210 Config-1 May 01/07

TROUBLE SHOOTING MANUAL

REFERENCE		DESIGNATION	
AMM	49-32-11-400-003	<pre>Installation of the Fuel Control Unit (FCU) (8022KM) (131-9(A))</pre>	
AMM	49-32-41-920-001	Replacement of the Fuel Filter (8028KM) (131-9(A))	
AMM	49-51-21-000-001	Removal of the Transducer - APU Inlet Pressure (8048KM) (131-9(A))	
AMM	49-51-21-400-001	<pre>Installation of the Transducer - APU Inlet Pressure (8048KM) (131-9(A))</pre>	
AMM	49-61-34-000-003	Removal of the Electronic Control Box (ECB) (131-9(A))	
AMM	49-61-34-400-003	<pre>Installation of the Electronic Control Box (ECB) (131-9(A))</pre>	
AMM	49-71-13-000-003	Removal of the Speed Sensors (8060KM) (131-9(A))	
AMM	49-71-13-400-003	Installation of the Speed Sensors (8060KM) (131-9(A))	
AMM	49-91-42-200-004	Inspection of the Metal Chip Detector (131-9(A))	

3. Fault Confirmation

- A. Read-out of ECB Trouble-Shooting Data
 - (1) Put the APU MASTER SW to the ON position.
 - (2) Get access to the APU SHUTDOWN report.

 - (4) Start the APU and apply Bleed Air for 20 seconds, minimum (Ref. AMM TASK 49-00-00-860-008).

4. Fault Isolation

A. If an APU auto shutdown occurs during the APU operation and the APU SHUTDOWN report gives the maintenance message:

UNDERSPEED

FCU/APU FUEL SUPPLY/APU ROTATION

associated with Fault Code Number (FCN) 204

- do a check for a blockage of the APU inlet
- (1) If the fault continues:
 - do a check for damage/leakage of the APU FUEL SYSTEM.

49-00-81

Page 211

Config-1 May 01/07

TROUBLE SHOOTING MANUAL

- (b) If the APU FUEL SYSTEM is OK:
 - purge the aircraft fuel-line of the APU-pump fuel-system. (Ref. AMM TASK 28-22-00-710-001).
 - 1 If the fault continues:
 - replace the APU FUEL FILTER (Ref. AMM TASK 49-32-41-920-001).
 - 2 If the fault continues:
 - do a check for APU internal dammage:
 - do check for contamination of the MAGNETIC-DRAIN PLUG (Ref. AMM TASK 49-91-42-200-004).

NOTE: If the MAGNETIC-DRAIN PLUG is not contaminated, continue without starting the APU

- .
 - remove the end cap from the STARTER MOTOR (8KA).
 - use a socket and a ratchet on the shaft of the STARTER MOTOR (8KA) to turn the APU counterclockwise (in the direction of the arrow on the housing).
 - make sure that the APU rotates freely.
- a If the APU does not rotate freely:
 - replace the APU (4005KM) (Ref. AMM TASK 49-11-11-000-004) and (Ref. AMM TASK 49-11-11-400-004).
- b If the APU rotates freely:
 - replace the FUEL CONTROL UNIT (P19) (Ref. AMM TASK 49-32-11-000-003) and (Ref. AMM TASK 49-32-11-400-003).
- c If the fault continues:
 - replace the APU INLET PRESSURE TRANSDUCER (P22) (Ref. AMM TASK 49-51-21-000-001) and (Ref. AMM TASK 49-51-21-400-001).
- d If the fault continues:
 - replace the SPEED SENSORS (P26) (Ref. AMM TASK 49-71-13-000-003) and (Ref. AMM TASK 49-71-13-400-003).
- e If the fault continues:
 - replace the APU INLET TEMPERATURE SENSOR (P6) (Ref. AMM TASK 49-23-14-000-001) and (Ref. AMM TASK 49-23-14-400-001).
- f If the fault continues:
 - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-003)
 and (Ref. AMM TASK 49-61-34-400-003).
- g If the fault continues:
 - replace the APU (4005KM) (Ref. AMM TASK 49-11-11-000-004) and (Ref. AMM TASK 49-11-11-400-004).

EFF: 247-253,

49-00-81 Page 212 Config-1 May 01/07

TROUBLE SHOOTING MANUAL

R **ON A/C 247-253,

Post SB 49-1062 For A/C 251-251, R Post SB 49-1069 For A/C 247-250,252-253,

A. If an APU auto shutdown occurs during the APU operation and the APU SHUTDOWN report gives the maintenance message:

UNDERSPEED

FCU (8022KM) / APU FUEL SUPPLY / APU ROTATION

associated with Fault Code Number (FCN) 204

- do a check for a blockage of the APU inlet
- (1) If the fault continues:
 - do a check for damage/leakage of the APU FUEL SYSTEM.
 - (a) If there is damage/leakage in the APU FUEL SYSTEM:do a repair.
 - (b) If the APU FUEL SYSTEM is OK:
 - purge the aircraft fuel-line of the APU-pump fuel-system. (Ref. AMM TASK 28-22-00-710-001).
 - 1 If the fault continues:
 - replace the APU FUEL FILTER (Ref. AMM TASK 49-32-41-920-001).
 - 2 If the fault continues:
 - do a check for APU internal dammage:
 - do check for contamination of the MAGNETIC-DRAIN PLUG (Ref. AMM TASK 49-91-42-200-004).

<u>NOTE</u>: If the MAGNETIC-DRAIN PLUG is not contaminated, continue without starting the APU

- remove the end cap from the STARTER MOTOR (8KA).
- use a socket and a ratchet on the shaft of the STARTER MOTOR (8KA) to turn the APU counterclockwise (in the direction of the arrow on the housing).
- make sure that the APU rotates freely.
- a If the APU does not rotate freely:
 - replace the APU (4005KM) (Ref. AMM TASK 49-11-11-000-004) and (Ref. AMM TASK 49-11-11-400-004).
- b If the APU rotates freely:
 - replace the FUEL CONTROL UNIT (8022KM) (Ref. AMM TASK 49-32-11-000-003) and (Ref. AMM TASK 49-32-11-400-003).

EFF: 247-253,

49-00-81 P

■ Page 213 Config-1 May 01/07

TROUBLE SHOOTING MANUAL

- c If the fault continues:
 - replace the APU INLET PRESSURE TRANSDUCER (8048KM) (Ref. AMM TASK 49-51-21-000-001) and (Ref. AMM TASK 49-51-21-400-001).
- d If the fault continues:
 - replace the SPEED SENSORS (8060KM) (Ref. AMM TASK 49-71-13-000-003) and (Ref. AMM TASK 49-71-13-400-003).
- e If the fault continues:
 - replace the APU INLET TEMPERATURE SENSOR (8010KM) (Ref. AMM TASK 49-23-14-000-001) and (Ref. AMM TASK 49-23-14-400-001).
- f If the fault continues:
 - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-003)
 and (Ref. AMM TASK 49-61-34-400-003).
- g If the fault continues:
 - replace the APU (4005KM) (Ref. AMM TASK 49-11-11-000-004) and (Ref. AMM TASK 49-11-11-400-004).

R **ON A/C 247-253,

B. Do the test given in para. 3.

EFF: 247-253,

SROS

49-00-81

Page 214

Config-1 May 01/07

TROUBLE SHOOTING MANUAL

TASK 49-00-81-810-806

APU AUTO SHUTDOWN - UNDERSPEED, Fuel Flow disagrees with Command (131-9(A))

- 1. Possible Causes
 - FUEL FLOW DISAGREES WITH COMMAND
 - damage/contamination of electrical connector P19
 - FUEL CONTROL UNIT (P19)
 - aircraft wiring
 - ECB (59KD)
 - FUEL CONTROL UNIT (8022KM)
- 2. Job Set-up Information
 - A. Fixtures, Tools, Test and Support Equipment

______ REFERENCE

QTY DESIGNATION

No specific

multimeter

B. Referenced Information

REFERENCE DESIGNATION AMM 49-00-00-860-008 APU Start by External Power (131-9(A)) Removal of the Fuel Control Unit (FCU) (8022KM) AMM 49-32-11-000-003 (131-9(A))AMM 49-32-11-400-003 Installation of the Fuel Control Unit (FCU) (8022KM) (131-9(A))AMM 49-61-34-000-003 Removal of the Electronic Control Box (ECB) (131-9(A))AMM 49-61-34-400-003 Installation of the Electronic Control Box (ECB) (131-9(A))

3. Fault Confirmation

ASM 49-61/04

- A. Read-out of ECB Trouble-Shooting Data
 - (1) Put the APU MASTER SW to the ON position.
 - (2) Get access to the APU SHUTDOWN report.
 - (3) Push the '>' adjacent to LRU DATA: - the MCDU menu shows FUEL FLOW DISAGREES WITH COMMAND

EFF: 247-253, **49-00-**

Config-1 May 01/07

TROUBLE SHOOTING MANUAL

(4) Start the APU and apply Bleed Air for 20 seconds, minimum (Ref. AMM TASK 49-00-00-860-008).

4. Fault Isolation

A. If an APU auto shutdown occurs during the APU operation and the APU SHUTDOWN report gives the maintenance message:

UNDERPEED

FUEL CONTROL UNIT P19/APU FUEL SUPPLY

associated with Fault Code Number (FCN) 79

- do a check for damage/contamination of electrical connector P19 of the FUEL CONTROL UNIT (P19)
- (1) If the electrical connector P19 is damaged/contaminated:do a repair/cleaning.
- (2) If the electrical connector is OK:
 - use a multimeter to do a resistance check across pin 6 and pin 7 of the FUEL CONTROL UNIT (P19).
 - (a) If the resistance value is > 100 Ohms:
 - replace the FUEL CONTROL UNIT (P19) (Ref. AMM TASK 49-32-11-000-003) and (Ref. AMM TASK 49-32-11-400-003).
 - (b) If the resistance value is < 100 Ohms:
 - do a check and repair of the aircraft wiring from the ECB (59KD) AB/H11,G7 to the FUEL CONTROL UNIT (P19) P19/6,7 (Ref. ASM 49-61/04).
 - 1 If the fault continues:
 - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-003) and (Ref. AMM TASK 49-61-34-400-003).
- R **ON A/C 247-253,

Post SB 49-1062 For A/C 251-251,

- R Post SB 49-1069 For A/C 247-250,252-253,
 - A. If an APU auto shutdown occurs during the APU operation and the APU SHUTDOWN report gives the maintenance message:

UNDERPEED

FUEL CTRL UNIT(8022KM) / APU FUEL SUPPLY

associated with Fault Code Number (FCN) 79

 do a check for damage/contamination of electrical connector P19 of the FUEL CONTROL UNIT (8022KM)

R EFF: 247-253, SROS 49-00-81 Page 216 Config-1 May 01/07

TROUBLE SHOOTING MANUAL

- (1) If the electrical connector P19 is damaged/contaminated: - do a repair/cleaning.
- (2) If the electrical connector is OK:
 - use a multimeter to do a resistance check across pin 6 and pin 7 of the FUEL CONTROL UNIT (8022KM)
 - (a) If the resistance value is > 100 Ohms:
 - replace the FUEL CONTROL UNIT (8022KM) (Ref. AMM TASK 49-32-11-000-003) and (Ref. AMM TASK 49-32-11-400-003).
 - (b) If the resistance value is < 100 Ohms:
 - do a check and repair of the aircraft wiring from the ECB (59KD) AB/H11,G7 to the FUEL CONTROL UNIT (8022KM) P19/6,7 (Ref. ASM 49-61/04).
 - 1 If the fault continues:
 - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-003) and (Ref. AMM TASK 49-61-34-400-003).
- R **ON A/C 247-253,
 - B. Do the test given in para. 3.

49-00-8 EFF: 247-253, Config-1 May 01/07 **SROS**

Page 217

TROUBLE SHOOTING MANUAL

TASK 49-00-81-810-807

APU AUTO SHUTDOWN - UNDERSPEED, Fuel-Control Unit Fault (131-9(A))

- 1. Possible Causes
 - FUEL TORQUE MOTOR SHOWS OPEN CIRCUIT
 - FUEL TORQUE MOTOR SHOWS SHORT CIRCUIT
 - FUEL SOLENOID SHOWS CIRCUIT FAILURE
 - damage/contamination of electrical connector P19
 - FUEL CONTROL UNIT (P19)
 - aircraft wiring
 - ECB (59KD)
 - FUEL CONTROL UNIT (8022KM)
- 2. Job Set-up Information
 - A. Fixtures, Tools, Test and Support Equipment

REFERENCE QTY DESIGNATION

No specific

multimeter

B. Referenced Information

REFERENCE		DESIGNATION	
AMM	49-00-00-860-008	APU Start by External Power (131-9(A))	
AMM	49-32-11-000-003	Removal of the Fuel Control Unit (FCU) (8022KM) (131-9(A))	
AMM	49-32-11-400-003	<pre>Installation of the Fuel Control Unit (FCU) (8022KM) (131-9(A))</pre>	
AMM	49-61-34-000-003	Removal of the Electronic Control Box (ECB) (131-9(A))	
AMM	49-61-34-400-003	<pre>Installation of the Electronic Control Box (ECB) (131-9(A))</pre>	
ASM	49-61/04		

3. Fault Confirmation

- A. Read-out of ECB Trouble-Shooting Data
 - (1) Put the APU MASTER SW to the ON position.
 - (2) Get access to the APU SHUTDOWN report.

49-00-81

Page 218

Config-1 May 01/07

EFF: 247-253,

TROUBLE SHOOTING MANUAL

- (3) Push the '>' adjacent to LRU DATA:
 - the MCDU menu shows

FUEL TORQUE MOTOR SHOWS OPEN CIRCUIT

or

FUEL TORQUE MOTOR SHOWS SHORT CIRCUIT

or

FUEL SOLENOID SHOWS CIRCUIT FAILURE

(4) Start the APU and apply Bleed Air for 20 seconds, minimum (Ref. AMM TASK 49-00-00-860-008).

4. Fault Isolation

A. If an APU auto shutdown occurs during the APU operation and the APU SHUTDOWN report gives the maintenance message:

UNDERSPEED

FUEL CONTROL UNIT P19

associated with Fault Code Numbers (FCN) 105, 106, 107, 108 or 125

- do a check for damage/contamination of electrical connector P19 of the FUEL CONTROL UNIT (P19)
- (1) If the electrical connector P19 is damaged/contaminated:

 do a repair/cleaning.
- (2) If the electrical connector is OK:
 - use a multimeter to do a resistance check across pin 6 and pin 7 pin 8 and pin 9 of the FUEL CONTROL UNIT (P19).
 - (a) If the resistance value is not between 20 Ohms and 100 Ohms (pin
 6 7)
 and/or

not between 10 0hms and 80 0hms (pin 8 - 9).

- replace the FUEL CONTROL UNIT (P19) (Ref. AMM TASK 49-32-11-000-003) and (Ref. AMM TASK 49-32-11-400-003).
- (b) If the resistance values are in the specified limits:
 - do a check and repair of the aircraft wiring from the ECB (59KD) AB/H11,G7,F6 to the FUEL CONTROL UNIT (P19) P19/6,7,8 and

the FUEL CONTROL UNIT (P19) P19/9 to GND (Ref. ASM 49-61/04).

- 1 If the fault continues:
 - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-003) and (Ref. AMM TASK 49-61-34-400-003).

EFF: 247-253, 49-00-8

Config-1 May 01/07

TROUBLE SHOOTING MANUAL

R **ON A/C 247-253,

Post SB 49-1062 For A/C 251-251, R Post SB 49-1069 For A/C 247-250,252-253,

A. If an APU auto shutdown occurs during the APU operation and the APU SHUTDOWN report gives the maintenance message:

UNDERSPEED FUEL CONTROL UNIT (8022KM)

associated with Fault Code Numbers (FCN) 105, 106, 107, 108 or 125

- do a check for damage/contamination of electrical connector P19 of the FUEL CONTROL UNIT (8022KM)
- (1) If the electrical connector P19 is damaged/contaminated: - do a repair/cleaning.
- (2) If the electrical connector is OK:
 - use a multimeter to do a resistance check across pin 6 and pin 7 pin 8 and pin 9 of the FUEL CONTROL UNIT (8022KM)
 - (a) If the resistance value is not between 20 Ohms and 100 Ohms (pin
 6 7)
 and/or

not between 10 0hms and 80 0hms (pin 8 - 9).

(Ref. AMM TASK 49-61-34-400-003).

- replace the FUEL CONTROL UNIT (8022KM) (Ref. AMM TASK 49-32-11-000-003) and (Ref. AMM TASK 49-32-11-400-003).
- (b) If the resistance values are in the specified limits: - do a check and repair of the aircraft wiring from the ECB (59KD) AB/H11,G7,F6 to the FUEL CONTROL UNIT (8022KM) P19/6,7,8 and the FUEL CONTROL UNIT (8022KM) P19/9 to GND (Ref. ASM 49-
 - 1 If the fault continues:
 replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-003) and
- R **ON A/C 247-253,
 - B. Do the test given in para. 3.

61/04).

R EFF: 247-253,
SROS

49-00-81Config-1 May 01/07

TROUBLE SHOOTING MANUAL

TASK 49-00-81-810-808

APU AUTO SHUTDOWN - UNDERSPEED, Low Fuel Pressure (131-9(A))

- 1. Possible Causes
 - FUEL PRESSURE SHOWS LOW DURING APU RUN
 - air in the fuel
- 2. Job Set-up Information
 - A. Referenced Information

REFERENCE	DESIGNATION	
28-22-00-810-801	APU Fuel System - Low Pressure	
AMM 28-22-00-710-001	Operational Test of the APU Fuel-Pump System on	
	Ground to Purge the Fuel Line	
AMM 49-00-00-860-008	APU Start by External Power (131-9(A))	

3. Fault Confirmation

- A. Read-out of ECB Trouble-Shooting Data
 - (1) Put the APU MASTER SW to the ON position.
 - (2) Get access to the APU SHUTDOWN report.

 - (4) Purge the APU fuel-line to make sure that there is no air in the fuel (Ref. AMM TASK 28-22-00-710-001).
 - (5) Start the APU and apply Bleed Air for 20 seconds, minimum (Ref. AMM TASK 49-00-00-860-008).

4. Fault Isolation

A. If an APU auto shutdown occurs during the APU operation and the APU SHUTDOWN report gives the maintenance message:

UNDERSPEED LOW FUEL PRESSURE

247-253,

associated with the Fault Code Number (FCN) 100

- do the trouble shooting of the APU fuel system - low pressure (Ref. TASK 28-22-00-810-801).

49-00-81

Config-1 May 01/07

SROS

EFF:

TROUBLE SHOOTING MANUAL

B. do the operational test of the APU (Ref. AMM TASK 49-00-00-860-008).

EFF: 247-253,
SROS

49-00-81Page 222
Config-1 May 01/07

TROUBLE SHOOTING MANUAL

TASK 49-00-81-810-809

APU AUTO SHUTDOWN - UNDERSPEED, ECB Internal Fault (131-9(A))

- 1. Possible Causes
 - ECB INTERNAL FAILURE
 - ECB (59KD)
- 2. Job Set-up Information
 - A. Referenced Information

REFERENCE		DESIGNATION
AMM	49-00-00-860-008	APU Start by External Power (131-9(A))
AMM	49-61-34-000-003	Removal of the Electronic Control Box (ECB) (131-9(A))
AMM	49-61-34-400-003	<pre>Installation of the Electronic Control Box (ECB) (131-9(A))</pre>

3. Fault Confirmation

- A. Read-out of ECB Trouble-Shooting Data
 - (1) Put the APU MASTER SW to the ON position.
 - (2) Get access to the APU SHUTDOWN report.
 - - the MUDU menu shows
 ECB INTERNAL FAILURE
 - (4) Start the APU and apply Bleed Air for 20 seconds, minimum (Ref. AMM TASK 49-00-00-860-008).

4. Fault Isolation

A. If an APU auto shutdown occurs during the APU operation and the APU SHUTDOWN report gives the maintenance message:

UNDERSPEED ECB (59KD)

associated with the Fault Code Number (FCN) 173

- replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-003) and (Ref. AMM TASK 49-61-34-400-003).
- B. Do the test given in para. 3.

49-00-81

Page 223

Config-1 May 01/07

EFF: 247-253,

TROUBLE SHOOTING MANUAL

TASK 49-00-81-810-810

APU AUTO SHUTDOWN - OVERTEMPERATURE (on speed), High Temperature during APU on-speed (131-9(A))

- 1. Possible Causes
 - NO LRU DETECTED
 - blockage of the APU inlet
 - APU internal damage
 - damage of the IGV linkage
 - IGV ACTUATOR (P21)
 - APU (4005KM)
 - IGV ACTUATOR (8014KM)
- 2. Job Set-up Information
 - A. Fixtures, Tools, Test and Support Equipment

REFERENCE QTY DESIGNATION

No specific ratchet No specific socket

B. Referenced Information

REFERENCE DESIGNATION

APU Start by External Power (131-9(A)) AMM 49-00-00-860-008 AMM 49-11-11-000-004 Removal of the Power Plant (APU) (131-9(A)) AMM 49-11-11-400-004 Installation of the Power Plant (APU) (131-9(A)) AMM 49-16-00-200-002 Detailed Inspection of APU Air Intake, Diffuser Elbow, Seals and Felt Metal (131-9(A)) AMM 49-23-51-000-004 Removal of the Inlet Guide Vane - Actuator (8014KM) (131-9(A))AMM 49-23-51-400-004 Installation of the Inlet Guide Vane - Actuator (8014KM) (131-9(A))AMM 49-91-42-200-004 Inspection of the Metal Chip Detector (131-9(A))

- 3. Fault Confirmation
- R A. Check/Test

R

R (1) Do a visual inspection and make sure that you do not find damage and/or unwanted material in the air intake system and/or on the engine air-intake screen (Ref. AMM TASK 49-16-00-200-002).

R EFF: 247-253, 49-00 SROS

49-00-81 Page 224 Config-1 May 01/07

TROUBLE SHOOTING MANUAL

(2) Do a visual inspection and make sure that you do not find damage R R and/or unwanted material in the exhaust system. NOTE: The torque limit is 372 lbf.in (4.20 m.daN). Do not turn the R shaft with a torque more than the limit. A torque more than R R the limit will damage the component. R (3) Remove the end cap from the starter motor (8KA). (4) Turn the manual drive shaft of the starter motor (8KA) in a R counterclockwise direction (in the direction of the arrow on the R housing). NOTE: Turn the manual drive shaft of the starter motor with a torque R wrench. Made sure that the drag is 10 lbf.in (0.11 m.daN) to R 60 lbf.in (0.67 m.daN). R R (a) If you find that the drag of the APU rotors, bearings and gears is too much and they do rub or make unusual noise: R - replace the APU (4005KM) (Ref. AMM TASK 49-11-11-000-004) and R (Ref. AMM TASK 49-11-11-400-004). R

- R B. Read-out of ECB Trouble-Shooting Data
 - (1) Put the APU MASTER SW to the ON position.
 - (2) Get access to the APU SHUTDOWN report.

 - (4) Start the APU and apply Bleed Air for 20 seconds, minimum (Ref. AMM TASK 49-00-00-860-008).

4. Fault Isolation

SROS

A. If an APU auto shutdown occurs during the APU operation and the APU SHUTDOWN report gives the maintenance message:

OVERTEMPERATURE
IGV ACTUATOR P21/ECB (59KD)

associated with Fault Code Number (FCN) 205

- do a check for a blockage of the APU inlet.
- (1) If the fault continues:
 - do a check for APU internal damage:
 do check for contamination of the MAGNETIC-DRAIN PLUG (Ref. AMM TASK 49-91-42-200-004).

EFF: 247-253,

49-00-81 Page 225 Config-1 May 01/07

TROUBLE SHOOTING MANUAL

NOTE : If the MAGNETIC-DRAIN PLUG is not contaminated, continue without starting the APU

- .

R R

R

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R R

R

- remove the end cap from the STARTER MOTOR (8KA).
 - use a socket and a ratchet on the shaft of the STARTER MOTOR (8KA) to turn the APU counterclockwise (in the direction of the arrow on the housing).
 - make sure that the APU rotates freely.
- (a) If the APU rotates freely:
 - do a check for damage of the IGV linkage.
 - . make sure that the IGV has a travel range of 1 in. (25.3999 mm),
 - . measure the force of the IGV movement.
 - 1 If a force more than 20 lbf.ft (2.71 m.daN) is necessary to move the IGVs or the travel range is less than 1 in. (25.3999 mm):
 - replace the APU (4005KM) (Ref. AMM TASK 49-11-11-000-004) and (Ref. AMM TASK 49-11-11-400-004).
 - 2 If a force less than 20 lbf.ft (2.71 m.daN) is necessary to move the IGVs, the IGV linkage is OK:
 - replace the IGV ACTUATOR (P21) (Ref. AMM TASK 49-23-51-000-004) and (Ref. AMM TASK 49-23-51-400-004).
- (b) If the APU does not rotate freely:
 - replace the APU (4005KM) (Ref. AMM TASK 49-11-11-000-004) and (Ref. AMM TASK 49-11-11-400-004).

**ON A/C 247-253,

Post SB 49-1062 For A/C 251-251, Post SB 49-1069 For A/C 247-250,252-253,

A. If an APU auto shutdown occurs during the APU operation and the APU SHUTDOWN report gives the maintenance message:

OVERTEMPERATURE

IGV ACTUATOR (8014KM) / ECB (59KD)

associated with Fault Code Number (FCN) 205

- do a check for a blockage of the APU inlet.
- (1) If the fault continues:
 - do a check for APU internal damage:
 - do check for contamination of the MAGNETIC-DRAIN PLUG (Ref. AMM TASK 49-91-42-200-004).

EFF: 247-253,

49-00-81

Page 226 Config-1 May 01/08

TROUBLE SHOOTING MANUAL

NOTE : If the MAGNETIC-DRAIN PLUG is not contaminated, continue without starting the APU

- .

R R

R

R

R R

R

- remove the end cap from the STARTER MOTOR (8KA).
 - use a socket and a ratchet on the shaft of the STARTER MOTOR (8KA) to turn the APU counterclockwise (in the direction of the arrow on the housing).
 - make sure that the APU rotates freely.
- (a) If the APU rotates freely:
 - do a check for damage of the IGV linkage.
 - . make sure that the IGV has a travel range of 1 in. (25.3999 mm),
 - . measure the force of the IGV movement.
 - 1 If a force more than 20 lbf.ft (2.71 m.daN) is necessary to
 move the IGVs or the travel range is less than 1 in. (25.3999
 mm):
 - replace the APU (4005KM) (Ref. AMM TASK 49-11-11-000-004) and (Ref. AMM TASK 49-11-11-400-004).
 - If a force less than 20 lbf.ft (2.71 m.daN) is necessary to move the IGVs, the IGV linkage is OK:
 - replace the IGV ACTUATOR (8014KM) (Ref. AMM TASK 49-23-51-000-004) and (Ref. AMM TASK 49-23-51-400-004).
- (b) If the APU does not rotate freely:
 - replace the APU (4005KM) (Ref. AMM TASK 49-11-11-000-004) and (Ref. AMM TASK 49-11-11-400-004).

**ON A/C 247-253,

B. Do the test given in para. 3.

EFF: 247-253,

49-00-81

■ Page 227 Config-1 May 01/08

TROUBLE SHOOTING MANUAL

TASK 49-00-81-810-811

APU AUTO SHUTDOWN - OVERTEMPERATURE (on speed), IGV Position disagrees with Command (131-9(A))

1. Possible Causes

- IGV POSITION DISAGREES WITH COMMAND
- damage/leakage of the fuel supply and return lines of the IGV ACTUATOR (P21)
- damage of the IGV ACTUATOR linkage and the IGV assembly
- damage/contamination of the electical connector P21
- IGV ACTUATOR (P21)
- aircraft wiring
- ECB (59KD)
- APU (4005KM)
- IGV ACTUATOR (8014KM)

2. Job Set-up Information

A. Fixtures, Tools, Test and Support Equipment

REFERENCE **QTY DESIGNATION**

No specific multimeter

B. Referenced Information

REFERENCE		DESIGNATION	
A MM	/0.00.00.8/0.008	ADU Chart by Estarral Davis (474 0/A))	
AMM	49-00-00-860-008	APU Start by External Power (131-9(A))	
AMM	49-11-11-000-004	Removal of the Power Plant (APU) (131-9(A))	
AMM	49-11-11-400-004	Installation of the Power Plant (APU) (131-9(A))	
AMM	49-23-51-000-004	Removal of the Inlet Guide Vane - Actuator (8014KM) (131-9(A))	
AMM	49-23-51-400-004	<pre>Installation of the Inlet Guide Vane - Actuator (8014KM) (131-9(A))</pre>	
AMM	49-61-34-000-003	Removal of the Electronic Control Box (ECB) (131-9(A))	
AMM	49-61-34-400-003	<pre>Installation of the Electronic Control Box (ECB) (131-9(A))</pre>	
ASM	49-61/04		

EFF : 247-253, 49-00-Page 228

Config-1 May 01/07

TROUBLE SHOOTING MANUAL

3. Fault Confirmation

- A. Read-out of ECB Trouble-Shooting Data
 - (1) Put the APU MASTER SW to the ON position.
 - (2) Get access to the APU SHUTDOWN report.
 - (3) Push the '>' adjacent to LRU DATA:
 the MCDU menu shows
 - IGV POSITION DISAGREES WITH COMMAND
 - (4) Start the APU and apply Bleed Air for 20 seconds, minimum (Ref. AMM TASK 49-00-00-860-008).

4. Fault Isolation

A. If an APU auto shutdown occurs during the APU operation and the APU SHUTDOWN report gives the maintenance message:

OVERTEMPERATURE

CHECK IGV ASSEMBLY/IGV ACTUATOR P21

associated with Fault Code Number (FCN) 83

- do a check for damage/leakage of the fuel supply and return lines of the IGV ACTUATOR (P21).
- (1) If there is damage/leakage in the fuel supply and return lines:

 do a repair
- (2) If the fuel supply and return lines are OK:
 - do a check for damage of the IGV ACTUATOR linkage and the IGV assembly.
 - . make sure that the IGV has a travel range of 1 in. (25.3999 mm).
 - . measure the force of the IGV movement.
 - (a) If a force less than 20 lbf.ft (2.71 m.daN) is necessary to move the IGVs, the IGV ACTUATOR linkage/IGV assembly are OK:
 - do a check for damage/contamination of the electical connector
 P21 of the IGV ACTUATOR (P21).
 - 1 If the electrical connector P21 is damaged/contaminated: - do a repair/cleaning.
 - 2 If the electrical connector P21 is OK:
 - use a multimeter to do the resistance check across pin 4 and pin 10 of the IGV ACTUATOR (P21).
 - a If the resistance value is < 100 k0hms:
 - replace the IGV ACTUATOR (P21) (Ref. AMM TASK 49-23-51-000-004) and (Ref. AMM TASK 49-23-51-400-004).

EFF: 247-253,

49-00-81

Page 229

Config-1 May 01/08

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TROUBLE SHOOTING MANUAL

- b If the resistance value is > 100 k0hms:
 - do a check of the aircraft wiring from the ECB (59KD)
 AB/G8 to the IGV ACTUATOR (P21) P21/4 (Ref. ASM 49-61/04).
- c If the fault continues:
 - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-003) and (Ref. AMM TASK 49-61-34-400-003).
- d If the fault continues:

(b) If a force more than 20 lbf.ft (2.71 m.daN) is necessary to move the IGVs or the travel range is less than 1 in. (25.3999 mm), the IGV ACTUATOR linkage/IGV assembly are damaged and/or do not move freely:

- replace the APU (4005KM) (Ref. AMM TASK 49-11-11-000-004) and (Ref. AMM TASK 49-11-11-400-004).

**ON A/C 247-253,

R R

R R

R R

R

R

Post SB 49-1062 For A/C 251-251, Post SB 49-1069 For A/C 247-250,252-253,

A. If an APU auto shutdown occurs during the APU operation and the APU SHUTDOWN report gives the maintenance message:

OVERTEMPERATURE

CHECK IGV ASSEMBLY/IGV ACTUATOR (8014KM)

associated with Fault Code Number (FCN) 83

- do a check for damage/leakage of the fuel supply and return lines of the IGV ACTUATOR (P21).
- (2) If the fuel supply and return lines are OK:
 - do a check for damage of the IGV ACTUATOR linkage and the IGV assembly.
 - . make sure that the IGV has a travel range of 1 in. (25.3999 mm).
 - . measure the force of the IGV movement.
 - (a) If a force less than 20 lbf.ft (2.71 m.daN) is necessary to move the IGVs, the IGV ACTUATOR linkage/IGV assembly are OK:
 - do a check for damage/contamination of the electical connector P21 of the IGV ACTUATOR (8014KM)
 - 1 If the electrical connector P21 is damaged/contaminated:

 do a repair/cleaning.

EFF: 247-253,

49-00-81

Page 230

Config-1 May 01/08

TROUBLE SHOOTING MANUAL

- 2 If the electrical connector P21 is OK:
 - use a multimeter to do the resistance check across pin 4 and pin 10 of the IGV ACTUATOR (P21).
 - a If the resistance value is < 100 k0hms:
 - replace the IGV ACTUATOR (8014KM) (Ref. AMM TASK 49-23-51-000-004) and (Ref. AMM TASK 49-23-51-400-004).
 - b If the resistance value is > 100 k0hms:
 - do a check of the aircraft wiring from the ECB (59KD)
 AB/G8 to the IGV ACTUATOR (8014KM) P21/4 (Ref. ASM 49-61/04).
 - c If the fault continues:
 - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-003) and (Ref. AMM TASK 49-61-34-400-003).
 - d If the fault continues:
- (b) If a force more than 20 lbf.ft (2.71 m.daN) is necessary to move the IGVs or the travel range is less than 1 in. (25.3999 mm), the IGV ACTUATOR linkage/IGV assembly are damaged and/or do not move freely:
 - replace the APU (4005KM) (Ref. AMM TASK 49-11-11-000-004) and (Ref. AMM TASK 49-11-11-400-004).

**ON A/C 247-253,

R

R

R

B. Do the test given in para. 3.

EFF: 247-253,

49-00-81

Page 231

SROS

Config-1 May 01/08

TROUBLE SHOOTING MANUAL

TASK 49-00-81-810-812

APU AUTO SHUTDOWN - OVERTEMPERATURE (APU Start), High Temperature during APU Start (131-9(A))

1. Possible Causes

- NO LRU FAULT DETECTED
- APU internal damage
- FUEL CONTROL UNIT (P19)
- APU INLET PRESSURE TRANSDUCER (P22)
- APU INLET TEMPERATURE SENSOR (P6)
- ECB (59KD)
- FUEL CONTROL UNIT (8022KM)
- APU INLET PRESSURE TRANSDUCER (8048KM)
- APU INLET TEMPERATURE SENSOR (8010KM)

2. Job Set-up Information

A. Fixtures, Tools, Test and Support Equipment

REFERENCE **QTY DESIGNATION**

No specific ratchet No specific socket

B. Referenced Information

______ REFERENCE **DESIGNATION**

	AMM	49-00-00-860-008	APU Start by External Power (131-9(A))
	AMM	49-11-11-000-004	Removal of the Power Plant (APU) (131-9(A))
	AMM	49-11-11-400-004	Installation of the Power Plant (APU) (131-9(A))
R	AMM	49-16-00-200-002	Detailed Inspection of APU Air Intake, Diffuser
R			Elbow, Seals and Felt Metal (131-9(A))
	AMM	49-23-14-000-001	Removal of the Sensor-APU Inlet Temperature (8010KM)
			(131-9(A))
	AMM	49-23-14-400-001	Installation of the Sensor-APU Inlet Temperature
			(8010KM) (131-9(A))
	AMM	49-32-11-000-003	Removal of the Fuel Control Unit (FCU) (8022KM)
			(131-9(A))
	AMM	49-32-11-400-003	Installation of the Fuel Control Unit (FCU) (8022KM)
			(131-9(A))
	AMM	49-51-21-000-001	Removal of the Transducer - APU Inlet Pressure
			(8048KM) (131-9(A))
	AMM	49-51-21-400-001	Installation of the Transducer - APU Inlet Pressure
			(8048KM) (131-9(A))

EFF: 247-253,

49-00-8

Page 232 Config-1 May 01/07

TROUBLE SHOOTING MANUAL

	REFERENCE			
				DESIGNATION
	AMM	49-6	1-34-000-003	Removal of the Electronic Control Box (ECB) (131-9(A))
	AMM	49-6	1-34-400-003	Installation of the Electronic Control Box (ECB) (131-9(A))
	AMM	49-9	1-42-200-004	Inspection of the Metal Chip Detector (131-9(A))
	3. <u>F</u>	ault (Confirmation	
R	A	. Ched	ck/Test	
R R R		(1)	and/or unwanted	pection and make sure that you do not find damage material in the air intake system and/or on the ke screen (Ref. AMM TASK 49-16-00-200-002).
R R		(2)		pection and make sure that you do not find damage material in the exhaust system.
R R R			shaft wi	ue limit is 372 lbf.in (4.20 m.daN). Do not turn the th a torque more than the limit. A torque more than t will damage the component.
R		(3)	Remove the end	cap from the starter motor (8KA).
R R R		(4)		drive shaft of the starter motor (8KA) in a e direction (in the direction of the arrow on the
R R R			wrench.	manual drive shaft of the starter motor with a torque Made sure that the drag is 10 lbf.in (0.11 m.daN) to n (0.67 m.daN).
R R R			is too much - replace t	that the drag of the APU rotors, bearings and gears and they do rub or make unusual noise: he APU (4005KM) (Ref. AMM TASK 49-11-11-000-004) and TASK 49-11-11-400-004).
R	В	. Read	d-out of ECB Tro	uble-Shooting Data
		(1)	Put the APU MAS	TER SW to the ON position.
		(2)	Get access to t	he APU SHUTDOWN report.
		(3)	Push the '>' ad - the MCDU menu NO LRU FAULT	
		(4)	Start the APU at TASK 49-00-00-8	nd apply Bleed Air for 20 seconds, minimum (Ref. AMM 60-008).

EFF : 247-253,

SROS

49-00-81Page 233
Config-1 May 01/07

TROUBLE SHOOTING MANUAL

4. Fault Isolation

A. If an APU auto shutdown occurs during the APU operation and the APU SHUTDOWN report gives the maintenance message:

OVERTEMPERATURE

FUEL CONTROL UNIT P19 / FLOW DIVIDER ASSEMBLY

associated with Fault Code Number (FCN) 206

- do a check for APU internal damage:
 do a check for contamination of the MAGNETIC-DRAIN PLUG (Ref. AMM TASK 49-91-42-200-004).
- NOTE : If the MAGNETIC-DRAIN PLUG is not contaminated, continue without starting the APU
- .
 - remove the end cap of the STARTER MOTOR (8KA).
 - use a socket and a ratchet on the shaft of the STARTER MOTOR (8KA) to turn the APU counterclockwise (in the direction of the arrow on the housing).
 - make sure that the APU rotates freely.
- (1) If the APU rotates freely:
 - replace the FUEL CONTROL UNIT (P19) (Ref. AMM TASK 49-32-11-000-003) and (Ref. AMM TASK 49-32-11-400-003)
 - (a) If the fault continues:
 - replace the APU INLET PRESSURE TRANSDUCER (P22) (Ref. AMM TASK 49-51-21-000-001) and (Ref. AMM TASK 49-51-21-400-001).
 - <u>NOTE</u>: The APU can have a normal start on the ground and fail a start in the air if the proper ambient corrections are not made (calibration shift).
 - (b) If the fault continues:
 - replace the APU INLET TEMPERATURE SENSOR (P6) (Ref. AMM TASK 49-23-14-000-001) and (Ref. AMM TASK 49-23-14-400-001).
 - <u>NOTE</u>: The APU can have a normal start on the ground and fail a start in the air if the proper ambient corrections are not made (calibration shift).
 - (c) If the fault continues:
 - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-003) and (Ref. AMM TASK 49-61-34-400-003).
- (2) If the APU does not rotate freely:
 - replace the APU (4005KM) (Ref. AMM TASK 49-11-11-000-004) and (Ref. AMM TASK 49-11-11-400-004).

EFF: 247-253,

49-00-81 Page 234 Config-1 May 01/07

TROUBLE SHOOTING MANUAL

R **ON A/C 247-253,

Post SB 49-1062 For A/C 251-251, R Post SB 49-1069 For A/C 247-250,252-253,

A. If an APU auto shutdown occurs during the APU operation and the APU SHUTDOWN report gives the maintenance message:

OVERTEMPERATURE

FUEL CTRL UNIT (8022KM)/ FLOW DIVIDER (8024KM)

associated with Fault Code Number (FCN) 206

do a check for APU internal damage:
 do a check for contamination of the MAGNETIC-DRAIN PLUG (Ref. AMM TASK 49-91-42-200-004).

NOTE: If the MAGNETIC-DRAIN PLUG is not contaminated, continue without starting the APU

- .

- remove the end cap of the STARTER MOTOR (8KA).
- use a socket and a ratchet on the shaft of the STARTER MOTOR (8KA) to turn the APU counterclockwise (in the direction of the arrow on the housing).
- make sure that the APU rotates freely.
- (1) If the APU rotates freely:
 - replace the FUEL CONTROL UNIT (8022KM) (Ref. AMM TASK 49-32-11-000-003) and (Ref. AMM TASK 49-32-11-400-003)
 - (a) If the fault continues:
 - replace the APU INLET PRESSURE TRANSDUCER (8048KM) (Ref. AMM TASK 49-51-21-000-001) and (Ref. AMM TASK 49-51-21-400-001).
 - NOTE : The APU can have a normal start on the ground and fail a start in the air if the proper ambient corrections are not made (calibration shift).
 - (b) If the fault continues:
 - replace the APU INLET TEMPERATURE SENSOR (8010KM) (Ref. AMM TASK 49-23-14-000-001) and (Ref. AMM TASK 49-23-14-400-001).
 - NOTE: The APU can have a normal start on the ground and fail a start in the air if the proper ambient corrections are not made (calibration shift).
 - (c) If the fault continues:
 - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-003) and (Ref. AMM TASK 49-61-34-400-003).

EFF: 247-253,

49-00-81

Page 235

Config-1 May 01/07

TROUBLE SHOOTING MANUAL

- (2) If the APU does not rotate freely:
 replace the APU (4005KM) (Ref. AMM TASK 49-11-11-000-004) and (Ref. AMM TASK 49-11-11-400-004).
- R **ON A/C 247-253,
 - B. Do the test given in para. 3.

R EFF: 247-253,
SROS

49-00-81Page 236
Config-1 May 01/07

TROUBLE SHOOTING MANUAL

TASK 49-00-81-810-813

APU AUTO SHUTDOWN - OVERTEMPERATURE (APU Start), Fuel Flow disagrees with Command (131-9(A))

- 1. Possible Causes
 - FUEL FLOW DISAGREES WITH COMMAND
 - damage/contamination of electrical connector P19
 - FUEL CONTROL UNIT (P19)
 - aircraft wiring
 - ECB (59KD)
 - FUEL CONTROL UNIT (8022KM)
- 2. Job Set-up Information
 - A. Fixtures, Tools, Test and Support Equipment

REFERENCE

QTY DESIGNATION

No specific

multimeter

B. Referenced Information

AMM 49-00-00-860-008 APU Start by External Power (131-9(A))
AMM 49-32-11-000-003 Removal of the Fuel Control Unit (FCU) (8022KM)
(131-9(A))
AMM 49-32-11-400-003 Installation of the Fuel Control Unit (FCU) (8022KM)
(131-9(A))

AMM 49-61-34-000-003

Removal of the Electronic Control Box (ECB)

(131-9(A))

AMM 49-61-34-400-003 Installation of the Electronic Control Box (ECB) (131-9(A))

ASM 49-61/04

Fault Confirmation

- A. Read-out of ECB Trouble-Shooting Data
 - (1) Put the APU MASTER SW to the ON position.
 - (2) Get access to the APU SHUTDOWN report.
 - - FUEL FLOW DISAGREES WITH COMMAND

EFF: 247-253,

49-00-81

Page 237

Config-1 May 01/07

TROUBLE SHOOTING MANUAL

(4) Start the APU and apply Bleed Air for 20 seconds, minimum (Ref. AMM TASK 49-00-00-860-008).

4. Fault Isolation

A. If an APU auto shutdown occurs during the APU operation and the APU SHUTDOWN report gives the maintenance message:

OVERTEMPERATURE

FUEL CONTROL UNIT P19/APU FUEL SUPPLY

associated with Fault Code Number (FCN) 79

- do a check for damage/contamination of electrical connector P19 of the FUEL CONTROL UNIT (P19).
- (1) If the electrical connector P19 is damaged/contaminated:do a repair/cleaning.
- (2) If the electrical connector is OK:
 - use a multimeter to do a resistance check across pin 6 and pin 7 of the FUEL CONTROL UNIT (P19).
 - (a) If the resistance value is > 100 Ohms:
 - replace the FUEL CONTROL UNIT (P19) (Ref. AMM TASK 49-32-11-000-003) and (Ref. AMM TASK 49-32-11-400-003).
 - (b) If the resistance value is < 100 Ohms:
 - do a check and repair of the aircraft wiring from the ECB (59KD) AB/H11,G7 to the FUEL CONTROL UNIT (P19) P19/6,7 (Ref. ASM 49-61/04).
 - 1 If the fault continues:
 - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-003) and (Ref. AMM TASK 49-61-34-400-003).
- R **ON A/C 247-253,

Post SB 49-1062 For A/C 251-251,

- R Post SB 49-1069 For A/C 247-250,252-253,
 - A. If an APU auto shutdown occurs during the APU operation and the APU SHUTDOWN report gives the maintenance message:

OVERTEMPERATURE

FUEL CTRL UNIT(8022KM) / APU FUEL SUPPLY

associated with Fault Code Number (FCN) 79

 do a check for damage/contamination of electrical connector P19 of the FUEL CONTROL UNIT (8022KM)

R EFF: 247-253, SROS **49-00-81**Config-1 May 01/07

TROUBLE SHOOTING MANUAL

- (1) If the electrical connector P19 is damaged/contaminated: - do a repair/cleaning.
- (2) If the electrical connector is OK:
 - use a multimeter to do a resistance check across pin 6 and pin 7 of the FUEL CONTROL UNIT (8022KM)
 - (a) If the resistance value is > 100 Ohms:
 - replace the FUEL CONTROL UNIT (8022KM) (Ref. AMM TASK 49-32-11-000-003) and (Ref. AMM TASK 49-32-11-400-003).
 - (b) If the resistance value is < 100 Ohms:
 - do a check and repair of the aircraft wiring from the ECB (59KD) AB/H11,G7 to the FUEL CONTROL UNIT (8022KM) P19/6,7 (Ref. ASM 49-61/04).
 - 1 If the fault continues:
 - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-003) and (Ref. AMM TASK 49-61-34-400-003).
- R **ON A/C 247-253,

SROS

B. Do the test given in para. 3.

EFF: 247-253,

49-00-81

Page 239 Config-1 May 01/07

TROUBLE SHOOTING MANUAL

TASK 49-00-81-810-814

APU AUTO SHUTDOWN - SENSOR FAILURE, EGT1 Sensor Fault and ECB internal Fault (131-9(A))

- 1. Possible Causes
 - EGT1 SENSOR FAILURE AND ECB INTERNAL FAILURE
 - EGT THERMOCOUPLE RAKE 1
 - ECB (59KD)
 - EGT THERMOCOUPLE RAKE (8057KM1)
- 2. Job Set-up Information
 - A. Referenced Information

REFERENCE		DESIGNATION
AMM AMM	49-00-00-860-008 49-61-34-000-003	APU Start by External Power (131-9(A)) Removal of the Electronic Control Box (ECB) (131-9(A))
AMM	49-61-34-400-003	<pre>Installation of the Electronic Control Box (ECB) (131-9(A))</pre>
AMM AMM	49-72-15-000-002 49-72-15-400-003	Removal of the Thermocouples (8057KM) (131-9(A)) Installation of the Thermocouples (8057KM) (131-9(A))

- 3. Fault Confirmation
 - A. Read-out of ECB Trouble-Shooting Data
 - (1) Put the APU MASTER SW to the ON position.
 - (2) Get access to the APU SHUTDOWN report.

 - (4) Start the APU and apply Bleed Air for 20 seconds, minimum (Ref. AMM TASK 49-00-00-860-008).
- 4. Fault Isolation
 - A. If an APU auto shutdown occurs during the APU operation and the APU SHUTDOWN report gives the maintenance message:

SENSOR FAIL
EGT TCPLE RAKE 1 + ECB (59KD)

associated with the Fault Code Number (FCN) 36

EFF: 247-253,

49-00-81Page 240

Config-1 May 01/07

TROUBLE SHOOTING MANUAL

- replace the EGT THERMOCOUPLE RAKE 1 ((Ref. AMM TASK 49-72-15-000-002)
 and (Ref. AMM TASK 49-72-15-400-003)) and
 the ECB (59KD) ((Ref. AMM TASK 49-61-34-000-003) and (Ref. AMM TASK 49-61-34-400-003)).
- R **ON A/C 247-253,

Post SB 49-1062 For A/C 251-251, R Post SB 49-1069 For A/C 247-250,252-253,

A. If an APU auto shutdown occurs during the APU operation and the APU SHUTDOWN report gives the maintenance message:

SENSOR FAIL EGT TCPLE RAKE (8057KM1) AND ECB (59KD)

associated with the Fault Code Number (FCN) 36

- replace the EGT THERMOCOUPLE RAKE (8057KM1) ((Ref. AMM TASK 49-72-15-000-002) and (Ref. AMM TASK 49-72-15-400-003)) and the ECB (59KD) ((Ref. AMM TASK 49-61-34-000-003) and (Ref. AMM TASK 49-61-34-400-003)).
- R **ON A/C 247-253,
 - B. Do the test given in para. 3.

EFF : 247-253,

49-00-81 Page 241 Config-1 May 01/07

TROUBLE SHOOTING MANUAL

TASK 49-00-81-810-815

APU AUTO SHUTDOWN - SENSOR FAILURE, EGT2 Sensor Fault and ECB internal Fault (131-9(A))

- 1. Possible Causes
 - EGT 2 SENSOR FAILURE AND ECB INTERNAL FAILURE
 - EGT THERMOCOUPLE RAKE 2
 - ECB (59KD)
 - EGT THERMOCOUPLE RAKE (8057KM2)
- 2. Job Set-up Information
 - A. Referenced Information

REFERENCE		DESIGNATION
AMM AMM	49-00-00-860-008 49-61-34-000-003	APU Start by External Power (131-9(A)) Removal of the Electronic Control Box (ECB) (131-9(A))
AMM	49-61-34-400-003	<pre>Installation of the Electronic Control Box (ECB) (131-9(A))</pre>
AMM AMM	49-72-15-000-002 49-72-15-400-003	Removal of the Thermocouples (8057KM) (131-9(A)) Installation of the Thermocouples (8057KM) (131-9(A))

- 3. Fault Confirmation
 - A. Read-out of ECB Trouble-Shooting Data
 - (1) Put the APU MASTER SW to the ON position.
 - (2) Get access to the APU SHUTDOWN report.
 - (3) Push the '>' adjacent to LRU DATA:the MCDU menu showsEGT 2 SENSOR FAILURE AND ECB INTERNAL FAILURE
 - (4) Start the APU and apply Bleed Air for 20 seconds, minimum (Ref. AMM TASK 49-00-00-860-008).
- 4. Fault Isolation
 - A. If an APU auto shutdown occurs during the APU operation and the APU SHUTDOWN report gives the maintenance message:

SENSOR FAIL
EGT TCPLE RAKE 2 + ECB (59KD)

associated with the Fault Code Number (FCN) 37

EFF: 247-253,

49-00-81

Page 242

Config-1 May 01/07

TROUBLE SHOOTING MANUAL

- replace the EGT THERMOCOUPLE RAKE 2 (Ref. AMM TASK 49-72-15-000-002) and (Ref. AMM TASK 49-72-15-400-003) and the ECB (59KD) (Ref. AMM TASK 49-61-34-000-003) and (Ref. AMM TASK 49-61-34-400-003).
- R **ON A/C 247-253,

Post SB 49-1062 For A/C 251-251, R Post SB 49-1069 For A/C 247-250,252-253,

A. If an APU auto shutdown occurs during the APU operation and the APU SHUTDOWN report gives the maintenance message:

SENSOR FAIL EGT TCPLE RAKE (8057KM1) AND ECB (59KD)

associated with the Fault Code Number (FCN) 37

- replace the EGT THERMOCOUPLE RAKE (8057KM2) (Ref. AMM TASK 49-72-15-000-002) and (Ref. AMM TASK 49-72-15-400-003) and the ECB (59KD) (Ref. AMM TASK 49-61-34-000-003) and (Ref. AMM TASK 49-61-34-400-003).
- R **ON A/C 247-253,
 - B. Do the test given in para. 3.

R EFF: 247-253, SROS 49-00-81 Page 243 Config-1 May 01/07

TROUBLE SHOOTING MANUAL

TASK 49-00-81-810-816

APU AUTO SHUTDOWN - SENSOR FAILURE, Both EGT Sensors failed (131-9(A))

- 1. Possible Causes
 - BOTH EGT SENSORS FAILED
 - EGT 1 and 2 THERMOCOUPLE
 - aircraft wiring
 - ECB (59KD)
- 2. Job Set-up Information
 - A. Referenced Information

REFERENCE		DESIGNATION	
AMM	49-00-00-860-008	APU Start by External Power (131-9(A))	
AMM	49-61-34-000-003	Removal of the Electronic Control Box (ECB) (131-9(A))	
AMM	49-61-34-400-003	<pre>Installation of the Electronic Control Box (ECB) (131-9(A))</pre>	
AMM	49-72-15-000-002	Removal of the Thermocouples (8057KM) (131-9(A))	
AMM	49-72-15-400-003	Installation of the Thermocouples (8057KM) (131-9(A))	
ASM	49-61/04	·	

- 3. Fault Confirmation
 - A. Read-out of ECB Trouble-Shooting Data
 - (1) Put the APU MASTER SW to the ON position.
 - (2) Get access to the APU SHUTDOWN report.

 - (4) Start the APU and apply Bleed Air for 20 seconds, minimum (Ref. AMM TASK 49-00-00-860-008).
- 4. Fault Isolation

SROS

A. If an APU auto shutdown occurs during the APU operation and the APU SHUTDOWN report gives the maintenance message:

SENSOR FAIL
EGT TCPLE RAKE 1 + 2

associated with Fault Code Number (FCN) 35

EFF : 247-253,

49-00-81 Page 244 Config-1 May 01/07

TROUBLE SHOOTING MANUAL

- replace the EGT 1 and 2 THERMOCOUPLE (Ref. AMM TASK 49-72-15-000-002) and (Ref. AMM TASK 49-72-15-400-003).
- (1) If the fault continues:
 - do a check and repair of the aircraft wiring from the ECB (59KD) AB/A6,A7 to the EGT1 THERMOCOUPLE terminals alumel/chromel
 and

the ECB (59KD) AB/A8,A9 to the EGT2 THERMOCOUPLE terminals alumel/chromel (Ref. ASM 49-61/04).

- (2) If the fault continues:
 - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-003) and (Ref. AMM TASK 49-61-34-400-003).
- R **ON A/C 247-253,

Post SB 49-1062 For A/C 251-251, R Post SB 49-1069 For A/C 247-250,252-253,

A. If an APU auto shutdown occurs during the APU operation and the APU SHUTDOWN report gives the maintenance message:

SENSOR FAIL EGT TCPLE RAKES(8057KM1) AND (8057KM2)

associated with Fault Code Number (FCN) 35

- replace the EGT 1 and 2 THERMOCOUPLE (Ref. AMM TASK 49-72-15-000-002) and (Ref. AMM TASK 49-72-15-400-003).
- (1) If the fault continues:
 - do a check and repair of the aircraft wiring from the ECB (59KD) AB/A6,A7 to the EGT1 THERMOCOUPLE terminals alumel/chromel and the ECB (59KD) AB/A8,A9 to the EGT2 THERMOCOUPLE terminals alumel/chromel (Ref. ASM 49-61/04).
- (2) If the fault continues:
 - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-003) and (Ref. AMM TASK 49-61-34-400-003).
- R **ON A/C 247-253,
 - B. Do the test given in para. 3.

R EFF: 247-253, SROS **49-00-81**Page 245

Config-1 May 01/07

TROUBLE SHOOTING MANUAL

TASK 49-00-81-810-817

APU AUTO SHUTDOWN - SENSOR FAILURE, ECB internal Fault (131-9(A))

- 1. Possible Causes
 - ECB INTERNAL FAILURE
 - ECB (59KD)
- 2. Job Set-up Information
 - A. Referenced Information

REFERENCE		DESIGNATION
AMM	49-00-00-860-008	APU Start by External Power (131-9(A))
AMM	49-61-34-000-003	Removal of the Electronic Control Box (ECB) (131-9(A))
AMM	49-61-34-400-003	<pre>Installation of the Electronic Control Box (ECB) (131-9(A))</pre>

3. Fault Confirmation

- A. Read-out of ECB Trouble-Shooting Data
 - (1) Put the APU MASTER SW to the ON position.
 - (2) Get access to the APU SHUTDOWN report.

 - (4) Start the APU and apply Bleed Air for 20 seconds, minimum (Ref. AMM TASK 49-00-00-860-008).

4. Fault Isolation

A. If an APU auto shutdown occurs during the APU operation and the APU SHUTDOWN report gives the maintenance message:

SENSOR FAIL ECB (59KD)

associated with the Fault Code Number (FCN) 38

- replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-003) and (Ref. AMM TASK 49-61-34-400-003).
- B. Do the test given in para. 3.

49-00-81Config-1 May 01/07

EFF: 247-253,

TROUBLE SHOOTING MANUAL

TASK 49-00-81-810-818

APU AUTO SHUTDOWN - SENSOR FAILURE, Oil Pressure Detection failed (131-9(A))

- 1. Possible Causes
 - LOW OIL PRESSURE SWITCH SHOWS OPEN CIRCIUT
 - OIL LEVEL SHOWS LOW
 - oil level
 - damage/contamination of the electrical connector P14
 - LOW OIL PRESSURE SWITCH (P14)
 - ECB (59KD)
 - LOW OIL PRESSURE SWITCH (8091KM)
- 2. Job Set-up Information
 - A. Fixtures, Tools, Test and Support Equipment

REFERENCE QTY DESIGNATION

No specific

multimeter

B. Referenced Information

REFERENCE		DESIGNATION
	49-00-00-860-008 49-61-34-000-003	APU Start by External Power (131-9(A)) Removal of the Electronic Control Box (ECB) (131-9(A))
AMM	49-61-34-400-003	<pre>Installation of the Electronic Control Box (ECB) (131-9(A))</pre>

AMM 49-90-00-600-007 Check and Replenish Oil Level (131-9(A))
AMM 49-94-14-000-003 Removal of the Low Oil Pressure Switch (8091KM)

(131-9(A))

AMM 49-94-14-400-003 Installation of the Low Oil Pressure Switch (8091KM) (131-9(A))

ASM 49-61/04

3. Fault Confirmation

- A. Read-out of ECB Trouble-Shooting Data
 - (1) Put the APU MASTER SW to the ON position.
 - (2) Get access to the APU SHUTDOWN report.

EFF: 247-253, 49-00-8'

■ Page 247 Config-1 May 01/07

TROUBLE SHOOTING MANUAL

- (3) Push the '>' adjacent to LRU DATA:
 - the MCDU menu shows
 LOW OIL PRESSURE SWITCH SHOWS OPEN CIRCIUT

OIL LEVEL SHOWS LOW

(4) Start the APU and apply Bleed Air for 20 seconds, minimum (Ref. AMM TASK 49-00-00-860-008).

4. Fault Isolation

A. If an APU auto shutdown occurs during the APU operation and the APU SHUTDOWN report gives the maintenance message:

SENSOR FAIL LOW OIL PRESS SW P14 LOW OIL LEVEL

associated with the Fault Code Number (FCN) 98 or 99

- do a check of the oil level in the APU oil reservoir (Ref. AMM TASK 49-90-00-600-007) and do a check for damage/contamination of the electrical connector P14 of the LOW OIL PRESSURE switch (P14).
- (1) If the electrical connector of the LOW OIL PRESSURE SW (P14) is damaged/contaminated:
 - do a repair/cleaning.
- (2) If the electrical connector is OK:
 - use a multimeter to do a resistance check across pin 1 and pin 2 of the LOW OIL PRESSURE SW (P14).
 - (a) If the resistance value is > 10 Ohms:
 - replace the LOW OIL PRESSURE SWITCH (P14) (Ref. AMM TASK 49-94-14-000-003) and (Ref. AMM TASK 49-94-14-400-003).
 - (b) If the resistance value is < 10 0hms:
 - do a check of the aircraft wiring from the ECB (59KD) AB/C5 to the LOW OIL PRESSURE SW (P14) P14/1 and the LOW OIL PRESSURE SW (P14) P14/2 to GND (Ref. ASM 49-61/04).
 - 1 If the fault continues:
 - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-003) and (Ref. AMM TASK 49-61-34-400-003).

49-00-81

■ Page 248 Config-1 May 01/07

SROS

EFF:

247-253,

TROUBLE SHOOTING MANUAL

R **ON A/C 247-253,

Post SB 49-1062 For A/C 251-251, R Post SB 49-1069 For A/C 247-250,252-253,

A. If an APU auto shutdown occurs during the APU operation and the APU SHUTDOWN report gives the maintenance message:

SENSOR FAIL LOW OIL PRESS SW(8091KM) LOW OIL LEVEL

associated with the Fault Code Number (FCN) 98 or 99

- do a check of the oil level in the APU oil reservoir (Ref. AMM TASK 49-90-00-600-007) and
 do a check for damage/contamination of the electrical connector P14 of the LOW OIL PRESSURE SW (8091KM)
- (1) If the electrical connector of the LOW OIL PRESSURE SW (8091KM) is damaged/contaminated:
 - do a repair/cleaning.
- (2) If the electrical connector is OK:
 - use a multimeter to do a resistance check across pin 1 and pin 2 of the LOW OIL PRESSURE SW (8091KM)
 - (a) If the resistance value is > 10 Ohms:
 - replace the LOW OIL PRESSURE SWITCH (8091KM) (Ref. AMM TASK 49-94-14-000-003) and (Ref. AMM TASK 49-94-14-400-003).
 - (b) If the resistance value is < 10 Ohms:
 - do a check of the aircraft wiring from the ECB (59KD) AB/C5 to the LOW OIL PRESSURE SW (8091KM) P14/1 and the LOW OIL PRESSURE SW (8091KM) P14/2 to GND

(Ref. ASM 49-61/04).

- 1 If the fault continues:
 - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-003) and (Ref. AMM TASK 49-61-34-400-003).

R **ON A/C 247-253,

B. Do the test given in para. 3.

R EFF : 247-253,

49-00-81

Page 249

Config-1 May 01/07

TROUBLE SHOOTING MANUAL

TASK 49-00-81-810-819

APU AUTO SHUTDOWN - LOW OIL PRESSURE, Loss of Oil Pressure (131-9(A))

1. Possible Causes

- NO LRU FAULT DETECTED
- oil level
- LOW OIL PRESSURE SWITCH (P14)
- DEOIL SOLENOID (P15)
- OIL LUBE MODULE
- LOW OIL PRESSURE SWITCH (8091KM)
- DEOIL SOLENOID (8083KM)
- OIL LUBE MODULE (8080KM)

2. Job Set-up Information

A. Referenced Information

REFERENCE	DESIGNATION
49-00-81-810-867	Low-Oil Level (131-9(A))
AMM 49-00-00-860-008	APU Start by External Power (131-9(A))
AMM 49-61-34-000-003	Removal of the Electronic Control Box (ECB) (131-9(A))
AMM 49-61-34-400-003	<pre>Installation of the Electronic Control Box (ECB) (131-9(A))</pre>
AMM 49-90-00-600-007	Check and Replenish Oil Level (131-9(A))
AMM 49-91-45-000-003	Removal of Oil Lube Module (8080KM) (131-9(A))
AMM 49-91-45-400-003	<pre>Installation of Oil Lube Module (8080KM) (131-9(A))</pre>
AMM 49-91-49-000-003	Removal of De-Oil Solenoid (8083KM) (131-9(A))
AMM 49-91-49-400-003	<pre>Installation of De-Oil Solenoid (8083KM) (131-9(A))</pre>
AMM 49-94-14-000-003	Removal of the Low Oil Pressure Switch (8091KM) (131-9(A))
AMM 49-94-14-400-003	<pre>Installation of the Low Oil Pressure Switch (8091KM) (131-9(A))</pre>

3. Fault Confirmation

- A. Read-out of ECB Trouble-Shooting Data
 - (1) Put the APU MASTER SW to the ON position.
 - (2) Get access to the APU SHUTDOWN report.

EFF: 247-253,

49-00-81

Page 250

Config-1 May 01/07

TROUBLE SHOOTING MANUAL

- (4) Do the subsequent check and the operational test of the APU:
 - (a) Do a check of the oil level in the APU oil reservoir (Ref. AMM TASK 49-90-00-600-007).
 - if you add more than 1 liter do the low oil-level condition trouble shooting (Ref. TASK 49-00-81-810-867).
 - (b) Do the operational test of the APU (Ref. AMM TASK 49-00-00-860-008):

NOTE: Operate the APU for min. 15 minutes under full load. This makes sure that the oil temperature increases sufficiently.

4. Fault Isolation

A. If an APU auto shutdown occurs during the APU operation and the APU SHUTDOWN report gives the maintenance message:

LOW OIL PRESSURE LOP SW P14 / OIL PUMP / DEOIL SOLENOID P15

associated with the Fault Code Number (FCN) 208

- replace the LOW OIL PRESSURE SWITCH (P14) (Ref. AMM TASK 49-94-14-000-003) and (Ref. AMM TASK 49-94-14-400-003).
- (1) If the fault continues:
 - replace the DEOIL SOLENOID (P15) (Ref. AMM TASK 49-91-49-000-003) and (Ref. AMM TASK 49-91-49-400-003).
- (2) If the fault continues:
 - replace the OIL LUBE MODULE (Ref. AMM TASK 49-91-45-000-003) and (Ref. AMM TASK 49-91-45-400-003).
- (3) If the fault continues:
 - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-003) and (Ref. AMM TASK 49-61-34-400-003).
- **B.** If no APU auto-shutdown occurs during the operational test of the APU and the low oil pressure shutdown occured when the APU was cold soaked:
 - replace the DE-OELING SOLENOID VALVE (P15) (Ref. AMM TASK 49-91-49-000-003) and (Ref. AMM TASK 49-91-49-400-003).

49-00-81

Page 251 Config-1 May 01/07

EFF: 247-253,

TROUBLE SHOOTING MANUAL

R **ON A/C 247-253,

Post SB 49-1062 For A/C 251-251, R Post SB 49-1069 For A/C 247-250,252-253,

> A. If an APU auto shutdown occurs during the APU operation and the APU SHUTDOWN report gives the maintenance message:

LOW OIL PRESSURE LOP SW(8091KM)/OIL PUMP (8080KM)/DEOIL (8083KM)

associated with the Fault Code Number (FCN) 208

- replace the LOW OIL PRESSURE SWITCH (8091KM) (Ref. AMM TASK 49-94-14-000-003) and (Ref. AMM TASK 49-94-14-400-003).
- (1) If the fault continues:
 - replace the DEOIL SOLENOID (8083KM) (Ref. AMM TASK 49-91-49-000-003) and (Ref. AMM TASK 49-91-49-400-003).
- (2) If the fault continues:
 - replace the OIL LUBE MODULE (8080KM) (Ref. AMM TASK 49-91-45-000-003) and (Ref. AMM TASK 49-91-45-400-003).
- (3) If the fault continues:
 - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-003) and (Ref. AMM TASK 49-61-34-400-003).
- B. If no APU auto-shutdown occurs during the operational test of the APU and the low oil pressure shutdown occured when the APU was cold soaked:
 - replace the DE-OELING SOLENOID VALVE (8083KM) (Ref. AMM TASK 49-91-49-000-003) and (Ref. AMM TASK 49-91-49-400-003).
- R **ON A/C 247-253,
 - C. Do the test given in para. 3.

EFF: 247-253, **49-00-**

Page 252 Config-1 May 01/07

Printed in France

TROUBLE SHOOTING MANUAL

TASK 49-00-81-810-820

APU AUTO SHUTDOWN - LOW OIL PRESSURE, Low Oil Level (131-9(A))

- 1. Possible Causes
 - OIL LEVEL SHOWS LOW
 - oil level
 - damage/contamination of the electrical connector P8
 - LOW OIL LEVEL SWITCH (P8)
 - aircraft wiring
 - ECB (59KD)
- 2. Job Set-up Information
 - A. Fixtures, Tools, Test and Support Equipment

REFERENCE QTY DESIGNATION

No specific

multimeter

B. Referenced Information

REFERENCE DESIGNATION

AMM 49-00-00-860-008 APU Start by External Power (131-9(A))
AMM 49-61-34-000-003 Removal of the Electronic Control Box (ECB)

(131-9(A))

AMM 49-61-34-400-003 Installation of the Electronic Control Box (ECB)

(131-9(A))
AMM 49-90-00-600-007 Check and Replenish Oil Level (131-9(A))

AMM 49-93-16-000-003 Removal of Oil Level Switch (8087KM) (131-9(A))
AMM 49-93-16-400-003 Installation of Oil Level Switch (8087KM) (131-9(A))

ASM 49-61/04

- 3. Fault Confirmation
 - A. Read-out of ECB Trouble-Shooting Data
 - (1) Put the APU MASTER SW to the ON position.
 - (2) Get access to the APU SHUTDOWN report.

EFF: 247-253,

49-00-81

■ Page 253 Config-1 May 01/07

TROUBLE SHOOTING MANUAL

(4) Start the APU and apply Bleed Air for 20 seconds, minimum (Ref. AMM TASK 49-00-00-860-008).

4. Fault Isolation

A. If an APU auto shutdown occurs during the APU operation and the APU SHUTDOWN report gives the maintenance message:

LOW OIL PRESSURE LOW OIL LEVEL

associated with the Fault Code Number (FCN) 99

- do a check of the oil level in the APU oil reservoir (Ref. AMM TASK 49-90-00-600-007) and do a check for damage/contamination of the electrical connector P8 of the LOW OIL LEVEL switch (P8).
- (1) If the electrical connector of the LOW OIL LEVEL SW (P8) is damaged/contaminated:
 - do a repair/cleaning.
- (2) If the electrical connector is OK:
 - use a multimeter to do a resistance check across pin 1 and pin 2 of the LOW OIL LEVEL SW (P8).
 - (a) If the resistance value is < 100 kOhms:
 - replace the LOW OIL LEVEL SWITCH (P8) (Ref. AMM TASK 49-93-16-000-003) and (Ref. AMM TASK 49-93-16-400-003).
 - (b) If the resistance value is > 100 k0hms:
 - do a check of the aircraft wiring from the ECB (59KD) AB/H2 to the LOW OIL LEVEL SW (P8) P8/2 and the LOW OIL LEVEL SW (P8) P8/1 to GND (Ref. ASM 49-61/04).
 - 1 If the fault continues:
 - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-003) and (Ref. AMM TASK 49-61-34-400-003).
- B. Do the test given in para. 3.

49-00-81

Page 254

|

Config-1 May 01/07

EFF:

247-253,

TROUBLE SHOOTING MANUAL

TASK 49-00-81-810-821

APU AUTO SHUTDOWN - NO FLAME, No EGT Rise during Start (131-9(A))

1. Possible Causes

- NO LRU FAULT DETECTED
- damage/leakage of the APU FUEL SYSTEM
- aircraft fuel-line of the APU-pump fuel-system
- FUEL FILTER
- IGNITER PLUG
- IGNITER LEAD
- IGNITION UNIT (P10)
- FCU CONTROL UNIT drive
- LUBE OIL MODULE
- FUEL CONTROL UNIT (P19)
- FLOW DIVIDER
- APU INLET PRESSURE TRANSDUCER (P22)
- APU INLET TEMPERATURE SENSOR (P6)
- ECB (59KD)
- APU (4005KM)
- FUEL FILTER (8028KM)
- IGNITION UNIT (8030KM)
- LUBE OIL MODULE (8076KM)
- FUEL CONTROL UNIT (8022KM)
- FLOW DIVIDER (8024KM)
- APU INLET PRESSURE TRANSDUCER (8048KM)
- APU INLET TEMPERATURE SENSOR (8010KM)

2. Job Set-up Information

A. Fixtures, Tools, Test and Support Equipment

REFERENCE	QTY DESIGNATION
REFERENCE	GIT DESIGNATION

No specific ratchet socket

EFF: 247-253,

49-00-8

■ Page 255 Config-1 May 01/07

TROUBLE SHOOTING MANUAL

B. Referenced Information

		DESIGNATION
AMM	28-22-00-710-001	Operational Test of the APU Fuel-Pump System on Ground to Purge the Fuel Line
AMM	49-00-00-790-003	Leak Test of the APU (131-9(A))
AMM	49-00-00-860-008	APU Start by External Power (131-9(A))
AMM	49-11-11-000-004	Removal of the Power Plant (APU) (131-9(A))
AMM	49-11-11-400-004	Installation of the Power Plant (APU) (131-9(A))
AMM	49-23-14-000-001	Removal of the Sensor-APU Inlet Temperature (8010KM) (131-9(A))
AMM	49-23-14-400-001	<pre>Installation of the Sensor-APU Inlet Temperature (8010KM) (131-9(A))</pre>
AMM	49-32-11-000-003	Removal of the Fuel Control Unit (FCU) (8022KM) (131-9(A))
AMM	49-32-11-400-003	<pre>Installation of the Fuel Control Unit (FCU) (8022KM) (131-9(A))</pre>
AMM	49-32-13-000-001	Removal of Flow Divider and Solenoid Valve (8024KM) (131-9(A))
AMM	49-32-13-400-001	<pre>Installation of Flow Divider and Solenoid Valve (8024KM) (131-9(A))</pre>
AMM	49-32-41-920-001	Replacement of the Fuel Filter (8028KM) (131-9(A))
AMM	49-41-41-000-005	Removal of Igniter Plug (131-9(A))
AMM	49-41-41-400-004	<pre>Installation of Igniter Plug (131-9(A))</pre>
AMM	49-41-43-000-003	Removal of Igniter Lead (131-9(A))
AMM	49-41-43-400-003	Installation of Igniter Lead (131-9(A))
AMM	49-51-21-000-001	Removal of the Transducer - APU Inlet Pressure (8048KM) (131-9(A))
AMM	49-51-21-400-001	<pre>Installation of the Transducer - APU Inlet Pressure (8048KM) (131-9(A))</pre>
AMM	49-61-34-000-003	Removal of the Electronic Control Box (ECB) (131-9(A))
AMM	49-61-34-400-003	Installation of the Electronic Control Box (ECB) (131-9(A))
AMM	49-91-45-000-003	Removal of Oil Lube Module (8080KM) (131-9(A))
AMM	49-91-45-400-003	Installation of Oil Lube Module (8080KM) (131-9(A))

3. Fault Confirmation

- A. Read-out of ECB Trouble-Shooting Data
 - (1) Put the APU MASTER SW to the ON position.
 - (2) Get access to the APU SHUTDOWN report.

EFF : 247-253,
SROS

49-00-81Page 256
Config-1 May 01/07

TROUBLE SHOOTING MANUAL

(4) Start the APU and apply Bleed Air for 20 seconds, minimum (Ref. AMM TASK 49-00-00-860-008).

4. Fault Isolation

A. If an APU auto shutdown occurs during the APU operation and the APU SHUTDOWN report gives the maintenance message:

NO FLAME

CHECK IGNITION SYSTEM/FCU/ECB (59KD)

associated with the Fault Code Number (FCN) 209

- do a check for damage/leakage of the APU FUEL SYSTEM (Ref. AMM TASK 49-00-00-790-003).
- (1) If there is damage/leakage in the APU FUEL SYSTEM - do a repair.
- (2) If the APU FUEL SYSTEM is OK:
 - purge the aircraft fuel-line of the APU-pump fuel-system. (Ref. AMM TASK 28-22-00-710-001).

 - (b) If the fault continues:
 - replace the IGNITER PLUG (Ref. AMM TASK 49-41-41-000-005) and (Ref. AMM TASK 49-41-41-400-004)
 - (c) If the fault continues:
 - replace the IGNITER LEAD (Ref. AMM TASK 49-41-43-000-003) and (Ref. AMM TASK 49-41-43-400-003)
 - (d) If the fault continues:
 - replace the IGNITION UNIT (P10) (Ref. AMM TASK 49-41-43-000-003) and (Ref. AMM TASK 49-41-43-400-003)
 - (e) If the fault continues:
 - do a check of the FCU CONTROL UNIT drive:
 - remove the FUEL CONTROL UNIT (P19) (Ref. AMM TASK 49-32-11-000-003).
 - remove the end cap from the STARTER MOTOR (8KA).
 - use a socket and a ratchet on the shaft of the STARTER MOTOR
 (8KA) to turn the APU counterclockwise
 - verify if the LUBE PUMP shaft turns.
 - 1 If the LUBE PUMP shaft does not turn:
 - replace the LUBE OIL MODULE (Ref. AMM TASK 49-91-45-000-003) and (Ref. AMM TASK 49-91-45-400-003).

EFF: 247-253,

49-00-81

Page 257

Config-1 May 01/07

TROUBLE SHOOTING MANUAL

- 2 If the LUBE PUMP shaft turns:
 - replace the FUEL CONTROL UNIT (P19) (Ref. AMM TASK 49-32-11-400-003).
 - a If the fault continues:
 - replace the FLOW DIVIDER (Ref. AMM TASK 49-32-13-000-001) and (Ref. AMM TASK 49-32-13-400-001).
 - b If the fault continues:
 - replace the APU INLET PRESSURE TRANSDUCER (P22) (Ref. AMM TASK 49-51-21-000-001) and (Ref. AMM TASK 49-51-21-400-001).
 - NOTE: The APU can have a normal start on the ground and fail a start in the air if the proper ambient corrections are not made (calibration shift).
 - c If the fault continues:
 - replace the APU INLET TEMPERATURE SENSOR (P6) (Ref. AMM TASK 49-23-14-000-001) and (Ref. AMM TASK 49-23-14-400-001).
 - NOTE: The APU can have a normal start on the ground and fail a start in the air if the proper ambient corrections are not made (calibration shift).
 - d If the fault continues:
 - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-003) and (Ref. AMM TASK 49-61-34-400-003).
 - e If the fault continues:
 - replace the APU (4005KM) (Ref. AMM TASK 49-11-11-000-004) and (Ref. AMM TASK 49-11-11-400-004).
- R **ON A/C 247-253,

Post SB 49-1062 For A/C 251-251, R Post SB 49-1069 For A/C 247-250,252-253,

A. If an APU auto shutdown occurs during the APU operation and the APU SHUTDOWN report gives the maintenance message:

NO FLAME

CHECK IGNITION SYSTEM / FCU(8022KM)/FUEL SUPPLY

associated with the Fault Code Number (FCN) 209

- do a check for damage/leakage of the APU FUEL SYSTEM.
- (1) If there is damage/leakage in the APU FUEL SYSTEM - do a repair.

EFF: 247-253,

49-00-81

Page 258

Config-1 May 01/07

TROUBLE SHOOTING MANUAL

- (2) If the APU FUEL SYSTEM is OK:
 - purge the aircraft fuel-line of the APU-pump fuel-system. (Ref. AMM TASK 28-22-00-710-001).
 - (a) If the fault continues:
 - replace the FUEL FILTER (8028KM) (Ref. AMM TASK 49-32-41-920-001).
 - (b) If the fault continues:
 - replace the IGNITER PLUG (Ref. AMM TASK 49-41-41-000-005) and (Ref. AMM TASK 49-41-41-400-004)
 - (c) If the fault continues:
 - replace the IGNITER LEAD (Ref. AMM TASK 49-41-43-000-003) and (Ref. AMM TASK 49-41-43-400-003)
 - (d) If the fault continues:
 - replace the IGNITION UNIT (8030KM) (Ref. AMM TASK 49-41-43-000-003) and (Ref. AMM TASK 49-41-43-400-003)
 - (e) If the fault continues:
 - do a check of the FCU CONTROL UNIT drive:
 - remove the FUEL CONTROL UNIT (8022KM) (Ref. AMM TASK 49-32-11-000-003).
 - remove the end cap from the STARTER MOTOR (8KA).
 - use a socket and a ratchet on the shaft of the STARTER MOTOR (8KA) to turn the APU counterclockwise
 - verify if the LUBE PUMP shaft turns.
 - 1 If the LUBE PUMP shaft does not turn:
 - replace the LUBE OIL MODULE (8076KM) (Ref. AMM TASK 49-91-45-000-003) and (Ref. AMM TASK 49-91-45-400-003).
 - 2 If the LUBE PUMP shaft turns:
 - replace the FUEL CONTROL UNIT (8022KM) (Ref. AMM TASK 49-32-11-400-003).
 - a If the fault continues:
 - replace the FLOW DIVIDER (8024KM) (Ref. AMM TASK 49-32-13-000-001) and (Ref. AMM TASK 49-32-13-400-001).
 - b If the fault continues:
 - replace the APU INLET PRESSURE TRANSDUCER (8048KM) (Ref. AMM TASK 49-51-21-000-001) and (Ref. AMM TASK 49-51-21-400-001).
 - NOTE: The APU can have a normal start on the ground and fail a start in the air if the proper ambient corrections are not made (calibration shift).

49-00-81

■ Page 259 Config-1 May 01/07

EFF: 247-253,

TROUBLE SHOOTING MANUAL

- c If the fault continues:
 - replace the APU INLET TEMPERATURE SENSOR (8010KM) (Ref. AMM TASK 49-23-14-000-001) and (Ref. AMM TASK 49-23-14-400-001).
 - NOTE: The APU can have a normal start on the ground and fail a start in the air if the proper ambient corrections are not made (calibration shift).
- d If the fault continues:
 - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-003) and (Ref. AMM TASK 49-61-34-400-003).
- e If the fault continues:
 - replace the APU (4005KM) (Ref. AMM TASK 49-11-11-000-004) and (Ref. AMM TASK 49-11-11-400-004).
- R **ON A/C 247-253,

SROS

B. Do the test given in para. 3.

EFF: 247-253, 49-00-8 Con-

Page 260 Config-1 May 01/07

TROUBLE SHOOTING MANUAL

TASK 49-00-81-810-822

APU AUTO SHUTDOWN - NO FLAME, Fuel Pressure is low during APU Run (131-9(A))

- 1. Possible Causes
 - FUEL PRESSURE SHOWS LOW DURING APU RUN
 - air in the fuel
- 2. Job Set-up Information
 - A. Referenced Information

REFERENCE	DESIGNATION
28-22-00-810-801	APU Fuel System - Low Pressure
AMM 28-22-00-710-001	Operational Test of the APU Fuel-Pump System on
	Ground to Purge the Fuel Line
AMM 49-00-00-860-008	APU Start by External Power (131-9(A))

3. Fault Confirmation

- A. Read-out of ECB Trouble-Shooting Data
 - (1) Put the APU MASTER SW to the ON position.
 - (2) Get access to the APU SHUTDOWN report.

 - (4) Purge the APU fuel-line to make sure that there is no air in the fuel (Ref. AMM TASK 28-22-00-710-001).
 - (5) Start the APU and apply Bleed Air for 20 seconds, minimum (Ref. AMM TASK 49-00-00-860-008).

4. Fault Isolation

A. If an APU auto shutdown occurs during the APU operation and the APU SHUTDOWN report gives the maintenance message:

NO FLAME LOW FUEL PRESSURE

associated with the Fault Code Number (FCN) 100

- do the trouble shooting of the APU fuel system - low pressure (Ref. TASK 28-22-00-810-801).

49-00-81

Page 261

Config-1 May 01/07

EFF: 247-253,

••

TROUBLE SHOOTING MANUAL

B. Do the operational test of the APU (Ref. AMM TASK 49-00-00-860-008).

EFF: 247-253,
SROS

49-00-81Page 262
Config-1 May 01/07

TROUBLE SHOOTING MANUAL

TASK 49-00-81-810-823

APU AUTO SHUTDOWN - NO FLAME, Fuel-Control Unit Fault (131-9(A))

- 1. Possible Causes
 - FUEL TORQUE MOTOR SHOWS OPEN CIRCUIT
 - FUEL TORQUE MOTOR SHOWS SHORT CIRCUIT
 - FUEL SOLENOID SHOWS CIRCUIT FAILURE
 - damage/contamination of electrical connector P19
 - FUEL CONTROL UNIT (P19)
 - aircraft wiring
 - ECB (59KD)
 - FUEL CONTROL UNIT (8022KM)
- 2. Job Set-up Information
 - A. Fixtures, Tools, Test and Support Equipment

REFERENCE QTY DESIGNATION

No specific

multimeter

B. Referenced Information

REFERENCE	DESIGNATION
AMM 49-00-00-860-008	APU Start by External Power (131-9(A))
AMM 49-32-11-000-003	Removal of the Fuel Control Unit (FCU) (8022KM) (131-9(A))
AMM 49-32-11-400-003	<pre>Installation of the Fuel Control Unit (FCU) (8022KM) (131-9(A))</pre>
AMM 49-61-34-000-003	Removal of the Electronic Control Box (ECB) (131-9(A))
AMM 49-61-34-400-003	<pre>Installation of the Electronic Control Box (ECB) (131-9(A))</pre>
ASM 49-61/04	

3. Fault Confirmation

- A. Read-out of ECB Trouble-Shooting Data
 - (1) Put the APU MASTER SW to the ON position.
 - (2) Get access to the APU SHUTDOWN report.

49-00-81

Config-1 May 01/07

EFF: 247-253,

SROS

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R

TROUBLE SHOOTING MANUAL

- (3) Push the '>' adjacent to LRU DATA:
 - the MCDU menu shows

FUEL TORQUE MOTOR SHOWS OPEN CIRCUIT

٦C

FUEL TORQUE MOTOR SHOWS SHORT CIRCUIT

or

FUEL SOLENOID SHOWS CIRCUIT FAILURE

(4) Start the APU and apply Bleed Air for 20 seconds, minimum (Ref. AMM TASK 49-00-00-860-008).

4. Fault Isolation

A. If an APU auto shutdown occurs during the APU operation and the APU SHUTDOWN report gives the maintenance message:

NO FLAME FUEL CONTROL UNIT P19

associated with Fault Code Numbers (FCN) 105, 106, 107, 108 or 125

- do a check for damage/contamination of electrical connector P19 of the FUEL CONTROL UNIT (P19)
- (1) If the electrical connector P19 is damaged/contaminated:

 do a repair/cleaning.
- (2) If the electrical connector is OK:
 - use a multimeter to do a resistance check across pin 6 and pin 7 pin 8 and pin 9 of the FUEL CONTROL UNIT (P19).
 - (a) If the resistance value is not between 20 Ohms and 100 Ohms (pin
 6 7)
 and/or

not between 10 0hms and 80 0hms (pin 8 - 9).

- replace the FUEL CONTROL UNIT (P19) (Ref. AMM TASK 49-32-11-000-003) and (Ref. AMM TASK 49-32-11-400-003).
- (b) If the resistance values are in the specified limits:
 - do a check and repair of the aircraft wiring from the ECB (59KD) AB/H11,G7,F6 to the FUEL CONTROL UNIT (P19) P19/6,7,8 and

the FUEL CONTROL UNIT (P19) P19/9 and GND (Ref. ASM 49-61/04).

- 1 If the fault continues:
 - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-003) and (Ref. AMM TASK 49-61-34-400-003).

49-00-8°

Config-1 May 01/07

SROS

EFF:

TROUBLE SHOOTING MANUAL

R **ON A/C 247-253,

Post SB 49-1062 For A/C 251-251, R Post SB 49-1069 For A/C 247-250,252-253,

A. If an APU auto shutdown occurs during the APU operation and the APU SHUTDOWN report gives the maintenance message:

NO FLAME
FUEL CONTROL UNIT (8022KM)

associated with Fault Code Numbers (FCN) 105, 106, 107, 108 or 125

- do a check for damage/contamination of electrical connector P19 of the FUEL CONTROL UNIT (8022KM)
- (1) If the electrical connector P19 is damaged/contaminated: - do a repair/cleaning.
- (2) If the electrical connector is OK:
 - use a multimeter to do a resistance check across pin 6 and pin 7 pin 8 and pin 9 of the FUEL CONTROL UNIT (8022KM)
 - (a) If the resistance value is not between 20 Ohms and 100 Ohms (pin
 6 7)
 and/or

not between 10 0hms and 80 0hms (pin 8 - 9).

- replace the FUEL CONTROL UNIT (8022KM) (Ref. AMM TASK 49-32-11-000-003) and (Ref. AMM TASK 49-32-11-400-003).
- (b) If the resistance values are in the specified limits: - do a check and repair of the aircraft wiring from the ECB (59KD) AB/H11,G7,F6 to the FUEL CONTROL UNIT (8022KM) P19/6,7,8 and the FUEL CONTROL UNIT (8022KM) P19/9 and GND (Ref. ASM 49-61/04).
 - 1 If the fault continues:
 - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-003) and (Ref. AMM TASK 49-61-34-400-003).
- R **ON A/C 247-253,
 - B. Do the test given in para. 3.

R EFF : 247-253, SROS 49-00-81 Page 265 Config-1 May 01/07

TROUBLE SHOOTING MANUAL

TASK 49-00-81-810-824

APU AUTO SHUTDWON - NO FLAME, Fuel Flow disagrees with Command (131-9(A))

1. Possible Causes

- ELECTRONIC CONTROL BOX (59KD)
- FUEL FLOW DISAGREES WITH COMMAND
- damage/contamination of electrical connector P19
- FUEL CONTROL UNIT (P19)
- aircraft wiring
- Fuel Filter (8028KM)
- LUBE OIL MODULE (8080KM)
- FUEL CONTROL UNIT (8022KM)
- FUEL FILTER (8028KM)

2. Job Set-up Information

A. Fixtures, Tools, Test and Support Equipment

-----REFERENCE QTY DESIGNATION

No specific

multimeter

B. Referenced Information

REFERENCE		DESIGNATION
AMM	49-00-00-860-008	APU Start by External Power (131-9(A))
AMM	49-32-11-000-003	Removal of the Fuel Control Unit (FCU) (8022KM) (131-9(A))
AMM	49-32-11-400-003	<pre>Installation of the Fuel Control Unit (FCU) (8022KM) (131-9(A))</pre>
AMM	49-32-41-920-001	Replacement of the Fuel Filter (8028KM) (131-9(A))
AMM	49-61-34-000-003	Removal of the Electronic Control Box (ECB) (131-9(A))
AMM	49-61-34-400-003	<pre>Installation of the Electronic Control Box (ECB) (131-9(A))</pre>
AMM	49-91-45-000-003	Removal of Oil Lube Module (8080KM) (131-9(A))
AMM	49-91-45-400-003	Installation of Oil Lube Module (8080KM) (131-9(A))
ASM	49-61/04	

EFF: 247-253,

49-00-81Page 266
Config-1 May 01/07

TROUBLE SHOOTING MANUAL

3. Fault Confirmation

- A. Read-out of ECB Trouble-Shooting Data
 - (1) Put the APU MASTER SW to the ON position.
 - (2) Get access to the APU SHUTDOWN report.
 - (3) Push the '>' adjacent to LRU DATA:
 - the MCDU menu shows
 FUEL FLOW DISAGREES WITH COMMAND
 - (4) Start the APU and apply Bleed Air for 20 seconds, minimum (Ref. AMM TASK 49-00-00-860-008).

4. Fault Isolation

A. If an APU auto shutdown occurs during the APU operation and the APU SHUTDOWN report gives the maintenance message:

NO FLAME

FUEL CONTROL UNIT P19/APU FUEL SUPPLY

associated with Fault Code Number (FCN) 79

- do a check for damage/contamination of electrical connector P19 of the FUEL CONTROL UNIT (P19)
- (1) If the electrical connector P19 is damaged/contaminated:do a repair/cleaning.
- (2) If the electrical connector is OK:
 - use a multimeter to do a resistance check across pin 6 and pin 7 of the FUEL CONTROL UNIT (P19).
 - (a) If the resistance is > 100 Ohms:
 - replace the FUEL CONTROL UNIT (P19) (Ref. AMM TASK 49-32-11-000-003) and (Ref. AMM TASK 49-32-11-400-003).
 - (b) If the resistance is < 100 Ohms:
 - do a check and repair of the aircraft wiring from the ECB (59KD) AB/H11,G7 to the FUEL CONTROL UNIT (P19) P19/6,7 (Ref. ASM 49-61/04).
 - 1 If the fault continues:
 - replace the Fuel Filter (8028KM)

(Ref. AMM TASK 49-32-41-920-001).

- a If the fault continues:
 - do a check of the FUEL CONTROL UNIT drive:

□ 49-00-81

■ Page 267 Config-1 May 01/07

EFF: 247-253,

TROUBLE SHOOTING MANUAL

- remove the FCU (P19)

(Ref. AMM TASK 49-32-11-000-003),

- remove the end cap from the STARTER MOTOR (8KA),
- use a socket and a ratchet on the shaft of the STARTER
 MOTOR (8KA) to turn the APU counterclockwise,
- verify the LUBE PUMP shaft turns.
- -- if the LUBE PUMP shaft does not turn:
 -- replace the LUBE OIL MODULE (8080KM)

(Ref. AMM TASK 49-91-45-000-003) (Ref. AMM TASK 49-91-45-400-003)

- -- if the LUBE PUMP shaft turns:
-- replace the FUEL CONTROL UNIT (P19)

(Ref. AMM TASK 49-32-11-400-003)

- --- if the fault continues:
- replace the ELECTRONIC CONTROL BOX (59KD)
 - --- (Ref. AMM TASK 49-61-34-000-003)
 --- (Ref. AMM TASK 49-61-34-400-003).
- R **ON A/C 247-253,

Post SB 49-1062 For A/C 251-251, R Post SB 49-1069 For A/C 247-250,252-253,

A. If an APU auto shutdown occurs during the APU operation and the APU SHUTDOWN report gives the maintenance message:

NO FLAME
FUEL CTRL UNIT(8022KM) / APU FUEL SUPPLY

associated with Fault Code Number (FCN) 79

- do a check for damage/contamination of electrical connector P19 of the FUEL CONTROL UNIT (8022KM)
- (1) If the electrical connector P19 is damaged/contaminated:do a repair/cleaning.
- (2) If the electrical connector is OK:
 - use a multimeter to do a resistance check across pin 6 and pin 7 of the FUEL CONTROL UNIT (8022KM)
 - (a) If the resistance is > 100 Ohms:
 - replace the FUEL CONTROL UNIT (8022KM) (Ref. AMM TASK 49-32-11-000-003) and (Ref. AMM TASK 49-32-11-400-003).

EFF: 247-253,

SROS

49-00-81

Page 268

Config-1 May 01/07

TROUBLE SHOOTING MANUAL

- (b) If the resistance is < 100 Ohms:
 - do a check and repair of the aircraft wiring from the ECB (59KD) AB/H11,G7 to the FUEL CONTROL UNIT (8022KM) P19/6,7 (Ref. ASM 49-61/04).
 - 1 If the fault continues:
 - replace the FUEL FILTER (8028KM)

(Ref. AMM TASK 49-32-41-920-001).

- a If the fault continues:
 - replace the Fuel Filter (8028KM)

(Ref. AMM TASK 49-32-41-920-001).

- b If the fault continues:
 - do a check of the FUEL CONTROL UNIT drive:
 - remove the FCU (8022KM)

(Ref. AMM TASK 49-32-11-000-003),

- remove the end cap from the STARTER MOTOR (8KA),
- use a socket and a ratchet on the shaft of the STARTER MOTOR (8KA) to turn the APU counterclockwise,
- verify the LUBE PUMP shaft turns.
- -- if the LUBE PUMP shaft does not turn:
 - -- replace the LUBE OIL MODULE (8080KM)

(Ref. AMM TASK 49-91-45-000-003)

(Ref. AMM TASK 49-91-45-400-003)

- -- if the LUBE PUMP shaft turns:
 - -- replace the FUEL CONTROL UNIT (8022KM)

(Ref. AMM TASK 49-32-11-400-003)

- --- if the fault continues:
- replace the ELECTRONIC CONTROL BOX (59KD)
 - --- (Ref. AMM TASK 49-61-34-000-003)
 - --- (Ref. AMM TASK 49-61-34-400-003).

R **ON A/C 247-253,

B. Do the test given in para. 3.

EFF: 247-253, 49-00-

Page 269

SROS

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Config-1 May 01/07

TROUBLE SHOOTING MANUAL

TASK 49-00-81-810-825

APU AUTO SHUTDOWN - NO FLAME, Ignition Unit Fault (131-9(A))

- 1. Possible Causes
 - IGNITION UNIT SHOWS OPEN CIRCUIT
 - IGNITION UNIT SHOWS SHORT CIRCUIT
 - damage/contamination of the electrical connector P10
 - IGNITION UNIT (P10)
 - aircraft wiring
 - ECB (59KD)
 - IGNITION UNIT (8030KM)
- 2. Job Set-up Information
 - A. Fixtures, Tools, Test and Support Equipment

QTY DESIGNATION

No specific

multimeter

B. Referenced Information

DESIGNATION

AMM	49-00-00-860-008 49-41-38-000-003 49-41-38-400-003	APU Start by External Power (131-9(A)) Removal of the Ignition Unit (8030KM) (131-9(A)) Installation of the Ignition Unit (8030KM) (131-9(A)
AMM	49-61-34-000-003	Removal of the Electronic Control Box (ECB) (131-9(A))
AMM	49-61-34-400-003	<pre>Installation of the Electronic Control Box (ECB) (131-9(A))</pre>

ASM 49-61/04

- 3. Fault Confirmation
 - A. Read-out of ECB Trouble-Shooting Data
 - (1) Put the APU MASTER SW to the ON position.
 - (2) Get access to the APU SHUTDOWN report.
 - (3) Push the '>' adjacent to LRU DATA:
 - the MCDU menu shows IGNITION UNIT SHOWS OPEN CIRCUIT

IGNITION UNIT SHOWS SHORT CIRCUIT

247-253,

49-00-

Config-1 May 01/07

SROS

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EFF:

TROUBLE SHOOTING MANUAL

(4) Start the APU and apply Bleed Air for 20 seconds, minimum (Ref. AMM TASK 49-00-00-860-008).

4. Fault Isolation

A. If an APU auto shutdown occurs during the APU operation and the APU SHUTDOWN report gives the maintenance message:

NO FLAME
IGNITION EXCITER P10

associated with the Fault Code Number (FCN) 128

- do a check for damage/contamination of the electrical connector P10 of the IGNITION UNIT (P10).
- (1) If the electrical connector P10 is damaged/contaminated:do a repair/cleaning.
- (2) If the electrical connector P10 is OK:
 - use a multimeter to do a resistance check across pin A and pin B of the IGNITION UNIT (P10).
 - (a) If the resistance value is > 80 Ohms:
 - replace the IGNITION UNIT (P10) (Ref. AMM TASK 49-41-38-000-003) and (Ref. AMM TASK 49-41-38-400-003).
 - (b) If the resistance value is OK:
 - do a check and repair of the aircraft wiring from the ECB (59KD) AB/10 to the IGNITION UNIT (P10) P10/B and the IGNITION UNIT (P10) P10/A to GND

the IGNITION UNIT (P1U) P1U/A to GND (Ref. ASM 49-61/04).

- 1 If the fault continues:
 - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-003) and (Ref. AMM TASK 49-61-34-400-003).
- B. If an APU auto shutdown occurs during the APU operation and the APU SHUTDOWN report gives the maintenance message:

NO FLAME
IGNITION EXCITER P10

associated with the Fault Code Number (FCN) 146

- do a check for damage/contamination of the electrical connector P10 of the IGNITION UNIT (P10).
- (1) If the electrical connector P10 is damaged/contaminated:do a repair/cleaning.

EFF: 247-253,

49-00-81

Page 271

Config-1 May 01/07

TROUBLE SHOOTING MANUAL

- (2) If the electrical connector P10 is OK:
 - use a multimeter to do a resistance check across pin A and pin B and pin B and pin C of the IGNITION UNIT (P10).
 - (a) If the resistance value is < 10 Ohms:
 - replace the IGNITION UNIT (P10) (Ref. AMM TASK 49-41-38-000-003) and (Ref. AMM TASK 49-41-38-400-003).
 - (b) If the resistance value is in the specified limit: - do a check and repair of the aircraft wiring from the ECB (59KD) AB/10 to the IGNITION UNIT (P10) P10/B and the IGNITION UNIT (P10) P10/A to GND (Ref. ASM 49-61/04).
- R **ON A/C 247-253,

Post SB 49-1062 For A/C 251-251, R Post SB 49-1069 For A/C 247-250,252-253,

A. If an APU auto shutdown occurs during the APU operation and the APU SHUTDOWN report gives the maintenance message:

NO FLAME
IGNITION UNIT (8030KM)

associated with the Fault Code Number (FCN) 128

- do a check for damage/contamination of the electrical connector P10 of the IGNITION UNIT (8030KM)
- (1) If the electrical connector P10 is damaged/contaminated: - do a repair/cleaning.
- (2) If the electrical connector P10 is OK:
 - use a multimeter to do a resistance check across pin A and pin B of the IGNITION UNIT (8030KM)
 - (a) If the resistance value is > 80 Ohms:
 - replace the IGNITION UNIT (8030KM) (Ref. AMM TASK 49-41-38-000-003) and (Ref. AMM TASK 49-41-38-400-003).

EFF: 247-253,

SROS

49-00-81

Page 272

Config-1 May 01/07

TROUBLE SHOOTING MANUAL

- (b) If the resistance value is OK:
 - do a check and repair of the aircraft wiring from the ECB (59KD) AB/10 to the IGNITION UNIT (8030KM) P10/B and

the IGNITION UNIT (8030KM) P10/A to GND (Ref. ASM 49-61/04).

- 1 If the fault continues:
 - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-003) and (Ref. AMM TASK 49-61-34-400-003).
- B. If an APU auto shutdown occurs during the APU operation and the APU SHUTDOWN report gives the maintenance message:

NO FLAME IGNITION UNIT (8030KM)

associated with the Fault Code Number (FCN) 146

- do a check for damage/contamination of the electrical connector P10 of the IGNITION UNIT (8030KM)
- (1) If the electrical connector P10 is damaged/contaminated:

 do a repair/cleaning.
- (2) If the electrical connector P10 is OK:
 - use a multimeter to do a resistance check across
 pin A and pin B
 and
 pin B and pin C
 of the IGNITION UNIT (8030KM)
 - (a) If the resistance value is < 10 Ohms:
 - replace the IGNITION UNIT (8030KM) (Ref. AMM TASK 49-41-38-000-003) and (Ref. AMM TASK 49-41-38-400-003).
 - (b) If the resistance value is in the specified limit: - do a check and repair of the aircraft wiring from the ECB (59KD) AB/10 to the IGNITION UNIT (8030KM) P10/B and

the IGNITION UNIT (8030KM) P10/A to GND (Ref. ASM 49-61/04).

- 1 If the fault continues:
 - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-003) and (Ref. AMM TASK 49-61-34-400-003).
- R **ON A/C 247-253,
 - C. Do the test given in para. 3.

R EFF : 247-253, SROS **49-00-81**Config-1 May 01/07

TROUBLE SHOOTING MANUAL

TASK 49-00-81-810-826

APU AUTO SHUTDOWN - NO FLAME, Flow-Divider Solenoid Fault (131-9(A))

- 1. Possible Causes
 - FLOW DIVIDER SOLENOID SHOWS CIRCUIT FAILURE
 - damage/contamination of the electrical connector P13
 - FLOW-DIVIDER SOLENOID (P13)
 - aircraft wiring
 - ECB (59KD)
 - FLOW-DIVIDER SOLENOID (8025KM)
- 2. Job Set-up Information
 - A. Fixtures, Tools, Test and Support Equipment

DEFENCE OTV DESIGNATION

REFERENCE QTY DESIGNATION

No specific

multimeter

B. Referenced Information

AMM 49-00-00-860-008 APU Start by External Power (131-9(A))
AMM 49-32-13-000-001 Removal of Flow Divider and Solenoid Valve (8024KM)
(131-9(A))
AMM 49-32-13-400-001 Installation of Flow Divider and Solenoid Valve
(8024KM) (131-9(A))

AMM 49-61-34-000-003 Removal of the Electronic Control Box (ECB) (131-9(A))

AMM 49-61-34-400-003 Installation of the Electronic Control Box (ECB) (131-9(A))

ASM 49-61/04

3. Fault Confirmation

- A. Read-out of ECB Trouble-Shooting Data
 - (1) Put the APU MASTER SW to the ON position.
 - (2) Get access to the APU SHUTDOWN report.

EFF: 247-253,

49-00-81

Page 274

Config-1 May 01/07

TROUBLE SHOOTING MANUAL

(4) Start the APU and apply Bleed Air for 20 seconds, minimum (Ref. AMM TASK 49-00-00-860-008).

4. Fault Isolation

A. If an APU auto shutdown occurs during the APU operation and the APU SHUTDOWN report gives the maintenance message:

NO FLAME FLOW DIVIDER SOL P13

associated with the Fault Code Number (FCN) 126

- do a check for damage/contamination of the electrical connector P13 of the FLOW-DIVIDER SOLENOID (P13)
- (1) If the electrical connector P13 is damaged/contaminated: - do a repair/cleaning.
- (2) If the electrical connector P13 is OK:
 - use a multimeter to do a resistance check across pin 1 and pin 2 and pin 1 and pin 3 of the FLOW-DIVIDER SOLENOID (P13).
 - (a) If the resistance value is not between 10 0hms and 80 0hms (pin 1 and pin 2) and/or < 100 k0hms (pin 1 and pin 3):</p>
 - replace the FLOW-DIVIDER SOLENOID (P13) (Ref. AMM TASK 49-32-13-000-001) and (Ref. AMM TASK 49-32-13-400-001).
 - (b) If the resistance value is in the specified limits:
 - do a check and repair of the aircraft wiring from the ECB (59KD) AB/11 to the FLOW-DIVIDER SOLENOID (P13) P13/1 and

the FLOW-DIVIDER SOLENOID (P13) P13/2 to GND (Ref. ASM 49-61/04).

- 1 If the fault continues:
 - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-003) and (Ref. AMM TASK 49-61-34-400-003).
- R **ON A/C 247-253,

Post SB 49-1062 For A/C 251-251, R Post SB 49-1069 For A/C 247-250,252-253,

A. If an APU auto shutdown occurs during the APU operation and the APU SHUTDOWN report gives the maintenance message:

NO FLAME FLOW DIVIDER SOL(8025KM)

R EFF: 247-253, SROS 49-00-81 Page 275 Config-1 May 01/07

TROUBLE SHOOTING MANUAL

associated with the Fault Code Number (FCN) 126

- do a check for damage/contamination of the electrical connector P13 of the FLOW-DIVIDER SOLENOID (8025KM)
- (1) If the electrical connector P13 is damaged/contaminated: - do a repair/cleaning.
- (2) If the electrical connector P13 is OK:
 - use a multimeter to do a resistance check across pin 1 and pin 2 and pin 1 and pin 3 of the FLOW-DIVIDER SOLENOID (8025KM).
 - (a) If the resistance value is not between 10 0hms and 80 0hms (pin 1 and pin 2) and/or < 100 k0hms (pin 1 and pin 3):
 - replace the FLOW-DIVIDER SOLENOID (8025KM) (Ref. AMM TASK 49-32-13-000-001) and (Ref. AMM TASK 49-32-13-400-001).
 - (b) If the resistance value is in the specified limits: - do a check and repair of the aircraft wiring from the ECB (59KD) AB/11 to the FLOW-DIVIDER SOLENOID (8025KM) P13/1 and the FLOW-DIVIDER SOLENOID (8025KM) P13/2 to GND
 - (Ref. ASM 49-61/04).
 - If the fault continues:
 - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-003) and (Ref. AMM TASK 49-61-34-400-003).
- R **ON A/C 247-253,
 - B. Do the test given in para. 3.

EFF: 247-253, 49-00-8 Page 276

Config-1 May 01/07

TROUBLE SHOOTING MANUAL

TASK 49-00-81-810-827

APU AUTO SHUTDOWN - NO FLAME, ECB internal Fault (131-9(A))

- 1. Possible Causes
 - ECB INTERNAL FAILURE
 - ECB (59KD)
- 2. Job Set-up Information
 - A. Referenced Information

REFERENCE		DESIGNATION
АММ	49-00-00-860-008	APU Start by External Power (131-9(A))
AMM	49-61-34-000-003	Removal of the Electronic Control Box (ECB) (131-9(A))
AMM	49-61-34-400-003	<pre>Installation of the Electronic Control Box (ECB) (131-9(A))</pre>

3. Fault Confirmation

- A. Read-out of ECB Trouble-Shooting Data
 - (1) Put the APU MASTER SW to the ON position.
 - (2) Get access to the APU SHUTDOWN report.

 - (4) Start the APU and apply Bleed Air for 20 seconds, minimum (Ref. AMM TASK 49-00-00-860-008).

4. Fault Isolation

A. If an APU auto shutdown occurs during the APU operation and the APU SHUTDOWN report gives the maintenance message:

NO FLAME ECB (59KD)

associated with the Fault Code Number (FCN) 173

- replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-003) and (Ref. AMM TASK 49-61-34-400-003).
- B. Do the test given in para. 3.

49-00-81 Page 277 Config-1 May 01/07

|EFF : 247-253,

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TROUBLE SHOOTING MANUAL

TASK 49-00-81-810-828

APU AUTO SHUTDOWN - AIR INTAKE NOT OPEN, Air Intake Fault (131-9(A))

1. Possible Causes

- INLET FLAP SHOWS FLAP LOSS OF OPEN INDICATION
- INLET FLAP SHOWS FLAP FAILED TO OPEN
- INLET FLAP SHOWS FLAP CLOSE CIRCUIT OPEN
- INLET FLAP SHOWS FLAP OPEN HIGH CURRENT
- damage/contamination of the electrical connector 7527VC
- aircraft wiring
- AIR INTAKE FLAP ACTUATOR (4015KM)
- ECB (59KD)

2. Job Set-up Information

A. Referenced Information

REFERENCE		DESIGNATION
AMM	49-00-00-860-008	APU Start by External Power (131-9(A))
AMM	49-16-51-000-003	Removal of the Air-Intake Flap Actuator (131-9(A))
AMM	49-16-51-400-003	<pre>Installation of the Air-Intake Flap Actuator (131-9(A))</pre>
AMM	49-61-34-000-003	Removal of the Electronic Control Box (ECB) (131-9(A))
AMM	49-61-34-400-003	<pre>Installation of the Electronic Control Box (ECB) (131-9(A))</pre>
ASM	49-16/01	

3. Fault Confirmation

- A. Read-out of ECB Trouble-Shooting Data
 - (1) Put the APU MASTER SW to the ON position.
 - (2) Get access to the APU SHUTDOWN report.
 - (3) Push the '>' adjacent to LRU DATA:
 - the MCDU menu shows

INLET FLAP SHOWS FLAP LOSS OF OPEN INDICATION

or

INLET FLAP SHOWS FLAP FAILED TO OPEN

or

INLET FLAP SHOWS FLAP CLOSE CIRCUIT OPEN

or

INLET FLAP SHOWS FLAP OPEN HIGH CURRENT

EFF: 247-253,

49-00-81

Page 278

Config-1 May 01/07

TROUBLE SHOOTING MANUAL

(4) Start the APU and apply Bleed Air for 20 seconds, minimum (Ref. AMM TASK 49-00-00-860-008).

4. Fault Isolation

A. If an APU auto shutdown occurs during the APU operation and the APU SHUTDOWN report gives the maintenance message:

AIR INTAKE NOT OPEN AIR INTAKE FLAP ACTUATOR

associated with Fault Code Numbers (FCN) 64, 65, 68, 70 or 71

- do a check for damage/contamination of the electrical connector 7527VC of the AIR INTAKE FLAP-ACTUATOR.
- (1) If the electrical connector 7527VC is damaged/contaminated:do a repair/cleaning.
- (2) If the electrical connector 7527VC is OK:
 - do a check and repair of the aircraft wiring from the ECB (59KD) AC/5,4 to the electrical connector 7527VCA/J,K and

the ECB (59KD) AB/G2,G3,G4,G5 to the electrical connector 7527VCA/D,C,E,B

and

the electrical connector 7527VCA/A,L,F, to GND (Ref. ASM 49-16/01).

- (a) If the aircraft wiring is OK:
 - replace the AIR INTAKE FLAP ACTUATOR (4015KM) (Ref. AMM TASK 49-16-51-000-003) and (Ref. AMM TASK 49-16-51-400-003).
- (b) If the fault continues:
 - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-003) and (Ref. AMM TASK 49-61-34-400-003).
- R **ON A/C 247-253,

Post SB 49-1062 For A/C 251-251, R Post SB 49-1069 For A/C 247-250,252-253,

A. If an APU auto shutdown occurs during the APU operation and the APU SHUTDOWN report gives the maintenance message:

AIR INTAKE NOT OPEN
AIR INTAKE FLAP ACTUATOR (4015KM)

associated with Fault Code Numbers (FCN) 64, 65, 68, 70 or 71

 do a check for damage/contamination of the electrical connector 7527VC of the AIR INTAKE FLAP-ACTUATOR (4015KM).

R EFF: 247-253,
SROS

49-00-81 Page 279 Config-1 May 01/07

TROUBLE SHOOTING MANUAL

- (1) If the electrical connector 7527VC is damaged/contaminated: - do a repair/cleaning.
- (2) If the electrical connector 7527VC is OK:
 - do a check and repair of the aircraft wiring from the ECB (59KD) AC/5,4 to the electrical connector 7527VCA/J,K and the ECB (59KD) AB/G2,G3,G4,G5 to the electrical connector 7527VCA/D,C,E,B and the electrical connector 7527VCA/A,L,E, to GND
 - the electrical connector 7527VCA/A,L,F, to GND (Ref. ASM 49-16/01).
 - (a) If the aircraft wiring is OK:
 replace the AIR INTAKE FLAP ACTUATOR (4015KM) (Ref. AMM TASK 49-16-51-000-003) and (Ref. AMM TASK 49-16-51-400-003).
 - (b) If the fault continues:
 replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-003) and (Ref. AMM TASK 49-61-34-400-003).
- R **ON A/C 247-253,
 - B. Do the test given in para. 3.

EFF: 247-253, 49-00-81 Page 280 Config-1 May 01/07

TROUBLE SHOOTING MANUAL

TASK 49-00-81-810-829

APU AUTO SHUTDOWN - HIGH OIL TEMPERATURE, High Oil Temperature (131-9(A))

1. Possible Causes

- NO LRU FAULT DETECTED
- blockage of the air intake duct
- blockage of the APU inlet housing
- OIL COOLER ducting
- OIL TEMPERATURE SENSOR
- OIL COOLER
- COOLING-FAN ASSEMBLY
- APU GENERATOR (8XS)
- OIL TEMPERATURE SENSOR (8092KM)
- OIL COOLER (8079KM)
- COOLING-FAN ASSEMBLY (8053KM)

2. Job Set-up Information

A. Referenced Information

REFERENCE		DESIGNATION
AMM	24-23-51-000-001	Removal of the APU Generator 8XS
AMM	24-23-51-400-001	Installation of the APU Generator 8XS
AMM	49-00-00-860-008	APU Start by External Power (131-9(A))
AMM	49-52-51-000-002	Removal of the Cooling Fan (8053KM) (131-9(A))
AMM	49-52-51-400-002	Installation of the Cooling Fan (8053KM) (131-9(A))
AMM	49-91-44-000-004	Removal of the Oil Cooler (8079KM) (131-9(A))
AMM	49-91-44-400-004	Installation of the Oil Cooler (8079KM) (131-9(A))
AMM	49-94-15-000-001	Removal of Oil Temperature Sensor (8092KM) (131-9(A))
AMM	49-94-15-400-001	<pre>Installation of Oil Temperature Sensor (8092KM) (131-9(A))</pre>

3. Fault Confirmation

- A. Read-out of ECB Trouble-Shooting Data
 - (1) Put the APU MASTER SW to the ON position.
 - (2) Get access to the APU SHUTDOWN report.

 - (4) Start the APU and apply Bleed Air for 20 seconds, minimum (Ref. AMM TASK 49-00-00-860-008).

EFF : 247-253,

49-00-81 Pag

Config-1 May 01/07

TROUBLE SHOOTING MANUAL

4. Fault Isolation

A. If an APU auto shutdown occurs during the APU operation and the APU SHUTDOWN report gives the maintenance message:

HIGH OIL TEMPERATURE
OIL COOLER/COOLING FAN ASSEMBLY

associated with the Fault Code Number (FCN) 211

- do a check for blockage of the air intake duct blockage of the APU inlet housing OIL COOLER ducting for blockage or contamination.
- (1) If there is no blockage or contamination:
 - replace the OIL TEMPERATURE SENSOR (Ref. AMM TASK 49-94-15-000-001)
 and (Ref. AMM TASK 49-94-15-400-001).
 - (a) If the fault continues:
 - do a replacement of the OIL COOLER (Ref. AMM TASK 49-91-44-000-004) and (Ref. AMM TASK 49-91-44-400-004).
 - (b) If the fault continues:
 - replace the COOLING-FAN ASSEMBLY (Ref. AMM TASK 49-52-51-000-002) and (Ref. AMM TASK 49-52-51-400-002).
 - (c) If the fault continues:
 - replace the APU GENERATOR (8XS) (Ref. AMM TASK 24-23-51-000-001) and (Ref. AMM TASK 24-23-51-400-001).
- R **ON A/C 247-253,

Post SB 49-1062 For A/C 251-251, R Post SB 49-1069 For A/C 247-250,252-253,

A. If an APU auto shutdown occurs during the APU operation and the APU SHUTDOWN report gives the maintenance message:

HIGH OIL TEMPERATURE
OIL COOLER (8079KM) / COOLING FAN (8053KM)

associated with the Fault Code Number (FCN) 211

 do a check for blockage of the air intake duct blockage of the APU inlet housing OIL COOLER ducting for blockage or contamination.

EFF: 247-253,

49-00-81

Page 282

Config-1 May 01/07

TROUBLE SHOOTING MANUAL

- (1) If there is no blockage or contamination:
 - replace the OIL TEMPERATURE SENSOR (8092KM) (Ref. AMM TASK 49-94-15-000-001) and (Ref. AMM TASK 49-94-15-400-001).
 - (a) If the fault continues:
 - do a replacement of the OIL COOLER (8079KM) (Ref. AMM TASK 49-91-44-000-004) and (Ref. AMM TASK 49-91-44-400-004).
 - (b) If the fault continues:
 - replace the COOLING-FAN ASSEMBLY (8053KM) (Ref. AMM TASK 49-52-51-000-002) and (Ref. AMM TASK 49-52-51-400-002).
 - (c) If the fault continues:
 - replace the APU GENERATOR (8XS) (Ref. AMM TASK 24-23-51-000-001) and (Ref. AMM TASK 24-23-51-400-001).
- R **ON A/C 247-253,
 - B. Do the test given in para. 3.

EFF: 247-253, 49-00-81

Config-1 May 01/07

Page 283

TROUBLE SHOOTING MANUAL

TASK 49-00-81-810-830

APU AUTO SHUTDOWN - NO ACCELERATION, APU Speed is less than 7 % (N) for 30 Seconds (131-9(A))

1. Possible Causes

- NO LRU DETECTED
- aircraft BATTERIES
- APU internal damage
- APU GENERATOR (8XS)
- STARTER MOTOR CLUTCH
- STARTER MOTOR (8KA)
- ECB (59KD)
- STARTER MOTOR CLUTCH (8033KM)

2. Job Set-up Information

A. Fixtures, Tools, Test and Support Equipment

REFERENCE QTY DESIGNATION

No specific ratchet No specific socket

B. Referenced Information

REFERENCE

REFE	RENCE	DESIGNATION	
	24-23-51-000-001 24-23-51-400-001	Removal of the APU Generator 8XS Installation of the APU Generator 8XS	

Visual Inspection of the Batteries (2PB1, 2PB2) AMM 24-38-00-210-001 AMM 49-00-00-860-008 APU Start by External Power (131-9(A)) R AMM 49-42-51-000-006 Removal of the Starter Motor (8KA) (131-9) AMM 49-42-51-400-006 Installation of the Starter Motor (8KA) (131-9) AMM 49-42-52-000-003 Removal of the Starter Motor Clutch (8033KM) (131-9(A))AMM 49-42-52-400-003 Installation of Starter Motor Clutch (8033KM) (131-9(A))Removal of the Electronic Control Box (ECB) AMM 49-61-34-000-003 (131-9(A))

AMM 49-61-34-400-003 Installation of the Electronic Control Box (ECB)

(131-9(A))

AMM 49-91-42-200-004 Inspection of the Metal Chip Detector (131-9(A))

EFF: 247-253,

49-00-8

Page 284

Config-1 Feb 01/08

TROUBLE SHOOTING MANUAL

3. Fault Confirmation

- A. Read-out of ECB Trouble-Shooting Data
 - (1) Put the APU MASTER SW to the ON position.
 - (2) Get access to the APU SHUTDOWN report.
 - (3) Push the '>' adjacent to LRU DATA:
 - the MCDU menu shows
 NO LRU DETECTED
 - (4) Start the APU and apply Bleed Air for 20 seconds, minimum (Ref. AMM TASK 49-00-00-860-008).

4. Fault Isolation

A. If an APU auto shutdown occurs during the APU operation and the APU SHUTDOWN report gives the maintenance message:

NO ACCELERATION
STARTERMOTOR (8KA)/APU ROTATION

associated with Fault Code Numbers (FCN) 212

- do a check of the aircraft BATTERIES (Ref. AMM TASK 24-38-00-210-001).
- (1) If the fault continues:
 - do a check for APU internal damage.
 - do a check for contamination of the MAGNETIC-DRAIN PLUG (Ref. AMM TASK 49-91-42-200-004).
 - NOTE : If the MAGNETIC-DRAIN PLUG is not contaminated, continue without starting the APU.
 - remove the end cap of the STARTER MOTOR (8KA).
 - use a socket and a ratchet on the shaft of the STARTER MOTOR (8KA) to turn the APU counterclockwise (in the direction of the arrow on the housing).
 - make sure that the APU rotates freely.
 - (a) If the APU rotates freely:
 - replace the APU GENERATOR (8XS) (Ref. AMM TASK 24-23-51-000-001) and (Ref. AMM TASK 24-23-51-400-001).
 - 1 If the fault continues:
 - replace the STARTER MOTOR CLUTCH (Ref. AMM TASK 49-42-52-000-003) and (Ref. AMM TASK 49-42-52-400-003).

49-00-81

■ Page 285 Config-1 May 01/07

EFF: 247-253,

TROUBLE SHOOTING MANUAL

R R

- 2 If the fault continues:
 - replace the STARTER MOTOR (8KA) (Ref. AMM TASK 49-42-51-000-006) and (Ref. AMM TASK 49-42-51-400-006).
- 3 If the fault continues:
 - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-003) and (Ref. AMM TASK 49-61-34-400-003).

**ON A/C 247-253,

Post SB 49-1062 For A/C 251-251, Post SB 49-1069 For A/C 247-250,252-253,

A. If an APU auto shutdown occurs during the APU operation and the APU SHUTDOWN report gives the maintenance message:

NO ACCELERATION
STARTERMOTOR (8KA)/APU ROTATION

associated with Fault Code Numbers (FCN) 212

- do a check of the aircraft BATTERIES (Ref. AMM TASK 24-38-00-210-001).
- (1) If the fault continues:
 - do a check for APU internal damage.
 - do a check for contamination of the MAGNETIC-DRAIN PLUG (8077KM) (Ref. AMM TASK 49-91-42-200-004).

<u>NOTE</u>: If the MAGNETIC-DRAIN PLUG is not contaminated, continue without starting the APU.

- .

- remove the end cap of the STARTER MOTOR (8KA).
- use a socket and a ratchet on the shaft of the STARTER MOTOR (8KA) to turn the APU counterclockwise (in the direction of the arrow on the housing).
- make sure that the APU rotates freely.
- (a) If the APU rotates freely:
 - replace the APU GENERATOR (8XS) (Ref. AMM TASK 24-23-51-000-001) and (Ref. AMM TASK 24-23-51-400-001).
 - 1 If the fault continues:
 - replace the STARTER MOTOR CLUTCH (8033KM) (Ref. AMM TASK 49-42-52-000-003) and (Ref. AMM TASK 49-42-52-400-003).
 - 2 If the fault continues:
 - replace the STARTER MOTOR (8KA) (Ref. AMM TASK 49-42-51-000-006) and (Ref. AMM TASK 49-42-51-400-006).

R R

EFF: 247-253,

49-00-81

Page 286

Config-1 Feb 01/08

TROUBLE SHOOTING MANUAL

- R **ON A/C 247-253,
 - B. Do the test given in para. 3.

R EFF: 247-253, SROS **49-00-81**Page 287
Config-1 May 01/07

TROUBLE SHOOTING MANUAL

TASK 49-00-81-810-831

APU AUTO SHUTDOWN - NO ACCELERATION, Main Start-Contactor Fault (131-9(A))

- 1. Possible Causes
 - MAIN START CONTACTOR SHOWS OPEN CIRCUIT
 - damage/contamination of the electrical connection STRT MTR (+)
 - aircraft wiring
- 2. Job Set-up Information
 - A. Fixtures, Tools, Test and Support Equipment

REFERENCE QTY DESIGNATION

No specific multimeter

B. Referenced Information

REFERENCE DESIGNATION

AMM 49-00-00-860-008 APU Start by External Power (131-9(A)) ASM 49-42/01

- 3. Fault Confirmation
 - A. Read-out of ECB Trouble-Shooting Data
 - (1) Put the APU MASTER SW to the ON position.

NOTE: Make sure that the A/C batteries are switched ON

- (2) Get access to the APU SHUTDOWN report.
- (4) Start the APU and apply Bleed Air for 20 seconds, minimum (Ref. AMM TASK 49-00-00-860-008).

49-00-81

Page 288

SROS

EFF:

247-253,

Config-1 May 01/07

TROUBLE SHOOTING MANUAL

4. Fault Isolation

A. If an APU auto shutdown occurs during the APU operation and the APU SHUTDOWN report gives the maintenance message:

NO ACCELERATION
ACFT BAT NOT SELECTED/CONTACTOR (5KA)

associated with the Fault Code Number (FCN) 123

- do a check for damage/contamination of the electrical connection STRT
 MTR (+) of the STARTER MOTOR (8KA).
- (1) If the electrical connection STRT MTR (+) is damaged/contaminated:
 do a repair/cleaning.
- (2) If the electrical connection is OK:
 - use a multimeter to do a resistance check of the aircraft wiring between the electrical connection STRT MTR (+) and the ECB (59KD) AB/J10.
 - (a) If the resistance value is not between 9 k0hms and 11 k0hms:replace the aircraft wiring.
 - (b) If the resistance value is in the specified limit:
 - do a check and repair of the aircraft wiring from the MAIN-START CONTACTOR (5KA) B/5 to the APU MASTER SW P/BSW (14KD) A/D1

and

the MAIN-START CONTACTOR (5KA) B/3 to the ECB (59KD) AC/1 and

the MAIN-START CONTACTOR (5KA) A/D to BACK-UP-START CONTACTOR (10KA) A/F $\,$

and

the ECB (59KD) AB/J10 to the electrical connection STRT MTR (+) of the STARTER MOTOR (8KA) (Ref. ASM 49-42/01)

B. Do the test given in para. 3.

49-00-81

Page 289

Config-1 May 01/07

TROUBLE SHOOTING MANUAL

TASK 49-00-81-810-832

APU AUTO SHUTDOWN - NO ACCELERATION, Back-up Start Contactor Fault (131-9(A))

1. Possible Causes

- BACKUP START CONTACTOR SHOWS OPEN CIRCUIT
- FUSE (6KA)
- BACK-UP START CONTACTOR (10KA)
- aircraft wiring
- ECB (59KD)

2. Job Set-up Information

A. Referenced Information

REFERENCE	DESIGNATION	
AMM 49-00-00-860-008	APU Start by External Power (131-9(A))	
AMM 49-42-00-960-001	Replacement of the APU Start Fuse (6KA)	
AMM 49-42-55-000-001	Removal of the Start Contactors (5KA,10KA)	
AMM 49-42-55-400-001	Installation of the Start Contactors (5KA,10KA)	
AMM 49-61-34-000-003	Removal of the Electronic Control Box (ECB) (131-9(A))	
AMM 49-61-34-400-003	<pre>Installation of the Electronic Control Box (ECB) (131-9(A))</pre>	
ASM 49-42/01		

3. Fault Confirmation

- A. Read-out of ECB Trouble-Shooting Data
 - (1) Put the APU MASTER SW to the ON position.
 - (2) Get access to the APU SHUTDOWN report.
 - (3) Push the '>' adjacent to LRU DATA: - the MCDU menu shows BACKUP START CONTACTOR SHOWS OPEN CIRCUIT
 - (4) Start the APU and apply Bleed Air for 20 seconds, minimum (Ref. AMM TASK 49-00-00-860-008).

4. Fault Isolation

A. If an APU auto shutdown occurs during the APU operation and the APU SHUTDOWN report gives the maintenance message:

NO ACCELERATION CONTACTOR (10KA)

EFF: 247-253,
SROS

49-00-81 Page 290 Config-1 May 01/07

TROUBLE SHOOTING MANUAL

associated with the Fault Code Number (FCN) 120

- do a check for 28VDC at the BACK-UP START CONTACTOR (10KA) A/D (Ref. ASM 49-42/01).
- (1) If there are not 28VDC:
 - replace the FUSE (6KA) (Ref. AMM TASK 49-42-00-960-001).
- (2) If there are 28VDC:
 - replace the BACK-UP START CONTACTOR (10KA) (Ref. AMM TASK 49-42-55-000-001) and (Ref. AMM TASK 49-42-55-400-001).
 - (a) If the fault continues:
 - do a check and repair of the aircraft wiring from the BACK-UP START CONTACTOR (10KA) B/5 to GND and
 - the BACK-UP START CONTACTOR (10KA) B/3 to the ECB (59KD) AC/6 and
 - the BACK-UP START CONTACTOR (10KA) A/G to the ECB (59KD) AB/E3 (Ref. ASM 49-42/01).
 - do a check for 28VDC at the BACK-UP START CONTACTOR (10KA) A/D (Ref. ASM 49-42/01).
 - (b) If the fault continues:
 - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-003) and (Ref. AMM TASK 49-61-34-400-003).
- B. Do the test given in para. 3.

49-00-81

■ Page 291 Config-1 May 01/07

SROS

EFF:

247-253,

TROUBLE SHOOTING MANUAL

TASK 49-00-81-810-833

APU AUTO SHUTDOWN - NO ACCELERATION, Oil Heater Fault (131-9(A))

1. Possible Causes

- OIL HEATER FAILURE
- 115 VAC at the APU OIL HEATER (P28)
- OIL HEATER (P28)
- wiring
- APU MAIN RELAY (32KD)
- ECB (59KD)
- 115 VAC at the APU OIL HEATER (8093KM)
- OIL HEATER (8093KM)
- R APU AUX CTL RELAY (32KD)
- R aircraft wiring
- R SERVICE BUS 2 (214XP-B)
- R APU MASTER S/W (14KD)

2. Job Set-up Information

R A. Fixtures, Tools, Test and Support Equipment

R -----R REFERENCE QTY DESIGNATION

R ------

R No specific 1 MULTIMETER - STANDARD

R B. Referenced Information

REFERENCE DESIGNATION

R 24-42-00-810-802 Loss of the 214XP Busbar in Ground Service Configuration AMM 49-61-34-000-003 Removal of the Electronic Control Box (ECB) (131-9(A))AMM 49-61-34-400-003 Installation of the Electronic Control Box (ECB) (131-9(A))R AMM 49-96-00-440-001 Reactivation of the Oil Heater System (131-9(A)) AMM 49-96-51-000-002 Removal of the Oil Heater (8093KM) (131-9(A)) Installation of the Oil Heater (8093KM) (131-9(A)) AMM 49-96-51-400-002 49-96-51-960-001 Replacement the Oil Heater by the Cover Plate R AMM

(131-9(A)) ASM 49-61/04

EFF: 247-253,

49-00-81

Page 292 Config-1 Feb 01/08

TROUBLE SHOOTING MANUAL

3. Fault Confirmation

- A. Read-out of ECB Trouble-Shooting Data
 - (1) Put the APU MASTER SW to the ON position.
 - (2) Get access to the APU SHUTDOWN report.
 - (3) Push the '>' adjacent to LRU DATA:
 - the MCDU menu shows OIL HEATER FAILURE

NOTE: To repeat the fault the APU must be cold soaked.

4. Fault Isolation

A. If the APU SHUTDOWN report gives the maintenance message:

NO ACCELERATION APU OIL HEATER P7

associated with the Fault Code Number (FCN) 115

- do a check for 115 VAC at the APU OIL HEATER (P28) (Ref. ASM 49-61/04):

NOTE: Make sure that:

- the APU MASTER SW P/BSW on the panel 25VU is OFF,
- the circuit breaker OIL HEATER (1KT) on the circuit breaker panel (121VU) is closed.
- the 115 VAC power supply at the SERVICE BUS 2 (214XP-B) is correct.
- (1) If there is a ground signal and 115 VAC:
 - replace the OIL HEATER (P28) (Ref. AMM TASK 49-96-51-000-002) and (Ref. AMM TASK 49-96-51-400-002).
- (2) If there is no ground signal:
 - do a check and repair of the wiring from the APU OIL HEATER (P28) P28/2 to GND (Ref. ASM 49-61/04).
- (3) If there is no 115 VAC:
 - replace the APU MAIN RELAY (32KD)

NOTE: The APU MAIN RELAY (32KD) is installed in the CONTACTOR BOX (107VU).

- (a) If the fault continues:
 - do a check and repair of the wiring from the APU OIL HEATER (P28) P28/2 to GND (Ref. ASM 49-61/04).

EFF: 247-253, **49-00-**

Page 293

TROUBLE SHOOTING MANUAL

(b) If the fault continues:

replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-003) (Ref. AMM TASK 49-61-34-400-003).

**ON A/C 247-253,

Post SB 49-1062 For A/C 251-251, Post SB 49-1069 For A/C 247-250,252-253,

A. If the APU SHUTDOWN report gives the maintenance message:

NO ACCELERATION APU OIL HEATER (8093KM)

associated with the Fault Code Number (FCN) 115

- do a check for 115 VAC at the APU OIL HEATER (8093KM) (Ref. ASM 49-61/04):

NOTE: Make sure that:

- the APU MASTER SW P/BSW on the panel 25VU is OFF,
- R (1) Make sure that the oil heater is installed on the APU and the Oil R Heater System is activated.
 - (a) If the oil heater is not installed, replace the cover plate by the oil heater (Ref. AMM TASK 49-96-51-960-001).
 - (b) If the oil heater is not activated, do the activation procedure (Ref. AMM TASK 49-96-00-440-001).
 - (2) If the fault continues:
 - do a check for damage/contamination of electrical connector P28 of the APU OIL HEATER (8093KM).
 - (a) If the electrical connector P28 is damaged/contaminated:do a repair/cleaning.
 - (b) If the electrical connector is **OK**:
 - 1 use a MULTIMETER STANDARD to do a resistance check across pin 1 and pin 3 of the APU OIL HEATER (8093KM).
 - <u>a</u> If the resistance value is not between 30 0hms and 70 0hms: replace the APU OIL HEATER (8093KM) (Ref. AMM TASK 49-96-51-000-002) and (Ref. AMM TASK 49-96-51-400-002).
 - <u>b</u> If the resistance value is between 30 0hms and 70 0hms:
 replace the APU AUX CTL RELAY (32KD).

EFF: 247-253,

49-00-81

Page 294 Config-1 Feb 01/08

SROS

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TROUBLE SHOOTING MANUAL

R R R R	 (c) If the fault continues: do a check and repair of the aircraft wiring from the APU OIL HEATER (8093KM) P28/2 to the SERVICE BUS 2 (214XP-B) and the APU OIL HEATER (8093KM) P28/1 to GND (Ref. ASM 49-61/04).
R R	<pre>1 If the fault continues: - replace the APU MASTER S/W (14KD)</pre>
R R R	 If the fault continues: do a check and repair of the aircraft wiring from the APU AUX CTL RELAY (32KD) A/X2 to APU MASTER S/W (14KD) A/A1.
R R R	If the fault continues: do the trouble shooting of the SERVICE BUS 2 (214XP-B) (Ref. TASK 24-42-00-810-802).
R	(3) If the fault continues: - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-003) (Ref. AMM TASK 49-61-34-400-003).
	**ON A/C 247-253,

B. After the subsequent flight, make sure that the fault does not continue.

NOTE: Make sure that:

- the cruise phase of the flight was more than 4 hours,
- the APU was not started during the flight phase.

EFF: 247-253,

SROS

49-00-81Page 295
Config-1 Feb 01/08

TROUBLE SHOOTING MANUAL

TASK 49-00-81-810-834

APU AUTO SHUTDOWN - NO ACCELERATION, Starter Motor Fault (131-9(A))

1. Possible Causes

- STARTER MOTOR SHOWS OPEN CIRCUIT
- STARTER MOTOR SHOWS SHORT CIRCUIT
- damage/contamination of the wiring and the electrical connections
- aircraft wiring
- STARTER MOTOR (8KA)
- APU internal damage
- STARTER-CLUTCH MODULE
- OIL-LUBE MODULE
- FUEL CONTROL UNIT (P19)
- APU (4005KM)
- FUEL CONTROL UNIT (8022KM)

2. Job Set-up Information

A. Fixtures, Tools, Test and Support Equipment

REFERENCE QTY DESIGNATION

No specific ratchet No specific socket

B. Referenced Information

REFERENCE DESIGNATION DESIGNAT	GNATION

	AMM	49-00-00-860-008	APU Start by External Power (131-9(A))
	AMM	49-11-11-000-004	Removal of the Power Plant (APU) (131-9(A))
	AMM	49-11-11-400-004	Installation of the Power Plant (APU) (131-9(A))
	AMM	49-32-11-000-003	Removal of the Fuel Control Unit (FCU) (8022KM) (131-9(A))
	AMM	49-32-11-400-003	<pre>Installation of the Fuel Control Unit (FCU) (8022KM) (131-9(A))</pre>
R	AMM	49-42-51-000-006	Removal of the Starter Motor (8KA) (131-9)
	AMM	49-42-51-200-007	Inspection/ Check of the Starter Motor (131-9(A))
R	AMM	49-42-51-400-006	Installation of the Starter Motor (8KA) (131-9)
	AMM	49-42-52-000-003	Removal of the Starter Motor Clutch (8033KM) (131-9(A))
	AMM	49-42-52-400-003	<pre>Installation of Starter Motor Clutch (8033KM) (131-9(A))</pre>
	AMM	49-91-42-200-004	Inspection of the Metal Chip Detector (131-9(A))
	AMM	49-91-45-000-003	Removal of Oil Lube Module (8080KM) (131-9(A))
	AMM	49-91-45-400-003	<pre>Installation of Oil Lube Module (8080KM) (131-9(A))</pre>

EFF: 247-253,

49-00-81Page 296
Config-1 Feb 01/08

TROUBLE SHOOTING MANUAL

3. Fault Confirmation

- A. Read-out of ECB Trouble-Shooting Data
 - (1) Put the APU MASTER SW to the ON position.
 - (2) Get access to the APU SHUTDOWN report.
 - (3) Push the '>' adjacent to LRU DATA:
 - the MCDU menu shows STARTER MOTOR SHOWS OPEN CIRCUIT

STARTER MOTOR SHOWS SHORT CIRCUIT

(4) Start the APU and apply Bleed Air for 20 seconds, minimum (Ref. AMM TASK 49-00-00-860-008).

4. Fault Isolation

A. If an APU auto shutdown occurs during the APU operation and the APU SHUTDOWN report gives the maintenance message:

NO ACCELERATION STARTER MOTOR (8KA)

associated with the Fault Code Number (FCN) 113

- do a check and repair of damage/contamination of the wiring and the electrical connections of the STARTER MOTOR (8KA):
- (1) If the electrical connections are damaged/contaminated:do a check and repair of the aircraft wiring.
- (2) If the electrical connections are OK:
 - replace the STARTER MOTOR (8KA) (Ref. AMM TASK 49-42-51-000-006) and (Ref. AMM TASK 49-42-51-400-006)
- B. If an APU auto shutdown occurs during the APU operation and the APU SHUTDOWN report gives the maintenance message:

NO ACCELERATION STARTER MOTOR (8KA)

associated with the Fault Code Number (FCN) 114

- do a check and repair of damage/contamination of the wiring and the electrical connections of the STARTER MOTOR (8KA):
- (1) If the electrical connections are damaged/contaminated:do a repair/cleaning.

EFF: 247-253,

49-00-81

Page 297

Config-1 Feb 01/08

SROS

R

TROUBLE SHOOTING MANUAL

- (2) If the electrical connections are OK:
 - do a check for APU internal damage:
 - do a check for contamination of the MAGNETIC-DRAIN PLUG (Ref. AMM TASK 49-91-42-200-004).

NOTE : If the MAGNETIC-DRAIN PLUG contaminated, continue without starting the APU.

- .

- remove the end cap from the STARTER MOTOR (8KA).
- use a socket and a ratchet on the shaft of the STARTER MOTOR (8KA) to turn the APU counterclockwise.
- make sure that the APU rotates freely.
- (a) If rotates the APU freely:
 - do a brush wear check (Ref. AMM TASK 49-42-51-200-007),
 - examine the STARTER MOTOR (8KA) for signs of mechanical faults.
 - 1 If the brush wear indicator-pin extends into the transparent cover and/or there are signs of a mechanical fault:
 - replace the STARTER MOTOR (8KA) (Ref. AMM TASK 49-42-51-000-006) and (Ref. AMM TASK 49-42-51-400-006).
 - If the brush wear indicator-pin does not extend into the transparent cover and/or there are no signs of a mechanical fault:
 - turn the manual drive shaft of the STARTER MOTOR (8KA) in the counterclockwise direction (in the direction of the arrow on the housing) and make sure that the STARTER-CLUTCH MODULE engages correctly.

NOTE: The STARTER-CLUTCH MODULE engages correctly if:

- it engages immediately,
- it does not rub,
- it does not make unusual noise.
- turn the manual drive shaft of the STARTER MOTOR (8KA) in the counterclockwise direction (in the direction of the arrow on the housing) and make sure that the STARTER-CLUTCH MODULE engages correctly.

NOTE: The STARTER-CLUTCH MODULE disengages correctly if:

- it disengages immediately,
- the manual drive shaft of the STARTER MOTOR (8KA) turns freely,
- it does not rub,
- it does not make unusual noise.
- <u>a</u> If the STARTER-CLUTCH MODULE does not engage and/or disengage correctly:
 - replace the STARTER-CLUTCH MODULE (Ref. AMM TASK 49-42-52-000-003) and (Ref. AMM TASK 49-42-52-400-003).

EFF: 247-253,

49-00-81

■ Page 298 Config-1 Feb 01/08

SROS

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TROUBLE SHOOTING MANUAL

- <u>b</u> If the STARTER-CLUTCH MODULE engages and disengage correctly:
 - replace the OIL-LUBE MODULE (Ref. AMM TASK 49-91-45-000-003) and (Ref. AMM TASK 49-91-45-400-003).
- c If the fault continues:
 - replace the FUEL CONTROL UNIT (P19) (Ref. AMM TASK 49-32-11-000-003) and (Ref. AMM TASK 49-32-11-400-003).
- (b) If the APU does not rotate freely:
 - replace the APU (4005KM) (Ref. AMM TASK 49-11-11-000-004) and (Ref. AMM TASK 49-11-11-400-004).

**ON A/C 247-253,

Post SB 49-1062 For A/C 251-251, Post SB 49-1069 For A/C 247-250,252-253,

B. If an APU auto shutdown occurs during the APU operation and the APU SHUTDOWN report gives the maintenance message:

NO ACCELERATION STARTER MOTOR (8KA)

associated with the Fault Code Number (FCN) 114

- do a check and repair of damage/contamination of the wiring and the electrical connections of the STARTER MOTOR (8KA):
- (1) If the electrical connections are damaged/contaminated:do a repair/cleaning.
- (2) If the electrical connections are OK:
 - do a check for APU internal damage:
 - do a check for contamination of the MAGNETIC-DRAIN PLUG (Ref. AMM TASK 49-91-42-200-004).

NOTE: If the MAGNETIC-DRAIN PLUG contaminated, continue without starting the APU.

- remove the end cap from the STARTER MOTOR (8KA).
- use a socket and a ratchet on the shaft of the STARTER MOTOR (8KA) to turn the APU counterclockwise.
- make sure that the APU rotates freely.
- (a) If rotates the APU freely:
 - do a brush wear check (Ref. AMM TASK 49-42-51-200-007),
 - examine the STARTER MOTOR (8KA) for signs of mechanical faults.

EFF: 247-253,

49-00-81 Page 299 Config-1 Feb 01/08

TROUBLE SHOOTING MANUAL

- 1 If the brush wear indicator-pin extends into the transparent cover and/or there are signs of a mechanical fault:
 - replace the STARTER MOTOR (8KA) (Ref. AMM TASK 49-42-51-000-006) and (Ref. AMM TASK 49-42-51-400-006).
- 2 If the brush wear indicator-pin does not extend into the transparent cover and/or there are no signs of a mechanical fault:
 - turn the manual drive shaft of the STARTER MOTOR (8KA) in the counterclockwise direction (in the direction of the arrow on the housing) and make sure that the STARTER-CLUTCH MODULE engages correctly.

NOTE: The STARTER-CLUTCH MODULE engages correctly if:

- it engages immediately,
- it does not rub,
- it does not make unusual noise.
- turn the manual drive shaft of the STARTER MOTOR (8KA) in the counterclockwise direction (in the direction of the arrow on the housing) and make sure that the STARTER-CLUTCH MODULE engages correctly.

NOTE: The STARTER-CLUTCH MODULE disengages correctly if:

- it disengages immediately,
- the manual drive shaft of the STARTER MOTOR (8KA) turns freely,
- it does not rub,
- it does not make unusual noise.
- <u>a</u> If the STARTER-CLUTCH MODULE does not engage and/or disengage correctly:
 - replace the STARTER-CLUTCH MODULE (Ref. AMM TASK 49-42-52-000-003) and (Ref. AMM TASK 49-42-52-400-003).
- <u>b</u> If the STARTER-CLUTCH MODULE engages and disengage correctly:
 - replace the OIL-LUBE MODULE (Ref. AMM TASK 49-91-45-000-003) and (Ref. AMM TASK 49-91-45-400-003).
- c If the fault continues:
 - replace the FUEL CONTROL UNIT (8022KM) (Ref. AMM TASK 49-32-11-000-003) and (Ref. AMM TASK 49-32-11-400-003).
- (b) If the APU does not rotate freely:
 - replace the APU (4005KM) (Ref. AMM TASK 49-11-11-000-004) and (Ref. AMM TASK 49-11-11-400-004).

**ON A/C 247-253,

C. Do the test given in para. 3.

EFF: 247-253,

49-00-81

Page A200 Config-1 Feb 01/08

SROS

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TROUBLE SHOOTING MANUAL

TASK 49-00-81-810-835

APU AUTO SHUTDOWN - NO ACCELERATION, Fuel-Control Unit Fault (131-9(A))

1. Possible Causes

- NO LRU FAULT DETECTED
- FUEL RESOLVER PRIMARY SHOWS OPEN CIRCUIT
- FUEL RESOLVER SECONDARY SHOWS OPEN CIRCUIT
- FUEL RESOLVER EXCITATION CIRCUIT FAILURE
- FUEL TORQUE MOTOR SHOWS OPEN CIRCUIT
- FUEL TORQUE MOTOR SHOWS SHORT CIRCUIT
- blockage of the APU inlet
- damage of the IGV actuator linkage and IGV assy
- R IGV ACTUATOR 8014KM
 - APU (4005KM)
- R HOT SECTION DISTRESS
 - STARTER MOTOR (8KA)
 - aircraft BATTERIES
 - damage/leakage of the APU fuel system
 - APU internal damage
 - FUEL FILTER
 - FUEL CONTROL UNIT (P19)
 - FLOW DIVIDER (P13)
 - damage of the IGV ACTUATOR linkage and the IGV assembly
 - APU INLET PRESSURE TRANSDUCER (P22)
 - APU INLET TEMPERATURE SENSOR (P6)
 - ECB (59KD)
 - EGT 1 and/or 2 THERMOCOUPLE
 - damage/contamination of electrical connector P19
 - aircraft wiring
 - FUEL FILTER (8028KM)
 - FUEL CONTROL UNIT (8022KM)
 - FLOW DIVIDER (8024KM)
 - damage of the IGV ACTUATOR (8014KM) linkage and the IGV assembly
- R APU (4005KM).
 - APU INLET PRESSURE TRANSDUCER (8048KM)
 - APU INLET TEMPERATURE SENSOR (8010KM)

2. Job Set-up Information

A. Fixtures, Tools, Test and Support Equipment

REFERENCE QTY DESIGNATION

No specific multimeter
No specific ratchet
No specific socket

EFF: 247-253,

49-00-81

Page A201

Config-1 May 01/08

TROUBLE SHOOTING MANUAL

B. Referenced Information

	REFE	RENCE	DESIGNATION
R	A M M	24-38-00-210-001	Visual Inspection of the Batteries (2PB1, 2PB2)
		31-36-00-740-006	Printout of the APU Hours and Cycles
		31-36-00-740-006	Printout of the APO Hours and typies Printout of Manually Requested Reports
		49-00-00-860-008	APU Start by External Power (131-9(A))
	AMM		Access to the Data Memory Module (DMM) Report
	AMM		(131-9(A))
	AMM		Removal of the Power Plant (APU) (131-9(A))
	AMM		Installation of the Power Plant (APU) (131-9(A))
	AMM	49-23-14-000-001	Removal of the Sensor-APU Inlet Temperature (8010KM) (131-9(A))
	AMM	49-23-14-400-001	<pre>Installation of the Sensor-APU Inlet Temperature (8010KM) (131-9(A))</pre>
R R	AMM	49-23-51-000-004	Removal of the Inlet Guide Vane - Actuator (8014KM) (131-9(A))
R R	AMM	49-23-51-400-004	Installation of the Inlet Guide Vane - Actuator (8014KM) (131-9(A))
	AMM	49-32-11-000-003	Removal of the Fuel Control Unit (FCU) (8022KM) (131-9(A))
	AMM	49-32-11-400-003	Installation of the Fuel Control Unit (FCU) (8022KM) (131-9(A))
	AMM	49-32-13-000-001	Removal of Flow Divider and Solenoid Valve (8024KM) (131-9(A))
	AMM	49-32-13-400-001	Installation of Flow Divider and Solenoid Valve (8024KM) (131-9(A))
	AMM	49-32-41-920-001	Replacement of the Fuel Filter (8028KM) (131-9(A))
	AMM		Removal of the Starter Motor (8KA) (131-9)
	AMM		Installation of the Starter Motor (8KA) (131-9)
	AMM	49-51-21-000-001	Removal of the Transducer - APU Inlet Pressure (8048KM) (131-9(A))
	AMM	49-51-21-400-001	Installation of the Transducer - APU Inlet Pressure (8048KM) (131-9(A))
	AMM	49-61-34-000-003	Removal of the Electronic Control Box (ECB) (131-9(A))
	AMM	49-61-34-400-003	<pre>Installation of the Electronic Control Box (ECB) (131-9(A))</pre>
	AMM	49-72-15-000-002	Removal of the Thermocouples (8057KM) (131-9(A))
	AMM	49-72-15-400-003	Installation of the Thermocouples (8057KM) (131-9(A))
	AMM	49-91-42-200-004	Inspection of the Metal Chip Detector (131-9(A))
	ASM	49-61/01	
	ASM		
		49-61/04	
		49-61/04	
		0-81-991-002	Fig. 201

EFF: 247-253,

SROS

49-00-81

Page A202

Config-1 May 01/08

TROUBLE SHOOTING MANUAL

3. Fault Confirmation

- A. Read-out of ECB Trouble-Shooting Data
 - (1) Put the APU MASTER SW to the ON position.
 - (2) Get access to the APU SHUTDOWN report.
 - (3) Push the '>' adjacent to LRU DATA:
 - the MCDU menu shows

NO LRU FAULT DETECTED

or

FUEL RESOLVER PRIMARY SHOWS OPEN CIRCUIT

ru

FUEL RESOLVER SECONDARY SHOWS OPEN CIRCUIT

or

FUEL RESOLVER EXCITATION CIRCUIT FAILURE

OI.

FUEL TORQUE MOTOR SHOWS OPEN CIRCUIT

or

FUEL TORQUE MOTOR SHOWS SHORT CIRCUIT

- (4) Start the APU and apply Bleed Air for 20 seconds, minimum (Ref. AMM TASK 49-00-00-860-008).
- 4. Fault Isolation

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(Ref. Fig. 201/TASK 49-00-81-991-002)

A. If an APU auto shutdown occurs during the APU operation and the APU SHUTDOWN report gives the maintenance message:

NO ACCELERATION

FCU P19 / APU FUEL SUPPLY / STARTER MOTOR 8KA

associated with Fault Code Number (FCN) 215

- (1) do a check for a blockage of the APU inlet.
 - If the fault continues:
 - check the APU accumulated hours TSN/TSO (Ref. AMM TASK 31-36-00-740-006).
 - (a) If the accumulated hours TSN/TSO are greater than 2000 hours:- make sure that the APU rotates freely.
 - 1 If the APU rotates freely:
 - get acces to the APU DMM report (Ref. AMM TASK 49-00-00-970-001)
 - compare the value of CT5ATP (corrected EGT during MES) from the DMM pade versus 663 deg.C (1225 deg.F).

EFF: 247-253,

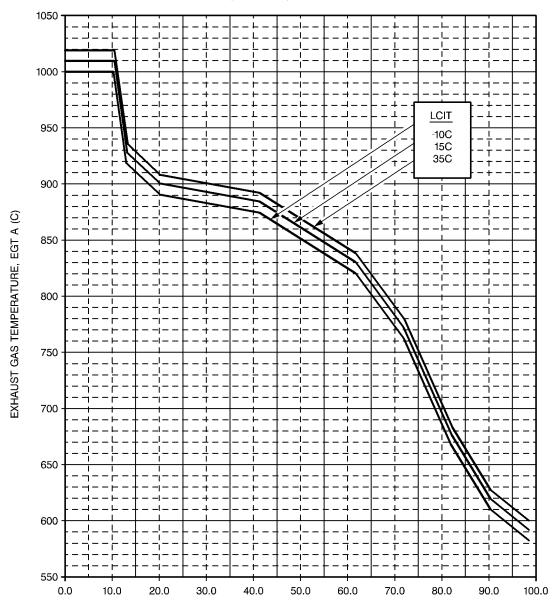
49-00-81

Page A203

Config-1 Feb 01/08

TROUBLE SHOOTING MANUAL

EGT LIMIT (FUEL TRIM) DURING APU START



APU SPEED, NPA (%)

EGT Limit (Fuel Trim) During APU Start Figure 201/TASK 49-00-81-991-002

EFF : 247-253,
SROS

49-00-81Config-1 Feb 01/08

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TROUBLE SHOOTING MANUAL

- \underline{a} If EGTA exceeds 663 deg.C (1225 deg.F) then continue in para. 2_ .
- <u>b</u> If EGTA does not exceed 663 deg.C (1225 deg.F) then continue in para (b).
- $\underline{2}$ Get acces to the APU DMM report (Ref. AMM TASK 49-00-00-970-001)
 - compare the START_TIME (time of last APU start) from the DMM page versus 60 seconds.
 - \underline{a} If START_TIME exceeds 60 seconds (slow start time) then continue in para. 3 .
 - <u>b</u> If START_TIME does not exceed 60 seconds then continue in para (b).
- $\underline{3}$ Get acces to the APU SHUTDOWN report 14 (Ref. AMM TASK 31-36-00-740-011):
 - scan down and ensure that IGV position is within the normal range for APU start (10 22 degrees).
 - a If IGV position is not in the normal range:
 - do a check for damage of the IGV actuator linkage and IGV assy.
 - . make sure that the IGV has a travel range of 1 in. (25.3999 mm).
 - . measure the force of the IGV movement.
 - If a force less than 20 lbf.ft (2.71 m.daN) is necessary to move the IGVs:
 - replace the IGV ACTUATOR 8014KM (Ref. AMM TASK 49-23-51-000-004) and (Ref. AMM TASK 49-23-51-400-004).
 - If a force more than 20 lbf.ft (2.71 m.daN) is necessary to move the IGVs or the travel range is less than 1 in. (25.3999 mm):
 - replace the APU (4005KM) (Ref. AMM TASK 49-11-11-000-004) and (Ref. AMM TASK 49-11-11-400-004).
 - b If IGV position is in the normal range:
 - scan down to lines labled "8N" and "9N", or to lines where EGTA is highest.
 - compare APU speed (NA) and EGTA versus LCIT on Fig. 201.
 - . If EGTA exeeds value on Fig. 201
 - .. high EGT is determined (HOT SECTION DISTRESS).
 - .. replace the APU (4005KM) (Ref. AMM TASK 49-11-11-000-004) and (Ref. AMM TASK 49-11-11-400-004).
 - . If EGTA does not exeed value on Fig. 201 then continue in Para. (b).

EFF: 247-253,

49-00-81

■ Page A205 Config-1 May 01/08

SROS

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TROUBLE SHOOTING MANUAL

- 4 If the APU does not rotate freely:
 - replace the APU (4005KM) (Ref. AMM TASK 49-11-11-000-004) and (Ref. AMM TASK 49-11-11-400-004).
- (b) If the accumulated hours TSN/TSO are lower than 2000 hours:
 - replace the STARTER MOTOR (8KA) (Ref. AMM TASK 49-42-51-000-006) (Ref. AMM TASK 49-42-51-400-006).
 - 1 If the fault continues:
 - do a check of the aircraft BATTERIES (Ref. AMM TASK 24-38-00-210-001).
 - 2 If the fault continues:
 - do a check for damage/leakage of the APU fuel system.
 - <u>a</u> If there is damage/leakage in the APU fuel system:do a repair.
 - b If the APU fuel system is OK:
 - do a check for APU internal damage.
 - do a check for contamination of the MAGNETIC-DRAIN PLUG
 (Ref. AMM TASK 49-91-42-200-004) .

NOTE: If the MAGNETIC-DRAIN PLUG is not contaminated, continue without starting the APU.

- .
 - remove the end cap of the STARTER MOTOR (8KA).
 - use a socket and a ratchet on the shaft of the STARTER MOTOR (8KA) to turn the APU counterclockwise (in the direction of the arrow on the housing).
 - make sure that the APU rotates freely.
- c If the APU rotates freely:
 - replace the FUEL FILTER (Ref. AMM TASK 49-32-41-920-001).
 - If the fault continues:
 - replace the FUEL CONTROL UNIT (P19) (Ref. AMM TASK 49-32-11-000-003) and (Ref. AMM TASK 49-32-11-400-003).
 - If the fault continues:
 - replace the FLOW DIVIDER (P13) (Ref. AMM TASK 49-32-13-000-001) and (Ref. AMM TASK 49-32-13-400-001).
 - If the fault continues:
 - do a check for damage of the IGV ACTUATOR linkage and the IGV assembly
 - make sure that the IGV has a travel range of 1 in. (25.3999 mm),
 - . measure the force of the IGV movement.
 - If a force more than 20 lbf.ft (2.71 m.daN) is necessary to move the IGVs or the travel range is less than 1 in. (25.3999 mm), the IGV ACTUATOR linkage/IGV assembly are damaged and/or do not move freely:

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EFF: 247-253,

49-00-81

Page A206 Config-1 May 01/08

TROUBLE SHOOTING MANUAL

- replace the APU (4005KM) (Ref. AMM TASK 49-11-11-000-004) and (Ref. AMM TASK 49-11-11-400-004).
- If a force less than 20 lbf.ft (2.71 m.daN) is necessary to move the IGVs, the IGV ACTUATOR linkage/IGV assembly are OK
- replace the APU INLET PRESSURE TRANSDUCER (P22) (Ref. AMM TASK 49-51-21-000-001) and (Ref. AMM TASK 49-51-21-400-001).
- If the fault continues:
- replace the APU INLET TEMPERATURE SENSOR (P6) (Ref. AMM TASK 49-23-14-000-001) and (Ref. AMM TASK 49-23-14-400-001).
- If the fault continues:
- replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-003) and (Ref. AMM TASK 49-61-34-400-003).
- If the fault continues:
- replace the EGT 1 and/or 2 THERMOCOUPLE (Ref. AMM TASK 49-72-15-000-002) and (Ref. AMM TASK 49-72-15-400-003).
- d If the APU does not rotate freely:
 - replace the APU (4005KM) (Ref. AMM TASK 49-11-11-000-004) and (Ref. AMM TASK 49-11-11-400-004).
- **B.** If an APU auto shutdown occurs during the APU operation and the APU SHUTDOWN report gives the maintenance message:

NO ACCELERATION
FUEL CONTROL UNIT P19

associated with Fault Code Numbers (FCN) 76 OR 77

- do a check for damage/contamination of electrical connector P19 of the FUEL CONTROL UNIT (P19)
- (1) If the electrical connector P19 is damaged/contaminated:do a repair/cleaning.
- (2) If the electrical connector is OK:
 - use a multimeter to do a resistance check across pin 2 and pin 3 (PRIMARY FCU RESOLVER); required value between 30 Ohms and 200 Ohms

and

pin 2/pin 3 and pin 1 (PRIMARY FCU RESOLVER); required value > 100 k0hms

and

pin 10/pin 11 and pin 12 (SECONDARY FCU RESOLVER); required value between 30 Ohms and 200 Ohms

and

pin 10/pin 11 and pin 1 (SECONDARY FCU RESOLVER); required value >
100 k0hms

of the FUEL CONTROL UNIT (P19).

EFF: 247-253,

49-00-81

Page A207

Config-1 May 01/08

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TROUBLE SHOOTING MANUAL

- (a) If the resistance values are out of the specified limits: - replace the FUEL CONTROL UNIT (P19) (Ref. AMM TASK 49-32-11-000-003) and (Ref. AMM TASK 49-32-11-400-003).
- (b) If the resistance values are in the specified limits:
 - do a check and repair of the aircraft wiring from the ECB (59KD) AB/A10,A11 to FUEL CONTROL UNIT (P19) P19/2,3 (PRIMARY FCU RESOLVER) the ECB (59KD) AB/H10,B5,B6 to FUEL CONTROL UNIT (P19)
 - P19/12,10,11 (SECONDARY FCU RESOLVER) (Ref. ASM 49-61/04):
 - 1 If the fault continues:
 - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-003) and (Ref. AMM TASK 49-61-34-400-003).
- C. If an APU auto shutdown occurs during the APU operation and the APU SHUTDOWN report gives the maintenance message:

NO ACCELERATION FUEL CONTROL UNIT P19

associated with Fault Code Numbers (FCN) 105, 106, 107 or 108

- do a check for damage/contamination of electrical connector P19 of the FUEL CONTROL UNIT (P19)
- (1) If the electrical connector P19 is damaged/contaminated: - do a repair/cleaning.
- (2) If the electrical connector is OK:
 - use a multimeter to do a resistance check across pin 6 and pin 7 of the FUEL CONTROL UNIT (P19).
 - (a) If the resistance value is not between 20 0hms and 100 0hms: - replace the FUEL CONTROL UNIT (P19) (Ref. AMM TASK 49-32-11-000-003) and (Ref. AMM TASK 49-32-11-400-003).
 - (b) If the resistance value is in the specified limit: - do a check and repair of the aircraft wiring from the ECB (59KD) AB/H11,G7 to the FUEL CONTROL UNIT (P19) P19/6,7 (Ref. ASM 49-61/01).
 - 1 If the fault continues:
 - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-003) and (Ref. AMM TASK 49-61-34-400-003).

EFF: 247-253, **49-00-**

Page A208

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TROUBLE SHOOTING MANUAL

**ON A/C 247-253,

Post SB 49-1062 For A/C 251-251, Post SB 49-1069 For A/C 247-250,252-253,

A. If an APU auto shutdown occurs during the APU operation and the APU SHUTDOWN report gives the maintenance message:

NO ACCELERATION

FCU (8022KM) / APU FUEL SUPPLY / STARTER MOTOR 8KA

associated with Fault Code Number (FCN) 215

- (1) do a check for a blockage of the APU inlet.
 - If the fault continues:
 - check the APU accumulated hours TSN/TSO (Ref. AMM TASK 31-36-00-740-006).
 - (a) If the accumulated hours TSN/TSO are greater than 2000 hours:
 make sure that the APU rotates freely.
 - 1 If the APU rotates freely:
 - get acces to the APU DMM report (Ref. AMM TASK 49-00-00-970-001)
 - compare the value of CT5ATP (corrected EGT during MES) from the DMM pade versus 663 deg.C (1225 deg.F).
 - \underline{a} If EGTA exceeds 663 deg.C (1225 deg.F) then continue in para. 2 .
 - <u>b</u> If EGTA does not exceed 663 deg.C (1225 deg.F) then continue in para (b).
 - $\underline{2}$ Get acces to the APU DMM report (Ref. AMM TASK 49-00-00-970-001)
 - compare the START_TIME (time of last APU start) from the DMM page versus 60 seconds.
 - \underline{a} If START_TIME exceeds 60 seconds (slow start time) then continue in para. 3_ .
 - <u>b</u> If START_TIME does not exceed 60 seconds then continue in para (b).
 - $\underline{3}$ Get acces to the APU SHUTDOWN report 14 (Ref. AMM TASK 31-36-00-740-011):
 - scan down and ensure that IGV position is within the normal range for APU start (10 22 degrees).
 - a If IGV position is not in the normal range:

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SROS

EFF: 247-253,

49-00-81

Page A209

Config-1 May 01/08

TROUBLE SHOOTING MANUAL

do a check for damage of the IGV actuator linkage and IGV assy.

- . make sure that the IGV has a travel range of 1 in. (25.3999 mm),
- . measure the force of the IGV movement.
- If a force less than 20 lbf.ft (2.71 m.daN) is necessary to move the IGVs:
- replace the IGV ACTUATOR 8014KM (Ref. AMM TASK 49-23-51-000-004) and (Ref. AMM TASK 49-23-51-400-004).
- If a force more than 20 lbf.ft (2.71 m.daN) is necessary to move the IGVs or the travel range is less than 1 in. (25.3999 mm):
- replace the APU (4005KM) (Ref. AMM TASK 49-11-11-000-004) and (Ref. AMM TASK 49-11-11-400-004).
- b If IGV position is in the normal range:
 - scan down to lines labled "8N" and "9N", or to lines where EGTA is highest.
 - compare APU speed (NA) and EGTA versus LCIT on Fig. 201.
 - . If EGTA exeeds value on Fig. 201
 - .. high EGT is determined (HOT SECTION DISTRESS).
 - .. replace the APU (4005KM) (Ref. AMM TASK 49-11-11-000-004) and (Ref. AMM TASK 49-11-11-400-004).
 - . If EGTA does not exeed value on Fig. 201 then continue in Para. (b).
- 4 If the APU does not rotate freely:
 - replace the APU (4005KM) (Ref. AMM TASK 49-11-11-000-004) and (Ref. AMM TASK 49-11-11-400-004).
- (b) If the accumulated hours TSN/TSO are lower than 2000 hours:
 - replace the STARTER MOTOR (8KA) (Ref. AMM TASK 49-42-51-000-006) (Ref. AMM TASK 49-42-51-400-006).
 - 1 If the fault continues:
 - do a check of the aircraft BATTERIES (Ref. AMM TASK 24-38-00-210-001).
 - 2 If the fault continues:
 - do a check for damage/leakage of the APU fuel system.
 - <u>a</u> If there is damage/leakage in the APU fuel system:do a repair.
 - b If the APU fuel system is OK:
 - do a check for APU internal damage.
 - do a check for contamination of the MAGNETIC-DRAIN PLUG (8077KM) (Ref. AMM TASK 49-91-42-200-004).

<u>NOTE</u>: If the MAGNETIC-DRAIN PLUG is not contaminated, continue without starting the APU.

EFF: 247-253,

49-00-81

Page A210 Config-1 May 01/08

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TROUBLE SHOOTING MANUAL

- remove the end cap of the STARTER MOTOR (8KA).
- use a socket and a ratchet on the shaft of the STARTER MOTOR (8KA) to turn the APU counterclockwise (in the direction of the arrow on the housing).
- make sure that the APU rotates freely.
- c If the APU rotates freely:
 - replace the FUEL FILTER (8028KM) (Ref. AMM TASK 49-32-41-920-001).
 - If the fault continues:
 - replace the FUEL CONTROL UNIT (8022KM) (Ref. AMM TASK 49-32-11-000-003) and (Ref. AMM TASK 49-32-11-400-003).
 - If the fault continues:
 - . replace the FLOW DIVIDER (8024KM) (Ref. AMM TASK 49-32-13-000-001) and (Ref. AMM TASK 49-32-13-400-001).
 - If the fault continues:
 - do a check for damage of the IGV ACTUATOR (8014KM) linkage and the IGV assembly
 - make sure that the IGV has a travel range of 1 in.
 (25.3999 mm),
 - . measure the force of the IGV movement.
 - If a force more than 20 lbf.ft (2.71 m.daN) is necessary to move IGVs or the travel range is less than 1 in. (25.3999 mm), the IGV ACTUATOR linkage/IGV assembly are damaged and/or do not move freely
 - replace the APU (4005KM). (Ref. AMM TASK 49-11-11-000-004) and (Ref. AMM TASK 49-11-11-400-004).
 - If a force less than 20 lbf.ft (2.71 m.daN) is necessary to move the IGVs, the IGV ACTUATOR linkage/IGV assembly are OK:
 - . replace the APU INLET PRESSURE TRANSDUCER (8048KM) (Ref. AMM TASK 49-51-21-000-001) and (Ref. AMM TASK 49-51-21-400-001).
 - If the fault continues:
 - replace the APU INLET TEMPERATURE SENSOR (8010KM) (Ref. AMM TASK 49-23-14-000-001) and (Ref. AMM TASK 49-23-14-400-001).
 - If the fault continues:
 - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-003) and (Ref. AMM TASK 49-61-34-400-003).
 - If the fault continues:
 - replace the EGT 1 and/or 2 THERMOCOUPLE (Ref. AMM TASK 49-72-15-000-002) and (Ref. AMM TASK 49-72-15-400-003).
- d If the APU does not rotate freely:
 - replace the APU (4005KM) (Ref. AMM TASK 49-11-11-000-004) and (Ref. AMM TASK 49-11-11-400-004).

EFF: 247-253,

49-00-81

■ Page A211 Config-1 May 01/08

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TROUBLE SHOOTING MANUAL

B. If an APU auto shutdown occurs during the APU operation and the APU SHUTDOWN report gives the maintenance message:

NO ACCELERATION FUEL CONTROL UNIT (8022KM)

associated with Fault Code Numbers (FCN) 76 OR 77

- do a check for damage/contamination of electrical connector P19 of the FUEL CONTROL UNIT (8022KM)
- (1) If the electrical connector P19 is damaged/contaminated: - do a repair/cleaning.
- (2) If the electrical connector is OK:
 - use a multimeter to do a resistance check across pin 2 and pin 3 (PRIMARY FCU RESOLVER); required value between 30 0hms and 200 0hms and

pin 2/pin 3 and pin 1 (PRIMARY FCU RESOLVER); required value > 100 k0hms

and

pin 10/pin 11 and pin 12 (SECONDARY FCU RESOLVER); required value between 30 Ohms and 200 Ohms

and

pin 10/pin 11 and pin 1 (SECONDARY FCU RESOLVER); required value >
100 k0hms

of the FUEL CONTROL UNIT (8022KM).

- (a) If the resistance values are out of the specified limits:
 - replace the FUEL CONTROL UNIT (8022KM) (Ref. AMM TASK 49-32-11-000-003) and (Ref. AMM TASK 49-32-11-400-003).
- (b) If the resistance values are in the specified limits:
 - do a check and repair of the aircraft wiring from the ECB (59KD) AB/A10,A11 to FUEL CONTROL UNIT (P19) P19/2,3 (PRIMARY FCU RESOLVER) and

the ECB (59KD) AB/H10,B5,B6 to FUEL CONTROL UNIT (P19) P19/12,10,11 (SECONDARY FCU RESOLVER) (Ref. ASM 49-61/04).

- 1 If the fault continues:
 - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-003) and (Ref. AMM TASK 49-61-34-400-003).
- C. If an APU auto shutdown occurs during the APU operation and the APU SHUTDOWN report gives the maintenance message:

NO ACCELERATION FUEL CONTROL UNIT (8022KM)

associated with Fault Code Numbers (FCN) 105, 106, 107 or 108

EFF: 247-253,

49-00-81

Page A212 Config-1 May 01/08

TROUBLE SHOOTING MANUAL

- do a check for damage/contamination of electrical connector P19 of the FUEL CONTROL UNIT (8022KM)
- (1) If the electrical connector P19 is damaged/contaminated: - do a repair/cleaning.
- (2) If the electrical connector is OK:
 - use a multimeter to do a resistance check across pin 6 and pin 7 of the FUEL CONTROL UNIT (8022KM)
 - (a) If the resistance value is not between 20 0hms and 100 0hms: - replace the FUEL CONTROL UNIT (P19) (Ref. AMM TASK 49-32-11-000-003) and (Ref. AMM TASK 49-32-11-400-003).
 - (b) If the resistance value is in the specified limit: - do a check and repair of the aircraft wiring from the ECB (59KD) AB/H11,G7 to the FUEL CONTROL UNIT (8022KM) P19/6,7 (Ref. ASM 49-61/01).

**ON A/C 247-253,

Post SB 49-1062 For A/C 247-253, Post SB 49-1069 For A/C 247-250,252-253,

D. If an APU auto shutdown occurs during the APU operation and the APU SHUTDOWN report gives the maintenance message:

NO ACCELERATION FUEL CONTROL UNIT (8022KM)/ECB (59KD)

associated with Fault Code Numbers (FCN) 75

- do a check for damage/contamination of electrical connector P19 of the FUEL CONTROL UNIT (8022KM)
- (1) If the electrical connector P19 is damaged/contaminated:do a repair/cleaning.
- (2) If the electrical connector is OK:
 - use a multimeter to do a resistance check across pin 2 and pin 3 (FCU RESOLVER EXCITATION); required value between 30 Ohms and 200 Ohms of the FUEL CONTROL UNIT (8022KM).
 - (a) If the resistance values are out of the specified limits:
 - replace the FUEL CONTROL UNIT (8022KM) (Ref. AMM TASK 49-32-11-000-003) and (Ref. AMM TASK 49-32-11-400-003).

EFF: 247-253,

49-00-81 P

TROUBLE SHOOTING MANUAL

- (b) If the resistance values are in the specified limit:

 do a check and repair of the aircraft wiring from
 the ECB (59KD) AB/A10,A11 to the FUEL CONTROL UNIT (8022KM)
 P19/2,3 (FCU RESOLVER EXCITATION) (Ref. ASM 49-61/04).

**ON A/C 247-253,

E. Do the operational test of the APU (Ref. AMM TASK 49-00-00-860-008).

EFF: 247-253,

49-00-81Config-1 May 01/08

TROUBLE SHOOTING MANUAL

TASK 49-00-81-810-836

APU AUTO SHUTDOWN - NO ACCELERATION, Fuel Flow disagrees with Command (131-9(A))

1. Possible Causes

- FUEL FLOW DISAGREES WITH COMMAND
- 8022KM
- 8024KM
- 8020KM
- 8021KM
- ECB (59KD)

2. Job Set-up Information

A. Referenced Information

REFERENCE		DESIGNATION
AMM	49-00-00-860-008	APU Start by External Power (131-9(A))
AMM	49-31-41-000-003	Removal of the Primary and Secondary Fuel-Nozzle (131-9(A))
AMM	49-31-41-400-003	<pre>Installation of the Primary and Secondary Fuel- Nozzle (131-9(A))</pre>
AMM	49-31-42-000-004	Removal of the Primary and Secondary Fuel-Manifold (8020KM) and (8021KM) (131-9(A))
AMM	49-31-42-400-006	Installation of the Primary and Secondary Fuel-Manifold (8020KM) and (8021KM) (131-9(A))
AMM	49-32-11-000-003	Removal of the Fuel Control Unit (FCU) (8022KM) (131-9(A))
AMM	49-32-11-400-003	Installation of the Fuel Control Unit (FCU) (8022KM) (131-9(A))
AMM	49-32-13-000-001	Removal of Flow Divider and Solenoid Valve (8024KM) (131-9(A))
AMM	49-32-13-400-003	
AMM	49-32-41-920-001	Replacement of the Fuel Filter (8028KM) (131-9(A))
AMM	49-61-34-000-003	Removal of the Electronic Control Box (ECB) (131-9(A))
AMM	49-61-34-400-003	<pre>Installation of the Electronic Control Box (ECB) (131-9(A))</pre>

3. Fault Confirmation

- A. Read-out of ECB Trouble-Shooting Data
 - (1) Put the APU MASTER SW to the ON position.
 - (2) Get access to the APU SHUTDOWN report.

EFF: 247-253, 49-00-8

■ Page A215 Config-1 May 01/08

TROUBLE SHOOTING MANUAL

- (3) Push the '>' adjacent to LRU DATA: - the MCDU menu shows
 - FUEL FLOW DISAGREES WITH COMMAND
- (4) Start the APU and apply Bleed Air for 20 seconds, minimum (Ref. AMM TASK 49-00-00-860-008).

4. Fault Isolation

A. If an APU auto shutdown occurs during the APU operation and the APU SHUTDOWN report gives the maintenance message:

NO ACCELERATION
FUEL CONTROL UNIT P19/APU FUEL SUPPLY

associated with Fault Code Number (FCN) 79
- do a check for contamination of the fuel filter, if clogged then replace the APU FUEL FILTER (Ref. AMM TASK 49-32-41-920-001).

If the fault continues:

- replace the FUEL CONTROL UNIT 8022KM (Ref. AMM TASK 49-32-11-000-003) and (Ref. AMM TASK 49-32-11-400-003). If the fault continues:
- replace the FLOW DIVIDER 8024KM (Ref. AMM TASK 49-32-13-000-001) and (Ref. AMM TASK 49-32-13-400-003). If the fault continues:
- replace the PRIMARY and SECONDARY FUEL-NOZZLE 8020KM and 8021KM (Ref. AMM TASK 49-31-41-000-003) and (Ref. AMM TASK 49-31-41-400-003). If the fault continues:
- replace the PRIMARY and SECONDARY FUEL-MANIFOLD 8020KM and 8021KM (Ref. AMM TASK 49-31-42-000-004) and (Ref. AMM TASK 49-31-42-400-006).

If the fault continues:

 replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-003) and (Ref. AMM TASK 49-61-34-400-003).

**ON A/C 247-253,

Post SB 49-1062 For A/C 251-251, Post SB 49-1069 For A/C 247-250,252-253,

A. If an APU auto shutdown occurs during the APU operation and the APU SHUTDOWN report gives the maintenance message:

NO ACCELERATION

FUEL CTRL UNIT(8022KM) / APU FUEL SUPPLY

associated with Fault Code Number (FCN) 79

- do a check for contamination of the fuel filter, if clogged then replace the APU FUEL FILTER (Ref. AMM TASK 49-32-41-920-001). If the fault continues:

EFF: 247-253,

49-00-81 Page A216 Config-1 May 01/08

TROUBLE SHOOTING MANUAL

- replace the FUEL CONTROL UNIT 8022KM (Ref. AMM TASK 49-32-11-000-003) and (Ref. AMM TASK 49-32-11-400-003). If the fault continues:
- replace the FLOW DIVIDER 8024KM (Ref. AMM TASK 49-32-13-000-001) and (Ref. AMM TASK 49-32-13-400-003). If the fault continues:
- replace the PRIMARY and SECONDARY FUEL-NOZZLE 8020KM and 8021KM (Ref. AMM TASK 49-31-41-000-003) and (Ref. AMM TASK 49-31-41-400-003). If the fault continues:
- replace the PRIMARY and SECONDARY FUEL-MANIFOLD 8020KM and 8021KM (Ref. AMM TASK 49-31-42-000-004) and (Ref. AMM TASK 49-31-42-400-006).

If the fault continues:

- replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-003) and (Ref. AMM TASK 49-61-34-400-003).

**ON A/C 247-253,

B. Do the test given in para. 3.

EFF: 247-253,

49-00-81

□ ■ Page A217 Config-1 May 01/08

TROUBLE SHOOTING MANUAL

TASK 49-00-81-810-837

APU AUTO SHUTDOWN - NO ACCELERATION, ECB internal Fault (131-9(A))

- 1. Possible Causes
 - ECB INTERNAL FAILURE
 - ECB (59KD)
- 2. Job Set-up Information
 - A. Referenced Information

REFERENCE		DESIGNATION
АММ	49-00-00-860-008	APU Start by External Power (131-9(A))
AMM	49-61-34-000-003	Removal of the Electronic Control Box (ECB) (131-9(A))
AMM	49-61-34-400-003	<pre>Installation of the Electronic Control Box (ECB) (131-9(A))</pre>

3. Fault Confirmation

- A. Read-out of ECB Trouble-Shooting Data
 - (1) Put the APU MASTER SW to the ON position.
 - (2) Get access to the APU SHUTDOWN report.
 - - ECB INTERNAL FAILURE
 - (4) Start the APU and apply Bleed Air for 20 seconds, minimum (Ref. AMM TASK 49-00-00-860-008).

4. Fault Isolation

A. If an APU auto shutdown occurs during the APU operation and the APU SHUTDOWN report gives the maintenance message:

NO ACCELERATION ECB (59KD)

associated with the Fault Code Number (FCN) 53,75 or 173

- replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-003) and (Ref. AMM TASK 49-61-34-400-003).
- B. Do the test given in para. 3.

49-00-81

Page A218

TROUBLE SHOOTING MANUAL

TASK 49-00-81-810-838

APU AUTO SHUTDOWN - NO ACCELERATION, De-Oil Solenoid Fault (131-9(A))

- 1. Possible Causes
 - DEOIL SOLENOID SHOWS OPEN CIRCUIT
 - DEOIL SOLENOID SHOWS CIRCUIT FAILURE
 - damage/contamination of the electrical connector P15
 - DE-OIL SOLENOID VALVE (P15)
 - aircraft wiring
 - ECB (59KD)
 - DATA MEMORY MODULE (P20)
 - DE-OIL SOLENOID VALVE (8083KM)
 - DATA MEMORY MODULE (8062KM)
- 2. Job Set-up Information
 - A. Fixtures, Tools, Test and Support Equipment

QTY DESIGNATION

No specific multimeter

B. Referenced Information

REFERENCE **DESIGNATION**

AMM	49-00-00-860-008	APU Start by External Power (131-9(A))
AMM	49-61-34-000-003	Removal of the Electronic Control Box (ECB) (131-9(A))
AMM	49-61-34-400-003	<pre>Installation of the Electronic Control Box (ECB) (131-9(A))</pre>
AMM	49-73-32-000-001	Removal of the Data Memory Module (8062KM) (131-9(A))
AMM	49-73-32-400-001	Installation of the Data Memory Module (8062KM) (131-9(A))
AMM	49-91-49-000-003	Removal of De-Oil Solenoid (8083KM) (131-9(A))
AMM	49-91-49-400-003	<pre>Installation of De-Oil Solenoid (8083KM) (131-9(A))</pre>
ASM	49-61/01	

3. Fault Confirmation

ASM 49-61/04

- A. Read-out of ECB Trouble-Shooting Data
 - (1) Put the APU MASTER SW to the ON position.
 - (2) Get access to the APU SHUTDOWN report.

EFF: 247-253,

49-00-

Page A219

SROS

TROUBLE SHOOTING MANUAL

- (3) Push the '>' adjacent to LRU DATA:
 - the MCDU menu shows
 DEOIL SOLENOID SHOWS OPEN CIRCUIT

DEOIL SOLENOID SHOWS CIRCUIT FAILURE

(4) Start the APU and apply Bleed Air for 20 seconds, minimum (Ref. AMM TASK 49-00-00-860-008).

4. Fault Isolation

A. If an APU auto shutdown occurs during the APU operation and the APU SHUTDOWN report gives the maintenance message:

NO ACCELERATION
DEOIL SOLENOID P15

associated with the Fault Code Number (FCN) 133

- do a check for damage/contamination of the electrical connector P15 of the DE-OIL SOLENOID VALVE (P15)
- (1) If the electrical connector P15 is damaged/contaminated:

 do a repair/cleaning.
- (2) If the electrical connector P15 is OK:
 - use a multimeter to do a resistance check across the pin 1 to the pin 2 of the DE-OIL SOLENOID VALVE (P15)
 - (a) If the resistance value is > 80 Ohms:
 - replace the DE-OIL SOLENOID VALVE (P15) (Ref. AMM TASK 49-91-49-000-003) and (Ref. AMM TASK 49-91-49-400-003).
 - (b) If the resistance value is in the specified limit:do a check and repair of the aircraft wiring from

the ECB (59KD) AB/J4 to the DE-OIL SOLENOID (P15) P15/1 and

the DE-OIL SOLENOID (P15) P15/2 to GND (Ref. ASM 49-61/04).

- 1 If the fault continues:
 - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-003) and (Ref. AMM TASK 49-61-34-400-003).
- B. If an APU auto shutdown occurs during the APU operation and the APU SHUTDOWN report gives the maintenance message:

NO ACCELERATION DEOIL SOLENOID P15

associated with the Fault Code Number (FCN) 134

EFF: 247-253,

49-00-81

Page A220

TROUBLE SHOOTING MANUAL

- do a check for damage/contamination of the electrical connector P15 of the DE-OIL SOLENOID VALVE (P15)
- (1) If the electrical connector P15 is damaged/contaminated: - do a repair/cleaning.
- (2) If the electrical connector P15 is OK:
 - use a multimeter to do a resistance check across pin 1 and pin 2; required value > 10 0hms and pin 1 and pin 3; required value > 100 k0hms of the DE-OIL SOLENOID VALVE (P15)
 - (a) If the resistance values are out of the specified limits: - replace the DE-OIL SOLENOID VALVE (P15) (Ref. AMM TASK 49-91-49-000-003) and (Ref. AMM TASK 49-91-49-400-003).
 - (b) If the resistance values are in the specified limits: - use a multimeter to do a resistance check across pin 2 and pin 3; required value > 10 0hms and pin 2 and pin 15; required value > 100 k0hms of the DATA MEMORY MODULE (P20)
 - 1 If the resistance values are out of the specified limits: - replace the DATA MEMORY MODULE (P20) (Ref. AMM TASK 49-73-32-000-001) and (Ref. AMM TASK 49-73-32-400-001).
 - 2 If the resistance values are in the specified limits:
 - do a check and repair of the aircraft wiring from the ECB (59KD) AB/J4 to the DE-OIL SOLENOID (P15) P15/1 and the DE-OIL SOLENOID (P15) P15/2 to GND and the ECB (59KD) AB/J4 to the DATA MEMORY MODULE (P20) P20/2 and the DATA MEMORY MODULE (P20) P20/2 to GND (Ref. ASM 49-61/01).
 - a If the fault continues:
 replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-003)
 and (Ref. AMM TASK 49-61-34-400-003).

EFF: 247-253,

49-00-81

Page A221

TROUBLE SHOOTING MANUAL

**ON A/C 247-253,

Post SB 49-1062 For A/C 251-251, Post SB 49-1069 For A/C 247-250,252-253,

A. If an APU auto shutdown occurs during the APU operation and the APU SHUTDOWN report gives the maintenance message:

NO ACCELERATION
DEOIL SOLENOID (8083KM)

associated with the Fault Code Number (FCN) 133

- do a check for damage/contamination of the electrical connector P15 of the DE-OIL SOLENOID VALVE (8083KM)
- (1) If the electrical connector P15 is damaged/contaminated: - do a repair/cleaning.
- (2) If the electrical connector P15 is OK:
 - use a multimeter to do a resistance check across the pin 1 to the pin 2 of the DE-OIL SOLENOID VALVE (8083KM)
 - (a) If the resistance value is > 80 Ohms:
 - replace the DE-OIL SOLENOID VALVE (8083KM) (Ref. AMM TASK 49-91-49-000-003) and (Ref. AMM TASK 49-91-49-400-003).
 - (b) If the resistance value is in the specified limit:
 - do a check and repair of the aircraft wiring from the ECB (59KD) AB/J4 to the DE-OIL SOLENOID (8083KM) P15/1 and the DE-OIL SOLENOID (8083KM) P15/2 to GND

the DE-OIL SOLENOID (8U83KM) P15/2 to GNI (Ref. ASM 49-61/04).

- 1 If the fault continues:
 - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-003) and (Ref. AMM TASK 49-61-34-400-003).
- B. If an APU auto shutdown occurs during the APU operation and the APU SHUTDOWN report gives the maintenance message:

NO ACCELERATION
DEOIL SOLENOID (8083KM)

associated with the Fault Code Number (FCN) 134

- do a check for damage/contamination of the electrical connector P15 of the DE-OIL SOLENOID VALVE (8083KM)
- (1) If the electrical connector P15 is damaged/contaminated:do a repair/cleaning.

EFF: 247-253,

49-00-81

Page A222

TROUBLE SHOOTING MANUAL

- (2) If the electrical connector P15 is OK:
 - use a multimeter to do a resistance check across pin 1 and pin 2; required value > 10 0hms pin 1 and pin 3; required value > 100 k0hms of the DE-OIL SOLENOID VALVE (8083KM)
 - (a) If the resistance values are out of the specified limits: - replace the DE-OIL SOLENOID VALVE (8083KM) (Ref. AMM TASK 49-91-49-000-003) and (Ref. AMM TASK 49-91-49-400-003).
 - (b) If the resistance values are in the specified limits: - use a multimeter to do a resistance check across pin 2 and pin 3; required value > 10 Ohms and pin 2 and pin 15; required value > 100 k0hms of the DATA MEMORY MODULE (8062KM)
 - If the resistance values are out of the specified limits: - replace the DATA MEMORY MODULE (8062KM) (Ref. AMM TASK 49-73-32-000-001) and (Ref. AMM TASK 49-73-32-400-001).
 - 2 If the resistance values are in the specified limits: - do a check and repair of the aircraft wiring from the ECB (59KD) AB/J4 to the DE-OIL SOLENOID (8083KM) P15/1 the DE-OIL SOLENOID (8083KM) P15/2 to GND the ECB (59KD) AB/J4 to the DATA MEMORY MODULE (8062KM) P20/2 and the DATA MEMORY MODULE (8062KM) P20/2 to GND (Ref. ASM 49-61/01).
 - If the fault continues: - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-003) and (Ref. AMM TASK 49-61-34-400-003).

**ON A/C 247-253,

C. Do the test given in para. 3.

EFF: 247-253, 49-00-8

Page A223

TROUBLE SHOOTING MANUAL

TASK 49-00-81-810-839

APU AUTO SHUTDOWN - NO ACCELERATION, Low Fuel Pressure (131-9(A))

- 1. Possible Causes
 - FUEL PRESSURE SHOWS LOW DURING APU RUN
 - air in the fuel
- 2. Job Set-up Information
 - A. Referenced Information

REFERENCE DESIGNATION

28-22-00-810-801

AMM 28-22-00-710-001

Operational Test of the APU Fuel-Pump System on

Ground to Purge the Fuel Line

APU Fuel System - Low Pressure

AMM 49-00-00-860-008

APU Start by External Power (131-9(A))

- 3. Fault Confirmation
 - A. Read-out of ECB Trouble-Shooting Data
 - (1) Put the APU MASTER SW to the ON position.
 - (2) Get access to the APU SHUTDOWN report.
 - - FUEL PRESSURE SHOWS LOW DURING APU RUN
 - (4) Purge the APU fuel-line to make sure that there is no air in the fuel (Ref. AMM TASK 28-22-00-710-001).
 - (5) Start the APU and apply Bleed Air for 20 seconds, minimum (Ref. AMM TASK 49-00-00-860-008).
- 4. Fault Isolation
 - A. If an APU auto shutdown occurs during the APU operation and the APU SHUTDOWN report gives the maintenance message:

NO ACCELERATION LOW FUEL PRESSURE

associated with the Fault Code Number (FCN) 100

- do the trouble shooting of the APU fuel system - low pressure (Ref. TASK 28-22-00-810-801).

EFF: 247-253,

49-00-81

Page A224

TROUBLE SHOOTING MANUAL

B. Do the operational test of the APU (Ref. AMM TASK 49-00-00-860-008).

EFF: 247-253, SROS **49-00-81**Config-1 May 01/08

TROUBLE SHOOTING MANUAL

TASK 49-00-81-810-840

APU AUTO SHUTDOWN - NO ACCELERATION, IGV Position disagrees with Command (131-9(A))

1. Possible Causes

- IGV POSITION DISAGREES WITH COMMAND
- damage/leakage of the fuel supply and return lines
- damage of the IGV linkage
- damage/contamination of the electrical connector P21
- R IGV ACTUATOR (P21)
 - aircraft wiring
 - ECB (59KD)
 - APU (4005KM)
 - IGV ACTUATOR (8014KM)

2. Job Set-up Information

A. Fixtures, Tools, Test and Support Equipment

REFERENCE QTY DESIGNATION

No specific

multimeter

B. Referenced Information

REFERENCE		DESIGNATION
AMM	49-00-00-860-008	APU Start by External Power (131-9(A))
AMM	49-11-11-000-004	Removal of the Power Plant (APU) (131-9(A))
AMM	49-11-11-400-004	<pre>Installation of the Power Plant (APU) (131-9(A))</pre>
AMM	49-23-51-000-004	Removal of the Inlet Guide Vane - Actuator (8014KM) (131-9(A))
AMM	49-23-51-400-004	<pre>Installation of the Inlet Guide Vane - Actuator (8014KM) (131-9(A))</pre>
AMM	49-61-34-000-003	Removal of the Electronic Control Box (ECB) (131-9(A))
AMM	49-61-34-400-003	<pre>Installation of the Electronic Control Box (ECB) (131-9(A))</pre>
ASM	49-61/04	

EFF: 247-253,

49-00-81

■ Page A226 Config-1 May 01/08

SROS

TROUBLE SHOOTING MANUAL

3. Fault Confirmation

- A. Read-out of ECB Trouble-Shooting Data
 - (1) Put the APU MASTER SW to the ON position.
 - (2) Get access to the APU SHUTDOWN report.
 - - IGV POSITION DISAGREES WITH COMMAND
 - (4) Start the APU and apply Bleed Air for 20 seconds, minimum (Ref. AMM TASK 49-00-00-860-008).

4. Fault Isolation

A. If an APU auto shutdown occurs during the APU operation and the APU SHUTDOWN report gives the maintenance message:

NO ACCELERATION
CHECK IGV ASSEMBLY/IGV ACTUATOR P21

associated with Fault Code Number (FCN) 83

- do a check for damage/leakage of the fuel supply and return lines of the IGV ACTUATOR.
- (1) If there is damage/leakage in the fuel supply and return lines:

 do a repair
- (2) If the fuel supply and return lines are OK:
 - do a check for damage of the IGV linkage:
 - . make sure that the IGV has a travel range of 1 in. (25.3999 mm).
 - . measure the force of the IGV movement.
 - (a) If a force less than 20 lbf.ft (2.71 m.daN) is necessary to move the IGVs, the IGV linkage is OK:
 - do a check for damage/contamination of the electrical connector
 P21 of the IGV ACTUATOR (P21).
 - 1 If the electrical connector P21 is damaged/contaminated: - do a repair/cleaning.
 - 2 If the electrical connector P21 is OK:
 - use a multimeter to do the resistance a check across pin 4 and pin 10 of the IGV ACTUATOR (P21).
 - a If the resistance value is < 100 k0hms:
 - replace the IGV ACTUATOR (P21) (Ref. AMM TASK 49-23-51-000-004) and (Ref. AMM TASK 49-23-51-400-004).

EFF: 247-253,

49-00-81

Page A227

Config-1 May 01/08

SROS

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TROUBLE SHOOTING MANUAL

- b If the resistance value is > 100 k0hms:
 - do a check of the aircraft wiring from the ECB (59KD)
 AB/G8 to the IGV ACTUATOR (P21) P21/4 (Ref. ASM 49-61/04).
- c If the fault continues:
 - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-003) and (Ref. AMM TASK 49-61-34-400-003).

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- (b) If a force more than 20 lbf.ft (2.71 m.daN) is necessary to move the IGVs or the travel range is less than 1 in. (25.3999 mm), the IGV linkage is damaged and/or does not move freely:
 - replace the APU (4005KM) (Ref. AMM TASK 49-11-11-000-004) and (Ref. AMM TASK 49-11-11-400-004).

**ON A/C 247-253,

Post SB 49-1062 For A/C 251-251, Post SB 49-1069 For A/C 247-250,252-253,

A. If an APU auto shutdown occurs during the APU operation and the APU SHUTDOWN report gives the maintenance message:

NO ACCELERATION
CHECK IGV ASSEMBLY/IGV ACTUATOR (8014KM)

associated with Fault Code Number (FCN) 83

- do a check for damage/leakage of the fuel supply and return lines of the IGV ACTUATOR (8014KM)
- (1) If there is damage/leakage in the fuel supply and return lines:

 do a repair
- (2) If the fuel supply and return lines are OK:
 - do a check for damage of the IGV linkage:
 - . make sure that the IGV has a travel range of 1 in. (25.3999 mm).
 - . measure the force of the IGV movement.

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- (a) If a force less than 20 lbf.ft (2.71 m.daN) is necessary to move the IGVs, the IGV linkage is OK:
 - do a check for damage/contamination of the electrical connector P21 of the IGV ACTUATOR (8014KM)
 - 1 If the electrical connector P21 is damaged/contaminated: - do a repair/cleaning.
 - 2 If the electrical connector P21 is OK:
 - use a multimeter to do the resistance a check across pin 4 and pin 10 of the IGV ACTUATOR (8014KM).

EFF: 247-253,

49-00-81

Page A228

TROUBLE SHOOTING MANUAL

- a If the resistance value is < 100 k0hms:
 - replace the IGV ACTUATOR (8014KM) (Ref. AMM TASK 49-23-51-000-004) and (Ref. AMM TASK 49-23-51-400-004).
- b If the resistance value is > 100 k0hms:
 - do a check of the aircraft wiring from the ECB (59KD)
 AB/G8 to the IGV ACTUATOR (8014KM) P21/4 (Ref. ASM 49-61/04).
- c If the fault continues:
 - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-003) and (Ref. AMM TASK 49-61-34-400-003).

- R R R
- (b) If a force more than 20 lbf.ft (2.71 m.daN) is necessary to move the IGVs or the travel range is less than 1 in. (25.3999 mm), the IGV linkage is damaged and/or does not move freely:
 - replace the APU (4005KM) (Ref. AMM TASK 49-11-11-000-004) and (Ref. AMM TASK 49-11-11-400-004).

**ON A/C 247-253,

B. Do the test given in para. 3.

EFF: 247-253,

49-00-81

■ Page A229 Config-1 May 01/08

SROS

TROUBLE SHOOTING MANUAL

TASK 49-00-81-810-841

APU AUTO SHUTDOWN - NO ACCELERATION, Flow-Divider Solenoid Fault (131-9(A))

- 1. Possible Causes
 - FLOW DIVIDER SOLENOID SHOWS CIRCUIT FAILURE
 - damage/contamination of the electrical connector P13
 - FLOW-DIVIDER SOLENOID (P13)
 - aircraft wiring
 - ECB (59KD)
 - FLOW-DIVIDER SOLENOID (8025KM)
- 2. Job Set-up Information
 - A. Fixtures, Tools, Test and Support Equipment

REFERENCE QTY DESIGNATION

REFERENCE QIT DESIGNATION

No specific

multimeter

B. Referenced Information

(131-9(A))

AMM 49-32-13-400-001 Installation of Flow Divider and Solenoid Valve (8024KM) (131-9(A))

AMM 49-61-34-000-003 Removal of the Electronic Control Box (ECB)

(131-9(A))

AMM 49-61-34-400-003 Installation of the Electronic Control Box (ECB) (131-9(A))

ASM 49-61/02

3. Fault Confirmation

- A. Read-out of ECB Trouble-Shooting Data
 - (1) Put the APU MASTER SW to the ON position.
 - (2) Get access to the APU SHUTDOWN report.
 - (3) Push the '>' adjacent to LRU DATA:
 - the MCDU menu shows

FLOW DIVIDER SOLENOID SHOWS CIRCUIT FAILURE

EFF: 247-253,

49-00-81

Page A230

TROUBLE SHOOTING MANUAL

(4) Start the APU and apply Bleed Air for 20 seconds, minimum (Ref. AMM TASK 49-00-00-860-008).

4. Fault Isolation

A. If an APU auto shutdown occurs during the APU operation and the APU SHUTDOWN report gives the maintenance message:

NO ACCELERATION FLOW DIVIDER SOL P13

associated with the Fault Code Number (FCN) 126

- do a check for damage/contamination of the electrical connector P13 of the FLOW-DIVIDER SOLENOID (P13)
- (1) If the electrical connector P13 is damaged/contaminated: - do a repair/cleaning.
- (2) If the electrical connector P13 is OK:
 - use a multimeter to do a resistance check across pin 1 and pin 2 and pin 1 and pin 3 of the FLOW-DIVIDER SOLENOID (P13).
 - (a) If the resistance value are not between 10 0hms and 80 0hms (pin 1 to pin 2) and/or < 100 k0hms (pin 1 to pin 3):
 - replace the FLOW-DIVIDER SOLENOID (P13) (Ref. AMM TASK 49-32-13-000-001) and (Ref. AMM TASK 49-32-13-400-001).
 - (b) If the resistance values are in the specified limits:
 - do a check and repair of the aircraft wiring from the ECB (59KD) AC/11 to the FLOW-DIVIDER SOLENOID (P13) P13/1 and the FLOW-DIVIDER SOLENOID (P13) P13/2 to GND

(Ref. ASM 49-61/02).

- 1 If the fault continues:
 - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-003) and (Ref. AMM TASK 49-61-34-400-003).

**ON A/C 247-253,

Post SB 49-1062 For A/C 251-251, Post SB 49-1069 For A/C 247-250,252-253,

A. If an APU auto shutdown occurs during the APU operation and the APU SHUTDOWN report gives the maintenance message:

NO ACCELERATION FLOW DIVIDER SOL(8025KM)

EFF: 247-253,

49-00-81

Page A231

TROUBLE SHOOTING MANUAL

associated with the Fault Code Number (FCN) 126

- do a check for damage/contamination of the electrical connector P13 of the FLOW-DIVIDER SOLENOID (8025KM)
- (1) If the electrical connector P13 is damaged/contaminated: - do a repair/cleaning.
- (2) If the electrical connector P13 is OK:
 - use a multimeter to do a resistance check across pin 1 and pin 2 and pin 1 and pin 3 of the FLOW-DIVIDER SOLENOID (8025KM)
 - (a) If the resistance value are not between 10 0hms and 80 0hms (pin 1 to pin 2) and/or < 100 k0hms (pin 1 to pin 3):
 - replace the FLOW-DIVIDER SOLENOID (8025KM) (Ref. AMM TASK 49-32-13-000-001) and (Ref. AMM TASK 49-32-13-400-001).
 - (b) If the resistance values are in the specified limits:
 - do a check and repair of the aircraft wiring from the ECB (59KD) AC/11 to the FLOW-DIVIDER SOLENOID (8025KM) P13/1 and the FLOW-DIVIDER SOLENOID (8025KM) P13/2 to GND (Ref. ASM 49-61/02).
 - 1 If the fault continues:
 - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-003) and (Ref. AMM TASK 49-61-34-400-003).

**ON A/C 247-253,

B. Do the test given in para. 3.

EFF: 247-253, 49-00-

Page A232

TROUBLE SHOOTING MANUAL

TASK 49-00-81-810-842

APU AUTO SHUTDOWN - NO ACCELERATION, Oil Temperature Sensor out-of-range (high) (131-9(A))

- 1. Possible Causes
 - OIL TEMP SENSOR SHOWS OUT OF RANGE HIGH
 - damage/contamination of the electrical connector P11
 - OIL TEMP SENSOR (P11)
 - aircraft wiring
 - ECB (59KD)
 - Oil Sump Temp Sensor (8084KM)
- OIL TEMP SENSOR (8092KM)
 - 2. Job Set-up Information
 - A. Fixtures, Tools, Test and Support Equipment

QTY DESIGNATION

No specific multimeter

B. Referenced Information

REFERENCE **DESIGNATION**

AMM 49-00-00-860-008 APU Start by External Power (131-9(A)) AMM 49-61-34-000-003 Removal of the Electronic Control Box (ECB) (131-9(A))Installation of the Electronic Control Box (ECB) AMM 49-61-34-400-003 (131-9(A))

AMM 49-94-15-000-001 Removal of Oil Temperature Sensor (8092KM) (131-9(A)) Installation of Oil Temperature Sensor (8092KM) (131-9(A))

ASM 49-61/04

- Fault Confirmation
 - A. Read-out of ECB Trouble-Shooting Data
 - (1) Put the APU MASTER SW to the ON position.
 - (2) Get access to the APU SHUTDOWN report.
 - (3) Push the '>' adjacent to LRU DATA:
 - the MCDU menu shows OIL TEMP SENSOR SHOWS OUT OF RANGE HIGH

EFF: 247-253, **49-00-**

Page A233

Config-1 May 01/08

SROS

TROUBLE SHOOTING MANUAL

(4) Start the APU and apply Bleed Air for 20 seconds, minimum (Ref. AMM TASK 49-00-00-860-008).

4. Fault Isolation

A. If an APU auto shutdown occurs during the APU operation and the APU SHUTDOWN report gives the maintenance message:

NO ACCELERATION
OIL TEMP SENSOR P11

associated with the Fault Code Number (FCN) 55

- do a check for damage/contamination of the electrical connector P11 of the OIL TEMP SENSOR (P11)
- (1) If the electrical connector P11 is damaged/contaminated:do a repair/cleaning.
- (2) If the electrical connector P11 is OK:
 - use a multimeter to do a resistance check across pin A and pin B of the OIL TEMP SENSOR (P11).
 - (a) If the resistance value is > 200 Ohms:
 - replace the OIL TEMP SENSOR (P11) (Ref. AMM TASK 49-94-15-000-001) and (Ref. AMM TASK 49-94-15-400-001).
 - (b) If the resistance value is in the specified limit:
 - do a check and repair of the aircraft wiring from the ECB (59KD) AB/J5,B8 to the OIL TEMP SENSOR (P11) P11/A,B (Ref. ASM 49-61/04).
 - 1 If the fault continues:
 - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-003) and (Ref. AMM TASK 49-61-34-400-003).

**ON A/C 247-253,

Post SB 49-1062 For A/C 251-251, Post SB 49-1069 For A/C 247-250,252-253,

A. If an APU auto shutdown occurs during the APU operation and the APU SHUTDOWN report gives the maintenance message:

NOTE: With introduction of the ECB Software V2 the wording of the fault message Oil Sump Temp Sensor (8084KM) is not correct. The functional item number of the Oil Temperature Sensor is (8092KM).

NO ACCELERATION
OIL SUMP TEMP SENSOR (8084KM)

associated with the Fault Code Number (FCN) 55

EFF: 247-253,

49-00-81

Page A234

TROUBLE SHOOTING MANUAL

- do a check for damage/contamination of the electrical connector P11 of the OIL TEMP SENSOR (8092KM)
- (1) If the electrical connector P11 is damaged/contaminated: - do a repair/cleaning.
- (2) If the electrical connector P11 is OK:
 - use a multimeter to do a resistance check across pin A and pin B of the OIL TEMP SENSOR (8092KM)
 - (a) If the resistance value is > 200 Ohms:
 - replace the OIL TEMP SENSOR (8092KM)

(Ref. AMM TASK 49-94-15-000-001) (Ref. AMM TASK 49-94-15-400-001).

- (b) If the resistance value is in the specified limit:
 - do a check and repair of the aircraft wiring from the ECB (59KD) AB/J5,B8 to the OIL SUMP TEMP SENSOR (8084KM) P11/A,B (Ref. ASM 49-61/04).
 - 1 If the fault continues: - replace the ECB (59KD)

(Ref. AMM TASK 49-61-34-000-003) (Ref. AMM TASK 49-61-34-400-003).

R **ON A/C 247-253,

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B. If an APU auto shutdown occurs during the APU operation and the APU SHUTDOWN report gives the maintenance message:

NO ACCELERATION
OIL TEMP SENSOR (8092KM)

associated with the Fault Code Number (FCN) 54 or 55

- do a check for damage/contamination of the electrical connector P11 of the OIL TEMP SENSOR (8092KM)
- (1) If the electrical connector P11 is damaged/contaminated: - do a repair/cleaning.
- (2) If the electrical connector is OK:
 - use a multimeter to do a resistance check across pin A and pin B of the OIL TEMP SENSOR (8092KM).
 - (a) If the resistance value is not between 60 0hms and 200 0hms:
- replace the OIL TEMP SENSOR (8092KM) (Ref. AMM TASK 49-94-15-000-001) and (Ref. AMM TASK 49-94-15-400-001).

EFF: 247-253,

49-00-81Config-1 May 01/08

SROS

TROUBLE SHOOTING MANUAL

R	(b) If the resistance value is between 60 Ohms and 200 Ohms:
R	 do a check and repair of the aircraft wiring from the ECB
R	(59KD) AB/J5,B8 to the OIL TEMP SENSOR (8092KM) P11/A,B (Ref.
R	ASM 49-61/04).
R	1 If the fault continues:
R	- replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-003) and
R	(Ref. AMM TASK 49-61-34-400-003).
R	
R	C. Do the test given in para. 3.

EFF: 247-253, SROS **49-00-81**Config-1 May 01/08

TROUBLE SHOOTING MANUAL

TASK 49-00-81-810-843

APU AUTO SHUTDOWN - INLET OVERHEAT, APU Inlet Temperature higher than Limit (131-9(A))

1. Possible Causes

- NO LRU FAULT DETECTED
- blockage of the APU inlet
- fire of the APU inlet
- damage/contamination of the electrical connector P6
- aircraft wiring
- APU INLET TEMPERATURE SENSOR (P6)
- ECB (59KD)
- APU (4005KM)
- APU INLET TEMPERATURE SENSOR (8010KM).

2. Job Set-up Information

A. Fixtures, Tools, Test and Support Equipment

REFERENCE QTY DESIGNATION

No specific jumper
No specific multimeter

B. Referenced Information

REFERENCE DESIGNATION ______ AMM 49-00-00-860-008 APU Start by External Power (131-9(A)) AMM 49-11-11-000-004 Removal of the Power Plant (APU) (131-9(A)) AMM 49-11-11-400-004 Installation of the Power Plant (APU) (131-9(A)) AMM 49-23-14-000-001 Removal of the Sensor-APU Inlet Temperature (8010KM) (131-9(A))Installation of the Sensor-APU Inlet Temperature AMM 49-23-14-400-001 (8010KM) (131-9(A))AMM 49-61-34-000-003 Removal of the Electronic Control Box (ECB) (131-9(A))AMM 49-61-34-400-003 Installation of the Electronic Control Box (ECB) (131-9(A))

EFF: 247-253,

49-00-81

Page A237

TROUBLE SHOOTING MANUAL

3. Fault Confirmation

- A. Read-out of ECB Trouble-Shooting Data
 - (1) Put the APU MASTER SW to the ON position.
 - (2) Get access to the APU SHUTDOWN report.
 - (3) Push the '>' adjacent to LRU DATA:
 - the MCDU menu shows NO LRU FAULT DETECTED
 - (4) Start the APU and apply Bleed Air for 20 seconds, minimum (Ref. AMM TASK 49-00-00-860-008).

4. Fault Isolation

A. If an APU auto shutdown occurs during the APU operation and the APU SHUTDOWN report gives the maintenance message:

INLET OVERHEAT CHECK APU INLET

associated with Fault Code Numbers (FCN) 213

- do a check for blockage of the APU inlet.
- (1) If the fault continues:
 - do a check for a fire of the APU inlet:
 - do a check of the inlet plenum for fire damage.
 - do a check of the APU inlet duct through the inlet flap for fire damage.
 - (a) If there are signs of fire damage:
 - replace the APU (4005KM) (Ref. AMM TASK 49-11-11-000-004) and (Ref. AMM TASK 49-11-11-400-004).
 - (b) If there are no signs of fire damage:
 - do a check for damage/contamination of the electrical connector P6 of the APU INLET TEMPERATURE SENSOR (P6).
 - 1 If the electrical connector P6 is damaged/contaminated: - do a repair/cleaning.
 - 2 If the electrical conector is OK:
 - disconnect the electrical connector P6
 - put a jumper across the sockets A and B of the electrical connector P6.
 - use a multimeter to do a resistance check of the aircraft wiring across the ECB (59KD) AB/H4 to ECB (59KD) AB/H3.

EFF: 247-253, 49-00-

Page A238

TROUBLE SHOOTING MANUAL

- \underline{a} If the resictance value is > 10 Ohms:
 - replace the aircraft wiring.
- b If the fault continues:
 - replace th APU INLET TEMPERATURE SENSOR (P6) (Ref. AMM TASK 49-23-14-000-001) and (Ref. AMM TASK 49-23-14-400-001).
- c If the fault continues:
 - replace the ECB (59KD)of the APU (4005KM) (Ref. AMM TASK 49-61-34-000-003) and (Ref. AMM TASK 49-61-34-400-003).

**ON A/C 247-253,

Post SB 49-1062 For A/C 251-251, Post SB 49-1069 For A/C 247-250,252-253,

A. If an APU auto shutdown occurs during the APU operation and the APU SHUTDOWN report gives the maintenance message:

INLET OVERHEAT CHECK APU INLET

associated with Fault Code Numbers (FCN) 213

- do a check for blockage of the APU inlet.
- (1) If the fault continues:
 - do a check for a fire of the APU inlet:
 - do a check of the inlet plenum for fire damage.
 - do a check of the APU inlet duct through the inlet flap for fire damage.
 - (a) If there are signs of fire damage:
 - replace the APU (4005KM) (Ref. AMM TASK 49-11-11-000-004) and (Ref. AMM TASK 49-11-11-400-004).
 - (b) If there are no signs of fire damage:
 - do a check for damage/contamination of the electrical connector
 P6 of the APU INLET TEMPERATURE SENSOR (8010KM).

 - 2 If the electrical conector is OK:
 - disconnect the electrical connector P6
 - put a jumper across the sockets A and B of the electrical connector P6.
 - use a multimeter to do a resistance check of the aircraft wiring across the ECB (59KD) AB/H4 to ECB (59KD) AB/H3.

EFF: 247-253,

49-00-81

Page A239

TROUBLE SHOOTING MANUAL

- <u>a</u> If the resictance value is > 10 Ohms:replace the aircraft wiring.
- b If the fault continues:
 - replace th APU INLET TEMPERATURE SENSOR (8010KM). (Ref. AMM TASK 49-23-14-000-001) and (Ref. AMM TASK 49-23-14-400-001).
- c If the fault continues:
 - replace the ECB (59KD)of the APU (4005KM) (Ref. AMM TASK 49-61-34-000-003) and (Ref. AMM TASK 49-61-34-400-003).

**ON A/C 247-253,

B. Do the test given in para. 3.

EFF: 247-253,

49-00-81

Page A240 Config-1 May 01/08

TROUBLE SHOOTING MANUAL

TASK 49-00-81-810-844

APU AUTO SHUTDOWN - LOSS OF SPEED, Speed Sensor Fault and ECB internal Fault (131-9(A))

- 1. Possible Causes
 - SPEED SENSOR 1 FAILURE AND ECB INTERNAL FAILURE
 - SPEED SENSOR 2 FAILURE AND ECB INTERNAL FAILURE
 - SPEED SENSOR P26
 - ECB (59KD)
 - SPEED SENSOR (8060KM)
- 2. Job Set-up Information
 - A. Referenced Information

REFERENCE		DESIGNATION
AMM AMM	49-00-00-860-008 49-61-34-000-003	APU Start by External Power (131-9(A)) Removal of the Electronic Control Box (ECB) (131-9(A))
AMM	49-61-34-400-003	Installation of the Electronic Control Box (ECB) (131-9(A))
AMM AMM	49-71-13-000-003 49-71-13-400-003	Removal of the Speed Sensors (8060KM) (131-9(A)) Installation of the Speed Sensors (8060KM) (131-9(A))

- 3. Fault Confirmation
 - A. Read-out of ECB Trouble-Shooting Data
 - (1) Put the APU MASTER SW to the ON position.
 - (2) Get access to the APU SHUTDOWN report.
 - (3) Push the '>' adjacent to LRU DATA:
 - the MCDU menu shows
 SPEED SENSOR 1 FAILURE AND ECB INTERNAL FAILURE

SPEED SENSOR 2 FAILURE AND ECB INTERNAL FAILURE

(4) Start the APU and apply Bleed Air for 20 seconds, minimum (Ref. AMM TASK 49-00-00-860-008).

EFF: 247-253,

49-00-81

Page A241

TROUBLE SHOOTING MANUAL

4. Fault Isolation

A. If an APU auto shutdown occurs during the APU operation and the APU SHUTDOWN report gives the maintenance message:

LOSS OF SPEED SPEED SENSOR P26 + ECB (59KD)

associated with the Fault Code Number (FCN) 2 or 3

- replace the SPEED SENSOR P26 (Ref. AMM TASK 49-71-13-000-003) and (Ref. AMM TASK 49-71-13-400-003) ECB (59KD) (Ref. AMM TASK 49-61-34-000-003) and (Ref. AMM TASK 49-61-34-400-003).

**ON A/C 247-253,

Post SB 49-1062 For A/C 251-251, Post SB 49-1069 For A/C 247-250,252-253,

A. If an APU auto shutdown occurs during the APU operation and the APU SHUTDOWN report gives the maintenance message:

LOSS OF SPEED SPEED SENSOR (8060KM) AND ECB (59KD)

associated with the Fault Code Number (FCN) 2 or 3

- replace the SPEED SENSOR (8060KM) (Ref. AMM TASK 49-71-13-000-003) and (Ref. AMM TASK 49-71-13-400-003) ECB (59KD) (Ref. AMM TASK 49-61-34-000-003) and (Ref. AMM TASK 49-61-34-400-003).

**ON A/C 247-253,

B. Do the test given in para. 3.

EFF: 247-253, **49-00-**

Page A242

TROUBLE SHOOTING MANUAL

TASK 49-00-81-810-845

APU AUTO SHUTDOWN - LOSS OF SPEED, Speed Sensor Fault (131-9(A))

- 1. Possible Causes
 - SPEED SENSOR SHOWS AMPLITUDE FAILURE
 - damage/contamination of the electrical connector P26
 - SPEED SENSOR 1 and/or 2
 - aircraft wiring
 - -(59KD)
 - SPEED SENSOR (8060KM) 1 and/or 2
- 2. Job Set-up Information
 - A. Fixtures, Tools, Test and Support Equipment

REFERENCE QTY DESIGNATION

No specific

multimeter

B. Referenced Information

REFERENCE DESIGNATION

AMM 49-00-00-860-008 APU Start by External Power (131-9(A))

AMM 49-61-34-000-003 Removal of the Electronic Control Box (ECB)
(131-9(A))

AMM 49-61-34-400-003 Installation of the Electronic Control Box (ECB)
(131-9(A))

AMM 49-71-13-000-003 Removal of the Speed Sensors (8060KM) (131-9(A))

ASM 49-61/04

- 3. Fault Confirmation
 - A. Read-out of ECB Trouble-Shooting Data
 - (1) Put the APU MASTER SW to the ON position.
 - (2) Get access to the APU SHUTDOWN report.

 - (4) Start the APU and apply Bleed Air for 20 seconds, minimum (Ref. AMM TASK 49-00-00-860-008).

EFF: 247-253,

49-00-81 Page A243 Config-1 May 01/08

TROUBLE SHOOTING MANUAL

4. Fault Isolation

A. If an APU auto shutdown occurs during the APU operation and the APU SHUTDOWN report gives the maintenance message:

LOSS OF SPEED SPEED SENSOR P26

associated with the Fault Code Number (FCN) 1

- do a check and repair for damage/contamination of the electrical connector P26 of the SPEED SENSOR 1/2 (P26).
- (1) If the electrical connector P26 is damaged/contaminated: do a repair/cleaning
- (2) If the electrical connector is OK:
 - use a multimeter to do a resistance check across pin 1 and pin 2; required value < 25 Ohms pin 3 and pin 4; required value < 25 Ohms the pin 1/pin 3 and pin 5; required value < 100 k0hms
 - (a) If the resistance values are out of the specified limits: - replace the SPEED SENSOR 1 and/or 2 (Ref. AMM TASK 49-71-13-000-003) and (Ref. AMM TASK 49-71-13-400-003).
 - (b) If the resistance values are in the specified limits: - do a check and repair of the aircraft wiring from the ECB (59KD) AB/E6,E7 to the electrical connector P26/1,2

(SPEED SENSOR 1)

the ECB (59KD) AB/D3,D4 to the electrical connector P26/3,4 (SPEED SENSOR 2) (Ref. ASM 49-61/04).

- 1 If the fault continues:
 - replace the (59KD) (Ref. AMM TASK 49-61-34-000-003) and (Ref. AMM TASK 49-61-34-400-003).

**ON A/C 247-253,

Post SB 49-1062 For A/C 251-251, Post SB 49-1069 For A/C 247-250,252-253,

A. If an APU auto shutdown occurs during the APU operation and the APU SHUTDOWN report gives the maintenance message:

LOSS OF SPEED SPEED SENSOR (8060KM)

EFF: 247-253, **49-00-**

Page A244

TROUBLE SHOOTING MANUAL

associated with the Fault Code Number (FCN) 1

- do a check and repair for damage/contamination of the electrical connector P26 of the SPEED SENSOR 1/2 (8060KM).
- (1) If the electrical connector P26 is damaged/contaminated: - do a repair/cleaning
- (2) If the electrical connector is OK:
 - use a multimeter to do a resistance check across pin 1 and pin 2; required value < 25 Ohms pin 3 and pin 4; required value < 25 Ohms the pin 1/pin 3 and pin 5; required value < 100 k0hms
 - (a) If the resistance values are out of the specified limits: - replace the SPEED SENSOR (8060KM) 1 and/or 2 (Ref. AMM TASK 49-71-13-000-003) and (Ref. AMM TASK 49-71-13-400-003).
 - (b) If the resistance values are in the specified limits: - do a check and repair of the aircraft wiring from the ECB (59KD) AB/E6,E7 to the electrical connector P26/1,2 (SPEED SENSOR 1) the ECB (59KD) AB/D3,D4 to the electrical connector P26/3,4 (SPEED SENSOR 2) (Ref. ASM 49-61/04).
 - If the fault continues: - replace the (59KD) (Ref. AMM TASK 49-61-34-000-003) and (Ref. AMM TASK 49-61-34-400-003).

**ON A/C 247-253,

B. Do the test given in para. 3.

EFF: 247-253, **49-00-**

Page A245

TROUBLE SHOOTING MANUAL

TASK 49-00-81-810-846

APU AUTO SHUTDOWN - LOSS OF SPEED, ECB internal Fault (131-9(A))

- 1. Possible Causes
 - ECB INTERNAL FAILURE
 - ECB (59KD)
- 2. Job Set-up Information
 - A. Referenced Information

REFERENCE		DESIGNATION
AMM	49-00-00-860-008	APU Start by External Power (131-9(A))
AMM	49-61-34-000-003	Removal of the Electronic Control Box (ECB) (131-9(A))
AMM	49-61-34-400-003	<pre>Installation of the Electronic Control Box (ECB) (131-9(A))</pre>

3. Fault Confirmation

- A. Read-out of ECB Trouble-Shooting Data
 - (1) Put the APU MASTER SW to the ON position.
 - (2) Get access to the APU SHUTDOWN report.
 - - the MCDU menu shows
 ECB INTERNAL FAILURE
 - (4) Start the APU and apply Bleed Air for 20 seconds, minimum (Ref. AMM TASK 49-00-00-860-008).

4. Fault Isolation

A. If an APU auto shutdown occurs during the APU operation and the APU SHUTDOWN report gives the maintenance message:

LOSS OF SPEED ECB (59KD)

associated with the Fault Code Number (FCN) 4

- replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-003) and (Ref. AMM TASK 49-61-34-400-003).
- B. Do the test given in para. 3.

EFF: 247-253,

49-00-81

Page A246
Config-1 May 01/08

TROUBLE SHOOTING MANUAL

TASK 49-00-81-810-847

APU AUTO SHUTDOWN - REVERSE FLOW, Reverse Flow Condition for min. 6 Seconds (131-9(A))

1. Possible Causes

- NO LRU FAULT DETECTED
- blockage of the APU inlet
- APU BLEED CHECK-VALVE (7260HM)
- tube of the DIFFERENTIAL PRESSURE TRANSDUCER (P24)
- tube of the TOTAL PRESSURE TRANSDUCER (P23)
- DIFFERENTIAL PRESSURE TRANSDUCER (P24)
- TOTAL PRESSURE TRANSDUCER (P23)
- SURGE CONTROL VALVE (P18)
- ECB (59KD)
- tube of the DIFFERENTIAL PRESSURE TRANSDUCER (8043KM).
- tube of the TOTAL PRESSURE TRANSDUCER (8044KM).
- DIFFERENTIAL PRESSURE TRANSDUCER (8043KM)
- TOTAL PRESSURE TRANSDUCER (8044KM)
- SURGE CONTROL VALVE (8058KM)

2. Job Set-up Information

A. Fixtures, Tools, Test and Support Equipment

REFERENCE	QTY DESIGNATION

No specific air source No specific plugs

B. Referenced Information

REFERENCE		DESIGNATION	
AMM	36-12-51-000-002	Removal of the APU Bleed Check-Valve (7260HM)	
AMM	36-12-51-200-002	Remove and Check Auxiliary Power Unit Bleed	
AMM	30-12-31-200-001	Check-Valve (7260HM) for Condition	
AMM	36-12-51-400-002	Installation of the APU Bleed Check-Valve (7260HM)	
AMM	49-00-00-860-008	APU Start by External Power (131-9(A))	
AMM	49-51-16-000-002	Removal of the Transducer - Differential Pressure (8043KM) (131-9(A))	
AMM	49-51-16-400-002	<pre>Installation of the Transducer - Differential Pressure (8043KM) (131-9(A))</pre>	
AMM	49-51-17-000-002	Removal of the Transducer - Total Pressure (8044KM) (131-9(A))	
AMM	49-51-17-400-002	<pre>Installation of the Transducer - Total Pressure (8044KM) (131-9(A))</pre>	

EFF: 247-253,

49-00-81 Page A247 Config-1 May 01/08

TROUBLE SHOOTING MANUAL

REFERENCE		DESIGNATION
AMM	49-51-52-000-003	Removal of the Surge Control Valve (8058KM) (131-9(A))
AMM	49-51-52-400-003	<pre>Installation of the Surge Control Valve (8058KM) (131-9(A))</pre>
AMM	49-61-34-000-003	Removal of the Electronic Control Box (ECB) (131-9(A))
AMM	49-61-34-400-003	<pre>Installation of the Electronic Control Box (ECB) (131-9(A))</pre>

3. Fault Confirmation

- A. Read-out of ECB Trouble-Shooting Data
 - (1) Put the APU MASTER SW to the ON position.
 - (2) Get access to the APU SHUTDOWN report.
 - (3) Push the '>' adjacent to LRU DATA:
 - the MCDU menu shows
 NO LRU FAULT DETECTED
 - (4) Start the APU and apply Bleed Air for 20 seconds, minimum (Ref. AMM TASK 49-00-00-860-008).

4. Fault Isolation

A. If an APU auto shutdown occurs during the APU operation and the APU SHUTDOWN report gives the maintenance message:

REVERSE FLOW

DP XDCR P24/PT XDCR P23/ SURGE CONTROL VALVE P18

associated with Fault Code Numbers (FCN) 216

- do a check for blockage of the APU inlet.
- (1) If the fault continues:
 - do a check of the APU BLEED CHECK-VALVE (7260HM) (Ref. AMM TASK 36-12-51-200-001).
 - (a) If the test of the APU BLEED CHECK-VALVE (7260HM) fails:
 - replace the APU BLEED CHECK-VALVE (7260HM) (Ref. AMM TASK 36-12-51-000-002) and (Ref. AMM TASK 36-12-51-400-002).

EFF: 247-253,

49-00-81

Page A248

TROUBLE SHOOTING MANUAL

- (b) If the test of the APU BLEED CHECK-VALVE (7260HM) is OK:
 - do a check for damage/contamination of the DIFFERENTIAL
 PRESSURE TRANSDUCER (P24) and TOTAL PRESSURE TRANSDUCER (P23)
 remove the tube of the DIFFERENTIAL PRESSURE TRANSDUCER (P24)
 (Ref. AMM TASK 49-51-16-000-002).
 - remove the tube of the TOTAL PRESSURE TRANSDUCER (P23) (Ref. AMM TASK 49-51-17-000-002).
 - put plugs in the openings.
 - use a air source to remove unwanted materials out of the tubes.

NOTE: It is recommended to use a pressure of 60-90 psig (4.14-6.20 bar) of filtered air or nitrogen to blow the air through the tubes.

- remove the plugs from the openings.
- install the tube of the DIFFERENTIAL PRESSURE TRANSDUCER (P24) (Ref. AMM TASK 49-51-16-400-002).
- install the tube of the TOTAL PRESSURE TRANSDUCER (P23) (Ref. AMM TASK 49-51-17-400-002).
- (c) If the fault continues:
 - replace the DIFFERENTIAL PRESSURE TRANSDUCER (P24) (Ref. AMM TASK 49-51-16-000-002) and (Ref. AMM TASK 49-51-16-400-002). replace the TOTAL PRESSURE TRANSDUCER (P23) (Ref. AMM TASK 49-51-17-000-002) and (Ref. AMM TASK 49-51-17-400-002).
- (e) If the fault continues:
 replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-003) and (Ref. AMM TASK 49-61-34-400-003).

**ON A/C 247-253,

Post SB 49-1062 For A/C 251-251, Post SB 49-1069 For A/C 247-250,252-253,

A. If an APU auto shutdown occurs during the APU operation and the APU SHUTDOWN report gives the maintenance message:

REVERSE FLOW
PRESS XDCRS (8044KM) / (8043KM) / SCV (8058KM)

associated with Fault Code Numbers (FCN) 216

- do a check for blockage of the APU inlet.

EFF: 247-253,

49-00-81

TROUBLE SHOOTING MANUAL

- (1) If the fault continues:
 - do a check of the APU BLEED CHECK-VALVE (7260HM) (Ref. AMM TASK 36-12-51-200-001).
 - (a) If the test of the APU BLEED CHECK-VALVE (7260HM) fails:
 - replace the APU BLEED CHECK-VALVE (7260HM) (Ref. AMM TASK 36-12-51-000-002) and (Ref. AMM TASK 36-12-51-400-002).
 - (b) If the test of the APU BLEED CHECK-VALVE (7260HM) is OK:
 - do a check for damage/contamination of the DIFFERENTIAL PRESSURE TRANSDUCER (8043KM) and TOTAL PRESSURE TRANSDUCER (8044KM).
 - remove the tube of the DIFFERENTIAL PRESSURE TRANSDUCER (8043KM). (Ref. AMM TASK 49-51-16-000-002).
 - remove the tube of the TOTAL PRESSURE TRANSDUCER (8044KM). (Ref. AMM TASK 49-51-17-000-002).
 - put plugs in the openings.
 - use a air source to remove unwanted materials out of the tubes.

NOTE: It is recommended to use a pressure of 60-90 psig (4.14-6.20 bar) of filtered air or nitrogen to blow the air through the tubes.

- remove the plugs from the openings.
- install the tube of the DIFFERENTIAL PRESSURE TRANSDUCER (8043KM) (Ref. AMM TASK 49-51-16-400-002).
- install the tube of the TOTAL PRESSURE TRANSDUCER (8044KM) (Ref. AMM TASK 49-51-17-400-002).
- (c) If the fault continues:
 - replace the DIFFERENTIAL PRESSURE TRANSDUCER (8043KM) (Ref. AMM TASK 49-51-16-000-002) and (Ref. AMM TASK 49-51-16-400-002). replace the TOTAL PRESSURE TRANSDUCER (8044KM) (Ref. AMM TASK 49-51-17-400-002).
- (d) If the fault continues:
 replace the SURGE CONTROL VALVE (8058KM) (Ref. AMM TASK 49-5152-000-003) and (Ref. AMM TASK 49-51-52-400-003).
- (e) If the fault continues:
 replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-003) and (Ref. AMM TASK 49-61-34-400-003).

**ON A/C 247-253,

B. Do the test given in para. 3.

EFF: 247-253,

49-00-81

TROUBLE SHOOTING MANUAL

TASK 49-00-81-810-848

APU AUTO SHUTDOWN - REVERSE FLOW, SCV Position disagrees with Command (131-9(A))

1. Possible Causes

- SCV POSITION DISAGREES WITH COMMAND
- damage/leakage of the fuel supply and return lines
- SURGE CONTROL VALVE (P18)
- ECB (59KD)
- SURGE CONTROL VALVE (8058KM)

2. Job Set-up Information

A. Referenced Information

REFERENCE		DESIGNATION
AMM	49-00-00-860-008	APU Start by External Power (131-9(A))
AMM	49-51-52-000-003	Removal of the Surge Control Valve (8058KM) (131-9(A))
AMM	49-51-52-400-003	<pre>Installation of the Surge Control Valve (8058KM) (131-9(A))</pre>
AMM	49-61-34-000-003	Removal of the Electronic Control Box (ECB) (131-9(A))
AMM	49-61-34-400-003	<pre>Installation of the Electronic Control Box (ECB) (131-9(A))</pre>

3. Fault Confirmation

- A. Read-out of ECB Trouble-Shooting Data
 - (1) Put the APU MASTER SW to the ON position.
 - (2) Get access to the APU SHUTDOWN report.
 - (3) Push the '>' adjacent to LRU DATA: - the MCDU menu shows SCV POSITION DISAGREES WITH COMMAND
 - (4) Start the APU and apply Bleed Air for 20 seconds, minimum (Ref. AMM TASK 49-00-00-860-008).

EFF: 247-253, **49-00-**

TROUBLE SHOOTING MANUAL

4. Fault Isolation

A. If an APU auto shutdown occurs during the APU operation and the APU SHUTDOWN report gives the maintenance message:

REVERSE FLOW SURGE CONTROL VALVE P18

associated with Fault Code Numbers (FCN) 87

- do a check of damage/leakage of the fuel supply and return lines of the SURGE CONTROL VALVE (P18).
- (1) If there is damaged/leaking in the fuel supply and return lines:

 do a repair.
- (2) If the fuel supply and return lines are OK:
 - replace the SURGE CONTROL VALVE (P18) (Ref. AMM TASK 49-51-52-000-003) and (Ref. AMM TASK 49-51-52-400-003).
 - (a) If the fault continues:
 - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-003) and (Ref. AMM TASK 49-61-34-400-003).

**ON A/C 247-253,

Post SB 49-1062 For A/C 251-251, Post SB 49-1069 For A/C 247-250,252-253,

A. If an APU auto shutdown occurs during the APU operation and the APU SHUTDOWN report gives the maintenance message:

REVERSE FLOW SURGE CONTROL VALVE (8058KM)

associated with Fault Code Numbers (FCN) 87

- do a check of damage/leakage of the fuel supply and return lines of the SURGE CONTROL VALVE (8058KM)
- (2) If the fuel supply and return lines are OK:
 - replace the SURGE CONTROL VALVE (8058KM) (Ref. AMM TASK 49-51-52-000-003) and (Ref. AMM TASK 49-51-52-400-003).
 - (a) If the fault continues:
 - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-003) and (Ref. AMM TASK 49-61-34-400-003).

EFF: 247-253,

49-00-81 Page A252 Config-1 May 01/08

TROUBLE SHOOTING MANUAL

**ON A/C 247-253,

B. Do the test given in para. 3.

EFF: 247-253, SROS 49-00-81 Page A253

TROUBLE SHOOTING MANUAL

TASK 49-00-81-810-849

APU AUTO SHUTDOWN - CLOGGED OIL FILTER, Oil Filter clogged (onspeed) (131-9(A))

- 1. Possible Causes
 - OIL FILTER SHOWS CLOGGED
 - contamination of the MAGNETIC-DRAIN PLUG
 - contamination of the GEN SCAV OIL FILTER (P5) and LUBE PUMP OIL FILTER (P9)
 - APU GENERATOR (8XS)
 - APU (4005KM)
 - contamination of the GEN SCAV OIL FILTER and LUBE PUMP OIL FILTER
- 2. Job Set-up Information
 - A. Expendable Parts

FIG.ITEM | DESIGNATION

3 sealplate 49-11-04 05 -010

B. Referenced Information

DESIGNATION ______ 49-90-00-810-812 Lube Pump Filter SW P9/GEN SCAV Filter SW P5 Fault (131-9(A))AMM 24-23-51-000-001 Removal of the APU Generator 8XS AMM 24-23-51-400-001 Installation of the APU Generator 8XS AMM 49-00-00-860-008 APU Start by External Power (131-9(A)) APU Shutdown by External Power (131-9(A)) AMM 49-00-00-860-009 AMM 49-11-11-000-004 Removal of the Power Plant (APU) (131-9(A)) AMM 49-11-11-400-004 Installation of the Power Plant (APU) (131-9(A))

AMM 49-90-00-600-008 AMM 49-91-41-200-002

Oil Change (Drain Method) (131-9(A))

Remove and Discard Oil Filter Elements (8069KM) and (8076KM) (131-9(A))

AMM 49-91-42-200-004

Inspection of the Metal Chip Detector (131-9(A))

- Fault Confirmation
 - A. Read-out of ECB Trouble-Shooting Data

CAUTION: DO NOT OPERATE THE APU FOR TROUBLESHOOTING. CONTAMINATION IN THE OIL CAN CAUSE MORE DAMAGE TO THE APU.

(1) Put the APU MASTER SW to the ON position.

EFF: 247-253, 49-00-8

Page A254

Config-1 May 01/08

R

SROS

TROUBLE SHOOTING MANUAL

- (2) Get access to the APU SHUTDOWN report.
- (3) Push the '>' adjacent to LRU DATA:
 - the MCDU menu shows
 OIL FILTER SHOWS CLOGGED

4. Fault Isolation

A. If an APU auto shutdown occurred during the APU operation and the APU SHUTDOWN report gives the maintenance message:

CLOGGED OIL FILTER
LUBE PUMP FILTER P9 + GEN SCAV FILTER P5

associated with Fault Code Numbers (FCN) 102

- If the TSM steps below do not clear the fault, do the TSM task (Ref. TASK 49-90-00-810-812).
- do a check for contamination of the MAGNETIC-DRAIN PLUG (Ref. AMM TASK 49-91-42-200-004).
- do a check for contamination of the GEN SCAV OIL FILTER (P5) and LUBE PUMP OIL FILTER (P9):
 - remove the GEN SCAV OIL FILTER (P5) and LUBE PUMP OIL FILTER (P9) and do a check of the removed oil filter elements (Ref. AMM TASK 49-91-41-200-002).
- (1) If the oil filter element(s) is/are contaminated with:
 - copper wire particles,
 - nonmetallic flakes,
 - . phenolic resin.
 - remove the APU GENERATOR (8XS) (Ref. AMM TASK 24-23-51-000-001).
 - install the sealplate (3)
 - change the APU oil (Ref. AMM TASK 49-90-00-600-008),
 - start an operate the APU for 15 minutes (Ref. AMM TASK 49-00-00-860-008),
 - shutdown the APU (Ref. AMM TASK 49-00-00-860-009),
 - do a check for contamination of the MAGNETIC-DRAIN PLUG (Ref. AMM TASK 49-91-42-200-004).
 - remove the GEN SCAV OIL FILTER (P5) and LUBE PUMP OIL FILTER (P9) and do a check of the removed oil filter elements (Ref. AMM TASK 49-91-41-200-002).
 - (a) If there is no contamination of the oil filter elements after 15 minutes APU operation:
 - remove the sealplate (3),
 - install a new APU GENERATOR (8XS) (Ref. AMM TASK 24-23-51-400-001),
 - install the serviceable oil filter elements (Ref. AMM TASK 49-91-41-200-002).

EFF: 247-253,

49-00-81

Page A255

TROUBLE SHOOTING MANUAL

- (b) If the oil filter elements are contaminated again after 15 minutes APU operation:
 - install the oil filter elements (Ref. AMM TASK 49-91-41-200-
 - replace the APU (4005KM) (Ref. AMM TASK 49-11-11-000-004) and (Ref. AMM TASK 49-11-11-400-004).
- (2) If the oil filter element(s) is/are contaminated with brass or silver-plated steel particles:
 - replace the APU (4005KM) (Ref. AMM TASK 49-11-11-000-004) and (Ref. AMM TASK 49-11-11-400-004).

**ON A/C 247-253,

Post SB 49-1062 For A/C 251-251, Post SB 49-1069 For A/C 247-250,252-253,

A. If an APU auto shutdown occurred during the APU operation and the APU SHUTDOWN report gives the maintenance message:

CLOGGED OIL FILTER
GEN SCAV + LUBE FILTER (8069KM) / (8076KM)

associated with Fault Code Numbers (FCN) 102

- If the TSM steps below do not clear the fault, do the TSM task (Ref. TASK 49-90-00-810-812).
- do a check for contamination of the MAGNETIC-DRAIN PLUG (Ref. AMM TASK 49-91-42-200-004).
- do a check for contamination of the GEN SCAV OIL FILTER and LUBE PUMP OIL FILTER:
 - remove the GEN SCAV OIL FILTER (8069KM) and LUBE PUMP OIL FILTER (8076KM) and do a check of the removed oil filter elements (Ref. AMM TASK 49-91-41-200-002).
- (1) If the oil filter element(s) is/are contaminated with:
 - copper wire particles,
 - nonmetallic flakes,
 - . phenolic resin.
 - remove the APU GENERATOR (8XS) (Ref. AMM TASK 24-23-51-000-001).
 - install the sealplate (3)
 - change the APU oil (Ref. AMM TASK 49-90-00-600-008),
 - start an operate the APU for 15 minutes (Ref. AMM TASK 49-00-00-860-008),
 - shutdown the APU (Ref. AMM TASK 49-00-00-860-009),
 - do a check for contamination of the MAGNETIC-DRAIN PLUG (Ref. AMM TASK 49-91-42-200-004).
 - remove the GEN SCAV OIL FILTER (8069KM) and LUBE PUMP OIL FILTER (8076KM) and do a check of the removed oil filter elements (Ref. AMM TASK 49-91-41-200-002).

EFF: 247-253,

49-00-81

■ Page A256 Config-1 May 01/08

TROUBLE SHOOTING MANUAL

- (a) If there is no contamination of the oil filter elements after 15 minutes APU operation:
 - remove the sealplate (3),
 - install a new APU GENERATOR (8XS) (Ref. AMM TASK 24-23-51-400-001),
 - install the serviceable oil filter elements (Ref. AMM TASK 49-91-41-200-002).
- (b) If the oil filter elements are contaminated again after 15 minutes APU operation:
 - install the oil filter elements (Ref. AMM TASK 49-91-41-200-002).
 - replace the APU (4005KM) (Ref. AMM TASK 49-11-11-000-004) and (Ref. AMM TASK 49-11-11-400-004).
- (2) If the oil filter element(s) is/are contaminated with brass or silver-plated steel particles:
 - replace the APU (4005KM) (Ref. AMM TASK 49-11-11-000-004) and (Ref. AMM TASK 49-11-11-400-004).

**ON A/C 247-253,

B. Do the test given in para. 3.

EFF: 247-253,

49-00-81

Page A257 Config-1 May 01/08

TROUBLE SHOOTING MANUAL

TASK 49-00-81-810-850

APU AUTO SHUTDOWN - LOSS OF DC POWER, Power Supply Interrupt (131-9(A))

- 1. Possible Causes
 - POWER SUPPLY INTERRUPT
 - main power supply to the ECB (59KD)
 - APU MAIN RELAY (4KD)
 - APU/MASTER SW PBS/W (14KD)
 - aircraft wiring
 - ECB (59KD)
- 2. Job Set-up Information
 - A. Referenced Information

REFERE	NCE	DESIGNATION
24-00-	00-810-802	Power Supply Interruption
AMM 2	4-41-00-861-002	Energize the Aircraft Electrical Circuits from the External Power
AMM 4	9-00-00-710-010	Operational Test of the APU (131-9(A))
AMM 4	9-61-34-000-003	Removal of the Electronic Control Box (ECB) (131-9(A))
AMM 4	9-61-34-400-003	<pre>Installation of the Electronic Control Box (ECB) (131-9(A))</pre>
ASM 4	9-61/01	

3. Fault Confirmation

- A. Read-out of ECB Trouble-Shooting Data
 - (1) Put the APU MASTER SW to the ON position.
 - (2) Get access to the APU SHUTDOWN report.
 - - POWER SUPPLY INTERRUPT
 - (4) Energize the aircraft electrical circuits (Ref. AMM TASK 24-41-00-861-002)
 - (5) Make sure that the 28VDC power supply of the APU BAT BUS (301PP) is correct at (Ref. ASM 49-61/01):
 - the pin 2 on the circuit breaker ECB SUPPLY (1KD),
 - the pin 2 on circuit breaker APU CTL (2KD).

EFF: 247-253,

49-00-81

Page A258

TROUBLE SHOOTING MANUAL

- (a) If the power supply is not correct:
 - do the trouble-shooting for the DC GENERATION (Ref. TASK 24-00-00-810-802).
- (b) If the power supply is correct:
 - do the operational test of the APU (Ref. AMM TASK 49-00-00-710-010).

4. Fault Isolation

A. If an APU auto shutdown occurs during the APU operation and the APU SHUTDOWN report gives the maintenance message:

LOSS OF DC POWER
POWER SUPPLY INTERRUPT

associated with Fault Code Numbers (FCN) 218

- do a check of the main power supply to the ECB (59KD) (Ref. ASM 49-61/01):
- do a check for 28VDC at the ECB (59KD) AC/7.

NOTE: The APU MASTER SW PBS/W (14KD) on the panel 25VU must be in the ON position during the check.

- (1) If the power supply to the ECB (59KD) is not correct:
 - do a check and replace (Ref. ASM 49-61/01):
 - the APU MAIN RELAY (4KD),
 - the APU/MASTER SW PBS/W (14KD).
 - (a) If the fault continues:
 - do a check and repair the aircraft wiring from the ECB (59KD) AC/3 to the ground, and
 the ECB (59KD) AC/7 to the circuit breaker MAT

the ECB (59KD) AC/7 to the circuit breaker MAIN SUPPLY (1KD) via the APU MAIN RELAY (4KD),

and

the ECB (59KD) AB/F9 to the circuit breaker APU CTL (2KD) via the APU MAIN RELAY (4KD),

the ECB (59KD) AB/F9 to the ground via the APU/MASTER SW PBS/W (14KD) A/A1. (Ref. ASM 49-61/01).

- (2) If the power supply to the ECB (59KD) is correct:
 - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-003) and (Ref. AMM TASK 49-61-34-400-003).

EFF: 247-253,

49-00-81 Page A259 Config-1 May 01/08

TROUBLE SHOOTING MANUAL

TASK 49-00-81-810-851

Inlet-Guide Vane-Actuator (P21) Fault (131-9(A))

- 1. Possible Causes
 - IGV TORQUE MOTOR SHOWS OPEN CIRCUIT
 - IGV TORQUE MOTOR SHOWS SHORT CIRCUIT
 - damage/contamination of electrical connector P21
 - IGV ACTUATOR (P21)
 - aircraft wiring
 - ECB (59KD)
 - IGV ACTUATOR (8014KM)
- 2. Job Set-up Information
 - A. Fixtures, Tools, Test and Support Equipment

REFERENCE

QTY DESIGNATION

No specific

multimeter

B. Referenced Information

REFERENCE	DESIGNATION	
AMM /0 27 E4 000 00/	Demoved of the Tolet Cuide Vess Astronton (201/KM)	
AMM 49-23-51-000-004	Removal of the Inlet Guide Vane - Actuator (8014KM) (131-9(A))	
AMM 49-23-51-400-004	<pre>Installation of the Inlet Guide Vane - Actuator (8014KM) (131-9(A))</pre>	
AMM 49-61-34-000-003	Removal of the Electronic Control Box (ECB) (131-9(A))	

Installation of the Electronic Control Box (ECB)

ASM 49-61/04

3. Fault Confirmation

AMM 49-61-34-400-003

- A. Read-out of ECB Trouble-Shooting Data
 - (1) Put the APU MASTER SW to the ON position.

(131-9(A))

(2) Get access to the APU LAST LEG/PREVIOUS LEG report.

EFF: 247-253,

49-00-81

Page A260

TROUBLE SHOOTING MANUAL

- (3) Push the '>' adjacent to the related CFDS failure message:
 - the MCDU menu shows
 IGV TORQUE MOTOR SHOWS OPEN CIRCUIT

or

IGV TORQUE MOTOR SHOWS SHORT CIRCUIT

- (4) Get access to the APU GND SCANNING menu.
- 4. Fault Isolation
 - A. If the APU GND SCANNING menu gives the maintenance message:

IGV ACTUATOR P21

associated with Fault Code Number (FCN) 109

- do a check for damage/contamination of electrical connector P21 of the IGV ACTUATOR (P21).
- (1) If the electriacl connector P21 is damaged/contaminated: - do a repair/cleaning.
- (2) If the electrical connector is OK:
 - use a multimeter to do a resistance check across pin 4 and pin 7 of the IGV ACTUATOR (P21).
 - (a) If the resistance is > 100 Ohms:
 - replace the IGV ACTUATOR (P21) (Ref. AMM TASK 49-23-51-000-004) and (Ref. AMM TASK 49-23-51-400-004).
 - (b) If the resistance is > 15 Ohms and < 100 Ohms:
 - do a check and repair of the aircraft wiring between ECB (59KD)
 AB/G8,G9 and IGV ACTUATOR (P21) P21/4,7 (Ref. ASM 49-61/04).
 - 1 If the fault continues:
 - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-003) and (Ref. AMM TASK 49-61-34-400-003).
- B. If the APU GND SCANNING menu gives the maintenance message:

IGV ACTUATOR P21

associated with Fault Code Number (FCN) 110

- do a check for damage/contamination of electrical connector P21 of the IGV ACTUATOR (P21).
- (1) If the electriacl connector P21 is damaged/contaminated:
 - do a repair/cleaning.

EFF: 247-253,

49-00-81

Page A261

TROUBLE SHOOTING MANUAL

- (2) If the electrical connector is OK:
 - use a multimeter to do a resistance check across pin 4 and pin 7 of the IGV ACTUATOR (P21), pin 4 and pin 10 of the IGV ACTUATOR (P21).
 - (a) If the resistance is
 < 15 Ohms (pin 4-7)</pre>

or

- < 100K Ohms (pin 4-10):
- replace the IGV ACTUATOR (P21) (Ref. AMM TASK 49-23-51-000-004) and (Ref. AMM TASK 49-23-51-400-004).
- (b) If the resistance is
 - > 15 Ohms and < 100 Ohms (pin 4-7) and
 - > 100K Ohms (pin 4-10):
 - do a check and repair of the aircraft wiring between
 ECB (59KD) AB/G8,G9 and IGV ACTUATOR (P21) P21/4,7
 and/or IGV ACTUATOR (P21) P21/10 and aircraft GND (Ref. ASM 49-61/04).
 - 1 If the fault continues:
 - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-003) and (Ref. AMM TASK 49-61-34-400-003).

**ON A/C 247-253,

Post SB 49-1062 For A/C 251-251, Post SB 49-1069 For A/C 247-250,252-253,

A. If the APU GND SCANNING menu gives the maintenance message:

IGV ACTUATOR (8014KM)

associated with Fault Code Number (FCN) 109

- do a check for damage/contamination of electrical connector P21 of the IGV ACTUATOR (8014KM)
- (1) If the electriacl connector P21 is damaged/contaminated:do a repair/cleaning.
- (2) If the electrical connector is OK:
 - use a multimeter to do a resistance check across pin 4 and pin 7 of the IGV ACTUATOR (8014KM)
 - (a) If the resistance is > 100 Ohms:
 - replace the IGV ACTUATOR (8014KM) (Ref. AMM TASK 49-23-51-000-004) and (Ref. AMM TASK 49-23-51-400-004).

EFF: 247-253,

49-00-81

Page A262

TROUBLE SHOOTING MANUAL

- (b) If the resistance is > 15 Ohms and < 100 Ohms:
 - do a check and repair of the aircraft wiring between ECB (59KD)
 AB/G8,G9 and IGV ACTUATOR (8014KM) P21/4,7 (Ref. ASM 49-61/04).
 - 1 If the fault continues:
 - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-003) and (Ref. AMM TASK 49-61-34-400-003).
- B. If the APU GND SCANNING menu gives the maintenance message:

IGV ACTUATOR (8014KM)

associated with Fault Code Number (FCN) 110

- do a check for damage/contamination of electrical connector P21 of the IGV ACTUATOR (8014KM).
- (1) If the electriacl connector P21 is damaged/contaminated: - do a repair/cleaning.
- (2) If the electrical connector is OK:
 - use a multimeter to do a resistance check across pin 4 and pin 7 of the IGV ACTUATOR (P21), pin 4 and pin 10 of the IGV ACTUATOR (8014KM) connector P21
 - (a) If the resistance is < 15 Ohms (pin 4-7)

or

- < 100K Ohms (pin 4-10):
- replace the IGV ACTUATOR (8014KM) (Ref. AMM TASK 49-23-51-000-004) and (Ref. AMM TASK 49-23-51-400-004).
- (b) If the resistance is
 - > 15 Ohms and < 100 Ohms (pin 4-7)
 - > 100K Ohms (pin 4-10):
 - do a check and repair of the aircraft wiring between ECB (59KD) AB/G8,G9 and IGV ACTUATOR (P21) P21/4,7 and/or IGV ACTUATOR (P21) P21/10 and aircraft GND (Ref. ASM 49-61/04).
 - 1 If the fault continues:
 - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-003) and (Ref. AMM TASK 49-61-34-400-003).

**ON A/C 247-253,

C. Do a check of the APU GND SCANNING menu to verify the fault is not present.

EFF: 247-253,

49-00-81

Page A263

TROUBLE SHOOTING MANUAL

TASK 49-00-81-810-852

Pressure-Transducer Fault or ECB internal Fault (131-9(A))

1. Possible Causes

- PRESS XDCR WIRING SHORT OR ECB INTERNAL FAILURE
- APU INLET PRESSURE TRANSDUCER (P22)
- TOTAL PRESSURE TRANSDUCER (P23)
- DELTA PRESSURE TRANSDUCER (P24)
- APU wiring harness
- aircraft wiring
- ECB (59KD)
- APU INLET PRESSURE TRANSDUCER (8048KM)
- TOTAL PRESSURE TRANSDUCER (8044KM)
- DELTA PRESSURE TRANSDUCER (8043KM)

2. Job Set-up Information

A. Fixtures, Tools, Test and Support Equipment

REFERENCE **QTY DESIGNATION** ______

No specific

multimeter

B. Referenced Information

REFERENCE		DESIGNATION
ΔΜΜ	49-51-16-000-002	Removal of the Transducer - Differential Pressure
A	47 J1 10 000 00L	(8043KM) (131-9(A))
AMM	49-51-16-400-002	<pre>Installation of the Transducer - Differential Pressure (8043KM) (131-9(A))</pre>
AMM	49-51-17-000-002	Removal of the Transducer - Total Pressure (8044KM) (131-9(A))
AMM	49-51-17-400-002	<pre>Installation of the Transducer - Total Pressure (8044KM) (131-9(A))</pre>
AMM	49-51-21-000-001	Removal of the Transducer - APU Inlet Pressure (8048KM) (131-9(A))
AMM	49-51-21-400-001	<pre>Installation of the Transducer - APU Inlet Pressure (8048KM) (131-9(A))</pre>
AMM	49-61-34-000-003	Removal of the Electronic Control Box (ECB) (131-9(A))
AMM	49-61-34-400-003	<pre>Installation of the Electronic Control Box (ECB) (131-9(A))</pre>
ASM	49-61/04	

EFF: 247-253,

49-00-81

Page A264

TROUBLE SHOOTING MANUAL

3. Fault Confirmation

- A. Read-out of ECB Trouble-Shooting Data
 - (1) Put the APU MASTER SW to the ON position.
 - (2) Get access to the APU LAST LEG/PREVIOUS LEG report.
 - (3) Push the '>' adjacent to the related CFDS failure message:
 - the MCDU menu shows
 PRESS XDCR WIRING SHORT OR ECB INTERNAL FAILURE
 - (4) Get access to the APU GND SCANNING menu.

4. Fault Isolation

A. If the APU GND SCANNING menu gives the maintenance message:

CHECK PRESSURE XDCR WIRING/ECB (59KD)

associated with Fault Code Number (FCN) 31

- disconnect the electrical connector P2 at the APU firewall.
 Use a multimeter to do a resistance check across pin 20 and pin 21 of the electrical connector P2.
- (1) If the resistance is < 75 Ohms:
 - disconnect the electrical connector P22 of the APU INLET PRESSURE TRANSDUCER (P22).

Do a resistance check across pin 20 and pin 21 of the electrical connector P2 again.

- (a) If the resistance is > 75 ohms:
 - replace the APU INLET PRESSURE TRANSDUCER (P22) (Ref. AMM TASK 49-51-21-000-001) and (Ref. AMM TASK 49-51-21-400-001).
- (b) If the resistance is < 75 Ohms:
 - disconnect the electrical connector P23 of the TOTAL PRESSURE TRANSDUCER (P23).

Do a resistance check across pin 20 and pin 21 of the electrical connector P2 again.

- 1 If the resistance is > 75 Ohms:
 - replace the TOTAL PRESSURE TRANSDUCER (P23) (Ref. AMM TASK 49-51-17-000-002) and (Ref. AMM TASK 49-51-17-400-002).
- 2 If the resistance is < 75 Ohms:
 - disconnect the electrical connector P24 of the DELTA PRESSURE TRANSDUCER (P24).

Do a resistance check across pin 20 and pin 21 of the electrical connector P2 again.

EFF: 247-253,

49-00-81

TROUBLE SHOOTING MANUAL

- a If the resistance is > 75 Ohms:
 - replace the DELTA PRESSURE TRANSDUCER (P24) (Ref. AMM TASK 49-51-16-000-002) and (Ref. AMM TASK 49-51-16-400-002).
- <u>b</u> If the resistance is < 75 Ohms:replace APU wiring harness.
- (2) If the resistance is > 75 Ohms:
 - do a check and repair of the aircraft wiring between ECB (59KD) AB/A1,A4 and electrical connector P2/20,21 (Ref. ASM 49-61/04).
 - (a) If the fault continues:
 - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-003) and (Ref. AMM TASK 49-61-34-400-003)

**ON A/C 247-253,

Post SB 49-1062 For A/C 251-251, Post SB 49-1069 For A/C 247-250,252-253,

A. If the APU GND SCANNING menu gives the maintenance message:

CHECK PRESSURE XDCR WIRING (8001KM) / ECB (59KD)

associated with Fault Code Number (FCN) 31

- disconnect the electrical connector P2 at the APU firewall.
 Use a multimeter to do a resistance check across pin 20 and pin 21 of the electrical connector P2.
- (1) If the resistance is < 75 Ohms:
 - disconnect the electrical connector P22 of the APU INLET PRESSURE TRANSDUCER (8048KM).

Do a resistance check across pin 20 and pin 21 of the electrical connector P2 again.

- (a) If the resistance is > 75 ohms:
 - replace the APU INLET PRESSURE TRANSDUCER (8048KM) (Ref. AMM TASK 49-51-21-000-001) and (Ref. AMM TASK 49-51-21-400-001).
- (b) If the resistance is < 75 Ohms:
 - disconnect the electrical connector P23 of the TOTAL PRESSURE TRANSDUCER (8044KM).

Do a resistance check across pin 20 and pin 21 of the electrical connector P2 again.

- 1 If the resistance is > 75 Ohms:
 - replace the TOTAL PRESSURE TRANSDUCER (8044KM) (Ref. AMM TASK 49-51-17-000-002) and (Ref. AMM TASK 49-51-17-400-002).

EFF: 247-253,

49-00-81

Page A266

TROUBLE SHOOTING MANUAL

- 2 If the resistance is < 75 Ohms:
 - disconnect the electrical connector P24 of the DELTA PRESSURE TRANSDUCER (8043KM).
 Do a resistance check across pin 20 and pin 21 of the electrical connector P2 again.
 - a If the resistance is > 75 Ohms:
 - replace the DELTA PRESSURE TRANSDUCER (8043KM) (Ref. AMM TASK 49-51-16-000-002) and (Ref. AMM TASK 49-51-16-400-002).
 - <u>b</u> If the resistance is < 75 Ohms:replace APU wiring harness.
- (2) If the resistance is > 75 Ohms:
 - do a check and repair of the aircraft wiring between ECB (59KD) AB/A1,A4 and electrical connector P2/20,21 (Ref. ASM 49-61/04).
 - (a) If the fault continues:
 - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-003) and (Ref. AMM TASK 49-61-34-400-003)

**ON A/C 247-253,

B. Do a check of the APU GND SCANNING menu to verify the fault is not present.

EFF: 247-253,

49-00-81

■ Page A267 Config-1 May 01/08

TROUBLE SHOOTING MANUAL

TASK 49-00-81-810-853

Differential-Pressure Transducer (P24) Fault (131-9(A))

1. Possible Causes

- DELTA PRESSURE SENSOR SHOWS OUT OF RANGE DRIFT
- DELTA PRESSURE SENSOR SHOWS OUT OF RANGE LOW
- DELTA PRESSURE SENSOR SHOWS OUT OF RANGE HIGH
- damage/contamination of electrical connector P24
- DIFFERENTIAL PRESSURE TRANSDUCER (P24)
- aircraft wiring
- ECB (59KD)
- DIFFERENTIAL PRESSURE TRANSDUCER (8043KM)

2. Job Set-up Information

A. Referenced Information

REFERENCE		DESIGNATION	
AMM	49-00-00-860-008	APU Start by External Power (131-9(A))	
AMM	49-51-16-000-002	Removal of the Transducer - Differential Pressure (8043KM) (131-9(A))	
AMM	49-51-16-400-002	<pre>Installation of the Transducer - Differential Pressure (8043KM) (131-9(A))</pre>	
AMM	49-61-34-000-003	Removal of the Electronic Control Box (ECB) (131-9(A))	
AMM	49-61-34-400-003	<pre>Installation of the Electronic Control Box (ECB) (131-9(A))</pre>	
ASM	49-61/04		

3. Fault Confirmation

- A. Read-out of ECB Trouble-Shooting Data
 - (1) Put the APU MASTER SW to the ON position.
 - (2) Get access to the APU LAST LEG/PREVIOUS LEG report.
 - (3) Push the '>'-key adjacent to the related CFDS failure message.
 - (4) If the MCDU menu shows
 DELTA PRESSURE SENSOR SHOWS OUT OF RANGE DRIFT
 do the Fault Confirmation that follows:
 - (a) Get access to the APU TEST menu.
 - (b) Push the TEST line key.

EFF: 247-253,

49-00-81

Page A268 Config-1 May 01/08

TROUBLE SHOOTING MANUAL

- (5) If the MCDU menu shows
 DELTA PRESSURE SENSOR SHOWS OUT OF RANGE LOW
 - DELTA PRESSURE SENSOR SHOWS OUT OF RANGE HIGH do the Fault Confirmation that follows:
 - (a) Start the APU and apply Bleed Air for 20 seconds, minimum (Ref. AMM TASK 49-00-00-860-008)
 - (b) Get access to the APU GND SCANNING menu.

4. Fault Isolation

A. If the APU TEST menu or the APU GND SCANNING menu gives the maintenance message:

DIFFERENTIAL PRESS XDCR P24

associated with Fault Code Number (FCN) 16, 17, 18 or 19

- do a check for damage/contamination of electrical connector P24 of the DIFFERENTIAL PRESSURE TRANSDUCER (P24)
- (1) If the electriacl connector P24 is damaged/contaminated: - do a repair/cleaning.
- (2) If the electrical connector is OK:
 - replace the DIFFERENTIAL PRESSURE TRANSDUCER (P24) (Ref. AMM TASK 49-51-16-000-002) and (Ref. AMM TASK 49-51-16-400-002).
 - (a) If the fault continues:
 - do a check and repair of the aircraft wiring between ECB (59KD)
 AB/A1,A4,B2,B3 and the DIFFERENTIAL PRESSURE TRANSDUCER (P24)
 P24/1,2,3,4 (Ref. ASM 49-61/04).
- (3) If the fault continues:
 - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-003) and (Ref. AMM TASK 49-61-34-400-003).

**ON A/C 247-253,

Post SB 49-1062 For A/C 251-251, Post SB 49-1069 For A/C 247-250,252-253,

A. If the APU TEST menu or the APU GND SCANNING menu gives the maintenance message:

DIFFERENTIAL PRESS XDCR (8043KM)

associated with Fault Code Number (FCN) 16, 17, 18 or 19

EFF: 247-253,

49-00-81

Page A269

TROUBLE SHOOTING MANUAL

- do a check for damage/contamination of electrical connector P24 of the DIFFERENTIAL PRESSURE TRANSDUCER (8043KM).
- (1) If the electriacl connector P24 is damaged/contaminated: - do a repair/cleaning.
- (2) If the electrical connector is OK:
 - replace the DIFFERENTIAL PRESSURE TRANSDUCER (8043KM) (Ref. AMM TASK 49-51-16-000-002).
 - (a) If the fault continues:
 - do a check and repair of the aircraft wiring between ECB (59KD)
 AB/A1,A4,B2,B3 and the DIFFERENTIAL PRESSURE TRANSDUCER
 (8043KM) P24/1,2,3,4 (Ref. ASM 49-61/04).
- (3) If the fault continues:
 - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-003) and (Ref. AMM TASK 49-61-34-400-003).

**ON A/C 247-253,

B. Do the test as in Para. 3.A.(3) or 3.A.(4).

EFF: 247-253,

49-00-81

Page A270 Config-1 May 01/08

TROUBLE SHOOTING MANUAL

TASK 49-00-81-810-854

Total-Pressure Transducer (P23) Fault (131-9(A))

1. Possible Causes

- TOTAL PRESSURE SENSOR SHOWS OUT OF RANGE
- TOTAL PRESSURE AND INLET PRESSURE DISAGREE
- TOTAL PRESSURE SENSOR SHOWS OUT OF RANGE LOW
- TOTAL PRESSURE SENSOR SHOWS OUT OF RANGE HIGH
- damage/contamination of electrical connector P23
- TOTAL PRESSURE TRANSDUCER (P23)
- aircraft wiring
- ECB (59KD)

R

- damage/contamination of electrical connector P24
- DIFFERENTIAL PRESSURE TRANSDUCER (P24)
- TOTAL PRESSURE TRANSDUCER (8044KM)
- DIFFERENTIAL PRESSURE TRANSDUCER (8043KM)

2. Job Set-up Information

A. Referenced Information

REFERENCE		DESIGNATION
AMM	49-51-16-000-002	Removal of the Transducer - Differential Pressure (8043KM) (131-9(A))
AMM	49-51-16-400-002	<pre>Installation of the Transducer - Differential Pressure (8043KM) (131-9(A))</pre>
AMM	49-51-17-000-002	Removal of the Transducer - Total Pressure (8044KM) (131-9(A))
AMM	49-51-17-400-002	<pre>Installation of the Transducer - Total Pressure (8044KM) (131-9(A))</pre>
AMM	49-61-34-000-003	Removal of the Electronic Control Box (ECB) (131-9(A))
AMM	49-61-34-400-003	<pre>Installation of the Electronic Control Box (ECB) (131-9(A))</pre>
ASM	49-61/04	

3. Fault Confirmation

- A. Read-out of ECB Trouble-Shooting Data
 - (1) Put the APU MASTER SW to the ON position.
 - (2) Get access to the APU LAST LEG/PREVIOUS LEG report.
 - (3) Push the '>'-key adjacent to the related CFDS failure message.

EFF: 247-253,

49-00-81

Page A271

Config-1 May 01/08

SROS

TROUBLE SHOOTING MANUAL

- (4) If the MCDU menu shows TOTAL PRESSURE SENSOR SHOWS OUT OF RANGE - do the Fault Confirmation that follows:
 - (a) Get access to the APU TEST menu.
 - (b) Push the TEST line key.
- (5) If the MCDU menu shows TOTAL PRESSURE AND INLET PRESSURE DISAGREE TOTAL PRESSURE SENSOR SHOWS OUT OF RANGE LOW or TOTAL PRESSURE SENSOR SHOWS OUT OF RANGE HIGH - do the Fault Confirmation that follows:
 - (a) Put the APU MASTER SW to the ON position.
 - (b) Get access to the APU GND SCANNING menu.

4. Fault Isolation

A. If the TEST menu or the APU GND SCANNING menu gives the maintenance message:

TOTAL PRESS XDCR P24

associated with Fault Code Number (FCN) 26, 28 or 29

- do a check for damage/contamination of electrical connector P23 of the TOTAL PRESSURE TRANSDUCER (P23)
- (1) If the electriacl connector P23 is damaged/contaminated: - do a repair/cleaning.
- (2) If the electrical connector is OK:
 - replace the TOTAL PRESSURE TRANSDUCER (P23) (Ref. AMM TASK 49-51-17-000-002) and (Ref. AMM TASK 49-51-17-400-002).
 - (a) If the fault continues:
 - do a check and repair of the aircraft wiring between ECB (59KD) AB/A1,A4,A2,A3 and the TOTAL PRESSURE TRANSDUCER (P23) P23/1,2,3,4 (Ref. ASM 49-61/04).
- (3) If the fault continues:
 - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-003) and (Ref. AMM TASK 49-61-34-400-003).

EFF: 247-253, **49-00-**

TROUBLE SHOOTING MANUAL

R R B. If the TEST menu or the APU GND SCANNING menu gives the maintenance R message: R TOTAL PRESS XDCR P24 R R associated with Fault Code Number (FCN) 27 R R - do a check for damage/contamination of electrical connector P23 of the TOTAL PRESSURE TRANSDUCER (P23) R R - do a check for damage/contamination of electrical connector P24 of the R DIFFERENTIAL PRESSURE TRANSDUCER (P24) (1) If the electriacl connector P23/P24 are damaged/contaminated: R R do a repair/cleaning. R (2) If the electrical connectors are OK: - replace the TOTAL PRESSURE TRANSDUCER (P23) (Ref. AMM TASK 49-51-R 17-000-002) and (Ref. AMM TASK 49-51-17-400-002). R R (a) If the fault continues: - replace the DIFFERENTIAL PRESSURE TRANSDUCER (P24) (Ref. AMM R TASK 49-51-16-000-002) and (Ref. AMM TASK 49-51-16-400-002). R If the fault continues: R - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-003) and R (Ref. AMM TASK 49-61-34-400-003). R **ON A/C 247-253,

R Post SB 49-1062 For A/C 251-251, R Post SB 49-1069 For A/C 247-250,252-253,

A. If the TEST menu or the APU GND SCANNING menu gives the maintenance message:

TOTAL PRESS XDCR (8044KM)

associated with Fault Code Number (FCN) 26, 28 or 29

- do a check for damage/contamination of electrical connector P23 of the TOTAL PRESSURE TRANSDUCER (8044KM).
- (1) If the electriacl connector P23 is damaged/contaminated: - do a repair/cleaning.

EFF: 247-253,

SROS

49-00-81

Page A273

TROUBLE SHOOTING MANUAL

- (2) If the electrical connector is OK:
 - replace the TOTAL PRESSURE TRANSDUCER (8044KM) (Ref. AMM TASK 49-51-17-000-002) and (Ref. AMM TASK 49-51-17-400-002).
 - (a) If the fault continues:
 - do a check and repair of the aircraft wiring between ECB (59KD) AB/A1,A4,A2,A3 and the TOTAL PRESSURE TRANSDUCER (8044KM) P23/1,2,3,4 (Ref. ASM 49-61/04).
- (3) If the fault continues:
 - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-003) and (Ref. AMM TASK 49-61-34-400-003).

R

B. If the TEST menu or the APU GND SCANNING menu gives the maintenance message:

TOTAL PRESS XDCR (8044KM)

associated with Fault Code Number (FCN) 27

- do a check for damage/contamination of electrical connector P23 of the TOTAL PRESSURE TRANSDUCER (8044KM).
- do a check for damage/contamination of electrical connector P24 of the DIFFERENTIAL PRESSURE TRANSDUCER (8043KM)
- (1) If the electriacl connectors P23/P24 are damaged/contaminated:do a repair/cleaning.
- (2) If the electrical connectors are OK:
 - replace the TOTAL PRESSURE TRANSDUCER (8044KM) (Ref. AMM TASK 49-51-17-000-002) and (Ref. AMM TASK 49-51-17-400-002).
 - (a) If the fault continues:
 - replace the DIFFERENTIAL PRESSURE TRANSDUCER (8043KM) (Ref. AMM TASK 49-51-16-000-002) and (Ref. AMM TASK 49-51-16-400-002).
 - 1 If the fault continues:
 - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-003) and (Ref. AMM TASK 49-61-34-400-003).

**ON A/C 247-253,

C. Do the test as in Para. 3.A.(3) or 3.A.(4).

EFF: 247-253,

49-00-81

Page A274

Config-1 May 01/08

SROS

TROUBLE SHOOTING MANUAL

TASK 49-00-81-810-855

Load-Control Valve (P12) Fault (131-9(A))

- 1. Possible Causes
 - LOAD VALVE SOLENOID SHOWS CIRCUIT FAILURE
 - damage/contamination of electrical connector P12
 - LOAD CONTROL VALVE (P12)
 - aircraft wiring
 - ECB (59KD)
 - LOAD CONTROL VALVE (8050KM)
- 2. Job Set-up Information
 - A. Fixtures, Tools, Test and Support Equipment

REFERENCE QTY DESIGNATION

No specific multimeter

B. Referenced Information

REFERENCE DESIGNATION

AMM 49-51-51-000-001 Removal of the Bleed Load Control-Valve (8050KM) (GTCP 36-300)

AMM 49-51-51-000-004 Removal of the Load Control Valve (8050KM) (131-9(A))

AMM 49-51-51-400-001 Installation of the Bleed Load Control-Valve (8050KM) (GTCP 36-300)

AMM 49-51-51-400-004 Installation of the Load Control Valve (8050KM)

(131-9(A))

AMM 49-61-34-000-003 Removal of the Electronic Control Box (ECB)

(131-9(A))

AMM 49-61-34-400-003 Installation of the Electronic Control Box (ECB) (131-9(A))

ASM 49-61/04

3. Fault Confirmation

- A. Read-out of ECB Trouble-Shooting Data
 - (1) Put the APU MASTER SW to the ON position.
 - (2) Get access to the APU LAST LEG/PREVIOUS LEG report.

EFF: 247-253,

49-00-81

■ Page A275 Config-1 May 01/08

TROUBLE SHOOTING MANUAL

- (3) Push the '>' adjacent to the related CFDS failure message: - the MCDU menu shows LOAD VALVE SOLENOID SHOWS CIRCUIT FAILURE
- (4) Get access to the APU GND SCANNING menu.

4. Fault Isolation

A. If the APU GND SCANNING menu gives the maintenance message:

LOAD CONTROL VALVE P12

associated with Fault Code Number (FCN) 127

- do a check for damage/contamination of electrical connector P12 of the LOAD CONTROL VALVE (P12).
- (1) If the electrical connector P12 is damaged/contaminated:do a repair/cleaning.
- (2) If the electrical connector is OK:
 - use a multimeter to do a resistance check across pin 1 and pin 2 of the LOAD CONTROL VALVE (P12) pin 1 and pin 5 of the LOAD CONTROL VALVE (P12)
 - (a) If the resistance is not between 15 Ohms to 80 Ohms (pin 1-2) or
 - < 100K Ohms (pin 1-5):
 - replace the LOAD CONTROL VALVE (P12) (Ref. AMM TASK 49-51-51-000-004) and (Ref. AMM TASK 49-51-51-400-004).
 - (b) If the resistance is between 15 Ohms and 80 Ohms (pin 1-2) and
 - > 100K Ohms (pin 1-5):
 - do a check and repair of the aircraft wiring between the ECB (59KD) AB/F10 and the LOAD CONTROL VALVE (P12) P12/1 and/or LOAD CONTROL VALVE (P12) P12/2 and aircraft GND (Ref. ASM 49-61/04).
 - 1 If the fault continues:
 - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-003) and (Ref. AMM TASK 49-61-34-400-003).

EFF: 247-253,

49-00-81

■ Page A276 Config-1 May 01/08

TROUBLE SHOOTING MANUAL

**ON A/C 247-253,

Post SB 49-1062 For A/C 251-251, Post SB 49-1069 For A/C 247-250,252-253,

A. If the APU GND SCANNING menu gives the maintenance message:

LOAD CONTROL VALVE (8050KM)

associated with Fault Code Number (FCN) 127

- do a check for damage/contamination of electrical connector P12 of the LOAD CONTROL VALVE (8050KM)
- (1) If the electrical connector P12 is damaged/contaminated:do a repair/cleaning.
- (2) If the electrical connector is OK:
 - use a multimeter to do a resistance check across pin 1 and pin 2 of the LOAD CONTROL VALVE (8050KM) pin 1 and pin 5 of the LOAD CONTROL VALVE (8050KM)
 - (a) If the resistance is not between 15 Ohms to 80 Ohms (pin 1-2) or
 - < 100K Ohms (pin 1-5):
 - replace the LOAD CONTROL VALVE (8050KM) (Ref. AMM TASK 49-51-51-000-001) and (Ref. AMM TASK 49-51-51-400-001).
 - (b) If the resistance is between 15 Ohms and 80 Ohms (pin 1-2) and
 - > 100K Ohms (pin 1-5):
 - do a check and repair of the aircraft wiring between the ECB (59KD) AB/F10 and the LOAD CONTROL VALVE (8050KM) P12/1 and/or LOAD CONTROL VALVE (8050KM) P12/2 and aircraft GND (Ref. ASM 49-61/04).
 - 1 If the fault continues:
 - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-003) and (Ref. AMM TASK 49-61-34-400-003).

**ON A/C 247-253,

B. Do a check of the APU GND SCANNING menu to verify the fault is not present.

EFF: 247-253,

49-00-81

TROUBLE SHOOTING MANUAL

TASK 49-00-81-810-856

Bleed Shutoff due to Reverse Flow Condition (131-9(A))

1. Possible Causes

- BLEED SHUTOFF DUE TO REVERSE FLOW CONDITION
- blockade of the APU inlet
- contamination/damage of the electrical connector P18
- SURGE CONTROL VALVE (P18)
- contamination/damage of the electrical connector P24
- DIFFERENTIAL PRESSURE TRANSDUCER (P24)
- contamination/damage of the electrical connector P23
- TOTAL PRESSURE TRANSDUCER (P23)
- flow sensor assembly and associated lines
- aircraft wiring
- ECB (59KD)
- SURGE CONTROL VALVE (8058KM)
- DIFFERENTIAL PRESSURE TRANSDUCER (8043KM)
- TOTAL PRESSURE TRANSDUCER (8044KM)

2. Job Set-up Information

A. Referenced Information

REFERENCE	DESIGNATION
49-00-81-810-871 Surge Control Valve (P18) Fault (131-9(A))	
AMM 49-00-00-860-008	APU Start by External Power (131-9(A))
AMM 49-51-16-000-002	Removal of the Transducer - Differential Pressure (8043KM) (131-9(A))
AMM 49-51-16-400-002	<pre>Installation of the Transducer - Differential Pressure (8043KM) (131-9(A))</pre>
AMM 49-51-17-000-002	Removal of the Transducer - Total Pressure (8044KM) (131-9(A))
AMM 49-51-17-400-002	<pre>Installation of the Transducer - Total Pressure (8044KM) (131-9(A))</pre>
AMM 49-51-52-000-003	Removal of the Surge Control Valve (8058KM) (131-9(A))
AMM 49-51-52-400-003	<pre>Installation of the Surge Control Valve (8058KM) (131-9(A))</pre>
AMM 49-61-34-000-003	Removal of the Electronic Control Box (ECB) (131-9(A))
AMM 49-61-34-400-003	<pre>Installation of the Electronic Control Box (ECB) (131-9(A))</pre>
ASM 49-61/04	

EFF: 247-253,

49-00-81

Page A278

TROUBLE SHOOTING MANUAL

3. Fault Confirmation

- A. Read-out of ECB Trouble-Shooting Data
 - (1) Put the APU MASTER SW to the ON position.
 - (2) Get access to the APU LAST LEG/PREVIOUS LEG report.
 - (3) Push the '>' adjacent to the related CFDS failure message:
 - the MCDU menu shows
 BLEED SHUTOFF DUE TO REVERSE FLOW CONDITION
 - (4) Do a check in the APU LAST LEG/PREVIOUS LEG report for the associated Fault Message:

SURGE CONTROL VALVE P18

- do the applicable trouble shooting procedure (Ref. TASK 49-00-81-810-871).
- (5) Fault Confirmation Procedure
 - (a) Start the APU and apply Bleed Air for 20 seconds, minimum (Ref. AMM TASK 49-00-00-860-008).
 - (b) Get access to the APU GND SCANNING menu.

4. Fault Isolation

A. If the APU GND SCANNING menu gives the maintenance message:

SCV P18 / PRESS XDCR P24 / PRESS XDCR P23

associated with Fault Code Number (FCN) 89 or 91

- do a check for blockade of the APU inlet.
- (1) If the APU inlet is blocked:
 - do a repair/cleaning.
- (2) If the APU inlet is clear:
 - do a check for contamination/damage of the electrical connector P18
 of the SURGE CONTROL VALVE (P18).
 - (a) If the electrical connector P18 is contaminated or damaged.
 - do a repair/cleaning.
 - (b) If the electrical connector P18 is OK.
 - replace the SURGE CONTROL VALVE (P18) (Ref. AMM TASK 49-51-52-000-003) and (Ref. AMM TASK 49-51-52-400-003).
 - (c) If the fault continues:
 - do a check for contamination/damage of the electrical connector
 P24 of the DIFFERENTIAL PRESSURE TRANSDUCER (P24).

EFF: 247-253,

49-00-81Config-1 May 01/08

TROUBLE SHOOTING MANUAL

- (d) If the electrical connector P24 is contaminated or damaged. - do a repair/cleaning.
- (e) If the electrical connector P24 is OK.
 - replace the DIFFERENTIAL PRESSURE TRANSDUCER (P24) (Ref. AMM TASK 49-51-16-000-002) and (Ref. AMM TASK 49-51-16-400-002).
- (f) If the fault continues:
 - do a check for contamination/damage of the electrical connector P23 of the TOTAL PRESSURE TRANSDUCER (P23).
- (g) If the electrical connector P23 is contaminated or damaged. - do a repair/cleaning.
- (h) If the electrical connector P23 is OK.
 - replace the TOTAL PRESSURE TRANSDUCER (P23) (Ref. AMM TASK 49-51-17-000-002) and (Ref. AMM TASK 49-51-17-400-002).
 - 1 If the fault continues: - do a check of the flow sensor assembly and associated lines.
 - 2 If the fault continues:
 - do check/repair of the aircraft wiring between ECB (59KD) 59KD-AB/A2,A3 and the TOTAL PRESSURE TRANSDUCER (P23) P23/3,4 ECB (59KD) 59KD-AB/B2,B3 and the DIFFERENTIAL PRESSURE TRANSDUCER (P23) P24/3,4 ECB (59KD) 59KD-AB/G6 and the SURGE CONTROL VALVE (P18) P18/8 (Ref. ASM 49-61/04).
 - If the fault continues:
 - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-003) and (Ref. AMM TASK 49-61-34-400-003).

**ON A/C 247-253,

Post SB 49-1062 For A/C 251-251, Post SB 49-1069 For A/C 247-250,252-253,

A. If the APU GND SCANNING menu gives the maintenance message:

SCV (8058KM) / PRESS XDCRS (8043KM)/(8044KM)

associated with Fault Code Number (FCN) 89 or 91

- do a check for blockade of the APU inlet.
- (1) If the APU inlet is blocked: do a repair/cleaning.

EFF: 247-253, **49-00-**

Page A280

R

TROUBLE SHOOTING MANUAL

- (2) If the APU inlet is clear:
 - do a check for contamination/damage of the electrical connector P18 of the SURGE CONTROL VALVE (8058KM).
 - (a) If the electrical connector P18 is contaminated or damaged.do a repair/cleaning.
 - (b) If the electrical connector P18 is OK.
 - replace the SURGE CONTROL VALVE (8058KM) (Ref. AMM TASK 49-51-52-000-003) and (Ref. AMM TASK 49-51-52-400-003).
 - (c) If the fault continues:
 - do a check for contamination/damage of the electrical connector
 P24 of the DIFFERENTIAL PRESSURE TRANSDUCER (8043KM9.
 - (d) If the electrical connector P24 is contaminated or damaged. - do a repair/cleaning.
 - (e) If the electrical connector P24 is OK.
 - replace the DIFFERENTIAL PRESSURE TRANSDUCER (8043KM) (Ref. AMM TASK 49-51-16-000-002) and (Ref. AMM TASK 49-51-16-400-002).
 - (f) If the fault continues:
 - do a check for contamination/damage of the electrical connector
 P23 of the TOTAL PRESSURE TRANSDUCER (8044KM).
 - (g) If the electrical connector P23 is contaminated or damaged.do a repair/cleaning.
 - (h) If the electrical connector P23 is OK.
 - replace the TOTAL PRESSURE TRANSDUCER (8044KM) (Ref. AMM TASK 49-51-17-000-002) and (Ref. AMM TASK 49-51-17-400-002).
 - 1 If the fault continues:
 - do a check of the flow sensor assembly and associated lines.
 - 2 If the fault continues:
 - do check/repair of the aircraft wiring between ECB (59KD) 59KD-AB/A2,A3 and the TOTAL PRESSURE TRANSDUCER (8044KM) P23/3,4

ECB (59KD) 59KD-AB/B2,B3 and the DIFFERENTIAL PRESSURE TRANSDUCER (8043KM) P24/3,4

ECB (59KD) 59KD-AB/G6 and the SURGE CONTROL VALVE (8058KM) P18/8

(Ref. ASM 49-61/04).

- a If the fault continues:
 - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-003) and (Ref. AMM TASK 49-61-34-400-003).

EFF: 247-253,

49-00-81 P

■ Page A281 Config-1 May 01/08

TROUBLE SHOOTING MANUAL

**ON A/C 247-253,

B. Do the test as in Para. 3.A.(4).

EFF: 247-253, SROS 49-00-81 Page A282

TROUBLE SHOOTING MANUAL

TASK 49-00-81-810-857

Air-Intake Flap-Actuator Fault (131-9(A))

1. Possible Causes

- INLET FLAP SHOWS FLAP CLOSE CIRCUIT OPEN
- INLET FLAP SHOWS FLAP CLOSE CIRCUIT SHORT
- INLET FLAP SHOWS FLAP OPEN CIRCUIT OPEN
- INLET FLAP SHOWS FLAP OPEN CIRCUIT SHORT
- INLET FLAP SHOWS FLAP CLOSE HIGH CURRENT
- INLET FLAP SHOWS FLAP FAILED TO FULLY CLOSE
- damage/contamination of the electrical connector 7527VC
- aircraft wiring
- AIR INTAKE FLAP ACTUATOR (4015KM)
- ECB (59KD)

2. Job Set-up Information

A. Referenced Information

REFERENCE		DESIGNATION
AMM	49-16-00-710-003	Operational Test of the Air Intake Flap and Diverter (131-9(A))
AMM AMM	49-16-51-000-003 49-16-51-400-003	Removal of the Air-Intake Flap Actuator (131-9(A)) Installation of the Air-Intake Flap Actuator (131-9(A))
AMM	49-61-34-000-003	Removal of the Electronic Control Box (ECB) (131-9(A))
AMM	49-61-34-400-003	<pre>Installation of the Electronic Control Box (ECB) (131-9(A))</pre>
ASM	49-16/01	

3. Fault Confirmation

- A. Read-out of ECB Trouble-Shooting Data
 - (1) Put the APU MASTER SW to the ON position.
 - (2) Get access to the APU LAST LEG/PREVIOUS LEG report.
 - (3) Push the '>' adjacent to the related CFDS failure message:
 - the MCDU menu shows:

INLET FLAP SHOWS FLAP CLOSE CIRCUIT OPEN

or

INLET FLAP SHOWS FLAP CLOSE CIRCUIT SHORT

or

INLET FLAP SHOWS FLAP OPEN CIRCUIT OPEN

or

EFF: 247-253,

49-00-81

Page A283

TROUBLE SHOOTING MANUAL

INLET FLAP SHOWS FLAP OPEN CIRCUIT SHORT OF INLET FLAP SHOWS FLAP CLOSE HIGH CURRENT OF INLET FLAP SHOWS FLAP FAILED TO FULLY CLOSE

(4) Get access to the APU GND SCANNING menu.

4. Fault Isolation

A. If the APU GND SCANNING menu gives the maintenance message:

AIR INTAKE FLAP ACTUATOR

associated with Fault Code Numbers (FCN) 64, 65, 66, 67, 69 or 72

- do a check for damage/contamination of the electrical connector 7527VC of the AIR INTAKE FLAP-ACTUATOR.
- (1) If the electrical connector 7527VC is damaged/contaminated:do a repair/cleaning.
- (2) If the electrical connector 7527VC is OK:
 - do a check and repair of the aircraft wiring from the ECB (59KD) AC/5,4 to the electrical connector 7527VCA/J,K and the ECB (59KD) AB/G2,G3,G4,G5 to the electrical connector 7527VCA/D,C,E,B and the electrical connector 7527VCA/A,L,E, to GND

the electrical connector 7527VCA/A,L,F, to GND (Ref. ASM 49-16/01).

- (a) If the aircraft wiring is OK:
 - replace the AIR INTAKE FLAP ACTUATOR (4015KM) (Ref. AMM TASK 49-16-51-000-003) and (Ref. AMM TASK 49-16-51-400-003).
- (b) If the fault continues:
 - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-003) and (Ref. AMM TASK 49-61-34-400-003).

**ON A/C 247-253,

Post SB 49-1062 For A/C 251-251, Post SB 49-1069 For A/C 247-250,252-253,

A. If the APU GND SCANNING menu gives the maintenance message:

AIR INTAKE FLAP ACTUATOR (4015KM)

associated with Fault Code Numbers (FCN) 64, 65, 66, 67, 69 or 72

EFF: 247-253,

49-00-81

Page A284

TROUBLE SHOOTING MANUAL

- do a check for damage/contamination of the electrical connector 7527VC of the AIR INTAKE FLAP-ACTUATOR (4015KM).
- (1) If the electrical connector 7527VC is damaged/contaminated: - do a repair/cleaning.
- (2) If the electrical connector 7527VC is OK:
 - do a check and repair of the aircraft wiring from the ECB (59KD) AC/5,4 to the electrical connector 7527VCA/J,K the ECB (59KD) AB/G2,G3,G4,G5 to the electrical connector 7527VCA/D,C,E,B the electrical connector 7527VCA/A,L,F, to GND (Ref. ASM 49-16/01).
 - (a) If the aircraft wiring is OK:
 - replace the AIR INTAKE FLAP ACTUATOR (4015KM) (Ref. AMM TASK 49-16-51-000-003) and (Ref. AMM TASK 49-16-51-400-003).
 - (b) If the fault continues:
 - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-003) and (Ref. AMM TASK 49-61-34-400-003).

**ON A/C 247-253,

B. Do the operational test of the AIR INTAKE FLAP-ACTUATOR (Ref. AMM TASK 49-16-00-710-003).

EFF: 247-253, 49-00-

Page A285

R

TROUBLE SHOOTING MANUAL

TASK 49-00-81-810-858

IGV-Actuator (P21) Fault (131-9(A))

- 1. Possible Causes
 - IGV LVDT PRIMARY SHOWS OPEN CIRCUIT
 - IGV LVDT SECONDARY SHOWS OPEN CIRCUIT
 - IGV LVDT EXCITATION CIRCUIT FAILURE
 - damage/contamination of electrical connector P21
 - IGV ACTUATOR (P21)
 - aircraft wiring
 - ECB (59KD)
 - IGV ACTUATOR (8014KM)
- 2. Job Set-up Information
 - A. Fixtures, Tools, Test and Support Equipment

QTY DESIGNATION

No specific

multimeter

B. Referenced Information

REFERENCE		RENCE	DESIGNATION	
A	AMM	49-23-51-000-004	Removal of the Inlet Guide Vane - Actuator (8014KM) (131-9(A))	
A	MM	49-23-51-400-004	<pre>Installation of the Inlet Guide Vane - Actuator (8014KM) (131-9(A))</pre>	
A	MM	49-61-34-000-003	Removal of the Electronic Control Box (ECB) (131-9(A))	
A	MM	49-61-34-400-003	Installation of the Electronic Control Box (ECB) (131-9(A))	
A	ASM	49-61/04	····	

3. Fault Confirmation

- A. Read-out of ECB Trouble-Shooting Data
 - (1) Put the APU MASTER SW to the ON position.
 - (2) Get access to the APU LAST LEG/PREVIOUS LEG report.

EFF: 247-253,

49-00-

Page A286

TROUBLE SHOOTING MANUAL

- (3) Push the '>' adjacent to the related CFDS failure message:
 - the MCDU menu shows:

IGV LVDT PRIMARY SHOWS OPEN CIRCUIT

or

IGV LVDT SECONDARY SHOWS OPEN CIRCUIT

or

IGV LVDT EXCITATION CIRCUIT FAILURE

- (4) Get access to the APU GND SCANNING menu.
- 4. Fault Isolation
 - A. If the APU GND SCANNING menu gives the maintenance message:

IGV ACTUATOR P21

associated with Fault Code Number (FCN) 81

- do a check for damage/contamination of electrical connector P21 of the IGV ACTUATOR (P21).
- (1) If the electrical connector P21 is damaged/contaminated:
 - do a repair/cleaning.
- (2) If the electrical connector is OK:
 - use a multimeter to do a resistance check across pin 1 and pin 6 of the IGV ACTUATOR (P21).
 - (a) If the resistance value is not between 50 0hms and 300 0hms:
 - replace the IGV ACTUATOR (P21) (Ref. AMM TASK 49-23-51-000-004) and (Ref. AMM TASK 49-23-51-400-004).
 - (b) If the resistance value is between 50 Ohms and 300 Ohms:
 - do a check and repair of the aircraft wiring from the ECB (59KD) AB/E8,E9 to the IGV ACTUATOR (P21) P21/1,6 (Ref. ASM 49-61/04).
 - 1 If the fault continues:
 - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-003) and (Ref. AMM TASK 49-61-34-400-003).
- B. If the APU GND SCANNING menu gives the maintenance message:

IGV ACTUATOR P21

associated with Fault Code Number (FCN) 82

- do a check for damage/contamination of electrical connector P21 of the IGV ACTUATOR (P21).
- (1) If the electrical connector P21 is damaged/contaminated:
 - do a repair/cleaning.

EFF: 247-253,

49-00-81

Page A287

TROUBLE SHOOTING MANUAL

- (2) If the electrical connector is OK:
 - use a multimeter to do a resistance check across pin 2 and pin 5 of the IGV ACTUATOR (P21).
 - (a) If the resistance is not between 10 0hms and 100 0hms:
 - replace the IGV ACTUATOR (P21) (Ref. AMM TASK 49-23-51-000-004)
 and (Ref. AMM TASK 49-23-51-400-004).
 - (b) If the resistance is between 10 0hms and 100 0hms:
 - do a check and repair of the aircraft wiring from the ECB (59KD) AB/E11,E12 to the IGV ACTUATOR (P21) P21/2,5 (Ref. ASM 49-61/04).
 - 1 If the fault continues:
 - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-003) and (Ref. AMM TASK 49-61-34-400-003).

**ON A/C 247-253,

Post SB 49-1062 For A/C 251-251, Post SB 49-1069 For A/C 247-250,252-253,

A. If the APU GND SCANNING menu gives the maintenance message:

IGV ACTUATOR (8014KM)

associated with Fault Code Number (FCN) 81

- do a check for damage/contamination of electrical connector P21 of the IGV ACTUATOR (8014KM).
- (1) If the electrical connector P21 is damaged/contaminated:

 do a repair/cleaning.
- (2) If the electrical connector is OK:
 - use a multimeter to do a resistance check across pin 1 and pin 6 of the IGV ACTUATOR (8014KM).
 - (a) If the resistance value is not between 50 Ohms and 300 Ohms:
 - replace the IGV ACTUATOR (8014KM) (Ref. AMM TASK 49-23-51-000-004) and (Ref. AMM TASK 49-23-51-400-004).
 - (b) If the resistance value is between 50 Ohms and 300 Ohms:
 - do a check and repair of the aircraft wiring from the ECB (59KD) AB/E8,E9 to the IGV ACTUATOR (8014KM) P21/1,6 (Ref. ASM 49-61/04).
 - 1 If the fault continues:
 - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-003) and (Ref. AMM TASK 49-61-34-400-003).

EFF: 247-253,

49-00-81

■ Page A288 Config-1 May 01/08

TROUBLE SHOOTING MANUAL

B. If the APU GND SCANNING menu gives the maintenance message:

IGV ACTUATOR (8014KM)

associated with Fault Code Number (FCN) 82

- do a check for damage/contamination of electrical connector P21 of the IGV ACTUATOR (8014KM)
- (1) If the electrical connector P21 is damaged/contaminated: - do a repair/cleaning.
- (2) If the electrical connector is OK:
 - use a multimeter to do a resistance check across pin 2 and pin 5 of the IGV ACTUATOR (P21).
 - (a) If the resistance is not between 10 0hms and 100 0hms:
 - replace the IGV ACTUATOR (8014KM) (Ref. AMM TASK 49-23-51-000-004) and (Ref. AMM TASK 49-23-51-400-004).
 - (b) If the resistance is between 10 0hms and 100 0hms:
 - do a check and repair of the aircraft wiring from the ECB (59KD) AB/E11,E12 to the IGV ACTUATOR (8014KM) P21/2,5 (Ref. ASM 49-61/04).
 - 1 If the fault continues:
 - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-003) and (Ref. AMM TASK 49-61-34-400-003).

**ON A/C 247-253,

Post SB 49-1062 For A/C 247-253, Post SB 49-1069 For A/C 247-250,252-253,

C. If the APU GND SCANNING menu gives the maintenance message:

IGV ACTUATOR (8014KM) ECB (59KD)

associated with Fault Code Number (FCN) 80

- do a check for damage/contamination of electrical connector P21 of the IGV ACTUATOR (8014KM)
- (1) If the electrical connector P21 is damaged/contaminated:
 - do a repair/cleaning.

EFF: 247-253,

49-00-81

Page A289

TROUBLE SHOOTING MANUAL

- (2) If the electrical connector is OK:
 - use a multimeter to do a resistance check across pin 1 and pin 6 of the IGV ACTUATOR (8014KM).
 - (a) If the resistance value is not between 50 0hms and 300 0hms (pin 1,6):
 - replace the IGV ACTUATOR (8014KM) (Ref. AMM TASK 49-23-51-000-004) and (Ref. AMM TASK 49-23-51-400-004).
 - (b) If the resistance value is between 50 0hms and 300 0hms (pin 1,6):
 - do a check and repair of the aircraft wiring from the ECB (59KD) AB/E8,E9 to the IGV ACTUATOR (8014KM) P21/1,6 (Ref. ASM 49-61/04).
 - 1 If the fault continues:
 - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-003) and (Ref. AMM TASK 49-61-34-400-003).

**ON A/C 247-253,

D. Do a check of the APU GND SCANNING menu to verify the fault is not present.

EFF: 247-253,

49-00-81

■ Page A290 Config-1 May 01/08

TROUBLE SHOOTING MANUAL

TASK 49-00-81-810-859

Fuel-Control Unit (P19) Fault (131-9(A))

- 1. Possible Causes
 - FUEL TEMP SENSOR SHOWS OUT OF RANGE LOW
 - FUEL TEMP SENSOR SHOWS OUT OF RANGE HIGH
 - damage/contamination of electrical connector P19
 - FUEL CONTROL UNIT (P19)
 - aircraft wiring
 - ECB (59KD)
 - FUEL CONTROL UNIT (8022KM)
- 2. Job Set-up Information
 - A. Fixtures, Tools, Test and Support Equipment

QTY DESIGNATION

No specific

multimeter

B. Referenced Information

REFERENCE		DESIGNATION
AMM	49-32-11-000-003	Removal of the Fuel Control Unit (FCU) (8022KM) (131-9(A))
AMM	49-32-11-400-003	<pre>Installation of the Fuel Control Unit (FCU) (8022KM) (131-9(A))</pre>
AMM	49-61-34-000-003	Removal of the Electronic Control Box (ECB) (131-9(A))
AMM	49-61-34-400-003	<pre>Installation of the Electronic Control Box (ECB) (131-9(A))</pre>

ASM 49-61/04

3. Fault Confirmation

- A. Read-out of ECB Trouble-Shooting Data
 - (1) Put the APU MASTER SW to the ON position.
 - (2) Get access to the APU LAST LEG/PREVIOUS LEG report.

EFF: 247-253,

49-00-

Page A291 Config-1 May 01/08

TROUBLE SHOOTING MANUAL

- (3) Push the '>' adjacent to the related CFDS failure message:
 - the MCDU menu shows:

FUEL TEMP SENSOR SHOWS OUT OF RANGE LOW

Σr

FUEL TEMP SENSOR SHOWS OUT OF RANGE HIGH

- (4) Get access to the APU GND SCANNING menu.
- 4. Fault Isolation
 - A. If the APU GND SCANNING menu gives the maintenance message:

FUEL CONTROL UNIT P19

associated with Fault Code Number (FCN) 51 or 52

- do a check for damage/contamination of electrical connector P19 of the FUEL CONTROL UNIT (P19)
- (1) If the electrical connector P19 is damaged/contaminated:do a repair/cleaning.
- (2) If the electrical connector is OK:
 - use a multimeter to do a resistance check across pin 4 and pin 5 of the FUEL CONTROL UNIT (P19).
 - (a) If the resistance value is not between 72 0hms to 200 0hms: - replace the FUEL CONTROL UNIT (P19) (Ref. AMM TASK 49-32-11-000-003) and (Ref. AMM TASK 49-32-11-400-003).
 - (b) If the resistance value is between 72 0hms to 200 0hms:
 - do a check and repair of the aircraft wiring from the ECB (59KD) AB/C3,C4 to the FUEL CONTROL UNIT (P19) P19/4,5 (Ref. ASM 49-61/04).
 - 1 If the fault continues:
 - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-003) and (Ref. AMM TASK 49-61-34-400-003).

**ON A/C 247-253,

Post SB 49-1062 For A/C 251-251, Post SB 49-1069 For A/C 247-250,252-253,

A. If the APU GND SCANNING menu gives the maintenance message:

FUEL CONTROL UNIT (8022KM)

associated with Fault Code Number (FCN) 51 or 52

 do a check for damage/contamination of electrical connector P19 of the FUEL CONTROL UNIT (8022KM).

EFF: 247-253,

49-00-81 Page 1

TROUBLE SHOOTING MANUAL

- (1) If the electrical connector P19 is damaged/contaminated: - do a repair/cleaning.
- (2) If the electrical connector is OK:
 - use a multimeter to do a resistance check across pin 4 and pin 5 of the FUEL CONTROL UNIT (8022KM).
 - (a) If the resistance value is not between 72 Ohms to 200 Ohms:
 - replace the FUEL CONTROL UNIT (8022KM) (Ref. AMM TASK 49-32-11-000-003) and (Ref. AMM TASK 49-32-11-400-003).
 - (b) If the resistance value is between 72 0hms to 200 0hms:
 - do a check and repair of the aircraft wiring from the ECB (59KD) AB/C3,C4 to the FUEL CONTROL UNIT (8022KM) P19/4,5 (Ref. ASM 49-61/04).
 - 1 If the fault continues:
 - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-003) and (Ref. AMM TASK 49-61-34-400-003).

**ON A/C 247-253,

B. Do a check of the APU GND SCANNING menu to verify the fault is not present.

EFF: 247-253, 49-00-81

Page A293

TROUBLE SHOOTING MANUAL

TASK 49-00-81-810-860

Inlet Pressure Transducer (P22) Fault (131-9(A))

1. Possible Causes

- INLET PRESSURE SENSOR SHOWS OUT OF RANGE
- INLET PRESSURE SENSOR SHOWS < 8 PSIA ON GROUND
- INLET PRESSURE SENSOR SHOWS OUT OF RANGE LOW
- INLET PRESSURE SENSOR SHOWS OUT OF RANGE HIGH
- damage/contamination of electrical connector P22
- INLET PRESSURE TRANSDUCER (P22)
- aircraft wiring
- ECB (59KD)

R

- damage/contamination of electrical connector P23
- damage/contamination of electrical connector P24
- TOTAL PRESSURE TRANSDUCER (P23)
- DIFFERENTIAL PRESSURE TRANSDUCER (P24)
- INLET PRESSURE TRANSDUCER (8048KM)
 - TOTAL PRESSURE TRANSDUCER (8044KM)
 - DIFFERENTIAL PRESSURE TRANSDUCER (8043KM)

2. Job Set-up Information

A. Referenced Information

REFERENCE		DESIGNATION
AMM	49-51-16-000-002	Removal of the Transducer - Differential Pressure (8043KM) (131-9(A))
AMM	49-51-16-400-002	Installation of the Transducer - Differential Pressure (8043KM) (131-9(A))
AMM	49-51-17-000-002	Removal of the Transducer - Total Pressure (8044KM) (131-9(A))
AMM	49-51-17-400-002	<pre>Installation of the Transducer - Total Pressure (8044KM) (131-9(A))</pre>
AMM	49-51-21-000-001	Removal of the Transducer - APU Inlet Pressure (8048KM) (131-9(A))
AMM	49-51-21-400-001	<pre>Installation of the Transducer - APU Inlet Pressure (8048KM) (131-9(A))</pre>
AMM	49-61-34-000-003	Removal of the Electronic Control Box (ECB) (131-9(A))
AMM	49-61-34-400-003	<pre>Installation of the Electronic Control Box (ECB) (131-9(A))</pre>
ASM	49-61/04	

EFF: 247-253,

49-00-81

Page A294 Config-1 May 01/08

SROS

TROUBLE SHOOTING MANUAL

3. Fault Confirmation

- A. Read-out of ECB Trouble-Shooting Data
 - (1) Put the APU MASTER SW to the ON position.
 - (2) Get access to the APU LAST LEG/PREVIOUS LEG report.
 - (3) Push the '>' adjacent to the related CFDS failure message:
 - the MCDU menu shows:

INLET PRESSURE SENSOR SHOWS OUT OF RANGE

INLET PRESSURE SENSOR SHOWS 8 PSIA ON GROUND

INLET PRESSURE SENSOR SHOWS OUT OF RANGE LOW

INLET PRESSURE SENSOR SHOWS OUT OF RANGE HIGH

(4) Get access to the APU GND SCANNING menu.

4. Fault Isolation

A. If the APU GND SCANNING menu gives the maintenance message:

INLET PRESS XDCR P22

associated with Fault Code Number (FCN) 21, 22, 23 or 24

- do a check for damage/contamination of electrical connector P22 of the INLET PRESSURE TRANSDUCER (P22)
- (1) If the electrical connector P22 is damaged/contaminated:
 - do a repair/cleaning.
- (2) If the electrical connector is OK:
 - replace the INLET PRESSURE TRANSDUCER (P22) (Ref. AMM TASK 49-51-21-000-001) and (Ref. AMM TASK 49-51-21-400-001).
 - (a) If the fault continues:
 - do a check and repair of the aircraft wiring from the ECB (59KD) AB/C8,C9 to the INLET PRESSURE TRANSDUCER (P22) P22/3,4 (Ref. ASM 49-61/04).
 - If the fault continues:
 - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-003) and (Ref. AMM TASK 49-61-34-400-003).

EFF: 247-253, **49-00-**

Page A295

TROUBLE SHOOTING MANUAL

R R B. If the TEST menu or the APU GND SCANNING menu gives the maintenance R message: R TOTAL PRESS XDCR P24 R R associated with Fault Code Number (FCN) 27 R R - do a check for damage/contamination of electrical connector P23 of the TOTAL PRESSURE TRANSDUCER (P23) R R - do a check for damage/contamination of electrical connector P24 of the DIFFERENTIAL PRESSURE TRANSDUCER (P24) R (1) If the electriacl connector P23/P24 are damaged/contaminated: R R do a repair/cleaning. R (2) If the electrical connectors are OK: - replace the TOTAL PRESSURE TRANSDUCER (P23) (Ref. AMM TASK 49-51-R 17-000-002) and (Ref. AMM TASK 49-51-17-400-002). R R (a) If the fault continues: - replace the DIFFERENTIAL PRESSURE TRANSDUCER (P24) (Ref. AMM R TASK 49-51-16-000-002) and (Ref. AMM TASK 49-51-16-400-002). R If the fault continues: R - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-003) and R (Ref. AMM TASK 49-61-34-400-003). R **ON A/C 247-253,

R Post SB 49-1062 For A/C 251-251, R Post SB 49-1069 For A/C 247-250,252-253,

A. If the APU GND SCANNING menu gives the maintenance message:

INLET PRESS XDCR (8048KM)

associated with Fault Code Number (FCN) 21, 22, 23 or 24

- do a check for damage/contamination of electrical connector P22 of the INLET PRESSURE TRANSDUCER (8048KM)
- (1) If the electrical connector P22 is damaged/contaminated: - do a repair/cleaning.

EFF: 247-253,

SROS

49-00-81

Page A296

TROUBLE SHOOTING MANUAL

- (2) If the electrical connector is OK:
 - replace the INLET PRESSURE TRANSDUCER (8048KM) (Ref. AMM TASK 49-51-21-000-001) and (Ref. AMM TASK 49-51-21-400-001).
 - (a) If the fault continues:
 - do a check and repair of the aircraft wiring from the ECB (59KD) AB/C8,C9 to the INLET PRESSURE TRANSDUCER (8048KM) P22/3,4 (Ref. ASM 49-61/04).
 - 1 If the fault continues:
 - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-003) and (Ref. AMM TASK 49-61-34-400-003).

R

B. If the TEST menu or the APU GND SCANNING menu gives the maintenance message:

TOTAL PRESS XDCR (8044KM)

associated with Fault Code Number (FCN) 27

- do a check for damage/contamination of electrical connector P23 of the TOTAL PRESSURE TRANSDUCER (8044KM).
- do a check for damage/contamination of electrical connector P24 of the DIFFERENTIAL PRESSURE TRANSDUCER (8043KM)
- (1) If the electriacl connectors P23/P24 are damaged/contaminated: - do a repair/cleaning.
- (2) If the electrical connectors are OK:
 - replace the TOTAL PRESSURE TRANSDUCER (8044KM) (Ref. AMM TASK 49-51-17-000-002) and (Ref. AMM TASK 49-51-17-400-002).
 - (a) If the fault continues:
 - replace the DIFFERENTIAL PRESSURE TRANSDUCER (8043KM) (Ref. AMM TASK 49-51-16-000-002).
 - 1 If the fault continues:
 - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-003) and (Ref. AMM TASK 49-61-34-400-003).

**ON A/C 247-253,

C. Do a check of the APU GND SCANNING menu to verify the fault is not present.

EFF: 247-253,

49-00-81

Page A297

TROUBLE SHOOTING MANUAL

TASK 49-00-81-810-861

Load-Control Valve (P12) Fault (131-9(A))

1. Possible Causes

- LOAD CONTROL VALVE SHOWS OPEN SWITCH FAILURE
- LOAD CONTROL VALVE SHOWS CLOSED SWITCH FAILURE
- LOAD VALVE SOLENOID SHOWS CIRCUIT FAILURE
- LOAD VALVE OPEN SIGNAL SHOWS CIRCUIT FAILURE
- LOAD CONTROL VALVE SHOWS NOT CLOSED
- LOAD CONTROL VALVE SHOWS OPEN AND CLOSED
- LOAD CONTROL VALVE SHOWS NOT OPEN
- damage/contamination of electrical connector P12
- LOAD CONTROL VLV (P12)
- aircraft wiring
- ECB (59KD)
- LOAD CONTROL VLV (8050KM)

2. Job Set-up Information

A. Referenced Information

REFERENCE		DESIGNATION
AMM	49-00-00-860-008	APU Start by External Power (131-9(A))
AMM	49-51-51-000-004	Removal of the Load Control Valve (8050KM) (131-9(A))
AMM	49-51-51-400-004	<pre>Installation of the Load Control Valve (8050KM) (131-9(A))</pre>
AMM	49-61-34-000-003	Removal of the Electronic Control Box (ECB) (131-9(A))
AMM	49-61-34-400-003	<pre>Installation of the Electronic Control Box (ECB) (131-9(A))</pre>
ASM	49-61/04	

3. Fault Confirmation

**ON A/C 247-250, 252-253,

Post SB 49-1069 For A/C 247-250,252-253,

- A. Read-out of ECB Trouble-Shooting Data
 - (1) Put the APU MASTER SW to the ON position.
 - (2) Get access to the APU LAST LEG/PREVIOUS LEG report.
 - (3) Push the '>'-key adjacent to the related CFDS failure message.

EFF: 247-253, **49-00-**

Page A298

TROUBLE SHOOTING MANUAL

(4) If the MCDU menu shows:

LOAD CONTROL VALVE SHOWS OPEN SWITCH FAILURE

LOAD CONTROL VALVE SHOWS CLOSED SWITCH FAILURE

LOAD VALVE SOLENOID SHOWS CIRCUIT FAILURE

LOAD VALVE OPEN SIGNAL SHOWS CIRCUIT FAILURE - do the Fault Confirmation that follows:

- (a) Get access to the APU TEST menu.
- (b) Push the TEST line key.
- (5) If the MCDU menu shows LOAD CONTROL VALVE SHOWS NOT CLOSED

LOAD CONTROL VALVE SHOWS OPEN AND CLOSED - do the Fault Confirmation that follows:

- (a) Get access to the APU GND SCANNING menu.
- (6) If the MCDU menu shows LOAD CONTROL VALVE SHOWS NOT OPEN - do the Fault Confirmation that follows:
 - (a) Start the APU and apply Bleed Air for 20 seconds, minimum (Ref. AMM TASK 49-00-00-860-008)
 - (b) Get access to the APU GND SCANNING menu.

**ON A/C 247-253,

- A. Read-out of ECB Trouble-Shooting Data
 - (1) Put the APU MASTER SW to the ON position.
 - (2) Get access to the APU LAST LEG/PREVIOUS LEG report.
 - (3) Push the '>'-key adjacent to the related CFDS failure message.
 - (4) If the MCDU menu shows:

LOAD CONTROL VALVE SHOWS OPEN SWITCH FAILURE

LOAD CONTROL VALVE SHOWS CLOSED SWITCH FAILURE

LOAD VALVE SOLENOID SHOWS CIRCUIT FAILURE

LOAD VALVE OPEN SIGNAL SHOWS CIRCUIT FAILURE

- do the Fault Confirmation that follows:

EFF: 247-253, **49-00-**

Page A299

Config-1 May 01/08

R

TROUBLE SHOOTING MANUAL

- (a) Get access to the APU TEST menu.
- (b) Push the TEST line key.
- (5) If the MCDU menu shows LOAD CONTROL VALVE SHOWS NOT OPEN - do the Fault Confirmation that follows:
 - (a) Start the APU and apply Bleed Air for 20 seconds, minimum (Ref. AMM TASK 49-00-00-860-008)
 - (b) Get access to the APU GND SCANNING menu.

4. Fault Isolation

A. If the APU GND SCANNING menu gives the maintenance message:

LOAD CONTROL VALVE P12

associated with Fault Code Number (FCN) 88, 96, 97 or 127

or

WRG: LOAD VALVE OPEN SIGNAL

associated with Fault Code Number (FCN) 138

- do a check for damage/contamination of electrical connector P12 of the LOAD CONTROL VALVE (P12).
- (1) If the electrical connector P12 is damaged/contaminated: - do a repair/cleaning.
- (2) If the electrical connector is OK:
 - replace the LOAD CONTROL VLV (P12) (Ref. AMM TASK 49-51-51-000-004) and (Ref. AMM TASK 49-51-51-400-004).
 - (a) If the fault continues:
 - do a check and repair of the aircraft wiring from the ECB (59KD) AB/F10,D7,D14 to the LOAD CONTROL VALVE (P12) P12/1,3,4 the LOAD CONTROL VALVE (P12) P12/2 to GND (Ref. ASM 49-61/04).
 - 1 If the fault continues:
 - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-003) and (Ref. AMM TASK 49-61-34-400-003).

EFF: 247-253, **49-00-**

Page B200

TROUBLE SHOOTING MANUAL

**ON A/C 247-253,

Post SB 49-1062 For A/C 251-251, Post SB 49-1069 For A/C 247-250,252-253,

A. If the APU GND SCANNING menu gives the maintenance message:

LOAD CONTROL VALVE (8050KM)

associated with Fault Code Number (FCN) 88, 96, 97 or 127

or

WRG: LOAD VALVE OPEN SIGNAL

associated with Fault Code Number (FCN) 138

- do a check for damage/contamination of electrical connector P12 of the LOAD CONTROL VALVE (8050KM).
- (1) If the electrical connector P12 is damaged/contaminated: do a repair/cleaning.
- (2) If the electrical connector is OK:
 - replace the LOAD CONTROL VLV (8050KM) (Ref. AMM TASK 49-51-51-000-004) and (Ref. AMM TASK 49-51-51-400-004).
 - (a) If the fault continues:
 - do a check and repair of the aircraft wiring from the ECB (59KD) AB/F10,D7,D14 to the LOAD CONTROL VALVE (8050KM) P12/1,3,4 the LOAD CONTROL VALVE (8050KM) P12/2 to GND (Ref. ASM 49-61/04).
 - If the fault continues:
 - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-003) and (Ref. AMM TASK 49-61-34-400-003).

**ON A/C 247-253,

B. Do the test given in para. 3.

EFF: 247-253, **49-00-**

Page B201

R

TROUBLE SHOOTING MANUAL

TASK 49-00-81-810-862

"APU AVAIL"- Signal Fault (131-9(A))

1. Possible Causes

- APU AVAILABLE SHOWS CIRCUIT FAILURE
- ANNUNCIATOR-LIGHT TEST AND INTERFACE-BOARD (7LP)
- aircraft wiring
- ECB (59KD)

2. Job Set-up Information

A. Referenced Information

REFERENCE		DESIGNATION	
АММ	33-14-00-710-001	Operational Test of the Lights	
AMM	33-14-33-000-001	Removal of the Annunciator-Light Test and Interface-Board (1LP, 2LP, 3LP, 4LP, 5LP, 6LP, 7LP,	
AMM	33-14-33-400-001	8LP, 9LP, 10LP, 11LP, 12LP, 18LP, 19LP, 20LP) Installation of the Annunciator-Light Test and Interface-Board (1LP, 2LP, 3LP, 4LP, 5LP, 6LP, 7LP,	
AMM	49-61-34-000-003	8LP, 9LP, 10LP, 11LP, 12LP, 18LP, 19LP, 20LP) Removal of the Electronic Control Box (ECB) (131-9(A))	
AMM	49-61-34-400-003	<pre>Installation of the Electronic Control Box (ECB) (131-9(A))</pre>	
ASM	49-61/01		

3. Fault Confirmation

- A. Read-out of ECB Trouble-Shooting Data
 - (1) Put the APU MASTER SW to the ON position.
 - (2) Get access to the APU LAST LEG/PREVIOUS LEG report.
 - (3) Push the '>'-key adjacent to the related CFDS failure message.
 - (4) If the MCDU menu shows: APU AVAILABLE SHOWS CIRCUIT FAILURE
 - do the Fault Confirmation that follows:
 - (a) Get access to the APU GND SCANNING menu.

EFF: 247-253, 49-00-

Page B202

TROUBLE SHOOTING MANUAL

4. Fault Isolation

A. If the APU GND SCANNING menu gives the maintenance message:

WRG: APU AVAILABLE

associated with Fault Code Number (FCN) 130

- do the Operational Test of the Annunciator Light Test System in the Cockpit (Ref. AMM TASK 33-14-00-710-001).
- (1) If the AVAIL/ON annunciator lights on the APU START P/B (2KA) on the panel 25VU do not come ON:
 - replace the ANNUNCIATOR-LIGHT TEST AND INTERFACE-BOARD (7LP) (Ref. AMM TASK 33-14-33-000-001) and (Ref. AMM TASK 33-14-33-400-001).
 - (a) If the fault continues: - replace the APU START P/B (2KA).
- (2) If AVAIL/ON annunciator lights on the APU START P/B (2KA) come ON: - do a check and repair of the aircraft wiring from the ECB (59KD) AB/J6 to the RELAY-APU AVAIL (6KD) A/X1 the RELAY-ANNUNCIATOR-LIGHT TEST AND INTERFACE-BOARD (7LP) A/21 (Ref. ASM 49-61/01).
- (3) If the fault continues:
 - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-003) and (Ref. AMM TASK 49-61-34-400-003).
- B. Do the test given in para. 3.

EFF: 247-253, 49-00-

Page B203

R

TROUBLE SHOOTING MANUAL

TASK 49-00-81-810-863

APU Fault Relay failure (131-9(A))

1. Possible Causes

- FAULT RELAY SHOWS CIRCUIT FAILURE
- ANNUNCIATOR-LIGHT TEST AND INTERFACE-BOARD (7LP)
- aircraft wiring
- ECB (59KD)

2. Job Set-up Information

A. Referenced Information

REFERENCE		DESIGNATION
АММ	33-14-00-710-001	Operational Test of the Lights
AMM		Operational Test of the Lights Removal of the Annunciator-Light Test and
Ailli	33 14 33 000 001	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, 8LP, 9LP, 10LP, 11LP, 12LP, 18LP, 19LP, 20LP)
AMM	49-61-34-000-003	Removal of the Electronic Control Box (ECB) (131-9(A))
AMM	49-61-34-400-003	<pre>Installation of the Electronic Control Box (ECB) (131-9(A))</pre>
ASM	49-61/01	

3. Fault Confirmation

- A. Read-out of ECB Trouble-Shooting Data
 - (1) Put the APU MASTER SW to the ON position.
 - (2) Get access to the APU LAST LEG/PREVIOUS LEG report.
 - (3) Push the '>'-key adjacent to the related CFDS failure message.
 - (4) If the MCDU menu shows:
 FAULT RELAY SHOWS CIRCUIT FAILURE
 - do the Fault Confirmation that follows:
 - (a) Get access to the APU GND SCANNING menu.

EFF: 247-253,

49-00-81

Page B204

TROUBLE SHOOTING MANUAL

4. Fault Isolation

A. If the APU GND SCANNING menu gives the maintenance message:

WRG: APU FAULT RELAY

associated with Fault Code Number (FCN) 136

- do the Operational Test of the Annunciator Light Test System in the Cockpit (Ref. AMM TASK 33-14-00-710-001).
- (1) If the FAULT/ON annunciator lights on the APU MASTER SW P/BSW (14KD) do not come ON:
 - replace the ANNUNCIATOR-LIGHT TEST AND INTERFACE-BOARD (7LP) (Ref. AMM TASK 33-14-33-000-001) and (Ref. AMM TASK 33-14-33-400-001).
 - (a) If the fault continues:
 replace the APU MASTER SW (14KD).
- (2) If the FAULT/ON annunciator lights on the APU MASTER SW P/BSW (14KD) come ON:
 - do a check and repair of the aircraft wiring from the ECB (59KD) AB/H5 to the RELAY-ANNUNCIATOR-LIGHT TEST AND INTERFACE-BOARD (7LP) A/39 and

the RELAY 2-FIRE EMER STOP (6WF) A/X2 (Ref. ASM 49-61/01).

- (a) If the fault continues:
 - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-003) and (Ref. AMM TASK 49-61-34-400-003).
- B. Do the test given in para. 3.

EFF: 247-253,

49-00-81

Page B205

R

TROUBLE SHOOTING MANUAL

TASK 49-00-81-810-864

"LCV-OPEN"- Signal Fault (131-9(A))

- 1. Possible Causes
 - LOAD VALVE OPEN SIGNAL SHOWS CIRCUIT FAILURE
 - aircraft wiring
 - ECB (59KD)
- 2. Job Set-up Information
 - A. Referenced Information

REFERENCE		DESIGNATION
AMM	49-61-34-000-003	Removal of the Electronic Control Box (ECB)
AMM	49-61-34-400-003	<pre>(131-9(A)) Installation of the Electronic Control Box (ECB) (131-9(A))</pre>
ASM	36-12/01	

3. Fault Confirmation

- A. Read-out of ECB Trouble-Shooting Data
 - (1) Put the APU MASTER SW to the ON position.
 - (2) Get access to the APU LAST LEG/PREVIOUS LEG report.
 - (3) Push the '>'-key adjacent to the related CFDS failure message.
 - (4) If the MCDU menu shows:
 LOAD VALVE OPEN SIGNAL SHOWS CIRCUIT FAILURE
 - do the Fault Confirmation that follows:
 - (a) Get access to the APU GND SCANNING menu.

4. Fault Isolation

A. If the APU GND SCANNING menu gives the maintenance message:

WRG: LOAD VALVE OPEN SIGNAL

associated with Fault Code Number (FCN) 138

 do a check of the aircraft wiring from the ECB (59KD) AB/D6 to the BLEED MONITORING COMPUTER (1HA1) AB/6A and

EFF: 247-253,

49-00-81

Page B206

TROUBLE SHOOTING MANUAL

THE BLEED MONITORING COMPUTER (1HA2) AB/6A, (Ref. ASM 36-12/01).

- (1) If the fault continues:
 - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-003) and (Ref. AMM TASK 49-61-34-400-003).
- B. Do the test given in para. 3.

EFF: 247-253,

49-00-81

Page B207

TROUBLE SHOOTING MANUAL

TASK 49-00-81-810-865

"START IN PROGRESS"- Signal Fault (131-9(A))

1. Possible Causes

- APU START IN PROGRESS SHOWS CIRCUIT FAILURE
- ANNUNCIATOR-LIGHT TEST AND INTERFACE-BOARD (7LP)
- aircraft wiring
- ECB (59KD)

2. Job Set-up Information

A. Referenced Information

REFERENCE	DESIGNATION
AMM 33-14-00-710-00	1 Operational Test of the Lights
AMM 33-14-33-000-00	'
	8LP, 9LP, 10LP, 11LP, 12LP, 18LP, 19LP, 20LP)
AMM 33-14-33-400-00	Installation of the Annunciator-Light Test and Interface-Board (1LP, 2LP, 3LP, 4LP, 5LP, 6LP, 7LP,
	8LP, 9LP, 10LP, 11LP, 12LP, 18LP, 19LP, 20LP)
AMM 49-61-34-000-00	3 Removal of the Electronic Control Box (ECB) (131-9(A))
AMM 49-61-34-400-00	<pre>3 Installation of the Electronic Control Box (ECB) (131-9(A))</pre>
ASM 49-42/01	

3. Fault Confirmation

- A. Read-out of ECB Trouble-Shooting Data
 - (1) Put the APU MASTER SW to the ON position.
 - (2) Get access to the APU LAST LEG/PREVIOUS LEG report.
 - (3) Push the '>'-key adjacent to the related CFDS failure message.
 - (4) If the MCDU menu shows:

 APU START IN PROGRESS SHOWS CIRCUIT FAILURE
 - do the Fault Confirmation that follows:
 - (a) Get access to the APU GND SCANNING menu.

EFF: 247-253,

49-00-81

Page B208

TROUBLE SHOOTING MANUAL

4. Fault Isolation

A. If the APU GND SCANNING menu gives the maintenance message:

WRG: START IN PROGRESS

associated with Fault Code Number (FCN) 144

- do the Operationanl Test of the Annunciator Light Test System in the Cockpit (Ref. AMM TASK 33-14-00-710-001).
- (1) If AVAIL/ON annunciator lights on the APU START P/B (2KA) do not come ON:
 - replace the ANNUNCIATOR-LIGHT TEST AND INTERFACE-BOARD (7LP) (Ref. AMM TASK 33-14-33-000-001) and (Ref. AMM TASK 33-14-33-400-001).
 - (a) If the fault continues: - replace the APU START P/B (2KA).
- (2) If AVAIL/ON annunciator lights on the APU START P/B (2KA) come ON: - do a check and repair of the aircraft wiring from the ECB (59KD) AB/H9 to the RELAY-ANNUNCIATOR-LIGHT TEST AND INTERFACE-BOARD (7LP) A/15 (Ref. ASM 49-42/01).
- (3) If the fault continues: - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-003) and (Ref. AMM TASK 49-61-34-400-003).
- B. Do the test given in para. 3.

EFF: 247-253, 49-00-

Page B209

R

TROUBLE SHOOTING MANUAL

TASK 49-00-81-810-866

ECB internal Fault (131-9(A))

- 1. Possible Causes
 - ECB INTERNAL FAILURE
 - ECB (59KD)
- 2. Job Set-up Information
 - A. Referenced Information

REFERENCE	DESIGNATION
AMM 49-61-34-000-003	Removal of the Electronic Control Box (ECB)
	(131-9(A))
AMM 49-61-34-400-003	<pre>Installation of the Electronic Control Box (ECB) (131-9(A))</pre>

3. Fault Confirmation

- A. Read-out of ECB Trouble-Shooting Data
 - (1) Put the APU MASTER SW to the ON position.
 - (2) Get access to the APU LAST LEG/PREVIOUS LEG report.
 - (3) Push the '>' adjacent to the related CFDS failure message: - the MCDU menu shows: ECB INTERNAL FAILURE
 - (4) Get access to the APU GND SCANNING menu.

4. Fault Isolation

A. If the APU GND SCANNING gives the maintenance message

ECB (59KD)

With the maintenance message associated with one of the Fault Code Numbers (FCN) that follow:

15, 25, 32, 147, 170, 171, 172, 185, 186

20, 50, 53, 181, 182, 184, 233, 236

75, 80 or 84

- replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-003) and (Ref. AMM TASK 49-61-34-400-003).
- **B.** Do a check of the APU GND SCANNING menu to verify the fault is not present.

EFF: 247-253,

49-00-81 Page B210 Config-1 May 01/08

TROUBLE SHOOTING MANUAL

TASK 49-00-81-810-867

Low-0il Level (131-9(A))

- 1. Possible Causes
 - OIL LEVEL SHOWS LOW
 - the oil level is below the ADD mark
 - AUXILIARY POWER UNIT (4005KM)
 - LOW OIL LEVEL SWITCH (P8)
 - aircraft wiring
 - ECB (59KD)
 - LOW OIL LEVEL SWITCH (8087KM)
- 2. Job Set-up Information
 - A. Referenced Information

REFERENCE		DESIGNATION	
AMM	49-00-00-790-003	Leak Test of the APU (131-9(A))	
AMM	49-11-11-000-004	Removal of the Power Plant (APU) (131-9(A))	
AMM	49-11-11-400-004	Installation of the Power Plant (APU) (131-9(A))	
AMM	49-61-34-000-003	Removal of the Electronic Control Box (ECB) (131-9(A))	
AMM	49-61-34-400-003	<pre>Installation of the Electronic Control Box (ECB) (131-9(A))</pre>	
AMM	49-90-00-600-007	Check and Replenish Oil Level (131-9(A))	
AMM	49-93-16-000-003	Removal of Oil Level Switch (8087KM) (131-9(A))	
AMM ASM	49-93-16-400-003 49-61/04	Installation of Oil Level Switch (8087KM) (131-9(A))	

- 3. Fault Confirmation
 - A. Read-out of ECB Trouble-Shooting Data
 - (1) Put the APU MASTER SW to the ON position.
 - (2) Get access to the APU LAST LEG/PREVIOUS LEG report.
 - (3) Push the '>' adjacent to the related CFDS failure message: - the MCDU menu shows: OIL LEVEL SHOWS LOW
 - (4) Get access to the APU GND SCANNING menu.

EFF: 247-253,

49-00-81

Page B211

TROUBLE SHOOTING MANUAL

4. Fault Isolation

A. If the APU GND SCANNING menu gives the maintenance message

LOW OIL LEVEL:

associated with the Fault Code Number (FCN) 99.

- do a visual check on the oil sight glass on the accessory drive gearbox and make sure that the oil level in the APU oil reservoir is sufficient.
- (1) If the oil level is below the ADD mark:
 - NOTE: AI recommends to do an oil servicing at next daily maintenance when a LOW OIL LEVEL message on ECAM APU page comes on. In case of no oil leakage, sufficient oil is available to allow further 10 hours of APU operation.
 - do the oil servicing (Ref. AMM TASK 49-90-00-600-007).
 - calculate the APU oil consumption.
 - (a) If the APU oil consumption is more than 93 cm3 (5.67 in.3) per APU operating hour:
 - examine the APU for oil leaks on the oil system components or oil lines (Ref. AMM TASK 49-00-00-790-003).
 - 1 If you find oil leaks:
 - correct/replace as necessary.
 - a If the fault continues:
 - replace the AUXILIARY POWER UNIT (4005KM) (Ref. AMM TASK 49-11-11-000-004) and (Ref. AMM TASK 49-11-11-400-004).
- (2) If the oil level is above the ADD mark:
 - replace the LOW OIL LEVEL SWITCH (P8) (Ref. AMM TASK 49-93-16-000-003) and (Ref. AMM TASK 49-93-16-400-003).
 - (a) If the fault continues:
 - do a check and repair the aircraft wiring from the ECB (59KD) AB/H2 to the LOW OIL LEVEL SWITCH (P8) P8/2 the LOW OIL LEVEL SWITCH (P8) P8/1 to GND (Ref. ASM 49-61/04).
 - (b) If the fault continues:
 - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-003) and (Ref. AMM TASK 49-61-34-400-003)

EFF: 247-253, **49-00-**

Page B212

R

TROUBLE SHOOTING MANUAL

**ON A/C 247-253,

Post SB 49-1062 For A/C 251-251, Post SB 49-1069 For A/C 247-250,252-253,

A. If the APU GND SCANNING menu gives the maintenance message

LOW OIL LEVEL:

associated with the Fault Code Number (FCN) 245.

- do a visual check on the oil sight glass on the accessory drive gearbox and make sure that the oil level in the APU oil reservoir is sufficient.
- (1) If the oil level is below the ADD mark:
 - NOTE: AI recommends to do an oil servicing at next daily maintenance when a LOW OIL LEVEL message on ECAM APU page comes on. In case of no oil leakage, sufficient oil is available to allow further 10 hours of APU operation.
 - do the oil servicing (Ref. AMM TASK 49-90-00-600-007).
 - calculate the APU oil consumption.
 - (a) If the APU oil consumption is more than 93 cm3 (5.67 in.3) per APU operating hour:
 - examine the APU for oil leaks on the oil system components or oil lines (Ref. AMM TASK 49-00-00-790-003).
 - 1 If you find oil leaks:
 - correct/replace as necessary.
 - a If the fault continues:
 - replace the AUXILIARY POWER UNIT (4005KM) (Ref. AMM TASK 49-11-11-000-004) and (Ref. AMM TASK 49-11-11-400-004).
- (2) If the oil level is above the ADD mark:
 - replace the LOW OIL LEVEL SWITCH (8087KM) (Ref. AMM TASK 49-93-16-000-003) and (Ref. AMM TASK 49-93-16-400-003).
 - (a) If the fault continues:
 - do a check and repair the aircraft wiring from the ECB (59KD) AB/H2 to the LOW OIL LEVEL SWITCH (8087KM) P8/2 and

the LOW OIL LEVEL SWITCH (8087KM) P8/1 to GND (Ref. ASM 49-61/04).

- (b) If the fault continues:
 - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-003) and (Ref. AMM TASK 49-61-34-400-003)

EFF: 247-253,

49-00-81 P

■ Page B213 Config-1 May 01/08

TROUBLE SHOOTING MANUAL

**ON A/C 247-253,

B. Do a check of the APU GND SCANNING menu to verify the fault is not present.

EFF: 247-253, | SROS **49-00-81**Config-1 May 01/08

TROUBLE SHOOTING MANUAL

TASK 49-00-81-810-868

Low-Oil Pressure-Switch (P14) Fault (131-9(A))

1. Possible Causes

- LOW OIL PRESSURE SWITCH SHOWS OPEN CIRCUIT
- damage/contamination of electrical connector P14
- LOW OIL PRESSURE SWITCH (P14)
- aircraft wiring
- ECB (59KD)
- LOW OIL PRESSURE SWITCH (8091KM)

2. Job Set-up Information

A. Fixtures, Tools, Test and Support Equipment

multimeter

REFERENCE **QTY DESIGNATION**

No specific

B. Referenced Information

REFERENCE		DESIGNATION
AMM	49-23-51-000-004	Removal of the Inlet Guide Vane - Actuator (8014KM) (131-9(A))
AMM	49-23-51-400-004	<pre>Installation of the Inlet Guide Vane - Actuator (8014KM) (131-9(A))</pre>
AMM	49-61-34-000-003	Removal of the Electronic Control Box (ECB) (131-9(A))
AMM	49-61-34-400-003	<pre>Installation of the Electronic Control Box (ECB) (131-9(A))</pre>
AMM	49-94-14-000-003	Removal of the Low Oil Pressure Switch (8091KM) (131-9(A))
AMM	49-94-14-400-003	<pre>Installation of the Low Oil Pressure Switch (8091KM) (131-9(A))</pre>
ASM	49-61/04	

Fault Confirmation

- A. Read-out of ECB Trouble-Shooting Data
 - (1) Put the APU MASTER SW to the ON position.
 - (2) Get access to the APU LAST LEG/PREVIOUS LEG report.
 - (3) Push the '>'-key adjacent to the related CFDS failure message.

EFF: 247-253,

Page B215 Config-1 May 01/08

TROUBLE SHOOTING MANUAL

- (4) If the MCDU menu shows: LOW OIL PRESSURE SWITCH SHOWS OPEN CIRCUIT - do the Fault Confirmation that follows:
 - (a) Get access to the APU TEST menu.
 - (b) Push the TEST line key.

4. Fault Isolation

A. If the APU TEST menu gives the maintenance message:

LOW OIL PRESS SW P14

associated with Fault Code Number (FCN) 98

- do a check for damage/contamination of electrical connector P14 of the LOW OIL PRESSURE SWITCH (P14)
- (1) If the electriacl connector P14 is damaged/contaminated: - do a repair/cleaning.
- (2) If the electrical connector is **OK**:
 - use a multimeter to do a resistance check across pin 1 and pin 2 of the LOW OIL PRESSURE SWITCH (P14)
 - (a) If the resistance value is > 10 Ohms:
 - replace the LOW OIL PRESSURE SWITCH (P14) (Ref. AMM TASK 49-94-14-000-003) and (Ref. AMM TASK 49-94-14-400-003).
 - (b) If the resistance value is < 10 Ohms:
 - do a check and repair of the aircraft wiring from the ECB (59KD) AB/C5 to LOW OIL PRESSURE SWITCH (P14) P14/1 the LOW OIL PRESSURE SWITCH (P14) P14/2 to GND

(Ref. ASM 49-61/04).

- 1 If the fault continues:
 - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-003) and (Ref. AMM TASK 49-61-34-400-003).

**ON A/C 247-253,

Post SB 49-1062 For A/C 251-251, Post SB 49-1069 For A/C 247-250,252-253,

A. If the APU TEST menu gives the maintenance message:

LOW OIL PRESS SW (8091KM)

associated with Fault Code Number (FCN) 98

EFF: 247-253, **49-00-**

Page B216 Config-1 May 01/08

TROUBLE SHOOTING MANUAL

- do a check for damage/contamination of electrical connector P14 of the LOW OIL PRESSURE SWITCH (8091KM)
- (1) If the electriacl connector P14 is damaged/contaminated:do a repair/cleaning.
- (2) If the electrical connector is OK:
 - use a multimeter to do a resistance check across pin 1 and pin 2 of the LOW OIL PRESSURE SWITCH (8091KM)
 - (a) If the resistance value is > 10 Ohms:
 - replace the LOW OIL PRESSURE SWITCH (8091KM) (Ref. AMM TASK 49-23-51-000-004) and (Ref. AMM TASK 49-23-51-400-004).
 - (b) If the resistance value is < 10 0hms:
 - do a check and repair of the aircraft wiring from the ECB (59KD) AB/C5 to LOW OIL PRESSURE SWITCH (8091KM) P14/1 and

the LOW OIL PRESSURE SWITCH (8091KM) P14/2 to GND (Ref. ASM 49-61/04).

- 1 If the fault continues:
 - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-003) and (Ref. AMM TASK 49-61-34-400-003).

**ON A/C 247-253,

B. Do a check of the APU TEST menu to verify the fault is not present.

EFF: 247-253,

49-00-81 Page B217 Config-1 May 01/08

TROUBLE SHOOTING MANUAL

TASK 49-00-81-810-869

Oil-Temperature Sensor (P11) Fault (131-9(A))

- 1. Possible Causes
 - OIL TEMP SENSOR SHOWS OUT OF RANGE LOW
 - OIL TEMP SENSOR SHOWS OUT OF RANGE HIGH
 - damage/contamination of electrical connector P11
 - OIL TEMPERATURE SENSOR (P11)
 - aircraft wiring
 - ECB (59KD)
 - Oil Sump Temp Sensor (8084KM)
- OIL TEMPERATURE SENSOR (8092KM).
 - 2. Job Set-up Information
 - A. Fixtures, Tools, Test and Support Equipment

QTY DESIGNATION

No specific

multimeter

B. Referenced Information

REFERENCE		DESIGNATION
AMM	49-61-34-000-003	Removal of the Electronic Control Box (ECB) (131-9(A))
AMM	49-61-34-400-003	<pre>Installation of the Electronic Control Box (ECB) (131-9(A))</pre>
AMM	49-94-15-000-001	Removal of Oil Temperature Sensor (8092KM) (131-9(A))
AMM	49-94-15-400-001	<pre>Installation of Oil Temperature Sensor (8092KM) (131-9(A))</pre>
ASM	49-61/04	

- 3. Fault Confirmation
 - A. Read-out of ECB Trouble-Shooting Data
 - (1) Put the APU MASTER SW to the ON position.
 - (2) Get access to the APU LAST LEG/PREVIOUS LEG report.

EFF: 247-253,

SROS

49-00-

Page B218 Config-1 May 01/08

TROUBLE SHOOTING MANUAL

- (3) Push the '>' adjacent to the related CFDS failure message:
 - the MCDU menu shows:

OIL TEMP SENSOR SHOWS OUT OF RANGE LOW

or

OIL TEMP SENSOR SHOWS OUT OF RANGE HIGH

- (4) Get access to the APU GND SCANNING menu.
- 4. Fault Isolation
 - A. If the APU GND SCANNING menu gives the maintenance message:

OIL TEMP SENSOR P11

associated with Fault Code Number (FCN) 54 or 55

- do a check for damage/contamination of electrical connector P11 of the OIL TEMPERATURE SENSOR (P11)
- (1) If the electrical connector P11 is damaged/contaminated:do a repair/cleaning.
- (2) If the electrical connector is OK:
 - use a multimeter to do a resistance check across pin A and pin B of the OIL TEMPERATURE SENSOR (P11).
 - (a) If the resistance value is not between 60 0hms to 200 0hms:
 replace the OIL TEMPERATURE SENSOR (P11) (Ref. AMM TASK 49-94-15-000-001) and (Ref. AMM TASK 49-94-15-400-001).
 - (b) If the resistance value is between 60 0hms and 200 0hms:
 - do a check and repair of the aircraft wiring from the ECB (59KD) AB/J5,B8 to the OIL TEMPERATURE SENSOR (P11) P11/A,B (Ref. ASM 49-61/04).
 - 1 If the fault continues:
 - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-003) and (Ref. AMM TASK 49-61-34-400-003).

**ON A/C 247-253,

Post SB 49-1062 For A/C 251-251, Post SB 49-1069 For A/C 247-250,252-253,

- A. If the APU GND SCANNING menu gives the maintenance message:
 - NOTE: With introduction of the ECB Software V2 the wording of the fault message Oil Sump Temp Sensor (8084KM) is not correct. The functional item number of the Oil Temperature Sensor is (8092KM).

OIL SUMP TEMP SENSOR (8084KM)

EFF: 247-253,

49-00-81

Page B219

TROUBLE SHOOTING MANUAL

associated with Fault Code Number (FCN) 54 or 55

- do a check for damage/contamination of electrical connector P11 of the OIL TEMP SENSOR (8092KM)
- (1) If the electrical connector P11 is damaged/contaminated:do a repair/cleaning.
- (2) If the electrical connector is OK:
 - use a multimeter to do a resistance check across pin A and pin B of the OIL TEMP SENSOR (8092KM).
 - (a) If the resistance value is not between 60 0hms to 200 0hms: - replace the OIL TEMP SENSOR (8092KM)

(Ref. AMM TASK 49-94-15-000-001) (Ref. AMM TASK 49-94-15-400-001).

- (b) If the resistance value is between 60 0hms and 200 0hms:
 - do a check and repair of the aircraft wiring from the ECB (59KD) AB/J5,B8 to the OIL TEMP SENSOR (8092KM) P11/A,B (Ref. ASM 49-61/04).
 - 1 If the fault continues:
 replace the ECB (59KD)
 (Ref. AMM TASK 49-61-34-000-003)
 (Ref. AMM TASK 49-61-34-400-003).

R **ON A/C 247-253,

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B. If the APU GND SCANNING menu gives the maintenance message:

OIL TEMP SENSOR (8092KM)

associated with Fault Code Number (FCN) 54 or 55

- do a check for damage/contamination of electrical connector P11 of the OIL TEMPERATURE SENSOR (8092KM)
- (1) If the electrical connector P11 is damaged/contaminated:do a repair/cleaning.
- (2) If the electrical connector is OK:
 - use a multimeter to do a resistance check across pin A and pin B of the OIL TEMPERATURE SENSOR (8092KM).
 - (a) If the resistance value is not between 60 Ohms to 200 Ohms:
- replace the OIL TEMPERATURE SENSOR (8092KM). (Ref. AMM TASK 49-94-15-000-001) and (Ref. AMM TASK 49-94-15-400-001).

EFF: 247-253,

49-00-81

Page B220

TROUBLE SHOOTING MANUAL

R	(b) If the resistance value is between 60 Ohms and 200 Ohms:
R	 do a check and repair of the aircraft wiring from the ECB
R	(59KD) AB/J5,B8 to the OIL TEMPERATURE SENSOR (P11) P11/A,B
R	(Ref. ASM 49-61/04).
R	1 If the fault continues:
R	- replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-003) and
R	(Ref. AMM TASK 49-61-34-400-003).
R	

C. Do a check of the APU GND SCANNING menu to verify the fault is not present.

EFF: 247-253,

49-00-81

Page B221 Config-1 May 01/08

SROS

TROUBLE SHOOTING MANUAL

TASK 49-00-81-810-870

APU Oil-Heater (P28) Fault (131-9(A))

- 1. Possible Causes
 - OIL HEATER FAILURE
 - damage/contamination of electrical connector P28
 - APU OIL HEATER (P28)
 - APU AUX CTL RELAY (32KD)
 - aircraft wiring
 - SERVICE BUS 2 (214XP-B)
 - APU OIL HEATER (8093KM)
 - APU MASTER S/W (14KD)
- 2. Job Set-up Information
 - A. Fixtures, Tools, Test and Support Equipment

QTY DESIGNATION

No specific

multimeter

B. Referenced Information

REFERENCE	DESIGNATION	
24-42-00-810-802	Loss of the 214XP Busbar in Ground Service Configuration	
AMM 49-96-00-040-001	Deactivation of the Oil Heater System (131-9(A))	
AMM 49-96-00-440-001	Reactivation of the Oil Heater System (131-9(A))	
AMM 49-96-51-000-002	Removal of the Oil Heater (8093KM) (131-9(A))	
AMM 49-96-51-400-002	Installation of the Oil Heater (8093KM) (131-9(A))	
AMM 49-96-51-960-001	Replacement the Oil Heater by the Cover Plate (131-9(A))	
AMM 49-96-51-960-002	Replacement the Cover Plate by the Oil Heater (131-9(A))	
ASM 49-61/04		

3. Fault Confirmation

- A. Read-out of ECB Trouble-Shooting Data
 - (1) Put the APU MASTER SW to the ON position.
 - (2) Get access to the APU LAST LEG/PREVIOUS LEG report.

EFF: 247-253, **49-00-**

Page B222

Config-1 May 01/08

SROS

TROUBLE SHOOTING MANUAL

- (3) Push the '>' adjacent to the related CFDS failure message: - the MCDU menu shows: OIL HEATER FAILURE
- (4) Fault Confirmation
 - (a) Not applicable. To confirm the fault, the APU must be cold soaked.

4. Fault Isolation

A. If the APU LAST LEG/PREVIOUS LEG menu gives the maintenance message:

APU OIL HEATER P28

associated with Fault Code Number (FCN) 115

- do a check for damage/contamination of electrical connector P28 of the APU OIL HEATER (P28).
- (1) If the electriacl connector P28 is damaged/contaminated:

 do a repair/cleaning.
- (2) If the electrical connector is OK:
 - use a multimeter to do a resistance check across pin 1 and pin 3 of the APU OIL HEATER (P28).
 - (a) If the resistance value is not between 30 0hms and 70 0hms:
 replace the APU OIL HEATER (P28) (Ref. AMM TASK 49-96-51-000-002) and (Ref. AMM TASK 49-96-51-400-002).
 - (b) If the resistance value is between 30 0hms and 70 0hms: - replace the APU AUX CTL RELAY (32KD).
 - 1 If the fault continues:
 - do a check and repair of the aircraft wiring from the APU OIL HEATER (P28) P28/2 to the SERVICE BUS 2 (214XP-B) and

the APU OIL HEATER (P28) P28/1 to GND (Ref. ASM 49-61/04).

- a If the fault continues:
 - do the trouble shooting of the SERVICE BUS 2 (214XP-B) (Ref. TASK 24-42-00-810-802).

EFF: 247-253,

49-00-81

Page B223

TROUBLE SHOOTING MANUAL

**ON A/C 247-253,

Post SB 49-1062 For A/C 251-251, Post SB 49-1069 For A/C 247-250,252-253,

A. If the APU LAST LEG/PREVIOUS LEG menu gives the maintenance message:

APU OIL HEATER (8093KM)

associated with Fault Code Number (FCN) 115

- (1) If the oil heater is installed on the APU:
 - (a) If the oil heater is considered necessary by the operator:
 - Make sure that the oil heater system is activated, if not do the activation procedure (Ref. AMM TASK 49-96-00-440-001).
 - If the fault continues:
 - . Go to step (3).
 - (b) If the oil heater is not considered necessary by the operator:Make sure that the oil heater system is deactivated, if not do
 - Make sure that the oil heater system is deactivated, if not do the deactivation procedure (Ref. AMM TASK 49-96-00-040-001).

NOTE: The oil heater can be replaced by the cover plate (Ref. AMM TASK 49-96-51-960-001).

- (2) If the oil heater is not installed on the APU:
 - (a) If the oil heater is not considered necessary by the operator:
 - Make sure that the oil heater system is deactivated, if not do the deactivation procedure (Ref. AMM TASK 49-96-00-440-001).
 - (b) If the oil heater is considered necessary by the operator:
 - Install and activate the oil heater (Ref. AMM TASK 49-96-51-960-002), (Ref. AMM TASK 49-96-00-040-001).
 - If the fault continues:
 - . Go to step (3).
- (3) If the fault continues:
 - do a check for damage/contamination of electrical connector P28 of the APU OIL HEATER (8093KM).
 - (a) If the electrical connector P28 is damaged/contaminated:
 - do a repair/cleaning.
 - (b) If the electrical connector is OK:
 - use a multimeter to do a resistance check across pin 1 and pin 3 of the APU OIL HEATER (8093KM).
 - 1 If the resistance value is not between 30 Ohms and 70 Ohms:
 - replace the APU OIL HEATER (8093KM) (Ref. AMM TASK 49-96-51-000-002) and (Ref. AMM TASK 49-96-51-400-002).

EFF: 247-253,

49-00-81

Page B224

TROUBLE SHOOTING MANUAL

- If the resistance value is between 30 0hms and 70 0hms: replace the APU AUX CTL RELAY (32KD).
 - a If the fault continues:
 - do a check and repair of the aircraft wiring from the APU OIL HEATER (8093KM) P28/2 to the SERVICE BUS 2 (214XP-B)

and

the APU OIL HEATER (8093KM) P28/1 to GND (Ref. ASM 49-61/04).

- . If the fault continues:
- replace the APU MASTER S/W (14KD).
- . If the fault continues:
- do a check and repair of the aircraft wiring from the APU AUX CTL RELAY (32KD) A/X2 to APU MASTER S/W (14KD) A/A1.
- . If the fault continues:
- do the trouble shooting of the SERVICE BUS 2 (214XP-B) (Ref. TASK 24-42-00-810-802).

EFF: 247-253,

49-00-81

Page B225 Config-1 May 01/08

TROUBLE SHOOTING MANUAL

**ON A/C 247-253,

TASK 49-00-81-810-871

Surge Control Valve (P18) Fault (131-9(A))

1. Possible Causes

- SCV LVDT PRIMARY SHOWS OPEN CIRCUIT
- SCV LVDT SECONDARY SHOWS OPEN CIRCUIT
- SCV TORQUE MOTOR SHOWS OPEN CIRCUIT
- SCV TORQUE MOTOR SHOWS SHORT CIRCUIT
- SCV LVDT EXCITATION CIRCUIT FAILURE
- damage/contamination of electrical connector P18
- SURGE CONTROL VALVE (P18)
- aircraft wiring
- ECB (59KD)
- SURGE CONTROL VALVE (8058KM)

2. Job Set-up Information

A. Fixtures, Tools, Test and Support Equipment

REFERENCE QTY DESIGNATION

No specific

multimeter

B. Referenced Information

REFERENCE		DESIGNATION		
	(0.54.50.000.007			
AMM	49-51-52-000-003	Removal of the Surge Control Valve (8058KM) (131-9(A))		
AMM	49-51-52-400-003	<pre>Installation of the Surge Control Valve (8058KM) (131-9(A))</pre>		
AMM	49-61-34-000-003	Removal of the Electronic Control Box (ECB) (131-9(A))		
AMM	49-61-34-400-003	<pre>Installation of the Electronic Control Box (ECB) (131-9(A))</pre>		

EFF: 247-253,

ASM 49-61/04

49-00-8

Page B226

TROUBLE SHOOTING MANUAL

3. Fault Confirmation

- A. Read-out of ECB Trouble-Shooting Data
 - (1) Put the APU MASTER SW to the ON position.
 - (2) Get access to the APU LAST LEG/PREVIOUS LEG report.
 - (3) Push the '>' adjacent to the related CFDS failure message:
 - the MCDU menu shows:

SCV LVDT PRIMARY SHOWS OPEN CIRCUIT

or

SCV LVDT SECONDARY SHOWS OPEN CIRCUIT

or

SCV TORQUE MOTOR SHOWS OPEN CIRCUIT

or

SCV TORQUE MOTOR SHOWS SHORT CIRCUIT

or

SCV LVDT EXCITATION CIRCUIT FAILURE

(4) Get access to the APU GND SCANNING menu.

4. Fault Isolation

A. If the APU GND SCANNING menu gives the maintenance message:

SURGE CONTROL VALVE P18

associated with Fault Code Number (FCN) 85, 86, 111 or 112

- do a check for damage/contamination of electrical connector P18 of the SURGE CONTROL VALVE (P18)
- (1) If the electriacl connector P18 is damaged/contaminated:
 - do a repair/cleaning.
- (2) If the electrical connector is OK:
 - use a multimeter to do a resistance check across

pin 4 and pin 5

pin 1 and pin 2

pin 7 and pin 8

of the SURGE CONTROL VALVE (P18).

(a) If the resistance are not

between 20 0hms and 100 0hms (pin 4-5/pin 1-2)

or

between 10 0hms and 80 0hms (pin 7-8)

- replace the SURGE CONTROL VALVE (P18) (Ref. AMM TASK 49-51-52-000-003) and (Ref. AMM TASK 49-51-52-400-003).

EFF: 247-253,

49-00-81

Page B227

TROUBLE SHOOTING MANUAL

- (b) If the resistance values are correct:
 - do a check/repair of the aircraft wiring between ECB (59KD) 59KD-AB/J8,D2,D9,J7,G9,G6 and SURGE CONTROL VALVE (P18) P18/3,2,4,5,7,8 (Ref. ASM 49-61/04).
 - 1 If the fault continues:
 - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-003) and (Ref. AMM TASK 49-61-34-400-003).

R

B. If the APU GND SCANNING menu gives the maintenance message:

R R

R

ECB (59KD)

K

associated with Fault Code Number (FCN) 84

R R R

 do a check for damage/contamination of electrical connector P18 of the SURGE CONTROL VALVE (P18)

R R (1) If the electriacl connector P18 is damaged/contaminated:

- do a repair/cleaning.

R

(2) If the electrical connector is OK:

R R use a multimeter to do a resistance check across pin 4 and pin 5

R R

R

pin 1 and pin 2 pin 3 and pin 2

of the SURGE CONTROL VALVE (P18).

R R

R (a) If the resistance are not between 20 Ohms and 100 Ohms

R R - replace the SURGE CONTROL VALVE (P18) (Ref. AMM TASK 49-51-52-000-003) and (Ref. AMM TASK 49-51-52-400-003).

R

(b) If the resistance values are correct:

R R R do a check/repair of the aircraft wiring between
 ECB (59KD) 59KD-AB/D2,D9,J7,J8,D10 and SURGE CONTROL VALVE
 (P18) P18/2,4,5,3,1 (Ref. ASM 49-61/04).

R

1 If the fault continues:

R R - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-003) and (Ref. AMM TASK 49-61-34-400-003).

EFF: 247-253,

49-00-81

Page B228 Config-1 May 01/08

SROS

TROUBLE SHOOTING MANUAL

R **ON A/C 247-253,

R Post SB 49-1062 For A/C 251-251, R Post SB 49-1069 For A/C 247-250,252-253,

A. If the APU GND SCANNING menu gives the maintenance message:

SURGE CONTROL VALVE (8058KM)

associated with Fault Code Number (FCN) 85, 86, 111 or 112

- do a check for damage/contamination of electrical connector P18 of the SURGE CONTROL VALVE (8058KM)
- (1) If the electriacl connector P18 is damaged/contaminated:do a repair/cleaning.
- (2) If the electrical connector is OK:
 - use a multimeter to do a resistance check across pin 4 and pin 5 pin 1 and pin 2 pin 7 and pin 8 of the SURGE CONTROL VALVE (8058KM).
 - (a) If the resistance are not between 20 Ohms and 100 Ohms (pin 4-5/pin 1-2) or

between 10 0hms and 80 0hms (pin 7-8)

- replace the SURGE CONTROL VALVE (8058KM) (Ref. AMM TASK 49-51-52-000-003) and (Ref. AMM TASK 49-51-52-400-003).
- (b) If the resistance values are correct:
 - do a check/repair of the aircraft wiring between ECB (59KD) 59KD-AB/J8,D2,D9,J7,G9,G6 and SURGE CONTROL VALVE (8058KM) P18/3,2,4,5,7,8 (Ref. ASM 49-61/04).
 - 1 If the fault continues:
 - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-003) and (Ref. AMM TASK 49-61-34-400-003).

R

B. If the APU GND SCANNING menu gives the maintenance message:

SURGE CONTROL VALVE (8058KM) / ECB (59KD)

associated with Fault Code Number (FCN) 84

- do a check for damage/contamination of electrical connector P18 of the SURGE CONTROL VALVE (8058KM)
- (1) If the electrical connector P18 is damaged/contaminated: - do a repair/cleaning.

EFF: 247-253,

49-00-81

Page B229

Config-1 May 01/08

SROS

TROUBLE SHOOTING MANUAL

- (2) If the electrical connector is OK:
 - use a multimeter to do a resistance check across pin 4 and pin 5 pin 1 and pin 2 pin 3 and pin 2 of the SURGE CONTROL VALVE (8058KM).
 - (a) If the resistance are not between 20 Ohms and 100 Ohms
 - replace the SURGE CONTROL VALVE (8058KM) (Ref. AMM TASK 49-51-52-000-003) and (Ref. AMM TASK 49-51-52-400-003).
 - (b) If the resistance values are correct:
 - do a check/repair of the aircraft wiring between ECB (59KD) 59KD-AB/D2,D9,J7,J8,D10 and SURGE CONTROL VALVE (P18) P18/2,4,5,3,1 (Ref. ASM 49-61/04).
 - 1 If the fault continues:
 - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-003) and (Ref. AMM TASK 49-61-34-400-003).

**ON A/C 247-253,

C. Do a check of the APU GND SCANNING menu to verify the fault is not present.

EFF: 247-253, **49-00-8**1

Page B230

TROUBLE SHOOTING MANUAL

TASK 49-00-81-810-872

APU AUTO Shutdown without Bite Message (131-9(A))

- 1. Possible Causes
 - water ingress in Panel 121AL
 - Panel 108VU
- 2. Job Set-up Information
 - A. Referenced Information

REFERENCE DESIGNATION

AMM 31-10-00-700-001 Test Program after Removal/Installation of a VU panel

- 3. Fault Confirmation
 - A. Check
 - (1) Do a check for water ingress in Panel 121AL.
 - (2) Dry the panel 108VU.
 - (3) Do the test (Ref. AMM TASK 31-10-00-700-001) for panel 108VU.
- 4. Fault Isolation
 - A. If the test fails and/or the APU shutdown without BITE Message: replace Panel 108VU.
 - B. Do the test as Para. 3.A.

EFF: 247-253,

49-00-81

Page B231

TROUBLE SHOOTING MANUAL

TASK 49-00-81-810-873

No Data from CFDIU (131-9(A))

- 1. Possible Causes
 - CFDIU AC ID FAILURE
 - ECB (59KD)
 - aircraft wiring
 - CFDIU (1TW)
- 2. Job Set-up Information
 - A. Referenced Information

REFERENCE		DESIGNATION	
AMM	31-32-34-000-001	Removal of the CFDIU (1TW)	
AMM	49-00-00-710-009	Self-Test of the ECB (131-9(A))	
AMM	49-00-00-860-008	APU Start by External Power (131-9(A))	
AMM	49-61-34-000-003	Removal of the Electronic Control Box (ECB) (131-9(A))	
AMM	49-61-34-400-003	<pre>Installation of the Electronic Control Box (ECB) (131-9(A))</pre>	
ASM	31-32/04		

- 3. Fault Confirmation
 - A. Read-out of ECB Trouble-Shooting Data
 - (1) Put the APU MASTER SW to the ON position.
 - (2) Get access to the APU LAST LEG/PREVIOUS LEG report.
 - (3) Push the '>'-key adjacent to the related CFDS failure message.
 - (4) If the MCDU menu shows: CFDIU AC ID FAILURE
 - do the Fault Confirmation that follows:
 - (a) Start the APU and apply Electrical Load and Bleed Air (Ref. AMM TASK 49-00-00-860-008).
 - (b) Get access to the APU GND SCANNING menu.

EFF: 247-253,

49-00-81

Page B232

TROUBLE SHOOTING MANUAL

4. Fault Isolation

A. If the APU GND SCANNING menu gives the maintenance message:

NO DATA FROM CFDIU

associated with Fault Code Numbers (FCN) 157 or 158 or 159

- do the Self-Test of the ECB (59KD) (Ref. AMM TASK 49-00-00-710-009).
- (1) If the test shows a malfunction of the ECB (59KD):
 - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-003) and (Ref. AMM TASK 49-61-34-400-003).
- (2) If the fault continues:
 - do a check/repair of the aircraft wiring between the ECB (59KD) 59KD-AB/K8,K9,K5,K6 and the CFDIU (1TW) 1TW-AA/F10,G10,F11,G11 (Ref. ASM 31-32/04).
 - (a) If the fault continues:
 - replace the CFDIU (1TW) (Ref. AMM TASK 31-32-34-000-001) and (Ref. AMM TASK 31-32-34-000-001).
- B. Do a check of the APU GND SCANNING menu to verify the fault is not present.

EFF: 247-253, **49-00-**

Page B233

R

TROUBLE SHOOTING MANUAL

TASK 49-00-81-810-874

APU - Oil Smoke in Cabin (131-9(A))

1. F	oss	ible	: Cause:	S
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- plumbing/tubing
- APU component interfaces
- OIL COOLER
- OIL PUMP ASSY
- APU GENERATOR (8XS)
- FUEL CONTROL UNIT P19
- INLET GUIDE-VANE ACTUATOR P21
- oil contamination inside cooling-fan discharge duct
- unwanted material on the surfaces of the air intake system components
- the oil level in the oil reservoir is above the FULL mark on the oil sight glas
- AUXILIARY POWER UNIT (4005KM)
- OIL COOLER (8079KM)
- OIL PUMP ASSY (8080KM)
- FUEL CONTROL UNIT (8022KM)
- INLET GUIDE-VANE ACTUATOR (8014KM)
- flexible seals on the air intake system

2. Job Set-up Information

ŕ	ols, Test and Support Equipme	
REFERENCE	QTY DESIGNATION	
No specific	black light lamp	
B. Consumable M	aterials	
 Reference	DESIGNATION	

No specific

overflow drain tool

EFF: 247-253,

49-00-81Config-1 May 01/08

TROUBLE SHOOTING MANUAL

C. Referenced Information

REFERENCE		DESIGNATION
AMM	12-33-21-618-001	Pre-conditioning with the APU
AMM	21-00-00-100-001	Cleaning of Special Components in the Environmental
AMM	21-00-00-615-001	Control System (ECS) Decontamination of the Environmental Control System
AMM	21-00-00-613-001	(ECS) when the Temperature is below 24 deg.C (APU)
AMM	21-00-00-615-002	Decontamination of the Environmental Control System
AIIII	21 00 00 019 002	(ECS) when the Temperature is above 24 deg.C (APU)
AMM	24-23-51-000-001	Removal of the APU Generator 8XS
AMM	24-23-51-400-001	Installation of the APU Generator 8XS
AMM	49-00-00-710-010	Operational Test of the APU (131-9(A))
AMM	49-11-11-000-004	Removal of the Power Plant (APU) (131-9(A))
AMM	49-11-11-400-004	Installation of the Power Plant (APU) (131-9(A))
AMM	49-16-00-100-003	Cleaning of the APU Air Intake (131-9(A))
AMM	49-16-00-200-002	Detailed Inspection of APU Air Intake, Diffuser
		Elbow, Seals and Felt Metal (131-9(A))
AMM	49-23-51-000-004	Removal of the Inlet Guide Vane - Actuator (8014KM)
A M M	49-23-51-400-004	(131-9(A))
AMM	49-23-31-400-004	<pre>Installation of the Inlet Guide Vane - Actuator (8014KM) (131-9(A))</pre>
AMM	49-32-11-000-003	Removal of the Fuel Control Unit (FCU) (8022KM)
Arin	47 32 11 000 003	(131-9(A))
AMM	49-32-11-400-003	Installation of the Fuel Control Unit (FCU) (8022KM)
		(131-9(A))
AMM	49-51-51-000-004	Removal of the Load Control Valve (8050KM) (131-9(A))
AMM	49-51-51-400-004	Installation of the Load Control Valve (8050KM)
		(131-9(A))
AMM	49-52-51-000-002	Removal of the Cooling Fan (8053KM) (131-9(A))
AMM	49-52-51-400-002	Installation of the Cooling Fan (8053KM) (131-9(A))
AMM	49-90-00-600-007	Check and Replenish Oil Level (131-9(A))
AMM	49-91-41-200-002	Remove and Discard Oil Filter Elements (8069KM) and
	(0.04 (0.000.00)	(8076KM) (131-9(A))
AMM	49-91-42-200-004	Inspection of the Metal Chip Detector (131-9(A))
AMM AMM	49-91-42-400-003 49-91-45-000-003	Installation of the Drain Plug (8077KM) (131-9(A)) Removal of Oil Lube Module (8080KM) (131-9(A))
AMM	49-91-45-400-003	Installation of Oil Lube Module (8080KM) (131-9(A))
AMM	49-91-49-000-003	Removal of De-Oil Solenoid (8083KM) (131-9(A))
AMM	49-91-49-400-003	Installation of De-Oil Solenoid (8083KM) (131-9(A))
AMM	49-93-16-000-003	Removal of Oil Level Switch (8087KM) (131-9(A))
AMM	49-93-16-400-003	Installation of Oil Level Switch (8087KM) (131-9(A))

EFF: 247-253,

49-00-81

TROUBLE SHOOTING MANUAL

3. Fault Confirmation

- A. If it is necessary to confirm the fault:
 - do the pre-conditioning with the APU (Ref. AMM TASK 12-33-21-618-001)
 and
 - do a check in the cabin for fumes.

NOTE: Before you do the pre-conditioning with the APU, make sure that the external area around of the APU air intake and the diverter is clean.

Make sure that no exhaust gases from main engines and/or ground support equipment go into the APU air intake during the pre-conditioning.

NOTE: If the APU did operate during fluid de-icing operations, it can be that the APU Inlet and the APU compressors are contaminated.

Then do the cleaning and testing as given in the Para. 4.C. before you do the fault confirmation.

4. Fault Isolation

A. If you smell fumes in the cabin during the pre-conditioning with the APU and there is no oil smoke on the exhaust during the operation of the APU.

NOTE: Do the cleaning and testing as given in the Para. 4.C. after each repair step during the fault isolation.

If you fail to do this, the fault may continues.

- examine the outer and inner surfaces and the flexible seals on the air intake diffuser and elbow and make sure that they are clean,
- examine the surfaces of the air intake diverter and the air inlet duct and make sure that they are clean,
- examine the surfaces and the flexible seals of the APU access doors and make sure that they are clean.

<u>NOTE</u>: Do the checks with a black light lamp.

Make sure that there is no contamination of oil, fuel, grease, other unwanted material and/or remaining signs of contamination.

- (1) If there is contamination of oil, fuel or grease on the outer and/or inner surfaces of the air intake system components and/or the APU access doors:
 - identify the type of contamination and the area of the source,
 - examine the plumbing/tubing and the APU component interfaces in that area for leaks.

NOTE: If necessary, do the checks with a black light lamp.

Do the check very carefully on the:

- OIL COOLER,
- OIL PUMP ASSY,
- APU GENERATOR (8XS),
- FUEL CONTROL UNIT P19,

EFF: 247-253,

49-00-81

Page B236 Config-1 May 01/08

TROUBLE SHOOTING MANUAL

- INLET GUIDE-VANE ACTUATOR P21.
- NOTE : If you cannot identify the leak(s) when the APU does not operate:
 - start and operate the APU with no bleed air supply and no APU generator load (Ref. AMM TASK 49-00-00-710-010),
 - let the APU operate for 15 minutes for thermal stabilazation,
 - do a leak check on the APU with a black light lamp,
 - do the APU shutdown (Ref. AMM TASK 49-00-00-710-010),
 - immediately after the APU has stopped, examine the APU carefully with a black light lamp to identify the leak(s).
- (a) If there is presence of oil at the Load Compressor Cavity drain.
 replace the APU (Ref. AMM TASK 49-11-11-000-004) and (Ref. AMM TASK 49-11-11-400-004).
- (b) If there is a leak on the plumbing/tubing:
 - do the repair and replace the tubes, the connectors and the seals as necessary.
- (c) If there is oil leakage in the area of the cooling fan:
 - replace the seals and/or the COOLING FAN (Ref. AMM TASK 49-52-51-000-002) and (Ref. AMM TASK 49-52-51-400-002) as necessary.
- (d) Remove the cooling-fan discharge-duct (Ref. AMM TASK 49-52-51-000-002) and examine if there is oil contamination inside the duct.
 - If there is oil contamination inside cooling-fan discharge duct and the inside of the APU inlet plenum is clean:
 - do a further inspection of the cooling fan.
- (e) If there is oil leakage in the area of the oil pump assy: - replace the seals and or the OIL PUMP ASSY as necessary (Ref. AMM TASK 49-91-45-000-003) and (Ref. AMM TASK 49-91-45-400-003).
- (f) If there is oil leakage in the area of the APU generator: - replace the SEALING PLATE and/or the APU GENERATOR (8XS) (Ref. AMM TASK 24-23-51-000-001) and (Ref. AMM TASK 24-23-51-400-001), as necessary.
- (g) If there is oil leakage in the area of the lupe pump filter and/or the generator scavenge filter:
 - replace the packing of the related filter housing (Ref. AMM TASK 49-91-41-200-002).
- (h) If there is oil leakage at the magnetic chip detector:
 - replace the packing of the magnetic chip detector (Ref. AMM TASK 49-91-42-200-004).

EFF: 247-253,

49-00-81

■ Page B237 Config-1 May 01/08

TROUBLE SHOOTING MANUAL

- (i) If there is oil leakage at the oil-sump drain-plug housing:

 replace the packing of the drain plug housing (Ref. AMM TASK 49-91-42-400-003).
- (j) If there is oil leakage at the oil level switch/gearbox interface:
 - replace the packing of the oil level switch (Ref. AMM TASK 49-93-16-000-003) and (Ref. AMM TASK 49-93-16-400-003).
- (k) If there is oil leakage at the de-oil solenoid/gearbox interface:
 replace the packing of the de-oil solenoid (Ref. AMM TASK 49-91-49-000-003) and (Ref. AMM TASK 49-91-49-400-003).
- (l) If there is fuel leakage in the area of the fuel control unit:
 replace the seals and or the FUEL CONTROL UNIT P19 as necessary
 (Ref. AMM TASK 49-32-11-000-003) and (Ref. AMM TASK 49-32-11-400-003).
- (m) If there is fuel leakage in the area of the inlet guide-vane actuator:
 - replace the seals and/or the fuel lines to the actuator and/or the INLET GUIDE VANE-ACTUATOR P21 as necessary (Ref. AMM TASK 49-23-51-000-004) and (Ref. AMM TASK 49-23-51-400-004).
- (2) If you find other unwanted material on the surfaces of the air intake system components:
 - identify the material and its source,
- (3) If there is no external contamination:
 - if the oil level in the oil reservoir is above the FULL mark on the oil sight glas, correct it with the overflow drain tool (Ref. AMM TASK 49-90-00-600-007).
 - NOTE: If the APU oil reservoir was filled above the FULL mark on the oil sight glass:
 During APU operation the oil expands which could create an over-filled condition, resulting in leakage and possible oil smell in the cabin.
 - remove the APU Bleed-Air Duct Elbow (Ref. AMM TASK 49-11-11-000-004),
 - remove the Load Control Valve P12 (Ref. AMM TASK 49-51-51-000-004).
 - examine the removed components with a black light lamp and make sure that you do not find signs of contamination.
 - (a) If there are signs of contamination:
 - clean the APU Bleed-Air Duct Elbow and install it (Ref. AMM TASK 49-11-11-400-004),
 - clean the Load Control Valve P12 and install it (Ref. AMM TASK 49-51-51-400-004).

EFF: 247-253,

49-00-81 Page

■ Page B238 Config-1 May 01/08

TROUBLE SHOOTING MANUAL

- 1 If the fault continues:
 - replace the AUXILIARY POWER UNIT (4005KM) (Ref. AMM TASK 49-11-11-000-004) and (Ref. AMM TASK 49-11-11-400-004).

**ON A/C 247-253,

Post SB 49-1062 For A/C 251-251, Post SB 49-1069 For A/C 247-250,252-253,

A. If you smell fumes in the cabin during the pre-conditioning with the APU and there is no oil smoke on the exhaust during the operation of the APU.

NOTE: Do the cleaning and testing as given in the Para. 4.C. after each repair step during the fault isolation.

If you fail to do this, the fault may continues.

- examine the outer and inner surfaces and the flexible seals on the air intake diffuser and elbow and make sure that they are clean,
- examine the surfaces of the air intake diverter and the air inlet duct and make sure that they are clean,
- examine the surfaces and the flexible seals of the APU access doors and make sure that they are clean.

NOTE: Do the checks with a black light lamp.

Make sure that there is no contamination of oil, fuel, grease, other unwanted material and/or remaining signs of contamination.

- (1) If there is contamination of oil, fuel or grease on the outer and/or inner surfaces of the air intake system components and/or the APU access doors:
 - identify the type of contamination and the area of the source,
 - examine the plumbing/tubing and the APU component interfaces in that area for leaks.

NOTE : If necessary, do the checks with a black light lamp.
Do the check very carefully on the:

- OIL COOLER (8079KM),
- OIL PUMP ASSY (8080KM),
- APU GENERATOR (8XS),
- FUEL CONTROL UNIT (8022KM),
- INLET GUIDE-VANE ACTUATOR (8014KM).

NOTE : If you cannot identify the leak(s) when the APU does not operate:

- start and operate the APU with no bleed air supply and no APU generator load (Ref. AMM TASK 49-00-00-710-010),
- let the APU operate for 15 minutes for thermal stabilazation,
- do a leak check on the APU with a black light lamp,
- do the APU shutdown (Ref. AMM TASK 49-00-00-710-010),
- immediately after the APU has stopped, examine the APU carefully with a black light lamp to identify the leak(s).

EFF: 247-253,

49-00-81 Page B239 Config-1 May 01/08

TROUBLE SHOOTING MANUAL

- (a) If there is a presence of oil at the Load Compressor Cavity
 - Replace the APU (Ref. AMM TASK 49-11-11-000-004) and (Ref. AMM TASK 49-11-11-400-004).
- (b) If there is a leak on the plumbing/tubing:
 - do the repair and replace the tubes, the connectors and the seals as necessary.
- (c) If there is oil leakage in the area of the cooling fan:
 - replace the seals and/or the COOLING FAN (8079KM) (Ref. AMM TASK 49-52-51-000-002) and (Ref. AMM TASK 49-52-51-400-002) as necessary.
- (d) Remove the cooling-fan discharge-duct (Ref. AMM TASK 49-52-51-000-002) and examine if there is oil contamination inside the duct.

If there is oil contamination inside cooling-fan discharge duct and the inside of the APU inlet plenum is clean:

- do a further inspection of the cooling fan.
- (e) If there is oil leakage in the area of the oil pump assy:
 - replace the seals and or the OIL PUMP ASSY as necessary (Ref. AMM TASK 49-91-45-000-003) and (Ref. AMM TASK 49-91-45-400-003).
- (f) If there is oil leakage in the area of the APU generator: - replace the SEALING PLATE and/or the APU GENERATOR (8XS) (Ref. AMM TASK 24-23-51-000-001) and (Ref. AMM TASK 24-23-51-400-001), as necessary.
- (g) If there is oil leakage in the area of the lupe pump filter and/or the generator scavenge filter:
 - replace the packing of the related filter housing (Ref. AMM TASK 49-91-41-200-002).
- (h) If there is oil leakage at the magnetic chip detector:
 - replace the packing of the magnetic chip detector (Ref. AMM TASK 49-91-42-200-004).
- (i) If there is oil leakage at the oil-sump drain-plug housing:
 - replace the packing of the drain plug housing (Ref. AMM TASK 49-91-42-400-003).
- (j) If there is oil leakage at the oil level switch/gearbox
 - replace the packing of the oil level switch (Ref. AMM TASK 49-93-16-000-003) and (Ref. AMM TASK 49-93-16-400-003).
- (k) If there is oil leakage at the de-oil solenoid/gearbox interface:
 - replace the packing of the de-oil solenoid (Ref. AMM TASK 49-91-49-000-003) and (Ref. AMM TASK 49-91-49-400-003).

EFF: 247-253, 49-00-

Page B240

R

TROUBLE SHOOTING MANUAL

- (l) If there is fuel leakage in the area of the fuel control unit: - replace the seals and or the FUEL CONTROL UNIT (8022KM) as necessary (Ref. AMM TASK 49-32-11-000-003) and (Ref. AMM TASK 49-32-11-400-003).
- (m) If there is fuel leakage in the area of the inlet guide-vane actuator:
 - replace the seals and/or the fuel lines to the actuator and/or the INLET GUIDE VANE-ACTUATOR (8014KM) as necessary (Ref. AMM TASK 49-23-51-000-004) and (Ref. AMM TASK 49-23-51-400-004).
- (2) If you find other unwanted material on the surfaces of the air intake system components:
 - identify the material and its source,
- (3) If there is no external contamination:
 - if the oil level in the oil reservoir is above the FULL mark on the oil sight glas, correct it with the overflow drain tool (Ref. AMM TASK 49-90-00-600-007).
 - NOTE: If the APU oil reservoir was filled above the FULL mark on the oil sight glass:
 During APU operation the oil expands which could create an over-filled condition, resulting in leakage and possible oil smell in the cabin.
 - remove the APU Bleed-Air Duct Elbow (Ref. AMM TASK 49-11-11-000-004),
 - remove the Load Control Valve (8050KM) (Ref. AMM TASK 49-51-51-000-004).
 - examine the removed components with a black light lamp and make sure that you do not find signs of contamination.
 - (a) If there are signs of contamination:
 - clean the APU Bleed-Air Duct Elbow and install it (Ref. AMM TASK 49-11-11-400-004),
 - clean the Load Control Valve (8050KM) and install it (Ref. AMM TASK 49-51-51-400-004).
 - 1 If the fault continues:
 - replace the AUXILIARY POWER UNIT (4005KM) (Ref. AMM TASK 49-11-11-000-004) and (Ref. AMM TASK 49-11-11-400-004).

EFF: 247-253,

49-00-81

TROUBLE SHOOTING MANUAL

**ON A/C 247-253,

B. Cleaning and Testing

- (1) If an external leak was identified on the APU:
 - do the repair,
 - clean the area,
 - start and operate the APU with no bleed air supply and no APU generator load (Ref. AMM TASK 49-00-00-710-010),
 - let the APU operate 15 minutes for thermal stabilization,
 - do a leak check on the APU with a black light lamp,
 - do the APU shutdown (Ref. AMM TASK 49-00-00-710-010),
 - immediately after the APU has stopped, examine the area carefully and make sure that there is no leak,
 - if there is a leak (the repair was not successful), do the repair and/or replace as necessary.
 - if there is no leak (the repair was successful), continue as given subsequent.

If no external leak was identified on the APU, do the procedure as given subsequent.

- (2) If dirty, clean the APU compartment.
- (3) If dirty, clean the air intake diverter, the air inlet duct and the air intake diffuser and elbow (Ref. AMM TASK 49-16-00-100-003).
- (4) Do a check and make sure that the flexible seals on the air intake system are in correct condition (Ref. AMM TASK 49-16-00-200-002) and clean.
- (5) Clean the APU bleed air duct, the pneumatic ducts of the aircraft and the environmental control system (Ref. AMM TASK 21-00-00-615-001) or (Ref. AMM TASK 21-00-00-615-002) and (Ref. AMM TASK 21-00-00-100-001).
- (6) Do the pre-conditioning with the APU (Ref. AMM TASK 12-33-21-618-001) and make sure that you do not smell fumes in the cabin and/or there is no oil smoke at the APU exhaust.
- (7) Do a leak check and make sure that there is no fuel leak and/or no oil leak on the APU and/or the APU generator.

NOTE: Do the leak check with a black light lamp.

EFF: 247-253,

49-00-81

Page B242

TROUBLE SHOOTING MANUAL

TASK 49-00-81-810-884

APU AUTO SHUT DOWN - Shutdown in conjunction with Fuel Low Pressure (131-9(A))

- 1. Possible Causes
 - FUEL PRESSURE SHOWS LOW DURING APU RUN
 - air in the fuel
- 2. Job Set-up Information
 - A. Referenced Information

REFERENCE	DESIGNATION
28-22-00-810-801	APU Fuel System - Low Pressure
AMM 28-22-00-710-001	Operational Test of the APU Fuel-Pump System on
AMM 49-00-00-860-008	Ground to Purge the Fuel Line APU Start by External Power (131-9(A))

3. Fault Confirmation

- A. Read-out of ECB Trouble-Shooting Data
 - (1) Put the APU MASTER SW to the ON position.
 - (2) Get access to the APU SHUTDOWN report.

 - (4) Purge the APU fuel-line to make sure that there is no air in the fuel (Ref. AMM TASK 28-22-00-710-001).
 - (5) Start the APU and apply Bleed Air for 20 seconds, minimum (Ref. AMM TASK 49-00-00-860-008).

4. Fault Isolation

A. If an APU auto shutdown occurs during the APU operation and the APU SHUTDOWN report gives the maintenance message:

NO ACCELERATION (or) UNDERSPEED (or) NO FLAME LOW FUEL PRESSURE

associated with the Fault Code Number (FCN) 100

- do the trouble shooting of the APU fuel system - low pressure (Ref. TASK 28-22-00-810-801).

EFF: 247-253,

49-00-81

Page B243

TROUBLE SHOOTING MANUAL

B. Do the test given in para. 3.

EFF: 247-253, SROS 49-00-81 Page B244

TROUBLE SHOOTING MANUAL

TASK 49-00-81-810-886

APU Bleed Pressure - Intense Pressure Fluctuation (131-9(A))

- 1. Possible Causes
 - VALVE-FLOW CTL (8HB)
 - VALVE-FLOW CTL (11HB)
- 2. Job Set-up Information
 - A. Referenced Information

REFERENCE	DESIGNATION
49-00-81-810-891	No APU Bleed-Air Pressure, Low or Fluctuating APU Bleed-Air Pressure (with AIDS Support) (131-9)(A))
AMM 21-51-51-000-001	Removal of the Pack Flow-Control Valve/ Pack Flow-Control Unit
AMM 21-51-51-400-001	Installation of the Pack Flow-Control Valve/ Pack Flow-Control Unit
AMM 49-00-00-860-008	APU Start by External Power (131-9(A))

3. Fault Confirmation

- A. Test
 - NOTE : The Fault can be spurious and is not necessarily reproductive on ground.
 - (1) Start and operate the APU (Ref. AMM TASK 49-00-00-860-008).
 - (2) On the AIR COND section on the overhead panel 30VU, push the
 - APU BLEED p/bsw to on;
 - PACK 1 p/bsw to on (the OFF legend is off);
 - PACK 2 p/bsw to on (the OFF legend is off);

4. Fault Isolation

- A. If the bleed indication on the ECAM APU page shows pressure fluctuation:
 - switch to the ECAM BLEED page and observe the pack-flow indication needles.
 - (1) If one of them shows periodic cycling (low frequency, high amplitude):
 - replace the respective VALVE-FLOW CTL (8HB) or VALVE-FLOW CTL
 (11HB)
 (Ref. AMM TASK 21-51-51-000-001)

(Ref. AMM TASK 21-51-51-000-001) (Ref. AMM TASK 21-51-51-400-001).

EFF: 247-253,

49-00-81

Page B245

TROUBLE SHOOTING MANUAL

- (2) If the indication is **OK**:
 - do the trouble shooting of APU bleed fluctuation (Ref. TASK 49-00-81-810-891).
- B. Do the test given in para. 3.

EFF: 247-253, SROS **49-00-81**Config-1 May 01/08

TROUBLE SHOOTING MANUAL

TASK 49-00-81-810-887

Check IGV Assembly / IGV Actuator (8014KM), Bleed Shut Off due to high temperature

1. Possible Causes

- Bleed Shut Off due to high temperature
- damage/leakage of the fuel supply and return lines of the IGV ACTUATOR (8014KM)
- damage of the IGV ACTUATOR linkage and the IGV assembly and the IGV actuator
- IGV ACTUATOR (8014KM)
- APU (4005KM)

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2. Job Set-up Information

A. Referenced Information

AMM 49-00-00-860-008 APU Start by External Power (131-9(A))
AMM 49-11-11-000-004 Removal of the Power Plant (APU) (131-9(A))
AMM 49-23-51-000-004 Installation of the Power Plant (APU) (131-9(A))
R AMM 49-23-51-000-004 Removal of the Inlet Guide Vane - Actuator (8014KM)
R AMM 49-23-51-400-004 Installation of the Inlet Guide Vane - Actuator (8014KM) (131-9(A))

3. Fault Confirmation

**ON A/C 247-253,

Post SB 49-1062 For A/C 251-251, Post SB 49-1069 For A/C 247-250,252-253,

- A. Read-out of ECB Trouble-Shooting Data
 - (1) Put the APU MASTER SW to the ON position.
 - (2) Get access to the LAST LEG report.
 - (3) Push the '>' adjacent to LRU DATA:the MCDU menu showsBleed Shut Off due to high temperature
 - (4) Start the APU and apply Bleed Air for 20 seconds, minimum (Ref. AMM TASK 49-00-00-860-008).

EFF: 247-253,

49-00-81

Page B247

Config-1 May 01/08

SROS

TROUBLE SHOOTING MANUAL

**ON A/C 247-253,

4. Fault Isolation

**ON A/C 247-253,

Post SB 49-1062 For A/C 251-251, Post SB 49-1069 For A/C 247-250,252-253,

A. If the LAST LEG report gives the maintenance message:

CHECK IGV ASSEMBLY/IGV ACTUATOR (8014KM)

associated with Fault Code Number (FCN) 90

- do a check for damage/leakage of the fuel supply and return lines of the IGV ACTUATOR (8014KM).
- (1) If there is damage/leakage in the fuel supply and return lines:

 do a repair
- (2) If the fuel supply and return lines are OK:
 - do a check for damage of the IGV ACTUATOR linkage and the IGV assembly and the IGV actuator.
 - . make sure that the IGV has a travel range of 1 in. (25.3999 mm),
 - . measure the force of the IGV movement.
 - (a) If a force less than 20 lbf.ft (2.71 m.daN) is necessary to move the IGVs:
 - replace the IGV ACTUATOR (8014KM) (Ref. AMM TASK 49-23-51-000-004) and (Ref. AMM TASK 49-23-51-400-004).
 - (b) If a force more than 20 lbf.ft (2.71 m.daN) is necessary to move the IGVs or the travel range is less than 1 in. (25.3999 mm), the IGV ACTUATOR linkage/IGV assembly are damaged and/or do not move freely:
 - replace the APU (4005KM) (Ref. AMM TASK 49-11-11-000-004) and (Ref. AMM TASK 49-11-11-400-004).

**ON A/C 247-253,

5. Close-up

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**ON A/C 247-253,

Post SB 49-1062 For A/C 251-251, Post SB 49-1069 For A/C 247-250,252-253,

A. Do the test given in para. 3.

EFF: 247-253,

49-00-81

Page B248 Config-1 May 01/08

SROS

TROUBLE SHOOTING MANUAL

**ON A/C 247-253,

TASK 49-00-81-810-889

Oil Smoke at the APU Exhaust (131-9(A))

- 1. Possible Causes
 - AUXILIARY POWER UNIT (4005KM)
 - Air/Oil Seperator Adapter
 - flexible seals on the air intake system
- 2. Job Set-up Information
 - A. Fixtures, Tools, Test and Support Equipment

REFERENCE QTY DESIGNATION

No specific

black light lamp

B. Referenced Information

REFERENCE DESIGNATION

49-00-81-810-874 APU - Oil Smoke in Cabin (131-9(A)) AMM 12-33-21-618-001 Pre-conditioning with the APU AMM 21-00-00-100-001 Cleaning of Special Components in the Environmental Control System (ECS) AMM 21-00-00-615-001 Decontamination of the Environmental Control System (ECS) when the Temperature is below 24 deg.C (APU) Decontamination of the Environmental Control System AMM 21-00-00-615-002 (ECS) when the Temperature is above 24 deg.C (APU) 49-00-00-100-003 AMM Cleaning of the APU Compartment with installed APU 49-00-00-710-010 Operational Test of the APU (131-9(A)) AMM 49-00-00-860-008 APU Start by External Power (131-9(A)) AMM APU Shutdown by External Power (131-9(A)) AMM 49-00-00-860-009 AMM 49-11-11-000-004 Removal of the Power Plant (APU) (131-9(A))

AMM 49-11-11-000-004 Removal of the Power Plant (APU) (131-9(A))
AMM 49-11-11-400-004 Installation of the Power Plant (APU) (131-9(A))
AMM 49-16-00-100-003 Cleaning of the APU Air Intake (131-9(A))

AMM 49-16-00-100-003 Cleaning of the APO Air Intake (151-9(A))

AMM 49-16-00-200-002 Detailed Inspection of APU Air Intake, Diffuser

Elbow, Seals and Felt Metal (131-9(A))
AMM 49-20-00-100-004 APU Compressor Cleaning (131-9 (A))

AMM 49-26-54-000-003 Removal of the Air/Oil Separator Adapter
AMM 49-26-54-400-001 Installation of the Air/Oil Separator Adapter

AMM 49-81-00-200-008 Detailed Visual Inspection of the Exhaust V-Clamp and Portion of Exhaust Duct inside APU Compartment

(131-9(A))

EFF: 247-253,

49-00-81

Page B249 Config-1 May 01/08

R

TROUBLE SHOOTING MANUAL

3. Fault Confirmation

A. Do the operational test of the APU (Ref. AMM TASK 49-00-00-710-010) and do a check on the APU exhaust for oil smoke.

4. Fault Isolation

- A. If there is oil smoke at the exhaust during the operation of the APU:
 - disconnect the exhaust muffler from the APU exhaust duct as per Para. 4.A. of AMM TASK (Ref. AMM TASK 49-81-00-200-008).
 - do an inspection of the exhaust cone via the APU exhaust duct for oil leakage.
 - (1) If there is oil at the exhaust:
 - replace the APU AUXILIARY POWER UNIT (4005KM) (Ref. AMM TASK 49-11-11-000-004) and (Ref. AMM TASK 49-11-11-400-004).
 - (2) If there is no oil at the exhaust:
 - replace the Air/Oil Seperator Adapter (Ref. AMM TASK 49-26-54-000-003) and (Ref. AMM TASK 49-26-54-400-001).
 - do the cleaning and testing as given in the Para. 4.B.
 - (a) If the fault continues:
 - replace the APU AUXILIARY POWER UNIT (4005KM) (Ref. AMM TASK 49-11-11-000-004) and (Ref. AMM TASK 49-11-11-400-004).
- B. Cleaning and Testing

NOTE: If an external leak was identified on the APU:

- do the repair,
- clean the area,
- start and operate the APU with no bleed air supply and no APU generator load (Ref. AMM TASK 49-00-00-860-008),
- let the APU operate 15 minutes for thermal stabilization,
- do a leak check on the APU with a black light lamp,
- do the APU shutdown (Ref. AMM TASK 49-00-00-860-009),
- immediately after the APU has stopped, examine the area carefully and make sure that there is no leak,
- if there is a leak (the repair was not successful), do the repair and/or replace as necessary.
- if there is no leak (the repair was successful), continue as given subsequent.

If no external leak was identified on the APU, do the procedure as given subsequent.

- If dirty, clean the APU compartment (Ref. AMM TASK 49-00-00-100-003).
- (2) If dirty, clean the air intake diverter, the air inlet duct and the air intake diffuser and elbow (Ref. AMM TASK 49-16-00-100-003).

EFF: 247-253,

49-00-81

Page B250 Config-1 May 01/08

TROUBLE SHOOTING MANUAL

- (3) Do a check and make sure that the flexible seals on the air intake system are in correct condition (Ref. AMM TASK 49-16-00-200-002) and clean.
- (4) Do the cleaning of the APU compressors (Ref. AMM TASK 49-20-00-100-004).
- (5) Clean the APU bleed air duct, the pneumatic ducts of the aircraft and the environmental control system (Ref. AMM TASK 21-00-00-615-001) or (Ref. AMM TASK 21-00-00-615-002) and (Ref. AMM TASK 21-00-00-100-001).
- (6) Do the pre-conditioning with the APU (Ref. AMM TASK 12-33-21-618-001) and make sure that you do not smell fumes in the cabin and/or there is no oil smoke at the APU exhaust.
 - if you smell smoke in the cabin, do the applicable trouble shooting procedure(Ref. TASK 49-00-81-810-874).
- (7) Do a leak check and make sure that there is no fuel leak and/or no oil leak on the APU and/or the APU generator.

NOTE: Do the leak check with a black light lamp.

EFF: 247-253, 49-00-8

Page B251

TROUBLE SHOOTING MANUAL

TASK 49-00-81-810-890

APU Generator electrical-parameter indication(s) replaced by amber XX (131-9(A))

- 1. Possible Causes
 - GCU-APU (1XS)
 - EGIU-2 (22XU2)
 - connection between the EGIU-2 (22XU2) and the SDAC 1 and 2 (1WV1(2)) and/or the APU GCU (1XS)
- 2. Job Set-up Information
 - A. Referenced Information

REFERENCE		DESIGNATION	
27.22	00 940 909	ARU CEN Valdage Francisco and Lond Tadiostics Land	
24-22	-00-810-808	APU GEN Voltage, Frequency and Load Indication Lost or Incorrect	
AMM	24-22-33-000-001	Removal of the EGIU-1(2) (22XU1, 22XU2)	
AMM	24-22-33-400-002	Installation of the EGIU-1(2) (22XU1, 22XU2)	
AMM	24-23-34-000-001	Removal of the GCU-APU (1XS)	
AMM	24-23-34-400-001	Installation of the GCU-APU (1XS)	
AMM	49-00-00-710-010	Operational Test of the APU (131-9(A))	

- 3. Fault Confirmation
 - A. Do the operational test of the APU (Ref. AMM TASK 49-00-00-710-010).

 Do a check of the APU GEN electrical-parameter indications on the lower ECAM DU (APU Page).
- 4. Fault Isolation
 - A. Maintenance Action
 - (1) If all electrical parameter indications are replaced by amber XX: - do the trouble shooting of the connection between the EGIU-2 (22XU2) and the SDAC 1 and 2 (1WV1(2)) and/or the APU GCU (1XS) (Ref. TASK 24-22-00-810-808).
 - (2) If one or two electrical parameter indications are replaced by amber XX:
 - replace the GCU-APU (1XS) (Ref. AMM TASK 24-23-34-000-001) and (Ref. AMM TASK 24-23-34-400-001).
 - (a) If the fault continues:
 - replace the EGIU-2 (22XU2) (Ref. AMM TASK 24-22-33-000-001) and (Ref. AMM TASK 24-22-33-400-002).

EFF: 247-253,

49-00-81

Page B252 May 01/08

TROUBLE SHOOTING MANUAL

B. Do the test given in para. 3.

EFF: 247-253, SROS **49-00-81**Config-1 May 01/08

GA319/A320/A321

TROUBLE SHOOTING MANUAL

TASK 49-00-81-810-891

No APU Bleed-Air Pressure, Low or Fluctuating APU Bleed-Air Pressure (with AIDS Support) (131-9)(A))

1. Possible Causes

- IGV ACTUATOR P21
- APU
- APU BLEED CHECK-VALVE (7260HM)
- tube of the DIFFERENTIAL PRESSURE TRANSDUCER (P24)
- tube of the TOTAL PRESSURE TRANSDUCER (P23)
- DIFFERENTIAL PRESSURE TRANSDUCER (P24)
- TOTAL PRESSURE TRANSDUCER (P23)
- damage/leakage of the fuel supply and return lines of the SCV
- SURGE CONTROL VALVE (P18)
- ECB (59KD)
- LOAD CONTROL VALVE P12
- aircraft wiring
- INLET TEMP SENSOR (P6)
- IGV ACTUATOR 8014KM
- tube of the DIFFERENTIAL PRESSURE TRANSDUCER (8043KM)
- tube of the TOTAL PRESSURE TRANSDUCER (8044KM)
- DIFFERENTIAL PRESSURE TRANSDUCER (8043KM)
- TOTAL PRESSURE TRANSDUCER (8044KM)
- SURGE CONTROL VALVE (8058KM)
- LOAD CONTROL VALVE (8050KM)
- INLET TEMP SENSOR (8010KM)
- STARTER SHUTOFF VALVE (SAV)
- aircraft bleed system
- PACK-FLOW CONTROL VALVE (8HB)
- PACK-FLOW CONTROL VALVE (11HB)
- blockade of the Pack Heat Exchanger(s)

2. Job Set-up Information

A. Referenced Information

REFERENCE	DESIGNATION
36-12-00-810-804	Low Air Pressure in the Right Crossbleed Duct
49-00-81-810-843	APU AUTO SHUTDOWN - INLET OVERHEAT, APU Inlet
	Temperature higher than Limit (131-9(A))
49-00-81-810-851	<pre>Inlet-Guide Vane-Actuator (P21) Fault (131-9(A))</pre>
49-00-81-810-852	Pressure-Transducer Fault or ECB internal Fault (131-9(A))
49-00-81-810-853	Differential-Pressure Transducer (P24) Fault (131-9(A))
49-00-81-810-854	Total-Pressure Transducer (P23) Fault (131-9(A))
49-00-81-810-858	IGV-Actuator (P21) Fault (131-9(A))

EFF: 247-253,

49-00-8

Page B254

TROUBLE SHOOTING MANUAL

REFERENCE		DESIGNATION	
, n n	0 04 040 074	Lood Control Value (D42) Foult (474 D(A))	
49-00-81-810-861 49-00-81-810-871		Load-Control Valve (P12) Fault (131-9(A))	
	0-01-810-871 0-00-810-803	Surge Control Valve (P18) Fault (131-9(A))	
		APU Inlet-Temperature (T2) Sensor Fault (131-9(A))	
	21-51-51-000-001	Removal of the Pack Flow-Control Valve/ Pack Flow-Control Unit	
AMM	21-51-51-400-001	Installation of the Pack Flow-Control Valve/ Pack Flow-Control Unit	
AMM	21-52-24-000-001	Removal of the Heat Exchanger Unit 10HM4 (11HM4) (From the Aircraft)	
AMM	21-52-24-400-001	<pre>Installation of the Heat Exchanger Unit 10HM4 (11HM4) (Into the Aircraft)</pre>	
AMM	31-36-00-740-008	Access to the Parameter Call-Up Menus	
AMM	36-11-00-740-001	BITE Test of the BMC 1(2)	
AMM	36-12-51-000-001	Removal of the Check Valve	
AMM	36-12-51-200-001	Remove and Check Auxiliary Power Unit Bleed	
		Check-Valve (7260HM) for Condition	
AMM	36-12-51-400-001	Installation of the Check Valve	
AMM	49-00-00-710-009	Self-Test of the ECB (131-9(A))	
AMM	49-00-00-720-002	APU Performance Parameters (131-9(A))	
AMM	49-00-00-860-008	APU Start by External Power (131-9(A))	
AMM	49-00-00-860-009	APU Shutdown by External Power (131-9(A))	
AMM	49-11-11-000-004	Removal of the Power Plant (APU) (131-9(A))	
AMM	49-11-11-400-004	Installation of the Power Plant (APU) (131-9(A))	
AMM	49-23-14-000-001	Removal of the Sensor-APU Inlet Temperature (8010KM) (131-9(A))	
AMM	49-23-14-400-001	Installation of the Sensor-APU Inlet Temperature (8010KM) (131-9(A))	
AMM	49-23-51-000-004	Removal of the Inlet Guide Vane - Actuator (8014KM) (131-9(A))	
AMM	49-23-51-400-004	<pre>Installation of the Inlet Guide Vane - Actuator (8014KM) (131-9(A))</pre>	
AMM	49-51-16-000-002	Removal of the Transducer - Differential Pressure (8043KM) (131-9(A))	
ΔММ	49-51-16-000-004	Removal of the Differential Pressure Tube (131-9(A))	
	49-51-16-400-002	Installation of the Transducer - Differential Pressure (8043KM) (131-9(A))	
AMM	49-51-16-400-003	Installation of the Differential Pressure Tube (131-9(A))	
AMM	49-51-17-000-002	Removal of the Transducer - Total Pressure (8044KM) (131-9(A))	
AMM	49-51-17-000-004	Removal of the Total Pressure Tube (131-9(A))	
AMM	49-51-17-400-002	Installation of the Transducer - Total Pressure (8044KM) (131-9(A))	
AMM	49-51-17-400-003	Installation of the Total Pressure Tube (131-9(A))	
AMM		Removal of the Load Control Valve (8050KM) (131-9(A))	
AMM	49-51-51-400-004	Installation of the Load Control Valve (8050KM) (131-9(A))	

EFF: 247-253,

49-00-81 Page B255 Config-1 May 01/08

TROUBLE SHOOTING MANUAL

REFERENCE		DESIGNATION	
AMM	49-51-52-000-003	Removal of the Surge Control Valve (8058KM) (131-9(A))	
AMM	49-51-52-400-003	<pre>Installation of the Surge Control Valve (8058KM) (131-9(A))</pre>	
AMM	49-61-34-000-001	Removal of the Electronic Control Box (ECB) (59KD) (GTCP 36-300)	
AMM	49-61-34-000-003	Removal of the Electronic Control Box (ECB) (131-9(A))	
AMM	49-61-34-400-001	<pre>Installation of the Electronic Control Box (ECB) (59KD) (GTCP 36-300)</pre>	
AMM	49-61-34-400-003	<pre>Installation of the Electronic Control Box (ECB) (131-9(A))</pre>	
AMM	71-00-00-710-001	Dry Motoring Check	
ASM	49-61/04	,	
ASM	49-62/02		
ASM	49-62/04		

3. Fault Confirmation

A. Test

(1) Do the ECB self test (Ref. AMM TASK 49-00-00-710-009).

NOTE: If the self test of the ECB gives a maintenance message, do the related trouble shooting first before you continue with this test.

- (2) Get access to the AIDS parameters (ALPHA CALL UP) (Ref. AMM TASK 31-36-00-740-008).
- (3) Start and operate the APU (Ref. AMM TASK 49-00-00-860-008).
- (4) On overhead panel 35VU, make sure that the APU GEN p/bsw is released (APU GEN off).
- (5) Examine and record the indications of the APU system page on the lower ECAM display unit and the AIDS parameters on the MCDU for the subsequent conditions.

Record the trend of the EGT during change of APU running state.

NOTE: On the MCDU, you can read these AIDS parameters:

- IGV (APU Inlet Guide-Vane position; parameter 7A.1.130.01),
- WB (APU Corrected Bleed-Air Flow; parameter 7A.1.123.01),
- ADW1 (APU Discrete Word Information regarding APU operating status; parameter 7A.1.37.01),

(Ref. AMM TASK 49-00-00-720-002)

EFF: 247-253,

49-00-81

Page B256 Config-1 May 01/08

TROUBLE SHOOTING MANUAL

- ADW Alpha code = ADW1 for SAGEM FDIMU
- . ADW Alpha code = APUDSW1 for TELEDYNE FDIMU
- PD (Main Engine Precooler-Inlet Air-Pressure),
 - . Parameter 06F.1.143.01 for Engine 1
 - . Parameter 06F.2.143.10 for Engine 1
 - . Parameter 06F.1.142.01 for Engine 2
 - . Parameter 06F.2.142.10 for Engine 2
- LCIT (APU Inlet Temperature; parameter 7A.1.110.01),
- <u>NOTE</u>: On the APU page of the lower ECAM display unit, you can monitor:
 - TAT (Total Air Temperature in deg. C)
 - GLA (APU Generator Load in %)
 - EGT (APU Exhaust Gas Temperature)
 - PT (Bleed PSI, the APU bleed duct pressure in psig)
- (a) APU in RTL (Ready-to-Load) running state:
 - on overhead panel 25VU the blue AVAIL legend in the APU START p/bsw is on;
 - 1 Record the applicable parameters (Ref. TABLE A).
- (b) APU in 2 pack ECS running state (PACK 1 and 2):
 - on overhead panel 30VU the APU BLEED p/bsw is pushed to ON;
 - on overhead panel 30VU the PACK 1 p/bsw is pushed (OFF legend is off);
 - on overhead panel 30VU the PACK 2 p/bsw is pushed (OFF legend is off);
 - 1 Record the applicable parameters (Ref. TABLE A).
- (c) APU in MES (Main Engine Start) running state (ENG1):
 - $\frac{1}{710-001}$ Do the dry motoring of the engine 1 (Ref. AMM TASK 71-00-00-710-001);
 - 2 Record the applicable parameters (Ref. TABLE A).
- (d) APU in MES (Main Engine Start) running state (ENG2):
 - $\underline{1}$ Do the dry motoring of the engine 2 (Ref. AMM TASK 71-00-00-710-001);
 - 2 Record the applicable parameters (Ref. TABLE A).
- (6) Shutdown the APU (Ref. AMM TASK 49-00-00-860-009).
- B. Parameter Values during different APU running states.

EFF: 247-253,

49-00-81

■ Page B257 Config-1 May 01/08

TROUBLE SHOOTING MANUAL

TABLE A

ALPHA	į .	MODE		
CODE	RTL	2 ECS	MES	UNIT
IGV	22	44 - 97 (*)	91 - 93 	degrees
WB	N/A	0.4 - 0.5	0.38 - 0.42	kg/sec
LCIT	TAT + (1 to 2)	TAT + (1 to 4)	TAT + (1 to 8)	deg.C
ADW	0811A	00119	08519	digits
PD1/2		> 14/14	> 20/20	psig
PT	-+	> 1.65		psig

(*) IGV varies as a function of the LCIT and the Zone Controller inputs.

4. Fault Isolation

- A. If the self test gives the maintenance message:
 - CHECK PRESS XDCR WIRING/ECB 59KD (Ref. TASK 49-00-81-810-852),
 - DIFFERENTIAL PRESS XDCR P24 (Ref. TASK 49-00-81-810-853),
 - TOTAL PRESS XDCR P23 (Ref. TASK 49-00-81-810-854),
 - SURGE CTL VALVE P18 (Ref. TASK 49-00-81-810-871),
 - INLET GUIDE VANE ACTR P21 (Ref. TASK 49-00-81-810-851) or (Ref. TASK 49-00-81-810-858).
 - LOAD CTL VALVE P12 (Ref. TASK 49-00-81-810-861).
 - INLET TEMP SENSOR (Ref. TASK 49-20-00-810-803).
 - INLET OVERHEAT/CHECK APU INLET (Ref. TASK 49-00-81-810-843).
- B. If the IGV parameter values are out of range:
 - check that the EGT increase during a mode change (i.e. RTL to ECS).

NOTE: RTL = Ready To Load

- (1) If the EGT does not increase:
 - remove the IGV ACTUATOR P21 (Ref. AMM TASK 49-23-51-000-004).
 - do a push/pull test on the IGVs to check the IGV movement. .make sure that the IGV has a travel range of 1 in. (25.3999 mm), .measure the force of the IGV movement.
 - (a) If a force less than 20 lbf.ft (2.71 m.daN) is necessary to move the IGVs:
 - replace the IGV ACTUATOR P21 (Ref. AMM TASK 49-23-51-000-004) and (Ref. AMM TASK 49-23-51-400-004).

EFF: 247-253,

49-00-81

Page B258

Config-1 May 01/08

SROS

TROUBLE SHOOTING MANUAL

- (b) If a force more than 20 lbf.ft (2.71 m.daN) is necessary to move the IGVs or the travel range is less than 1 in. (25.3999 mm):
 - replace the APU (Ref. AMM TASK 49-11-11-000-004) and (Ref. AMM TASK 49-11-11-400-004).
- (2) If the EGT increases:
 - check the APU bleed system for leaks.
- C. If the WB parameter values are out of range:
 - do a check for blockage of the APU inlet.
 - (1) If the fault continues:
 - do a check of the APU BLEED CHECK-VALVE (7260HM) (Ref. AMM TASK 36-12-51-200-001).
 - (a) If the inspection of the APU BLEED CHECK-VALVE (7260HM) is not OK-
 - replace the APU BLEED CHECK-VALVE (7260HM) (Ref. AMM TASK 36-12-51-000-001) and (Ref. AMM TASK 36-12-51-400-001).
 - (b) If the inspection of the APU BLEED CHECK-VALVE (7260HM) is OK:
 - do a check for damage/contamination of the DIFFERENTIAL PRESSURE TRANSDUCER (P24) and TOTAL PRESSURE TRANSDUCER (P23)
 - remove both ends of the tube of the DIFFERENTIAL PRESSURE TRANSDUCER (P24) (Ref. AMM TASK 49-51-16-000-004).
 - remove both ends of the tube of the TOTAL PRESSURE TRANSDUCER (P23) (Ref. AMM TASK 49-51-17-000-004).
 - put plugs in the openings.

NOTE: It is recommended to use a pressure of 60-90 psig (4.14-6.20 bar) of filtered air or nitrogen to blow the air through the tubes.

- use a air source to remove unwanted materials out of the tubes.
- remove the plugs from the openings.
- install the tube of the DIFFERENTIAL PRESSURE TRANSDUCER (P24) (Ref. AMM TASK 49-51-16-400-003).
- install the tube of the TOTAL PRESSURE TRANSDUCER (P23) (Ref. AMM TASK 49-51-17-400-003).
- (c) If the fault continues:
 - replace the DIFFERENTIAL PRESSURE TRANSDUCER (P24)
 (Ref. AMM TASK 49-51-16-000-002) and (Ref. AMM TASK 49-51-16-400-002).
 - replace the TOTAL PRESSURE TRANSDUCER (P23)
 (Ref. AMM TASK 49-51-17-000-002) and (Ref. AMM TASK 49-51-17-400-002).
- (d) If the fault continues:
 - do a check of damage/leakage of the fuel supply and return lines of the SCV

EFF: 247-253,

49-00-81Config-1 May 01/08

TROUBLE SHOOTING MANUAL

- 1 If there is damaged/leaking in the fuel supply and return
 lines:
 - do a repair.
- 2 If the fuel supply and return lines are OK:
 - replace the SURGE CONTROL VALVE (P18) (Ref. AMM TASK 49-51-52-000-003) and (Ref. AMM TASK 49-51-52-400-003).
- (e) If the fault continues:
 - replace the ECB (59KD)
 (Ref. AMM TASK 49-61-34-000-003) and (Ref. AMM TASK 49-61-34-400-003).
- D. If the PD is more than 8 psig lower than PT (ECS or MES mode):

NOTE: PD = main engine precooler inlet air pressure (source BMC).

NOTE: As a rule of thumb, the pressure drop accross the cross bleed valve is 3 psig, therefore PD (RTL mode) shows approx. 3 psig higher than PD (ECS or MES mode).

NOTE: The following check is only applicable to ECS and MES modes.

- check on the MCDU the load control valve position.
- (1) If the ADW1 shows that the load control valve is not open (e.g. ADW1 = 08518 in MES mode, ADW1 = 00118 in ECS mode):
 - replace the LOAD CONTROL VALVE P12 (Ref. AMM TASK 49-51-51-000-004) and (Ref. AMM TASK 49-51-51-400-004).
- (2) If the ADW1 shows that load control valve is fully open (e.g. ADW1 = 08519 in MES mode, ADW1 = 00119 in ECS mode):
 - in the APU compartment, do a check of the load control valve position.
 - (a) If the load control valve is fully open:
 - do a check of the APU bleed system for leaks.
 - 1 If the fault continues:
 - do the trouble shooting procedure of low air pressure in the right crossbleed duct (Ref. TASK 36-12-00-810-804).
- E. If the LCIT is more than 10 deg.C higher than the outside air temperature (TAT):
 - check for hot gas ingestion (make sure that the main engine exhaust is not blown into the APU air intake),
 - check for hot gas leaks at the APU compressor split lines.

EFF: 247-253,

49-00-81

Page B260

Config-1 May 01/08

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TROUBLE SHOOTING MANUAL

- (1) If the fault appears to be intermitted:
 - do a check and repair of the aircraft wiring from the ECB (59KD) AB/H3,H4 to the electrical connector P1/7,6 and

from P1/7,6 to the Inlet Temp Sensor P6/B,A (Ref. ASM 49-61/04)

- replace the INLET TEMP SENSOR (P6) (Ref. AMM TASK 49-23-14-000-001) and (Ref. AMM TASK 49-23-14-400-001).
- (a) If the fault continues:
 - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-001) and (Ref. AMM TASK 49-61-34-400-001).
- F. If the LCIT is more than 10 deg.C lower than the outside air temperature (TAT):
 - do a check and repair of the aircraft wiring from the ECB (59KD) AB/H3,H4 to the electrical connector P1/7,6 and

from P1/7,6 to the Inlet Temp Sensor P6/B,A (Ref. ASM 49-61/04)

- replace the INLET TEMP SENSOR (P6) (Ref. AMM TASK 49-23-14-000-001) and (Ref. AMM TASK 49-23-14-400-001).
- (1) If the fault continues:
 - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-001) and (Ref. AMM TASK 49-61-34-400-001).
 - (a) If the fault continues:
 - do a check and repair of the aircraft wiring from the ECB (59KD) AB/H4,H3 to the INLET TEMP SENSOR studs/alumel,chromel (Ref. ASM 49-62/02) (Ref. ASM 49-62/04).

**ON A/C 247-253,

- R Post SB 49-1062 For A/C 251-251, R Post SB 49-1069 For A/C 247-250,252-253,
 - A. If the self test gives the maintenance message:
 - CHECK PRESS XDCR WIRING/ECB 59KD (Ref. TASK 49-00-81-810-852),
 - DIFFERENTIAL PRESS XDCR (8043KM) (Ref. TASK 49-00-81-810-853),
 - TOTAL PRESS XDCR (8044KM) (Ref. TASK 49-00-81-810-854),
 - SURGE CTL VALVE (8058KM) (Ref. TASK 49-00-81-810-871),
 - INLET GUIDE VANE ACTR (8014KM) (Ref. TASK 49-00-81-810-851) or (Ref. TASK 49-00-81-810-858).
 - LOAD CTL VALVE (8050KM) (Ref. TASK 49-00-81-810-861).
 - INLET TEMP SENSOR (8010KM) (Ref. TASK 49-20-00-810-803).
 - INLET OVERHEAT/CHECK APU INLET (Ref. TASK 49-00-81-810-843).

EFF: 247-253,

49-00-81

Page B261

Config-1 May 01/08

TROUBLE SHOOTING MANUAL

B. If the IGV parameter values are out of range:

- check that the EGT increase during a mode change (i.e. RTL to ECS).

NOTE: RTL = Ready To Load

- (1) If the EGT does not increase:
 - remove the IGV ACTUATOR 8014KM (Ref. AMM TASK 49-23-51-000-004).
 - do a push/pull test on the IGVs to check the IGV movement. .make sure that the IGV has a travel range of 1 in. (25.3999 mm), .measure the force of the IGV movement.
 - (a) If a force less than 20 lbf.ft (2.71 m.daN) is necessary to move the IGVs:
 - replace the IGV ACTUATOR 8014KM (Ref. AMM TASK 49-23-51-000-004) and (Ref. AMM TASK 49-23-51-400-004).
 - (b) If a force more than 20 lbf.ft (2.71 m.daN) is necessary to move the IGVs or the travel range is less than 1 in. (25.3999 mm): - replace the APU (Ref. AMM TASK 49-11-11-000-004) and (Ref. AMM TASK 49-11-11-400-004).
- (2) If the EGT increases:
 - check the APU bleed system for leaks.
- C. If the WB parameter values are out of range:
 - do a check for blockage of the APU inlet.
 - (1) If the fault continues:
 - do a check of the APU BLEED CHECK-VALVE (7260HM) (Ref. AMM TASK 36-12-51-200-001).
 - (a) If the inspection of the APU BLEED CHECK-VALVE (7260HM) is not OK-
 - replace the APU BLEED CHECK-VALVE (7260HM) (Ref. AMM TASK 36-12-51-000-001) and (Ref. AMM TASK 36-12-51-400-001).
 - (b) If the inspection of the APU BLEED CHECK-VALVE (7260HM) is OK:
 - do a check for damage/contamination of the DIFFERENTIAL PRESSURE TRANSDUCER (8043KM) and TOTAL PRESSURE TRANSDCER (8044KM).
 - remove both ends of the tube of the DIFFERENTIAL PRESSURE TRANSDUCER (8043KM) (Ref. AMM TASK 49-51-16-000-004).
 - remove both ends of the tube of the TOTAL PRESSURE TRANSDUCER (8044KM) (Ref. AMM TASK 49-51-17-000-004).
 - put plugs in the openings.

NOTE: It is recommended to use a pressure of 60-90 psig (4.14-6.20 bar) of filtered air or nitrogen to blow the air through the tubes.

- use a air source to remove unwanted materials out of the tubes.
- remove the plugs from the openings.

EFF: 247-253,

49-00-81 Page B262 Config-1 May 01/08

TROUBLE SHOOTING MANUAL

- install the tube of the DIFFERENTIAL PRESSURE TRANSDUCER (8043KM) (Ref. AMM TASK 49-51-16-400-003).
- install the tube of the TOTAL PRESSURE TRANSDUCER (8044KM) (Ref. AMM TASK 49-51-17-400-003).
- (c) If the fault continues:
 - replace the DIFFERENTIAL PRESSURE TRANSDUCER (8043KM) (Ref. AMM TASK 49-51-16-000-002) and (Ref. AMM TASK 49-51-16-400-002).
 - replace the TOTAL PRESSURE TRANSDUCER (8044KM)
 (Ref. AMM TASK 49-51-17-000-002) and (Ref. AMM TASK 49-51-17-400-002).
- (d) If the fault continues:
 - do a check of damage/leakage of the fuel supply and return lines of the SCV
 - 1 If there is damaged/leaking in the fuel supply and return lines:
 - do a repair.
 - 2 If the fuel supply and return lines are OK:
 replace the SURGE CONTROL VALVE (8058KM)
 (Ref. AMM TASK 49-51-52-000-003) and (Ref. AMM TASK 49-51-52-400-003).
- (e) If the fault continues:
 - replace the ECB (59KD)
 (Ref. AMM TASK 49-61-34-000-003) and (Ref. AMM TASK 49-61-34-400-003).
- D. If the PD is more than 8 psig lower than PT (ECS or MES mode):

NOTE: PD = main engine precooler inlet air pressure (source BMC).

NOTE: As a rule of thumb, the pressure drop accross the cross bleed valve is 3 psig, therefore PD (RTL mode) shows approx. 3 psig higher than PD (ECS or MES mode).

- check on the MCDU the load control valve position (the ADW1 parameter shows a 9 in the last position i.e. 08519 = load control valve open).
- (Ref. AMM TASK 49-00-00-720-002).
- (1) If the ADW1 shows that the load control valve is not open (e.g. ADW1 = 08108):
 - replace the LOAD CONTROL VALVE (8050KM) (Ref. AMM TASK 49-51-51-000-004) and (Ref. AMM TASK 49-51-51-400-004).
- - in the APU compartment, do a check of the load control valve position.

EFF: 247-253,

49-00-81 Page B263 Config-1 May 01/08

SROS

R

TROUBLE SHOOTING MANUAL

- (a) If the load control valve is fully open:
 - do a check of the APU bleed system for leaks.
 - 1 If the fault continues:
 - do the trouble shooting procedure of low air pressure in the right crossbleed duct (Ref. TASK 36-12-00-810-804).
- E. If the LCIT is more than 10 deg.C higher than the outside air temperature (TAT):
 - check for hot gas ingestion (make sure that the main engine exhaust is not blown into the APU air intake),
 - check for hot gas leaks at the APU compressor split lines.
 - (1) If the fault appears to be intermitted:
 - do a check and repair of the aircraft wiring from the ECB (59KD) AB/H3,H4 to the electrical connector P1/7,6 and

from P1/7,6 to the Inlet Temp Sensor P6/B,A (Ref. ASM 49-61/04)

- replace the INLET TEMP SENSOR (8010KM) (Ref. AMM TASK 49-23-14-000-001) and (Ref. AMM TASK 49-23-14-400-001).
- (a) If the fault continues:
 - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-001) and (Ref. AMM TASK 49-61-34-400-001).
- F. If the LCIT is more than 10 deg.C lower than the outside air temperature (TAT):
 - do a check and repair of the aircraft wiring from the ECB (59KD) AB/H3,H4 to the electrical connector P1/7,6 and

from P1/7,6 to the Inlet Temp Sensor P6/B,A (Ref. ASM 49-61/04)

- replace the INLET TEMP SENSOR (8010KM) (Ref. AMM TASK 49-23-14-000-001) and (Ref. AMM TASK 49-23-14-400-001).
- (1) If the fault continues:
 - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-001) and (Ref. AMM TASK 49-61-34-400-001).
 - (a) If the fault continues:
 - do a check and repair of the aircraft wiring from the ECB (59KD) AB/H4,H3 to the INLET TEMP SENSOR studs/alumel,chromel (Ref. ASM 49-62/02) (Ref. ASM 49-62/04).

**ON A/C 247-253,

- G. If:
 - .the bleed pressure is low with one engine in MIN IDLE operation, to supply back pressure on ENG.
 - .the APU self test gives no maintenance message.

EFF: 247-253,

49-00-81

TROUBLE SHOOTING MANUAL

NOTE : On the APU page of the lower ECAM display unit, the BLEED (PSI) value is within 8 psig.

NOTE: Aircraft configuration:

the PACK 1 and 2 p/bsw are OFF,
 the APU BLEED valve p/bsw is ON,

- do one MES at a time.

- isolate the left or right engine.
- (1) For the related engine:
 - do the trouble shooting of the engine STARTER SHUTOFF VALVE (SAV).
 - (a) If the fault continues:
 - do the operational test of the BMCs (Ref. AMM TASK 36-11-00-740-001).
 - If the test gives a maintenance message:do the related trouble shooting procedure.
 - If the test is OK:do a leak check of the aircraft bleed system.
- H. If:
 - the bleed pressure has large fluctuation of +/-20 psig with both packs in operation.
 - .the APU self test gives no maintenance message.
 - NOTE: If one pack is operating, the external temperature and the cabin temperature are high, APU bleed-pressure fluctuation occurs when you start the second pack to decrease the cabin temperature. This bleed pressure fluctuation is a normal effect after the start of the two pack operation in maximum cooling mode until the cabin temperature has decreased sufficiently after some time.
 - replace the PACK-FLOW CONTROL VALVE (8HB) and/or PACK-FLOW CONTROL VALVE (11HB)
 (Ref. AMM TASK 21-51-51-000-001) and (Ref. AMM TASK 21-51-51-400-001).
 - (1) If the fault continues:
 - do a check for blockade of the Pack Heat Exchanger(s).
 Replace/Clean as necessary
 (Ref. AMM TASK 21-52-24-000-001) and (Ref. AMM TASK 21-52-24-400-001).
- J. Do the test given in para. 3.

EFF: 247-253,

49-00-81

TROUBLE SHOOTING MANUAL

TASK 49-00-81-810-893

APU Bleed Control Valve indication replaced by amber XX (131-9(A))

- 1. Possible Causes
 - ECB (59KD)
 - Load Control Valve (8050KM)
- 2. Job Set-up Information
 - A. Referenced Information

REFERENCE		DESIGNATION	
49-0	0-81-810-864	"LCV-OPEN"- Signal Fault (131-9(A))	
AMM	31-32-00-860-001	Procedure to Get Access to the SYSTEM REPORT/TEST Menu Page	
AMM	49-00-00-710-010	Operational Test of the APU (131-9(A))	
AMM	49-61-34-000-003	Removal of the Electronic Control Box (ECB) (131-9(A))	
AMM	49-61-34-400-003	<pre>Installation of the Electronic Control Box (ECB) (131-9(A))</pre>	

3. Fault Confirmation

- A. Do the operational test of the APU (Ref. AMM TASK 49-00-00-710-010).
 - (1) Do a check of the APU Bleed Control-Valve indication on the lower ECAM DU (APU Page).
 - (2) On the MCDU, get access to the APU menu page SYSTEM REPORT/TEST (Ref. AMM TASK 31-32-00-860-001).
- 4. Fault Isolation
 - A. Maintenance Action
 - (1) If there is a CLASS 2 Fault Message

WRG: APU LOAD VALVE

with the LRU TROUBLE SHOOT DATA menu information: LOAD VALVE OPEN SIGNAL SHOWS CIRCUIT FAILURE Fault Code Number: 138

and the Bleed Control Valve indication is replaced by amber XX:
- do the trouble shooting of the Load Control Valve (8050KM)
(Ref. TASK 49-00-81-810-864).

EFF: 247-253,

49-00-81

Page B266

Config-1 May 01/08

TROUBLE SHOOTING MANUAL

- (2) If there is no CLASS 2 Fault Message and the Bleed Control Valve indication is replaced by amber XX:
 - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-003) and (Ref. AMM TASK 49-61-34-400-003).
- B. Do the test given in para. 3.

EFF : 247-253, SROS **49-00-81**Config-1 May 01/08

TROUBLE SHOOTING MANUAL

TASK 49-00-81-810-894

APU Bleed Pressure indication replaced by amber XX (131-9(A))

- 1. Possible Causes
 - ECB (59KD)
 - Total Pressure Sensor
 - ADIRU 2 is selected OFF or not available
- 2. Job Set-up Information
 - A. Referenced Information

REFERENCE	DESIG	NATION
49-00-81-810-854	Total	-Pressure Transducer (P23) Fault (131-9(A))
AMM 31-32-00-86	60-001 Proce Menu	dure to Get Access to the SYSTEM REPORT/TEST Page
AMM 34-10-00-86	0-002 ADIRS	Start Procedure
AMM 49-00-00-71	10-010 O pera	tional Test of the APU (131-9(A))
AMM 49-61-34-00	00-003 Remov (131-	al of the Electronic Control Box (ECB) 9(A))
AMM 49-61-34-40		llation of the Electronic Control Box (ECB) 9(A))

3. Fault Confirmation

- A. Do the operational test of the APU (Ref. AMM TASK 49-00-00-710-010).
 - (1) Do a check of the APU Bleed Pressure indication on the lower ECAM DU (APU Page).
 - (2) On the MCDU, get access to the APU menu page SYSTEM REPORT/TEST (Ref. AMM TASK 31-32-00-860-001).
 - (3) Select the LAST LEG REPORT page.

4. Fault Isolation

- A. Maintenance Action
 - (1) If there is a fault message

TOTAL PRESS XDCR (8044KM)

with the LRU TROUBLE SHOOT DATA menu information: TOTAL PRESSURE SENSOR SHOWS OUT OF RANGE HIGH Fault Code Number: 029

EFF: 247-253,

49-00-81

Page B268

Config-1 May 01/08

TROUBLE SHOOTING MANUAL

TOTAL PRESSURE SENSOR SHOWS OUT OF RANGE LOW

Fault Code Number: 028

or

TOTAL PRESSURE SENSOR SHOWS OUT OF RANGE

Fault Code Number: 026

and the Bleed Pressure indication is replaced by amber XX:

- do the trouble shooting of the Total Pressure Sensor (Ref. TASK 49- 00-81-810-854).
- (2) If there is no fault message and the Bleed Pressure indication is replaced by amber XX:
 - do a check if the ADIRU 2 is selected OFF or not available.
 - (a) If the ADIRU 2 is OFF or not available:
 - do the ADIRS start procedure (Ref. AMM TASK 34-10-00-860-002).
 - (b) If the ADIRU 2 is ON:
 - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-003) and (Ref. AMM TASK 49-61-34-400-003).
- B. Do the test given in para. 3.

EFF: 247-253,

49-00-81

■ Page B269 Config-1 May 01/08

TROUBLE SHOOTING MANUAL

TASK 49-00-81-810-895

APU EGT indication replaced by amber XX (131-9(A))

- 1. Possible Causes
 - ECB (59KD)
- 2. Job Set-up Information
 - A. Referenced Information

REFERENCE	DESIGNATION
AMM 49-00-00-710-010 AMM 49-61-34-000-003 AMM 49-61-34-400-003	Operational Test of the APU (131-9(A)) Removal of the Electronic Control Box (ECB) (131-9(A)) Installation of the Electronic Control Box (ECB) (131-9(A))

3. Fault Confirmation

- A. Do the operational test of the APU (Ref. AMM TASK 49-00-00-710-010).
 - (1) Do a check of the APU EGT indication on the lower ECAM DU (APU Page).

4. Fault Isolation

- A. If the APU EGT indication is replaced by amber XX: - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-003) and (Ref. AMM TASK 49-61-34-400-003).
- B. Do the test given in para. 3.

EFF: 247-253, 49-00-

TROUBLE SHOOTING MANUAL

TASK 49-00-81-810-896

APU Speed (N) indication replaced by amber XX (131-9(A))

- 1. Possible Causes
 - ECB (59KD)
- 2. Job Set-up Information
 - A. Referenced Information

REFERENCE	DESIGNATION
AMM 49-00-00-710-010 AMM 49-61-34-000-003	Operational Test of the APU (131-9(A)) Removal of the Electronic Control Box (ECB) (131-9(A))
AMM 49-61-34-400-003	Installation of the Electronic Control Box (ECB) (131-9(A))

3. Fault Confirmation

- A. Do the operational test of the APU (Ref. AMM TASK 49-00-00-710-010).
 - (1) Do a check of the APU SPEED (N) indication on the lower ECAM DU (APU Page).

4. Fault Isolation

- A. If the APU SPEED (N) indication is replaced by amber XX: - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-003) and (Ref. AMM TASK 49-61-34-400-003).
- B. Do the test given in para. 3.

EFF: 247-253, 49-00-

TROUBLE SHOOTING MANUAL

TASK 49-00-81-810-897

APU Master Switch ON Legend inoperative (131-9(A))

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

Not Applicable

- 3. Fault Confirmation
 - A. Test
 - (1) Push the APU Master SW p/bsw and check that the ON legend comes on.
 - (2) Release the APU Master SW p/bsw.
- 4. Fault Isolation
 - A. Do the test given in para. 3.

EFF: 247-253,

49-00-81

TROUBLE SHOOTING MANUAL

TASK 49-00-81-810-898

APU Start Switch ON Legend inoperative (131-9(A))

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

Not Applicable

- 3. Fault Confirmation
 - A. Test
 - (1) Release the BAT1 and BAT2 p/bsw to the OFF position.
 - (2) Push the APU Master SW p/bsw and wait until the air-intake flap is in the open position.
 - (3) Push the APU Start SW p/bsw and check that the ON legend comes on.
 - (4) Release the APU Master SW p/bsw.
 - (5) Push the BAT1 and BAT2 p/bsw to the ON position.
- 4. Fault Isolation
 - A. Do the test given in para. 3.

EFF: 247-253,

49-00-81

■ Page B273 Config-1 May 01/08

TROUBLE SHOOTING MANUAL

TASK 49-00-81-810-899

10V Pressure Reference not Correct (131-9(A))

1. Possible Causes

- PRESS XDCR WIRING SHOWS OPEN CIRCUIT
- APU INLET PRESSURE TRANSDUCER (P22)
- TOTAL PRESSURE TRANSDUCER (P23)
- DELTA PRESSURE TRANSDUCER (P24)
- APU wiring harness
- aircraft wiring
- APU INLET PRESSURE TRANSDUCER (8048KM)
- TOTAL PRESSURE TRANSDUCER (8044KM)
- DELTA PRESSURE TRANSDUCER (8043KM)

2. Job Set-up Information

A. Fixtures, Tools, Test and Support Equipment

REFERENCE QTY DESIGNATION

No specific

multimeter

B. Referenced Information

REFERENCE		DESIGNATION	
AMM	49-51-16-000-002	Removal of the Transducer - Differential Pressure (8043KM) (131-9(A))	
AMM	49-51-16-400-002	Installation of the Transducer - Differential Pressure (8043KM) (131-9(A))	
AMM	49-51-17-000-002	Removal of the Transducer - Total Pressure (8044KM) (131-9(A))	
AMM	49-51-17-400-002	<pre>Installation of the Transducer - Total Pressure (8044KM) (131-9(A))</pre>	
AMM	49-51-21-000-001	Removal of the Transducer - APU Inlet Pressure (8048KM) (131-9(A))	
AMM	49-51-21-400-001	<pre>Installation of the Transducer - APU Inlet Pressure (8048KM) (131-9(A))</pre>	
ASM	49-61/04		

EFF: 247-253,

49-00-81

■ Page B274 Config-1 May 01/08

TROUBLE SHOOTING MANUAL

3. Fault Confirmation

- A. Read-out of ECB Trouble-Shooting Data
 - (1) Put the APU MASTER SW to the ON position.
 - (2) Get access to the APU LAST LEG/PREVIOUS LEG report.
 - (3) Push the '>' adjacent to the related CFDS failure message:
 - the MCDU menu shows
 PRESS XDCR WIRING SHOWS OPEN CIRCUIT
 - (4) Get access to the APU GND SCANNING menu.

4. Fault Isolation

A. If the APU GND SCANNING menu gives the maintenance message:

CHECK PRESSURE XDCR WIRING

associated with Fault Code Number (FCN) 30

- disconnect the electrical connector P2 at the APU firewall.
 Use a multimeter to do a resistance check across pin 20 and pin 21 of the electrical connector P2.
- (1) If the resistance is < 75 Ohms:
 - disconnect the electrical connector P22 of the APU INLET PRESSURE TRANSDUCER (P22).

Do a resistance check across pin 20 and pin 21 of the electrical connector P2 again.

- (a) If the resistance is < 75 ohms:
 - replace the APU INLET PRESSURE TRANSDUCER (P22) (Ref. AMM TASK 49-51-21-000-001) and (Ref. AMM TASK 49-51-21-400-001).
- (b) If the resistance is > 75 Ohms:
 - disconnect the electrical connector P23 of the TOTAL PRESSURE TRANSDUCER (P23).

Do a resistance check across pin 20 and pin 21 of the electrical connector P2 again.

- 1 If the resistance is < 75 Ohms:
 - replace the TOTAL PRESSURE TRANSDUCER (P23) (Ref. AMM TASK 49-51-17-000-002) and (Ref. AMM TASK 49-51-17-400-002).
- 2 If the resistance is > 75 Ohms:
 - disconnect the electrical connector P24 of the DELTA PRESSURE TRANSDUCER (P24).

Do a resistance check across pin 20 and pin 21 of the electrical connector P2 again.

EFF: 247-253,

49-00-81

Page B275

Config-1 May 01/08

TROUBLE SHOOTING MANUAL

- a If the resistance is < 75 Ohms:
 - replace the DELTA PRESSURE TRANSDUCER (P24) (Ref. AMM TASK 49-51-16-000-002) and (Ref. AMM TASK 49-51-16-400-002).
- <u>b</u> If the resistance is > 75 Ohms:replace APU wiring harness.
- (2) If the resistance is > 75 Ohms:
 - do a check and repair of the aircraft wiring between ECB (59KD) AB/A1,A4 and electrical connector P2/20,21 (Ref. ASM 49-61/04).

**ON A/C 247-253,

R Post SB 49-1062 For A/C 251-251, R Post SB 49-1069 For A/C 247-250,252-253,

A. If the APU GND SCANNING menu gives the maintenance message:

CHECK PRESSURE XDCR WIRING (8001KM)

associated with Fault Code Number (FCN) 30

- disconnect the electrical connector P2 at the APU firewall.
 Use a multimeter to do a resistance check across pin 20 and pin 21 of the electrical connector P2.
- (1) If the resistance is < 75 Ohms:
 - disconnect the electrical connector P22 of the APU INLET PRESSURE TRANSDUCER (8048KM).

Do a resistance check across pin 20 and pin 21 of the electrical connector P2 again.

- (a) If the resistance is < 75 ohms:
 - replace the APU INLET PRESSURE TRANSDUCER (8048KM) (Ref. AMM TASK 49-51-21-000-001) and (Ref. AMM TASK 49-51-21-400-001).
- (b) If the resistance is > 75 Ohms:
 - disconnect the electrical connector P23 of the TOTAL PRESSURE TRANSDUCER (8044KM).

Do a resistance check across pin 20 and pin 21 of the electrical connector P2 again.

- 1 If the resistance is < 75 Ohms:
 - replace the TOTAL PRESSURE TRANSDUCER (8044KM) (Ref. AMM TASK 49-51-17-000-002) and (Ref. AMM TASK 49-51-17-400-002).
- 2 If the resistance is > 75 Ohms:
 - disconnect the electrical connector P24 of the DELTA PRESSURE TRANSDUCER (8043KM).
 Do a resistance check across pin 20 and pin 21 of the electrical connector P2 again.

EFF: 247-253,

49-00-81 Page B276 Config-1 May 01/08

SROS

TROUBLE SHOOTING MANUAL

- a If the resistance is < 75 Ohms:
 - replace the DELTA PRESSURE TRANSDUCER (8043KM) (Ref. AMM TASK 49-51-16-000-002) and (Ref. AMM TASK 49-51-16-400-002).
- <u>b</u> If the resistance is > 75 Ohms:replace APU wiring harness.
- (2) If the resistance is > 75 Ohms:
 - do a check and repair of the aircraft wiring between ECB (59KD) AB/A1,A4 and electrical connector P2/20,21 (Ref. ASM 49-61/04).

**ON A/C 247-253,

B. Do a check of the APU GND SCANNING menu to verify the fault is not present.

EFF: 247-253,

49-00-81

Page B277

Config-1 May 01/08

TROUBLE SHOOTING MANUAL

AIRBONE AUXILIARY POWER - GENERAL ((APS 3200)) - FAULT ISOLATION PROCEDURES

R **ON A/C 201-225, 227-227, 229-231, 233-244, 247-250, 252-299, 426-456, R 476-499, 503-549, 551-599, 701-749,

TASK 49-00-81-810-875

APU AUTO SHUT DOWN - NO FLAME, APU Fuel Supply Failure (APS 3200)

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

REFERENCE

DESIGNATION

28-22-00-810-801 AMM 49-00-00-710-008 APU Fuel System - Low Pressure

AMM 49-00-00-710-008 Operational Test of the APU (APS 3200)

- 3. Fault Confirmation
- R **ON A/C 201-225, 227-227, 229-231, 233-244, 247-250, 252-299, 426-456,
- R 476-499, 503-549, 551-599, 701-749,
- R Post SB 49-1061 For A/C 201-225,227-227,229-231,233-244,247-250,252-253, R 276-299,426-450,476-499,503-549,551-599,701-749,
 - A. Do the operational test of the APU (Ref. AMM TASK 49-00-00-710-008).
- R **ON A/C 201-225, 227-227, 229-231, 233-244, 247-250, 252-299, 426-456, R 476-499, 503-549, 551-599, 701-749,
 - 4. Fault Isolation
- R **ON A/C 201-225, 227-227, 229-231, 233-244, 247-250, 252-299, 426-456, R 476-499, 503-549, 551-599, 701-749,
- R Post SB 49-1061 For A/C 201-225,227-227,229-231,233-244,247-250,252-253, R 276-299,426-450,476-499,503-549,551-599,701-749,
 - A. If the APU Last Leg Report gives the maintenance message:

CHECK APU FUEL SUPPLY:

NOTE: The APU SHUTDOWNS report gives the maintenance message:

NO FLAME - CHECK APU FUEL SUPPLY

APU Auto Shut Down Fault Code Number: 042

- do the troubleshooting of the APU Fuel System (Ref. TASK 28-22-00-810-801).

EFF: 201-225, 227-227, 229-231, 233-250, 252-299, 426-499, 503-549, 551-599, 701-749,

49-00-81

Config-2 May 01/08

TROUBLE SHOOTING MANUAL

B. Not Applicable

R | EFF : 201-225, 227-227, 229-231, 233-244, 247-250, 252-299, 426-456, 476-499, 503-549, 551-599, 701-749, SROS

49-00-81Config-2 May 01/08

TROUBLE SHOOTING MANUAL

R **ON A/C 201-225, 227-227, 229-231, 233-250, 252-299, 426-499, 503-549, R 551-599, 701-749,

TASK 49-00-81-810-876

APU AUTO SHUT DOWN - NO ACCELERATION, APU Flow Divider (8024KM) (APS 3200)

1. Possible Causes

- FLOW DIVIDER (8024KM)
- ECB (59KD)
- Pilot FUEL-NOZZLE
- Main FUEL-NOZZLE
- AUXILIARY POWER UNIT (4005KM)

2. Job Set-up Information

A. Referenced Information

REFERENCE	DESIGNATION
49-00-81-810-900	APU SLOW START, Start System (APS 3200)
DO 49730000	
AMM 49-00-00-710-008	Operational Test of the APU (APS 3200)
AMM 49-11-11-000-003	Removal of the Power Plant (APU) (APS 3200)
AMM 49-11-11-400-003	Installation of the Power Plant (APU) (APS 3200)
AMM 49-31-41-000-002	Removal of the Pilot Fuel Nozzles and Manifold (APS 3200)
AMM 49-31-41-400-002	Installation of the Pilot Fuel Nozzles and Manifold (APS 3200)
AMM 49-31-42-000-003	Removal of the Main Fuel Nozzles and Manifold (APS 3200)
AMM 49-31-42-400-005	Installation of the Main Fuel Nozzles and Manifold (APS 3200)
AMM 49-32-12-000-002	Removal of the Flow Divider (8024KM) (APS 3200)
AMM 49-32-12-400-002	Installation of the Flow Divider (8024KM) (APS 3200)
AMM 49-61-34-000-002	Removal of the Electronic Control Box (ECB) (59KD) (APS 3200)
AMM 49-61-34-400-002	<pre>Installation of the Electronic Control Box (ECB) (59KD) (APS 3200)</pre>

R 3. Fault Confirmation

R A. Do the operational test of the APU (Ref. AMM TASK 49-00-00-710-008).

EFF: 201-225, 227-227, 229-231, 233-250, 252-299, 426-499, 503-549, 551-599, 701-749,

49-00-81

Config-2 May 01/08

SROS

TROUBLE SHOOTING MANUAL

R 4. Fault Isolation R A. If the APU Last Leg Report gives the maintenance message: R FLOW DIVIDER (8024KM): R R Fault Code Number: 053 R R NOTE: The APU SHUTDOWNS report gives the maintenance message: NO ACCELERATION - FLOW DIVIDER (8024KM) R R APU Auto Shut Down Fault Code Number: 053 R - replace the FLOW DIVIDER (8024KM) (Ref. AMM TASK 49-32-12-000-002) and R (Ref. AMM TASK 49-32-12-400-002). R R (1) If the fault continues: R Interrogate CFDS for APU fault message. Use prompts (>) to go to the R R fault conditions screen (Ref. DO 49730000). Print Fault Condition Screen and review APU speed (NA). R R (a) If speed (NA) is less than 30%: - Do the TSM procedure (Ref. TASK 49-00-81-810-900). R (b) If speed (NA) is more than or equal to 30%: R - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-002) and R (Ref. AMM TASK 49-61-34-400-002). R R 1 If the fault continues: R - replace the Pilot FUEL-NOZZLE (Ref. AMM TASK 49-31-41-000-R 002) and (Ref. AMM TASK 49-31-41-400-002). R 2 If the fault continues: R - replace the Main FUEL-NOZZLE (Ref. AMM TASK 49-31-42-000-R 003) and (Ref. AMM TASK 49-31-42-400-005). R

- replace the AUXILIARY POWER UNIT (4005KM) (Ref. AMM TASK 49-

11-11-000-003) and (Ref. AMM TASK 49-11-11-400-003).

R B. Do the test given in para. 3.

R R

R

SROS

EFF: 201-225, 227-227, 229-231, 233-250, 252-299, 426-499, 503-549, 551-599, 701-749,

3 If the fault continues:

49-00-81 Page 204 Config-2 May 01/08

TROUBLE SHOOTING MANUAL

R **ON A/C 201-225, 227-227, 229-231, 233-244, 247-250, 252-299, 426-456, R 476-499, 503-549, 551-599, 701-749,

TASK 49-00-81-810-877

Bleed Ctl Valve (8051KM) / Fuel Ctl Unit (8022KM) Failure (APS 3200)

1. Possible Causes

- aircraft wiring
- ECB (59KD)
- BLEED CTL VALVE (8051KM)
- FUEL CTL UNIT (8022KM)

2. Job Set-up Information

A. Referenced Information

REFERENCE		DESIGNATION	
AMM	49-00-00-710-008	Operational Test of the APU (APS 3200)	
AMM	49-32-11-000-002	Removal of the Fuel Control Unit (8022KM) (APS 3200)	
AMM	49-32-11-400-002	<pre>Installation of the Fuel Control Unit (8022KM) (APS 3200)</pre>	
AMM	49-51-53-000-001	Removal of the Bleed Control Valve (8051KM) (APS 3200)	
AMM	49-51-53-400-001	Installation of the Bleed Control Valve (8051KM) (APS 3200)	
AMM	49-61-34-000-002	Removal of the Electronic Control Box (ECB) (59KD) (APS 3200)	
AMM	49-61-34-400-002	<pre>Installation of the Electronic Control Box (ECB) (59KD) (APS 3200)</pre>	
ASM	49-61/01		

3. Fault Confirmation

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R **ON A/C 201-225, 227-227, 229-231, 233-244, 247-250, 252-299, 426-456, R 476-499, 503-549, 551-599, 701-749, R Post SB 49-1061 For A/C 201-225,227-227,229-231,233-244,247-250,252-253, R 276-299,426-450,476-499,503-549,551-599,701-749,
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A. Do the operational test of the APU (Ref. AMM TASK 49-00-00-710-008).

EFF: 201-225, 227-227, 229-231, 233-244, 247-250, 252-299, 426-456, 476-499, 503-549, 551-599, 701-749, SROS

49-00-81 Page 205 Config-2 May 01/08

TROUBLE SHOOTING MANUAL

- R **ON A/C 201-225, 227-227, 229-231, 233-244, 247-250, 252-299, 426-456, R 476-499, 503-549, 551-599, 701-749,
 - 4. Fault Isolation
- R **ON A/C 201-225, 227-227, 229-231, 233-244, 247-250, 252-299, 426-456, R 476-499, 503-549, 551-599, 701-749, R Post SB 49-1061 For A/C 201-225,227-227,229-231,233-244,247-250,252-253, R 276-299,426-450,476-499,503-549,551-599,701-749,
 - A. If the APU Last Leg Report gives the maintenance message:

BLEED CTL VLV (8051KM)/FUEL CTL UNIT (8022KM): Fault Code Number: 174

- do a check and repair the aircraft wiring between the ECB (59KD) and the BLEED CTL VALVE (8051KM)
 - AB-D7 and P33 PIN 5
 - AB-J5 and P33 PIN 6
 - AB-H3 and P33 PIN 3
 - AB-F10 and P33 PIN 4 (Ref. ASM 49-61/01).
- (1) If the fault continues:
 - replace the BLEED CTL VALVE (8051KM) (Ref. AMM TASK 49-51-53-000-001) and (Ref. AMM TASK 49-51-53-400-001).
 - (a) If the fault continues:
 - replace the FUEL CTL UNIT (8022KM) (Ref. AMM TASK 49-32-11-000-002) and (Ref. AMM TASK 49-32-11-400-002).
 - 1 If the fault continues:
 - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-002) and (Ref. AMM TASK 49-61-34-400-002).
- B. Do the test given in para. 3.

EFF: 201-225, 227-227, 229-231, 233-244, 247-250, 252-299, 426-456, 476-499, 503-549, 551-599, 701-749, SROS

49-00-81 Page 206 Config-2 May 01/08

TROUBLE SHOOTING MANUAL

R **ON A/C 201-225, 227-227, 229-231, 233-244, 247-250, 252-299, 426-456, R 476-499, 503-549, 551-599, 701-749,

TASK 49-00-81-810-878

Bleed Valve Open Indication (APS 3200)

- 1. Possible Causes
 - ECB (59KD)
 - aircraft wiring
- 2. Job Set-up Information
 - A. Referenced Information

REFERENCE		DESIGNATION	
AMM AMM	49-00-00-710-008 49-61-34-000-002	Operational Test of the APU (APS 3200) Removal of the Electronic Control Box (ECB) (59KD) (APS 3200)	
AMM	49-61-34-400-002	Installation of the Electronic Control Box (ECB) (59KD) (APS 3200)	
ASM	49-61/01	(Billion Control of the Control of t	

3. Fault Confirmation

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R **ON A/C 201-225, 227-227, 229-231, 233-244, 247-250, 252-299, 426-456, R 476-499, 503-549, 551-599, 701-749, R Post SB 49-1061 For A/C 201-225,227-227,229-231,233-244,247-250,252-253, R 276-299,426-450,476-499,503-549,551-599,701-749,
```

A. Do the operational test of the APU (Ref. AMM TASK 49-00-00-710-008).

```
R **ON A/C 201-225, 227-227, 229-231, 233-244, 247-250, 252-299, 426-456, R 476-499, 503-549, 551-599, 701-749,
```

4. Fault Isolation

```
R **ON A/C 201-225, 227-227, 229-231, 233-244, 247-250, 252-299, 426-456, R 476-499, 503-549, 551-599, 701-749, R Post SB 49-1061 For A/C 201-225,227-227,229-231,233-244,247-250,252-253, R 276-299,426-450,476-499,503-549,551-599,701-749,
```

A. If the APU Last Leg Report gives the maintenance message:

WRG: ECB PIN AB-H8: Fault Code Number: 022

```
R EFF: 201-225, 227-227, 229-231, 233-244, 247-250, 252-299, 426-456, 476-499, 503-549, 551-599, 701-749, SROS
```

49-00-81 Page 207 Config-2 May 01/08

TROUBLE SHOOTING MANUAL

- check and repair the aircraft wiring between the ECB AB-H8 and the Zone Controler for a short circuit (Ref. ASM 49-61/01).
- (1) replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-002) and (Ref. AMM TASK 49-61-34-400-002).
- B. Do the test given in para. 3.

EFF: 201-225, 227-227, 229-231, 233-244, 247-250, 252-299, 426-456, 476-499, 503-549, 551-599, 701-749, SROS

49-00-81Config-2 May 01/08

TROUBLE SHOOTING MANUAL

R **ON A/C 201-225, 227-227, 229-231, 233-244, 247-250, 252-299, 426-456, R 476-499, 503-549, 551-599, 701-749,

TASK 49-00-81-810-879

APU AUTO SHUT DOWN - LOSS OF DC POWER, Low ECB Voltage (APS 3200)

1. Possible Causes

- wiring
- COOLING FAN/PMG ASSY (8053KM)
- ECB (59KD)
- aircraft wiring
- APU MAIN RELAY (4KD)
- C/B ECB SUPPLY (1KD)

2. Job Set-up Information

A. Referenced Information

REFERENCE		DESIGNATION	
AMM	49-00-00-710-008	Operational Test of the ARU (ARS 7200)	
	49-52-53-000-001	Operational Test of the APU (APS 3200) Removal of the PMG and Cooling Fan Assembly (8055KM) (APS 3200)	
AMM	49-52-53-400-001	Installation of the PMG and Cooling Fan Assembly (8055KM) (APS 3200)	
AMM	49-61-34-000-002	Removal of the Electronic Control Box (ECB) (59KD) (APS 3200)	
AMM	49-61-34-400-002	Installation of the Electronic Control Box (ECB)	
ASM	49-61/01	(59KD) (APS 3200)	
ASM	49-61/02		

3. Fault Confirmation

```
R **ON A/C 201-225, 227-227, 229-231, 233-244, 247-250, 252-299, 426-456, R 476-499, 503-549, 551-599, 701-749, R Post SB 49-1061 For A/C 201-225,227-227,229-231,233-244,247-250,252-253, R 276-299,426-450,476-499,503-549,551-599,701-749,
```

A. Do the operational test of the APU (Ref. AMM TASK 49-00-00-710-008).

NOTE : This message is intermittent.

The ECB gives a LOSS OF DC POWER message if the electrical power stops for more than 230ms and then starts again.

R EFF: 201-225, 227-227, 229-231, 233-244, 247-250, 252-299, 426-456, 476-499, 503-549, 551-599, 701-749, SROS

49-00-81 Page 209 Config-2 May 01/08

TROUBLE SHOOTING MANUAL

R **ON A/C 201-225, 227-227, 229-231, 233-244, 247-250, 252-299, 426-456, R 476-499, 503-549, 551-599, 701-749,

4. Fault Isolation

R **ON A/C 201-225, 227-227, 229-231, 233-244, 247-250, 252-299, 426-456, R 476-499, 503-549, 551-599, 701-749, R Post SB 49-1061 For A/C 201-225,227-227,229-231,233-244,247-250,252-253, R 276-299,426-450,476-499,503-549,551-599,701-749,

A. Maintenance Action

(1) If the APU SHUTDOWNS report gives the maintenance message:

LOSS OF DC POWER:

APU Auto Shut Down Fault Code Number: 040
Additionally the Last Leg Report gives the maintenance message:
COOLING FAN PMG ASSY (8055KM)
Fault Code Number: 002

- do a check and repair the wiring from the ECB (59KD) AC10/11 to the PMG/Cooling Fan Assy Connector P28/2, 3 (Ref. ASM 49-61/02).
- (a) If the fault continues:
 - do a test of the PMG fuse with a multimeter (diode scale):
 place the positive lead on PIN 3 of P28 Connector and the negative lead on PIN 2.
 - if it is approx. 0.9V, the fuse is OK.
 - 1 if the fuse is OK:
 - replace the COOLING FAN/PMG ASSY (8053KM) (Ref. AMM TASK 49-52-53-000-001) and (Ref. AMM TASK 49-52-53-400-001).
 - a If the fault continues:
 - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-002) and (Ref. AMM TASK 49-61-34-400-002).
 - 2 if the fuse is blown:
 - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-002) and (Ref. AMM TASK 49-61-34-400-002) and the COOLING FAN/PMG ASSY (8053KM) (Ref. AMM TASK 49-52-53-000-001) and (Ref. AMM TASK 49-52-53-400-001) at the same time.
- (2) If the APU SHUTDOWNS report gives the maintenance message:

LOSS OF DC POWER:

APU Auto Shut Down Fault Code Number: 040

- (a) if the fault is reproducible:
 - check the ELEC messages in the Last-Leg Report on the MCDU, and do the related Trouble-shooting.

EFF: 201-225, 227-227, 229-231, 233-244, 247-250, 252-299, 426-456, 476-499, 503-549, 551-599, 701-749, SROS

49-00-81
Page 210
Config-2 May 01/08

TROUBLE SHOOTING MANUAL

- 1 If the fault continues:
 - do a check and repair the aircraft wiring between the ECB (59KD) AC7 and the APU MAIN RELAY (4KD) A-A1 (Ref. ASM 49-61/01).
 - a If the fault continues:
 - do a check and repair the aircraft wiring between the APU MAIN RELAY (4KD) A-A2 and the C/B ECB SUPPLY (1KD) (Ref. ASM 49-61/01).
 - b If the fault continues:
 - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-002) and (Ref. AMM TASK 49-61-34-400-002).
- (b) If the fault is not reproducible:
 - No maintenance action is necessary.
- B. Do the test given in para. 3.

TROUBLE SHOOTING MANUAL

R **ON A/C 201-225, 227-227, 229-231, 233-244, 247-250, 252-299, 426-456, R 476-499, 503-549, 551-599, 701-749,

TASK 49-00-81-810-880

APU AUTO SHUT DOWN - NO ACCELERATION, APU Fuel Supply Failure (APS 3200)

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

REFERENCE

DESIGNATION

28-22-00-810-801

APU Fuel System - Low Pressure
Operational Test of the APU (APS 3200)

AMM 49-00-00-710-008 Operational Test of the APU (APS 3200)

- 3. Fault Confirmation
- R **ON A/C 201-225, 227-227, 229-231, 233-244, 247-250, 252-299, 426-456,
- R 476-499, 503-549, 551-599, 701-749,
- R Post SB 49-1061 For A/C 201-225,227-227,229-231,233-244,247-250,252-253, R 276-299,426-450,476-499,503-549,551-599,701-749,
 - A. Do the operational test of the APU (Ref. AMM TASK 49-00-00-710-008).
- R **ON A/C 201-225, 227-227, 229-231, 233-244, 247-250, 252-299, 426-456, R 476-499, 503-549, 551-599, 701-749,
 - 4. Fault Isolation
- R **ON A/C 201-225, 227-227, 229-231, 233-244, 247-250, 252-299, 426-456, R 476-499, 503-549, 551-599, 701-749, R Post SB 49-1061 For A/C 201-225,227-227,229-231,233-244,247-250,252-253, R 276-299,426-450,476-499,503-549,551-599,701-749,
 - A. If the APU Last Leg Report gives the maintenance message:

CHECK APU FUEL SUPPLY:

NOTE: The APU SHUTDOWNS report gives the maintenance message:

NO ACCELERATION - CHECK APU FUEL SUPPLY

APU Auto Shut Down Fault Code Number: 052

- do the troubleshooting of the APU Fuel System (Ref. TASK 28-22-00-810-801).
- B. Not Applicable.

EFF: 201-225, 227-227, 229-231, 233-244, 247-250, 252-299, 426-456, 476-499, 503-549, 551-599, 701-749, SROS

49-00-81
Page 212
Config-2 May 01/08

TROUBLE SHOOTING MANUAL

R **ON A/C 201-225, 227-227, 229-231, 233-244, 247-250, 252-299, 426-456, R 476-499, 503-549, 551-599, 701-749,

TASK 49-00-81-810-881

APU AUTO SHUT DOWN - UNDERSPEED, APU Fuel Supply Failure (APS 3200)

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

REFERENCE

DESIGNATION

28-22-00-810-801 AMM 49-00-00-710-008 APU Fuel System - Low Pressure
Operational Test of the APU (APS 3200)

AMM 49-00-00-710-008 Operational Test of the APU (APS 3200)

- 3. Fault Confirmation
- R **ON A/C 201-225, 227-227, 229-231, 233-244, 247-250, 252-299, 426-456,
- R 476-499, 503-549, 551-599, 701-749,
- R Post SB 49-1061 For A/C 201-225,227-227,229-231,233-244,247-250,252-253, R 276-299,426-450,476-499,503-549,551-599,701-749,
 - A. Do the operational test of the APU (Ref. AMM TASK 49-00-00-710-008).
- R **ON A/C 201-225, 227-227, 229-231, 233-244, 247-250, 252-299, 426-456, R 476-499, 503-549, 551-599, 701-749,
 - 4. Fault Isolation
- R **ON A/C 201-225, 227-227, 229-231, 233-244, 247-250, 252-299, 426-456, R 476-499, 503-549, 551-599, 701-749, R Post SB 49-1061 For A/C 201-225,227-227,229-231,233-244,247-250,252-253, R 276-299,426-450,476-499,503-549,551-599,701-749,
 - A. If the APU Last Leg Report gives the maintenance message:

CHECK APU FUEL SUPPLY:

NOTE: The APU SHUTDOWNS report gives the maintenance message:
UNDERSPEED - CHECK APU FUEL SUPPLY
APU Auto Shut Down Fault Code Number: 067

- do the troubleshooting of the APU Fuel System (Ref. TASK 28-22-00-810-801).
- B. Not Applicable.

EFF: 201-225, 227-227, 229-231, 233-244, 247-250, 252-299, 426-456, 476-499, 503-549, 551-599, 701-749, SROS

49-00-81Config-2 May 01/08

TROUBLE SHOOTING MANUAL

R **ON A/C 201-225, 227-227, 229-231, 233-244, 247-250, 252-299, 426-456, R 476-499, 503-549, 551-599, 701-749,

TASK 49-00-81-810-882

APU Fuel Supply Failure (APS 3200)

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

REFERENCE

DESIGNATION

28-22-00-810-801

APU Fuel System - Low Pressure AMM 49-00-00-710-008 Operational Test of the APU (APS 3200)

3. Fault Confirmation

R **ON A/C 201-225, 227-227, 229-231, 233-244, 247-250, 252-299, 426-456, R 476-499, 503-549, 551-599, 701-749,

Post SB 49-1061 For A/C 201-225,227-227,229-231,233-244,247-250,252-253, 276-299,426-450,476-499,503-549,551-599,701-749, R

A. Do the operational test of the APU (Ref. AMM TASK 49-00-00-710-008).

R **ON A/C 201-225, 227-227, 229-231, 233-244, 247-250, 252-299, 426-456, R 476-499, 503-549, 551-599, 701-749,

4. Fault Isolation

R **ON A/C 201-225, 227-227, 229-231, 233-244, 247-250, 252-299, 426-456, R 476-499, 503-549, 551-599, 701-749, R Post SB 49-1061 For A/C 201-225,227-227,229-231,233-244,247-250,252-253, 276-299,426-450,476-499,503-549,551-599,701-749, R

A. If the APU Last Leg Report gives the maintenance message:

CHECK APU FUEL SUPPLY:

Fault Code Number(s): 118 or 119

- do the troubleshooting of the APU Fuel System (Ref. TASK 28-22-00-810-801).
- B. Not Applicable.

201-225, 227-227, 229-231, 233-244, 247-250, 252-299, 426-456, 476-499, 503-549, 551-599, 701-749, **SROS**

49-00-Config-2 May 01/08

TROUBLE SHOOTING MANUAL

R **ON A/C 201-225, 227-227, 229-231, 233-244, 247-250, 252-299, 426-456, R 476-499, 503-549, 551-599, 701-749,

TASK 49-00-81-810-883

APU AUTO SHUT DOWN - OVERSPEED, Speed Sensors Failures (APS 3200)

- 1. Possible Causes
 - SPEED SENSOR 1 (8060KM1)
 - SPEED SENSOR 2 (8060KM2)
 - wiring
 - ECB (59KD)
- 2. Job Set-up Information
 - A. Referenced Information

REFE	RENCE 	DESIGNATION	
AMM	49-00-00-710-008	Operational Test of the APU (APS 3200)	
AMM	49-61-34-000-002	Removal of the Electronic Control Box (ECB) (59KD) (APS 3200)	
AMM	49-61-34-400-002	Installation of the Electronic Control Box (ECB) (59KD) (APS 3200)	
AMM	49-71-13-000-002	Removal of the Speed Sensor (APS 3200)	
AMM	49-71-13-400-002	Installation of the Speed Sensor (APS 3200)	
ASM	49-61/02		

3. Fault Confirmation

```
R **ON A/C 201-225, 227-227, 229-231, 233-244, 247-250, 252-299, 426-456, R 476-499, 503-549, 551-599, 701-749, R Post SB 49-1061 For A/C 201-225,227-227,229-231,233-244,247-250,252-253, R 276-299,426-450,476-499,503-549,551-599,701-749,
```

A. Do the operational test of the APU (Ref. AMM TASK 49-00-00-710-008).

R EFF: 201-225, 227-227, 229-231, 233-244, 247-250, 252-299, 426-456, 476-499, 503-549, 551-599, 701-749, SROS

49-00-81Config-2 May 01/08

TROUBLE SHOOTING MANUAL

- R **ON A/C 201-225, 227-227, 229-231, 233-244, 247-250, 252-299, 426-456, R 476-499, 503-549, 551-599, 701-749,
 - 4. Fault Isolation
- R **ON A/C 201-225, 227-227, 229-231, 233-244, 247-250, 252-299, 426-456, R 476-499, 503-549, 551-599, 701-749, R Post SB 49-1061 For A/C 201-225,227-227,229-231,233-244,247-250,252-253, R 276-299,426-450,476-499,503-549,551-599,701-749,
 - A. If the APU Last Leg Report gives the maintenance message:

SPD SNSR1 (8060KM1) AND SPD SNSR2 (8060KM2) Fault Code Number: 068

NOTE : The APU SHUTDOWNS report gives the maintenance message:

OVERSPEED - SPD SNSR1 (8060KM1) AND SPD SNSR2 (8060KM2)

APU Auto Shut Down Fault Code Number: 068

- replace the SPEED SENSOR 1 (8060KM1) and the SPEED SENSOR 2 (8060KM2) (Ref. AMM TASK 49-71-13-000-002) and (Ref. AMM TASK 49-71-13-400-002).
- (1) If the fault continues:
 - do a check and repair the wiring from the ECB (59KD) AB/A10, A11 to the SPEED SENSOR 1 (8060KM1) P26/1, 2 (Ref. ASM 49-61/02).
 - (a) If the fault continues:
 - do a check and repair the wiring from the ECB (59KD) AB/B5, B6 to the SPEED SENSOR 2 (8060KM2) P27/1, 2 (Ref. ASM 49-61/02).
 - 1 If the fault continues:
 - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-002) and (Ref. AMM TASK 49-61-34-400-002).
- B. Do the test given in para. 3.

TROUBLE SHOOTING MANUAL

R **ON A/C 201-225, 227-227, 229-231, 233-250, 252-299, 426-499, 503-549, R 551-599, 701-749,

TASK 49-00-81-810-885

APU Bleed Pressure - Bleed Pressure Fluctuation (APS 3200)

- 1. Possible Causes
 - VALVE-FLOW CTL (8HB)
 - VALVE-FLOW CTL (11HB)
- 2. Job Set-up Information
 - A. Referenced Information

	REFE	RENCE	DESIGNATION
R	49-0	0-00-810-937	No APU Bleed-Air Pressure, Low or Fluctuating APU Bleed-Air Pressure (with AIDS support) (APS 3200)
	AMM	21-51-51-000-001	Removal of the Pack Flow-Control Valve/ Pack Flow-Control Unit
	AMM	21-51-51-400-001	Installation of the Pack Flow-Control Valve/ Pack Flow-Control Unit
	AMM	49-00-00-860-005	APU Start by External Power (APS 3200)

3. Fault Confirmation

A. Test

 ${\color{red} {\tt NOTE}}$: The Fault can be spurious and is not necessarily reproductive on ground.

- (1) Start and operate the APU (Ref. AMM TASK 49-00-00-860-005).
- (2) On the AIR COND section on the overhead panel 30VU, push the
 - APU BLEED p/bsw to on;
 - PACK 1 p/bsw to on (the OFF legend is off);
 - PACK 2 p/bsw to on (the OFF legend is off);

EFF: 201-225, 227-227, 229-231, 233-250, 252-299, 426-499, 503-549, 551-599, 701-749,

49-00-81

Page 217

TROUBLE SHOOTING MANUAL

4. Fault Isolation

- A. If the bleed indication on the ECAM APU page shows pressure fluctuation: - switch to the ECAM BLEED page and observe the pack-flow indication needles.
 - (1) If one of them shows periodic cycling (low frequency, high amplitude):
 - replace the respective VALVE-FLOW CTL (8HB) or VALVE-FLOW CTL (11HB)

(Ref. AMM TASK 21-51-51-000-001) (Ref. AMM TASK 21-51-51-400-001).

- (2) If the indication is **OK**:
 - do the trouble shooting of APU bleed fluctuation (Ref. TASK 49-00-00-810-937).
- B. Do the test given in para. 3.

EFF: 201-225, 227-227, 229-231, 233-250, 252-299, 426-499, 503-549, 551-599, 701-749,

49-00-81Config-2 May 01/08

TROUBLE SHOOTING MANUAL

TASK 49-00-81-810-888

APU Flames at exhaust - Tail pipe fire (APS 3200)

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

- 3. Fault Confirmation
 - A. Not applicable, the fault is evident.
- 4. Fault Isolation
 - A. Maintenance Action
 - (1) Make sure the VSB 4500001-49-87 is already incorporated.If not replace the Fuel Control Unit (FCU) (Ref. AMM TASK 49-32-11-000-002) (Ref. AMM TASK 49-32-11-400-002)
 - (2) Make sure the VSB 4500001-49-91 is already incorporated.If not perform the VSB and replace the Combustor-drain-valve.
 - B. Do the Test APU Operational Test (Ref. AMM TASK 49-00-00-710-008)

TROUBLE SHOOTING MANUAL

R **ON A/C 201-225, 227-227, 229-231, 233-244, 247-250, 252-299, 426-499, R 503-549, 551-599, 701-749,

TASK 49-00-81-810-900

APU SLOW START, Start System (APS 3200)

1. Possible Causes

- COOLING FAN/PMG ASSY (8053KM)
- AUXILIARY POWER UNIT (4005KM)
- STARTER CLUTCH (8033KM)
- STARTER MOTOR (8KA)
- ECB (59KD)

2. Job Set-up Information

A. Fixtures, Tools, Test and Support Equipment

------REFERENCE QTY DESIGNATION

No specific Torque Wrench: range 0.20 to 3.60 m.daN

(2.00 to 26.00 lbf.ft)

B. Referenced Information

REFERENCE		DESIGNATION	
AMM	49-11-11-000-003	Removal of the Power Plant (APU) (APS 3200)	
AMM	49-11-11-400-003	Installation of the Power Plant (APU) (APS 3200)	
AMM	49-42-51-000-007	Removal of the Starter Motor (8KA) (APS 3200)	
AMM	49-42-51-200-006	Check Wear Indicator of Starter Motor Brush (APS 3200)	
AMM	49-42-51-400-007	Installation of the Starter Motor (8KA) (APS 3200)	
AMM	49-42-52-000-002	Removal of the Starter Motor Clutch (8033KM) (APS 3200)	
AMM	49-42-52-400-002	Installation of the Starter Motor Clutch (8033KM) (APS 3200)	
AMM	49-52-53-000-001	Removal of the PMG and Cooling Fan Assembly (8055KM) (APS 3200)	
AMM	49-52-53-400-001	Installation of the PMG and Cooling Fan Assembly (8055KM) (APS 3200)	
AMM	49-61-34-000-002	Removal of the Electronic Control Box (ECB) (59KD) (APS 3200)	
AMM	49-61-34-400-002	Installation of the Electronic Control Box (ECB) (59KD) (APS 3200)	
AMM	49-91-42-200-003	Inspection of the Magnetic Drain Plug (APS 3200)	

EFF: 201-225, 227-227, 229-231, 233-244, 247-250, 252-299, 426-499, 503-549, 551-599, 701-749, SROS

49-00-81 Page 220 Config-2 May 01/08

TROUBLE SHOOTING MANUAL

3. Fault Confirmation

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R **ON A/C 201-225, 227-227, 229-231, 233-244, 247-250, 252-299, 426-499, R 503-549, 551-599, 701-749, R Post SB 49-1061 For A/C 201-225,227-227,229-231,233-244,247-250,252-253, R 276-299,426-450,476-499,503-549,551-599,701-749,
```

A. Not Applicable

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R **ON A/C 201-225, 227-227, 229-231, 233-244, 247-250, 252-299, 426-499, R 503-549, 551-599, 701-749,
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4. Fault Isolation

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R **ON A/C 201-225, 227-227, 229-231, 233-244, 247-250, 252-299, 426-499, R 503-549, 551-599, 701-749, R Post SB 49-1061 For A/C 201-225,227-227,229-231,233-244,247-250,252-253, R 276-299,426-450,476-499,503-549,551-599,701-749,
```

- A. Do the subsequent checks
 - Do a check of the brush wear indicator of the starter motor (Ref. AMM TASK 49-42-51-200-006).
 - Do a check of the Magnetic Chip Detector (MCD) (Ref. AMM TASK 49-91-42-200-003).
 - (1) If the fault continues:
 - (a) Do a check of the APU for too much drag:
 - Remove the COOLING FAN/PMG ASSY (8053KM) (Ref. AMM TASK 49-52-53-000-001).
 - Use a socket adapter to manually turn the drive shaft of the COOLING FAN/PMG ASSY (8053KM), in a clockwise direction only.

NOTE: Be careful when turning the impeller.

NOTE : The torque should be to between 2.26 and 3.39 m.daN (16.66 and 24.99 lbf.ft). Make sure:

- You can turn the drive shaft of the cooling fan assembly.
- The APU rotors, bearings and gears do not rub.
- The APU rotors, bearings and gears do not make an inusual noise.
- 1 If the cooling fan does not rotate easily, do a check of the Idle Gear:
 - If Idle Gear is damaged, replace the AUXILIARY POWER UNIT (4005KM) (Ref. AMM TASK 49-11-11-000-003) and (Ref. AMM TASK 49-11-11-400-003).

R EFF: 201-225, 227-227, 229-231, 233-244, 247-250, 252-299, 426-499, 503-549, 551-599, 701-749, SROS

49-00-81 Page 221 Config-2 May 01/08

TROUBLE SHOOTING MANUAL

- If Idle Gear is in good condition, replace the COOLING FAN/PMG ASSY (8053KM) (Ref. AMM TASK 49-52-53-400-001).
- 2 If the APU rotors, bearings and gears make an inusual noise or if there is too much drag:
 - Replace the AUXILIARY POWER UNIT (4005KM) (Ref. AMM TASK 49-11-11-000-003) and (Ref. AMM TASK 49-11-11-400-003).
- (2) If the fault continues:
 - (a) Do a check and make sure that the STARTER CLUTCH (8033KM) operates correctly:
 - Remove the STARTER MOTOR (8KA) (Ref. AMM TASK 49-42-51-000-007).
 - Turn the STARTER CLUTCH (8033KM) clockwise (clutch disengagement), with your hand.

NOTE: The starter motor clutch disengages correctly if:

- it disengages immediately,
- it does not rub,
- it does not make an inusual noise.
- Turn the STARTER CLUTCH (8033KM) counter clockwise (clutch engagement), with your hand.

NOTE: The starter motor clutch engages correctly if:

- it engages immediately,
- it does not rub,
- it does not make an inusual noise.
- 1 If the starter motor clutch engages/disengages correctly:
 - Replace STARTER MOTOR (8KA) (Ref. AMM TASK 49-42-51-400-007).
- 2 If the starter motor clutch does not engage/disengage correctly:
 - Replace STARTER CLUTCH (8033KM) (Ref. AMM TASK 49-42-52-000-002) and (Ref. AMM TASK 49-42-52-400-002).
- (b) Install the inlet duct of the cooling fan (Ref. AMM TASK 49-52-53-400-001).
- (3) If the fault continues:
 - Replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-002) and (Ref. AMM TASK 49-61-34-400-002).

EFF: 201-225, 227-227, 229-231, 233-244, 247-250, 252-299, 426-499, 503-549, 551-599, 701-749, SROS

49-00-81 Page 222 Config-2 May 01/08

TROUBLE SHOOTING MANUAL

- (4) If the fault continues:
 - Replace the AUXILIARY POWER UNIT (4005KM) (Ref. AMM TASK 49-11-11-000-003) and (Ref. AMM TASK 49-11-11-400-003).

R EFF: 201-225, 227-227, 229-231, 233-244, 247-250, 252-299, 426-499, 503-549, 551-599, 701-749, SROS

49-00-81Page 223
Config-2 May 01/08

TROUBLE SHOOTING MANUAL

AIRBONE AUXILIARY POWER - GENERAL ((APS 3200)) - TASK SUPPORTING DATA

1. Fault Code Number (FCN) Table (APS 3200) in the APU Task Supporting Data (Ref. TSM 490000, P. Block 301).

EFF: 201-225, 227-227, 229-231, 233-250, 252-299, 426-499, 503-549, 551-599, 701-749,

SROS

49-00-81

Page 301 May 01/08

TROUBLE SHOOTING MANUAL

R **ON A/C 247-253,

R Post SB 49-1069001 For A/C 247-250,252-253,

AIR INTAKE SYSTEM ((131-9(A))) - FAULT ISOLATION PROCEDURES

TASK 49-16-00-810-802

Air-Intake Actuator Fault (131-9(A))

1. Possible Causes

- INLET FLAP SHOWS FLAP OPEN AND FLAP CLOSED
- INLET FLAP SHOWS FLAP OPEN SWITCH OPEN
- INLET FLAP SHOWS FLAP CLOSED SWITCH OPEN
- damage/contamination of the electrical connector 7527VC
- aircraft wiring
- AIR INTAKE FLAP ACTUATOR (4015KM)
- ECB (59KD)

2. Job Set-up Information

A. Referenced Information

REFE	RENCE	DESIGNATION	
AMM	49-16-00-710-003	Operational Test of the Air Intake Flap and Diverter (131-9(A))	
AMM	49-16-51-000-003	Removal of the Air-Intake Flap Actuator (131-9(A))	
AMM	49-16-51-400-003	<pre>Installation of the Air-Intake Flap Actuator (131-9(A))</pre>	
AMM	49-61-34-000-003	Removal of the Electronic Control Box (ECB) (131-9(A))	
AMM	49-61-34-400-003	<pre>Installation of the Electronic Control Box (ECB) (131-9(A))</pre>	
ASM	49-61/01		

3. Fault Confirmation

- A. Read-out of ECB Trouble Shooting Data
 - (1) Put the APU MASTER SW to the ON position.
 - (2) Get access to the APU LAST LEG/PREVIOUS LEG report.
 - (3) Push the '>' adjacent to the related CFDS failure message: - the MCDU menu shows INLET FLAP SHOWS FLAP OPEN AND FLAP CLOSED

INLET FLAP SHOWS FLAP OPEN SWITCH OPEN

EFF: 247-253, 49-16-00 Page 201 Config-1 May 01/07

Printed in France

TROUBLE SHOOTING MANUAL

Or
INLET FLAP SHOWS FLAP CLOSED SWITCH OPEN

- do the Fault Confirmation that follows:
- (a) Do the test of the AIR INTAKE FLAP-ACTUATOR (Ref. AMM TASK 49-16-00-710-003).
- (b) Get access to the APU GND SCANNING menu.

4. Fault Isolation

A. If the APU GND SCANNING menu gives the maintenance message:

AIR INLET FLAP ACTUATOR

associated with Fault Code Number (FCN) 60, 61, 62 or 63

- do a check for damage/contamination of the electrical connector 7527VC of the AIR INTAKE FLAP-ACTUATOR.
- (1) If the electrical connector 7527VC is damaged/contaminated:do a repair/cleaning.
- (2) If the electrical connector 7527VC is OK:
 - do a check and repair of the aircraft wiring from the ECB (59KD) AC/5,4 to the electrical connector 7527VCA/J,K and the ECB (59KD) AB/G2,G3,G4,G5 to the electrical connector 7527VCA/D,C,E,B and the electrical connector 7527VCA/A,L,F, to GND (Ref. ASM 49-61/01).
 - (a) If the aircraft wiring is OK:
 - replace the AIR INTAKE FLAP ACTUATOR (4015KM) (Ref. AMM TASK 49-16-51-000-003) and (Ref. AMM TASK 49-16-51-400-003).
 - (b) If the fault continues:
 - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-003) and (Ref. AMM TASK 49-61-34-400-003).
- B. Do the test given in para. 3.

49-16-00

Page 202 Config-1 May 01/07

EFF: 247-253,

TROUBLE SHOOTING MANUAL

**ON A/C 232-232, 247-248, 252-252,

Post SB 49-1073001 For A/C 232-232,247-248,252-252,

AIR INTAKE SYSTEM ((GTCP 36-300)) - FAULT ISOLATION PROCEDURES

TASK 49-16-00-810-801

Failure of the Air Intake Flap-Actuator (GTCP 36-300)

1. Possible Causes

- ECB (59KD)
- AIR INTAKE FLAP ACTUATOR (4005KM)
- aircraft wiring

2. Job Set-up Information

A. Referenced Information

REFE	RENCE	DESIGNATION
AMM	49-16-00-710-001	Operational Test of the Air Intake and Diverter (GTCP 36-300)
AMM	49-16-51-000-001	Removal of the Air-Intake Flap Actuator (4015KM) (GTCP 36-300)
AMM	49-16-51-400-001	Installation of the Air-Intake FLap Actuator (4015KM) (GTCP 36-300)
AMM	49-61-34-000-001	Removal of the Electronic Control Box (ECB) (59KD) (GTCP 36-300)
AMM	49-61-34-400-001	<pre>Installation of the Electronic Control Box (ECB) (59KD) (GTCP 36-300)</pre>
ASM	49-16/01	

3. Fault Confirmation

**ON A/C 232-232, 247-248, 252-252,

Post SB 49-1073 For A/C 232-232,247-248,252-252,

A. Do the operational test of the AIR INTAKE FLAP-ACTUATOR (Ref. AMM TASK 49-16-00-710-001).

EFF: 232-232, 247-248, 252-252,

49-16-00

Page 201

Config-2 May 01/08

TROUBLE SHOOTING MANUAL

**ON A/C 232-232, 247-248, 252-252,

4. Fault Isolation

**ON A/C 232-232, 247-248, 252-252,

Post SB 49-1073 For A/C 232-232,247-248,252-252,

A. If the test gives the maintenance message

AIR INTAKE FLAP ACTR (4005KM)

with the LRU TROUBLE SHOOT DATA menu information:

INLET FLAP SHOWS FLAP OPEN AND FLAP CLOSED

Fault Code Number: 060 or 062

or

INLET FLAP SHOWS FLAP CLOSED SWITCH OPEN

Fault Code Number: 063

or

INLET FLAP SHOWS FLAP OPEN SWITCH OPEN

Fault Code Number: 061

- replace the AIR INTAKE FLAP ACTUATOR (4005KM) (Ref. AMM TASK 49-16-51-000-001) and (Ref. AMM TASK 49-16-51-400-001).
- (1) If the fault continues:
 - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-001) and (Ref. AMM TASK 49-61-34-400-001).
- (2) If the fault continues:
 - do a check and repair the aircraft wiring from the ECB 59KD AC/4, 5 to the AIR INTAKE FLAP ACTUATOR (4005KM) 7527VC/J, K (Ref. ASM 49-16/01).
 - do a check and repair the aircraft wiring from the AIR INTAKE FLAP ACTUATOR (4005KM) 7527VC/A, L to the ground (Ref. ASM 49-16/01).
 - do a check and repair the aircraft wiring from the ECB 59KD AB/G2,
 G3, G4, G5 to the AIR INTAKE FLAP ACTUATOR (4005KM) 7527VC/D, C, E,
 B (Ref. ASM 49-16/01).
 - do a check and repair the aircraft wiring from the AIR INTAKE FLAP ACTUATOR (4005KM) 7527VC/F to the ground (Ref. ASM 49-16/01).
- B. Do the test given in para. 3.

EFF: 232-232, 247-248, 252-252,

49-16-00

Page 202

Config-2 May 01/08

TROUBLE SHOOTING MANUAL

AIR INTAKE SYSTEM - TASK SUPPORTING DATA

1. Fault Code Number (FCN) Table (APS 3200) in the APU Task Supporting Data (Ref. TSM 490000, P. Block 301).

EFF: 201-225, 227-227, 229-231, 233-250, 252-299, 426-499, 503-549, 551-599, 701-749,

SROS

49-16-00

Page 301 May 01/08

TROUBLE SHOOTING MANUAL

R **ON A/C 247-253,

R Post SB 49-1069001 For A/C 247-250,252-253,

ENGINE ((131-9(A))) - FAULT ISOLATION PROCEDURES

TASK 49-20-00-810-803

APU Inlet-Temperature (T2) Sensor Fault (131-9(A))

- 1. Possible Causes
 - INLET TEMP SENSOR SHOWS OUT OF RANGE HIGH
 - INLET TEMP SENSOR SHOWS OUT OF RANGE LOW
 - damage/contamination of electrical connector P6
 - INLET TEMPERATURE SENSOR (P6)
 - aircraft wiring
 - ECB (59KD)
 - INLET TEMPERATURE SENSOR (8010KM)
- 2. Job Set-up Information
 - A. Fixtures, Tools, Test and Support Equipment

REFERENCE QTY DESIGNATION

No specific

multimeter

B. Referenced Information

REFERENCE	DESIGNATION	
AMM 49-23-14-000-001	Removal of the Sensor-APU Inlet Temperature (8010KM) (131-9(A))	
AMM 49-23-14-400-001	<pre>Installation of the Sensor-APU Inlet Temperature (8010KM) (131-9(A))</pre>	
AMM 49-61-34-000-003	Removal of the Electronic Control Box (ECB) (131-9(A))	
AMM 49-61-34-400-003	<pre>Installation of the Electronic Control Box (ECB) (131-9(A))</pre>	
ASM 49-61/02		

EFF: 247-253,

49-20-00

Page 201 Config-1 May 01/07

TROUBLE SHOOTING MANUAL

3. Fault Confirmation

- A. Read-out of ECB Trouble Shooting Data
 - (1) Put the APU MASTER SW to the ON position.
 - (2) Get access to the APU LAST LEG/PREVIOUS LEG report.
 - (3) Push the '>' adjacent to the related CFDS failure message:
 - the MCDU menu shows INLET TEMP SENSOR SHOWS OUT OF RANGE HIGH or

INLET TEMP SENSOR SHOWS OUT OF RANGE LOW

- (4) Get access to the APU GND SCANNING menu.
- 4. Fault Isolation
 - A. If the APU GND SCANNING menu gives the maintenance message:

INLET TEMP SENSOR P6

associated with Fault Code Number (FCN) 57

- do a check for damage/contamination of electrical connector P6 of the INLET TEMPERATURE SENSOR (P6).
- (1) If the electrical connector P6 is damaged/contaminated:do a repair/cleaning.
- (2) If the electrical connector is OK:
 - use a multimeter to do a resistance check across pin A and pin B of the INLET TEMPERATURE SENSOR (P6).
 - (a) If the resistance is < 72 0hms:
 - replace the INLET TEMPERATURE SENSOR (P6) (Ref. AMM TASK 49-23-14-000-001) and (Ref. AMM TASK 49-23-14-400-001).
 - (b) If the resistance is between 72 Ohms and 200 Ohms:
 - do a check and repair of the aircraft wiring from the ECB (59KD) AB/H4,H2 to the INLET TEMPERATURE SENSOR (P6) P6/A,B (Ref. ASM 49-61/02).
 - 1 If the fault continues:
 - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-003) and (Ref. AMM TASK 49-61-34-400-003).
- B. If the APU GND SCANNING menu gives the maintenance message:

INLET TEMP SENSOR P6

associated with Fault Code Number (FCN) 58

EFF: 247-253,

49-20-00

Page 202

Config-1 May 01/07

TROUBLE SHOOTING MANUAL

- do a check for damage/contamination of electrical connector P6 of the INLET TEMPERATURE SENSOR (P6).
- (1) If the electrical connector P6 is damaged/contaminated:do a repair/cleaning.
- (2) If the electrical connector is OK:
 - use a multimeter to do a resistance check across pin A and pin B of the INLET TEMPERATURE SENSOR (P6).
 - (a) If the resistance is > 200 Ohms:
 - replace the INLET TEMPERATURE SENSOR (P6) (Ref. AMM TASK 49-23-14-000-001) and (Ref. AMM TASK 49-23-14-400-001).
 - (b) If the resistance is between 72 Ohms and 200 Ohms:
 - do a check and repair of the aircraft wiring from the ECB (59KD) AB/H4,H3 to the INLET TEMPERATURE SENSOR (P6) P6/A,B (Ref. ASM 49-61/02).
 - 1 If the fault continues:
 - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-003) and (Ref. AMM TASK 49-61-34-400-003).
- R **ON A/C 247-253,

Post SB 49-1062 For A/C 251-251, R Post SB 49-1069 For A/C 247-250,252-253,

A. If the APU GND SCANNING menu gives the maintenance message:

INLET TEMP SENSOR (8010KM)

associated with Fault Code Number (FCN) 57

- do a check for damage/contamination of electrical connector P6 of the INLET TEMPERATURE SENSOR (8010KM)
- (1) If the electrical connector P6 is damaged/contaminated:do a repair/cleaning.
- (2) If the electrical connector is OK:
 - use a multimeter to do a resistance check across pin A and pin B of the INLET TEMPERATURE SENSOR (P6).
 - (a) If the resistance is < 72 0hms:
 - replace the INLET TEMPERATURE SENSOR (8010KM) (Ref. AMM TASK 49-23-14-000-001) and (Ref. AMM TASK 49-23-14-400-001).
 - (b) If the resistance is between 72 Ohms and 200 Ohms:
 - do a check and repair of the aircraft wiring from the ECB (59KD) AB/H4,H2 to the INLET TEMPERATURE SENSOR (8010KM) P6/A,B (Ref. ASM 49-61/02).

EFF: 247-253,

49-20-00

Page 203 Config-1 May 01/07

TROUBLE SHOOTING MANUAL

- 1 If the fault continues:
 - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-003) and (Ref. AMM TASK 49-61-34-400-003).
- B. If the APU GND SCANNING menu gives the maintenance message:

INLET TEMP SENSOR (8010KM)

associated with Fault Code Number (FCN) 58

- do a check for damage/contamination of electrical connector P6 of the INLET TEMPERATURE SENSOR (8010KM)
- (1) If the electrical connector P6 is damaged/contaminated: - do a repair/cleaning.
- (2) If the electrical connector is OK:
 - use a multimeter to do a resistance check across pin A and pin B of the INLET TEMPERATURE SENSOR (P6).
 - (a) If the resistance is > 200 Ohms:
 - replace the INLET TEMPERATURE SENSOR (8010KM) (Ref. AMM TASK 49-23-14-000-001) and (Ref. AMM TASK 49-23-14-400-001).
 - (b) If the resistance is between 72 Ohms and 200 Ohms:
 - do a check and repair of the aircraft wiring from the ECB (59KD) AB/H4,H3 to the INLET TEMPERATURE SENSOR (8010KM) P6/A,B (Ref. ASM 49-61/02).
 - 1 If the fault continues:
 - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-003) and (Ref. AMM TASK 49-61-34-400-003).
- R **ON A/C 247-253,
 - C. Do a check of the APU GND SCANNING menu.

EFF: 247-253,

49-20-00

Page 204 Config-1 May 01/07

TROUBLE SHOOTING MANUAL

ENGINE - TASK SUPPORTING DATA

1. Fault Code Number (FCN) Table (APS 3200) in the APU Task Supporting Data (Ref. TSM 490000, P. Block 301).

EFF: 201-225, 227-227, 229-231, 233-250, 252-299, 426-499, 503-549, 551-599, 701-749,

SROS

49-20-00

Page 301 May 01/08

TROUBLE SHOOTING MANUAL

IGNITION AND STARTING ((APS 3200)) - FAULT ISOLATION PROCEDURES

TASK 49-40-00-810-805

Main Start-Contactor Fault (APS 3200)

- 1. Possible Causes
 - CONTACTOR-MAIN START (5KA)
 - ECB (59KD)
- Job Set-up Information
 - A. Referenced Information

REFE	EFERENCE	DESIGNATION
AMM AMM	49-00-00-710-008 49-42-55-000-001 49-42-55-400-001	Operational Test of the APU (APS 3200) Removal of the Start Contactors (5KA,10KA) Installation of the Start Contactors (5KA,10KA)
AMM	49-61-34-000-002	Removal of the Electronic Control Box (ECB) (59KD) (APS 3200)
AMM	49-61-34-400-002	Installation of the Electronic Control Box (ECB) (59KD) (APS 3200)

- 3. Fault Confirmation
 - A. Do the operational test of the APU (Ref. AMM TASK 49-00-00-710-008).
- 4. Fault Isolation
- R **ON A/C 201-225, 227-227, 229-231, 233-250, 252-253, 276-299, 426-450, R 457-499, 503-549, 551-599, 701-749,
 - A. If the test gives the maintenance message:

CONTACTOR 5KA:

- replace the CONTACTOR-MAIN START (5KA) (Ref. AMM TASK 49-42-55-000-001) and (Ref. AMM TASK 49-42-55-400-001).
- (1) If the fault continues after the subsequent flight:
 - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-002) and (Ref. AMM TASK 49-61-34-400-002).
- B. Do the operational test of the APU (Ref. AMM TASK 49-00-00-710-008).
 - NOTE : After the subsequent flight, make sure that the fault does not continue.

EFF: 201-225, 227-227, 229-231, 233-250, 252-299, 426-499, 503-549, 551-599, 701-749,

49-40-00 Page 201 Config-1 May 01/08

TROUBLE SHOOTING MANUAL

R **ON A/C 201-225, 227-227, 229-231, 233-244, 247-250, 252-299, 426-456, R 476-499, 503-549, 551-599, 701-749, R Post SB 49-1061 For A/C 201-225,227-227,229-231,233-244,247-250,252-253, R 276-299,426-450,476-499,503-549,551-599,701-749,

A. If the APU Class 3 Faults Page gives the maintenance message:

CONTACTOR (5KA):

Fault Code Number: 129

- replace the CONTACTOR-MAIN START (5KA) (Ref. AMM TASK 49-42-55-000-001) and (Ref. AMM TASK 49-42-55-400-001).
- (1) If the fault continues:
 - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-002) and (Ref. AMM TASK 49-61-34-400-002).
- B. Do the test given in para. 3.

EFF: 201-225, 227-227, 229-231, 233-244, 247-250, 252-299, 426-456, 476-499, 503-549, 551-599, 701-749, SROS

49-40-00Page 202
Config-1 May 01/08

TROUBLE SHOOTING MANUAL

R **ON A/C 201-225, 227-227, 229-231, 233-250, 252-299, 426-499, 503-549, R 551-599, 701-749,

TASK 49-40-00-810-806

Back-Up Start-Contactor Fault (APS 3200)

- 1. Possible Causes
 - CONTACTOR-BACK-UP START (10KA)
 - ECB (59KD)
- 2. Job Set-up Information
 - A. Referenced Information

REFE	RENCE	DESIGNATION	
AMM	49-00-00-710-008	Operational Test of the APU (APS 3200)	
AMM	49-42-55-000-001	Removal of the Start Contactors (5KA,10KA)	
AMM	49-42-55-400-001	Installation of the Start Contactors (5KA,10KA)	
AMM	49-61-34-000-002	Removal of the Electronic Control Box (ECB) (59KD) (APS 3200)	
AMM	49-61-34-400-002	<pre>Installation of the Electronic Control Box (ECB) (59KD) (APS 3200)</pre>	

- 3. Fault Confirmation
 - A. Do the operational test of the APU (Ref. AMM TASK 49-00-00-710-008).
- 4. Fault Isolation
- R **ON A/C 201-225, 227-227, 229-231, 233-250, 252-253, 276-299, 426-450, R 457-499, 503-549, 551-599, 701-749,
 - A. If the test gives the maintenance message:

CONTACTOR 10KA:

- replace the CONTACTOR-BACK-UP START (10KA) (Ref. AMM TASK 49-42-55-000-001) and (Ref. AMM TASK 49-42-55-400-001).
- (1) If the fault continues after the subsequent flight: - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-002) and (Ref. AMM TASK 49-61-34-400-002).
- B. Do the operational test of the APU (Ref. AMM TASK 49-00-00-710-008).

NOTE : After the subsequent flight, make sure that the fault does not continue.

EFF: 201-225, 227-227, 229-231, 233-250, 252-299, 426-499, 503-549, 551-599, 701-749,

49-40-00

Page 203

Config-1 May 01/08

TROUBLE SHOOTING MANUAL

R **ON A/C 201-225, 227-227, 229-231, 233-244, 247-250, 252-299, 426-456, R 476-499, 503-549, 551-599, 701-749, R Post SB 49-1061 For A/C 201-225,227-227,229-231,233-244,247-250,252-253, R 276-299,426-450,476-499,503-549,551-599,701-749,

A. If the APU Class 3 Faults Page gives the maintenance message:

CONTACTOR (10KA):

Fault Code Number: 127

- replace the CONTACTOR-BACK-UP START (10KA) (Ref. AMM TASK 49-42-55-000-001) and (Ref. AMM TASK 49-42-55-400-001).
- (1) If the fault continues:
 - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-002) and (Ref. AMM TASK 49-61-34-400-002).
- B. Do the test given in para. 3.

EFF: 201-225, 227-227, 229-231, 233-244, 247-250, 252-299, 426-456, 476-499, 503-549, 551-599, 701-749, SROS

49-40-00 Page 204 Config-1 May 01/08

TROUBLE SHOOTING MANUAL

**ON A/C 232-232, 247-248, 252-252,

Post SB 49-1073001 For A/C 232-232,247-248,252-252,

IGNITION AND STARTING ((GTCP 36-300)) - FAULT ISOLATION PROCEDURES

TASK 49-40-00-810-801

Main Start-Contactor Fault (GTCP 36-300)

- 1. Possible Causes
 - CONTACTOR-MAIN START (5KA)
 - ECB (59KD)
- 2. Job Set-up Information
 - A. Referenced Information

REFERENCE		DESIGNATION	
AMM AMM	49-00-00-710-004 49-42-55-000-001	Operational Test of the APU (4005KM) (GTCP 36-300) Removal of the Start Contactors (5KA,10KA)	
AMM	49-42-55-400-001	Installation of the Start Contactors (5KA,10KA)	
AMM	49-61-34-000-001	Removal of the Electronic Control Box (ECB) (59KD) (GTCP 36-300)	
AMM	49-61-34-400-001	<pre>Installation of the Electronic Control Box (ECB) (59KD) (GTCP 36-300)</pre>	

- 3. Fault Confirmation
 - A. Do the operational test of the APU (Ref. AMM TASK 49-00-00-710-004).
- 4. Fault Isolation
 - A. If the test gives the maintenance message:

CONTACTOR 5KA:

- replace the CONTACTOR-MAIN START (5KA) (Ref. AMM TASK 49-42-55-000-001) and (Ref. AMM TASK 49-42-55-400-001).
- (1) If the fault continues after the first flight on the subsequent day: - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-001) and (Ref. AMM TASK 49-61-34-400-001).

EFF: 232-232, 247-248, 252-252,

49-40-00

Page 201

Config-2 May 01/08

TROUBLE SHOOTING MANUAL

**ON A/C 232-232, 247-248, 252-252,

Post SB 49-1073 For A/C 232-232,247-248,252-252,

A. If the test gives the maintenance message:

CONTACTOR 5KA:

with the LRU TROUBLE SHOOT DATA menu information Fault Code Number: 124

- replace the CONTACTOR-MAIN START (5KA) (Ref. AMM TASK 49-42-55-000-001) and (Ref. AMM TASK 49-42-55-400-001).
- (1) If the fault continues after the first flight on the subsequent day: - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-001) and (Ref. AMM TASK 49-61-34-400-001).

**ON A/C 232-232, 247-248, 252-252,

B. Do the operational test of the APU (Ref. AMM TASK 49-00-00-710-004).

NOTE : Make an entry in the applicable logbook that you must read the APU CLASS 3 FAULTS after the first flight on the subsequent day.

EFF: 232-232, 247-248, 252-252,

49-40-00

Page 202

Config-2 May 01/08

TROUBLE SHOOTING MANUAL

TASK 49-40-00-810-802

Back-Up Start-Contactor Fault (GTCP 36-300)

- 1. Possible Causes
 - CONTACTOR-BACK-UP START (10KA)
 - ECB (59KD)
- 2. Job Set-up Information
 - A. Referenced Information

REFERENCE		DESIGNATION
AMM	49-00-00-710-004	Operational Test of the APU (4005KM) (GTCP 36-300)
AMM	49-42-55-000-001	Removal of the Start Contactors (5KA,10KA)
AMM	49-42-55-400-001	Installation of the Start Contactors (5KA,10KA)
AMM	49-61-34-000-001	Removal of the Electronic Control Box (ECB) (59KD) (GTCP 36-300)
AMM	49-61-34-400-001	<pre>Installation of the Electronic Control Box (ECB) (59KD) (GTCP 36-300)</pre>

- 3. Fault Confirmation
 - A. Do the operational test of the APU (Ref. AMM TASK 49-00-00-710-004).
- 4. Fault Isolation
 - A. If the test gives the maintenance message:

CONTACTOR 10KA:

- replace the CONTACTOR-BACK-UP START (10KA) (Ref. AMM TASK 49-42-55-000-001) and (Ref. AMM TASK 49-42-55-400-001).
- (1) If the fault continues after the first flight on the subsequent day: - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-001) and (Ref. AMM TASK 49-61-34-400-001).

**ON A/C 232-232, 247-248, 252-252,

Post SB 49-1073 For A/C 232-232,247-248,252-252,

A. If the test gives the maintenance message:

CONTACTOR 10KA:

EFF: 232-232, 247-248, 252-252,

49-40-00

Page 203

Config-2 May 01/08

TROUBLE SHOOTING MANUAL

with the LRU TROUBLE SHOOT DATA menu information: Fault Code Number: 121

- replace the CONTACTOR-BACK-UP START (10KA) (Ref. AMM TASK 49-42-55-000-001) and (Ref. AMM TASK 49-42-55-400-001).
- (1) If the fault continues after the first flight on the subsequent day: - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-001) and (Ref. AMM TASK 49-61-34-400-001).

**ON A/C 232-232, 247-248, 252-252,

B. Do the operational test of the APU (Ref. AMM TASK 49-00-00-710-004).

NOTE: Make an entry in the applicable logbook that you must read the APU CLASS 3 FAULTS after the first flight on the subsequent day.

EFF: 232-232, 247-248, 252-252,

49-40-00

Page 204 Config-2 May 01/08

TROUBLE SHOOTING MANUAL

R **ON A/C 247-253,

R Post SB 49-1069001 For A/C 247-250,252-253,

IGNITION AND STARTING ((131-9(A))) - FAULT ISOLATION PROCEDURES

TASK 49-40-00-810-807

Contactor (5KA) Fault (131-9(A))

- 1. Possible Causes
 - MAIN START CONTACTOR SHOWS CLOSED
 - CONTACTOR-MAIN START (5KA)
 - ECB (59KD)
- 2. Job Set-up Information
 - A. Referenced Information

REFERENCE		DESIGNATION	
AMM	49-00-00-710-010	Operational Test of the APU (131-9(A))	
AMM	49-42-55-000-001	Removal of the Start Contactors (5KA,10KA)	
AMM	49-42-55-400-001	Installation of the Start Contactors (5KA,10KA)	
AMM	49-61-34-000-003	Removal of the Electronic Control Box (ECB) (131-9(A))	
AMM	49-61-34-400-003	<pre>Installation of the Electronic Control Box (ECB) (131-9(A))</pre>	

3. Fault Confirmation

247-253,

- A. Read-out of the ECB Trouble Shooting Data
 - (1) Get access to the APU LAST LEG/PREVIOUS LEG report.

 - (3) Put the APU MASTER SW to the ON position.
 - (4) Get access to the APU GND SCANNING menu.

49-40-00

Page 201 Config-3 May 01/07

EFF :

TROUBLE SHOOTING MANUAL

4. Fault Isolation

A. If the APU GND SCANNING menu gives the maintenance message:

CONTACTOR (5KA)

associated with Fault Code Number (FCN) 124

- replace the CONTACTOR-MAIN START (5KA) (Ref. AMM TASK 49-42-55-000-001) and (Ref. AMM TASK 49-42-55-400-001).
- (1) If fault continues after the first flight on the subsequent day: - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-003) and (Ref. AMM TASK 49-61-34-400-003).
- B. Do the operational test of the APU (Ref. AMM TASK 49-00-00-710-010).

NOTE : Make an entry in the applicable lokbook that you must read the APU CLASS 3 FAULTS after the first flight on the subsequent day.

EFF: 247-253,

49-40-00

Page 202 Config-3 May 01/07

TROUBLE SHOOTING MANUAL

TASK 49-40-00-810-808

Contactor (10KA) Fault (131-9(A))

- 1. Possible Causes
 - BACKUP START CONTACTOR SHOWS CLOSED
 - CONTACTOR-BACK-UP START (10KA)
 - ECB (59KD)
- 2. Job Set-up Information
 - A. Referenced Information

REFERENCE		DESIGNATION
AMM	49-00-00-710-010	Operational Test of the APU (131-9(A))
AMM	49-42-55-000-001	Removal of the Start Contactors (5KA,10KA)
AMM	49-42-55-400-001	Installation of the Start Contactors (5KA,10KA)
AMM	49-61-34-000-003	Removal of the Electronic Control Box (ECB) (131-9(A))
AMM	49-61-34-400-003	<pre>Installation of the Electronic Control Box (ECB) (131-9(A))</pre>

- 3. Fault Confirmation
 - A. Read-out of the ECB Trouble Shooting Data
 - (1) Get access to the APU LAST LEG/PREVIOUS LEG report.
 - (2) Push the '>' adjacent to the related CFDS failure message: - the MCDU menu shows: BACKUP START CONTACTOR SHOWS CLOSED
 - (3) Put the APU MASTER SW to the ON position.
 - (4) Get access to the APU GND SCANNING menu.
- 4. Fault Isolation
 - A. If the APU GND SCANNING menu gives the maintenance message:

CONTACTOR (10KA)

associated with Fault Code Number (FCN) 121

- replace the CONTACTOR-BACK-UP START (10KA) (Ref. AMM TASK 49-42-55-000-001) and (Ref. AMM TASK 49-42-55-400-001).

EFF: 247-253,

49-40-00

Page 203

Config-3 May 01/07

TROUBLE SHOOTING MANUAL

- (1) If fault continues after the first flight on the subsequent day: - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-003) and (Ref. AMM TASK 49-61-34-400-003).
- B. Do the operational test of the APU (Ref. AMM TASK 49-00-00-710-010).

NOTE : Make an entry in the applicable lokbook that you must read the APU CLASS 3 FAULTS after the first flight on the subsequent day.

EFF: 247-253, SROS **49-40-00**Page 204
Config-3 May 01/07

TROUBLE SHOOTING MANUAL

IGNITION AND STARTING - TASK SUPPORTING DATA

1. Fault Code Number (FCN) Table (APS 3200) in the APU Task Supporting Data (Ref. TSM 490000, P. Block 301).

EFF: 201-225, 227-227, 229-231, 233-250, 252-299, 426-499, 503-549, 551-599, 701-749,

49-40-00

Page 301 May 01/08

TROUBLE SHOOTING MANUAL

AIR ((APS 3200)) - FAULT ISOLATION PROCEDURES

TASK 49-50-00-810-804

PMG Fault (PMG and Cooling Fan Assemly) (APS 3200)

- 1. Possible Causes
 - PMG and COOLING FAN ASSEMBLY
 - wiring
 - ECB (59KD)
- 2. Job Set-up Information
 - A. Referenced Information

REFERENCE		DESIGNATION
AMM	49-00-00-710-008	Operational Test of the APU (APS 3200)
AMM	49-52-53-000-001	Removal of the PMG and Cooling Fan Assembly (8055KM) (APS 3200)
AMM	49-52-53-400-001	<pre>Installation of the PMG and Cooling Fan Assembly (8055KM) (APS 3200)</pre>
AMM	49-61-34-000-002	Removal of the Electronic Control Box (ECB) (59KD) (APS 3200)
AMM	49-61-34-400-002	<pre>Installation of the Electronic Control Box (ECB) (59KD) (APS 3200)</pre>
ASM	49-61/02	

- 3. Fault Confirmation
 - A. Do the operational test of the APU (Ref. AMM TASK 49-00-00-710-008).
- 4. Fault Isolation
 - A. If the test gives the maintenance message:

COOLING FAN/PMG ASSY:

- replace the PMG and COOLING FAN ASSEMBLY (Ref. AMM TASK 49-52-53-000-001) and (Ref. AMM TASK 49-52-53-400-001).
- (1) If the fault continues after the subsequent flight:
 - do a check and repair the wiring from the ECB (59KD) AC/10, 11 to the PMG and COOLING FAN ASSEMBLY P28/2, 3 (Ref. ASM 49-61/02).
 - do a check and repair the wiring from the ECB (59KD) AB/H4 to the PMG and COOLING FAN ASSEMBLY (4005KM5) P28/1 (Ref. ASM 49-61/02).

EFF: 457-478, 49-50-0

Page 201 Config-1 Feb 01/07

TROUBLE SHOOTING MANUAL

- B. Do the operational test of the APU (Ref. AMM TASK 49-00-00-710-008).

 $\underline{\underline{\mathtt{NOTE}}}$: After the subsequent flight, make sure that the fault does not continue.

EFF: 457-478, SROS **49-50-00**Page 202
Config-1 Feb 01/07

TROUBLE SHOOTING MANUAL

**ON A/C 232-232, 247-248, 252-252,

Post SB 49-1073001 For A/C 232-232,247-248,252-252,

AIR ((GTCP 36-300)) - FAULT ISOLATION PROCEDURES

TASK 49-50-00-810-802

Bleed Load-Valve Position-Switch Fault (GTCP 36-300)

- 1. Possible Causes
 - LOAD CONTROL VALVE P12
 - ECB (59KD)
 - wiring
- 2. Job Set-up Information
 - A. Referenced Information

REFERENCE		DESIGNATION
AMM	49-00-00-710-001	Self-Test of the ECB (59KD) (GTCP 36-300)
	49-51-51-000-001	Removal of the Bleed Load Control-Valve (8050KM) (GTCP 36-300)
AMM	49-51-51-400-001	<pre>Installation of the Bleed Load Control-Valve (8050KM) (GTCP 36-300)</pre>
AMM	49-61-34-000-001	Removal of the Electronic Control Box (ECB) (59KD) (GTCP 36-300)
AMM	49-61-34-400-001	<pre>Installation of the Electronic Control Box (ECB) (59KD) (GTCP 36-300)</pre>
ASM	49-61/02	

- 3. Fault Confirmation
 - A. Do the self test of the ECB (59KD) (Ref. AMM TASK 49-00-00-710-001).
- 4. Fault Isolation
 - A. If the test gives the maintenance message:

LOAD CTL VALVE P12:

- replace the LOAD CONTROL VALVE P12 (Ref. AMM TASK 49-51-51-000-001) and (Ref. AMM TASK 49-51-51-400-001).
- (1) If the fault continues after the first flight on the subsequent day: - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-001) and (Ref. AMM TASK 49-61-34-400-001).

EFF: 232-232, 247-248, 252-252,

19-50-00Page 201
Config-2 May 01/08

TROUBLE SHOOTING MANUAL

- (2) If the fault continues after the first flight on the subsequent day:
 - do a check and repair the wiring from the ECB 59KD AB/D14, D7 to the LOAD CONTROL VALVE P7/4, 3 (Ref. ASM 49-61/02).
 - do a check and repair the wiring from the LOAD CONTROL VALVE P7/1, 2 to the ground (Ref. ASM 49-61/02).
- B. Do the self test of the APU (Ref. AMM TASK 49-00-00-710-001).

NOTE : Make an entry in the applicable logbook that you must read the APU CLASS 3 FAULTS after the first flight on the subsequent day.

EFF: 232-232, 247-248, 252-252,

49-50-00

Page 202

Config-2 May 01/08

TROUBLE SHOOTING MANUAL

AIR - TASK SUPPORTING DATA

1. Fault Code Number (FCN) Table (APS 3200) in the APU Task Supporting Data (Ref. TSM 490000, P. Block 301).

EFF: 201-225, 227-227, 229-231, 233-250, 252-299, 426-499, 503-549, 551-599, 701-749,

49-50-00

Page 301 May 01/08

TROUBLE SHOOTING MANUAL

CONTROL AND MONITORING ((APS 3200)) - FAULT ISOLATION PROCEDURES

TASK 49-61-00-810-804

ECB 59KD Fault (APS 3200)

- 1. Possible Causes
 - ECB (59KD)
 - ECB (59KD)
 - SPEED SENSOR 1 (8060KM1)
 - SPEED SENSOR 2 (8060KM2)
- 2. Job Set-up Information
 - A. Referenced Information

REFERENCE		DESIGNATION
AMM	49-00-00-710-008	Operational Test of the APU (APS 3200)
AMM	49-61-34-000-002	Removal of the Electronic Control Box (ECB) (59KD) (APS 3200)
AMM	49-61-34-400-002	<pre>Installation of the Electronic Control Box (ECB) (59KD) (APS 3200)</pre>
AMM	49-71-13-000-002	Removal of the Speed Sensor (APS 3200)
AMM	49-71-13-400-002	Installation of the Speed Sensor (APS 3200)

- 3. Fault Confirmation
 - A. Do the operational test of the APU (Ref. AMM TASK 49-00-00-710-008).
- 4. Fault Isolation
- R **ON A/C 201-225, 227-227, 229-231, 233-250, 252-253, 276-299, 426-450, R 457-499, 503-549, 551-599, 701-749,
 - A. If the test gives the maintenance message

ECB 59KD:

 replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-002) and (Ref. AMM TASK 49-61-34-400-002).

NOTE: (Only valid for POST APIC Config. VSB450001-49-62)

If the messages DE-OILING SOL P15 and ECB (59KD) are displayed, do a check of the electrical connections of the harness adapter. If the electrical connections are correct replace the harness adapter.

EFF: 201-225, 227-227, 229-231, 233-250, 252-299, 426-499, 503-549, 551-599, 701-749,

49-61-00

Page 201 Config-1 May 01/08

TROUBLE SHOOTING MANUAL

B. Do the operational test of the APU (Ref. AMM TASK 49-00-00-710-008).

NOTE : After the subsequent flight, make sure that the fault does not continue.

R **ON A/C 201-225, 227-227, 229-231, 233-244, 247-250, 252-299, 426-456, R 476-499, 503-549, 551-599, 701-749, R Post SB 49-1061 For A/C 201-225,227-227,229-231,233-244,247-250,252-253, R 276-299,426-450,476-499,503-549,551-599,701-749,

- A. Maintenance Action
 - (1) If the APU Class 3 Faults Page gives the maintenance message:

ECB (59KD):

One out of Fault Code Number: 014, 015, 054, 055, 056, 075, 076, 078-081, 083, 165, 166

- replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-002) and (Ref. AMM TASK 49-61-34-400-002).
- (2) If the APU Class 3 Faults Page gives the maintenance message:

ECB (59KD):

Fault Code Number: 027 or 028

- replace the SPEED SENSOR 1 (8060KM1) (Ref. AMM TASK 49-71-13-000-002) and (Ref. AMM TASK 49-71-13-400-002).
- (a) If the fault continues:
 - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-002) and (Ref. AMM TASK 49-61-34-400-002).
- (3) If the APU Class 3 Faults Page gives the maintenance message:

ECB (59KD):

Fault Code Number: 030 or 031

- replace the SPEED SENSOR 2 (8060KM2) (Ref. AMM TASK 49-71-13-000-002) and (Ref. AMM TASK 49-71-13-400-002).
- (a) If the fault continues:
 - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-002) and (Ref. AMM TASK 49-61-34-400-002).
- B. Do the test given in para. 3.

EFF: 201-225, 227-227, 229-231, 233-250, 252-299, 426-499, 503-549, 551-599, 701-749,

49-61-00

Page 202

Config-1 May 01/08

TROUBLE SHOOTING MANUAL

R **ON A/C 201-225, 227-227, 229-231, 233-250, 252-299, 426-499, 503-549, R 551-599, 701-749,

TASK 49-61-00-810-805

Incorrect Pin Coding (APS 3200)

- 1. Possible Causes
 - wiring
 - ECB (59KD)
- 2. Job Set-up Information
 - A. Referenced Information

REFERENCE		DESIGNATION
AMM 49-00-00	-710-005	Self-Test of the ECB (APS 3200)
AMM 49-61-34	-000-002	Removal of the Electronic Control Box (ECB) (59KD) (APS 3200)
AMM 49-61-34	-400-002	Installation of the Electronic Control Box (ECB) (59KD) (APS 3200)
ASM 49-61/01		

- 3. Fault Confirmation
 - A. Cycle the APU Master SW p/bsw 14KD to perform the Power-Up Test of the ECB.

NOTE: The Master SW ON state must be active for at least 10 seconds.

- 4. Fault Isolation
- R **ON A/C 201-225, 227-227, 229-231, 233-250, 252-253, 276-299, 426-450, R 457-499, 503-549, 551-599, 701-749,
 - A. If the test gives the maintenance message:

WRG: ACFT TYPE PIN PROG OR ECB 59KD:

- do a check and make sure that the two A321 IDENTIFICATION signals at the ECB (59KD) AB/A12, A13 (Ref. ASM 49-61/01) are the same.

EFF: 201-225, 227-227, 229-231, 233-250, 252-299, 426-499, 503-549, 551-599, 701-749,

49-61-00

Page 203 Config-1 May 01/08

TROUBLE SHOOTING MANUAL

- (1) If the two A321 IDENTIFICATION signals are not the same:
 - do a check and repair the wiring to the ECB (59KD) AB/A12, A13 (Ref. ASM 49-61/01).
 - (a) If the fault continues after the subsequent flight:
 - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-002) and (Ref. AMM TASK 49-61-34-400-002).
- (2) If the two A321 IDENTIFICATION are the same:
 - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-002) and (Ref. AMM TASK 49-61-34-400-002).
- B. Do the self test of the ECB (Ref. AMM TASK 49-00-00-710-005).
 - NOTE : After the subsequent flight, make sure that the fault does not continue.

R **ON A/C 201-225, 227-227, 229-231, 233-244, 247-250, 252-299, 426-456, R 476-499, 503-549, 551-599, 701-749, R Post SB 49-1061 For A/C 201-225,227-227,229-231,233-244,247-250,252-253, R 276-299,426-450,476-499,503-549,551-599,701-749,

A. If the APU Class 3 Faults Page gives the maintenance message:

WRG: ACFT TYPE PIN PROG / ECB (59KD): Fault Code Number: 124

- do a check and make sure that the two A321 IDENTIFICATION signals at the ECB (59KD) AB/A12, A13 (Ref. ASM 49-61/01) are the same.
- (1) If the two A321 <code>IDENTIFICATION</code> signals are not the same:
 - do a check and repair the wiring to the ECB (59KD) AB/A12, A13 (Ref. ASM 49-61/01).
 - (a) If the fault continues:
 - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-002) and (Ref. AMM TASK 49-61-34-400-002).
- (2) If the two A321 IDENTIFICATION are the same:
 - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-002) and (Ref. AMM TASK 49-61-34-400-002).
- B. Do the test given in para. 3.

EFF: 201-225, 227-227, 229-231, 233-250, 252-299, 426-499, 503-549, 551-599, 701-749,

49-61-00

Page 204 Config-1 May 01/08

TROUBLE SHOOTING MANUAL

R **ON A/C 201-225, 227-227, 229-231, 233-244, 247-250, 252-299, 426-456, R 476-499, 503-549, 551-599, 701-749,

TASK 49-61-00-810-808

Start in Progress Indication Fault (APS 3200)

- 1. Possible Causes
 - BOARD-ANN LT TEST & INTFC (7LP)
 - aircraft wiring
 - ECB (59KD)
- 2. Job Set-up Information
 - A. Referenced Information

REFERENCE		DESIGNATION
AMM	33-14-00-710-001	Operational Test of the Lights
AMM	33-14-33-000-001	Removal of the Annunciator-Light Test and Interface-Board (1LP, 2LP, 3LP, 4LP, 5LP, 6LP, 7LP,
AMM	33-14-33-400-001	8LP, 9LP, 10LP, 11LP, 12LP, 18LP, 19LP, 20LP) Installation of the Annunciator-Light Test and Interface-Board (1LP, 2LP, 3LP, 4LP, 5LP, 6LP, 7LP, 8LP, 9LP, 10LP, 11LP, 12LP, 18LP, 19LP, 20LP)
AMM	49-00-00-710-008	Operational Test of the APU (APS 3200)
AMM	49-61-34-000-002	Removal of the Electronic Control Box (ECB) (59KD) (APS 3200)
AMM	49-61-34-400-002	<pre>Installation of the Electronic Control Box (ECB) (59KD) (APS 3200)</pre>
ASM	49-42/01	

3. Fault Confirmation

```
R **ON A/C 201-225, 227-227, 229-231, 233-244, 247-250, 252-299, 426-456, R 476-499, 503-549, 551-599, 701-749, R Post SB 49-1061 For A/C 201-225,227-227,229-231,233-244,247-250,252-253, R 276-299,426-450,476-499,503-549,551-599,701-749,
```

A. Do the operational test of the APU (Ref. AMM TASK 49-00-00-710-008).

R EFF: 201-225, 227-227, 229-231, 233-244, 247-250, 252-299, 426-456, 476-499, 503-549, 551-599, 701-749, SROS

49-61-00Page 205
Config-1 May 01/08

TROUBLE SHOOTING MANUAL

R **ON A/C 201-225, 227-227, 229-231, 233-244, 247-250, 252-299, 426-456, R 476-499, 503-549, 551-599, 701-749,

4. Fault Isolation

R **ON A/C 201-225, 227-227, 229-231, 233-244, 247-250, 252-299, 426-456, R 476-499, 503-549, 551-599, 701-749, R Post SB 49-1061 For A/C 201-225,227-227,229-231,233-244,247-250,252-253, R 276-299,426-450,476-499,503-549,551-599,701-749,

A. If the APU Class 3 Faults Page gives the maintenance message:

WRG: ECB PIN AB-H9

Fault Code Number: 019 or 087

- do the Operational Test of the Annunciator Light Test System in the Cockpit (Ref. AMM TASK 33-14-00-710-001).
- (1) If the fault continues:
 - replace BOARD-ANN LT TEST & INTFC (7LP) (Ref. AMM TASK 33-14-33-000-001) and (Ref. AMM TASK 33-14-33-400-001).
- (2) If the Annunciator Light Test is OK:
 - check and repair the aircraft wiring between ECB (59KD) AB/H9 and RELAY BOARD (7LP) A/15 (in case of FCN 019 for a short ciruit) and between A45 and GND (Ref. ASM 49-42/01).
 - (a) If the fault continues:
 - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-002) and (Ref. AMM TASK 49-61-34-400-002).
- B. Do the test given in para. 3.

EFF: 201-225, 227-227, 229-231, 233-244, 247-250, 252-299, 426-456, 476-499, 503-549, 551-599, 701-749, SROS

49-61-00 Page 206 Config-1 May 01/08

TROUBLE SHOOTING MANUAL

R **ON A/C 201-225, 227-227, 229-231, 233-244, 247-250, 252-299, 426-456, R 476-499, 503-549, 551-599, 701-749,

TASK 49-61-00-810-809

APU Available Indication Fault (APS 3200)

- 1. Possible Causes
 - BOARD-ANN LT TEST & INTFC (7LP)
 - aircraft wiring
 - ECB (59KD)
- 2. Job Set-up Information
 - A. Referenced Information

REFERENCE		DESIGNATION	
AMM	33-14-00-710-001	Operational Test of the Lights	
AMM	33-14-33-000-001	Removal of the Annunciator-Light Test and 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, 8LP, 9LP, 10LP, 11LP, 12LP, 18LP, 19LP, 20LP)	
AMM	49-00-00-710-008	Operational Test of the APU (APS 3200)	
AMM	49-61-34-000-002	Removal of the Electronic Control Box (ECB) (59KD) (APS 3200)	
AMM	49-61-34-400-002	<pre>Installation of the Electronic Control Box (ECB) (59KD) (APS 3200)</pre>	
ASM	49-42/01		

3. Fault Confirmation

```
R **ON A/C 201-225, 227-227, 229-231, 233-244, 247-250, 252-299, 426-456, R 476-499, 503-549, 551-599, 701-749, R Post SB 49-1061 For A/C 201-225,227-227,229-231,233-244,247-250,252-253, R 276-299,426-450,476-499,503-549,551-599,701-749,
```

A. Do the operational test of the APU (Ref. AMM TASK 49-00-00-710-008).

R EFF: 201-225, 227-227, 229-231, 233-244, 247-250, 252-299, 426-456, 476-499, 503-549, 551-599, 701-749, SROS

49-61-00Page 207
Config-1 May 01/08

TROUBLE SHOOTING MANUAL

- R **ON A/C 201-225, 227-227, 229-231, 233-244, 247-250, 252-299, 426-456, R 476-499, 503-549, 551-599, 701-749,
 - 4. Fault Isolation

R **ON A/C 201-225, 227-227, 229-231, 233-244, 247-250, 252-299, 426-456, R 476-499, 503-549, 551-599, 701-749, R Post SB 49-1061 For A/C 201-225,227-227,229-231,233-244,247-250,252-253, R 276-299,426-450,476-499,503-549,551-599,701-749,

A. If the APU Class 3 Faults Page gives the maintenance message:

WRG: ECB PIN AB-J6

Fault Code Number: 020 or 088

- do the Operational Test of the Annunciator Light Test System in the Cockpit (Ref. AMM TASK 33-14-00-710-001).
- (1) If the fault continues:
 - replace BOARD-ANN LT TEST & INTFC (7LP) (Ref. AMM TASK 33-14-33-000-001) and (Ref. AMM TASK 33-14-33-400-001).
- (2) If the Annunciator Light Test is OK:
 - check and repair the aircraft wiring between ECB (59KD) AB-J6 and RELAY BOARD (7LP) A/21 (in case of FCN 020 for a short ciruit) and between A45 and GND (Ref. ASM 49-42/01).
 - (a) If the fault continues:
 - check and repair the aircraft wiring between Relay APU Avail (6KD) A/X1 and the next terminal block and between A/X2 and GND (Ref. ASM 49-42/01).
 - 1 If the fault continues: - replace the Relay 6KD.
 - a If the fault continues:
 - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-002) and (Ref. AMM TASK 49-61-34-400-002).
- B. Do the test given in para. 3.

EFF: 201-225, 227-227, 229-231, 233-244, 247-250, 252-299, 426-456, 476-499, 503-549, 551-599, 701-749, SROS

49-61-00Page 208
Config-1 May 01/08

TROUBLE SHOOTING MANUAL

R **ON A/C 201-225, 227-227, 229-231, 233-244, 247-250, 252-299, 426-456, R 476-499, 503-549, 551-599, 701-749,

TASK 49-61-00-810-810

Fault Light Indication Fault (APS 3200)

1. Possible Causes

- BOARD-ANN LT TEST & INTFC (7LP)
- aircraft wiring
- FIRE EMERGENCY STOP RELAY (6WF)
- RELAY BOARD (7LP)
- ECB (59KD)

2. Job Set-up Information

A. Referenced Information

REFERENCE		DESIGNATION
AMM	33-14-00-710-001	Operational Test of the Lights
AMM	33-14-33-000-001	Removal of the Annunciator-Light Test and
		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, 8LP, 9LP, 10LP, 11LP, 12LP, 18LP, 19LP, 20LP)
AMM	49-00-00-710-005	Self-Test of the ECB (APS 3200)
AMM	49-61-34-000-002	Removal of the Electronic Control Box (ECB) (59KD) (APS 3200)
AMM	49-61-34-400-002	Installation of the Electronic Control Box (ECB) (59KD) (APS 3200)
ASM	49-42/01	

3. Fault Confirmation

```
R **ON A/C 201-225, 227-227, 229-231, 233-244, 247-250, 252-299, 426-456, R 476-499, 503-549, 551-599, 701-749, R Post SB 49-1061 For A/C 201-225,227-227,229-231,233-244,247-250,252-253, R 276-299,426-450,476-499,503-549,551-599,701-749,
```

A. Do the self test of the ECB (59KD) (Ref. AMM TASK 49-00-00-710-005).

R | EFF : 201-225, 227-227, 229-231, 233-244, 247-250, 252-299, 426-456, 476-499, 503-549, 551-599, 701-749, SROS

49-61-00 Page 209 Config-1 May 01/08

TROUBLE SHOOTING MANUAL

- R **ON A/C 201-225, 227-227, 229-231, 233-244, 247-250, 252-299, 426-456, R 476-499, 503-549, 551-599, 701-749,
 - 4. Fault Isolation
- R **ON A/C 201-225, 227-227, 229-231, 233-244, 247-250, 252-299, 426-456, R 476-499, 503-549, 551-599, 701-749, R Post SB 49-1061 For A/C 201-225,227-227,229-231,233-244,247-250,252-253, R 276-299,426-450,476-499,503-549,551-599,701-749,
 - A. If the APU Class 3 Faults Page gives the maintenance message:

WRG: ECB PIN AB-H5
Fault Code Number: 125

- do the Operational Test of the Annunciator Light Test System in the Cockpit (Ref. AMM TASK 33-14-00-710-001).
- (1) If the fault continues:
 - replace BOARD-ANN LT TEST & INTFC (7LP) (Ref. AMM TASK 33-14-33-000-001) and (Ref. AMM TASK 33-14-33-400-001).
- (2) If the Annunciator Light Test is OK:
 - check and repair the aircraft wiring between ECB (59KD) AB/H5 and RELAY BOARD (7LP) A/39 for a short circuit (Ref. ASM 49-42/01).
 - (a) If the fault continues:
 - check and repair the aircraft wiring between ECB (59KD) AB/H5 and FIRE EMERGENCY STOP RELAY (6WF) A-X2 for a short circuit (Ref. ASM 49-42/01).
 - 1 If the fault continues:
 replace the FIRE EMERGENCY STOP RELAY (6WF).
 - <u>a</u> If the fault continues:replace the RELAY BOARD (7LP).
 - \underline{b} If the fault continues:
 - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-002) and (Ref. AMM TASK 49-61-34-400-002).
- B. Do the test given in para. 3.

EFF: 201-225, 227-227, 229-231, 233-244, 247-250, 252-299, 426-456, 476-499, 503-549, 551-599, 701-749, SROS

49-61-00Config-1 May 01/08

TROUBLE SHOOTING MANUAL

**ON A/C 232-232, 247-248, 252-252,

Post SB 49-1073001 For A/C 232-232,247-248,252-252,

CONTROL AND MONITORING ((GTCP 36-300)) - FAULT ISOLATION PROCEDURES

TASK 49-61-00-810-801

ECB 59KD Fault (GTCP 36-300)

- 1. Possible Causes
 - ECB (59KD)
- 2. Job Set-up Information
 - A. Referenced Information

REFERENCE		DESIGNATION
АММ	49-00-00-710-004	Operational Test of the APU (4005KM) (GTCP 36-300)
AMM	49-61-34-000-001	Removal of the Electronic Control Box (ECB) (59KD) (GTCP 36-300)
AMM	49-61-34-400-001	<pre>Installation of the Electronic Control Box (ECB) (59KD) (GTCP 36-300)</pre>

- 3. Fault Confirmation
 - A. Do the operational test of the APU (Ref. AMM TASK 49-00-00-710-004).
- 4. Fault Isolation
 - A. If the test gives the maintenance message ECB 59KD:
 - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-001) and (Ref. AMM TASK 49-61-34-400-001).

**ON A/C 232-232, 247-248, 252-252,

Post SB 49-1073 For A/C 232-232,247-248,252-252,

A. If the test gives the maintenance message ECB 59KD:

with the associated Fault Code Number(s): 011 - 014, 040, 044, 048, 050, 056, 174, 175, 231, 232, 234, 235, 237, 238

 replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-001) and (Ref. AMM TASK 49-61-34-400-001).

EFF: 232-232, 247-248, 252-252,

49-61-00 Page 201 Config-2 May 01/08

TROUBLE SHOOTING MANUAL

**ON A/C 232-232, 247-248, 252-252,

B. Do the operational test of the APU (Ref. AMM TASK 49-00-00-710-004).

NOTE : Make an entry in the applicable logbook that you must read the APU CLASS 3 FAULTS after the first flight on the subsequent day.

EFF: 232-232, 247-248, 252-252,

49-61-00

Page 202

Config-2 May 01/08

TROUBLE SHOOTING MANUAL

TASK 49-61-00-810-802

Incorrect PIN Coding (GTCP 36-300)

- 1. Possible Causes
 - aircraft wiring
 - ECB (59KD)
- 2. Job Set-up Information
 - A. Referenced Information

REFERENCE		DESIGNATION
AMM	49-00-00-710-001	Self-Test of the ECB (59KD) (GTCP 36-300)
AMM	49-61-34-000-001	Removal of the Electronic Control Box (ECB) (59KD) (GTCP 36-300)
AMM	49-61-34-400-001	<pre>Installation of the Electronic Control Box (ECB) (59KD) (GTCP 36-300)</pre>
ASM	49-61/01	

3. Fault Confirmation

**ON A/C 232-232, 247-248, 252-252,

Post SB 49-1073 For A/C 232-232,247-248,252-252,

A. Do the self test of the ECB (59KD) (Ref. AMM TASK 49-00-00-710-001).

**ON A/C 232-232, 247-248, 252-252,

4. Fault Isolation

**ON A/C 232-232, 247-248, 252-252,

Post SB 49-1073 For A/C 232-232,247-248,252-252,

A. If the test gives the maintenance message:

WRG: ACFT TYPE PIN PROG / ECB 59KD

with the LRU TROUBLE SHOOT DATA menu information: A/C PIN CODING DISAGREE Fault Code Number: 095

- do a check and make sure that the two A321 IDENTIFICATION signals at the ECB (59KD) AB/A12,A13 (Ref. ASM 49-61/01) are the same.

EFF: 232-232, 247-248, 252-252,

49-61-00

Page 203

Config-2 May 01/08

TROUBLE SHOOTING MANUAL

- (1) If the two A321 IDENTIFICATION signals are not the same:
 - do a check and repair of the aircraft wiring to the ECB (59KD) AB/A12,A13 to GND (Ref. ASM 49-61/01).
 - (a) If the fault continues after the first flight on the subsequent day:
 - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-001) and (Ref. AMM TASK 49-61-34-400-001).
- (2) If the two A321 IDENTIFICATION are the same:
 - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-001) and (Ref. AMM TASK 49-61-34-400-001).
- B. Do the test given in para. 3.

EFF: 232-232, 247-248, 252-252,

49-61-00

Page 204 Config-2 May 01/08

TROUBLE SHOOTING MANUAL

R **ON A/C 247-253,

R Post SB 49-1069001 For A/C 247-250,252-253,

CONTROL AND MONITORING ((131-9(A))) - FAULT ISOLATION PROCEDURES

TASK 49-61-00-810-806

Incorrect Pin Coding (131-9(A))

- 1. Possible Causes
 - A/C PIN CODING DISAGREES
 - aircraft wiring
 - ECB (59KD)
- 2. Job Set-up Information
 - A. Referenced Information

REFERENCE		DESIGNATION
	(0.00.00.740.000	0.16 7 of the FOR (474 0(4))
AMM	49-00-00-710-009	Self-Test of the ECB (131-9(A))
AMM	49-61-34-000-003	Removal of the Electronic Control Box (ECB) (131-9(A))
AMM	49-61-34-400-003	<pre>Installation of the Electronic Control Box (ECB) (131-9(A))</pre>
ASM	49-61/01	

- 3. Fault Confirmation
 - A. Read-out of the ECB Trouble Shooting Data
 - (1) Put the APU MASTER SW to the ON position.
 - (2) Get access to the APU LAST LEG/PREVIOUS LEG report.
 - (3) Push the '>' adjacent to the related CFDS failure message: - the MCDU menu shows: A/C PIN CODING DISAGREES
 - (4) Get access to the APU GND SCANNING menu.
- 4. Fault Isolation
 - A. If the APU GND SCANNING menu gives the maintenance message:

WRG: ACFT TYPE PIN PROG / ECB 59KD
associated with Fault Code Number (FCN) 95

R EFF: 247-253, SROS **49-61-00** Page 201 Config-3 May 01/07

TROUBLE SHOOTING MANUAL

- do a check and make sure that the two A321 IDENTIFICATION signals at the ECB (59KD) AB/A12,A13 (Ref. ASM 49-61/01) are the same.
- (1) If the two A321 IDENTIFICATION signals are not the same:
 - do a check and repair of the aircraft wiring to the ECB (59KD) AB/A12,A13 to GND (Ref. ASM 49-61/01).
 - (a) If the fault continues after the first flight on the subsequent day:
 - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-003) and (Ref. AMM TASK 49-61-34-400-003).
- (2) If the two A321 IDENTIFICATION are the same:
 - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-003) and (Ref. AMM TASK 49-61-34-400-003).
- B. Do the self test of the ECB (Ref. AMM TASK 49-00-00-710-009).
 - NOTE : After the subsequent filght, make sure that the fault does not continue.

EFF: 247-253, 49-61-0

Page 202 Config-3 May 01/07

TROUBLE SHOOTING MANUAL

TASK 49-61-00-810-807

ECB (59KD) Fault (131-9(A))

- 1. Possible Causes
 - ECB INTERNAL FAILURE
 - ECB (59KD)
- 2. Job Set-up Information
 - A. Referenced Information

REFERENCE		DESIGNATION
AMM AMM AMM	49-00-00-860-008 49-00-00-860-009 49-61-34-000-003	APU Start by External Power (131-9(A)) APU Shutdown by External Power (131-9(A)) Removal of the Electronic Control Box (ECB) (131-9(A))
AMM	49-61-34-400-003	Installation of the Electronic Control Box (ECB) (131-9(A))

3. Fault Confirmation

- A. Read-out of ECB Trouble-Shooting Data
 - (1) Put the APU MASTER SW to the ON position.
 - (2) Get access to the APU LAST LEG/PREVIOUS LEG report.
 - (3) Push the '>'-key adjacent to the related CFDS failure message.
 - (4) If the MCDU menu shows: ECB INTERNAL FAILURE

associated with Fault Code Number (FCN) 11, 12, 13 or 14

- do the Fault Confirmation that follows:
- (a) Get access to the APU GND SCANNING menu.
- (b) Start the APU (Ref. AMM TASK 49-00-00-860-008).
- (c) Get access to the APU GND SCANNING menu.
- (d) Shut down the APU (Ref. AMM TASK 49-00-00-860-009)

49-61-00

Page 203

Config-3 May 01/07

EFF:

247-253,

TROUBLE SHOOTING MANUAL

(5) If the MCDU menu shows: ECB INTERNAL FAILURE

associated with Fault Code Number (FCN) 40, 41, 44, 45, 56, 174, 175, 234, 235, 237 or 238

- do the Fault Confirmation that follows:
- (a) Put the APU MASTER SW to the ON position.
- (b) Get access to the APU GND SCANNING menu.
- (6) If the MCDU menu shows: ECB INTERNAL FAILURE

associated with Fault Code Number (FCN) 231 or 232

- do the Fault Confirmation that follows:
- (a) Start the APU (Ref. AMM TASK 49-00-00-860-008).
- (b) Get access to the APU GND SCANNING menu.
- (c) Shut down the APU (Ref. AMM TASK 49-00-00-860-009)
- (d) Wait until the ECB (59KD) power-down, speed < 7% plus 30 seconds.
- (e) Put the APU MASTER SW to the ON position.
- (f) Get access to the APU GND SCANNING menu.

4. Fault Isolation

R R

A. If the APU GND SCANNING menu gives the maintenance message:

ECB (59KD)

- replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-003) and (Ref. AMM TASK 49-61-34-400-003).
- B. Do the test given in para. 3.

EFF: 247-253,

49-61-00

Page 204

Config-3 Feb 01/08

TROUBLE SHOOTING MANUAL

CONTROL AND MONITORING - TASK SUPPORTING DATA

1. Fault Code Number (FCN) Table (APS 3200) in the APU Task Supporting Data (Ref. TSM 490000, P. Block 301).

EFF: 201-225, 227-227, 229-231, 233-250, 252-299, 426-499, 503-549, 551-599, 701-749,

49-61-00

Page 301 May 01/08

TROUBLE SHOOTING MANUAL

INDICATING ((APS 3200)) - FAULT ISOLATION PROCEDURES

TASK 49-70-00-810-811

Speed Sensor 1 Fault (APS 3200)

- 1. Possible Causes
 - SPEED SENSOR 1 (8060KM1)
 - wiring
 - ECB (59KD)
- 2. Job Set-up Information
 - A. Referenced Information

REFERENCE		DESIGNATION
AMM	49-00-00-710-008	Operational Test of the APU (APS 3200)
AMM	49-61-34-000-002	Removal of the Electronic Control Box (ECB) (59KD) (APS 3200)
AMM	49-61-34-400-002	Installation of the Electronic Control Box (ECB) (59KD) (APS 3200)
AMM	49-71-13-000-002	Removal of the Speed Sensor (APS 3200)
AMM ASM	49-71-13-400-002 49-61/02	Installation of the Speed Sensor (APS 3200)

- 3. Fault Confirmation
 - A. Do the operational test of the APU (4005KM) (Ref. AMM TASK 49-00-00-710-008).
- 4. Fault Isolation
- R **ON A/C 201-225, 227-227, 229-231, 233-250, 252-253, 276-299, 426-450, R 457-499, 503-549, 551-599, 701-749,
 - A. If the test gives the maintenance message:

SPEED SNSR 1 P26:

- replace the SPEED SENSOR 1 (8060KM1) (Ref. AMM TASK 49-71-13-000-002) and (Ref. AMM TASK 49-71-13-400-002).
- (1) If the fault continues after the subsequent flight:

 do a check and repair the wiring from the ECB (59KD) AB/A10, A11 to
 the SPEED SENSOR 1 P26/1, 2 (Ref. ASM 49-61/02).

EFF: 201-225, 227-227, 229-231, 233-250, 252-299, 426-499, 503-549, 551-599, 701-749,

49-70-00

Page 201

Config-1 May 01/08

TROUBLE SHOOTING MANUAL

- (2) If the fault continues after the subsequent flight:
 replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-002) and (Ref.
 AMM TASK 49-61-34-400-002).
- B. Do the operational test of the APU (4005KM) (Ref. AMM TASK 49-00-00-710-008).

<u>NOTE</u>: After the subsequent flight, make sure that the fault does not continue.

R **ON A/C 201-225, 227-227, 229-231, 233-244, 247-250, 252-299, 426-456, R 476-499, 503-549, 551-599, 701-749, R Post SB 49-1061 For A/C 201-225,227-227,229-231,233-244,247-250,252-253, R 276-299,426-450,476-499,503-549,551-599,701-749,

A. If the APU Class 3 Faults Page gives the maintenance message:

SPEED SNSR 1 (8060KM1)
Fault Code Number: 029 or 092 or 093

- do a check and repair the wiring from the ECB (59KD) AB/A10, A11 to the SPEED SENSOR 1 (8060KM1) P26/1, 2 (Ref. ASM 49-61/02).
- (1) If the fault continues:
 - replace the SPEED SENSOR 1 (8060KM1) (Ref. AMM TASK 49-71-13-000-002) and (Ref. AMM TASK 49-71-13-400-002).
 - (a) If the fault continues:
 - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-002) and (Ref. AMM TASK 49-61-34-400-002).
- B. Do the test given in para. 3.

EFF: 201-225, 227-227, 229-231, 233-250, 252-299, 426-499, 503-549, 551-599, 701-749,

49-70-00

Page 202 Config-1 May 01/08

TROUBLE SHOOTING MANUAL

R **ON A/C 201-225, 227-227, 229-231, 233-250, 252-299, 426-499, 503-549, R 551-599, 701-749,

TASK 49-70-00-810-812

Speed Sensor 2 Fault (APS 3200)

- 1. Possible Causes
 - SPEED SENSOR (8060KM2)
 - wiring
 - ECB (59KD)
 - SPEED SENSOR 2 (8060KM2)
- 2. Job Set-up Information
 - A. Referenced Information

REFERENCE		DESIGNATION
AMM	49-00-00-710-008	Operational Test of the APU (APS 3200)
AMM	49-61-34-000-002	Removal of the Electronic Control Box (ECB) (59KD) (APS 3200)
AMM	49-61-34-400-002	Installation of the Electronic Control Box (ECB) (59KD) (APS 3200)
AMM	49-71-13-000-002	Removal of the Speed Sensor (APS 3200)
	49-71-13-400-002 49-61/02	Installation of the Speed Sensor (APS 3200)

- 3. Fault Confirmation
 - A. Do the operational test of the APU (4005KM) (Ref. AMM TASK 49-00-00-710-008).
- 4. Fault Isolation
- R **ON A/C 201-225, 227-227, 229-231, 233-250, 252-253, 276-299, 426-450, R 457-499, 503-549, 551-599, 701-749,
 - A. If the test gives the maintenance message:

SPEED SNSR 2 P27:

- replace the SPEED SENSOR (8060KM2) (Ref. AMM TASK 49-71-13-000-002) and (Ref. AMM TASK 49-71-13-400-002).
- (1) If the fault continues after the subsequent flight:

 do a check and repair the wiring from the ECB (59KD) AB/B5, B6 to
 the SPEED SENSOR 2 P27/1, 2 (Ref. ASM 49-61/02).

EFF: 201-225, 227-227, 229-231, 233-250, 252-299, 426-499, 503-549, 551-599, 701-749,

49-70-00

Config-1 May 01/08

TROUBLE SHOOTING MANUAL

- B. Do the operational test of the APU (4005KM) (Ref. AMM TASK 49-00-00-710-008).

<u>NOTE</u>: After the subsequent flight, make sure that the fault does not continue.

R **ON A/C 201-225, 227-227, 229-231, 233-244, 247-250, 252-299, 426-456, R 476-499, 503-549, 551-599, 701-749, R Post SB 49-1061 For A/C 201-225,227-227,229-231,233-244,247-250,252-253, R 276-299,426-450,476-499,503-549,551-599,701-749,

A. If the APU Class 3 Faults Page gives the maintenance message:

SPEED SNSR 2 (8060KM2)
Fault Code Number: 032 or 094 or 095

- do a check and repair the wiring from the ECB (59KD) AB/B5, B6 to the SPEED SENSOR 2 (8060KM2) P27/1, 2 (Ref. ASM 49-61/02).
- (1) If the fault continues:
 - replace the SPEED SENSOR 2 (8060KM2) (Ref. AMM TASK 49-71-13-000-002) and (Ref. AMM TASK 49-71-13-400-002).
 - (a) If the fault continues:
 - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-002) and (Ref. AMM TASK 49-61-34-400-002).
- B. Do the test given in para. 3.

EFF: 201-225, 227-227, 229-231, 233-250, 252-299, 426-499, 503-549, 551-599, 701-749,

49-70-00

Page 204

TROUBLE SHOOTING MANUAL

R **ON A/C 201-225, 227-227, 229-231, 233-250, 252-299, 426-499, 503-549, R 551-599, 701-749,

TASK 49-70-00-810-813

EGT-Thermocouple 1 Defective (APS 3200)

- 1. Possible Causes
 - EGT THERMOCOUPLE 1 (8057KM1)
 - wiring
 - ECB (59KD)
- 2. Job Set-up Information
 - A. Referenced Information

REFERENCE		DESIGNATION
AMM	49-00-00-710-008	Openational Test of the ARU (ARS 7200)
		Operational Test of the APU (APS 3200)
AMM	49-61-34-000-002	Removal of the Electronic Control Box (ECB) (59KD) (APS 3200)
AMM	49-61-34-400-002	Installation of the Electronic Control Box (ECB) (59KD) (APS 3200)
AMM	49-72-15-000-001	Removal of the Thermocouple (8057KM1) and (8057KM2) (APS 3200)
AMM	49-72-15-400-002	Installation of the Thermocouple (8057KM1) and (8057KM2) (APS 3200)
ASM	49-61/02	

- 3. Fault Confirmation
 - A. Do the operational test of the APU (4005KM) (Ref. AMM TASK 49-00-00-710-008).
- 4. Fault Isolation
- R **ON A/C 201-225, 227-227, 229-231, 233-250, 252-253, 276-299, 426-450, R 457-499, 503-549, 551-599, 701-749,
 - A. If the test gives the maintenance message:

EGT TC1 P30:

- replace the EGT THERMOCOUPLE 1 (8057KM1) (Ref. AMM TASK 49-72-15-000-001) and (Ref. AMM TASK 49-72-15-400-002).
- (1) If the fault continues after the subsequent flight:
 - do a check and repair the wiring from the ECB (59KD) AB/A7, A6 to the EGT THERMOCOUPLE 1 P30/1, 2 (Ref. ASM 49-61/02).

EFF: 201-225, 227-227, 229-231, 233-250, 252-299, 426-499, 503-549, 551-599, 701-749,

49-70-00Page 205
Config-1 May 01/08

TROUBLE SHOOTING MANUAL

- B. Do the operational test of the APU (4005KM) (Ref. AMM TASK 49-00-00-710-008).

NOTE : After the subsequent flight, make sure that the fault does not continue.

R **ON A/C 201-225, 227-227, 229-231, 233-244, 247-250, 252-299, 426-456, R 476-499, 503-549, 551-599, 701-749, R Post SB 49-1061 For A/C 201-225,227-227,229-231,233-244,247-250,252-253, R 276-299,426-450,476-499,503-549,551-599,701-749,

A. If the APU Class 3 Faults Page gives the maintenance message:

EGT TC1 (8057KM1)
Fault Code Number: 035 or 036

- replace the EGT THERMOCOUPLE 1 (8057KM1) (Ref. AMM TASK 49-72-15-000-001) and (Ref. AMM TASK 49-72-15-400-002).
- (1) If the fault continues:
 - do a check and repair the wiring from the ECB (59KD) AB/A7, A6 to the EGT THERMOCOUPLE 1 (8057KM1) P30/1, 2 (Ref. ASM 49-61/02).
 - (a) If the fault continues:
 - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-002) and (Ref. AMM TASK 49-61-34-400-002).
- B. Do the test given in para. 3.

EFF: 201-225, 227-227, 229-231, 233-250, 252-299, 426-499, 503-549, 551-599, 701-749,

49-70-00 Page 206 Config-1 May 01/08

TROUBLE SHOOTING MANUAL

R **ON A/C 201-225, 227-227, 229-231, 233-250, 252-299, 426-499, 503-549, R 551-599, 701-749,

TASK 49-70-00-810-814

EGT-Thermocouple 2 Defective (APS 3200)

- 1. Possible Causes
 - EGT THERMOCOUPLE 2 (8057KM2)
 - wiring
 - ECB (59KD)
- 2. Job Set-up Information
 - A. Referenced Information

REFERENCE		DESIGNATION
AMM	49-00-00-710-008	Operational Test of the APU (APS 3200)
AMM	49-61-34-000-002	Removal of the Electronic Control Box (ECB) (59KD) (APS 3200)
AMM	49-61-34-400-002	Installation of the Electronic Control Box (ECB) (59KD) (APS 3200)
AMM	49-72-15-000-001	Removal of the Thermocouple (8057KM1) and (8057KM2) (APS 3200)
AMM	49-72-15-400-002	<pre>Installation of the Thermocouple (8057KM1) and (8057KM2) (APS 3200)</pre>
ASM	49-61/02	

- 3. Fault Confirmation
 - A. Do the operational test of the APU (4005KM) (Ref. AMM TASK 49-00-00-710-008).
- 4. Fault Isolation
- R **ON A/C 201-225, 227-227, 229-231, 233-250, 252-253, 276-299, 426-450, R 457-499, 503-549, 551-599, 701-749,
 - A. If the test gives the maintenance message:

EGT TC2 P31:

- replace the EGT THERMOCOUPLE 2 (8057KM2) (Ref. AMM TASK 49-72-15-000-001) and (Ref. AMM TASK 49-72-15-400-002).
- (1) If the fault continues after the subsequent flight:
 - do a check and repair the wiring from the ECB (59KD) AB/A9, A8 to the EGT THERMOCOUPLE 2 P31/1, 2 (Ref. ASM 49-61/02).

EFF: 201-225, 227-227, 229-231, 233-250, 252-299, 426-499, 503-549, 551-599, 701-749,

Config-1 May 01/08

TROUBLE SHOOTING MANUAL

- (2) If the fault continues after the subsequent flight:
 - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-002) and (Ref. AMM TASK 49-61-34-400-002).
- B. Do the operational test of the APU (4005KM) (Ref. AMM TASK 49-00-00-710-008).

NOTE : After the subsequent flight, make sure that the fault does not continue.

R **ON A/C 201-225, 227-227, 229-231, 233-244, 247-250, 252-299, 426-456, R 476-499, 503-549, 551-599, 701-749, R Post SB 49-1061 For A/C 201-225,227-227,229-231,233-244,247-250,252-253, R 276-299,426-450,476-499,503-549,551-599,701-749,

A. If the APU Class 3 Faults Page gives the maintenance message:

EGT TC2 (8057KM2):

Fault Code Number: 037 or 038

- replace the EGT THERMOCOUPLE 2 (8057KM2) (Ref. AMM TASK 49-72-15-000-001) and (Ref. AMM TASK 49-72-15-400-002).
- (1) If the fault continues:
 - do a check and repair the wiring from the ECB (59KD) AB/A9, A8 to the EGT THERMOCOUPLE 2 (8057KM2) P31/1, 2 (Ref. ASM 49-61/02).
 - (a) If the fault continues:
 - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-002) and (Ref. AMM TASK 49-61-34-400-002).
- B. Do the test given in para. 3.

EFF: 201-225, 227-227, 229-231, 233-250, 252-299, 426-499, 503-549, 551-599, 701-749,

49-70-00 Page 208 Config-1 May 01/08

TROUBLE SHOOTING MANUAL

R **ON A/C 201-225, 227-227, 229-231, 233-250, 252-299, 426-499, 503-549, R 551-599, 701-749,

TASK 49-70-00-810-815

Engine Identification-Module Fault (APS 3200)

- 1. Possible Causes
 - ENGINE IDENTIFICATION MODULE (8061KM)
 - wiring
 - ECB (59KD)
- 2. Job Set-up Information
 - A. Referenced Information

REFERENCE		DESIGNATION
A MM	/O OO OO 740 OOF	Calf Tast of the ECD (ADC 7200)
AMM	49-00-00-710-005	Self-Test of the ECB (APS 3200)
AMM	49-61-34-000-002	Removal of the Electronic Control Box (ECB) (59KD) (APS 3200)
AMM	49-61-34-400-002	Installation of the Electronic Control Box (ECB) (59KD) (APS 3200)
AMM	49-73-31-000-001	<pre>Engine Identification Module (8061KM) - Removal (APS 3200)</pre>
AMM	49-73-31-400-001	<pre>Engine Identification Module (8061KM) - Installation (APS 3200)</pre>
ASM	49-61/02	

- 3. Fault Confirmation
 - A. Do the self-test of the ECB (59KD) (Ref. AMM TASK 49-00-00-710-005).
- 4. Fault Isolation
- R **ON A/C 201-225, 227-227, 229-231, 233-250, 252-253, 276-299, 426-450, R 457-499, 503-549, 551-599, 701-749,
 - A. If the test gives the maintenance message:

SERIAL NUMBER ENCOR P20:

- replace the ENGINE IDENTIFICATION MODULE (8061KM) (Ref. AMM TASK 49-73-31-000-001) and (Ref. AMM TASK 49-73-31-400-001).
- (1) If the fault continues after the subsequent flight:
 - do a check and repair the wiring from the ECB (59KD) AB/D9, J7, J8, D10 to the ENGINE IDENTIFICATION MODULE P20/5, 14, 10, 9 (Ref. ASM 49-61/02).

EFF: 201-225, 227-227, 229-231, 233-250, 252-299, 426-499, 503-549, 551-599, 701-749,

49-70-00

Page 209

Config-1 May 01/08

TROUBLE SHOOTING MANUAL

- (2) If the fault continues after the subsequent flight:
 replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-002) and (Ref. AMM TASK 49-61-34-400-002).
- B. Do the test given in para. 3.

NOTE : After the subsequent flight, make sure that the fault does not continue.

R **ON A/C 201-225, 227-227, 229-231, 233-244, 247-250, 252-299, 426-456, R 476-499, 503-549, 551-599, 701-749, R Post SB 49-1061 For A/C 201-225,227-227,229-231,233-244,247-250,252-253, R 276-299,426-450,476-499,503-549,551-599,701-749,

A. If the APU Class 3 Faults Page gives the maintenance message:

SERIAL NUMBER ENCOR (8061KM): Fault Code Number: 041 or 130

- replace the ENGINE IDENTIFICATION MODULE (8061KM) (Ref. AMM TASK 49-73-31-000-001) and (Ref. AMM TASK 49-73-31-400-001).
- (1) If the fault continues:
 - do a check and repair the wiring from the ECB (59KD) AB/D9, J7, J8, D10 to the ENGINE IDENTIFICATION MODULE (8061KM) P20/5, 14, 10, 9 (Ref. ASM 49-61/02).
 - (a) If the fault continues:
 - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-002) and (Ref. AMM TASK 49-61-34-400-002).
- B. Do the test given in para. 3.

EFF: 201-225, 227-227, 229-231, 233-250, 252-299, 426-499, 503-549, 551-599, 701-749,

49-70-00 Page 210 Config-1 May 01/08

TROUBLE SHOOTING MANUAL

**ON A/C 232-232, 247-248, 252-252,

Post SB 49-1073001 For A/C 232-232,247-248,252-252,

INDICATING ((GTCP 36-300)) - FAULT ISOLATION PROCEDURES

TASK 49-70-00-810-801

Speed Sensor 1 (P26) Defective (GTCP 36-300)

- 1. Possible Causes
 - SPEED SENSOR 1 P26
 - ECB (59KD)
 - wiring
 - SPEED SENSOR (8060KM1)
- 2. Job Set-up Information
 - A. Referenced Information

REFERENCE		DESIGNATION
AMM 4	9-00-00-710-004	Operational Test of the APU (4005KM) (GTCP 36-300)
AMM 4	9-61-34-000-001	Removal of the Electronic Control Box (ECB) (59KD) (GTCP 36-300)
AMM 4	9-61-34-400-001	<pre>Installation of the Electronic Control Box (ECB) (59KD) (GTCP 36-300)</pre>
AMM 4	9-71-13-000-001	Removal of the Speed Sensors (8060KM1) and (8060KM2) (GTCP 36-300)
AMM 4	9-71-13-400-001	<pre>Installation of the Speed Sensor (8060KM1) and (8060KM2) (GTCP 36-300)</pre>
ASM 4	9-61/02	

3. Fault Confirmation

A. Do the operational test of the APU (Ref. AMM TASK 49-00-00-710-004).

4. Fault Isolation

- A. If the test gives the maintenance message SPEED SNSR P26:
 - replace the SPEED SENSOR 1 P26 (Ref. AMM TASK 49-71-13-000-001) and (Ref. AMM TASK 49-71-13-400-001).
 - (1) If the fault continues after the first flight on the subsequent day: - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-001) and (Ref. AMM TASK 49-61-34-400-001).

EFF: 232-232, 247-248, 252-252,

49-70-00

Page 201

Config-2 May 01/08

TROUBLE SHOOTING MANUAL

(2) If the fault continues after the first flight on the subsequent day:

 do a check and repair the wiring from the ECB (59KD) AB/A10, A11 to
 the SPEED SENSOR 1 P26/1, 2 (Ref. ASM 49-61/02).

**ON A/C 232-232, 247-248, 252-252,

Post SB 49-1073 For A/C 232-232,247-248,252-252,

A. If the test gives the maintenance message

SPEED SENSOR (8060KM1)

with the LRU TROUBLE SHOOT DATA menu information:

SPEED SENSOR 1 SHOWS OPEN CIRCUIT

Fault Code Number: 007

or

SPEED SENSOR 1 SHOWS AMPLITUDE FAILURE

Fault Code Number: 009

- replace the SPEED SENSOR (8060KM1) (Ref. AMM TASK 49-71-13-000-001) and (Ref. AMM TASK 49-71-13-400-001).
- (1) If the fault continues after the first flight on the subsequent day: - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-001) and (Ref. AMM TASK 49-61-34-400-001).
- (2) If the fault continues after the first flight on the subsequent day:

 do a check and repair the wiring from the ECB (59KD) AB/A10, A11 to the SPEED SENSOR 1 P26/1, 2 (Ref. ASM 49-61/02).

**ON A/C 232-232, 247-248, 252-252,

B. Do the operational test of the APU (Ref. AMM TASK 49-00-00-710-004).

NOTE: Make an entry in the applicable logbook, that you must read the APU CLASS 3 FAULTS after the first flight on the subsequent day.

EFF: 232-232, 247-248, 252-252,

49-70-00

TUU Page 202 Config-2 May 01/08

TROUBLE SHOOTING MANUAL

TASK 49-70-00-810-802

Speed Sensor 2 (P27) Defective (GTCP 36-300)

- 1. Possible Causes
 - SPEED SENSOR 2 P27
 - ECB (59KD)
 - wiring
 - SPEED SENSOR (8060KM2)
- 2. Job Set-up Information
 - A. Referenced Information

REFERENCE		DESIGNATION
		
AMM	49-00-00-710-004	Operational Test of the APU (4005KM) (GTCP 36-300)
AMM	49-61-34-000-001	Removal of the Electronic Control Box (ECB) (59KD) (GTCP 36-300)
AMM	49-61-34-400-001	<pre>Installation of the Electronic Control Box (ECB) (59KD) (GTCP 36-300)</pre>
AMM	49-71-13-000-001	Removal of the Speed Sensors (8060KM1) and (8060KM2) (GTCP 36-300)
AMM	49-71-13-400-001	<pre>Installation of the Speed Sensor (8060KM1) and (8060KM2) (GTCP 36-300)</pre>
ASM	49-61/02	

3. Fault Confirmation

A. Do the operational test of the APU (Ref. AMM TASK 49-00-00-710-004).

4. Fault Isolation

- A. If the test gives the maintenance message SPEED SNSR P27:
 - replace the SPEED SENSOR 2 P27 (Ref. AMM TASK 49-71-13-000-001) and (Ref. AMM TASK 49-71-13-400-001).
 - (1) If the fault continues after the first flight on the subsequent day: - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-001) and (Ref. AMM TASK 49-61-34-400-001).
 - (2) If the fault continues after the first flight on the subsequent day: - do a check and repair the wiring from the ECB (59KD) AB/B5, B6 to the SPEED SENSOR 2 P27/1, 2 (Ref. ASM 49-61/02).

EFF: 232-232, 247-248, 252-252,

49-70-00

Page 203

Config-2 May 01/08

TROUBLE SHOOTING MANUAL

**ON A/C 232-232, 247-248, 252-252,

Post SB 49-1073 For A/C 232-232,247-248,252-252,

A. If the test gives the maintenance message

SPEED SENSOR (8060KM2)

with the LRU TROUBLE SHOOT DATA menu information:

SPEED SENSOR 2 SHOWS OPEN CIRCUIT

Fault Code Number: 008

or

SPEED SENSOR 2 SHOWS AMPLITUDE FAILURE

Fault Code Number: 010

- replace the SPEED SENSOR (8060KM2) (Ref. AMM TASK 49-71-13-000-001) and (Ref. AMM TASK 49-71-13-400-001).
- (1) If the fault continues after the first flight on the subsequent day: - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-001) and (Ref. AMM TASK 49-61-34-400-001).
- (2) If the fault continues after the first flight on the subsequent day: - do a check and repair the wiring from the ECB (59KD) AB/B5, B6 to the SPEED SENSOR 2 P27/1, 2 (Ref. ASM 49-61/02).

**ON A/C 232-232, 247-248, 252-252,

B. Do the operational test of the APU (Ref. AMM TASK 49-00-00-710-004).

NOTE : Make an entry in the applicable logbook that you must read the APU CLASS 3 FAULTS after the first flight on the subsequent day.

EFF: 232-232, 247-248, 252-252,

49-70-00

Page 204 Config-2 May 01/08

TROUBLE SHOOTING MANUAL

TASK 49-70-00-810-803

Thermocouple Rake 1 Defective (GTCP 36-300)

- 1. Possible Causes
 - EGT THERMOCOUPLE RAKE 1
 - ECB (59KD)
 - wiring
 - EGT THERMOCOUPLE RAKE (8057KM1)
- 2. Job Set-up Information
 - A. Referenced Information

REFERENCE	DESIGNATION
AMM 49-00-00-710-004	Operational Test of the APU (4005KM) (GTCP 36-300)
AMM 49-61-34-000-001	Removal of the Electronic Control Box (ECB) (59KD) (GTCP 36-300)
AMM 49-61-34-400-001	<pre>Installation of the Electronic Control Box (ECB) (59KD) (GTCP 36-300)</pre>
AMM 49-72-15-000-001	Removal of the Thermocouple (8057KM1) and (8057KM2) (APS 3200)
AMM 49-72-15-400-001	Installation of the Thermocouple Probes (8057KM1) and (8057KM2) (GTCP 36-300)
ASM 49-61/02	

3. Fault Confirmation

A. Do the operational test of the APU (Ref. AMM TASK 49-00-00-710-004).

4. Fault Isolation

- A. If the test gives the maintenance message EGT TC RAKE 1:
 replace the EGT THERMOCOUPLE RAKE 1 (Ref. AMM TASK 49-72-15-000-001)
 and (Ref. AMM TASK 49-72-15-400-001).
 - (1) If the fault continues after the first flight on the subsequent day: - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-001) and (Ref. AMM TASK 49-61-34-400-001).
 - (2) If the fault continues after the first flight on the subsequent day: - do a check and repair the wiring from the ECB (59KD) AB/A6, A7 to the EGT THERMOCOUPLE RAKE 1 studs/alumel, chromel (Ref. ASM 49-61/02).

EFF: 232-232, 247-248, 252-252,

49-70-00

Config-2 May 01/08

Page 205

TROUBLE SHOOTING MANUAL

**ON A/C 232-232, 247-248, 252-252,

Post SB 49-1073 For A/C 232-232,247-248,252-252,

A. If the test gives the maintenance message:

EGT TCPLE RAKE (8057KM1)

with the LRU TROUBLE SHOOT DATA menu information:

EGT 1 SENSOR SHOWS OUT OF RANGE LOW

Fault Code Number: 042

or

EGT 1 SENSOR DISAGREES WITH EGT2 SENSOR > 166C

Fault Code Number: 043

- replace the EGT THERMOCOUPLE RAKE (8057KM1) (Ref. AMM TASK 49-72-15-000-001) and (Ref. AMM TASK 49-72-15-400-001).
- (1) If the fault continues after the first flight on the subsequent day: - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-001) and (Ref. AMM TASK 49-61-34-400-001).
- (2) If the fault continues after the first flight on the subsequent day: - do a check and repair the wiring from the ECB (59KD) AB/A6, A7 to the EGT THERMOCOUPLE RAKE 1 studs/alumel, chromel (Ref. ASM 49-61/02).

**ON A/C 232-232, 247-248, 252-252,

B. Do the operational test of the APU (Ref. AMM TASK 49-00-00-710-004).

NOTE : Make an entry in the applicable logbook that you must read the APU CLASS 3 FAULTS after the first flight on the subsequent day.

EFF: 232-232, 247-248, 252-252,

49-70-00

Page 206 Config-2 May 01/08

TROUBLE SHOOTING MANUAL

TASK 49-70-00-810-804

Thermocouple Rake 2 Defective (GTCP 36-300)

- 1. Possible Causes
 - EGT THERMOCOUPLE RAKE 2
 - ECB (59KD)
 - wiring
 - EGT THERMOCOUPLE RAKE (8057KM2)
- 2. Job Set-up Information
 - A. Referenced Information

REFE	RENCE	DESIGNATION
	/O 00 00 7/0 00/	
AMM	49-00-00-710-004	Operational Test of the APU (4005KM) (GTCP 36-300)
AMM	49-61-34-000-001	Removal of the Electronic Control Box (ECB) (59KD) (GTCP 36-300)
AMM	49-61-34-400-001	<pre>Installation of the Electronic Control Box (ECB) (59KD) (GTCP 36-300)</pre>
AMM	49-72-15-000-001	Removal of the Thermocouple (8057KM1) and (8057KM2) (APS 3200)
AMM	49-72-15-400-001	Installation of the Thermocouple Probes (8057KM1) and (8057KM2) (GTCP 36-300)
ASM	49-61/02	

3. Fault Confirmation

A. Do the operational test of the APU (Ref. AMM TASK 49-00-00-710-004).

4. Fault Isolation

- A. If the test gives the maintenance message EGT TC RAKE 2:
 replace the EGT THERMOCOUPLE RAKE 2 (Ref. AMM TASK 49-72-15-000-001)
 and (Ref. AMM TASK 49-72-15-400-001).
 - (1) If the fault continues after the first flight on the subsequent day: - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-001) and (Ref. AMM TASK 49-61-34-400-001).
 - (2) If the fault continues after the first flight on the subsequent day: - do a check and repair the wiring from the ECB (59KD) AB/A8, A9 to the EGT THERMOCOUPLE RAKE 2 studs/alumel, chromel (Ref. ASM 49-61/02).

EFF: 232-232, 247-248, 252-252,

49-70-00

Page 207 Config-2 May 01/08

TROUBLE SHOOTING MANUAL

**ON A/C 232-232, 247-248, 252-252,

Post SB 49-1073 For A/C 232-232,247-248,252-252,

A. If the test gives the maintenance message:

EGT TCPLE RAKE (8057KM2)

with the LRU TROUBLE SHOOT DATA menu information: EGT2 SENSOR SHOWS OUT OF RANGE LOW

Fault Code Number: 046

or

EGT2 SENSOR DISAGREES WITH EGT2 SENSOR > 166C

Fault Code Number: 047

- replace the EGT THERMOCOUPLE RAKE (8057KM2) (Ref. AMM TASK 49-72-15-000-001) and (Ref. AMM TASK 49-72-15-400-001).
- (1) If the fault continues after the first flight on the subsequent day: - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-001) and (Ref. AMM TASK 49-61-34-400-001).
- (2) If the fault continues after the first flight on the subsequent day: - do a check and repair the wiring from the ECB (59KD) AB/A8, A9 to the EGT THERMOCOUPLE RAKE 2 studs/alumel, chromel (Ref. ASM 49-61/02).

**ON A/C 232-232, 247-248, 252-252,

B. Do the operational test of the APU (Ref. AMM TASK 49-00-00-710-004).

NOTE : Make an entry in the applicable logbook that you must read the APU CLASS 3 FAULTS after the first flight on the subsequent day.

EFF: 232-232, 247-248, 252-252,

49-70-00

Page 208

TROUBLE SHOOTING MANUAL

TASK 49-70-00-810-805

Serial-Number Encoder-Unit Fault (GTCP 36-300)

- 1. Possible Causes
 - SERIAL NUMBER ENCODER P20
 - ECB (59KD)
 - wiring
 - SERIAL NUMBER ENCODER (8083KM)
- 2. Job Set-up Information
 - A. Referenced Information

REFE	RENCE	DESIGNATION
AMM	49-61-34-000-001	Removal of the Electronic Control Box (ECB) (59KD) (GTCP 36-300)
AMM	49-61-34-400-001	<pre>Installation of the Electronic Control Box (ECB) (59KD) (GTCP 36-300)</pre>
AMM	49-73-51-000-001	Removal of the Encoder (8063KM) (GTCP 36-300)
AMM ASM	49-73-51-400-001 49-61/02	Installation of the Encoder (8063KM) (GTCP 36-300)

- 3. Fault Confirmation
 - A. Start the Power Up Test
 - (1) On the overhead panel 25VU:
 - (a) Push the APU MASTER SW pushbutton switch 14KD to the ON position (the ON legend comes on blue).
 - (b) After 30 seconds, push the APU MASTER SW pushbutton switch to the off position (the blue ON legend goes off).
 - (2) On the MCDU:
 - (a) Read the APU CLASS 3 FAULTS.
- 4. Fault Isolation
 - A. If the test gives the maintenance message:

SERIAL NUMBER ENCODER P20:

- replace the SERIAL NUMBER ENCODER P20 (Ref. AMM TASK 49-73-51-000-001) and (Ref. AMM TASK 49-73-51-400-001).

EFF: 232-232, 247-248, 252-252,

49-70-00

Page 209

Config-2 May 01/08

TROUBLE SHOOTING MANUAL

- (1) If the fault continues after the first flight on the subsequent day: - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-001) and (Ref. AMM TASK 49-61-34-400-001).
- (2) If the fault continues after the first flight on the subsequent day: - do a check and repair the wiring from the ECB (59KD) AB/D9, J7, J8, D10 to the SERIAL NUMBER ENCODER P20/1, 2, 3, 4 (Ref. ASM 49-61/02).

**ON A/C 232-232, 247-248, 252-252,

Post SB 49-1073 For A/C 232-232,247-248,252-252,

A. If the test gives the maintenance message:

APU S/N DECODER (8063KM)

with the LRU TROUBLE SHOOT DATA menu information:

APU S/N 1 SHOWS INCORRECT RESISTANCE

Fault Code Number: 240

or

APU S/N 2 SHOWS INCORRECT RESISTANCE

Fault Code Number: 241

or

APU S/N 3 SHOWS INCORRECT RESISTANCE

Fault Code Number: 242

or

- replace the SERIAL NUMBER ENCODER (8083KM) (Ref. AMM TASK 49-73-51-000-001) and (Ref. AMM TASK 49-73-51-400-001).
- (1) If the fault continues after the first flight on the subsequent day: - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-001) and (Ref. AMM TASK 49-61-34-400-001).
- (2) If the fault continues after the first flight on the subsequent day: - do a check and repair the wiring from the ECB (59KD) AB/D9, J7, J8, D10 to the SERIAL NUMBER ENCODER P20/1, 2, 3, 4 (Ref. ASM 49-61/02).

**ON A/C 232-232, 247-248, 252-252,

B. Do the test given in para. 3.

NOTE : Make an entry in the applicable logbook that you must read the APU CLASS 3 FAULTS after the first flight on the subsequent day.

EFF: 232-232, 247-248, 252-252,

49-70-00

Page 210

Config-2 May 01/08

TROUBLE SHOOTING MANUAL

R **ON A/C 247-253,

R Post SB 49-1069001 For A/C 247-250,252-253,

INDICATING ((131-9(A))) - FAULT ISOLATION PROCEDURES

TASK 49-70-00-810-816

Speed Sensor P26 Fault (131-9(A))

- 1. Possible Causes
 - SPEED SENSOR 1 SHOWS OPEN CIRCUIT
 - SPEED SENSOR 2 SHOWS OPEN CIRCUIT
 - SPEED SENSOR 1 SHOWS AMPLITUDE FAILURE
 - SPEED SENSOR 2 SHOWS AMPLITUDE FAILURE
 - damage/contamination of the electrical connector P26
 - SPEED SENSOR 1 and/or 2
 - aircraft wiring
 - ECB (59KD)
 - SPEED SENSOR (8060KM)
- 2. Job Set-up Information
 - A. Fixtures, Tools, Test and Support Equipment

QTY DESIGNATION

No specific multimeter

B. Referenced Information

REFE	RENCE	DESIGNATION
AMM	49-00-00-860-008	APU Start by External Power (131-9(A))
AMM	49-61-34-000-003	Removal of the Electronic Control Box (ECB) (131-9(A))
AMM	49-61-34-400-003	<pre>Installation of the Electronic Control Box (ECB) (131-9(A))</pre>
AMM	49-71-13-000-003	Removal of the Speed Sensors (8060KM) (131-9(A))
AMM	49-71-13-400-003	Installation of the Speed Sensors (8060KM) (131-9(A))
ASM	49-61/01	

EFF : 247-253, **49-70-0**

Config-3 May 01/07

SROS

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TROUBLE SHOOTING MANUAL

3. Fault Confirmation

- A. Read-out of ECB Trouble-Shooting Data
 - (1) Put the APU MASTER SW to the ON position.
 - (2) Get access to the APU LAST LEG/PREVIOUS LEG report.
 - (3) Push the '>'-key adjacent to the related CFDS failure message.
 - (4) If the MCDU menu shows: SPEED SENSOR 1 SHOWS OPEN CIRCUIT

SPEED SENSOR 2 SHOWS OPEN CIRCUIT

- do the Fault Confirmation that follows:
- (a) Get access to the APU GND SCANNING menu.
- (5) If the MCDU menu shows SPEED SENSOR 1 SHOWS AMPLITUDE FAILURE

SPEED SENSOR 2 SHOWS AMPLITUDE FAILURE

- do the Fault Confirmation that follows:
- (a) Start the APU and apply Electrical Load and Bleed Air (Ref. AMM TASK 49-00-00-860-008).
- (b) Get access to the APU GND SCANNING menu.

4. Fault Isolation

A. If the APU GND SCANNING menu gives the maintenance message:

SPEED SENSOR P26

associated with Fault Code Number (FCN) 7 or 8

- do a check for damage/contamination of the electrical connector P26 of the SPEED SENSORS 1 / 2.
- (1) If the electrical connector of the SPEED SENSORS 1 and/or 2 is damaged/contaminated:
 - do a repair/cleaning.
- (2) If the electrical connector are OK:
 - use a multimeter to do a resistance check of the electrical connector across
 pin 1 and pin 2 for the SPEED SENSOR 1
 and

pin 3 and pin 4 for the SPEED SENSOR 2.

49-70-00

Page 202 Config-3 May 01/07

EFF: 247-253,

TROUBLE SHOOTING MANUAL

- (a) If the resistance is > 25 Ohms:
 - replace the SPEED SENSOR 1 and/or 2 (Ref. AMM TASK 49-71-13-000-003) and (Ref. AMM TASK 49-71-13-400-003).
- (b) If the resistance is OK:
 - do a check and repair of the aircraft wiring from the ECB (59KD) AB/E6,E7 to the electrical connector P26/1,2 (SPEED SENSOR 1) the ECB (59KD) AB/D3,D4 to the electrical connector P26/3,4 (SPEED SENSOR 2) (Ref. ASM 49-61/01).
 - If the fault continues:
 - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-003) and (Ref. AMM TASK 49-61-34-400-003).
- B. If the APU GND SCANNING menu gives the maintenance message:

SPEED SENSOR P26

associated with Fault Code Number (FCN) 9 or 10

- do a check for damage/contamination of the electrical connector P26 of the SPEED SENSORS 1 / 2.
- (1) If the electrical connector of the SPEED SENSORS 1 and/or 2 is damaged/contaminated:
 - do a repair/cleaning.
- (2) If the electrical connector are OK:
 - use a multimeter to do a resistance check of the electrical connector P26 across pin 1/pin 2 and pin 5 for the SPEED SENSOR 1 pin 3/pin 4 and pin 5 for the SPEED SENSOR 2.
 - (a) If the resistance is < 100 k0hms:
 - replace the SPEED SENSOR 1 and/or 2 (Ref. AMM TASK 49-71-13-000-003) and (Ref. AMM TASK 49-71-13-400-003).
 - (b) If the resistance is OK:
 - do a check and repair of the aircraft wiring from the ECB (59KD) AB/E6,E7 to the electrical connector P26/1,2 (SPEED SENSOR 1) the ECB (59KD) AB/D3,D4 to the electrical connector P26/3,4

(SPEED SENSOR 2) (Ref. ASM 49-61/01).

EFF: 247-253,

49-70-0 Config-3 May 01/07

TROUBLE SHOOTING MANUAL

- 1 If the fault continues:
 - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-003) and (Ref. AMM TASK 49-61-34-400-003).
- R **ON A/C 247-253,

Post SB 49-1062 For A/C 251-251, R Post SB 49-1069 For A/C 247-250,252-253,

A. If the APU GND SCANNING menu gives the maintenance message:

SPEED SENSOR (8060KM)

associated with Fault Code Number (FCN) 7 or 8

- do a check for damage/contamination of the electrical connector P26 of the SPEED SENSOR (8060KM)
- (1) If the electrical connector of the SPEED SENSORS 1 and/or 2 is damaged/contaminated:
 - do a repair/cleaning.
- (2) If the electrical connector are OK:
 - use a multimeter to do a resistance check of the electrical connector across pin 1 and pin 2 for the SPEED SENSOR 1 and pin 3 and pin 4 for the SPEED SENSOR 2.
 - (a) If the resistance is > 25 Ohms:
 - replace the SPEED SENSOR (8060KM) (Ref. AMM TASK 49-71-13-000-003) and (Ref. AMM TASK 49-71-13-400-003).
 - (b) If the resistance is OK:
 - do a check and repair of the aircraft wiring from the ECB (59KD) AB/E6,E7 to the electrical connector P26/1,2 (SPEED SENSOR 1) and

the ECB (59KD) AB/D3,D4 to the electrical connector P26/3,4 (SPEED SENSOR 2) (Ref. ASM 49-61/01).

- 1 If the fault continues:
 - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-003) and (Ref. AMM TASK 49-61-34-400-003).
- B. If the APU GND SCANNING menu gives the maintenance message:

SPEED SENSOR (8060KM)

associated with Fault Code Number (FCN) 9 or 10

R FFF: 247-253, 49-70-00 Page 204 Config-3 May 01/07

TROUBLE SHOOTING MANUAL

- do a check for damage/contamination of the electrical connector P26 of the SPEED SENSOR (8060KM)
- (1) If the electrical connector of the SPEED SENSOR (8060KM) is damaged/contaminated:
 - do a repair/cleaning.
- (2) If the electrical connector are OK:
 - use a multimeter to do a resistance check of the electrical connector P26 across pin 1/pin 2 and pin 5 for the SPEED SENSOR 1 and pin 3/pin 4 and pin 5 for the SPEED SENSOR 2.
 - (a) If the resistance is < 100 k0hms:
 - replace the SPEED SENSOR (8060KM) (Ref. AMM TASK 49-71-13-000-003) and (Ref. AMM TASK 49-71-13-400-003).
 - (b) If the resistance is OK:
 - do a check and repair of the aircraft wiring from the ECB (59KD) AB/E6,E7 to the electrical connector P26/1,2 (SPEED SENSOR 1) and the ECB (59KD) AB/D3,D4 to the electrical connector P26/3,4 (SPEED SENSOR 2) (Ref. ASM 49-61/01).
 - 1 If the fault continues:
 - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-003) and (Ref. AMM TASK 49-61-34-400-003).
- R **ON A/C 247-253,
 - C. Do the test given in para. 3.

EFF: 247-253,

49-70-00

Page 205 Config-3 May 01/07

TROUBLE SHOOTING MANUAL

TASK 49-70-00-810-817

EGT TCPLE Rake 1 Fault (131-9(A))

1. Possible Causes

- EGT1 SENSOR SHOWS OUT OF RANGE LOW
- EGT1 SENSOR DISAGREES WITH EGT2 SENSOR > 66C
- damage/contamination of the electrical connections
- EGT 1 THERMOCOUPLE
- aircraft wiring
- ECB (59KD)
- EGT 2 THERMOCOUPLE
- PRIMARY FUEL-NOZZLE and MANIFOLD
- SECONDARY FUEL-NOZZLE and MANIFOLD
- EGT TCPLE RAKE (8057KM1)
- EGT TCPLE RAKE (8057KM2)
- PRIMARY FUEL-NOZZLE and MANIFOLD (8020KM)
- SECONDARY FUEL-NOZZLE and MANIFOLD (8021KM)

2. Job Set-up Information

A. Fixtures, Tools, Test and Support Equipment

REFERENCE QTY DESIGNATION

No specific

multimeter

B. Referenced Information

DESCRIPTION

REFERENCE DESIGNATION

49-70-00-810-818	EGT TCPLE Rake 2 Fault (131-9(A))
AMM 49-00-00-860-008	APU Start by External Power (131-9(A))
AMM 49-31-41-000-003	Removal of the Primary and Secondary Fuel-Nozzle (131-9(A))
AMM 49-31-41-400-003	<pre>Installation of the Primary and Secondary Fuel- Nozzle (131-9(A))</pre>
AMM 49-31-42-000-004	Removal of the Primary and Secondary Fuel-Manifold (8020KM) and (8021KM) (131-9(A))
AMM 49-31-42-400-006	Installation of the Primary and Secondary Fuel-Manifold (8020KM) and (8021KM) (131-9(A))
AMM 49-61-34-000-003	Removal of the Electronic Control Box (ECB) (131-9(A))
AMM 49-61-34-400-003	Installation of the Electronic Control Box (ECB)

AMM 49-61-34-400-003 Installation of the Electronic Control Box (ECB) (131-9(A))

AMM 49-72-15-000-002 Removal of the Thermocouples (8057KM) (131-9(A))
AMM 49-72-15-400-003 Installation of the Thermocouples (8057KM) (131-9(A))

EFF: 247-253,

L9-70-00Page 206
Config-3 May 01/07

TROUBLE SHOOTING MANUAL

------REFERENCE DESIGNATION

ASM 49-61/01

3. Fault Confirmation

- A. Read-out of ECB Trouble-Shooting Data
 - (1) Put the APU MASTER SW to the ON position.
 - (2) Get access to the APU LAST LEG/PREVIOUS LEG report.
 - (3) Push the '>'-key adjacent to the related CFDS failure message.
 - (4) If the MCDU menu shows:
 EGT1 SENSOR SHOWS OUT OF RANGE LOW
 - do the Fault Confirmation that follows:
 - (a) Get access to the APU GND SCANNING menu.
 - (5) If the MCDU menu shows:
 EGT1 SENSOR DISAGREES WITH EGT2 SENSOR 66C
 - do the Fault Confirmation that follows:
 - (a) Start the APU and apply Electrical Load and Bleed Air (Ref. AMM TASK 49-00-00-860-008).
 - (b) Get access to the APU GND SCANNING menu.

4. Fault Isolation

A. If the APU GND SCANNING menu gives the maintenance message:

EGT TCPLE RAKE 1

associated with Fault Code Number (FCN) 42

- do a check for damage/contamination of the electrical connections of the EGT 1 THERMOCOUPLE.
- (1) If the electrical connection of the EGT 1 THERMOCOUPLE is damaged/contaminated:
 - do a repair/cleaning.

49-70-00

Page 207 Config-3 May 01/07

EFF:

247-253,

TROUBLE SHOOTING MANUAL

- (2) If the electrical connections of the EGT 1 THERMOCOUPLE is OK: - use a multimeter to do a resistance check across the terminals chromel and alumel of the EGT 1 THERMOCOUPLE.
 - (a) If the resistance is >20 Ohms:
 - replace the EGT 1 THERMOCOUPLE (Ref. AMM TASK 49-72-15-000-002)
 and (Ref. AMM TASK 49-72-15-400-003).
 - (b) If the resistance is < 20 0hms:
 - do a check of the aircraft wiring from the ECB (59KD) AB/A6,A7 to the EGT 1 THERMOCOUPLE terminals chromel/alumel (Ref. ASM 49-61/01).
 - 1 If the fault continues:
 - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-003) and (Ref. AMM TASK 49-61-34-400-003).
- B. If the APU GND SCANNING menu gives the maintenance message:

EGT TCPLE RAKE 1

associated with Fault Code Number (FCN) 43

- do a check for damage/contamination of the electrical connections of the EGT 1 THERMOCOUPLE.
- (1) If the electrical connection of the EGT 1 THERMOCOUPLE is damaged/contaminated:
 - do a repair/cleaning.
- (2) If the electrical connections of the EGT 1 THERMOCOUPLE is OK:
 - use a multimeter to do a resistance check across the terminals: chromel and alumel of the EGT 1 THERMOCOUPLE; required value < 20 Ohms

and

chromel and grounded EGT 1 mount flange; required value > 100 k0hms and

alumel and grounded EGT 1 mount flange; required value > 100 k0hms.

- (a) If the resistance values are out of the specified limits:
 - replace the EGT 1 THERMOCOUPLE (Ref. AMM TASK 49-72-15-000-002) and (Ref. AMM TASK 49-72-15-400-003).
- (b) If the resistance values are in the specified limits:
 - do a check of the aircraft wiring from the ECB (59KD) AB/A6,A7 to the EGT 1 THERMOCOUPLE terminals chromel/alumel (Ref. ASM 49-61/01).
 - 1 If the fault continues:
 - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-003) and (Ref. AMM TASK 49-61-34-400-003).

EFF: 247-253,

49-70-00

Page 208

TROUBLE SHOOTING MANUAL

- 2 If the fault continues:
 - do a check for of the EGT 2 THERMOCOUPLE (Ref. TASK 49-70-00-810-818)
- 3 If the fault continues:
 - replace the PRIMARY FUEL-NOZZLE and MANIFOLD ((Ref. AMM TASK 49-31-41-000-003)) and (Ref. AMM TASK 49-31-41-400-003)) and the SECONDARY FUEL-NOZZLE and MANIFOLD ((Ref. AMM TASK 49-31-42-000-004)) and (Ref. AMM TASK 49-31-42-400-006)).
- R **ON A/C 247-253,

Post SB 49-1062 For A/C 251-251, R Post SB 49-1069 For A/C 247-250,252-253,

A. If the APU GND SCANNING menu gives the maintenance message:

EGT TCPLE RAKE (8057KM1)

associated with Fault Code Number (FCN) 42

- do a check for damage/contamination of the electrical connections of the EGT TCPLE RAKE (8057KM1)
- (1) If the electrical connection of the EGT TCPLE RAKE (8057KM1) is damaged/contaminated:
 - do a repair/cleaning.
- (2) If the electrical connections of the EGT TCPLE RAKE (8057KM1) are OK: - use a multimeter to do a resistance check across the terminals chromel and alumel of the EGT TCPLE RAKE (8057KM1).
 - (a) If the resistance is >20 Ohms:
 - replace the EGT TCPLE RAKE (8057KM1) (Ref. AMM TASK 49-72-15-000-002) and (Ref. AMM TASK 49-72-15-400-003).
 - (b) If the resistance is < 20 0hms:
 - do a check of the aircraft wiring from the ECB (59KD) AB/A6,A7 to the EGT TCPLE RAKE (8057KM1) terminals chromel/alumel (Ref. ASM 49-61/01).
 - 1 If the fault continues:
 - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-003) and (Ref. AMM TASK 49-61-34-400-003).
- B. If the APU GND SCANNING menu gives the maintenance message:

EGT TCPLE RAKE (8057KM1)

associated with Fault Code Number (FCN) 43

EFF: 247-253, SROS 49-70-00

Page 209

TROUBLE SHOOTING MANUAL

- do a check for damage/contamination of the electrical connections of the EGT TCPLE RAKE (8057KM1).
- (1) If the electrical connection of the EGT TCPLE RAKE (8057KM1) is damaged/contaminated:
 - do a repair/cleaning.
- (2) If the electrical connections of the EGT TCPLE RAKE (8057KM1) is OK:
 - use a multimeter to do a resistance check across the terminals: chromel and alumel of the EGT 1 THERMOCOUPLE; required value < 20 0hms

and

chromel and grounded EGT 1 mount flange; required value > 100 k0hms and

- alumel and grounded EGT 1 mount flange; required value > 100 k0hms.
- (a) If the resistance values are out of the specified limits:
 - replace the EGT TCPLE RAKE (8057KM1) (Ref. AMM TASK 49-72-15-000-002) and (Ref. AMM TASK 49-72-15-400-003).
- (b) If the resistance values are in the specified limits:
 - do a check of the aircraft wiring from the ECB (59KD) AB/A6,A7 to the EGT TCPLE RAKE (8057KM1) terminals chromel/alumel (Ref. ASM 49-61/01).
 - 1 If the fault continues:
 - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-003) and (Ref. AMM TASK 49-61-34-400-003).
 - 2 If the fault continues:
 - do a check for of the EGT TCPLE RAKE (8057KM2) (Ref. TASK 49-70-00-810-818)
 - 3 If the fault continues:
 - replace the PRIMARY FUEL-NOZZLE and MANIFOLD (8020KM) ((Ref. AMM TASK 49-31-41-000-003) and (Ref. AMM TASK 49-31-41-400-003)) and the SECONDARY FUEL-NOZZLE and MANIFOLD (8021KM) ((Ref. AMM TASK 49-31-42-000-004) and (Ref. AMM TASK 49-31-42-400-006)).
- R **ON A/C 247-253,
 - C. Do the test given in para. 3.

EFF: 247-253,

SROS

j

49-70-00

Page 210

TROUBLE SHOOTING MANUAL

TASK 49-70-00-810-818

EGT TCPLE Rake 2 Fault (131-9(A))

1. Possible Causes

- EGT2 SENSOR SHOWS OUT OF RANGE LOW
- EGT2 SENSOR DISAGREES WITH EGT1 SENSOR > 66C
- damage/contamination of the electrical connections
- EGT 2 THERMOCOUPLE
- aircraft wiring
- ECB (59KD)
- EGT 1 THERMOCOUPLE
- PRIMARY FUEL-NOZZLE and MANIFOLD
- SECONDARY FUEL-NOZZLE and MANIFOLD
- EGT TCPLE RAKE (8057KM2)
- PRIMARY FUEL-NOZZLE and MANIFOLD (8020KM)
- SECONDARY FUEL-NOZZLE and MANIFOLD (8021KM)

2. Job Set-up Information

A. Fixtures, Tools, Test and Support Equipment

REFERENCE

QTY DESIGNATION

No specific

multimeter

B. Referenced Information

REFE	RENCE	DESIGNATION
49-7	0-00-810-817	EGT TCPLE Rake 1 Fault (131-9(A))
AMM	49-00-00-860-008	APU Start by External Power (131-9(A))
AMM	49-31-41-000-003	Removal of the Primary and Secondary Fuel-Nozzle (131-9(A))
AMM	49-31-41-400-003	<pre>Installation of the Primary and Secondary Fuel- Nozzle (131-9(A))</pre>
AMM	49-31-42-000-004	Removal of the Primary and Secondary Fuel-Manifold (8020KM) and (8021KM) (131-9(A))
AMM	49-31-42-400-006	<pre>Installation of the Primary and Secondary Fuel-Manifold (8020KM) and (8021KM) (131-9(A))</pre>
AMM	49-61-34-000-003	Removal of the Electronic Control Box (ECB) (131-9(A))
AMM	49-61-34-400-003	<pre>Installation of the Electronic Control Box (ECB) (131-9(A))</pre>
AMM	49-72-15-000-002	Removal of the Thermocouples (8057KM) (131-9(A))
AMM ASM		Installation of the Thermocouples (8057KM) (131-9(A))

EFF: 247-253,

49-70-00 Page 211 Config-3 May 01/07

TROUBLE SHOOTING MANUAL

3. Fault Confirmation

- A. Read-out of ECB Trouble-Shooting Data
 - (1) Put the APU MASTER SW to the ON position.
 - (2) Get access to the APU LAST LEG/PREVIOUS LEG report.
 - (3) Push the '>'-key adjacent to the related CFDS failure message.
 - (4) If the MCDU menu shows:
 EGT2 SENSOR SHOWS OUT OF RANGE LOW
 - do the Fault Confirmation that follows:
 - (a) Get access to the APU GND SCANNING menu.
 - (5) If the MCDU menu shows:
 EGT2 SENSOR DISAGREES WITH EGT1 SENSOR 66C
 - do the Fault Confirmation that follows:
 - (a) Start the APU and apply Electrical Load and Bleed Air (Ref. AMM TASK 49-00-00-860-008).
 - (b) Get access to the APU GND SCANNING menu.

4. Fault Isolation

A. If the APU GND SCANNING menu gives the maintenance message:

EGT TCPLE RAKE 2

associated with Fault Code Number (FCN) 46

- do a check for damage/contamination of the electrical connections of the EGT 2 THERMOCOUPLE.
- (1) If the electrical connection of the EGT 2 THERMOCOUPLE is damaged/contaminated:
 - do a repair/cleaning.
- (2) If the electrical connections of the EGT 2 THERMOCOUPLE is OK: - use a multimeter to do a resistance check across the terminals chromel and alumel of the EGT 2 THERMOCOUPLE.
 - (a) If the resistance is >20 Ohms:
 - replace the EGT 2 THERMOCOUPLE (Ref. AMM TASK 49-72-15-000-002) and (Ref. AMM TASK 49-72-15-400-003).

↑ 49-70-00

Config-3 May 01/07

EFF: 247-253,

TROUBLE SHOOTING MANUAL

- (b) If the resistance is < 20 Ohms:
 - do a check and repair of the aircraft wiring from the ECB (59KD) AB/A8,A9 to the EGT 2 THERMOCOUPLE terminals chromel/alumel (Ref. ASM 49-61/01).
 - 1 If the fault continues:
 - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-003) and (Ref. AMM TASK 49-61-34-400-003).
- B. If the APU GND SCANNING menu gives the maintenance message:

EGT TCPLE RAKE 2

associated with Fault Code Number (FCN) 47

- do a check for damage/contamination of the electrical connections of the EGT 2 THERMOCOUPLE.
- (1) If the electrical connection of the EGT 2 THERMOCOUPLE is damaged/contaminated:
 - do a repair/cleaning.
- (2) If the electrical connections of the EGT 2 THERMOCOUPLE is OK:
 - use a multimeter to do a resistance check across the terminals: chromel and alumel of the EGT 2 THERMOCOUPLE; required value < 20 Ohms, and

chromel and grounded EGT 2 mount flange; required value > $100 \, \text{kOhms}$,

and

alumel and grounded EGT 2 mount flange; required value > 100 k0hms.

- (a) If the resistance values are out of the specified limits:replace the EGT 2 THERMOCOUPLE (Ref. AMM TASK 49-72-15-000-002)
 - and (Ref. AMM TASK 49-72-15-400-003).
- (b) If the resistance values are in the specified limits: - do a check and repair of the aircraft wiring from the ECB (59KD) AB/A8,A9 to the EGT 2 THERMOCOUPLE terminals chromel/alumel (Ref. ASM 49-61/01).
 - 1 If the fault continues:
 - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-003) and (Ref. AMM TASK 49-61-34-400-003).
 - 2 If the fault continues:
 - do a check for of the EGT 1 THERMOCOUPLE (Ref. TASK 49-70-00-810-817)
 - 3 If the fault continues:
 - replace the PRIMARY FUEL-NOZZLE and MANIFOLD ((Ref. AMM TASK 49-31-41-000-003) and (Ref. AMM TASK 49-31-41-400-003)) and

49-70-00

Page 213

Config-3 May 01/07

EFF: 247-253,

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TROUBLE SHOOTING MANUAL

the SECONDARY FUEL-NOZZLE and MANIFOLD ((Ref. AMM TASK 49-31-42-000-004) and (Ref. AMM TASK 49-31-42-400-006)).

R **ON A/C 247-253,

Post SB 49-1062 For A/C 251-251, R Post SB 49-1069 For A/C 247-250,252-253,

A. If the APU GND SCANNING menu gives the maintenance message:

EGT TCPLE RAKE (8057KM2)

associated with Fault Code Number (FCN) 46

- do a check for damage/contamination of the electrical connections of the EGT TCPLE RAKE (8057KM2).
- (1) If the electrical connection of the EGT TCPLE RAKE (8057KM2) is damaged/contaminated:
 - do a repair/cleaning.
- (2) If the electrical connections of the EGT TCPLE RAKE (8057KM2) is OK:
 - use a multimeter to do a resistance check across the terminals chromel and alumel of the EGT TCPLE RAKE (8057KM2).
 - (a) If the resistance is >20 Ohms:
 - replace the EGT TCPLE RAKE (8057KM2) (Ref. AMM TASK 49-72-15-000-002) and (Ref. AMM TASK 49-72-15-400-003).
 - (b) If the resistance is < 20 0hms:
 - do a check and repair of the aircraft wiring from the ECB (59KD) AB/A8,A9 to the EGT TCPLE RAKE (8057KM2) terminals chromel/alumel (Ref. ASM 49-61/01).
 - 1 If the fault continues:
 - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-003) and (Ref. AMM TASK 49-61-34-400-003).
- B. If the APU GND SCANNING menu gives the maintenance message:

EGT TCPLE RAKE (8057KM2)

associated with Fault Code Number (FCN) 47

- do a check for damage/contamination of the electrical connections of the EGT TCPLE RAKE (8057KM2).
- (1) If the electrical connection of the EGT TCPLE RAKE (8057KM2) is damaged/contaminated:
 - do a repair/cleaning.

EFF: 247-253,

49-70-00

Page 214

TROUBLE SHOOTING MANUAL

- (2) If the electrical connections of the EGT TCPLE RAKE (8057KM2) is OK:
 - use a multimeter to do a resistance check across the terminals: chromel and alumel of the EGT TCPLE RAKE (8057KM2); required value < 20 0hms,

and

chromel and grounded EGT 2 mount flange; required value $> 100 \, \mathrm{kOhms}$,

and

alumel and grounded EGT 2 mount flange; required value > 100 k0hms.

- (a) If the resistance values are out of the specified limits:
 - replace the EGT TCPLE RAKE (8057KM2) (Ref. AMM TASK 49-72-15-000-002) and (Ref. AMM TASK 49-72-15-400-003).
- (b) If the resistance values are in the specified limits:
 - do a check and repair of the aircraft wiring from the ECB (59KD) AB/A8,A9 to the EGT TCPLE RAKE (8057KM2) terminals chromel/alumel (Ref. ASM 49-61/01).
 - 1 If the fault continues:
 - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-003) and (Ref. AMM TASK 49-61-34-400-003).
 - 2 If the fault continues:
 - do a check for of the EGT TCPLE RAKE (8057KM2) (Ref. TASK 49-70-00-810-817)
 - 3 If the fault continues:
 - replace the PRIMARY FUEL-NOZZLE and MANIFOLD (8020KM) ((Ref. AMM TASK 49-31-41-000-003) and (Ref. AMM TASK 49-31-41-400-003)) and the SECONDARY FUEL-NOZZLE and MANIFOLD (8021KM) ((Ref. AMM TASK 49-31-42-000-004) and (Ref. AMM TASK 49-31-42-400-006)).
- R **ON A/C 247-253,
 - C. Do the test given in para. 3.

EFF: 247-253,

49-70-00

Page 215

SROS

TROUBLE SHOOTING MANUAL

TASK 49-70-00-810-821

Data Memory Module P20 Fault (131-9(A))

1. Possible Causes

- DATA MEMORY MODULE SHOWS WRAP TEST FAILURE
- DATA MEMORY MODULE SHOWS READ FAILURE
- DATA MEMORY MODULE SHOWS CHECKWORD FAILURE
- DATA MEMORY MODULE SHOWS APU S/N FAILURE
- DATA MEMORY MODULE SHOWS WRITE FAILURE
- damage/contamination of the electrical connector P20
- aircraft wiring
- DATA MEMORY MODULE (DMM) (P20)
- ECB (59KD)
- DATA MEMORY MODULE (DMM)
- DATA MEMORY MODULE (DMM) (8060KM)
- DATA MEMORY MODULE (DMM) (8062KM)

2. Job Set-up Information

A. Fixtures, Tools, Test and Support Equipment

______ REFERENCE QTY DESIGNATION

No specific jumper

B. Referenced Information

REFERENCE DESIGNATION

AMM	49-00-00-860-008	APU Start by External Power (131-9(A))
AMM	49-00-00-860-009	APU Shutdown by External Power (131-9(A))
AMM	49-61-34-000-003	Removal of the Electronic Control Box (ECB) (131-9(A))
AMM	49-61-34-400-003	<pre>Installation of the Electronic Control Box (ECB) (131-9(A))</pre>
AMM	49-73-32-000-001	Removal of the Data Memory Module (8062KM) (131-9(A))
AMM	49-73-32-400-001	Installation of the Data Memory Module (8062KM) (131-9(A))

R AMM 49-73-32-600-002 Re-start of the DMM (131-9(A))

ASM 49-61/01

EFF: 247-253,

49-70-00

Page 216 Config-3 Aug 01/07

TROUBLE SHOOTING MANUAL

3. Fault Confirmation

- A. Read-out of ECB Trouble-Shooting Data
 - (1) Get access to the APU LAST LEG/PREVIOUS LEG report.
 - (2) Push the '>'-key adjacent to the related CFDS failure message.
 - (3) If the MCDU menu shows:

 DATA MEMORY MODULE SHOWS WRAP TEST FAILURE
 - do the Fault Confirmation that follows:
 - (a) Set the APU MASTER SW to the OFF position and wait 35 seconds, minimum.
 - (b) Set the APU MASTER SW to the ON position.
 - (c) Get access to the APU LAST LEG/PREVIOUS LEG report.
 - (d) Push the '>'-key adjacent to TEST on the MCDU.
 - (4) If the MCDU menu shows:
 DATA MEMORY MODULE SHOWS READ FAILURE

DATA MEMORY MODULE SHOWS CHECKWORD FAILURE

DATA MEMORY MODULE SHOWS APU S/N FAILURE

- do the Fault Confirmation that follows:
- (a) Set the APU MASTER SW to the OFF position and wait 35 seconds, minimum.
- (b) Set the APU MASTER SW to the ON position.
- (c) Get access to the APU GND SCANNING menu.
- (5) If the MCDU menu shows:

 DATA MEMORY MODULE SHOWS WRITE FAILURE
 - do the Fault Confirmation that follows:
 - (a) Start the APU (Ref. AMM TASK 49-00-00-860-008).
 - (b) Get access to the APU GND SCANNING menu.
 - (c) Shut down the APU (Ref. AMM TASK 49-00-00-860-009).
 - (d) Wait until the ECB (59KD) power-down, speed < 7% plus 30 seconds.
 - (e) Set the APU MASTER SW to the ON position.

49-70-00

Page 217

Config-3 May 01/07

TROUBLE SHOOTING MANUAL

(f) Get access to the APU GND SCANNING menu.

4. Fault Isolation

A. If the APU GND SCANNING menu gives the maintenance message:

DATA MEMORY MODULE P20

associated with Fault Code Number (FCN) 240

- do a check for damage/contamination of the electrical connector P20 of the DATA MEMORY MODULE (DMM)
- (1) If the electrical connector P20 of the DMM is damaged/contaminated:do a repair/cleaning.
- (2) If the electrical connector P20 of the DMM is OK:
 - disconnect the electrical connector P2O at the DMM/APU interface.
 - do a check and repair of the aircraft wiring from the ECB (59KD) AB/F11,F7 to structural ground; required value > 100 k0hms
 and

the ECB (59KD) AB/F11 to AB/F7; required value > 100 k0hms, (Ref. ASM 49-61/01).

- put a jumper across the sockets 8 and 9 of the electrical connector
 P20 of the DMM on the APU harness side.
- do a check and repair of the aircraft wiring from the ECB (59KD) AB/F11 to AB F7; required value < 10 Ohms and

the ECB (59KD) AB/J2,J3 to structural ground; required value > 100 k0hms

and

the ECB (59KD) AB/J2 to AB/J3; required value > 100 kOhms, (Ref. ASM 49-61/01).

- put a jumper across the sockets 10 and 11 of the electrical connector P20 of the DMM on the APU harness side.
- do a check and repair of the aircraft wiring from the ECB (59KD) AB/J2 to AB/J3; required value < 10 0hms and

the ECB (59KD) AB/C6 to structural ground; required value > 100 kOhms

and

the ECB (59KD) AB/C6 to AB/F11; required value > 100 kOhms, (Ref. ASM 49-61/01).

- put a jumper across the sockets 6 and 7 of the electrical connector
 P20 of the DMM on the APU harness side.
- do a check and repair of the aircraft wiring from the ECB (59KD) AB/C6 to AB/F11; required value < 10 Ohms, (Ref. ASM 49-61/01).
- (a) If the resistance values are out of the specified limits:
 - replace DATA MEMORY MODULE (DMM) (P20) (Ref. AMM TASK 49-73-32-000-001) and (Ref. AMM TASK 49-73-32-400-001).

EFF: 247-253,

49-70-00

Page 218 Config-3 May 01/07

TROUBLE SHOOTING MANUAL

- (b) If the resistance values are in the specified limits: - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-003) and (Ref. AMM TASK 49-61-34-400-003).
- B. If the APU GND SCANNING menu gives the maintenance message:

DATA MEMORY MODULE P20

associated with Fault Code Number (FCN) 241 or 244

- do a check for damage/contamination of the electrical connector P20 of the DATA MEMORY MODULE (DMM)
- (1) If the electrical connector P20 of the DMM is damaged/contaminated:do a repair/cleaning.
- (2) If the electrical connector P20 of the DMM is OK:
 - disconnect the electrical connector P20 at the DMM/APU interface.
 - do a check and repair of the aircraft wiring from the ECB (59KD) AB/F11,F7 to structural ground; required value > 100 k0hms
 and

the ECB (59KD) AB/F11 to AB/F7; required value > 100 k0hms, (Ref. ASM 49-61/01).

- put a jumper across the sockets 8 and 9 of the electrical connector
 P20 of the DMM on the APU harness side.
- do a check and repair of the aircraft wiring from the ECB (59KD) AB/F11 to AB F7; required value < 10 Ohms and

the ECB (59KD) AB/J2,J3 to structural ground; required value > 100 k0hms

and

the ECB (59KD) AB/J2 to AB/J3; required value > 100 kOhms, (Ref. ASM 49-61/01).

- put a jumper across the sockets 10 and 11 of the electrical connector P20 of the DMM on the APU harness side.
- do a check and repair of the aircraft wiring from the ECB (59KD) AB/J2 to AB/J3; required value < 10 0hms and

the ECB (59KD) AB/C6 to structural ground; required value > 100 kOhms

and

the ECB (59KD) AB/C6 to AB/F11; required value > 100 kOhms, (Ref. ASM 49-61/01).

- put a jumper across the sockets 6 and 7 of the electrical connector
 P20 of the DMM on the APU harness side.
- do a check and repair of the aircraft wiring from the ECB (59KD) AB/C6 to AB/F11; required value < 10 Ohms, (Ref. ASM 49-61/01).
- (a) If the resistance values are out of the specified limits:
 - replace DATA MEMORY MODULE (DMM) (P20) (Ref. AMM TASK 49-73-32-000-001) and (Ref. AMM TASK 49-73-32-400-001).

EFF: 247-253,

49-70-00

Page 219

TROUBLE SHOOTING MANUAL

- (b) If the resistance values are in the specified limits: - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-003) and (Ref. AMM TASK 49-61-34-400-003).
- C. If the APU GND SCANNING menu gives the maintenance message:

DATA MEMORY MODULE P20

associated with Fault Code Number (FCN) 242 or 243

- do a check for damage/contamination of the electrical connector P20 of the DATA MEMORY MODULE (DMM)
- (1) If the electrical connector P20 of the DMM is damaged/contaminated:do a repair/cleaning.
- (2) If the electrical connector P20 of the DMM is OK:
 - replace DATA MEMORY MODULE (DMM) (Ref. AMM TASK 49-73-32-000-001)
 and (Ref. AMM TASK 49-73-32-400-001).
 - (a) If the fault continues:
 - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-003) and (Ref. AMM TASK 49-61-34-400-003).

**ON A/C 247-253,

Post SB 49-1062 For A/C 251-251, Post SB 49-1069 For A/C 247-250,252-253,

A. If the APU GND SCANNING menu gives the maintenance message:

DATA MEMORY MODULE (8062KM)

associated with Fault Code Number (FCN) 240

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- do a check for damage/contamination of the electrical connector P20 of the DATA MEMORY MODULE (DMM)
- (1) If the electrical connector P20 of the DMM is damaged/contaminated: - do a repair/cleaning.
- (2) If the electrical connector P20 of the DMM is OK:
 - disconnect the electrical connector P20 at the DMM/APU interface.
 - do a check and repair of the aircraft wiring from the ECB (59KD) AB/F11,F7 to structural ground; required value > 100 k0hms

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the ECB (59KD) AB/F11 to AB/F7; required value > 100 kOhms, (Ref. ASM 49-61/01).

- put a jumper across the sockets 8 and 9 of the electrical connector
 P20 of the DMM on the APU harness side.
- do a check and repair of the aircraft wiring from

EFF: 247-253,

49-70-00

Page 220

Config-3 Aug 01/07

TROUBLE SHOOTING MANUAL

the ECB (59KD) AB/F11 to AB F7; required value < 10 Ohms and

the ECB (59KD) AB/J2, J3 to structural ground; required value > 100 k0hms

and

the ECB (59KD) AB/J2 to AB/J3; required value > 100 kOhms, (Ref. ASM 49-61/01).

- put a jumper across the sockets 10 and 11 of the electrical connector P20 of the DMM on the APU harness side.
- do a check and repair of the aircraft wiring from the ECB (59KD) AB/J2 to AB/J3; required value < 10 Ohms and

the ECB (59KD) AB/C6 to structural ground; required value > 100 $\ensuremath{\text{k0hms}}$

and

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the ECB (59KD) AB/C6 to AB/F11; required value > 100 k0hms, (Ref. ASM 49-61/01).

- put a jumper across the sockets 6 and 7 of the electrical connector
 P20 of the DMM on the APU harness side.
- If the fault continues:
 - . Re-start the DMM (Ref. AMM TASK 49-73-32-600-002).
- If the fault continues:
 - . Do a check and repair the aircraft wiring from the ECB (59KD) AB/C6 to AB/F11; required value < 10 Ohms, (Ref. ASM 49-61/01).
- (a) If the resistance values are out of the specified limits:
 - replace DATA MEMORY MODULE (DMM) (8060KM) (Ref. AMM TASK 49-73-32-000-001) and (Ref. AMM TASK 49-73-32-400-001).
- (b) If the resistance values are in the specified limits:
 - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-003) and (Ref. AMM TASK 49-61-34-400-003).
- B. If the APU GND SCANNING menu gives the maintenance message:

DATA MEMORY MODULE (8062KM)

associated with Fault Code Number (FCN) 241 or 244

- do a check for damage/contamination of the electrical connector P20 of the DATA MEMORY MODULE (DMM)
- (1) If the electrical connector P20 of the DMM is damaged/contaminated:

 do a repair/cleaning.
- (2) If the electrical connector P20 of the DMM is OK:
 - disconnect the electrical connector P20 at the DMM/APU interface.
 - do a check and repair of the aircraft wiring from the ECB (59KD) AB/F11,F7 to structural ground; required value > 100 k0hms and

the ECB (59KD) AB/F11 to AB/F7; required value > 100 kOhms,

EFF: 247-253,

49-70-00

Page 221 Config-3 Aug 01/07

TROUBLE SHOOTING MANUAL

(Ref. ASM 49-61/01).

- put a jumper across the sockets 8 and 9 of the electrical connector
 P20 of the DMM on the APU harness side.
- do a check and repair of the aircraft wiring from the ECB (59KD) AB/F11 to AB F7; required value < 10 Ohms and

the ECB (59KD) AB/J2,J3 to structural ground; required value > 100 k0hms

and

the ECB (59KD) AB/J2 to AB/J3; required value > 100 kOhms, (Ref. ASM 49-61/01).

- put a jumper across the sockets 10 and 11 of the electrical connector P20 of the DMM on the APU harness side.
- do a check and repair of the aircraft wiring from the ECB (59KD) AB/J2 to AB/J3; required value < 10 Ohms and

the ECB (59KD) AB/C6 to structural ground; required value > 100 kOhms

and

the ECB (59KD) AB/C6 to AB/F11; required value > 100 k0hms, (Ref. ASM 49-61/01).

- put a jumper across the sockets 6 and 7 of the electrical connector
 P20 of the DMM on the APU harness side.
- If the fault continues:
 - Re-start the DMM (Ref. AMM TASK 49-73-32-600-002).
- If the fault continues:
 - do a check and repair of the aircraft wiring from the ECB (59KD) AB/C6 to AB/F11; required value < 10 Ohms, (Ref. ASM 49-61/01).</p>
- (a) If the resistance values are out of the specified limits:
 - replace DATA MEMORY MODULE (DMM) (8062KM) (Ref. AMM TASK 49-73-32-000-001) and (Ref. AMM TASK 49-73-32-400-001).
- (b) If the resistance values are in the specified limits:
 - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-003) and (Ref. AMM TASK 49-61-34-400-003).
- C. If the APU GND SCANNING menu gives the maintenance message:

DATA MEMORY MODULE (8062KM)

associated with Fault Code Number (FCN) 242 or 243

- do a check for damage/contamination of the electrical connector P20 of the DATA MEMORY MODULE (DMM)
- (1) If the electrical connector P20 of the DMM is damaged/contaminated:do a repair/cleaning.

EFF: 247-253,

49-70-00

Page 222

Config-3 Aug 01/07

SROS

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TROUBLE SHOOTING MANUAL

R - Re-start the DMM (Ref. AMM TASK 49-73-32-600-002). R - If the fault continues: - replace the DATA MEMORY MODULE (DMM) (8062KM) (Ref. AMM TASK 49-R R

(2) If the electrical connector P20 of the DMM is OK:

- 73-32-000-001) and (Ref. AMM TASK 49-73-32-400-001).
 - (a) If the fault continues: - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-003) and (Ref. AMM TASK 49-61-34-400-003).

**ON A/C 247-253,

D. Do the test given in para. 3.

EFF: 247-253, 49-70-00

Page 223 Config-3 Aug 01/07

TROUBLE SHOOTING MANUAL

INDICATING - TASK SUPPORTING DATA

1. Fault Code Number (FCN) Table (APS 3200) in the APU Task Supporting Data (Ref. TSM 490000, P. Block 301).

EFF: 201-225, 227-227, 229-231, 233-250, 252-299, 426-499, 503-549, 551-599, 701-749,

49-70-00

Page 301 May 01/08

TROUBLE SHOOTING MANUAL

OIL ((APS 3200)) - FAULT ISOLATION PROCEDURES

TASK 49-90-00-810-804

De-Oiling Solenoid-Valve Fault (APS 3200)

- 1. Possible Causes
 - DE-OILING SOLENOID VALVE (8083KM)
 - wiring
 - ECB (59KD)
- 2. Job Set-up Information
 - A. Referenced Information

REFERENCE		DESIGNATION	
AMM	49-00-00-710-005	Self-Test of the ECB (APS 3200)	
AMM	49-61-34-000-002	Removal of the Electronic Control Box (ECB) (59KD) (APS 3200)	
AMM	49-61-34-400-002	Installation of the Electronic Control Box (ECB) (59KD) (APS 3200)	
AMM	49-91-49-000-002	Removal of the De-oiling Solenoid Valve (8083KM) (APS 3200)	
AMM	49-91-49-400-002	Installation of the De-oiling Solenoid Valve (8083KM) (APS 3200)	
ASM	49-61/02		

- 3. Fault Confirmation
 - A. Do the self-test of the ECB (59KD) (Ref. AMM TASK 49-00-00-710-005).
- 4. Fault Isolation
- R **ON A/C 201-225, 227-227, 229-231, 233-250, 252-253, 276-299, 426-450, R 457-499, 503-549, 551-599, 701-749,
 - A. If the test gives the maintenance message:

DE-OILING SOL P15:

- replace the DE-OILING SOLENOID VALVE (8083KM) (Ref. AMM TASK 49-91-49-000-002) and (Ref. AMM TASK 49-91-49-400-002).

NOTE: (Only valid for POST APIC Config. VSB450001-49-62)

If the messages DE-OILING SOL P15 and ECB (59KD) are displayed, do a check of the electrical connections of the harness adapter. If the electrical connections are correct replace the harness adapter.

EFF: 201-225, 227-227, 229-231, 233-250, 252-299, 426-499, 503-549, 551-599, 701-749,

49-90-00 Page 1

Page 201 Config-1 May 01/08

TROUBLE SHOOTING MANUAL

- (1) If the fault continues after the subsequent flight:
 - do a check and repair the wiring from the ECB (59KD) AB/C6, J4 to the DE-OILING SOLENOID VALVE P15/1, 2 (Ref. ASM 49-61/02).
- (2) If the fault continues after the subsequent flight:
 - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-002) and (Ref. AMM TASK 49-61-34-400-002).
- B. Do the self test of the ECB (59KD) (Ref. AMM TASK 49-00-00-710-005).

<u>NOTE</u>: After the subsequent flight, make sure that the fault does not continue.

R **ON A/C 201-225, 227-227, 229-231, 233-244, 247-250, 252-299, 426-456, R 476-499, 503-549, 551-599, 701-749, R Post SB 49-1061 For A/C 201-225,227-227,229-231,233-244,247-250,252-253, R 276-299,426-450,476-499,503-549,551-599,701-749,

A. If the APU Class 3 Faults Page gives the maintenance message:

DE-OILING SOL (8083KM):

Fault Code Number: 016 or 084

- replace the DE-OILING SOLENOID VALVE (8083KM) (Ref. AMM TASK 49-91-49-000-002) and (Ref. AMM TASK 49-91-49-400-002).
- (1) If the fault continues:
 - do a check and repair the wiring from the ECB (59KD) AB/C6, J4 to the DE-OILING SOLENOID VALVE (8083KM) P15/1, 2 (Ref. ASM 49-61/02).
 - (a) If the fault continues:
 - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-002) and (Ref. AMM TASK 49-61-34-400-002).
- B. Do the test given in para. 3.

EFF: 201-225, 227-227, 229-231, 233-250, 252-299, 426-499, 503-549, 551-599, 701-749,

49-90-00 Page 202 Config-1 May 01/08

TROUBLE SHOOTING MANUAL

R **ON A/C 201-225, 227-227, 229-231, 233-250, 252-299, 426-499, 503-549, R 551-599, 701-749,

TASK 49-90-00-810-805

Oil-Sump Temperature-Sensor Fault (APS 3200)

- 1. Possible Causes
 - OIL-SUMP TEMPERATURE SENSOR (8084KM)
 - wiring
 - ECB (59KD)
- 2. Job Set-up Information
 - A. Referenced Information

REFE	RENCE	DESIGNATION
AMM	49-00-00-710-005	Self-Test of the ECB (APS 3200)
AMM	49-61-34-000-002	Removal of the Electronic Control Box (ECB) (59KD) (APS 3200)
AMM	49-61-34-400-002	Installation of the Electronic Control Box (ECB) (59KD) (APS 3200)
AMM	49-91-51-000-002	Removal of the Oil-Sump Temperature Sensor (8084KM) (APS 3200)
AMM	49-91-51-400-002	<pre>Installation of the Oil-Sump Temperature Sensor (8084KM) (APS 3200)</pre>
ASM	49-61/02	

- 3. Fault Confirmation
 - A. Do the self-test of the ECB (59KD) (Ref. AMM TASK 49-00-00-710-005).
- 4. Fault Isolation
- R **ON A/C 201-225, 227-227, 229-231, 233-250, 252-253, 276-299, 426-450, R 457-499, 503-549, 551-599, 701-749,
 - A. If the test gives the maintenance message

OIL TEMP SNSR P25:

- replace the OIL-SUMP TEMPERATURE SENSOR (8084KM) (Ref. AMM TASK 49-91-51-000-002) and (Ref. AMM TASK 49-91-51-400-002).
- (1) If the fault continues after the subsequent flight:

 do a check and repair the wiring from the ECB (59KD) AB/C2, D2 to the OIL-SUMP TEMPERATURE SENSOR P25/1, 2 (Ref. ASM 49-61/02).

EFF: 201-225, 227-227, 229-231, 233-250, 252-299, 426-499, 503-549, 551-599, 701-749,

49-90-00

Page 203

TROUBLE SHOOTING MANUAL

- B. Do the self-test of the ECB (59KD) (Ref. AMM TASK 49-00-00-710-005).

<u>NOTE</u>: After the subsequent flight, make sure that the fault does not continue.

R **ON A/C 201-225, 227-227, 229-231, 233-244, 247-250, 252-299, 426-456, R 476-499, 503-549, 551-599, 701-749, R Post SB 49-1061 For A/C 201-225,227-227,229-231,233-244,247-250,252-253, R 276-299,426-450,476-499,503-549,551-599,701-749,

A. If the APU Class 3 Faults Page gives the maintenance message:

OIL TEMP SNSR (8084KM):

Fault Code Number: 012 or 013

- replace the OIL-SUMP TEMPERATURE SENSOR (8084KM) (Ref. AMM TASK 49-91-51-000-002) and (Ref. AMM TASK 49-91-51-400-002).
- (1) If the fault continues:
 - do a check and repair the wiring from the ECB (59KD) AB/C2, D2 to the OIL-SUMP TEMPERATURE SENSOR (8084KM) P25/1, 2 (Ref. ASM 49-61/02).
 - (a) If the fault continues:
 - replace the ECB (59KD) (Ref. AMM TASK 49-61-34-000-002) and (Ref. AMM TASK 49-61-34-400-002).
- B. Do the test given in para. 3.

EFF: 201-225, 227-227, 229-231, 233-250, 252-299, 426-499, 503-549, 551-599, 701-749,

49-90-00 Page 204 Config-1 May 01/08

TROUBLE SHOOTING MANUAL

R **ON A/C 247-253,

R Post SB 49-1069001 For A/C 247-250,252-253,

OIL ((131-9(A))) - FAULT ISOLATION PROCEDURES

TASK 49-90-00-810-812

Lube Pump Filter SW P9/GEN SCAV Filter SW P5 Fault (131-9(A))

- 1. Possible Causes
 - OIL FILTER SWITCH SHOWS ELECTRICAL GROUND
 - damage/contamination of the electrical connector P9 and P5
- 2. Job Set-up Information
 - A. Referenced Information

REFE	RENCE	DESIGNATION
AMM	49-00-00-860-008	APU Start by External Power (131-9(A))
AMM	49-00-00-860-009	APU Shutdown by External Power (131-9(A))
AMM	49-11-11-000-004	Removal of the Power Plant (APU) (131-9(A))
AMM	49-11-11-400-004	Installation of the Power Plant (APU) (131-9(A))
AMM	49-61-34-000-003	Removal of the Electronic Control Box (ECB) (131-9(A))
AMM	49-61-34-400-003	<pre>Installation of the Electronic Control Box (ECB) (131-9(A))</pre>
AMM	49-91-14-000-002	Removal of the Oil Filter Differential Pressure Switches (8070KM) (131-9(A))
AMM	49-91-14-400-002	Installation of the Oil Filter Differential Pressure Switches (8070KM) (131-9(A))

3. Fault Confirmation

- A. Read-out of ECB Trouble Shooting Data
 - (1) Put the APU MASTER SW to the ON position.
 - (2) Get access to the APU LAST LEG/PREVIOUS LEG report.
 - (3) Push the '>' adjacent to the related CFDS failure message:
 - the MCDU menu shows:
 OIL FILTER SWITCH SHOWS ELECTRICAL GROUND
 - do the Fault Confirmation that follows:
 - (a) Start the APU (Ref. AMM TASK 49-00-00-860-008).

EFF: 247-253, Page 201 Config-3 May 01/07

TROUBLE SHOOTING MANUAL

- (b) Get access to the APU GND SCANNING menu.
- (c) Shut down the APU (Ref. AMM TASK 49-00-00-860-009).
- (d) Wait until the ECB (59KD) power-down, speed < 7% plus 30 seconds.
- (e) Get access to the APU GND SCANNING menu.

4. Fault Isolation

A. If the APU GND SCANNING menu gives the maintenance message:

LUBE PUMP FILTER SW P9 / GEN SCAV FILTER SW P5

associated with Fault Code Number (FCN) 101

- do a check for damage/contamination of the electrical connector P9 and
 P5 of the LUBE PUMP FILTER / GENERATOR SCAV FILTER.
- (1) If the electrical connector P9 and/or P5 is damaged, do a repair. If it is
 - contaminated, clean it.
- (2) If the electrical connector are servicable.
 - (a) Remove the connectors P5 and P9 on the APU.
 - (b) With the APU off, do a test of the continuity across pins 1+2 at the filter DP switches, value should be >10 k0hm.
 - (c) With the APU off, test the continuity from pin 1 and switch case at the filter DP switches, value should be >10 k0hm.
 - (d) If either switch do not pass the above checks, replace it. This can be the solution of the problem.
 - If the switches pass the check, continue.
 - (e) The oil temperature should be < 80 F, then start the APU and monitor the DP switches with a multi-meter while the oil temperature increase.
 - Monitor if either switch closes during or after the start (a closed switch is specified as < 30 Ohm).
 - (f) Monitor APU Toil until the temperature is more than 100 F (38 C). You can apply an electrical load to the APU to increase the APU oil temperature faster.
 - APU Toil can be given through the ECAM by the aircraft AIDS system, code "OTA".
 - After the APU oil temperature has increased to over 38 C, do a test if both DP switches are open.

EFF: 247-253, 49-90-0

TUU Page 202 Config-3 May 01/07

TROUBLE SHOOTING MANUAL

- (3) If no problems were found with the above procedure, do a test of the APU wiring harness as follows.
 - Install connector P5 and P9.
 - Remove connector P1 at the APU compartment bulkhead.
 - Do a test of the continuity across pins 4+9 at the firewall, no continuity is permitted.
 - Do a test of the continuity across pin 9 and structural ground, no continuity is permitted.
 - Bend the wires near the plugs to test for intermittent short circuits.
- (4) If no problems were found with the above procedure, do a test of the aircraft wiring harness as follows.
 - Install connector P1 at the APU compartment bulkhead.
 - Remove the ECB.
 - Do a test of the continuity from pin C11 to structural ground, no continuity is permitted.
 - Bend the wires near the plugs to test for intermittent short-circuits.
- (5) If no problems were found with the above procedure, replace both DP switches (Ref. AMM TASK 49-91-14-000-002) and (Ref. AMM TASK 49-91-14-400-002).
- (6) If clogged filter shutdown problems continue, replace the ECB. (Ref. AMM TASK 49-61-34-000-003) and (Ref. AMM TASK 49-61-34-400-003).
- (7) If clogged filter shutdown problems continue, replace the APU. Ship the APU to Honeywell together with the generator. (Ref. AMM TASK 49-11-11-000-004) and (Ref. AMM TASK 49-11-11-400-004).
- R **ON A/C 247-253,

Post SB 49-1062 For A/C 251-251, R Post SB 49-1069 For A/C 247-250,252-253,

A. If the APU GND SCANNING menu gives the maintenance message:

OIL FILTER SWITCHES (8070KM)/(8071KM)

associated with Fault Code Number (FCN) 101

- do a check for damage/contamination of the electrical connector P9 and
 P5 of the OIL FILTER SWITCHES (8070KM)/(8071KM)
- (1) If the electrical connector P9 and/or P5 is damaged do a repair. If it is
 - contaminated, clean it.

EFF: 247-253,
SROS

49-90-00 Page 203 Config-3 May 01/07

TROUBLE SHOOTING MANUAL

- (2) If the electrical connector are servicable:
 - (a) Remove the connectors P5 and P9 on the APU.
 - (b) With the APU off, do a test of the continuity across pins 1+2 at the filter DP switches, value should be >10 k0hm.
 - (c) With the APU off, do a testof the continuity from pin 1 and switch case at the filter DP switches, value should be >10 k0hm.
 - (d) If either switch do not pass the above test, replace it. This can be the solution of the problem.
 - If the switches pass the test, continue.
 - (e) The oil temperature should be < 80 F, then start the APU and monitor both DP switches with a multi-meter while the oil temperature increase.
 - Monitor if either switch closes during or after the the start (a closed switch is specified as < 30 0hm).
 - (f) Monitor APU Toil until the temperature is more than 100 F (38 C). You can apply an electrical load to the APU to increase the APU oil temperature faster.
 - APU Toil can be given through the ECAM by the aircraft AIDS system, code "OTA".
 - After the APU oil temperature has increased to over 38 C, do a check if both DP switches are open.
- (3) If no problems were found with the above procedure, test the APU wiring harness as follows.
 - Install connector P5 and P9.
 - Remove connector P1 at the APU compartment bulkhead.
 - Test the continuity across pins 4+9 at the firewall, no continuity is permitted.
 - Test the continuity across pin 9 and structural ground, no continuit is permitted.
 - Bend the wires near the plugs to test for intermittent short-circuits.
- (4) If no problems were found with the above procedure, test the aircraft wiring harness as follows.
 - Install connector P1 at the APU compartment bulkhead.
 - Remove the ECB.
 - Test continuity from pin C11 to structural ground, no continuity is permitted.
 - Bend the wires near the plugs to test for intermittent short-circuits.
- (5) If no problems were found per the above procedure, replace both DP switches (Ref. AMM TASK 49-91-14-000-002) and (Ref. AMM TASK 49-91-14-400-002)

EFF: 247-253,

49-90-00

Page 204

TROUBLE SHOOTING MANUAL

- (6) If clogged filter shutdown problems persist, replace the ECB. (Ref. AMM TASK 49-61-34-000-003) and (Ref. AMM TASK 49-61-34-400-003).
- (7) If clogged filter shutdown problems persist, replace the APU. Ship the APU to Honeywell together with the generator. (Ref. AMM TASK 49-11-11-000-004) and (Ref. AMM TASK 49-11-11-400-004)

R **ON A/C 247-253,

B. Do the test given in para. 3.

R EFF: 247-253,
SROS

49-90-00 Page 205 Config-3 May 01/07

TROUBLE SHOOTING MANUAL

OIL - TASK SUPPORTING DATA

1. Fault Code Number (FCN) Table (APS 3200) in the APU Task Supporting Data (Ref. TSM 490000, P. Block 301).

EFF: 201-225, 227-227, 229-231, 233-250, 252-299, 426-499, 503-549, 551-599, 701-749,

49-90-00

Page 301 May 01/08