Engineering Disposition Report

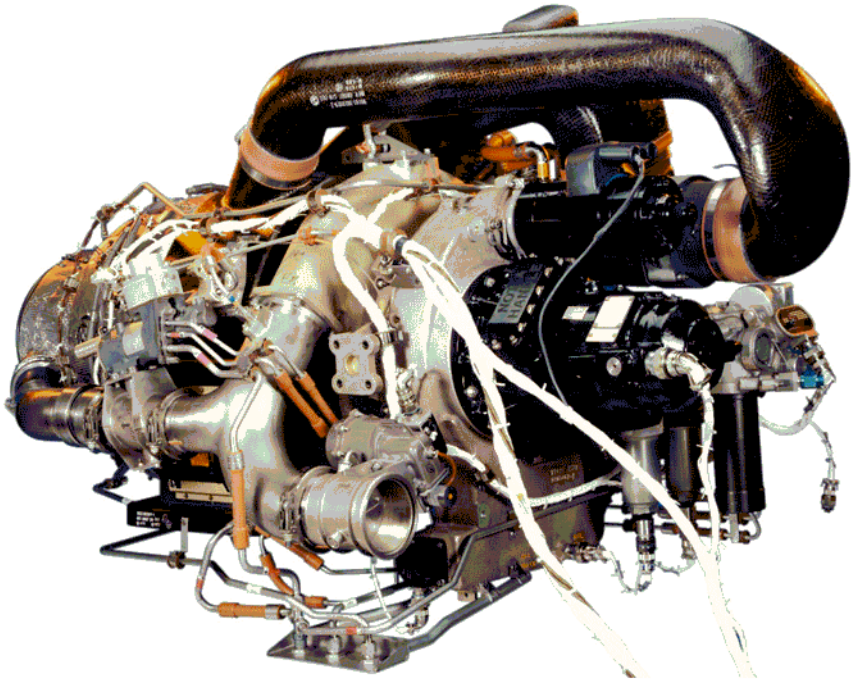
131-9A

R-2157

335569968

Honeywell Aerospace GmbH

DE.145.0022



Prepared By: Matthias Hanke
Printed On : 29.03.2019

Model Number : 131-9A
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Repair Facility : Honeywell Aerospace GmbH
Maintenance Organization # : DE.145.0022

FINAL - FINDINGS REPORT

Customer :	SIBERIA AIRLINES JSC	**Customer P/O :**	PO-ME-19-12
Notification :	000335569968	**Induction Date :**	22.03.2019
Model No :	ENGINE OUTLINE, GAS TURBINE	**Installed Date :**	00.00.0000
Part Number :	3800708-1		
Series :	2	**Removal Date :**	07.03.2019
Serial No In :	R-2157		
Mod to S/N :	R-2157		

TIMES / CYCLES HH.DD (HH:MM)

Time Since New:	38481,05	(38481:03)	**Cycles Since New:**	38056,00
Time Since Repair:	12837,92	(12837:55)	**Cycles Since Repair:**	13777,00

AIRCRAFT INFORMATION

Aircraft Tail Number:	VP-VHP	**Aircraft/Application Model:**	AIRBUS A319

CUSTOMER INFORMATION

Sales Order No: 0009071142

REMOVAL INFORMATION

Low Time Removal:	No	**Removal Type:**	Unscheduled

RETURN REASON

Primary Removal Reason: LLP Replacement

INDUCTION FINDINGS

0010 - Receiving Data

Logbook Received with Engine*	Yes
Shipping box Type	Wood

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If Shipping Box is wood, check ISPM 15 [	Pass
Shipping Box	Customer
Shipping frame?	Customer
Shipping box/frame reusable?	Reusable
Shipping/transport damages?	OK
Hourmeter/DMM Condition	Received - Okay
DMM / Hours Readout performed? see LT->	Yes
DMM/Hours: time since new?	38481
DMM/Hours: cycles since new?	38056

0020 - General Information

Engine nameplates missing	No
Engine nameplate data mismatch	No
Additional customer hardware received	No
QEC parts installed	No
Generator assy installed	No
Findings 1st external condition	Severely dirt contaminated
APU rotation	Rotating free
Missing APU Hardware	No

0030 - Oil System Investigation

APU received with oil	No
Lube filter element missing	No
Lube filter element condition	In good condition
Gen scavenge filter element missing	No
Gen scavenge filter element condition	In good condition
Gearbox oil sump MCD condition	Normal/Clean
Speed monopols condition	Tips in good condition
Oil tubes condition	In good condition
Oil cooler tube retainers bent	Yes

0040 - Fuel System Investigation

Fuel filter element missing	No
Fuel filter element condition	Normal/Clean
Fuel tubes/hoses/nozzles condition	In good condition

0050 - Outline Investigation

Findings on inlet plenum	Dry
Findings on grounding straps	In good condition
Findings on bleed duct	Dry
Findings on bleed duct clamps	In good condition

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Findings on surge ducts	Duct damaged / eroded / frayed
Findings on surge duct clamps	In good condition
Findings on surge control valve	In good condition
Findings on pneumatic tubes	In good condition
Findings on load control valve	In good condition
Findings on cooling fan ducts	Metal sheet at wire mesh dented
Findings on cooling fan	Flow area oily
Cooling fan vacuum check	Fail
Findings on starter motor	terminal boot damaged
Findings on oil cooler	Oil Cooler air side dirty
Findings on wiring harness	Wiring harness severely oil and dirt con
Findings on ignition box	In good condition
Findings on ignition lead	In good condition
Findings on igniter plug	Igniter plug tip burnt
Findings on thermocouples	In good condition
Findings on exhaust pipe	In good condition
Findings on gearbox vent tube	Dry

0060 - Gearbox Investigation

Generator pad rubber seal missing	No
Generator pad cover missing	No
Findings on gearbox (external)	Gearbox generator flange pin hole damage
Findings on starter clutch	In good condition
Air/oil separator port oil wetted	Yes
Findings on oil fill cap	In good condition

0070 - Load Compressor Investigation

Oil at load compressor witness drain	No
Findings on IGV assembly	In good condition

0080 - Power Section Investigation

Findings on engine mount adaptation	In good condition
Findings on thermal blankets	In good condition
Combustion orifice blocked	No
Witchhat inserts (3ea) damaged	No

0090 - Boroscope Inspection

Borescope Required?	No

FAILURE DATA

Failure Description :

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The APU showed a considerable amount of hot section hardware distress. Especially the 1st and 2nd stage turbine wheel blades were found to be eroded and affected by blade material thinning/ partially blade material separation at the tip area. The fuel schedule has been increased in order to compensate the performance loss which has been recognized by an increase in EGT, reduced EGT margin respectively.

Part Number	Part Name	Condition	Findings	Primary Failure
3822400-5	COMPRESSOR ROTOR, DRIVEN	Eroded		
3822391-6	COMPRESSOR ROTOR, CENTRIFUGAL E/C	Rubbed/Abraded		
3827426-3	HOUSING, BEARING, DRIVEN COMPRESSOR	Crack(s)/Cracked		
3822504-3	SHAFT, TURB	Life Limit exceeded		
3840310-3	First-Stage Turbine Wheel	Hot Gas Erosion		
3840165-4	TURBINE ROTOR ASSEMBLY SECOND STAGE	Hot Gas Erosion		
3830461-6	CHAMBER, COMBUSTION, ANNULAR	Tbc Burnt Off		
3844766-4	CASE, COMBUSTOR	Fretted		
3844864-1	STATOR SECOND STAGE	Eroded		
3827504-3	CASE, ENGINE COMPRESSOR	Rubbed/Abraded		
3827152-3	CASE CPRSR DR	Porous		

SUMMARY

DISPOSITION

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Recommended Workscope:	Proposed Bench test & repair as necessary of LRUs: FCU 441921-X Bench test and repair as necessary per CMM Perform SB 441921-49-0006 on attrition (Rework FCU -5 Issue 8 to Issue 9) Electrical Starter 2704506-X Bench test and repair as necessary per CMM Perform SB 49-2395 (mod to -4) Lube Module 4131020-4 Disassemble completely excluding valves and Inspect per IRM continue-time criteria Harness 3888438-1 Bench test and repair as necessary per CMM LCV 3291432-X Bench test and repair as necessary per CMM Perform SB 49-9011 on attrition SCV 3291238-2 Bench test and repair as necessary per CMM DMM 3876287-1 Bench test and repair as necessary per CMM Ignition Plug 305766-4 Inspect per IRM zero-time criteria IGV Actuator 3886188-X Perform bench test per Engineering Order Oil Cooler 160494-1 Bench test and repair as necessary per CMM Fuel Nozzle(s) 3830416-1, 10ea Overhaul per CMM Solenoid valve 692546-4 Perform inspection per IRM zero time criteria

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	Flow Divider 3883830-1 Inspect per IRM zero-time criteria Perform SB 49-7739 on attrition (Repl. FD 3883830-1 with 3879005-1 & fitting)
Work Accomplished:	1) Detailed induction check 2) Load Compressor and Power Section complete disassembly 3) Gearbox complete disassembly 4) Cooling Fan complete disassembly 5) Load Compressor and Power Section rotating hardware inspection per IRM zero-time criteria 6) Remaining Load Compressor and Power Section hardware inspection per IRM continue-time criteria 7) Gearbox hardware inspection per IRM continue-time criteria 8) Starter Clutch inspection per IRM zero-time requirements 9) Cooling Fan hardware inspection per IRM continue-time criteria 10) Replacement of LLPs: - Turbine Shaft 11) Remaining hardware inspection per IRM continue-time criteria 12) Bench test & repair as necessary of LRUs 13) Full performance test run per EM heavy repair criteria
Power Section Workscope Performed:	Medium
Gearbox Workscope Performed:	Medium
Load Compressor Workscope Performed:	Medium
General Workscope Performed:	Medium

DISPOSITION SUMMARY

Customer Confirmed Removal Reason:	Yes

FINDINGS

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As Received Condition:	APU received in severely dirt contaminated condition DMM Data: 1302.560 AVERAGE CORR T5 DURING MES DEGF 54.030 AVERAGE CORR PT DURING MES PSIA 356.580 AVERAGE CORR FUEL FLOW DURING MES PPH 286 NUMBER OF UNSUCCESSFUL STARTS 168 NUMBER OF NO ACCELERATION SHUTDOWNS 61 NUMBER OF NO FLAME SHUTDOWNS 60 Number of No Speed S/D 72 Number of Emergency S/D
One Line Findings:	Hot section wear

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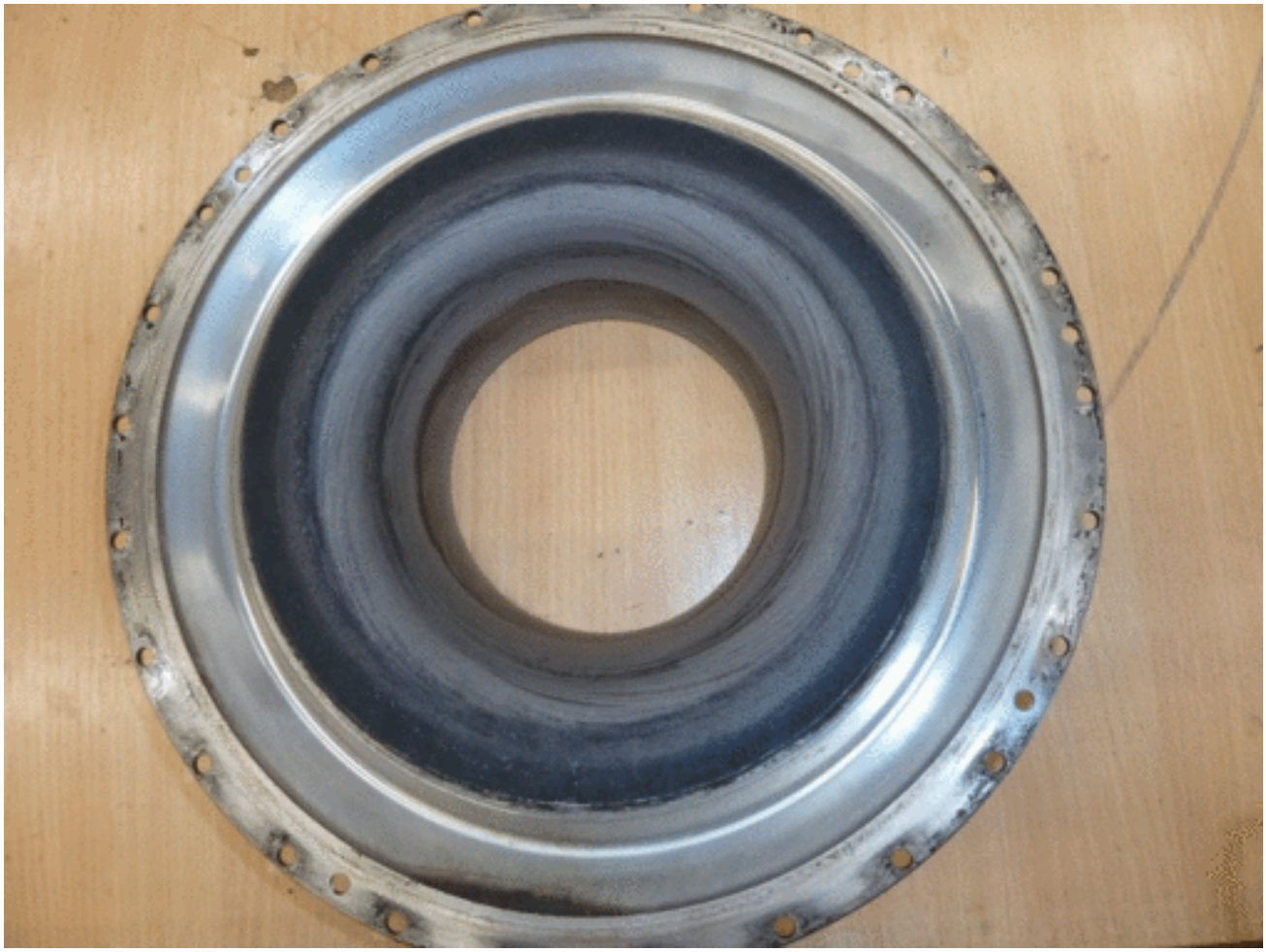
PHOTOS

L/C SHROUD BLISTERED



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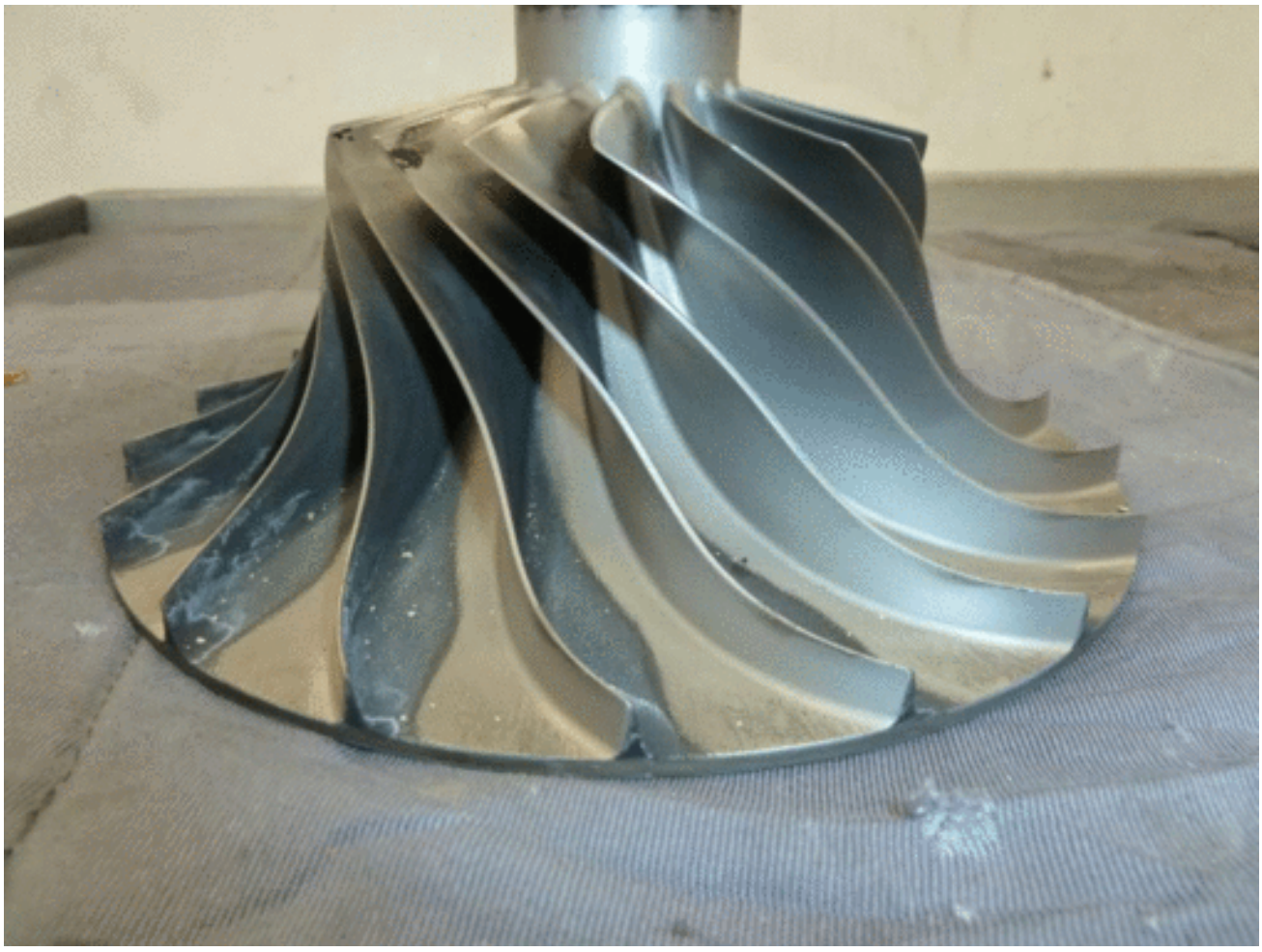
L/C ROTOR ERODED



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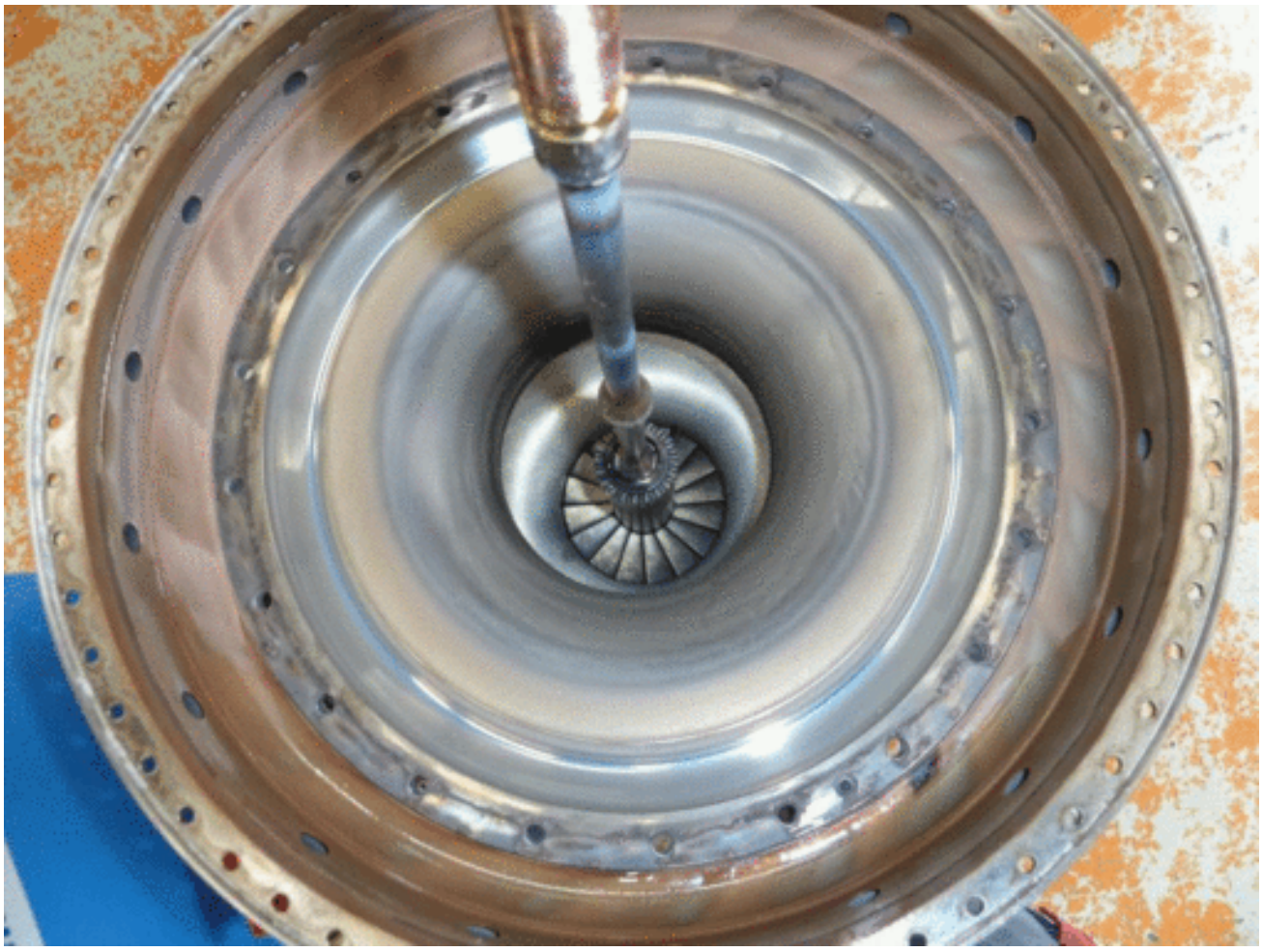
E/C SHROUD ERODED



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E/C ROTOR ERODED

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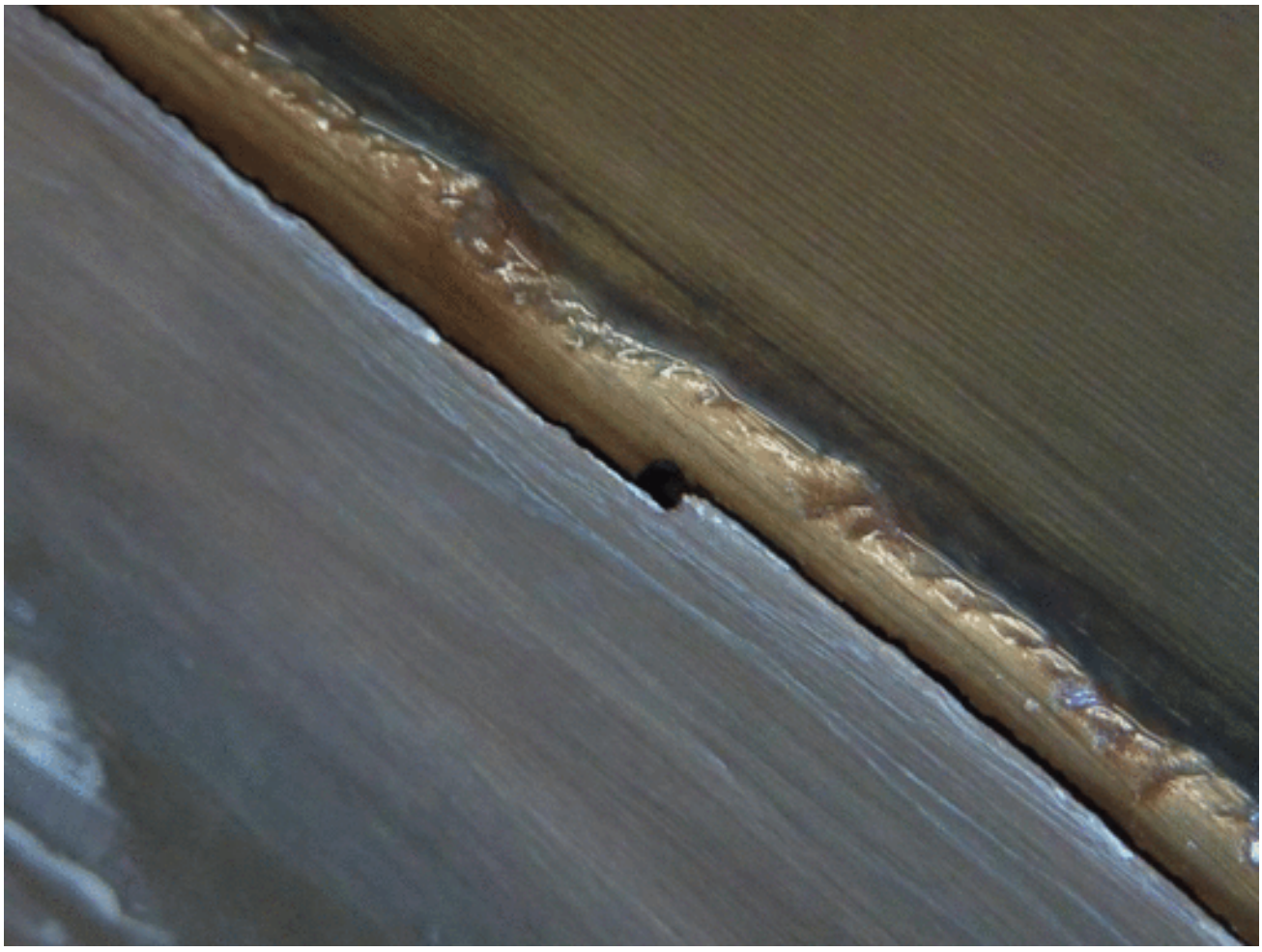
DIFFUSOR HSG WELD SEAM CRACKED



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COMBUSTION CHAMBER TBC MISSING

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1ST STAGE TURBINE STATOR HEAT EROSION

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1ST STAGE TURBINE WHEEL BLADES BURNT

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2ND STAGE TURBINE STATOR HEAT EROSION

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2ND STAGE TURBINE ROTOR HOT GAS EROSION

22.03.2019 Data Conversion For ENGINE S/N R2157
WINDMM.EXE Version 3.01 131-9A Production Version 04.50

1	Item Count	475	475	NUMBER ENTRIES IN DMM
2	SW Version	010A	010A	ECB SOFTWARE VERSION (SV)
3	APUser.pre	R	R	APU SERIAL NUMBER PREFIX
4	APUser.num1	00	00	APU SERIAL NUMBER (FIRST 2 DIGITS)
5	APUser.num2	00	00	APU SERIAL NUMBER (NEXT 2 DIGITS)
6	APUser.num3	21	21	APU SERIAL NUMBER (NEXT 2 DIGITS)
7	APUser.num4	57	57	APU SERIAL NUMBER (LAST 2 DIGITS)
8	APUser.suf			APU SERIAL NUMBER (SUFFIX 2 DIGITS)
9	APUhours_LO	38481	38481	APU HOURS Low Word
10	APUminutes	3	3	APU MINUTES
11	APUcycles_LO	38056	38056	APU CYCLES Low Word
12	ECS_OFFSET	-800	-8	ECS OFFSET DEGREES (SV)
13	FUELOFF100	2490	24.900	FUEL FLOW OFFSET AT 100 POUNDS PPH
14	FUELOFF200	2455	24.550	FUEL FLOW OFFSET AT 200 PPH
15	ABSTARTS	286	286	NUMBER OF UNSUCCESSFUL STARTS
16	APU_OPTIONS	0	0	APU OPTION FLAGS
17	FLTSTARTS	16	16	NUMBER OF INFLIGHT STARTS
18	ABFLTSTARTS	0	0	NUMBER OF UNSUCCESSFUL INFLIGHT STARTS
19	TURB_CYCLES	13733	13733	CYCLES SINCE TURBINE REPAIR (TB)
20	LC_CYCLES	13732	13732	CYCLES SINCE LOAD COMP REPAIR (LC)
21	EC_CYCLES	13728	13728	CYCLES SINCE ENGINE COMP REPAIR (EC)
22	CLOG_FILTER	0	0	NUMBER OF CLOGGED OIL FILTER INDICATIONS
23	OVRHAUL_HR	12692	12692	HOURS SINCE SHOP VISIT (SV)
24	OVRHAUL_MIN	184	18.400	MINUTES SINCE SHOP VISIT (SV)
25	INSTALL_HR	12688	12688	HOURS SINCE AIRPLANE INSTALLATION (SV)
26	INSTALL_MIN	501	50.100	MINUTES SINCE AIRPLANE INSTALLATION (SV)
27	ECS_HOURS	7856	7856	OPERATING TIME IN ECS HOURS
28	ECS_MINUTES	501	50.100	OPERATING TIME IN ECS MINUTES
29	FLT_HOURS	176	176	OPERATING TIME IN FLIGHT HOURS
30	FLT_MINUTES	28	2.800	OPERATING TIME IN FLIGHT MINUTES
31	HOT_TIME	252	25.200	OPERATING HOURS T2 GREATER 100 DEGF
32	COLD_TIME	1933	193.300	OPERATING HOURS T2 LESS 0 DEGF
33	NMES	19690	19690	NUMBER OF MAIN ENGINE STARTS
34	HIGHSTARTS	6	6	NUMBER OF START ATTEMPTS ABOVE 25000 FT
35	BRRSTARTS	377	377	NUMBER OF STARTS OILTEMP LESS 0 DEGF
36	BRRRRSTARTS	0	0	NUMBER OF STARTS OILTEMP LESS -40 DEGF
37	LOWOILPR	0	0	NUMBER OF LOW OIL PRESSURE SHUTDOWNS
38	NUM3LOP	0	0	NUMBER OF 3 CONSECUTIVE LOP SHUTDOWNS
39	CONSECLOP	0	0	NUMBER OF CONSECUTIVE LOP SHUTDOWNS
40	HOT	0	0	NUMBER OF HIGH OIL TEMPERATURE SHUTDOWNS
41	OVRTMPGOV	0	0	NUMBER OF ONSPEED OVERTEMP SHUTDOWNS
42	OVRTMPSTRT	0	0	NUMBER OF STARTING OVERTEMP SHUTDOWNS
43	REVFLOW	0	0	NUMBER OF REVERSE FLOW SHUTDOWNS
44	NO_ACCEL	168	168	NUMBER OF NO ACCELERATION SHUTDOWNS
45	OVERSPEED	0	0	NUMBER OF OVERSPEED SHUTDOWNS
46	UNDERSPEED	0	0	NUMBER OF UNDERSPEED SHUTDOWNS
47	FILTER_SDN	0	0	NUMBER OF CLOGGED OIL FILTER SHUTDOWNS
48	NO_FLAME	61	61	NUMBER OF NO FLAME SHUTDOWNS
49	INLET_HOT	0	0	NUMBER OF INLET HOT SHUTDOWNS
50	INFLIGHT_SD	0	0	NUMBER OF INFLIGHT SHUTDOWNS
51	AT4ECS(1)	249	1631.846	AVERAGE T4 ECS DEG F* (PS)
52	AT4ECS(2)	46363	4.636	AVERAGE T4 ECS DEG F (PS)
53	AT4MES(1)	277	1815.347	AVERAGE T4 MES DEG F* (PS)
54	AT4MES(2)	26043	2.604	AVERAGE T4 MES DEG F (PS)
55	AT4FLT(1)	242	1585.971	AVERAGE T4 INFLIGHT DEG F* (PS)

56	AT4FLT(2)	28115	2.812	AVERAGE T4 INFLIGHT DEG F (PS)
57	T1800	7546	754.600	HOURS T4 > 1800 DEG F (PS)
58	T1850	3653	365.300	HOURS T4 > 1850 DEG F (PS)
59	T1900	1614	161.400	HOURS T4 > 1900 DEG F (PS)
60	T1950	707	70.700	HOURS T4 > 1950 DEG F (PS)
61	T2000	73	7.300	HOURS T4 > 2000 DEG F (PS)
62	RECT4R	20748	2074.800	HIGHEST T4 ONSPEED DEGF (PS)
63	RECT5S	17839	1783.900	HIGHEST T5 DURING START DEGF (PS)
64	ABRTCLDN	5	5	NUMBER OF ABORTED COOLDOWNS
65	CT5AVE	40256	1302.560	AVERAGE CORR T5 DURING MES DEGF (SV)
66	MDNCT5AVE	17238	1072.380	MAIDEN CORR T5 DURING MES DEGF
67	CT5AVE500	0	900	CORR T5 MES AT 500 HOURS DEGF
68	CT5AVE1000	0	900	CORR T5 MES AT 1000 HOURS DEGF
69	CT5AVE1500	0	900	CORR T5 MES AT 1500 HOURS DEGF
70	CT5AVE2000	0	900	CORR T5 MES AT 2000 HOURS DEGF
71	CT5AVE2500	0	900	CORR T5 MES AT 2500 HOURS DEGF
72	CT5AVE3000	0	900	CORR T5 MES AT 3000 HOURS DEGF
73	CT5AVE3500	0	900	CORR T5 MES AT 3500 HOURS DEGF
74	CT5AVE4000	0	900	CORR T5 MES AT 4000 HOURS DEGF
75	CT5AVE4500	0	900	CORR T5 MES AT 4500 HOURS DEGF
76	CT5AVE5000	0	900	CORR T5 MES AT 5000 HOURS DEGF
77	CT5AVE6000	0	900	CORR T5 MES AT 6000 HOURS DEGF
78	CT5AVE7000	0	900	CORR T5 MES AT 7000 HOURS DEGF
79	CT5AVE8000	0	900	CORR T5 MES AT 8000 HOURS DEGF
80	CT5AVE9000	0	900	CORR T5 MES AT 9000 HOURS DEGF
81	CT5AVE10000	0	900	CORR T5 MES AT 10000 HOURS DEGF
82	CPTAVE	54030	54.030	AVERAGE CORR PT DURING MES PSIA (SV)
83	MDNCPTAVE	57396	57.396	MAIDEN CORR PT DURING MES PSIA
84	CPTAVE500	0	0	CORR PT DURING MES AT 500 HOURS PSIA
85	CPTAVE1000	0	0	CORR PT DURING MES AT 1000 HOURS PSIA
86	CPTAVE1500	0	0	CORR PT DURING MES AT 1500 HOURS PSIA
87	CPTAVE2000	0	0	CORR PT DURING MES AT 2000 HOURS PSIA
88	CPTAVE2500	0	0	CORR PT DURING MES AT 2500 HOURS PSIA
89	CPTAVE3000	0	0	CORR PT DURING MES AT 3000 HOURS PSIA
90	CPTAVE3500	0	0	CORR PT DURING MES AT 3500 HOURS PSIA
91	CPTAVE4000	0	0	CORR PT DURING MES AT 4000 HOURS PSIA
92	CPTAVE4500	0	0	CORR PT DURING MES AT 4500 HOURS PSIA
93	CPTAVE5000	0	0	CORR PT DURING MES AT 5000 HOURS PSIA
94	CPTAVE6000	0	0	CORR PT DURING MES AT 6000 HOURS PSIA
95	CPTAVE7000	0	0	CORR PT DURING MES AT 7000 HOURS PSIA
96	CPTAVE8000	0	0	CORR PT DURING MES AT 8000 HOURS PSIA
97	CPTAVE9000	0	0	CORR PT DURING MES AT 9000 HOURS PSIA
98	CPTAVE10000	0	0	CORR PT DURING MES AT 10000 HOURS PSIA
99	CWFAVE	35658	356.580	AVERAGE CORR FUEL FLOW DURING MES PPH (SV)
100	MDNCWFAVE	28396	283.960	MAIDEN CORR FUEL FLOW DURING MES PPH
101	CWFAVE500	0	0	CORR FUEL FLOW MES AT 500 HOURS PPH
102	CWFAVE1000	0	0	CORR FUEL FLOW MES AT 1000 HOURS PPH
103	CWFAVE1500	0	0	CORR FUEL FLOW MES AT 1500 HOURS PPH
104	CWFAVE2000	0	0	CORR FUEL FLOW MES AT 2000 HOURS PPH
105	CWFAVE2500	0	0	CORR FUEL FLOW MES AT 2500 HOURS PPH
106	CWFAVE3000	0	0	CORR FUEL FLOW MES AT 3000 HOURS PPH
107	CWFAVE3500	0	0	CORR FUEL FLOW MES AT 3500 HOURS PPH
108	CWFAVE4000	0	0	CORR FUEL FLOW MES AT 4000 HOURS PPH

109	CWFAVE4500	0	0	CORR FUEL FLOW MES AT 4500 HOURS PPH
110	CWFAVE5000	0	0	CORR FUEL FLOW MES AT 5000 HOURS PPH
111	CWFAVE6000	0	0	CORR FUEL FLOW MES AT 6000 HOURS PPH
112	CWFAVE7000	0	0	CORR FUEL FLOW MES AT 7000 HOURS PPH
113	CWFAVE8000	0	0	CORR FUEL FLOW MES AT 8000 HOURS PPH
114	CWFAVE9000	0	0	CORR FUEL FLOW MES AT 9000 HOURS PPH
115	CWFAVE10000	0	0	CORR FUEL FLOW MES AT 10000 HOURS PPH
116	IGVMES	7789	77.890	IGV POSITION DURING MES DEGREES
117	SPEEDDROOPS	16	16	NUMBER OF SPEED DROOPS BELOW 85% SPEED
118	START_TIME	65	65	Start Time for current APU Run
119	STARTTIME_1	72	72	Start Time for last APU Run
120	STARTTIME_2	56	56	Start Time for last-1 APU Run
121	STARTTIME_3	50	50	Start Time for last-2 APU Run
122	STARTTIME_4	52	52	Start Time for last-3 APU Run
123	STARTTIME_5	53	53	Start Time for last-4 APU Run
124	STARTTIME_6	50	50	Start Time for last-5 APU Run
125	STARTTIME_7	51	51	Start Time for last-6 APU Run
126	STARTTIME_8	53	53	Start Time for last-7 APU Run
127	STARTTIME_9	59	59	Start Time for last-8 APU Run
128	STRTTIMEAVE	56	56	Average Start Time for last 10 Starts
129	ECS_0P_HR	287	287	Operating Time in ECS Zero Pack (hr)
130	ECS_0P_MIN	3556	5.927	Operating Time in ECS Zero Pack (min)
131	ECS_1P_HR	762	762	Operating Time in ECS One Pack (hr)
132	ECS_1P_MIN	20743	34.572	Operating Time in ECS One Pack (min)
133	ECS_2P_HR	6779	6779	Operating Time in ECS Two Pack (hr)
134	ECS_2P_MIN	24420	40.700	Operating Time in ECS Two Pack (min)
135	ECS_G75_HR	715	715	Operating Time in ECS with ARC_DMD > 75%
136	ECS_G75_MIN	5360	8.933	Operating Time in ECS with ARC_DMD > 75%
137	ECS_L75_HR	6404	6404	Operating Time in ECS with ARC_DMD < 25%
138	ECS_L25_MIN	5321	8.868	Operating Time in ECS with ARC_DMD < 25%
139	T1800_HR	754	754	Time T4_ONSPEED_FIL > 1800 DEG F (HR) (PS)
140	T1800_MIN	24916	41.527	Time T4_ONSPEED_FIL > 1800 DEG F (MIN) (PS)
141	T1850_HR	365	365	Time T4_ONSPEED_FIL > 1850 DEG F (HR) (PS)
142	T1850_MIN	13395	22.325	Time T4_ONSPEED_FIL > 1850 DEG F (MIN) (PS)
143	T1900_HR	161	161	Time T4_ONSPEED_FIL > 1900 DEG F (HR) (PS)
144	T1900_MIN	15118	25.197	Time T4_ONSPEED_FIL > 1900 DEG F (MIN) (PS)
145	T1950_HR	70	70	Time T4_ONSPEED_FIL > 1950 DEG F (HR) (PS)
146	T1950_MIN	25597	42.662	Time T4_ONSPEED_FIL > 1950 DEG F (MIN) (PS)
147	T2000_HR	7	7	Time T4_ONSPEED_FIL > 2000 DEG F (HR) (PS)
148	T2000_MIN	12246	20.410	Time T4_ONSPEED_FIL > 2000 DEG F (MIN) (PS)
149	T2050_HR	0	0	Time T4_ONSPEED_FIL > 2050 DEG F (HR) (PS)
150	T2050_MIN	563	0.938	Time T4_ONSPEED_FIL > 2050 DEG F (MIN) (PS)
151	T2000_HR	0	0	Time T4_ONSPEED_FIL > 2100 DEG F (HR) (PS)
152	T2100_MIN	0	0	Time T4_ONSPEED_FIL > 2100 DEG F (MIN) (PS)
153	T2200_HR	0	0	Time T4_ONSPEED_FIL > 2200 DEG F

(HR) (PS)				
154	T2200_MIN	0	0	Time T4_ONSPEED_FIL > 2200 DEG F (MIN) (PS)
155	CT5_CYC_NUM	38055	38055	Last cycle where the average corrected EGT during MES was outside
156	CT5_CL_OFFSET	0	0	CT5 Control Limit Offset
157	CT5AVE	14227	1302.561	CT5AVE (SV)
158	CT5_MR_BAR	219	20.051	CT5_MR_BAR (SV)
159	M_CT5_UCLT	12305	1126.591	Maiden upper Control Limit for CT5 (SV)
160	C_CT5_UCLT	13690	1253.395	Corrected upper Control Limit for CT5 (SV)
161	M_CT5_XBAR	11723	1073.305	Maiden CT5_XBAR (SV)
162	R_CT5_XBAR	14307	1309.885	Running CT5_XBAR (SV)
163	CT5_A_N1	14124	1293.130	CT5_A_N1 (SV)
164	CT5_A_N2	14344	1313.272	CT5_A_N2 (SV)
165	CT5_A_N3	14141	1294.687	CT5_A_N3 (SV)
166	CT5_A_N4	14273	1306.772	CT5_A_N4 (SV)
167	CT5_A_N5	14157	1296.152	CT5_A_N5 (SV)
168	CT5_A_N6	14291	1308.420	CT5_A_N6 (SV)
169	CT5_A_N7	14264	1305.948	CT5_A_N7 (SV)
170	CT5_A_N8	14350	1313.822	CT5_A_N8 (SV)
171	CT5_A_N9	14251	1304.758	CT5_A_N9 (SV)
172	CT5_A_N10	14517	1329.112	CT5_A_N10 (SV)
173	CT5_A_N11	14307	1309.885	CT5_A_N11 (SV)
174	CT5_A_N12	14555	1332.591	CT5_A_N12 (SV)
175	CT5_A_N13	14156	1296.060	CT5_A_N13 (SV)
176	CT5_A_N14	14279	1307.321	CT5_A_N14 (SV)
177	CT5_A_N15	14470	1324.808	CT5_A_N15 (SV)
178	CT5_A_N16	14588	1335.612	CT5_A_N16 (SV)
179	CT5_A_N17	14144	1294.961	CT5_A_N17 (SV)
180	CT5_A_N18	14377	1316.294	CT5_A_N18 (SV)
181	CT5_A_N19	14183	1298.532	CT5_A_N19 (SV)
182	CT5_A_N20	14376	1316.202	CT5_A_N20 (SV)
183	CT5OLD0	14288	1308.145	CT5AVE 0 Hours ago (SV)
184	CT5OLD50	14086	1289.651	CT5AVE 50 Hours ago (SV)
185	CT5OLD100	14133	1293.954	CT5AVE 100 Hours ago (SV)
186	CT5OLD150	14157	1296.152	CT5AVE 150 Hours ago (SV)
187	CT5OLD200	14096	1290.567	CT5AVE 200 Hours ago (SV)
188	CT5OLD250	14243	1304.025	CT5AVE 250 Hours ago (SV)
189	CT5OLD300	14214	1301.370	CT5AVE 300 Hours ago (SV)
190	CT5OLD350	14161	1296.518	CT5AVE 350 Hours ago (SV)
191	CT5OLD400	14114	1292.215	CT5AVE 400 Hours ago (SV)
192	CT5OLD450	14109	1291.757	CT5AVE 450 Hours ago (SV)
193	CT5OLD500	14128	1293.497	CT5AVE 500 Hours ago (SV)
194	CT5_X1000	12566	1150.487	"CT5AVE at X1000 Hours (for x = 0,1, 2, ..., 6)"
195	CT5_X1500	12435	1138.493	"CT5AVE at X1500 Hours (for x = 0,1, 2, ..., 6)"
196	CT5_X2000	12426	1137.669	"CT5AVE at X2000 Hours (for x = 0,1, 2, ..., 6)"
197	CT5_X2500	12551	1149.113	"CT5AVE at X2500 Hours (for x = 0,1, 2, ..., 6)"
198	CT5_X3000	12558	1149.754	"CT5AVE at X3000 Hours (for x = 0,1, 2, ..., 6)"
199	CT5_X3500	12849	1176.397	"CT5AVE at X3500 Hours (for x = 0,1, 2, ..., 6)"
200	CT5_X4000	12788	1170.812	"CT5AVE at X4000 Hours (for x = 0,1, 2, ..., 6)"
201	CT5_X4500	12769	1169.073	"CT5AVE at X4500 Hours (for x = 0,1, 2, ..., 6)"
202	CT5_X5000	12712	1163.854	"CT5AVE at X5000 Hours (for x = 0,1, 2, ..., 6)"
203	CT5_X6000	13076	1197.180	"CT5AVE at X6000 Hours (for x = 0,1, 2, ..., 5)"
204	CT5_X7000	13561	1241.585	"CT5AVE at X7000 Hours (for x = 0,1, 2, ..., 5)"
205	CT5_X8000	14118	1292.581	"CT5AVE at X8000 Hours (for x = 0,1,

206	CT5_X9000	11930	1092.257	"CT5AVE at X9000 Hours (for x = 0,1, 2, ..., 5)"
207	CT5_X0000	12172	1114.414	"CT5AVE at X0000 Hours (for x = 1, 2, ..., 6)"
208	CPT_CYC_NUM	38055	38055	Last cycle where the average corrected pressure during MES was ou
209	CPT_CL_OFFSET	0	0	CPT Control Limit Offset
210	CPTAVE	14754	54.032	CPTAVE (SV)
211	CPT_MR_BAR	142	0.520	CPT_MR_BAR (SV)
212	M_CPT_LCLT	15465	56.636	Maiden lower Control Limit for CPT (SV)
213	M_CPT_XBAR	15842	58.017	Maiden CPT_XBAR (SV)
214	R_CPT_XBAR	14718	53.901	Running CPT_XBAR (SV)
215	CPT_A_N1	14787	54.153	CPT_A_N1 (SV)
216	CPT_A_N2	15442	56.552	CPT_A_N2 (SV)
217	CPT_A_N3	14614	53.520	CPT_A_N3 (SV)
218	CPT_A_N4	16006	58.618	CPT_A_N4 (SV)
219	CPT_A_N5	14700	53.835	CPT_A_N5 (SV)
220	CPT_A_N6	15429	56.504	CPT_A_N6 (SV)
221	CPT_A_N7	14312	52.414	CPT_A_N7 (SV)
222	CPT_A_N8	10273	37.622	CPT_A_N8 (SV)
223	CPT_A_N9	14617	53.531	CPT_A_N9 (SV)
224	CPT_A_N10	15391	56.365	CPT_A_N10 (SV)
225	CPT_A_N11	13373	48.975	CPT_A_N11 (SV)
226	CPT_A_N12	15470	56.655	CPT_A_N12 (SV)
227	CPT_A_N13	13879	50.828	CPT_A_N13 (SV)
228	CPT_A_N14	14555	53.304	CPT_A_N14 (SV)
229	CPT_A_N15	12992	47.580	CPT_A_N15 (SV)
230	CPT_A_N16	14273	52.271	CPT_A_N16 (SV)
231	CPT_A_N17	15804	57.878	CPT_A_N17 (SV)
232	CPT_A_N18	16075	58.870	CPT_A_N18 (SV)
233	CPT_A_N19	16100	58.962	CPT_A_N19 (SV)
234	CPT_A_N20	16272	59.592	CPT_A_N20 (SV)
235	CPTOLD0	15880	58.156	CPTAVE 0 Hours ago (SV)
236	CPTOLD50	15835	57.991	CPTAVE 50 Hours ago (SV)
237	CPTOLD100	15823	57.947	CPTAVE 100 Hours ago (SV)
238	CPTOLD150	15647	57.303	CPTAVE 150 Hours ago (SV)
239	CPTOLD200	15752	57.687	CPTAVE 200 Hours ago (SV)
240	CPTOLD250	15914	58.281	CPTAVE 250 Hours ago (SV)
241	CPTOLD300	13226	48.437	CPTAVE 300 Hours ago (SV)
242	CPTOLD350	13105	47.993	CPTAVE 350 Hours ago (SV)
243	CPTOLD400	15549	56.944	CPTAVE 400 Hours ago (SV)
244	CPTOLD450	15816	57.922	CPTAVE 450 Hours ago (SV)
245	CPTOLD500	15850	58.046	CPTAVE 500 Hours ago (SV)
246	CPT_X1000	15885	58.174	"CPTAVE at X1000 Hours (for x 0 1, 2, ..., 6)"
247	CPT_X1500	15842	58.017	"CPTAVE at X1500 Hours (for x 0 1, 2, ..., 6)"
248	CPT_X2000	16039	58.738	"CPTAVE at X2000 Hours (for x 0 1, 2, ..., 6)"
249	CPT_X2500	15903	58.240	"CPTAVE at X2500 Hours (for x 0 1, 2, ..., 6)"
250	CPT_X3000	16069	58.848	"CPTAVE at X3000 Hours (for x 0 1, 2, ..., 6)"
251	CPT_X3500	15839	58.006	"CPTAVE at X3500 Hours (for x 0 1, 2, ..., 6)"
252	CPT_X4000	15849	58.043	"CPTAVE at X4000 Hours (for x 0 1, 2, ..., 6)"
253	CPT_X4500	15961	58.453	"CPTAVE at X4500 Hours (for x 0 1, 2, ..., 6)"
254	CPT_X5000	15949	58.409	"CPTAVE at X5000 Hours (for x 0 1, 2, ..., 6)"
255	CPT_X6000	15661	57.354	"CPTAVE at X6000 Hours (for x 0 1, 2, ..., 5)"
256	CPT_X7000	15731	57.610	"CPTAVE at X7000 Hours (for x 0 1, 2, ..., 5)"
257	CPT_X8000	15767	57.742	"CPTAVE at X8000 Hours (for x 0 1,

2, ..., 5)"
 258 CPT_X9000 15804 57.878 "CPTAVE at X9000 Hours (for x 0 1,
2, ..., 5)"
 259 CPT_X0000 15943 58.387 "CPTAVE at X0000 Hours (for x 0 1,
2, ..., 6)"
 260 CWFAVE 22821 356.589 CWFAVE (SV)
 261 CWFOLD0 23071 360.495 CWFAVE 0 Hours ago (SV)
 262 CWFOLD50 22750 355.480 CWFAVE 50 Hours ago (SV)
 263 CWFOLD100 22573 352.714 CWFAVE 100 Hours ago (SV)
 264 CWFOLD150 23028 359.823 CWFAVE 150 Hours ago (SV)
 265 CWFOLD200 22595 353.058 CWFAVE 200 Hours ago (SV)
 266 CWFOLD250 22706 354.792 CWFAVE 250 Hours ago (SV)
 267 CWFOLD300 22939 358.433 CWFAVE 300 Hours ago (SV)
 268 CWFOLD350 22891 357.683 CWFAVE 350 Hours ago (SV)
 269 CWFOLD400 22688 354.511 CWFAVE 400 Hours ago (SV)
 270 CWFOLD450 23084 360.699 CWFAVE 450 Hours ago (SV)
 271 CWFOLD500 23289 363.902 CWFAVE 100 Hours ago (SV)
 272 CWF_X1000 18567 290.118 "CWFAVE at X1000 Hours (for x= 0 1,
2, ..., 6)"
 273 CWF_X1500 18625 291.025 "CWFAVE at X1500 Hours (for x= 0 1,
2, ..., 6)"
 274 CWF_X2000 18899 295.306 "CWFAVE at X2000 Hours (for x= 0 1,
2, ..., 6)"
 275 CWF_X2500 19351 302.369 "CWFAVE at X2500 Hours (for x= 0 1,
2, ..., 6)"
 276 CWF_X3000 19576 305.884 "CWFAVE at X3000 Hours (for x= 0 1,
2, ..., 6)"
 277 CWF_X3500 19407 303.244 "CWFAVE at X3500 Hours (for x= 0 1,
2, ..., 6)"
 278 CWF_X4000 19236 300.572 "CWFAVE at X4000 Hours (for x= 0 1,
2, ..., 6)"
 279 CWF_X4500 19545 305.400 "CWFAVE at X4500 Hours (for x= 0 1,
2, ..., 6)"
 280 CWF_X5000 19779 309.056 "CWFAVE at X5000 Hours (for x= 0 1,
2, ..., 6)"
 281 CWF_X6000 20373 318.338 "CWFAVE at X6000 Hours (for x= 0 1,
2, ..., 5)"
 282 CWF_X7000 21069 329.213 "CWFAVE at X7000 Hours (for x= 0 1,
2, ..., 5)"
 283 CWF_X8000 23158 361.855 "CWFAVE at X8000 Hours (for x= 0 1,
2, ..., 5)"
 284 CWF_X9000 17935 280.243 "CWFAVE at X9000 Hours (for x= 0 1,
2, ..., 5)"
 285 CWF_X0000 18295 285.868 "CWFAVE at X0000 Hours (for x= 1, 2,
..., 6)"
 286 LOWFUELPR 25 25 Number of Low Fuel Pressure Faults
(SV)
 287 SDN_LFP 0 0 Number of Shutdowns with Low Fuel
Pressure Fault (SV)
 288 NO_SPEED 60 60 Number of No Speed S/D
 289 NOSPDNOBATRY 52 52 Number of No Speed Shutdowns with
Main or Backup Start Contactor (SV)
 290 EMERGENCY 72 72 Number of Emergency S/D (SV)
 291 SNSR_FAIL 0 0 Number of Sensor Fail S/D
 292 RECT4R_CYC 37441 37441 APU Cycle of RECT4R entry (PS)
 293 RECT5S_CYC 37750 37750 APU Cycle of RECT5S entry (PS)
 294 LOP_SDN_1 0 0 APU Cycle of Low Oil Pressure Sdn(1)
 295 LOP_EVT_1 0000 0000 Event Word for Low Oil Pressure
Sdn(1)
 296 LOP_SDN_2 0 0 APU Cycle of Low Oil Pressure Sdn(2)
 297 LOP_EVT_2 0000 0000 Event Word for Low Oil Pressure
Sdn(2)
 298 LOP_SDN_3 0 0 APU Cycle of Low Oil Pressure Sdn(3)
 299 LOP_EVT_3 0000 0000 Event Word for Low Oil Pressure
Sdn(3)
 300 LOP_SDN_4 0 0 APU Cycle of Low Oil Pressure Sdn(4)
 301 LOP_EVT_4 0000 0000 Event Word for Low Oil Pressure
Sdn(4)

302	LOP_SDN_5	0	0	APU Cycle of Low Oil Pressure Sdn(5)
303	LOP_EVT_5	0000	0000	Event Word for Low Oil Pressure Sdn(5)
304	HOT_SDN_1	0	0	APU Cycle of High Oil Temp Sdn(1)
305	HOT_EVT_1	0000	0000	Event Word for High Oil Temp Sdn(1)
306	HOT_SDN_2	0	0	APU Cycle of High Oil Temp Sdn(2)
307	HOT_EVT_2	0000	0000	Event Word for High Oil Temp Sdn(2)
308	HOT_SDN_3	0	0	APU Cycle of High Oil Temp Sdn(3)
309	HOT_EVT_3	0000	0000	Event Word for High Oil Temp Sdn(3)
310	HOT_SDN_4	0	0	APU Cycle of High Oil Temp Sdn(4)
311	HOT_EVT_4	0000	0000	Event Word for High Oil Temp Sdn(4)
312	HOT_SDN_4	0	0	APU Cycle of High Oil Temp Sdn(5)
313	HOT_EVT_5	0000	0000	Event Word for High Oil Temp Sdn(5)
314	OVRTMPG_SDN_1	0	0	APU Cycle of Overtmp Onspeed Sdn(1)
315	OVRTMPG_EVT_1	0000	0000	Event Word for Overtmp Onspeed Sdn(1)
316	OVRTMPG_SDN_2	0	0	APU Cycle of Overtmp Onspeed Sdn(2)
317	OVRTMPG_EVT_2	0000	0000	Event Word for Overtmp Onspeed Sdn(2)
318	OVRTMPG_SDN_3	0	0	APU Cycle of Overtmp Onspeed Sdn(3)
319	OVRTMPG_EVT_3	0000	0000	Event Word for Overtmp Onspeed Sdn(3)
320	OVRTMPG_SDN_4	0	0	APU Cycle of Overtmp Onspeed Sdn(4)
321	OVRTMPG_EVT_4	0000	0000	Event Word for Overtmp Onspeed Sdn(4)
322	OVRTMPG_SDN_5	0	0	APU Cycle of Overtmp Onspeed Sdn(5)
323	OVRTMPG_EVT_5	0000	0000	Event Word for Overtmp Onspeed Sdn(5)
324	OVRTMPS_SDN_1	0	0	APU Cycle of Overtmp Start Sdn(1)
325	OVRTMPS_EVT_1	0000	0000	Event Word for Overtmp Start Sdn(1)
326	OVRTMPS_SDN_2	0	0	APU Cycle of Overtmp Start Sdn(2)
327	OVRTMPS_EVT_2	0000	0000	Event Word for Overtmp Start Sdn(2)
328	OVRTMPS_SDN_3	0	0	APU Cycle of Overtmp Start Sdn(3)
329	OVRTMPS_EVT_3	0000	0000	Event Word for Overtmp Start Sdn(3)
330	OVRTMPS_SDN_4	0	0	APU Cycle of Overtmp Start Sdn(4)
331	OVRTMPS_EVT_4	0000	0000	Event Word for Overtmp Start Sdn(4)
332	OVRTMPS_SDN_5	0	0	APU Cycle of Overtmp Start Sdn(5)
333	OVRTMPS_EVT_5	0000	0000	Event Word for Overtmp Start Sdn(5)
334	REVFLOW_SDN_1	0	0	APU Cycle of Reverse Flow Sdn(1)
335	REVFLOW_EVT_1	0000	0000	Event Word for Reverse Flow Sdn(1)
336	REVFLOW_SDN_2	0	0	APU Cycle of Reverse Flow Sdn(2)
337	REVFLOW_EVT_2	0000	0000	Event Word for Reverse Flow Sdn(2)
338	REVFLOW_SDN_3	0	0	APU Cycle of Reverse Flow Sdn(3)
339	REVFLOW_EVT_3	0000	0000	Event Word for Reverse Flow Sdn(3)
340	REVFLOW_SDN_4	0	0	APU Cycle of Reverse Flow Sdn(4)
341	REVFLOW_EVT_4	0000	0000	Event Word for Reverse Flow Sdn(4)
342	REVFLOW_SDN_5	0	0	APU Cycle of Reverse Flow Sdn(5)
343	REVFLOW_EVT_5	0000	0000	Event Word for Reverse Flow Sdn(5)
344	NOACCEL_SDN_1	38053	38053	APU Cycle of No Accel Sdn(1)
345	NOACCEL_EVT_1	01BF	01BF	Event Word for No Accel Sdn(1)
346	NOACCEL_SDN_2	38053	38053	APU Cycle of No Accel Sdn(2)
347	NOACCEL_EVT_2	01AF	01AF	Event Word for No Accel Sdn(2)
348	NOACCEL_SDN_3	38045	38045	APU Cycle of No Accel Sdn(3)
349	NOACCEL_EVT_3	01BF	01BF	Event Word for No Accel Sdn(3)
350	NOACCEL_SDN_4	38042	38042	APU Cycle of No Accel Sdn(4)
351	NOACCEL_EVT_4	01BF	01BF	Event Word for No Accel Sdn(4)
352	NOACCEL_SDN_5	38042	38042	APU Cycle of No Accel Sdn(5)
353	NOACCEL_EVT_5	01BF	01BF	Event Word for No Accel Sdn(5)
354	OVRSPD_SDN_1	0	0	APU Cycle of Overspeed Sdn(1)
355	OVRSPD_EVT_1	0000	0000	Event Word for Overspeed Sdn(1)
356	OVRSPD_SDN_2	0	0	APU Cycle of Overspeed Sdn(2)
357	OVRSPD_EVT_2	0000	0000	Event Word for Overspeed Sdn(2)
358	OVRSPD_SDN_3	0	0	APU Cycle of Overspeed Sdn(3)
359	OVRSPD_EVT_3	0000	0000	Event Word for Overspeed Sdn(3)
360	OVRSPD_SDN_4	0	0	APU Cycle of Overspeed Sdn(4)
361	OVRSPD_EVT_4	0000	0000	Event Word for Overspeed Sdn(4)
362	OVRSPD_SDN_5	0	0	APU Cycle of Overspeed Sdn(5)
363	OVRSPD_EVT_5	0000	0000	Event Word for Overspeed Sdn(5)

364	UNDRSPD_SDN_1	0	0	APU Cycle of Underspeed Sdn(1)
365	UNDRSPD_EVT_1	0000	0000	Event Word for Underspeed Sdn(1)
366	UNDRSPD_SDN_2	0	0	APU Cycle of Underspeed Sdn(2)
367	UNDRSPD_EVT_2	0000	0000	Event Word for Underspeed Sdn(2)
368	UNDRSPD_SDN_3	0	0	APU Cycle of Underspeed Sdn(3)
369	UNDRSPD_EVT_3	0000	0000	Event Word for Underspeed Sdn(3)
370	UNDRSPD_SDN_4	0	0	APU Cycle of Underspeed Sdn(4)
371	UNDRSPD_EVT_4	0000	0000	Event Word for Underspeed Sdn(4)
372	UNDRSPD_SDN_5	0	0	APU Cycle of Underspeed Sdn(5)
373	UNDRSPD_EVT_5	0000	0000	Event Word Underspeed Sdn(5)
374	CLFLTR_SDN_1	0	0	APU Cycle of Clogged Oil Filter Sdn(1)
375	CLFLTR_EVT_1	0000	0000	Event Word for Clogged Oil Filter Sdn(1)
376	CLFLTR_SDN_2	0	0	APU Cycle of Clogged Oil Filter Sdn(2)
377	CLFLTR_EVT_2	0000	0000	Event Word for Clogged Oil Filter Sdn(2)
378	CLFLTR_SDN_3	0	0	APU Cycle of Clogged Oil Filter Sdn(3)
379	CLFLTR_EVT_3	0000	0000	Event Word for Clogged Oil Filter Sdn(3)
380	CLFLTR_SDN_4	0	0	APU Cycle of Clogged Oil Filter Sdn(4)
381	CLFLTR_EVT_4	0000	0000	Event Word for Clogged Oil Filter Sdn(4)
382	CLFLTR_SDN_5	0	0	APU Cycle of Clogged Oil Filter Sdn(5)
383	CLFLTR_EVT_5	0000	0000	Event Word for Clogged Oil Filter Sdn(5)
384	NOFLAM_SDN_1	37284	37284	APU Cycle of No Flame Sdn(1)
385	NOFLAM_EVT_1	003F	003F	Event Word for No Flame Sdn(1)
386	NOFLAM_SDN_2	37284	37284	APU Cycle of No Flame Sdn(2)
387	NOFLAM_EVT_2	003F	003F	Event Word for No Flame Sdn(2)
388	NOFLAM_SDN_3	37284	37284	APU Cycle of No Flame Sdn(3)
389	NOFLAM_EVT_3	003F	003F	Event Word for No Flame Sdn(3)
390	NOFLAM_SDN_4	37284	37284	APU Cycle of No Flame Sdn(4)
391	NOFLAM_EVT_4	003F	003F	Event Word for No Flame Sdn(4)
392	NOFLAM_SDN_5	37284	37284	APU Cycle of No Flame Sdn(5)
393	NOFLAM_EVT_5	003F	003F	Event Word for No Flame Sdn(5)
394	INLTHOT_SDN_1	0	0	APU Cycle of Inlet HOT Sdn(1)
395	INLTHOT_EVT_1	0000	0000	Event Word for Inlet HOT Sdn(1)
396	INLTHOT_SDN_2	0	0	APU Cycle of Inlet HOT Sdn(2)
397	INLTHOT_EVT_2	0000	0000	Event Word for Inlet HOT Sdn(2)
398	INLTHOT_SDN_3	0	0	APU Cycle of Inlet HOT Sdn(3)
399	INLTHOT_EVT_3	0000	0000	Event Word for Inlet HOT Sdn(3)
400	INLTHOT_SDN_4	0	0	APU Cycle of Inlet HOT Sdn(4)
401	INLTHOT_EVT_4	0000	0000	Event Word for Inlet HOT Sdn(4)
402	INLTHOT_SDN_5	0	0	APU Cycle of Inlet HOT Sdn(5)
403	INLTHOT_EVT_5	0000	0000	Event Word for Inlet HOT Sdn(5)
404	EMERG_SDN_1	38044	38044	APU Cycle of Emergency Sdn(1)
405	EMERG_EVT_1	00AF	00AF	Event Word for Emergency Sdn(1)
406	EMERG_SDN_2	37689	37689	APU Cycle of Emergency Sdn(2)
407	EMERG_EVT_2	00BF	00BF	Event Word for Emergency Sdn(2)
408	EMERG_SDN_3	37553	37553	APU Cycle of Emergency Sdn(3)
409	EMERG_EVT_3	08AF	08AF	Event Word for Emergency Sdn(3)
410	EMERG_SDN_4	37499	37499	APU Cycle of Emergency Sdn(4)
411	EMERG_EVT_4	00BF	00BF	Event Word for Emergency Sdn(4)
412	EMERG_SDN_5	37454	37454	APU Cycle of Emergency Sdn(5)
413	EMERG_EVT_5	001F	001F	Event Word for Emergency Sdn(5)
414	NOSPD_SDN_1	37988	37988	APU Cycle of No Speed Sdn(1)
415	NOSPD_EVT_1	001F	001F	Event Word for No Speed Sdn(1)
416	NOSPD_SDN_2	37949	37949	APU Cycle of No Speed Sdn(2)
417	NOSPD_EVT_2	001F	001F	Event Word for No Speed Sdn(2)
418	NOSPD_SDN_3	37949	37949	APU Cycle of No Speed Sdn(3)
419	NOSPD_EVT_3	001F	001F	Event Word for No Speed Sdn(3)
420	NOSPD_SDN_4	37539	37539	APU Cycle of No Speed Sdn(4)
421	NOSPD_EVT_4	001F	001F	Event Word for No Speed Sdn(4)

422	NOSPD_SDN_5	37038	37038 APU Cycle of No Speed Sdn(5)
423	NOSPD_EVT_5	001F	001F Event Word for No Speed Sdn(5)
424	SNSRFAIL_SDN_1	0	0 APU Cycle of Sensor Fail Sdn(1)
425	SNSRFAIL_EVT_1	0000	0000 Event Word for Sensor Fail Sdn(1)
426	SNSRFAIL_SDN_2	0	0 APU Cycle of Sensor Fail Sdn(2)
427	SNSRFAIL_EVT_2	0000	0000 Event Word for Sensor Fail Sdn(2)
428	SNSRFAIL_SDN_3	0	0 APU Cycle of Sensor Fail Sdn(3)
429	SNSRFAIL_EVT_3	0000	0000 Event Word for Sensor Fail Sdn(3)
430	SNSRFAIL_SDN_4	0	0 APU Cycle of Sensor Fail Sdn(4)
431	SNSRFAIL_EVT_4	0000	0000 Event Word for Sensor Fail Sdn(4)
432	SNSRFAIL_SDN_5	0	0 APU Cycle of Sensor Fail Sdn(5)
433	SNSRFAIL_EVT_5	0000	0000 Event Word for Sensor Fail Sdn(5)
434	INFLIGHT_SDN_1	0	0 APU Cycle of Inflight Sdn(1)
435	INFLIGHT_EVT_1	0000	0000 Event Word for Inflight Sdn(1)
436	INFLIGHT_SDN_2	0	0 APU Cycle of Inflight Sdn(2)
437	INFLIGHT_EVT_2	0000	0000 Event Word for Inflight Sdn(2)
438	INFLIGHT_SDN_3	0	0 APU Cycle of Inflight Sdn(3)
439	INFLIGHT_EVT_3	0000	0000 Event Word for Inflight Sdn(3)
440	INFLIGHT_SDN_4	0	0 APU Cycle of Inflight Sdn(4)
441	INFLIGHT_EVT_4	0000	0000 Event Word for Inflight Sdn(4)
442	INFLIGHT_SDN_5	0	0 APU Cycle of Inflight Sdn(5)
443	INFLIGHT_EVT_5	0000	0000 Event Word for Inflight Sdn(5)
444	ABFLTSTRT_L25	0	0 Number of Unsuccessful In-Flight Starts < 25000 ft
445	ABFLTSTRT_G25	0	0 Number of Unsuccessful In-Flight Starts > 25000 ft
446	CUR_MONTH	0003	0003 0001..0012 corresponding to January .. December
447	MINUTES_M0	2874	2874 Number of APU minutes during current month
448	CYCLES_M0	49	49 Number of APU cycles during current month
449	MINUTES_M1	10695	10695 Number of APU minutes during current month - 1 month
450	CYCLES_M1	166	166 Number of APU cycles during current month – 1 month
451	MINUTES_M2	9836	9836 Number of APU minutes during current month – 2 months
452	CYCLES_M2	141	141 Number of APU cycles during current month – 2 months
453	MINUTES_M3	14639	14639 Number of APU minutes during current month – 3 months
454	CYCLES_M3	213	213 Number of APU cycles during current month – 3 months
455	MINUTES_M4	11086	11086 Number of APU minutes during current month – 4 months
456	CYCLES_M4	181	181 Number of APU cycles during current month – 4 months
457	MINUTES_M5	8634	8634 Number of APU minutes during current month – 5 months
458	CYCLES_M5	153	153 Number of APU cycles during current month – 5 months
459	MINUTES_M6	257	257 Number of APU minutes during current month – 6 months
460	CYCLES_M6	4	4 Number of APU cycles during current month – 6 months
461	MINUTES_M7	3951	3951 Number of APU minutes during current month – 7 months
462	CYCLES_M7	78	78 Number of APU cycles during current month – 7 months
463	MINUTES_M8	11877	11877 Number of APU minutes during current month – 8 months
464	CYCLES_M8	225	225 Number of APU cycles during current month – 8 months
465	MINUTES_M9	14406	14406 Number of APU minutes during current month – 9 months
466	CYCLES_M9	256	256 Number of APU cycles during current month – 9 months

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467 MINUTES_M10	12894	12894	Number of APU minutes during current month – 10 months
468 CYCLES_M10	227	227	Number of APU cycles during current month – 10 months
469 MINUTES_M11	3182	3182	Number of APU minutes during current month – 11 months
470 CYCLES_M11	50	50	Number of APU cycles during current month – 11 months
471 MINUTES_M12	1020	1020	Number of APU minutes during current month – 12 months
472 CYCLES_M12	16	16	Number of APU cycles during current month – 12 months
473 APUcycles_HI	0	0	APU CYCLES High Word (add to Entry #11)
474 APUhours_HI	0	0	APU HOURS High Word (add to Entry #9)
475 APUminutes_Hres	37	3.700	APU MINUTES High Resolution