

AVIATION SERVICES, LLC - 2551 HELLCAT LANE, SANFORD, FLORIDA 32773

FAA CRS# 6VAR708B **** E.A.S.A. # 145.6440

MPA RUN DATA B737 TEST NO. 10

CUSTOMER	t:
ENGINE SE	RIAL NO: 727144
ENGINE SE	RIAL NO :
WORK ORD	ER NO: 2213
DATE: 16 S	EPT. 2020
POWER SE	TTING: 23.5k

ENGINE

POS.

2

ENGINE

POS.

2

OAT (°C)

33

OAT (°C)

33

BARO

30

TARGET

N1%

87.5

ACFT REG. NO: POSITION NO: 1 POSITION NO: 2

REASON: Test 10

ENGI	NE PERFOR B737 AMM		N.
	TES		1
PMC	OFF	PMC	CON
Target N2	Recorded	Target N1	Recorde
94.1	94.6	75.7	77.1

Engine Pos.	Engine Model	Engine S/N	MEC P/N	PMC P/N	Tank	Fuel Quantity (kgs)	100
1	CFM56-3-C1	727144	665038063-215	07482SOCN7157M68P04	No. 1	3,187	18
2					No. 2	3,290	
					CTR	60	1
				CHELTYDE JET A	+2.4	G 537	100

E	ngi	ne	St	art	D	ata

NGINE POS.	Start Le	ver Adv.	INITI/ L	LIGHT-	STARTER		MAX	TIME TO		ENGINE OIL		N. T. 104
	POS.		Motoring Time Sec	FUE	UP TIME SEC.	TIME COTOOT	MAX EGT	FUEL	IDLE SECONDS	QTY	TEMP	PRESSURE
1	24%	45	300	2	46.0%	685	500	51	80%	48	28	0.8
2												

	Lo	Low idle (N2 %)			
1	Farget		Recorded		
	62.6		62.8		
Н					

Target	Recorded
73.3	75.6

Test No. 5 Power Assurance Check (80% N1)

ENGINE	0 AT (00)	TARGET	Last Back						
POS.	OAT (°C)	N1%	N1%	N2%	EGT	FUEL FLOW	OT	OP	VIB
1	33	82.3	82.3	94.6	94.6	2.6	90	96	1
2									

Test No. 5 Power Assurance Check (85% N1)

One of the			Recorded V	/alues			
N1%	N2%	EGT	FUEL FLOW	OT	OP	VIB	
87.5	96.5	794	3.1	95	98	0.9	

Test No. 5 Power Assurance Check (90% N1)

ENGINE	OAT (°C)	TARGET				Recorded	Values	AT FIRST		
POS.	OAT (C)	N1%	N1%	N1%	N2%	EGT	FUEL FLOW	ОТ	OP	VIB
1	33	91.8	91.8	98	829	3.6	95	48	0.8	
2										

Test No. 5 Takeoff Power Check

NGINE POS. OAT (°C	DAT (°C)	TARGET				Recorded	Values		300
POS.	OAI (C)	N1%	N1%	N2%	EGT	FUEL FLOW	RED LINE	MARGIN	VIB
1	33	98.6	98.6	100.3	822	3.2	930	108	8.0
2							930		

Test 5 Power Assurance Check (80% N1)

POS. OAT (°C)	TARGET		ecorded Va	lues	ADJ EGT	MAX EGT	BASE EGT MARGIN	TCC TIMER MARGIN ADJ	MARGIN	EGT MARGIN @ MARANA,AZ	EGT MARGIN @	
100.		N1%	N1%	N2%	EGT					SEA LEVEL	@ III II	4,000 FT.
1	33	82.3%	82.3%	94.6%	748	748	751	3	N/A	- 18		
2									N/A			
The Street	V-V-D	es los		T	est No	5 Power	Assura	ce Check	(85% N1)			

ENGINE DAT (OAT (°C)	TARGET		ecorded Ve	lues	ADJ EGT	MAX EGT	BASE EGT MARGIN	TCC TIMER MARGIN ADJ	EGT MARGIN	EGT MARGIN @ MARANA, AZ	EGT MARGIN@
100.		N1%	N1%	N2%	EGT	FOR N1				SEA LEVEL	@ Iterative trape	4,000 FT.
1	33	87.5%	87.5%	96.5%	794	794	803	9	N/A			
2			9						N/A			
		198			Test 5	Power A	ssuranc	e Check (90% N1)	NY VAN		

ENGINE POS.	OAT (°C)	TARGET	Re	corded Va	lues	ADJ EGT	MAX EGT	BASE EGT MARGIN	TCC TIMER MARGIN ADJ	EGT MARGIN	EGT MARGIN @ MARANA,AZ	EGT MARGIN @
		N1%	N1%	N2%	EGT	FOR N1	₹ N1			SEA LEVEL		4,000 FT.
1	33	91.8%	91.8%	98.0%	829	829	854	25	N/A			
2									N/A			

NOTE: 22,000 THRUST LBS CHECK @ SELLEVEL EGT MARGIN REDUCED 43 DEGIC FOR 80% SETTING: FOR 85% - 90% SETTINGS REDUCE 42 DEGIC

NOTE NO ALTITUDE ADJUSTMENT FOR 2,000 OPERATIONS AND HIGHER.

REV.5 06-01-2018 FORM M022

TEST 7 - Vibration Survey

	le	

N1%	N1%	Vib Readir	ngs (UNITS)		
Range	Speed	POS 1	POS 2		
52.2-56.0	53.0	0.9			
63.8-67.6	65.0	0.9			
71.5-75.4	73.0	1.0			
79.2-82.1	80.0	1.0	AT THE REAL PROPERTY.		
84.1-87.0	85.0	1.0			
90.0-93.7	91.0	0.9			

TEST 7 - Vibration Survey

Decelerate

N1%	N1%	Vib Readings (UNITS				
Range	Speed	POS 1	POS 2			
90.0-93.7	91.0	0.9				
84.1-87.0	85.0	0.9				
79.2-82.1	80.0	1.0				
71.5-75.4	73.0	1.0				
63.8-67.6	65.0	0.9				
52.2-56.0	53.0	1.0	N Republican			
	The second secon	CALL COLUMN TO A SECOND TO A S	AND DESCRIPTION OF THE PARTY OF			

TEST 8

Accel Target	Static T/O	40% N1 to Target	High Idle to Target
96.3	98.6	4	6.0

N2 ADJ FOR 23.5K / 3C-1	ADJUSTED N2	MAX N2	%N2 MARGIN
0.0%	94.6%	94.8%	0.2%

N2 ADJ FOR 23.5K / 3C-1	ADJUSTED N2	MAX N2	KN2 MARGIN
0.0%	96.5%	97.7%	1,2%

N2 ADJ OR 23.5K / 3C-1	ADJUSTĚD N2	MAX N2	%N2 MARGIN
0.0%	98.0%	99.5%	1.5%



REPRINT Maintenance Work Order



Phone: 520 294-3481

ASCENT AVIATION SERVICES

		000339	2103

					ENGINE PI	RESERVATIO	N				December 4	, 2019 11:35:01 AM
	Regis	tration/Serial No/A/C T	ype /Customer	Name	WO		Card No	ATA	Zone	Do	ot Written	By Generated By
N228AV	V/25032/7:	37-300/			HT12	20	10013				209	
Task	/ Disc	repancy: E	SN 727	144 - PRES	SERVE E	ENGINE	UP TO :	365 D	AYS			
Sugg	gested	Action: A:	s 5t	sted								***************************************
									s Req	Yes(Ordered Yos N
Cori	ective	Action: CL MM 71-	υ End 00-01	727/4	14 Pro	scrva 141 for	tion Serv	for en	36 gine	5 c	Ale	[4w
					·····						RII	Yes (No
Tool	624	203 duc	. l-1l:	-20 PC45		Date: 11-4-19 Date:	Co-Sign:	9/6	587 _{AP}	Inspect	QC-44	11-4-19
Ops/	Leak /	Rig Ck Yes	(No)			-04 Upo	100	Yes	Ng		RII	Yes (No)
			***********			Defe:	Mech: Co-Bign:			Inspect	ior:	Date:
Item	Date		V	ork In Pr	ogress				Mech	1	Co-Sign	Insp
								+		1		
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										1		
P/N OFF:			IP/N ON:			P/N OFF:				P/N O	N.	
S/N OFF:			S/N ON:			S/N OFF:				S/N O		
EO Skill	Yes No	Major Repair / All	teration Re-Eval	Yes No Attacl	hments Ye		T Po	Eval	Rep Auth	•	S	w - Paview
A&P	8.50	e Rep Auui	Re-Eval	Rep Autii	Re-Evai	Rep Auth	Ne-	Cvai	Nep Auti	Ħ	C AM	Review 16587
											Custo	mer Review
								tal			qc	QC-07

Ascent Aviation Services Tucson AZ 85756 USA

FAA Repair Station 7AHR548B EASA Repair Station EASA. 145.5903







UNCONTROLLED DATA
DATE 12-05-2019

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(Continued)

Zone

Area

606

Engine

E. Power Plant Depreservation

SUBTASK 71-00-03-032-133-C00

(1) Remove the waterproof cover, the film, G02455 [CP2160], and desiccant, G02456 [CP2098].

SUBTASK 71-00-03-032-137-C00

(2) Make sure you remove all of the tape from the inlet and exhaust areas and there is no unwanted material.

SUBTASK 71-00-03-612-134-C00

- (3) Do a check of the oil tank level and fill it up if necessary (TASK 12-13-11-603-056 or TASK 12-13-11-603-054).
 - (a) Use 20 quarts (19 liters) of approved engine oil, D00599 [CP2442].

SUBTASK 71-00-03-682-135-C00

WARNING: USE THE POWER PLANT OPERATION (NORMAL) PROCEDURE TO OPERATE THE POWER PLANT. IF YOU DO NOT USE THIS PROCEDURE, YOU CAN CAUSE DAMAGE TO EQUIPMENT OR INJURY TO PERSONS.

(4) Use the Power Plant Wet-Motor procedure to motor the engine (TASK 71-00-00-802-117-C00).

SUBTASK 71-00-03-862-138-C00

(5) Use the Power Plant Wet-Motor procedure to do the engine shut-down (TASK 71-00-00-802-117-C00).

SUBTASK 71-00-03-712-136-C00

- (6) Do this task: Test No. 3 Idle Leak Check, TASK 71-00-00-795-004-C00.
 - (a) Operate the engine at low idle for ten minutes minimum before the engine shutdown.

----- END OF TASK -----

TASK 71-00-03-622-046-C00

9. Power Plant (30 to 365 Days - Serviceable and Not serviceable Power Plant) Preservation (Figure 201)

A. General

- (1) This task provides the instructions on how to preserve the engine from beteen 30 -165 days.
- (2) The tasks are for engines that are installed on-wing.
- (3) Procedures for engines that are removed from the airplane are in the CFMI Engine Shop Manual, Section 72-00-00, Page 1201.
- (4) This task requires a waterproof protective cover and tape that must be acquired locally.
- (5) Do not apply a spray of preservation oil to the inlet, compressor, turbine, or exhaust.
- (6) For power plant that is not serviceable, if you can do the engine motoring procedure, use the procedure for a serviceable engine preservation for 30 to 365 days.

B. References

Reference	Title	
12-13-11-603-054	Replenish the Engine Oil (P/B 301)	
12-13-11-603-056	Replenish the Engine Oil (P/B 301)	

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(Continued)

Reference	Title
12-13-11-603-069	Change the Engine Oil (P/B 301)
24-22-00-862-001	Supply External Power to the Buses (P/B 201)
24-22-00-862-011	Remove External Power from the Buses (P/B 201)
71-00-00-802-074-C00	Power Plant (Normal) Operation (P/B 201)
72-00-00-982-026-C00	N2 Rotor Manual or Drive Motor (P/B 201)
73-11-02-004-001-C00	Fuel Filter Cartridge Removal (P/B 401)
73-11-02-404-013-C00	Fuel Filter Cartridge Installation (P/B 401)
75-32-00-862-001-C00	VBV System Actuation Procedure - External Pressure Source (P/B 201)
75-32-00-982-014-C00	VBV System Actuation Procedure - Manual Movement (P/B 201)
79-21-04-004-001-C00	Scavenge Oil Filter Element Removal (P/B 401)
79-21-04-404-006-C00	Scavenge Oil Filter Element Installation (P/B 401)
79-21-05-002-001-C00	Magnetic Chip Detector (MCD) Removal (P/B 201)
79-21-05-402-015-C00	Magnetic Chip Detector (MCD) Installation (P/B 201)

C. Tools/Equipment

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

Reference	Description
SPL-9853	Cart - Nitrogen Manifold - Fuel Pressure Test - CFM56-3 Engine
	Part #: 856A1115G07 Supplier: 58828
STD-162	Cart - Oil, Pressurized 50 PSI (345 kPa) max,10 Gallon (38 Liters)
	cap
STD-1285	Container - Fuel Resistant, 10 Gallon (38 Liters)
STD-1290	Source - Nitrogen, 0-200 PSIG
STD-3940	Air Source - Regulated, Dry Filtered, 0 to 150 psig
STD-6378	Protective Mat - Rubber, Manufacturers Association, Grade SC43, neoprene sponge, 1 inch thick, approximately 3 x 4 feet with warning streamer attached
STD-8414	Gloves - Heat and/or Abrasion Resistant

D. Consumable Materials

Reference	Description	Specification
D00599 [CP2442]	Oil - Engine (CFMI SB 79-0001)	CFM CP2442
D00623 [CP5066]	Oil - Fuel System, Corrosion Preventive	MIL-PRF-6081, Grade 1010
D00662 [CP5075]	Additive, Corrosion Preventive	
D00664 [CP5067]	Oil - Corrosion Preventive, Lubricative System	MIL-PRF-6085
G02455 [CP2160]	Film, Vapor Barrier, Polyethylene	L-P-512
G02456 [CP2098]	Desiccant - Activated, Bagged, Packaging Use And Static Dehumidification	MIL-D-3464

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Location Zones

Zone	Area
506	Engine
606	Engine

F. Power Plant (Serviceable) Preservation

SUBTASK 71-00-03-612-131-C00

CAUTION: DO NOT APPLY A SPRAY OF PRESERVATIVE OIL OR AN EQUIVALENT OIL INTO THE ENGINE INLET, CORE COMPRESSOR OR TURBINE, OR ENGINE EXHAUST. DIRT PARTICLES THAT ATTACH TO THE WET BLADES AND VANES CAN DECREASE ENGINE PERFORMANCE DURING THE SUBSEQUENT ENGINE OPERATION.

- (1) Fill the engine oil tank with a minimum of 20 quarts (19 liters) of one of the mixtures that follow (TASK 12-13-11-603-056 or TASK 12-13-11-603-054):
 - (a) Engine oil, D00599 [CP2442] and a minimum of 5 percent by volume lubrication system corrosion preventive oil, D00664 [CP5067].
 - (b) Engine oil, D00599 [CP2442] and a minimum of 7 percent by volume corrosion preventive oil additive, D00662 [CP5075].

SUBTASK 71-00-03-432-048-C00

(2) Install pad covers (N2 Rotor Manual or Drive Motor, TASK 72-00-00-982-026-C00) and gaskets on all accessory drive pads if you remove an accessory unit.

SUBTASK 71-00-03-622-049-C00

- (3) Do the engine fuel system preservation.
 - (a) Drain the fuel supply line.
 - (b) Supply the electrical power (TASK 24-22-00-862-001).
 - 1) Remove the DO-NOT-OPERATE tag from the BAT switch.
 - (c) Make sure the applicable start lever is in the CUTOFF position.
 - (d) Make sure the FUEL VALVE CLOSED light on pilots' overhead panel, (P5), is on (dim) to show the valve closed.
 - (e) Open this circuit breaker and attach a DO-NOT-CLOSE tag:
 - 1) P6 Main Power Distribution Panel
 - a) SHUTOFF VALVE ENG
 - (f) Remove the electrical power (TASK 24-22-00-862-011).
 - Set the BAT switch on the Electrical Meters Battery and Galley Power Module (P5-13) to the OFF position and install a DO-NOT-OPERATE tag.
 - (g) Put an approved container for fuel below the drain plug for the fuel filter.
 - (h) Remove the drain plug for the fuel filter and let the fuel drain.

NOTE: You can loosen the connection for the fuel supply line at the service disconnect panel to help the fuel drain.

You can use a funnel, made from foil or equivalent material, below the fuel supply line connection and a hose that goes to the container to prevent fuel leakage on the fan case.

(i) Remove the O-ring from the drain plug.

1) Discard the O-ring.

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- (j) Install a new O-ring, lightly lubricated with petrolatum, on the drain plug.
- (k) Install the drain plug with the threads lightly lubricated with grease.
 - 1) Tighten the drain plug to 45-55 pound-inches (5.1-6.2 Newton-meters).
 - 2) Safety the drain plug with a lockwire. TW# 024203 C44 1-11-200c-44
- (I) If you loosened the fuel supply line, tighten the connection for the fuel supply line at the service disconnect panel.
- (m) Disconnect the fuel supply line at the fuel pump inlet.
 - 1) Remove the bolts and washers that attach the fuel supply line to the fuel pump.
 - 2) Remove the gasket from the inlet flange of the fuel pump.
 - a) Keep the gasket for the installation.
 - 3) Install the cap on the fuel supply line.

CAUTION: DO NOT USE SILICONE BASE OILS IN THE FUEL SYSTEM. SILICONE BASE OILS CAN CAUSE DAMAGE TO THE FUEL SYSTEM.

- (n) Connect a temporary line from the oil cart, STD-162 to the fuel pump inlet to supply fuel system corrosion preventive oil, D00623 [CP5066] at 50 psi (345 kPa) maximum pressure.
- (o) Disconnect the PCR line from the port on the top of the main engine control (MEC).
- (p) Connect a temporary drain line from the PCR port and from the disconnected line to a 10 gallon (38 liters) fuel resistant container, STD-1285.
- (q) Disconnect the discharge pressure (CDP) line of the compressor from the port on the aft end of the MEC.
- (r) Connect a fuel pressure test cart, SPL-9853 or 0 to 150 psig dry filtered regulated air source, STD-3940 or nitrogen source, STD-1290 to the CDP port.
 - NOTE: The air or nitrogen source must be capable of controlled pressure from zero to 150 psi.

NOTE: Do not apply pressure to the CDP port at this time.

- (s) Install a cap on the CDP line.
- (t) Apply and hold an oil pressure of 50 psi (345 kPa) maximum to the fuel pump inlet.

WARNING: USE THE POWER PLANT OPERATIONAL PROCEDURE TO OPERATE THE POWER PLANT. IF YOU DO NOT USE THIS PROCEDURE, YOU CAN CAUSE DAMAGE TO THE EQUIPMENT OR INJURY TO PERSONS.

DO NOT APPLY BOOST PUMP PRESSURE TO THE FUEL PUMP INLET DURING THE DRY MOTOR PROCEDURE. FUEL LEAKAGE CAN OCCUR AND CAUSE DAMAGE TO THE EQUIPMENT OR INJURY TO PERSONS.

- (u) Use the Power Plant Dry-Motor procedure to motor the engine at the maximum motor speed (20 percent of N2 minimum) for two minutes (TASK 71-00-00-802-074-C00).
 - 1) Do not apply boost pump pressure to the fuel pump inlet.

NOTE: Because the engine fuel supply line was disconnected and capped, fuel boost pump pressure can cause the cap on the supply line to come off and fuel to spill on the engine.

(v) Use the Power Plant Dry-Motor procedure to do the engine shutdown (TASK 71-00-00-802-074-C00).

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- (w) Remove the pressure from the oil supply line to the fuel pump inlet.
- (x) If the fan rotor did not turn during the engine motor procedure, make sure the engine is fully stopped and manually turn the fan rotor two full turns as follows:
 - 1) Install two protective mats, STD-6378 in the inlet on the full lower half of inlet cowl.

WARNING: YOU MUST HAVE COMMUNICATION BETWEEN THE PERSONS IN FLIGHT COMPARTMENT AND PERSONS THAT MANUALLY TURN THE FAN ROTOR AT ALL TIMES. ACCIDENTAL OPERATION OF THE ENGINE OR ENGINE SYSTEMS CAN CAUSE INJURY TO PERSONS NEAR THE ENGINE.

THE ENGINE MUST BE FULLY STOPPED BEFORE YOU TRY TO GO INTO THE INLET TO MANUALLY TURN THE FAN ROTOR. IF THE ENGINE IS NOT FULLY STOPPED, INJURY CAN OCCUR.

WARNING: DO NOT TRY TO MANUALLY TURN THE FAN ROTOR WITHOUT GOOD GLOVES.

MAKE SURE YOU ARE ON A SAFE SURFACE WHILE YOU TURN THE FAN.

BE VERY CAREFUL WHILE YOU TURN THE FAN TO PREVENT INJURY.

- Use heat and/or abrasion resistant gloves, STD-8414 and manually turn the fan two full turns in the direction of operation (counterclockwise viewed from front).
- 3) Remove the protective mats, STD-6378from the inlet cowl.
- (y) Remove the drain line from the PCR port and disconnected PCR line.
- (z) Connect the PCR line to the PCR port.
 - 1) Tighten the coupling nut to 65-75 pound-inches (7.3-8.5 Newton-meters).

(aa) Apply and hold an oil pressure of 50 psi (345 kPa) maximum to the fuel pump inlet.

(ab) Apply and hold a pressure of 150 psi (1035 kPa) at the CDP port.

WARNING: USE THE POWER PLANT OPERATIONAL PROCEDURE TO OPERATE THE POWER PLANT. IF YOU DO NOT USE THIS PROCEDURE, YOU CAN CAUSE DAMAGE TO THE EQUIPMENT OR INJURY TO PERSONS.

DO NOT APPLY BOOST PUMP PRESSURE TO THE FUEL PUMP INLET DURING THE DRY MOTOR PROCEDURE. FUEL LEAKAGE CAN OCCUR AND CAUSE DAMAGE TO THE EQUIPMENT OR INJURY TO PERSONS.

- (ac) Use the Power Plant Dry-Motor procedure to motor the engine to the maximum motor speed (approximately 24-28 percent of N2) (TASK 71-00-00-802-074-C00).
 - 1) Do not apply boost pump pressure to the fuel pump inlet.

NOTE: Because the engine fuel supply line was disconnected and capped, fuel boost pump pressure can cause the cap on the supply line to come off and fuel to spill on the engine.

- (ad) When the engine is at maximum motor speed, put the applicable engine start lever in the IDLE position for 10 seconds.
- (ae) Put the start lever back to the CUTOFF position and continue to motor the engine for 2

(af) Use the Power Plant Dry-Motor procedure to do the engine shutdown (TASK 71-00-00-802-074-C00).

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- (ag) Remove the pressure from the oil supply line to the fuel pump inlet.
- (ah) Remove the oil supply line.
- (ai) Connect the fuel supply line to the fuel pump inlet.
 - 1) Remove the cap from the fuel supply line.
 - Lightly lubricate the gasket with petrolatum and install it on the inlet port of the fuel pump.
 - 3) Lightly lubricate the bolts (4 locations) for the fuel line flange with grease.
 - Put the fuel line flange on the fuel pump flange, and install the bolts and washers (4 locations).
 - a) Tighten the bolts.
- (ai) Remove the pressure from the CDP port (incorrect PS3 source).
- (ak) Remove the cap from the CDP line.
- (al) Connect the CDP line to the MEC port.
 - 1) Tighten the coupling nut to 135-150 pound-inches (15.3-17.0 Newton -meters).

SUBTASK 71-00-03-412-124-C00

(4) Close the VBV doors if they are open (TASK 75-32-00-862-001-C00 or TASK 75-32-00-982-014-C00).

SUBTASK 71-00-03-432-125-C00

(5) Put the vapor barrier film, G02455 [CP2160] on the VBV bleed grills.

SUBTASK 71-00-03-432-126-C00

(6) Install caps on all disconnected lines and electrical connections.

SUBTASK 71-00-03-432-127-C00

- (7) Seal the inlet and exhaust openings with the vapor barrier film, G02455 [CP2160].
 - (a) Attach the vapor barrier film, G02455 [CP2160] with tape.

SUBTASK 71-00-03-432-050-C00

(8) Put the desiccant, G02456 [CP2098] on each side of the engine, but do not let it touch the engine hardware.

NOTE: You must replace the desiccant at regular intervals depending on the weather conditions. Install the desiccant such that it gives sufficient protection to the engine and also lets access for replacement without damage to the engine protective cover.

SUBTASK 71-00-03-432-051-C00

- (9) Install a waterproof cover on the full power plant.
 - (a) Tightly attach the waterproof cover to the engine.

SUBTASK 71-00-03-932-052-C00

- (10) Attach a tag to the power plant to show that you did the fuel system and oil system preservation with preservation oil.
 - (a) Include the date of the preservation procedure.

SUBTASK 71-00-03-862-053-C00

- (11) Remove the DO-NOT-CLOSE tag and close this circuit breaker:
 - (a) P6 Main Power Distribution Panel
 - 1) SHUTOFF VALVE ENG

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ENGINE LIFE LIMITED PARTS STATUS

6,883.20 TSLSV 51,806.2 TSN CFM56-3C1 727144 PARTS TIME RECORD

REMARKS																								
	Cat. C		3,319	3,277	19,390		9,950	9,950	4,724	7,860	6,942		7,500	5,596	7,616	5,251		10,251	10,251	10,251	10,251	4,829	20,952	72007
CYCLES	Cat. B		3,319	4,059	19,390		9,950	9,950	4,724	9,950	8,331		7,632	5,856	8,487	5,251		10,251	10,251	10,251	10,251	4,829	20,952	71007
REMAINING CYCLES	Cat. A		3,319	4,891	19,390		9,950	9,950	4,724	9,950	9,257		8,824	7,412	9,176	5,251		10,251	10,251	10,251	10,251	4,829	20,952	100 01
	-2C1		0	0	0	0	9,950	096'6	4,724	9,154	8,516	0	8,824	4,855	0	008'9	0	8,200	8,200	8,200	8,200	3,863	13,968	000
TOTAL	HOURS		35082	31038	17101		13821	13821	16214	13821	13353		13353	13821	13821	21020		21020	21020	21020	21020	30638	10625	00000
	TOTAL		26681	20171	10610		10050	10050	15276	10050	9673		9673	10050	10050	14749		14749	14749	14749	14749	20171	7562	71170
	Cat. C		0	2833	0		0	0	0	0	0		0	0	0	0		0	0	0	0	2833	0	
RUN CYCLES	Cat. B		22,117	17,294	4,547		9,545	9,545	15,232	9,545	9,629		679'6	9,545	9,545	14,705		14,705	14,705	14,705	14,705	17,294	4,547	101
	Cat. A		4564	4	6063		505	202	4	202	44		4	202	505	4		4	4	44	44	44	44	**
	-2C1		0	0	0		0	0	0	0	0		0	0	0	0		0	0	0	0	0	2971	
	Cat. C		30000	20100	30000		20000	20000	20000	15800	15000		17000	15100	16600	20000		25000	25000	25000	25000	25000	30000	00000
LIFE LIMIT CYCLES	Cat. B		30000	24900	30000		20000	20000	20000	20000	18000		17300	15800	18500	20000		25000	25000	25000	25000	25000	30000	00010
LIFE LI	Cat. A		30000	30000	30000		20000	20000	20000	20000	20000		20000	20000	20000	20000		25000	25000	25000	25000	25000	30000	00010
	-2C1		0	0	0		20000	20000	20000	18400	18400		20000	13100	0	25900		20000	20000	20000	20000	20000	20000	0000
Serial N°			DA738884	DA432664	DC055289		GWN0G8FP	GWN0FM20	GWN02GE8	CWNOG2NJ	GFF5E4AN		XAEJ3702	XAEJ5166	GWN0FWD3	TMTTH884		BC488905	BC450016	BC500718	SZ9580GG	DB143194	LA053345	0707070
Part N°			335-009-306-0	335-014-511-0	335-006-414-0		1275M37P02	1589M66G02	1590M59P01	1588M89G03	1319M25P02	~	1385M90P04	1282M72P05	1475M29P03	1864M91P02		301-331-126-0	301-331-227-0	301-331-322-0	301-331-429-0	305-056-116-0	301-330-067-0	0 000 000 800
Description		FAN ROTOR	Booster Spool	Fan Disk	Fan Shaft	COMPRESSOR ROTOR	Front Shaft	Spool Stg. 1-2	Disk Stg. 3	Spool Stg. 4-9	Rear Air Seal	HIGH PRESSURE TURBINE ROTOR	Front Shaft	Front Air Seal	Disk	Rear Shaft	OW PRESSURE TURBINE ROTOR	Disk Stg.1	Disk Stg. 2	Disk Stg.3	Disk Stg. 4	Conical Support	LPT Shaft	40-40 d. 40 TO -

	Booster Spool	Booster Spool	Fan Disk
			3,277
		3,319	
	3,319		
0			
Limiter	Limiter	Limiter	Limiter
Other Cat	Cat A	Cat B	Cat C

			Engine Ins	Engine Installation / Removal History	Removal H	istory			
Engine P/N:	CFM56-3C1								
Engine S/N:	727-144								
100									
As date of:	19-11-2015								
Description	Date	TSN	TSI	CSN	CSI	AIRCRAFT	POSITION	A/C TAIL	NOTE(S)
As received	16-07-2016	48990	48990	32795	32795	737-300			
Install	16-07-2016	48990	48990	32795	32795	737-300	1	CC-ADZ	Instalación en Perú
Remove	09-03-2017	50678	1688	33259	464	737-300	1	CC-ADZ	Avión deja de operar
Install	13-08-2017	50678	1688	33259	464	737-300	1	CC-ASQ	Reemplaza a ESN 858-987 por ciclos rem. en CC-ASQ
Remove	02-12-2017	51794	2804	33734	939	737-300	1	CC-ASQ	Removido por alta EGT
Install	03-12-2017	51794	2804	33734	939	737-300	0	N/A	Motor preservado
Remove		51794	0	33734	0	737-300	0	N/A	Motor preservado

Approval Signature





VIDEO BORESCOPE REPORT FOR CFM56 SERIES ENGINE

CLIENT: WORK ORDER # HT120-10011 INSPECTION: Accomplish full gas path

Eng Model:

CFM56-3C1

25032

A/C S/N:

boroscope to include 360 degree inspection of combustion chamber, HPT

Engine TSN: 51,806.20 Engine CSN: 33,737 1 NGV, LPT 1 NGV.

B737-33A

#1

ACFT TAT: 58,497.30 ACFT TAC: 35,722 Manual REV. 82 / Sep 25/2015

Position:

A/C Model:



727144

N228AW

Exterior Inspection

Engine S/N:

A/C Reg:

No apparent damage or leakage observed to the cases or installed QEC's

Compressor Case

No observed cracking, distortion or evidentence of overtemp noted at this time.

Accessory Drive Gearbox

No apparent damage or leakage to the gearbox or installed accessories noted at this time

Exhaust Cases

No damage or defects noted to the turbine cooling tubes, no broken lugs and no leaks noted at this time.

Exhaust Cone

No damage or defects noted at this time.











LOW PRESSURE COMPRESSOR

<u>Low Pressure Stage:</u> <u>Comments</u>

LPC FAN N1 No significant discrepancies at this time.

<u>Reference</u>

AMM 72-31-02 / TASK 72-31-02-226-001-C00

Serviceable

Ves



Comments

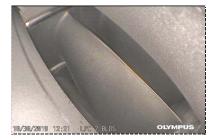
LPC Stage 2 No significant discrepancies at this time.

Reference

AMM 72-00-00 / TASK 72-00-00-216-008-C00

Serviceable

Yes



Comments

LPC Stage 3 No significant discrepancies at this time.

Reference

AMM 72-00-00 / TASK 72-00-00-216-008-C00

Serviceable

Yes



Comments

LPC Stage 4 No significant discrepancies at this time.

Reference

AMM 72-00-00 / TASK 72-00-00-216-008-C00

Serviceable





HIGH PRESSURE COMPRESSOR

High Pressure Compressor Blades: Comments

HPC Stage 1 No significant discrepancies at this time.

Reference

AMM 72-00-00 / TASK 72-00-00-216-049-C00

Serviceable

Yes



Comments

HPC Stage 2 No significant discrepancies at this time.

Reference

AMM 72-00-00 / TASK 72-00-00-216-049-C00

Serviceable

Yes



Comments

HPC Stage 3 No significant discrepancies at this time.

Reference

AMM 72-00-00 / TASK 72-00-00-216-049-C00

Serviceable

Yes



Comments

HPC Stage 4 No significant discrepancies at this time.

Reference

AMM 72-00-00 / TASK 72-00-00-216-049-C00

Serviceable





HIGH PRESSURE COMPRESSOR

High Pressure Compressor Blades: Comments

HPC Stage 5 No significant discrepancies at this time.

Reference

AMM 72-00-00 / TASK 72-00-00-216-049-C00

Serviceable

Yes



Comments

HPC Stage 6 No significant discrepancies at this time.

Reference

AMM 72-00-00 / TASK 72-00-00-216-049-C00

Serviceable

Yes



Comments

HPC Stage 7 No significant discrepancies at this time.

Reference

AMM 72-00-00 / TASK 72-00-00-216-049-C00

Serviceable

Yes



Comments

HPC Stage 8 No significant discrepancies at this time.

Reference

AMM 72-00-00 / TASK 72-00-00-216-049-C00

Serviceable





HIGH PRESSURE COMPRESSOR

High Pressure Compressor Blades: Comments

HPC Stage 9 No significant discrepancies at this time.

Reference

AMM 72-00-00 / TASK 72-00-00-216-049-C00

Serviceable

Yes



Combustion Chamber

Comments

<u>Liners & Fuel Nozzles</u> No significant discrepancies at this time.

Reference

AMM 72-00-00 / TASK 72-00-00-216-023-C00

Serviceable

Yes



Comments

HPT 1 NGV

Reference

AMM 72-00-00 / TASK 72-00-00-211-001-C00

Serviceable

Yes

Mulitple vanes with trailing edge with missing material and burned through. Trailing edgeof the airfoil. (C.)3)a) Missing material is permitted if the max area for each airfoil is 1.0 sq. inch, and the max area for the engine is 4.0 sq. inch. Within AMM limits. See additional photos end of report





HIGH PRESSURE TURBINE

Comments

HPT 1 Blades No significant discrepancies at this time.

Reference

AMM 72-00-00 / TASK 72-00-00-290-801-C00

Serviceable





LOW PRESSURE TURBINE

Low Pressure Blades: Comments

LPT 1 Blades No significant discrepancies at this time.

Reference

AMM 72-00-00 / TASK 72-00-00-216-045-C00

Serviceable

Yes



Comments

LPT 1 NGV Axial crack found on 2 ea vane L/E. G.(1)(b)1) Axial

cracks are permitted if they are less than 1/3 of the chord length, 0.66 inch. Within AMM Limits.

Reference AIVIIVI / Z-UU-UU / SUBTASK 72-00-00-211-

Serviceable

Yes



Comments

LPT 2 Blades No significant discrepancies at this time.

Reference

AMM 72-00-00 / TASK 72-00-00-216-045-C00

Serviceable

Yes



Comments

LPT 3 BLADES No significant discrepancies at this time.

Reference

AMM 72-00-00 / TASK 72-00-00-216-045-C00

Serviceable





LOW PRESSURE TURBINE

Low Pressure Blades: Comments

LPT 4 BLADES No significant discrepancies at this time.

<u>Reference</u>

AMM 72-00-00 / TASK 72-00-00-726-050-C00

Serv<u>iceable</u>

Yes



Comments

DISCOURAGER SEAL No significant discrepancies at this time.

Reference

AMM 72-00-00 / TASK 72-00-00-211-001-C00

Serviceable

Yes



Comments

HPT 1 NGV Mulitple vanes with trailing edge with missing material

and burned through. Trailing edgeof the airfoil. (C.)3)a)

Reference Missing material is permitted if the max area for each

AMM 72-00-00 / TASK airfoil is 1.0 sq. inch, and the max area for the engine is

72-00-00-211-001-C00 4.0 sq. inch. Within AMM limits.

Serviceable

Yes



THIS REPORT & THE ACCOMPANYING VIDEO IS SUBMITTED SUBJECT TO THE CONDITION THAT IS UNDERSTOOD & AGREED THAT THE CONTENTS ARE BASED ON DILIGENT INSPECTION & ARE EXCLUSIVE OF LATENT DEFECTS IN MATERIALS, RIGGING OR SYSTEMS NOT DETECTABLE WITHOUT REMOVAL OR DISASSEMBLY, BUT ARE BELIEVED TO BE CORRECT & ARE FAIRLY REPRESENTATIVE OF THE CONDITION OF THE ENGINE. THIS SURVEY IS SUBMITTED WITHOUT PREJUDICE & IN CONFIDENCE TO THE NAMED CLIENT & IS WITHOUT RESPONSIBILITY TO OTHERS TO WHOM IT MAY BE

Signature:



N. Stevens 108A&P



- Nicks, marks, scratches and dents on the concave and convex surfaces are permitted
- (4) Examine the inner and outer platforms of the 1st-stage LPT NGV's for these conditions:
 - (a) Cracks:
 - 1) Two cracks per segment are permitted with this condition:
 - a) Cracks are less than 0.5 inch (12.7 mm) in length
 - 2) A maximum service extension of 3 cycles is permitted if the cracks are less than 1.0 inch (25.4 mm) length.
- G. Alternate procedure. Full set LPT 1st-Stage NGV's Inspection with the Flexible Borescope

SUBTASK 72-00-00-211-006-C00

- (1) Examine the leading edge of the 1st-stage LPT NGV's for these conditions:
 - (a) V-notch
 - 1) V-notch on the leading edge are permitted if they are less than 0.08 inch (2 mm)
 - 2) If V-notch is more than 0.08 inch (2 mm), refer to perforations limits.
 - (b) Axial cracks (with or without V-notch)
 - 1) (Axial cracks are permitted if they are less than 1/3 of the chord length, 0.66 inch) (16.7 mm)
 - 2) One crack per nozzle segment is permitted with these conditions:
 - a) Cracks are more than 1/3 of the chord length, 0.66 inch (16.7 mm) but less than 4/5 of the chord length, 1.57 inch (40.0 mm) in length
 - b) Cracks are less than 0.004 inch (0.1 mm) in width in the segment AB. Refer to Figure 613.
 - NOTE: Segment AB corresponds to the main cooling cavity and is determined as follows: from 0.32 inch (8 mm) to 1.22 inch (31 mm) from the leading edge.
 - 3) A maximum service extension of 100 cycles is permitted if there is one crack which is more than 4/5 of the chord length, 1.57 inch (40.0 mm) in length or more than 0.004 inch (0.1 mm) in width.
 - (c) Radial cracks in the leading edge confined to the forward cooling cavity (Dim A)
 - 1) Five radial cracks per set of nozzles (28 parts) are permitted with these conditions:
 - a) Crack is less than 1.0 inch (25.4 mm) in length
 - 2) A maximum service extension of 100 cycles is permitted with these conditions:
 - a) If there are six cracks which are less than 1.0 inch (25.4 mm) in length.
 - 3) A maximum service extension of 100 cycles is permitted with these conditions:
 - a) If there is one crack which is more than 1.0 inch (25.4 mm)) in length.
 - (d) Burn-through/perforations
 - 1) Burn-through/perforations are permitted with these conditions:
 - a) Burn-through/perforations are located in the first cooling cavity
 - b) Burn-through/perforations are not more than 0.4 x 0.275 inches (10 x 7 mm)
 - c) There is no more than 5 perforations per set of nozzles (28 parts)
 - 2) Burn-through/perforations located in the second cavity are not permitted.

VIV ALL



- b) A maximum service extension of 25 cycles is permitted if the missing material is not more than 1.2 inches (30.0 mm) radially.
 - NOTE: The dimension 1.2 inches (30.0 mm) is the equivalent to 3/4 of the airfoil height.
 - <1> Make sure the missing material does not extend aft of the cooling hole row No. 4 and 14.
- 3) Material with burns is permitted.
- (b) Concave and convex surfaces of the NGV airfoil of the HPT
 - 1) Cracks are permitted.
 - 2) Missing material or burned through
 - a) It is permitted to have one area for each airfoil if the diameter is not more than 0.25 inch (6.4 mm).
 - b) A maximum service extension of 25 cycles is permitted if the diameter is not more than 0.50 inch (12.7 mm).
 - 3) Material with burns is permitted.
- (c) The trailing edge of the airfoil on the NGV's.
 - 1) Axial cracks are permitted.
 - 2) Areas with buckled or bowled material are permitted.
 - 3) Missing material or burned through
 - a) (Missing material is permitted if the maximum area for each airfoil is 1.0 sq. inch (6.5 sq. cm), and the maximum area for the engine is 4.0 sq. inch (25.8 sq. cm))
 - b) If the missing material or burn through exceeds the above limits, a maximum service extension of 25 cycles is permitted.
- (d) All airfoil surfaces on the NGV's
 - 1) Areas with craze cracks are permitted.
 - NOTE: Craze cracks have many surface cracks with no width or depth that you can see.
 - 2) Areas with nicks, marks, scratches and dents are permitted.
 - 3) Areas with metal splatter are permitted.
 - 4) Areas where the layer of Codep is missing are permitted.
- (e) Inner and outer platforms of the NGV's, but not inner platform Area A:
 - 1) Cracks are permitted.
 - Cracks in the braze joints of the airfoil-to-platform surfaces are permitted.
 - Material with burns is permitted.
 - 4) Missing material or burned through
 - a) Missing material is permitted if the diameter is not more than 0.20 inch (5.08 mm) for each segment, and 1.0 inch (25.4 mm) for the engine.
 - b) For damage that exceeds the above limit, a maximum service extension of 25 cycles is permitted if the area is not more than 0.5 inch (12.7 mm) in diameter for each segment.
 - 5) Nicks, marks, scratches and dents on the surface of the platform

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