

ATA AIRLINES, INC.

CLEAN GAS PATH - LEFT ENGINE

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CHECK BEING PERFORMED: Custom

ZONES: 410
A/C NUMBER:
REV. DATE: 11/10/04
FREQUENCY:

W/C NUMBER: 341M7201 DATE:

MFR P/N	DESCRIPTION	QTY
KN	Nitrogen, Gaseous, Pressurizing, Type I Grade B	A/R
CP1041	Alcohol, Isopropyl	A/R
CP2851	Corrosion Preventive Oil	A/R

TOOLS	DESCRIPTION	QTY
GE90/A/3535	Wash Cart	1
TR-25-LX	Waste Collection Tank	1

REFERENCES

AMM 71-00-00, 71-11-02, 72-00-00, 21-00-01, 12-13-11

MECH INSP

CAUTION: MAKE SURE ALL VALVES ARE CLOSED AND PRESSURE IS DRAINED FROM TANKS PRIOR TO OPENING THEM. BLEED OFF ANY PRESSURE BY PULLING THE SAFETY VALVE RING ON BOTH TANKS.

CAUTION: DO NOT CLEAN AN ENGINE WHICH WAS EXPOSED TO DRY CHEMICAL FIRE EXTINGUISHING AGENTS.

CAUTION: DO NOT CLEAN ENGINE IF AIR TEMPERATURE IS BELOW 14 DEGREES F.

CAUTION: DO NOT CLEAN ENGINE UNLESS THE EGT IS BELOW 150 DEGREES F.

CAUTION: USE ONLY ISOPROPYL ALCOHOL AS AN ANTI-FREEZE MIXTURE. ALL OTHER ALCOHOL BASE MIXTURES ARE NOT PERMITTED AND CAN CAUSE CORROSION OF THE TITANIUM PARTS OF THE ENGINE.

_____ XXXXX 1. Fill tanks with potable water to the full level.

NOTE: One tank is required per engine.

A. If air temperature is between 23 to 40 degrees F., mix a solution of 25 percent anti-freeze (Alcohol, CP1041) to the wash water.

B. If air temperature is between 14 to 23 degrees F., mix a solution of 35 percent anti-freeze (Alcohol, CP1041) to the wash water.

C. Install charged nitrogen bottles (2500 PSI, 122 cu. ft.) on the wash cart or use shop air (90 PSI Maximum).

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D. Connect wash cart to a 240VAC power source, if available.

(1) If connected, turn on the power switch and allow the liquid to heat to 125 degrees F.

E. Set the Tank Selection Valve lever to the WASH TANK position.

_____ XXXXX 2. Prepare Engine 1 for Cleaning.

A. Open the fan cowls, AMM TASK 71-11-02-010-801.

B. Disconnect the PS3 line at the Engine Electronic Control (EEC) unit.

(1) Cap off both ends of the line to keep moisture out.

C. Install washing probes at approximately 4 o'clock and 8 o'clock positions using orange protective clips on the ring.

(1) Ensure spray nozzle points into booster.

(2) Connect probe hoses to tank fluid output hose.

D. Place Waste Collection Tank (TR-25-LX) in a suitable position to collect waste water from the LPT Case Drain.

E. If the engine will not be operated within 24 hours after wash, add 1 quart of corrosion preventive oil to the engine lube system.

(1) If the engine will not be operated within 24 hours after wash and corrosion preventive oil is not added, do this task: Dry-Out and Lubrication of the Engine, AMM TASK 71-00-03-600-801.

F. Replenish the Engine Oil, AMM TASK 12-13-11-600-801.

NOTE: The minimum amount of 5 gallons engine oil is necessary to motor the engine.

_____ XXXXX 3. Clean Engine 1 Booster and Core.

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- A. Open the Wash Tank pressure inlet valve.
- B. Open the Nitrogen Cylinder valve or the Shop Air inlet valve to allow the Wash Tank to pressurize.

WARNING: KEEP ANTI-FREEZE, IF USED, AWAY FROM HEAT AND OPEN FLAME. MAKE SURE THERE IS ADEQUATE VENTILATION.

WARNING: STAND AT LEAST THREE FEET AWAY FROM THE COWLING INLET WHEN SPRAYING LIQUIDS INTO THE ENGINE.

CAUTION: DO NOT MOTOR MORE THAN THE STARTER DUTY CYCLE, AMM TASK 71-00-00-800-806.

CAUTION: DO NOT MOTOR ENGINE UNLESS THERE IS A POSITIVE FUEL INLET PRESSURE.

CAUTION: MAKE SURE THE N1 ROTOR TURNS FREELY THROUGHOUT CLEANING TO PREVENT OIL SYSTEM CONTAMINATION.

CAUTION: STAND AT LEAST 3 FEET AWAY FROM ENGINE INLET WHILE SPRAYING FLUID OR WHILE ENGINE IS MOTORING.

- C. Dry motor engine for 2 minutes, AMM TASK 71-00-00-700-821.

- (1) After 10 seconds of dry motoring, open the Rinse Tank outlet valve.

CAUTION: DO NOT APPLY AT MORE THAN 6 GALLONS PER MINUTE (GPM) OR ENGINE DAMAGE CAN OCCUR.

- (2) Adjust the Water outlet valve to obtain 5 to 6 GPM.

NOTE: Positive fan rotation is required prior to releasing the fluid.

- (3) After 2 minutes, close the Water outlet valve and stop dry motoring the engine.

- D. Let the engine soak for 5 minutes.

- E. Repeat steps 3.C. and 3.D. (wash and soak).

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Note: This step may be done additional times for engines with heavy dirt deposits.

F. Close the Nitrogen Cylinder valve or Shop Air inlet valve.

G. Close the Pressure Supply valve to the Wash Tank and allow the pressure to drain off.

(1) Disconnect Shop Air, if applicable.

H. Close the Wash Tank outlet valve.

4. Put the Airplane Back to its Usual Condition.

A. Remove the washing probes and orange protective clips from the engine.

(1) Disconnect hoses. Stow if not being used on another engine.

CAUTION: DO NOT BLOW AIR INTO THE EEC. DAMAGE COULD OCCUR.

B. Uncap PS3 line and blow out any moisture with clean, dry shop air or 20-100 PSI Nitrogen.

C. Connect PS3 line to EEC, tighten to 270-300 pound-inches, loosen the connection, re-tighten to 270-300 pound-inches, re-tighten again to 270-300 pound-inches.

XXXXX E. Close Engine 1 fan cowls, AMM TASK 71-11-02-410-801.

XXXXX F. Flush water from the lube, sumps, and bleed systems, within 2 hours after cleaning the engine (within 30 minutes if icing conditions exist or are about to occur).

(1) Do one of these steps to make sure there is an exit for the conditioned air:

(a) Make sure the cabin pressure outflow valve is open.

(b) Make sure at least one passenger entry door is open.

WARNING: MAKE SURE ALL PERSONNEL AND EQUIPMENT ARE CLEAR OF

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THE ENGINE DANGER AREA. THE ENGINE INTAKE AND EXHAUST CAN INJURE PERSONNEL AND DAMAGE EQUIPMENT IN THE DANGER AREAS.

(2) Start the Engine Procedure (Selection), AMM TASK 71-00-00-800-807.

(a) Operate the engine at idle for five minutes.

NOTE: This is to remove the water that was ingested into the engine systems.

(3) Do these steps to flush the inlet cowl anti-ice system:

(a) Put the APU BLEED switch, on the P5-10 panel, to the OFF position.

1) Make sure the DUAL BLEED light goes out.

(b) Put the applicable BLEED switch on the P5-10, forward overhead panel to the ON position.

(c) Put the ISOLATION VALVE switch on the P5-10, forward overhead panel to the OPEN position.

(d) Monitor the dual duct pressure indicator on the P5-10, forward overhead panel.

1) Make sure that each duct pressure needle shows approximately 10 or more psi to show that the PRSOV is open.

(e) Move the Engine 1 thrust lever to 60 percent N1.

NOTE: Do not increase the engine power to more than 80 percent N1.

(f) Put the ENG ANTI-ICE 1 switch, on the P5-11 Panel, to the ON position.

1) Make sure that the applicable COWL VALVE OPEN light comes on brightly for 1 to 3 seconds, and then goes dim.

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CAUTION: THE MAXIMUM OPERATION TIME FOR THE INLET COWL ANTI-ICE SYSTEM IS 30 SECONDS AT AN AIR TEMPERATURE OF MORE THAN 65øF.

(g) After not more than 30 seconds, put the ENG ANTI-ICE 1 switch to the OFF position.

1) Make sure the applicable COWL VALVE OPEN light comes on brightly for 1 to 3 seconds, and then goes off.

(h) Move the Engine 1 thrust lever to the IDLE position.

1) Operate the engine at idle for 5 minutes.

(i) Do this task: Stop the Engine Procedure (Usual Engine Stop), AMM TASK 71-00-00-700-819.

(4) Flush the wing anti-ice system:

(a) Do this task: Oil Contamination Removal from Air Conditioning and Pneumatic Systems, AMM TASK 21-00-01-100-801.

***** END OF WORKCARD *****