



AIRCRAFT MAINTENANCE MANUAL

AIR TURBINE STARTER (ATS) - ADJUSTMENT/TEST

EFFECTIVITY: ALL

1. General

- A. This section gives the procedures to do the check and Oil Servicing of the ATS.
- B. The procedures in this section are given in the sequence below. The tasks identified with (♦) are part of the Scheduled Maintenance Requirements Document (SMRD).

TASK NUMBER	DESCRIPTION	EFFECTIVITY
80-10-01-700-801-A ♦	AIR TURBINE STARTER - FUNCTIONAL CHECK AND OIL SERVICING	ALL



EMB145 - EMB135

AIRCRAFT
MAINTENANCE MANUAL

TASK 80-10-01-700-801-A

EFFECTIVITY: ALL

2. AIR TURBINE STARTER - FUNCTIONAL CHECK AND OIL SERVICING

A. General

(1) This task gives the procedure to do the functional check and Oil Servicing of the ATS.

B. References

REFERENCE	DESIGNATION
AMM MPP 20-30-02/200	- MAINTENANCE PRACTICES
AMM MPP 71-00-00/200	- MAINTENANCE PRACTICES
AMM MPP 80-10-01/400	- REMOVAL/INSTALLATION
AMM TASK 71-12-01-000-801-A/400	ENGINE LOWER COWLING - OPENING
AMM TASK 71-12-01-400-801-A/400	ENGINE LOWER COWLING - CLOSING
IPC 80-11-00	-

C. Zones and Accesses

ZONE	PANEL/DOOR	LOCATION
413		LH Engine lower cowling
423		RH Engine lower cowling

D. Tools and Equipment

Not Applicable

E. Auxiliary Items

ITEM	DESCRIPTION	PURPOSE	QTY
Commercially available	Workstand	To get access to the engine	1
Commercially available	Container	To collect oil from the ATS	1
Commercially available	Filter or screen	To retain metal particles that can be present in the oil	1

F. Consumable Materials

SPECIFICATION (BRAND)	DESCRIPTION	QTY
MS20995C32	Lockwire	AR

G. Expendable Parts

ITEM	IPC REFERENCE (VENDOR REFERENCE)	QTY
O-ring	IPC 80-11-00	2

H. Persons Recommended

<i>QTY</i>	<i>FUNCTION</i>	<i>PLACE</i>
1	Does the task	Engine

I. Preparation
SUBTASK 841-002-A

WARNING: BEFORE YOU DO THE TASK, OBEY THE SAFETY PRECAUTIONS GIVEN IN [AMM MPP 71-00-00/200](#) TO PREVENT INJURY TO PERSONS AND DAMAGE TO THE MATERIAL.

- (1) On the circuit breaker panel, open the circuit breakers below and attach a DO-NOT-CLOSE tag to them:
 - START 1/2.
- (2) Put the workstand in the work area.
- (3) Open the lower cowling ([AMM TASK 71-12-01-000-801-A/400](#)) to get access to the ATS.

J. Functionally Check the Air Turbine Starter (ATS) and Oil Servicing ([Figure 501](#)) ([Figure 502](#))
SUBTASK 720-002-A

- (1) Drain the oil from the air turbine starter as follows ([Figure 501](#)):
 - (a) NOTE: • Have the correct container to collect the oil drained from the ATS.
 - Use a filter or screen to keep the metal particles that can be in the drained oil.

Cut the lockwire and remove the magnetic drain plug assembly (5) from the ATS. Discard the O-ring (4).
 - (b) Let the oil drain fully.
- (2) Do the check of the ATS oil level. Measure the oil quantity collected in the container. If the quantity of drained oil is less than 140 cc, replace the ATS ([AMM MPP 80-10-01/400](#)).
- (3) Remove the magnetic drain plug (6) from the magnetic drain plug assembly (5) and examine for accumulation of metallic particles.
- (4) Refer to [Figure 502](#) to determine the level of contamination:
 - (a) If the magnetic plug is clean or has light fuzz, clean it and install it.
 - (b) If moderate fuzz is found, examine the filter or screen as follows:
 - 1 If you find particles with more than 2.54 mm (0.100 in), this shows a gear, bearing or clutch failure. Replace the ATS ([AMM MPP 80-10-01/400](#)).
 - 2 If there are no large flakes, chips, slivers or particles, clean and install the magnetic drain plug (6).

- (c) If there are metal chips accumulation, large flakes, chips, slivers or particles, replace the ATS ([AMM MPP 80-10-01/400](#)).

CAUTION: TO PREVENT DAMAGE, FILL THE ATS WITH THE SAME OIL AS THE ONE APPROVED FOR THE ENGINE (SEE [AMM MPP 20-30-02/200](#)).

- FOR AIRCRAFT WITH STARTER PNEUMATIC UNIT UP TO P/N 3505910-6 INSTALLED, DO NOT USE THE MIL-PRF-23699 HTS OILS.
- FOR AIRCRAFT WITH STARTER PNEUMATIC UNIT P/N 3505910-7 INSTALLED, YOU CAN ALSO USE THE MIL-PRF-23699 HTS OILS.

- (5) **NOTE:** Do not mix oil the brands and types.

Lubricate the O-ring (4) with the oil used in the ATS and install it in the magnetic drain plug assembly (5).

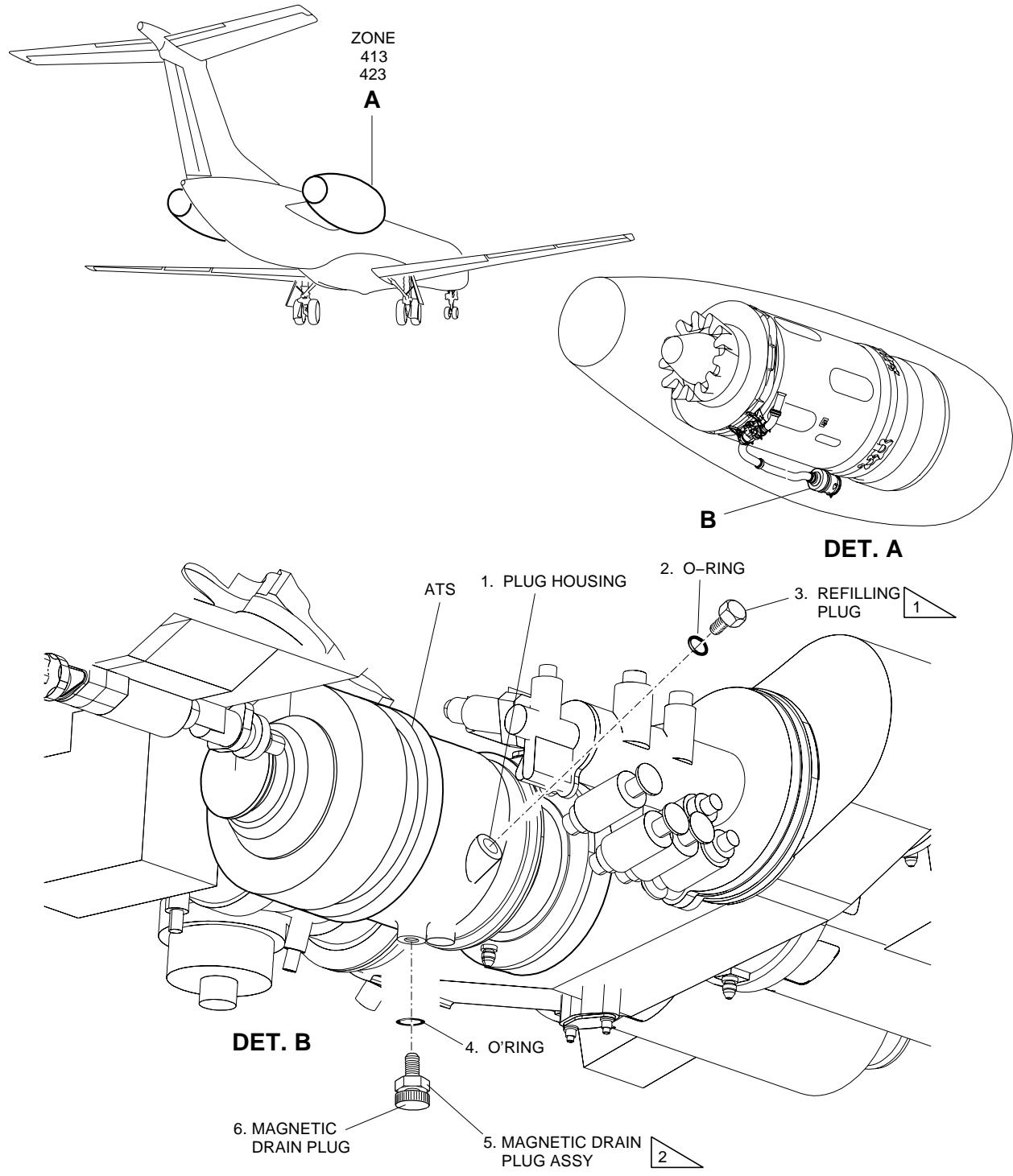
- (6) Install the magnetic drain plug assembly (5) to the ATS.
- (7) Torque and safety the magnetic drain plug assembly with lockwire.
- (8) Cut the lockwire and remove the refilling plug (3) from the ATS. Discard the O-ring (2).
- (9) Fill the ATS with the approved oil until the oil level comes to the plug housing (1) (an oil overflow must occur).
- (10) Lubricate the O-ring (2) with the oil used in the ATS and install it in the refilling plug (3).
- (11) Install the refilling plug (3) to the ATS.
- (12) Torque and safety the refilling plug with lockwire.

K. Follow-on

SUBTASK 842-002-A

- (1) Close the lower cowling ([AMM TASK 71-12-01-400-801-A/400](#)).
- (2) Remove the workstand from the work area.
- (3) On the circuit breaker panel, close the circuit breakers below and remove the DO-NOT-CLOSE tag from them:
 - START 1/2.

EFFECTIVITY: ALL
ATS - Component Locations
Figure 501



1 TORQUE: 3.95 – 4.52 N.m (35 – 40 lb.in)

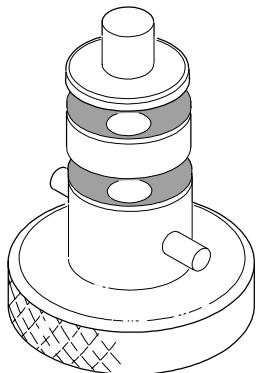
2 TORQUE: 7.34 – 9.60 N.m (65 – 85 lb.in)

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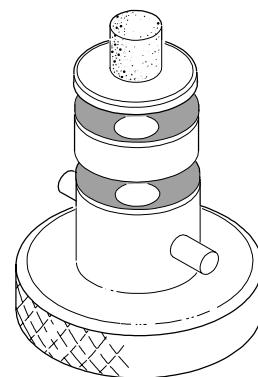
EFFECTIVITY: ALL

ATS Magnetic Drain Plug - Inspection

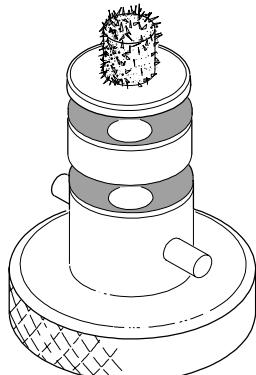
Figure 502



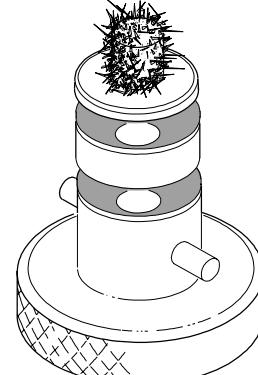
CLEAN



LIGHT FUZZ



MODERATE FUZZ



MAJOR METAL
CHIP ACCUMULATION

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