


	FUNCTIONAL TEST	PFBFA-30-45-01-00/0	Issue	C	Pages.	11
	SPF, Aircraft System Engineering Department					
Aircraft	A330 MRTT					
<b>Title:</b> <i>Leakage and functional tests of the rain repellent system</i>						
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## REVISIONS RECORD

[illegible]

# 1 INTRODUCTION

## 1.1 Object

The aim of these tests is to check that there is no leakage on the new ducting installation and to demonstrate that the rain repellent system operates correctly after the modification.

## 1.2 List of acronyms and abbreviations

AMM	Aircraft Maintenance Manual
CAPT	Captain
EIS	Electronic Instrument System
F/O	First Officer
MRTT	Multi-Role Tanker Transport
RAAF	Royal Australian Air Force

# 2 APPLICABLE DOCUMENTATION

- [1] NT-FA-SGE-07004      A330-200 MRTT ATA 30 Functional Tests
- [2] AMM-RAAF A330      Aircraft Maintenance Manual (AMM) – Royal Australian Air Force (RAAF)
- [3] TASK 24-41-00-861-801      Energize the Aircraft Electrical Circuits from the External Power A
- [4] TASK 31-60-00-860-802      EIS Stop Procedure
- [5] F304A1000      A330-MRTT ATA30 Rain repellent Installation Drawing

# 3 REQUIRED EQUIPMENT

- Access platform 2.5 m (8 ft. 2 in.)
- Circuit breaker(s) safety clip(s)
- Warning notice
- Pressure source able to achieve at least 4.3 psi (0.3019 bar) and 100 g/s.
- Reducer raccord AS21916D8-5

## **4 DEFINITIONS**

N/A

## 5 PRELIMINARY INSTRUCTIONS

### 5.1 Previous actions

Before performing this test, the following points must be confirmed:

- The complete rain repellent system is installed.
- The electrical bonding of the new ducts has been done and checked. (PFAFA-24-00-14-00/1)
- The indication of the pressure gage is in the green band. (Figure 2)

### 5.2 Safety instructions and warnings

- MAKE SURE THAT THE CIRCUIT BREAKERS RELATED TO THE WEATHER RADAR ARE OPENED, SAFETIED AND TAGGED. (9SQ1 on 722VU, and 9SQ2 on 722VU).
- DO NOT APPLY RAIN REPELLENT FLUID ON A DRY SURFACE BECAUSE THIS CAN:
  - DECREASE VISIBILITY THROUGH THE WINDSHIELD/WINDOWS
  - CAUSE STAINS ON THE AIRCRAFT.
- MAKE SURE THAT THE FLUID DOES NOT STAY ON THE AIRCRAFT STRUCTURE. IF THE FLUID GETS ON THE AIRCRAFT STRUCTURE, WASH IT OFF IMMEDIATELY WITH SOAP AND WATER.
- IF YOU MUST ENERGIZE THE AIRCRAFT ELECTRICAL CIRCUITS DURING THIS PROCEDURE, MAKE SURE THAT THE EXTRACT AND CAB FANS PUSHBUTTON SWITCHES (VENTILATION SECTION OF THE PANEL 212VU) ARE PUSHED IN. IF YOU DO NOT DO THIS, OVERHEAT OF THE COMPUTERS CAN OCCUR. THE OVERHEAT WARNING HORN DOES NOT OPERATE WHEN THE CIRCUIT BREAKERS OF THE EIVMU1 OR 2 ARE OPEN.

## 6 TEST EXECUTION

### 6.1 Leakage test of the rain repellent ducting

1. Do a visual inspection along the new rain repellent ducting, especially in joints.

NOTE: If there is leakage of FORALKYL 2211, you can smell a pine odor.

2. Make sure that there are no leaks.
3. If there is a leakage, replace the faulty components and do again step 1.

### 6.2 Functional test of the rain repellent system

1. Energize the aircraft electrical circuits (Ref. AMM TASK 24-41-00-861-801).
2. Put the access platform in position at the access door 811.
3. Open the access door 811.
4. Open the protective door of the AC/DC emergency power-center 740VU.
5. Make sure that the complete rain repellent circuit is installed and check normal indication of the pressure gage.
6. Remove the blanking plug from the upper part of the blowout reservoir.
7. Connect the air rig with the reduction raccord to the blowout reservoir
8. Make sure that these circuit breakers are closed:

PANEL	DESIGNATION	FIN	LOCATION
722VU	RAIN RPLNT F/O	5DB2	X42
742VU	RAIN RPLNT CAPT	5DB2	A69

9. Open, put a safety clip and tag these circuit breakers:

PANEL	DESIGNATION	FIN	LOCATION
721VU	ANTI ICE TAT 1	12DA1	B06
721VU	ANTI ICE AOA 3	31DA3	C05
721VU	ANTI ICE WINDOWS L	4DG1	D03
721VU	ANTI ICE PITOT 3	4DA1	L07
721VU	PHC 3	2DA3	N07
721VU	PHC 1	2DA1	P12
721VU	EIVMU 2	14KS2	P06
721VU	EIVMU 1	14KS1	P05
721VU	ANTI ICE STAT 3	11DA3	W10
721VU	ANTI ICE STAT 1	11DA1	W09
722VU	ANTI ICE WINDOWS R	4DG2	D43
722VU	WXR 2	9SQ2	E49
722VU	ANTI ICE TAT 2	12DA2	E43
722VU	ANTI ICE AOA 2	1DA2	F48
722VU	ANTI ICE PITOT 2	4DA2	F43
722VU	ANTI ICE STAT 2	11DA2	X41
722VU	PHC 2	2DA2	X40
742VU	ESS ANTI ICE PITOT 3	16DA	H69
742VU	ESS ANTI ICE AOA3	15DA	H68
742VU	WXR 1	9SQ1	H64
742VU	ANTI ICE PITOT1OR3	3DA	Q72
742VU	ANTI ICE AOA 1 OR 3	31DA1	Q68

10. Put a warning notice in the cockpit to tell persons that an engines running procedure is simulated.
11. Connect the air rig to the air pressure source.
12. Do the EIS start procedure (Ref. AMM TASK 31-60-00-860-801).
13. Apply the compressed air 4.38 psi (0.30 bar) in the blowout system.

NOTE: Apply the compressed air during all the test. This is necessary only to avoid remaining fluid in the nozzles after test.

14. On the panel 211VU (212VU):
- Push the RAIN RPLNT pushbutton switch.
  - Make sure that the rain repellent fluid is applied through the CAPT (F/O) nozzle (for 0.4 second).
  - Make sure that the compressed air blows out the fluid that stays in the system.
  - Make sure that the compressed air is let out through the CAPT and F/O nozzles.
15. Close the circuit breakers 14KS1 and 14KS2.
16. On the panel 211VU (212VU):
- Push the RAIN RPLNT pushbutton switch.
  - The rain repellent fluid is not applied.

17. Remove the safety clips, the tags and close the circuit breakers shown in step 9.
18. Do the EIS stop procedure (Ref. AMM TASK 31-60-00-860-802).
19. Disconnect the source of the compressed air, the Rain Repellent System Tool and the reducer raccord from the blowout reservoir and install the blanking plug.
20. Make sure that the work area is clean and clear of tools and other items.
21. Put the system back to its operational configuration.
22. Close the protective door of the AC/DC emergency power center 740VU.
23. Close the access door 811.
24. Remove the access platform.
25. Remove the warning notice.
26. De-energize the aircraft electrical circuits (Ref. AMM TASK 24-41-00-862-801).



## 7 TEST RESULTS

Test results have to be logged on Table 1 and any additional observations have to be recorded.

Task	Test result (OK or FAULT)	Date
Leakage test of the rain repellent ducting		
Functional test of the rain repellent system		

*Table 1. List of tasks*

**IMPORTANT NOTE:** Any comments or remarks arisen during test execution shall be written down here and sent to Engineering Department. Non-conformities shall be processed according to CASA-1023

**NOTE:** In Case of NCS, write down its number on Table 2

N.C.S. Number	Date

*Table 2*

**NOTE:** After this functional test execution, stamp the correspondent operation on the Production Order.

**NOTE:** Every result sheet must be stamped and attached to Production Order.

<b>STAMP:</b>	
<b>DATE:</b>	

## 8 ANNEX

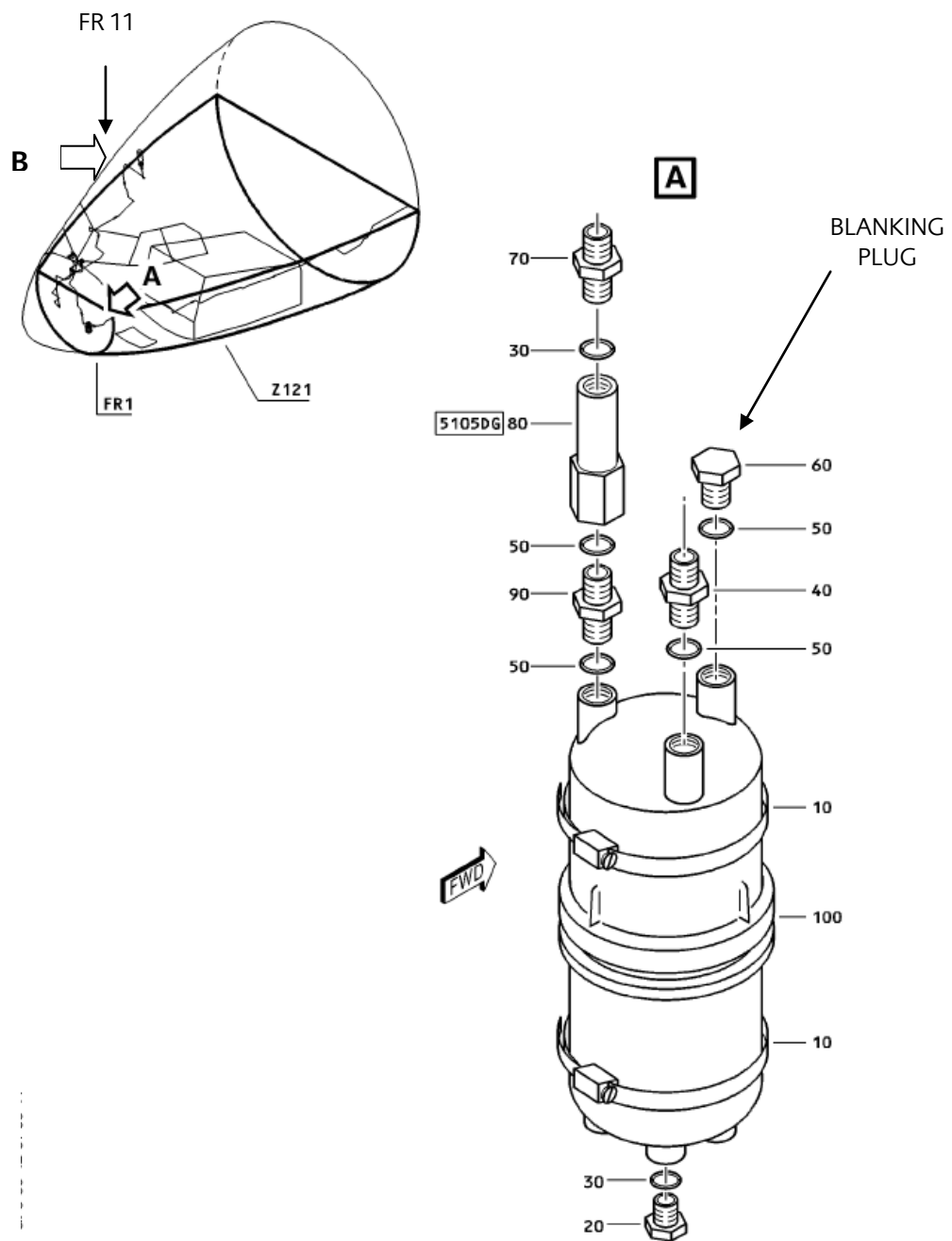


Figure 1. Blowout reservoir

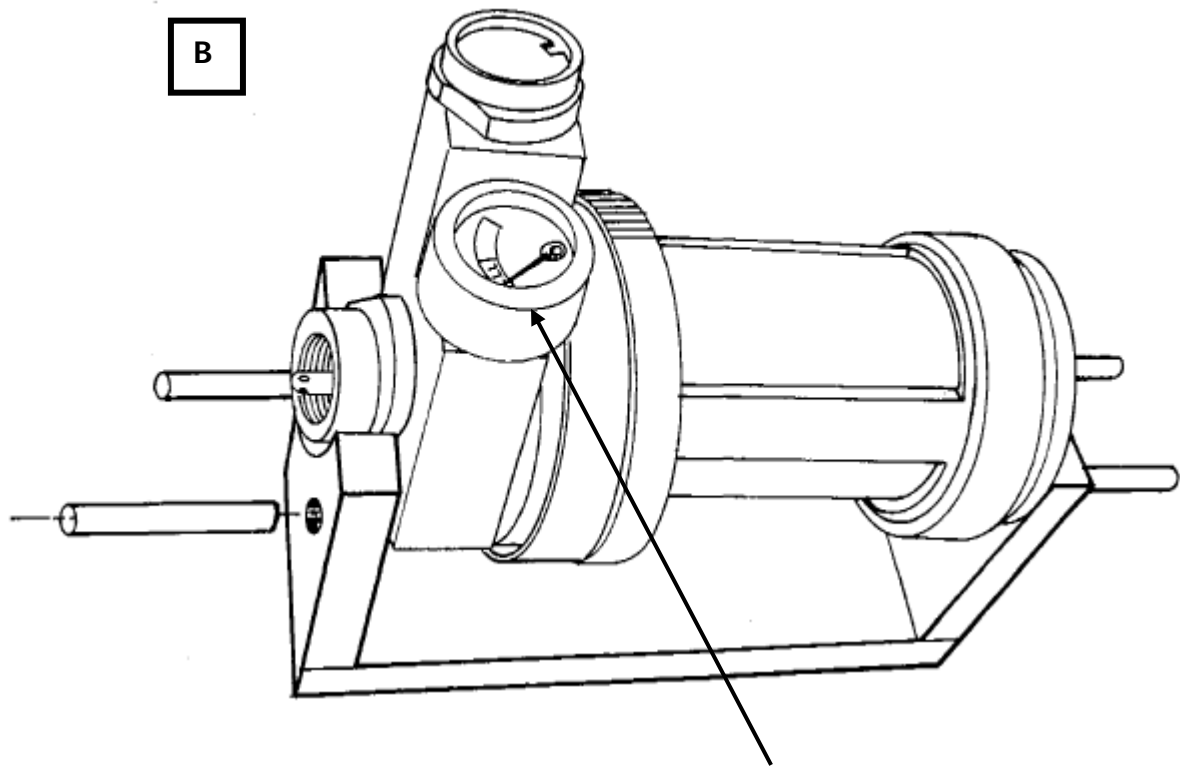


Figure 2: Needle of the pressure gage