



FUNCTIONAL TEST

PFBFA-24-00-03-00/1

Issue

F

Pages

22

SPF, Aircraft System Engineering Department

Aircraft

A330 MRTT

Title:

Green Aircraft and AC Network System Functional Test

Summary:

1	INTRODUCTION	3
1.1	OBJECT	3
1.2	LIST OF ACRONYMS AND ABBREVIATIONS.....	3
2	APPLICABLE DOCUMENTATION	3
3	REQUIRED EQUIPMENT	3
4	DEFINITIONS	3
5	PRELIMINARY INSTRUCTIONS	4
5.1	TEST PREPARATION	4
5.2	SAFETY INSTRUCTIONS	4
5.3	PRELIMINARY ACTIONS	4
6	TEST EXECUTION	5
6.1	ENERGIZE THE AIRCRAFT ELECTRICAL CIRCUITS FROM BATTERIES 1 & 2	5
6.2	GROUND SERVICE CONFIGURATION	6
6.3	LOSS OF THE TR1, TR2 AND ESS TR	6
6.4	SWITCHING OF THE ESS BUS 9XP	8
6.5	LOSS OF THE ELECTRICAL NETWORK WITH THE BUS TIE PUSHBUTTON SWITCH.....	10
6.6	SWITCHING OF DC MAIN GENERATION	10
6.7	OPERATIONAL TEST OF THE EMERGENCY GENERATOR MANUAL CONNECTION ON BATTERIES	14
7	TEST RESULTS.....	16
7.1	ENERGIZE THE AIRCRAFT FROM BATTERIES 1 & 2	16
7.2	GROUND SERVICE CONFIGURATION.	16
7.3	LOSS OF THE TR1, TR2 AND ESS TR	17
7.4	SWITCHING OF THE ESS BUS 9XP.....	18
7.5	LOSS OF THE ELECTRICAL NETWORK WITH THE BUS TIE	19
7.6	SWITCHING OF THE DC MAIN GENERATION	19
7.7	OPERATIONAL TEST OF THE EMERGENCY GENERATOR	21


EADS CASA PROPERTY. This document shall be neither used nor completely or partially reproduced without previous written authorization by EADS-CASA Manufacturing Direction.


Prepared by:
Paul Martín León

Checked by:
Javier Fernández Martín

Approved by:
Germán Soriano Rull

Signature:


Signature:



Signature:


Date:
12-01-2012

Date:
24-01-2012

Date:
20-03-2012

REVISIONS RECORD

Issue	Revision Reason	Approved
Date	Chapters, Sections, Affected pages	Signature
A	New Issue	Casildo Calderon
29/09/08	All pages	
B	New Issue	Casildo Calderon
15/01/09	All pages	
C	New distributions on performance	Casildo Calderon
14/12/09	All pages	
D	New distributions on performance	Casildo Calderon
26/05/10	All pages	
E	Update steps 6.2.3 and 6.2.5 Step 6.2.1 and 6.2.2 swapped	Casildo Calderon
27/10/10	Page 7	
	Applicable documentation updated	G. Soriano
	Page 4 Page 6	

1 INTRODUCTION

1.1 Object

The purpose of this test is to check the integrity and functionality of the Aircraft Electrical Power System (ATA24) after the installation of the EEN for powering the new Military Systems.
This test is performed with external power and therefore generator tests are excluded in this part.

1.2 List of acronyms and abbreviations

AMM	Aircraft Maintenance Manual
EIS	Electronic Instrument System
ECAM	Electronic Centralized Aircraft Monitoring

2 APPLICABLE DOCUMENTATION

24-00-00-861-801	Energize the Aircraft Electrical Circuits from the External Power A
24-41-00-862-801	De-energize the Aircraft Electrical Circuits from the External Power A
31-60-00-860-801	EIS start procedure (EWD DU, SD DU only)
45-10-00-860-808	Get the SYSTEM REPORT/TEST ELEC: DC page

3 REQUIRED EQUIPMENT

N/A

4 DEFINITIONS

N/A

5 PRELIMINARY INSTRUCTIONS

5.1 Test Preparation

The systems to be operative for the test performance are the EIS and ECAM for the electrical system monitoring.

5.2 Safety Instructions

Prior to performing any test, the following requirements must be met:

- Adequate electrical fire, extinguishing equipment shall be available within the aircraft and shall be within calibration / maintenance.
- No other testing shall be executed simultaneously on the aircraft, which might interfere with the correct execution of these tests.
- All Operator Safety hazards shall be identified and appropriate clothing, and or precautions shall be taken.
- Check that all control switches, and selectors of the electrical installation are in the OFF position.

5.3 Preliminary Actions

- All the engines and the APU shall be shut down.
- Batteries will be checked for correct connectivity. They shall also be checked to ensure they are fully charged.
- The wiring continuity tests of the system-under-test shall have been concluded successfully.
- The equipment and components of the system-under-test shall have been properly installed, in accordance with the applicable documentation. They shall be verified as fully operative.

6 TEST EXECUTION

WARNING: BEFORE POWER IS SUPPLIED TO THE AIRCRAFT, MAKE CERTAIN THAT ELECTRICAL CIRCUITS UPON WHICH WORK IS IN PROGRESS ARE ISOLATED.

NOTE: All results are to be recorded in the Result Table below.

6.1 Energize the Aircraft Electrical Circuits from Batteries 1 & 2

6.1.1 Apply procedure 24-41-00-861-801 of AMM. Energize the Aircraft Electrical Circuits from the External Power A.

6.1.2 If EIS system is not operative, apply procedure 31-60-00-860-801 of AMM (EIS start procedure)

6.1.3 On the ECAM control panel, push the EL/AC key (on the SD, the ELEC AC page comes into view).

6.1.4 On the ELEC control panel 235VU, make sure that the BAT1 and BAT2 pushbutton switches are pushed, and then release the EXT A P/BSW.

6.1.5 Check that the AVAIL legend of the EXT A pushbutton switches come on.

PASS ☐ **FAIL** ☐ **COMMENT:**

6.1.6 On the EWD, hold the ELEC AC page and check that the STAT INV indications come into view (115V, 400Hz)

PASS ☐ **FAIL** ☐ **COMMENT:**

6.1.7 On ELEC DC page, check that the BAT indications come into view

PASS ☐ **FAIL** ☐ **COMMENT:**

6.1.8 On ELEC AC page, check that the green line between the static inverter and the AC ESS busbar indication comes into view.

PASS ☐ **FAIL** ☐ **COMMENT:**

6.1.9 On ELEC AC page, check that the SHED indication comes into view near the AC ESS busbar.

PASS ☐ **FAIL** ☐ **COMMENT:**

6.1.10 On the SD, on the ELEC DC page, check that the SHED indication come into view near the DC ESS busbar indication.

PASS ☐ **FAIL** ☐ **COMMENT:**

6.1.11 Release the BAT1 and BAT2 pushbutton switches and check that the aircraft is de-energized.

6.2 Ground Service Configuration

6.2.1 Make sure that CBs listed below are closed:

FIN	PANEL	LOCATION	DESIGNATION
4LE1	721VU	U05	CKPT LT CAPT+MISC
4LE2	722VU	R40	CKPT LT F/O+MISC

6.2.2 On the control panel 5001VE (*Figure 1*), set the GND SELEC CTL switch to ON.

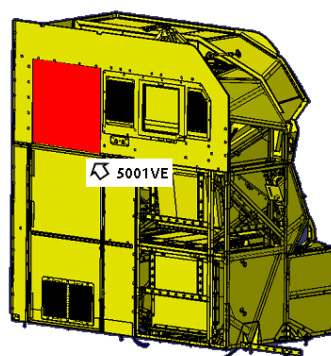


Figure 1. *Panel Location.*

6.2.3 On the avionics compartment, check that the DOME lights operates or view that close RCCBs 1XX, 2XX, 3XX and 4XX..

PASS ☐ **FAIL** ☐ **COMMENT:**

6.2.4 On the panel 722VU, open the circuit breaker 6XG (M44).

6.2.5 On the avionics compartment, check that the DOME lights do not operates or view that open RCCBs 1XX, 2XX, 3XX and 4XX..

PASS ☐ **FAIL** ☐ **COMMENT:**

6.2.6 On the panel 722VU, close the circuit breaker 6XG (M44).

6.2.7 On the control panel 5001VE (*Figure 1*), set the GND SELEC CTL switch to OFF.

6.3 Loss of the TR1, TR2 and ESS TR

6.3.1 On the ELEC control panel 235VU (*Overhead panel*), push the EXT A, BAT1 and BAT2 pushbutton switch. Check that the "AVAIL" legend of the EXT A pushbutton switch goes off and "ON" legend comes into view. Check in SD page EL/DC that TR1 supplies DC1 and DC BAT, and TR2 supplies DC2, and TR ESS supplies DC ESS (normal configuration).

PASS ☐ **FAIL** ☐ **COMMENT:**

6.3.2 On the panel 715VU, open the C.B. 3XN1 (coordinate H55).

6.3.3 On the EWD, on the ELEC DC page, check that the TR1 indication is lost and SD display is lost.

PASS ☐ **FAIL** ☐ **COMMENT:**

6.3.4 Check that the green line between the DC2, DC1 and DC BAT busbar indications comes into view.

PASS ☐ **FAIL** ☐ **COMMENT:**

6.3.5 On the EWD, check that the TR1 FAULT warning is **not** shown.

PASS ☐ **FAIL** ☐ **COMMENT:**

6.3.6 On the panel 715VU, close the C.B. 3XN1 (coordinate H55).

6.3.7 On the SD, on the ELEC DC page, check that the TR1 indication come in to view.

PASS ☐ **FAIL** ☐ **COMMENT:**

6.3.8 Check that the green line between the TR1, DC1 and DC BAT busbar indications comes into view.

PASS ☐ **FAIL** ☐ **COMMENT:**

6.3.9 Check that the green line between the DC2 and DC BAT busbar indication is lost.

PASS ☐ **FAIL** ☐ **COMMENT:**

6.3.10 On the panel 715VU, open the C.B. 3XN2 (coordinate V56) and on panel 722VU, open C.B. 42XN (coordinate B46).

6.3.11 On the SD, on the ELEC DC page, check that the TR2 indication is lost.

PASS ☐ **FAIL** ☐ **COMMENT:**

6.3.12 Check that the green line between the DC1, DC2 and DC BAT busbar indications comes into view.

PASS ☐ **FAIL** ☐ **COMMENT:**

6.3.13 On the EWD, check that the TR2 FAULT warning is **not** shown.

PASS ☐ **FAIL** ☐ **COMMENT:**

6.3.14 On the panel 715VU, close the C.B. 3XN2 (V56) and on panel 722VU, close C.B. 42XN (B46).

6.3.15 On the SD, on the ELEC DC page, check that the TR2 indication come in to view.

PASS ☐ **FAIL** ☐ **COMMENT:**

6.3.16 Check that the green line between the TR2, DC2 busbar indications comes into view.

PASS ☐ **FAIL** ☐ **COMMENT:**

6.3.17 Check that the green line between the DC2 and DC BAT busbar indication is lost.

PASS ☐ **FAIL** ☐ **COMMENT:**

6.3.18 On the panel 721VU, open the C.B. 5XC (coordinate M14).

6.3.19 On the SD, on the ELEC DC page, check that TR ESS indication is lost.

PASS ☐ **FAIL** ☐ **COMMENT:**

6.3.20 Check that the AC ESS indication comes on amber.

PASS ☐ **FAIL** ☐ **COMMENT:**

6.3.21 Check that the SHED indication comes into view near the AC ESS busbar indication.

PASS ☐ **FAIL** ☐ **COMMENT:**

6.3.22 On the EWD, Check that the TR ESS FAULT warning is **not** shown.

PASS ☐ **FAIL** ☐ **COMMENT:**

6.3.23 On the ELEC control panel 235VU, the FAULT legend of the AC ESS FED warning is shown.

PASS ☐ **FAIL** ☐ **COMMENT:**

6.3.24 On the panel 721VU, close the C.B. 5XC (coordinate M14).

6.3.25 On the SD, on the ELEC DC page, the system goes back to the normal configuration; TR1, TR2 and TR ESS indications are into view.

PASS ☐ **FAIL** ☐ **COMMENT:**

6.4 Switching of the ESS BUS 9XP

6.4.1 On the panel 715VU, open the C.B. 1XC (coordinate E54).

6.4.2 On the ELEC control panel 235VU, check that the FAULT legend of the AC ESS FEED pushbutton switch comes on.

PASS ☐ **FAIL** ☐ **COMMENT:**

6.4.3 On the SD, on the ELEC AC page, check that the AC ESS indication comes on amber.

PASS ☐ **FAIL** ☐ **COMMENT:**

6.4.4 On the SD, on the ELEC AC page, check that the SHED indication comes into view near the AC ESS busbar indication.

PASS ☐ **FAIL** ☐ **COMMENT:**

6.4.5 On the EWD, check that the AC ESS BUS FAULT and AC ESS BUS SHED warnings come into view.

PASS ☐ **FAIL** ☐ **COMMENT:**

6.4.6 On the ELEC control panel 235VU, release the AC ESS FEED pushbutton switch.

6.4.7 Check that the FAULT legend of the AC ESS FEED pushbutton switch goes off and the ALTN legend comes on.

PASS ☐ **FAIL** ☐ **COMMENT:**

6.4.8 On the SD, on the ELEC AC page, the green line between the AC2 and the AC ESS busbar indication comes into view.

PASS ☐ **FAIL** ☐ **COMMENT:**

6.4.9 Check that the SHED indication goes out of view.

PASS ☐ **FAIL** ☐ **COMMENT:**

6.4.10 On the EWD, check that the AC ESS BUS FAULT and AC ESS BUS SHED warnings go out of view.

PASS ☐ **FAIL** ☐ **COMMENT:**

6.4.11 On the panel 715VU, open the C.B. 2XC (S57).

6.4.12 On the ELEC control panel 235VU, check that the FAULT legend of the AC ESS FEED pushbutton switch comes on and the ALTN legend stays on.

PASS ☐ **FAIL** ☐ **COMMENT:**

6.4.13 On the SD, on the ELEC AC page, the AC ESS indication stays amber.

PASS ☐ **FAIL** ☐ **COMMENT:**

6.4.14 Check that the SHED indication comes into view near the AC ESS busbar indication.

PASS ☐ **FAIL** ☐ **COMMENT:**

6.4.15 On the EWD, check that the AC ESS BUS FAULT and AC ESS BUS SHED warnings come into view.

PASS ☐ **FAIL** ☐ **COMMENT:**

6.4.16 On the panel 715VU, close the C.B. 2XC (S57).

6.4.17 On the ELEC control panel 235VU, the FAULT legend of the AC ESS FEED pushbutton switch goes off and the ALTN legend stays on.

PASS ☐ **FAIL** ☐ **COMMENT:**

6.4.18 On the SD, on the ELEC AC page, the green line between the AC2 and the AC ESS busbar indications comes into view.

PASS ☐ **FAIL** ☐ **COMMENT:**

6.4.19 Check that the SHED indication goes out of view.

PASS ☐ **FAIL** ☐ **COMMENT:**

6.4.20 On the EWD, the AC ESS BUS FAULT and AC ESS BUS SHED warnings go out of view.

PASS ☐ **FAIL** ☐ **COMMENT:**

6.4.21 On the panel 715VU, close the C.B. 1XC (coordinate E54) and on the ELEC control panel 235VU, push the AC ESS FEED pushbutton switch.

6.4.22 On the ELEC control panel 235VU, check that the ALTN legend of the AC ESS FEED pushbutton switch goes off.

PASS ☐ **FAIL** ☐ **COMMENT:**

6.4.23 On the SD, on the ELEC AC page, check that the green line between the AC2 and the AC ESS busbar indications goes out of view.

PASS ☐ **FAIL** ☐ **COMMENT:**

6.4.24 Check that the green line between the AC1 and the AC ESS busbar indication comes into view.

PASS ☐ **FAIL** ☐ **COMMENT:**

6.5 Loss of the Electrical Network with the BUS TIE Pushbutton switch

6.5.1 On the ELEC control panel 235VU, release the BUS TIE pushbutton switch.

6.5.2 On the ELEC control panel 235VU, the OFF legend of the BUS TIE pushbutton switch comes on.

PASS ☐ **FAIL** ☐ **COMMENT:**

6.5.3 On the SD, on the ELEC AC page, the green line between the AC1 and AC2 busbar indications goes out of view.

PASS ☐ **FAIL** ☐ **COMMENT:**

6.5.4 Push the BUS TIE pushbutton switch.

6.5.5 On the ELEC control panel 235VU, the OFF legend of the BUS TIE pushbutton switch goes off.

PASS ☐ **FAIL** ☐ **COMMENT:**

6.5.6 On the SD, on the ELEC AC page, the green line between the AC1 and AC2 busbar indications comes into view.

PASS ☐ **FAIL** ☐ **COMMENT:**

6.6 Switching of DC Main Generation

6.6.1 Apply procedure 45-10-00-860-808 of AMM. On the MCDU, get the SYSTEM REPORT/TEST ELEC: DC page. Push the MCDU MENU mode key. Push the line key adjacent to the CMS indication. Push the line key adjacent to the SYSTEM REPORT/TEST indication.

6.6.2 On the panel 715VU, open C.B. 3PU1 (J55).

6.6.3 On the SD, on the ELEC DC page, check that the TR2 energizes the DC1, DC2 and DC BAT busbars.

PASS ☐ **FAIL** ☐ **COMMENT:**

6.6.4 On the EWD, check that the TR1 FAULT warning comes into view.

PASS ☐ **FAIL** ☐ **COMMENT:**

6.6.5 On the panel 715VU, close C.B. 3PU1 (J55).

6.6.6 On the MCDU, on the ELEC DC page, push the line key adjacent to the TR1 indication and then push the line key adjacent to the TR1 RESET indication.

6.6.7 On the EWD, check that the TR1 FAULT warnings goes out of view.

PASS ☐ **FAIL** ☐ **COMMENT:**

6.6.8 On the SD, on the ELEC DC page, check that the normal configuration comes into view.

PASS ☐ **FAIL** ☐ **COMMENT:**

6.6.9 On the panel 721VU, open C.B. 6XM (K05).

6.6.10 On the SD, on the ELEC DC page, check that DC1 busbar no longer supplies the DC BAT busbar.

PASS ☐ **FAIL** ☐ **COMMENT:**

6.6.11 Check that DC2 busbar supplies the DC BAT busbars.

PASS ☐ **FAIL** ☐ **COMMENT:**

6.6.12 On the SD, on the ELEC AC page, check that AC1 indication goes amber.

PASS ☐ **FAIL** ☐ **COMMENT:**

6.6.13 On the panel 721VU, close C.B. 6XM (K05).

6.6.14 On the SD, on the ELEC DC page, check that DC1 busbar supplies the DC BAT busbar.

PASS ☐ **FAIL** ☐ **COMMENT:**

6.6.15 Check that DC2 busbar no longer supplies the DC BAT busbars.

PASS ☐ **FAIL** ☐ **COMMENT:**

6.6.16 On the SD, on the ELEC AC page, check that TR1 indication back white.

PASS ☐ **FAIL** ☐ **COMMENT:**

6.6.17 On the panel 715VU, open the C.B. 3PU2 (W56).

6.6.18 On the SD, on the ELEC DC page, check that the TR1 energizes the DC1, DC2 and DC BAT busbars.

PASS ☐ **FAIL** ☐ **COMMENT:**

6.6.19 On the EWD, check that the TR2 FAULT warning comes into view.

PASS ☐ **FAIL** ☐ **COMMENT:**

6.6.20 On the panel 715VU, close the C.B. 3PU2 (W56).

6.6.21 On the MCDU, on the ELEC DC page, push the line key adjacent to the TR2 indication and then push the line key adjacent to the TR2 RESET indication.

6.6.22 On the EWD, check that the TR2 FAULT warnings goes out of view.

PASS ☐ **FAIL** ☐ **COMMENT:**

6.6.23 On the SD, on the ELEC DC page, check that the normal configuration comes into view.

PASS ☐ **FAIL** ☐ **COMMENT:**

6.6.24 On the AC/DC emergency power center 742VU, open the C.B. 4PE (R76).

6.6.25 On the SD, on the ELEC DC page, check that the DC ESS busbar is supplied by DC BAT.

PASS ☐ **FAIL** ☐ **COMMENT:**

6.6.26 On the EWD, check that the TR ESS FAULT warning comes into view.

PASS ☐ **FAIL** ☐ **COMMENT:**

6.6.27 On the AC/DC emergency power center 740VU, close the C.B. 4PE (R76).

6.6.28 On the panel 715VU, open C.B. 3PU1 (J55).

6.6.29 On the SD, on the ELEC DC page, check that the TR2 energizes the DC2, DC BAT and DC1 busbars.

PASS ☐ **FAIL** ☐ **COMMENT:**

6.6.30 On the EWD, check that the TR1 FAULT, DC ESS BUS and DC ESS BUS SHED warnings come into view. On ECAM, push CLR until warnings come into view

PASS ☐ **FAIL** ☐ **COMMENT:**

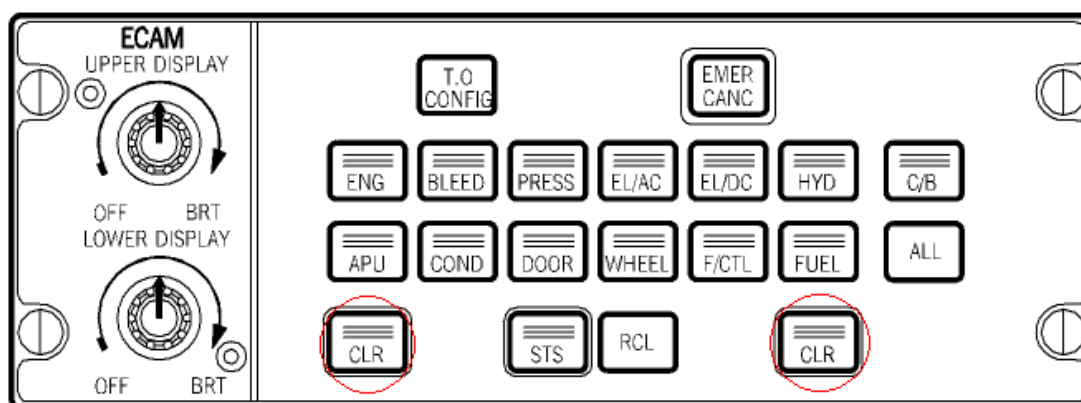


Figure 3. ECAM Control Panel.

6.6.31 On the panel 715VU, open the C.B. 3PU2 (W56).

6.6.32 On the SD, on the ELEC DC page, check that the ESS TR energizes the DC ESS busbar.

PASS ☐ **FAIL** ☐ **COMMENT:**

6.6.33 Check that the TR2 FAULT, DC BUS 2 and DC BUS 1 warnings comes into view.

PASS ☐ **FAIL** ☐ **COMMENT:**

6.6.34 On the panel 715VU, close C.B. 3PU1 (J55).

6.6.35 On the MCDU, on the ELEC DC page, push the line key adjacent to the TR1 indication and then push the line key adjacent to the TR1 RESET indication. If MCDU is not operative, do a manual reset in TR 1. Press the RESET pushbutton switch of the TR1 and the red light goes off.

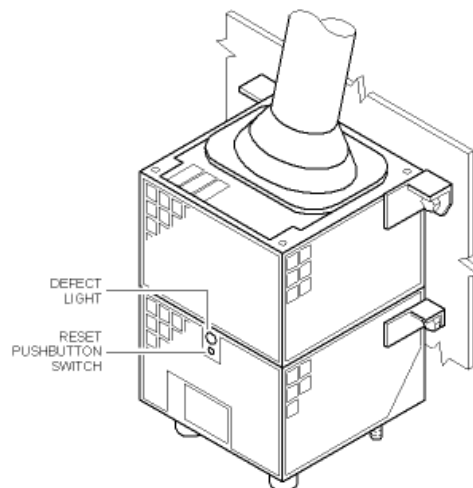


Figure 4. *Transformer Rectifier.*

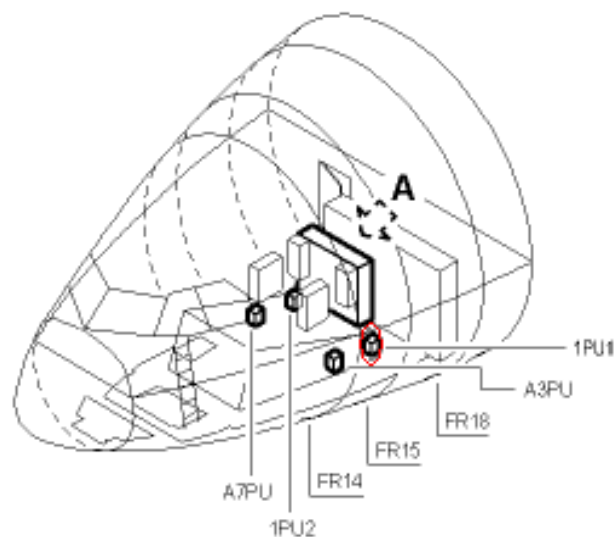


Figure 5. *Location TR1 (1PU1), TR2 (1PU2), TR3 (A7PU), TR4 (A3PU).*

6.6.36 On the EWD, check that the TR1 FAULT, DC BUS 2, DC BAT BUS and DC BUS 1 warnings goes out of view.

PASS ☐ **FAIL** ☐ **COMMENT:**

6.6.37 Check that the DC ESS BUS FAULT and DC ESS BUS SHED warnings come into view.

PASS ☐ **FAIL** ☐ **COMMENT:**

6.6.38 On the panel 715VU, close C.B. 3PU2 (W56).

6.6.39 On the MCDU, on the ELEC DC page, push the line key adjacent to the TR2 indication and then push the line key adjacent to the TR2 RESET indication.

6.6.40 On the EWD, check that the TR2 FAULT warning goes out of view.

PASS ☐ **FAIL** ☐ **COMMENT:**

6.6.41 On the MCDU, on the ELEC DC page, push the line key adjacent to the TR ESS indication and then push the line key adjacent to the TR ESS RESET indication.

6.6.42 On the EWD, check that the TR ESS FAULT warning goes out of view.

PASS ☐ FAIL ☐ COMMENT:

6.6.43 On the SD, check that the normal configuration comes into view.

PASS ☐ FAIL ☐ COMMENT:

6.7 Operational Test of the Emergency Generator Manual Connection on Batteries

6.7.1 On the ELEC control panel 235VU, release the BAT 1 pushbutton switch.

6.7.2 On the ELEC control panel 235VU, check that the OFF legend of the BAT 1 pushbutton switch comes on.

PASS ☐ FAIL ☐ COMMENT:

6.7.3 On the control panel 211VU (*Figure 6*), lift the safety cover and Push and hold the EMER GEN TEST pushbutton switch.

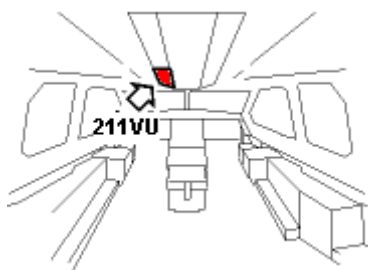


Figure 6. Cockpit Panel Location.

6.7.4 On the ELEC control panel 235VU, release the EXT A pushbutton switch.

6.7.5 On the ELEC control panel 235VU, check that the AVAIL legend of the EXT A pushbutton switch come on.

PASS ☐ FAIL ☐ COMMENT:

6.7.6 On the SD, get the ELEC AC page and make sure that stays in view.

6.7.7 On the SD, on the ELEC AC page, check that the green line between the AC1-1 and the AC ESS busbar indications goes out of view.

PASS ☐ FAIL ☐ COMMENT:

6.7.8 Check that the AC ESS indication comes on green and the SHED indication comes into view near the AC ESS busbar indication.

PASS ☐ FAIL ☐ COMMENT:

6.7.9 Check that the STAT INV indication comes on white.

PASS ☐ FAIL ☐ COMMENT:

6.7.10 Check that the STAT INV parameters (115V, 400Hz) come on green.

PASS ☐ FAIL ☐ COMMENT:

6.7.11 On the ELEC control panel 235VU, push the EXT A pushbutton switch.

6.7.12 On the control panel 211VU (*Figure 6*), release the EMER GEN TEST pushbutton switch.

6.7.13 On the ELEC control panel 235VU, check that the AVAIL legend of the EXT A pushbutton switch goes off and the ON legend comes on.

PASS ☐ **FAIL** ☐ **COMMENT:**

6.7.14 Apply procedure 24-41-00-862-801 of AMM: De -energize the Aircraft Electrical Circuits from the External Power A if no more tests will take place.

7 TEST RESULTS

Type on the following tables the results of the tests:

7.1 Energize the Aircraft from Batteries 1 & 2.

STEP	STEP RESULT (TICK BOX)	COMMENT (IF FAIL)
6.1.5	AVAIL legend of the EXT A pushbutton switches come on	
	PASS <input type="checkbox"/> FAIL <input type="checkbox"/>	
6.1.6	STAT INV indications come into view (115V, 400Hz)	
	PASS <input type="checkbox"/> FAIL <input type="checkbox"/>	
6.1.7	BAT indications come into view	
	PASS <input type="checkbox"/> FAIL <input type="checkbox"/>	
6.1.8	The green line between the static inverter and the AC ESS busbar indication comes into view.	
	PASS <input type="checkbox"/> FAIL <input type="checkbox"/>	
6.1.9	SHEDD indication comes into view near the AC ESS busbar	
	PASS <input type="checkbox"/> FAIL <input type="checkbox"/>	
6.1.10	SHEDD indication comes into view near the DC ESS busbar	
	PASS <input type="checkbox"/> FAIL <input type="checkbox"/>	
OVERALL TEST RESULT (TICK BOX)		COMENTS:
PASS <input type="checkbox"/>		
FAIL <input type="checkbox"/>		

7.2 Ground Service Configuration.

STEP	STEP RESULT (TICK BOX)	COMMENT (IF FAIL)
6.2.3	The DOME lights operates	
	PASS <input type="checkbox"/> FAIL <input type="checkbox"/>	
6.2.5	The DOME lights do not operates	
	PASS <input type="checkbox"/> FAIL <input type="checkbox"/>	
OVERALL TEST RESULT (TICK BOX)		COMENTS:
PASS <input type="checkbox"/>		
FAIL <input type="checkbox"/>		

7.3 Loss of the TR1, TR2 and ESS TR.

STEP	STEP RESULT (TICK BOX)			COMMENT (IF FAIL)
6.3.1	TR1 supplies DC1 and DC BAT, and TR2 supplies DC2, and TR ESS supplies DC ESS			
	PASS	<input type="checkbox"/>	FAIL	<input type="checkbox"/>
6.3.3	TR1 indication is lost			
	PASS	<input type="checkbox"/>	FAIL	<input type="checkbox"/>
6.3.4	The green line between the DC2, DC1 and DC BAT busbar indications comes into view			
	PASS	<input type="checkbox"/>	FAIL	<input type="checkbox"/>
6.3.5	TR1 FAULT warning is not shown			
	PASS	<input type="checkbox"/>	FAIL	<input type="checkbox"/>
6.3.7	TR1 indication come in to view			
	PASS	<input type="checkbox"/>	FAIL	<input type="checkbox"/>
6.3.8	The green line between the TR1, DC1 and DC BAT busbar indications comes into view			
	PASS	<input type="checkbox"/>	FAIL	<input type="checkbox"/>
6.3.9	The green line between the DC2 and DC BAT busbar indication is lost			
	PASS	<input type="checkbox"/>	FAIL	<input type="checkbox"/>
6.3.11	TR2 indication is lost			
	PASS	<input type="checkbox"/>	FAIL	<input type="checkbox"/>
6.3.12	The green line between the DC1, DC2 and DC BAT busbar indications comes into view			
	PASS	<input type="checkbox"/>	FAIL	<input type="checkbox"/>
6.3.13	TR2 FAULT warning is not shown			
	PASS	<input type="checkbox"/>	FAIL	<input type="checkbox"/>
6.3.15	TR2 indication come in to view			
	PASS	<input type="checkbox"/>	FAIL	<input type="checkbox"/>
6.3.16	The green line between the TR2, DC2 busbar indications comes into view			
	PASS	<input type="checkbox"/>	FAIL	<input type="checkbox"/>
6.3.17	The green line between the DC2 and DC BAT busbar indication is lost			
	PASS	<input type="checkbox"/>	FAIL	<input type="checkbox"/>
6.3.19	TR ESS indication is lost			
	PASS	<input type="checkbox"/>	FAIL	<input type="checkbox"/>
6.3.20	AC ESS indication comes on amber			
	PASS	<input type="checkbox"/>	FAIL	<input type="checkbox"/>
6.3.21	SHED indication comes into view near the AC ESS busbar indication			
	PASS	<input type="checkbox"/>	FAIL	<input type="checkbox"/>
6.3.22	TR ESS FAULT warning is not shown			
	PASS	<input type="checkbox"/>	FAIL	<input type="checkbox"/>
6.3.23	FAULT legend of the AC ESS FED warning is not shown			
	PASS	<input type="checkbox"/>	FAIL	<input type="checkbox"/>
6.3.25	The system goes back to the normal configuration			
	PASS	<input type="checkbox"/>	FAIL	<input type="checkbox"/>

STEP	STEP RESULT (TICK BOX)	COMMENT (IF FAIL)
OVERALL TEST RESULT (TICK BOX)		COMENTS:
PASS	<input type="checkbox"/>	
FAIL	<input type="checkbox"/>	

7.4 Switching of the ESS BUS 9XP

STEP	STEP RESULT (TICK BOX)	COMMENT (IF FAIL)
6.4.2	FAULT legend of the AC ESS FEED pushbutton switch comes on	
	PASS <input type="checkbox"/>	FAIL <input type="checkbox"/>
6.4.3	AC ESS indication comes on amber	
	PASS <input type="checkbox"/>	FAIL <input type="checkbox"/>
6.4.4	SHED indication comes into view near the AC ESS busbar indication	
	PASS <input type="checkbox"/>	FAIL <input type="checkbox"/>
6.4.5	AC ESS BUS FAULT and AC ESS BUS SHED warnings come into view	
	PASS <input type="checkbox"/>	FAIL <input type="checkbox"/>
6.4.7	FAULT legend of the AC ESS FEED pushbutton switch goes off and the ALTN legend comes on	
	PASS <input type="checkbox"/>	FAIL <input type="checkbox"/>
6.4.8	The green line between the AC2 and the AC ESS busbar indication comes into view	
	PASS <input type="checkbox"/>	FAIL <input type="checkbox"/>
6.4.9	SHED indication goes out of view	
	PASS <input type="checkbox"/>	FAIL <input type="checkbox"/>
6.4.10	AC ESS BUS FAULT and AC ESS BUS SHED warnings go out of view	
	PASS <input type="checkbox"/>	FAIL <input type="checkbox"/>
6.4.12	FAULT legend of the AC ESS FEED pushbutton switch comes on and the ALTN legend stays on	
	PASS <input type="checkbox"/>	FAIL <input type="checkbox"/>
6.4.13	AC ESS indication stays amber	
	PASS <input type="checkbox"/>	FAIL <input type="checkbox"/>
6.4.14	SHED indication comes into view near the AC ESS busbar indication	
	PASS <input type="checkbox"/>	FAIL <input type="checkbox"/>
6.4.15	AC ESS BUS FAULT and AC ESS BUS SHED warnings come into view	
	PASS <input type="checkbox"/>	FAIL <input type="checkbox"/>
6.4.17	FAULT legend of the AC ESS FEED pushbutton switch goes off and the ALTN legend stays on	
	PASS <input type="checkbox"/>	FAIL <input type="checkbox"/>
6.4.18	The green line between the AC2 and the AC ESS busbar indications comes into view	
	PASS <input type="checkbox"/>	FAIL <input type="checkbox"/>
6.4.19	SHED indication goes out of view	
	PASS <input type="checkbox"/>	FAIL <input type="checkbox"/>

STEP	STEP RESULT (TICK BOX)				COMMENT (IF FAIL)	
6.4.20	AC ESS BUS FAULT and AC ESS BUB SHED warnings go out of view					
	PASS	<input type="checkbox"/>	FAIL	<input type="checkbox"/>		
6.4.22	ALT legend of the AC ESS FEED pushbutton switch goes off					
	PASS	<input type="checkbox"/>	FAIL	<input type="checkbox"/>		
6.4.23	The green line between the AC2 and the AC ESS busbar indications goes out of view					
	PASS	<input type="checkbox"/>	FAIL	<input type="checkbox"/>		
6.4.24	The green line between the AC1 and the AC ESS busbar indication comes into view					
	PASS	<input type="checkbox"/>	FAIL	<input type="checkbox"/>		
OVERALL TEST RESULT (TICK BOX)		COMENTS:				
PASS						<input type="checkbox"/>
FAIL						<input type="checkbox"/>

7.5 Loss of the Electrical Network with the BUS TIE

STEP	STEP RESULT (TICK BOX)				COMMENT (IF FAIL)	
6.5.2	OFF legend of the BUS TIE pushbutton switch comes on					
	PASS	<input type="checkbox"/>	FAIL	<input type="checkbox"/>		
6.5.3	The green line between the AC1 and AC2 busbar indications goes out of view					
	PASS	<input type="checkbox"/>	FAIL	<input type="checkbox"/>		
6.5.5	The OFF legend of the BUS TIE pushbutton switch goes off					
	PASS	<input type="checkbox"/>	FAIL	<input type="checkbox"/>		
6.5.6	The green line between the AC1 and AC2 busbar indications comes into view					
	PASS	<input type="checkbox"/>	FAIL	<input type="checkbox"/>		
OVERALL TEST RESULT (TICK BOX)		COMENTS:				
PASS						<input type="checkbox"/>
FAIL						<input type="checkbox"/>

7.6 Switching of the DC Main Generation

STEP	STEP RESULT (TICK BOX)	COMMENT (IF FAIL)
6.6.3	TR2 energizes the DC1, DC2 and DC BAT busbars	
	PASS	FAIL
6.6.4	TR1 FAULT warning comes into view	

STEP	STEP RESULT (TICK BOX)			COMMENT (IF FAIL)
	PASS	<input type="checkbox"/>	FAIL	<input type="checkbox"/>
6.6.7	TR1 FAULT warnings goes out of view			
	PASS	<input type="checkbox"/>	FAIL	<input type="checkbox"/>
6.6.8	Normal configuration comes into view			
	PASS	<input type="checkbox"/>	FAIL	<input type="checkbox"/>
6.6.10	DC1 busbar no longer supplies the DC BAT busbar			
	PASS	<input type="checkbox"/>	FAIL	<input type="checkbox"/>
6.6.11	DC2 busbar supplies the DC1 and DC BAT busbars			
	PASS	<input type="checkbox"/>	FAIL	<input type="checkbox"/>
6.6.12	TR1 indication goes amber			
	PASS	<input type="checkbox"/>	FAIL	<input type="checkbox"/>
6.6.14	DC1 busbar supplies the DC BAT busbar			
	PASS	<input type="checkbox"/>	FAIL	<input type="checkbox"/>
6.6.15	DC2 busbar no longer supplies the DC1 and DC BAT busbars			
	PASS	<input type="checkbox"/>	FAIL	<input type="checkbox"/>
6.6.16	TR1 indication back green			
	PASS	<input type="checkbox"/>	FAIL	<input type="checkbox"/>
6.6.18	TR1 energizes the DC1, DC2 and DC BAT busbars			
	PASS	<input type="checkbox"/>	FAIL	<input type="checkbox"/>
6.6.19	TR2 FAULT warning comes into view			
	PASS	<input type="checkbox"/>	FAIL	<input type="checkbox"/>
6.6.22	TR2 FAULT warnings goes out of view			
	PASS	<input type="checkbox"/>	FAIL	<input type="checkbox"/>
6.6.23	Normal configuration comes into view			
	PASS	<input type="checkbox"/>	FAIL	<input type="checkbox"/>
6.6.25	DC ESS busbar is supplied by DC BAT			
	PASS	<input type="checkbox"/>	FAIL	<input type="checkbox"/>
6.6.26	TR ESS FAULT warning comes into view			
	PASS	<input type="checkbox"/>	FAIL	<input type="checkbox"/>
6.6.29	TR2 energizes the DC2, DC BAT and DC1 busbars			
	PASS	<input type="checkbox"/>	FAIL	<input type="checkbox"/>
6.6.30	TR1 FAULT, DC ESS BUS and DC ESS BUS SHED warnings come into view			
	PASS	<input type="checkbox"/>	FAIL	<input type="checkbox"/>
6.6.32	ESS TR energizes the DC ESS and DC ESS SHED busbars			
	PASS	<input type="checkbox"/>	FAIL	<input type="checkbox"/>
6.6.33	TR2 FAULT, DC BUS 2, DC BAT BUS and DC BUS 1 warnings comes into view			
	PASS	<input type="checkbox"/>	FAIL	<input type="checkbox"/>
6.6.36	TR1 FAULT, DC BUS 2, DC BAT BUS and DC BUS 1 warnings goes out of view			
	PASS	<input type="checkbox"/>	FAIL	<input type="checkbox"/>
6.6.37	DC ESS BUS and DC ESS BUS SHED warnings come into view			

STEP	STEP RESULT (TICK BOX)				COMMENT (IF FAIL)	
	PASS	<input type="checkbox"/>	FAIL	<input type="checkbox"/>		
6.6.40	TR2 FAULT warning goes out of view					
	PASS	<input type="checkbox"/>	FAIL	<input type="checkbox"/>		
6.6.42	TR ESS FAULT warning goes out of view					
	PASS	<input type="checkbox"/>	FAIL	<input type="checkbox"/>		
6.6.43	Normal configuration comes into view					
	PASS	<input type="checkbox"/>	FAIL	<input type="checkbox"/>		
OVERALL TEST RESULT (TICK BOX)		COMENTS:				
PASS						<input type="checkbox"/>
FAIL						<input type="checkbox"/>

7.7 Operational Test of the Emergency Generator

STEP	STEP RESULT (TICK BOX)				COMMENT (IF FAIL)	
6.7.2	OFF legend of the BAT 1 pushbutton switch comes on					
	PASS	<input type="checkbox"/>	FAIL	<input type="checkbox"/>		
6.7.5	AVAIL legend of the EXT A pushbutton switch come on					
	PASS	<input type="checkbox"/>	FAIL	<input type="checkbox"/>		
6.7.7	the green line between the AC1-1 and the AC ESS busbar indications goes out of view					
	PASS	<input type="checkbox"/>	FAIL	<input type="checkbox"/>		
6.7.8	AC ESS indication comes on green and the SHED indication comes into view near the AC ESS busbar indication					
	PASS	<input type="checkbox"/>	FAIL	<input type="checkbox"/>		
6.7.9	STAT INV indication comes on white					
	PASS	<input type="checkbox"/>	FAIL	<input type="checkbox"/>		
6.7.10	STAT INV parameters (115V, 400Hz) come on green					
	PASS	<input type="checkbox"/>	FAIL	<input type="checkbox"/>		
6.7.13	AVAIL legend of the EXT A pushbutton switch goes off and the ON legend comes on					
	PASS	<input type="checkbox"/>	FAIL	<input type="checkbox"/>		
OVERALL TEST RESULT (TICK BOX)		COMENTS:				
PASS						<input type="checkbox"/>
FAIL						<input type="checkbox"/>

NOTE: In Case of NCS, write down its number on Table 1

N.C.S. Number	Date

Table 1

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.

STAMP:	
DATE:	