EADS CASA	FUNCTIONAL TEST	PFAFA-36-22-02-00/0	Issue	A	Pags.	24
	SPF, Aircraft System Engineering Department					
Aircraft	A330 MRTT & FSTA					

Title:

Detailed Inspection of the Wing Overheat Sensing Elements

Summary:

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Signature: 	Signature: 	Signature: 
Date: 12/08/2010	Date: 12/08/2010	Date: 12/08/2010

REVISIONS RECORD

Issue	Revision Reason	Approved
Date	Chapters, Sections, Affected Pages	Signature
A	New Issue	Antonio Corrales Dominguez
12/08/10	All pages	

1 INTRODUCTION

1.1 Object

The aim of this test is to demonstrate the correct installation of the leak detection leads in both sides of the wings.

1.2 List of acronyms and abbreviations

AMM	A330 - Aircraft Maintenance Manual
FSTA	Future Strategic Tanker Aircraft
MRTT	Multi Roll Tanker & Transport

2 APPLICABLE DOCUMENTATION

FSTA:

[1] DT-FU-SGE-08012 A330-FSTA ATA36 - Pneumatic Functional Tests Requirements
[2] AMM – FSTA A330 Aircraft Maintenance Manual (AMM)
[3] SP-FU-SGE-08004 A330-FSTA ATA36 - Pneumatic Modification Specification

MRTT:

[4] NT-FA-SGE-07005 A330-200 MRTT ATA 36 Functional Tests
[5] AMM – RAAF A330 Aircraft Maintenance Manual (AMM) – Royal Australian Air Force (RAAF)
[6] F362A7000 A330-MRTT ATA30&36 Installation Drawing

3 REQUIRED EQUIPMENT

See Ref 1.

4 DEFINITIONS

N/A

5 PRELIMINARY INSTRUCTIONS

5.1 Aircraft configuration

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

- The aircraft is connected to a suitable ground in accordance with AMM task 12-34-24-860-802.
- Other activities that may prevent from doing this test are not being performed.
- There are means close to the aircraft to extinguish fire caused by electrical equipment.
- The fuel tanks are empty and there is not risk of explosion.
- The re-routing of the wing anti-ice leak detection leads (overheat sensing elements) in both sides of the wings has been done.

6 TEST EXECUTION

1. Make sure that the engine shutdown occurred not less than 5 minutes before you do this procedure.

2. On the ENG MASTER control panel 125VU, put a warning notice to tell persons not to start the engines.

3. Do the AMM task: AMM 36-22-19-200-801 – Detailed Inspection of the Wing Overheat Sensing Elements

4. Remove the warning notice.

Ref 1. AMM TASK 36-22-19-200-801: Detailed Inspection of the Wing Overheat Sensing Elements

TASK 36-22-19-200-801

Detailed Inspection of the Wing Overheat Sensing Elements

1. Reason for the Job

Self Explanatory

2. Job Set-up Information

A. Fixtures, Tools, Test and Support Equipment

REFERENCE	QTY	DESIGNATION
No specific		circuit breaker(s) safety clip(s)
No specific		warning notice
No specific FOR FIN 13HF, 44HF		access platform 2.5 m (8 ft. 2 in.)
No specific FOR FIN 12HF, 43HF		access platform 3.0 m (9 ft. 10 in.)
No specific FOR FIN 11HF, 42HF		access platform 3.2 m (10 ft. 6 in.)
No specific FOR FIN 10HF, 41HF		access platform 4.0 m (13 ft. 1 in.)
No specific FOR FIN 40HF, 9HF		access platform 4.1 m (13 ft. 5 in.)
No specific FOR FIN 39HF, 8HF		access platform 4.3 m (14 ft. 1 in.)
No specific FOR FIN 38HF, 7HF		access platform 4.6 m (15 ft. 1 in.)
No specific FOR FIN 36HF, 5HF		access platform 4.8 m (15 ft. 9 in.)
No specific FOR FIN 62HF, 79HF		access platform 5.3 m (17 ft. 5 in.)
No specific FOR FIN 61HF, 78HF		access platform 3.0 m (9 ft. 10 in.)
No specific FOR FIN 60HF, 77HF		access platform 3.2 m (10 ft. 6 in.)
No specific FOR FIN 59HF, 76HF		access platform 4.0 m (13 ft. 1 in.)
No specific FOR FIN 58HF, 75HF		access platform 4.1 m (13 ft. 5 in.)

REFERENCE	QTY	DESIGNATION
No specific		access platform 4.3 m (14 ft. 1 in.)
FOR FIN 57HF, 74HF		
No specific		access platform 4.6 m (15 ft. 1 in.)
FOR FIN 56HF, 73HF		
No specific		access platform 4.8 m (15 ft. 9 in.)
FOR FIN 54HF, 71HF		
No specific		access platform 5.3 m (17 ft. 5 in.)
FOR FIN 110HF, 111HF, 112HF, 94HF, 95HF, 96HF		
No specific		access platform 1.5 m (4 ft. 11 in.)
FOR FIN 121HF, 132HF, 122HF, 133HF, 123HF, 134HF		
No specific		access platform 1.5 m (4 ft. 11 in.)
FOR FIN 16HF, 47HF		
No specific		access platform 1.8 m (5 ft. 11 in.)
FOR FIN 17HF, 48HF, 20HF, 51HF		
No specific		access platform 1.5 m (4 ft. 11 in.)
FOR FIN 106HF, 109HF, 113HF, 136HF, 90HF, 93HF		
No specific		access platform 1.5 m (4 ft. 11 in.)
FOR FIN 65HF, 82HF		
No specific		access platform 1.8 m (5 ft. 11 in.)
FOR FIN 68HF, 85HF		
No specific		access platform 1.5 m (4 ft. 11 in.)
FOR FIN 117HF, 128HF, 120HF, 131HF, 124HF, 135HF		
No specific		access platform 1.5 m (4 ft. 11 in.)

B. Referenced Information

REFERENCE	DESIGNATION
20-28-00-912-802	Electrical Bonding of Components with Conductive Screws and Bolts and Bonding Straps
24-42-00-861-801	Energize the Ground Service Network
24-42-00-862-801	De-energize the Ground Service Network
36-22-19-991-005	Fig. 601
36-22-19-991-004	Fig. 602
36-22-19-991-006	Fig. 603
36-22-19-991-007	Fig. 604
36-22-19-991-008	Fig. 605
FOR FIN 110HF, 111HF, 112HF, 94HF, 95HF, 96HF	
53-35-13-000-802	Removal of the Belly Fairing Access-Panels
53-35-13-400-802	Installation of the Belly Fairing Access-Panels
FOR FIN 121HF, 132HF, 122HF, 133HF, 123HF, 134HF	

REFERENCE	DESIGNATION
53-35-13-000-802	Removal of the Belly Fairing Access-Panels
53-35-13-400-802	Installation of the Belly Fairing Access-Panels
FOR FIN 110HF, 94HF	
21-52-41-000-801	Removal of the Air Conditioning Pack (521HH, 522HH)
21-52-41-400-801	Installation of the Air Conditioning Pack (521HH, 522HH)
FOR FIN 121HF, 132HF	
21-52-41-000-801	Removal of the Air Conditioning Pack (521HH, 522HH)
FOR FIN 16HF, 47HF	
53-35-13-000-802	Removal of the Belly Fairing Access-Panels
53-35-13-400-802	Installation of the Belly Fairing Access-Panels
FOR FIN 17HF, 48HF, 20HF, 51HF	
53-35-13-000-802	Removal of the Belly Fairing Access-Panels
53-35-13-400-802	Installation of the Belly Fairing Access-Panels
FOR FIN 106HF, 109HF, 113HF, 136HF, 90HF, 93HF	
53-35-13-000-802	Removal of the Belly Fairing Access-Panels
53-35-13-400-802	Installation of the Belly Fairing Access-Panels
FOR FIN 65HF, 82HF	
53-35-13-000-802	Removal of the Belly Fairing Access-Panels
53-35-13-400-802	Installation of the Belly Fairing Access-Panels
FOR FIN 68HF, 85HF	
53-35-13-000-802	Removal of the Belly Fairing Access-Panels
53-35-13-400-802	Installation of the Belly Fairing Access-Panels
FOR FIN 117HF, 128HF, 120HF, 131HF, 124HF, 135HF	
53-35-13-000-802	Removal of the Belly Fairing Access-Panels
53-35-13-400-802	Installation of the Belly Fairing Access-Panels

3. Job Set-up

Subtask 36-22-19-010-054

A. Get Access to the Avionics Compartment

(1) Put the access platform in position below the access door 811.

(2) Open the access door 811.

(3) Energize the ground service network (Ref. TASK 24-42-00-861-801).

Subtask 36-22-19-865-056

B. Open, safety and tag this(these) circuit breaker(s):

PANEL	DESIGNATION	FIN	LOCATION
721VU	SFCC 1 NORM AVAIL	10CW	X13
722VU	BMC 2	2HA2	T34
722VU	SFCC 2 SLAT	2CW	V40
742VU	BMC 1	2HA1	C73
742VU	SFCC 1 SLAT	1CW	L62

Subtask 36-22-19-941-052

C. Put the warning notice in position on the panel 212VU to tell persons not to start the engines.

Subtask 36-22-19-010-055

D. Get Access to the Wing Overheat Sensing Elements
(Ref. Fig. 601/TASK 36-22-19-991-005)

WARNING : MAKE SURE THAT THE SAFETY DEVICES AND THE WARNING NOTICES ARE IN POSITION BEFORE YOU START A TASK ON OR NEAR:
- THE FLIGHT CONTROLS
- THE FLIGHT CONTROL SURFACES
- THE LANDING GEAR AND THE RELATED DOORS
- COMPONENTS THAT MOVE.
MOVEMENT OF COMPONENTS CAN KILL OR INJURE PERSONS.

(1) FOR 13HF, 44HF

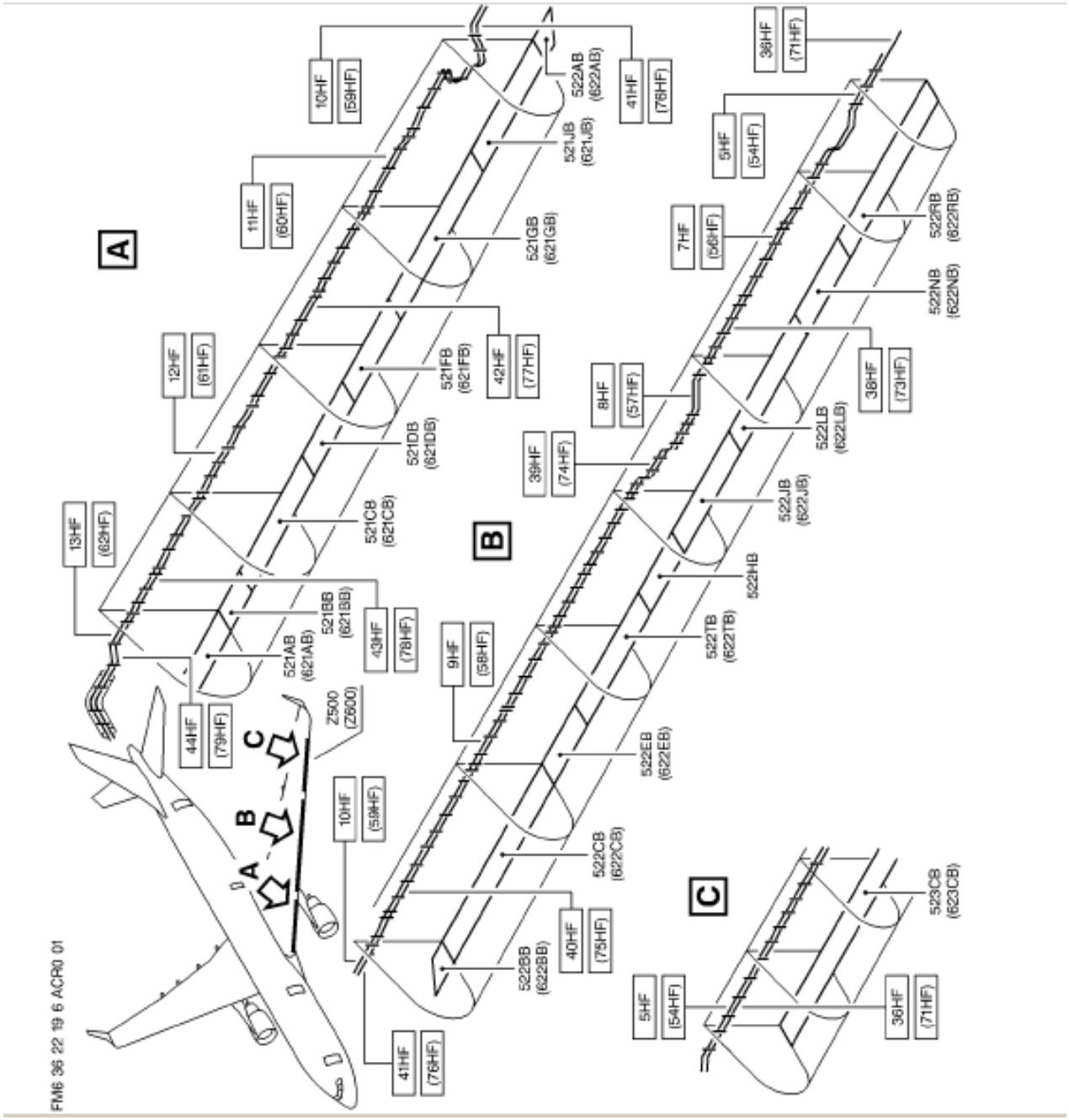
(a) Put the access platform in position below the access panel 521BB.

(b) Remove the access panels 521BB and 521AB.

(2) FOR 12HF, 43HF

(a) Put the access platform in position below the access panel 521GB.

(b) Remove the access panels 521GB, 521FB, 521DB, 521CB, 521BB and 521AB.


A
B
C
10HF (59HF)
11HF (60HF)
12HF (61HF)
13HF (62HF)
44HF (79HF)
43HF (78HF)
41HF (76HF)
42HF (77HF)
40HF (75HF)
39HF (74HF)
38HF (73HF)
36HF (71HF)
9HF (58HF)
8HF (57HF)
7HF (56HF)
5HF (54HF)
Z500 (Z600)
521AB (621AB)
521BB (621BB)
521CB (621CB)
521DB (621DB)
521FB (621FB)
521GB (621GB)
521JB (621JB)
522AB (622AB)
522BB (622BB)
522CB (622CB)
522EB (622EB)
522TB (622TB)
522HB
522JB (622JB)
522LB (622LB)
522NB (622NB)
522RB (622RB)
523CB (623CB)
FM6 36 22 19 6 ACR0 01

(3) FOR 11HF, 42HF

(a) Put the access platform in position below the access panel 522AB.

(b) Remove the access panels 522AB, 521JB, 521GB and 521FB.

(4) FOR 10HF, 41HF

(a) Put the access platform in position below the access panel 522CB.

(b) Remove the access panels 522CB, 522BB, 452CL, 452CR, 522AB and 521JB.

(5) FOR 9HF, 40HF

(a) Put the access platform in position below the access panel 522HB.

(b) Remove the access panels 522HB, 522TB, 522EB, 522CB and 522BB.

(6) FOR 8HF, 39HF

(a) Put the access platform in position below the access panel 522NB.

(b) Remove the access panels 522NB, 522LB, 522JB, 522HB and 522TB.

(7) FOR 7HF, 38HF

(a) Put the access platform in position below the access panel 523CB.

(b) Remove the access panels 523CB, 522RB, 522NB and 522LB.

(8) FOR 5HF, 36HF

(a) Put the access platform in position below the access panel 523CB.

(b) Remove the access panels 523CB and 522RB.

(9) FOR 62HF, 79HF

(a) Put the access platform in position below the access panel 621BB.

(b) Remove the access panels 621BB and 621AB.

(10) FOR 61HF, 78HF

(a) Put the access platform in position below the access panel 621GB.

(b) Remove the access panels 621GB, 621FB, 621DB, 621CB, 621BB and 621AB.

(11) FOR 60HF, 77HF

(a) Put the access platform in position below the access panel 622AB.

(b) Remove the access panels 622AB, 621JB, 621GB and 621FB.

(12) FOR 59HF, 76HF

(a) Put the access platform in position below the access panel 622CB.

(b) Remove the access panels 622CB, 622BB, 462CR, 462CL, 622AB and 621JB.

(13) FOR 58HF, 75HF

(a) Put the access platform in position below the access panel 622HB.

(b) Remove the access panels 622HB, 622TB, 622EB, 622CB and 622BB.

(14) FOR 57HF, 74HF

(a) Put the access platform in position below the access panel 622NB.

(b) Remove the access panels 622NB, 622LB, 622JB, 622HB and 622TB.

(15) FOR 56HF, 73HF

(a) Put the access platform in position below the access panel 623CB.

(b) Remove the access panels 623CB, 622RB, 622NB and 622LB.

(16) FOR 54HF, 71HF

(a) Put the access platform in position below the access panel 623CB.

(b) Remove the access panels 623CB and 622RB.

Subtask 36-22-19-010-056

E. Get Access to the Center Fuselage and Pylon Sensing Elements
(Ref. Fig. 602/TASK 36-22-19-991-004, 603/TASK 36-22-19-991-006)

(1) FOR 94HF, 110HF, 95HF, 111HF, 96HF, 112HF

(a) Put the access platform in position below the access panel 193EB.

(b) Remove the access panel 193EB (Ref. TASK 53-35-13-000-802).

(2) FOR 121HF, 132HF, 122HF, 133HF, 123HF, 134HF

(a) Put the access platform in position below the access panel 192MB.

(b) Remove the access panel 192MB (Ref. TASK 53-35-13-000-802).

(3) FOR 94HF, 110HF

(a) Remove the left air-conditioning pack (521HH) (Ref. TASK 21-52-41-000-801).

(4) FOR 121HF, 132HF

(a) Remove the right air-conditioning pack (522HH) (Ref. TASK 21-52-41-000-801).

(5) FOR 16HF, 47HF

(a) Put the access platform in position below the access panel 191HB.

(b) Remove the access panels 191HB, 191DZ and 191FB (Ref. TASK 53-35-13-000-802).

(6) FOR 17HF, 48HF, 20HF, 51HF

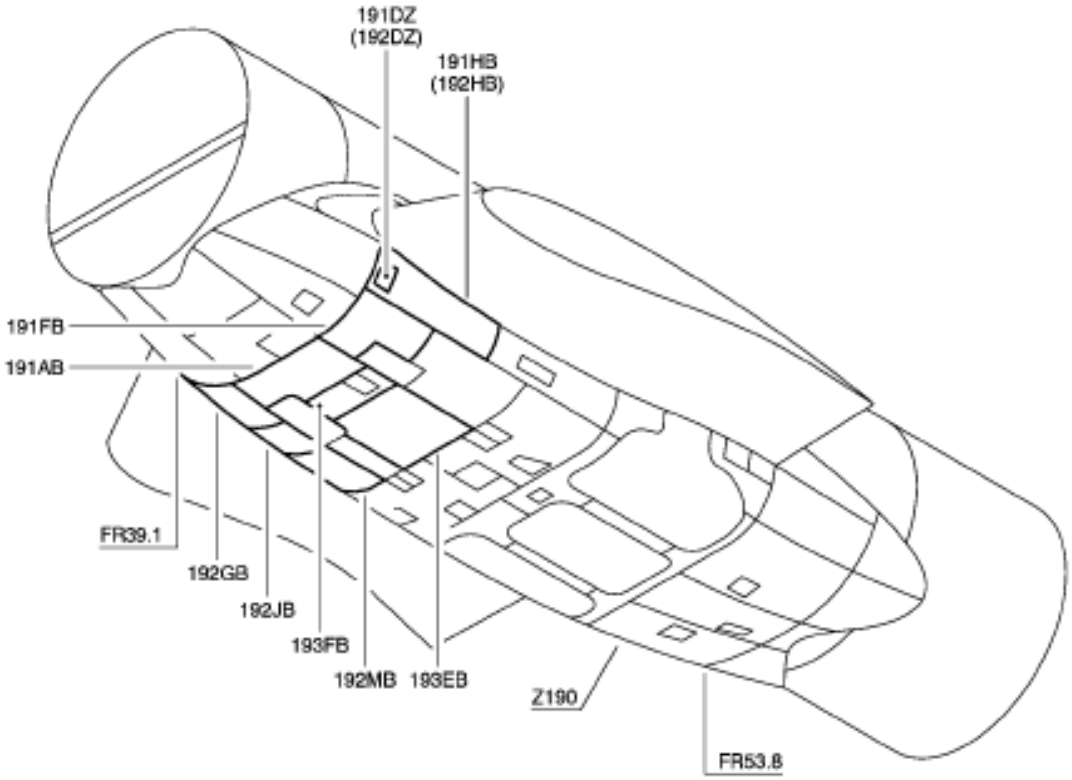
(a) Put the access platform in position below the access panel 193AB.

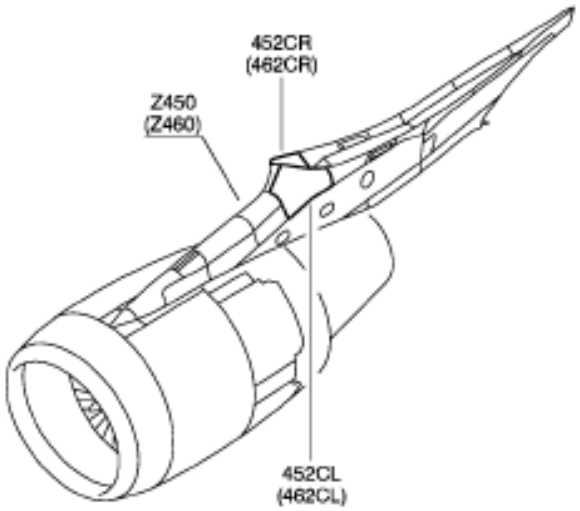
(b) Remove the access panels 193AB and 193FB (Ref. TASK 53-35-13-000-802).

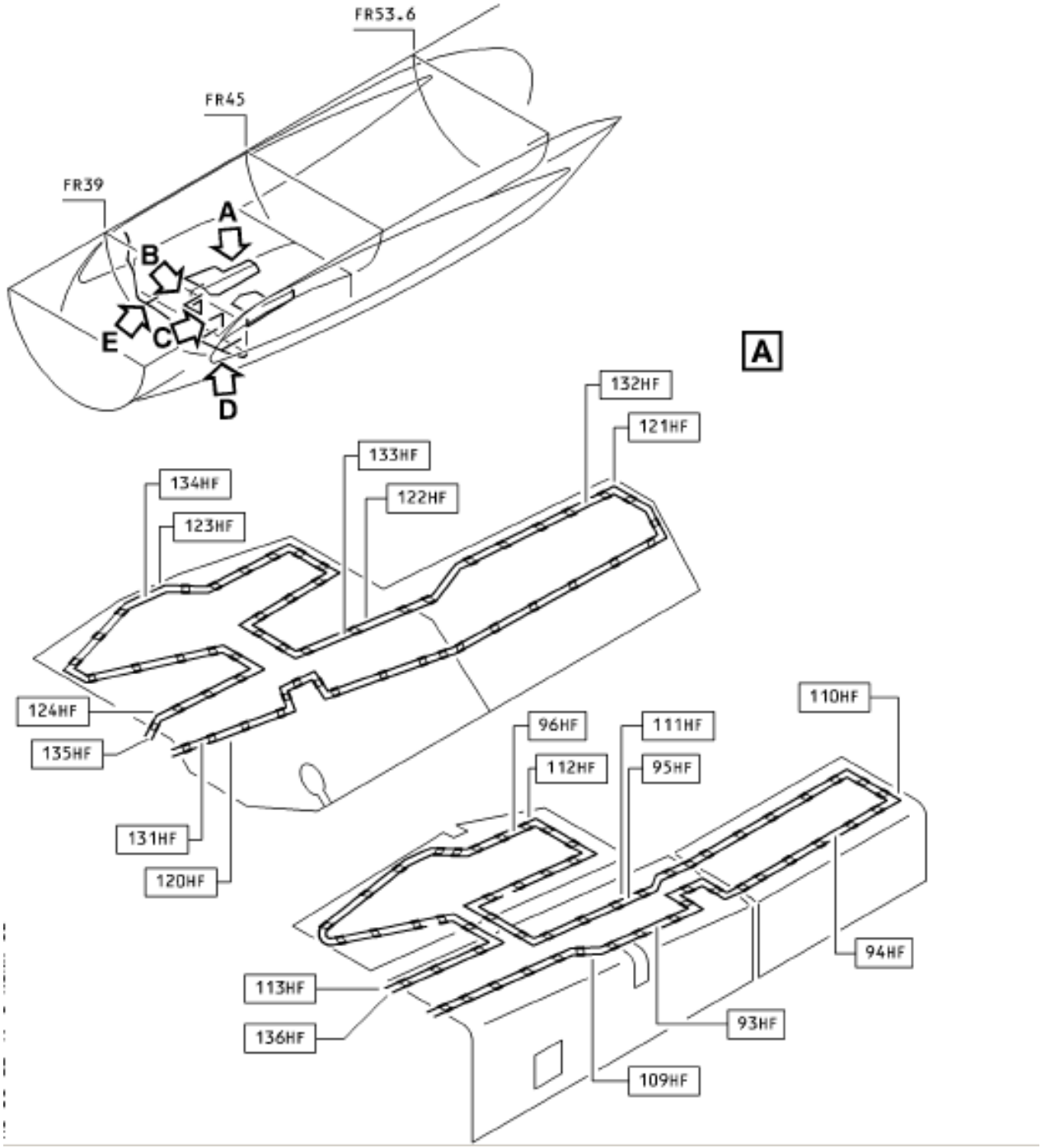
(7) FOR 90HF, 106HF, 93HF, 109HF, 136HF, 113HF

(a) Put the access platform in position below the access panel 193EB.

(b) Remove the access panel 193EB (Ref. TASK 53-35-13-000-802).


191DZ
(192DZ)
191HB
(192HB)
191FB
191AB
FR39.1
192GB
192JB
193FB
192MB
193EB
Z190
FR53.8


452CR
(462CR)
Z450
(Z460)
452CL
(462CL)


FR53.6
FR45
FR39
A
B
C
D
E
A
132HF
121HF
133HF
134HF
122HF
123HF
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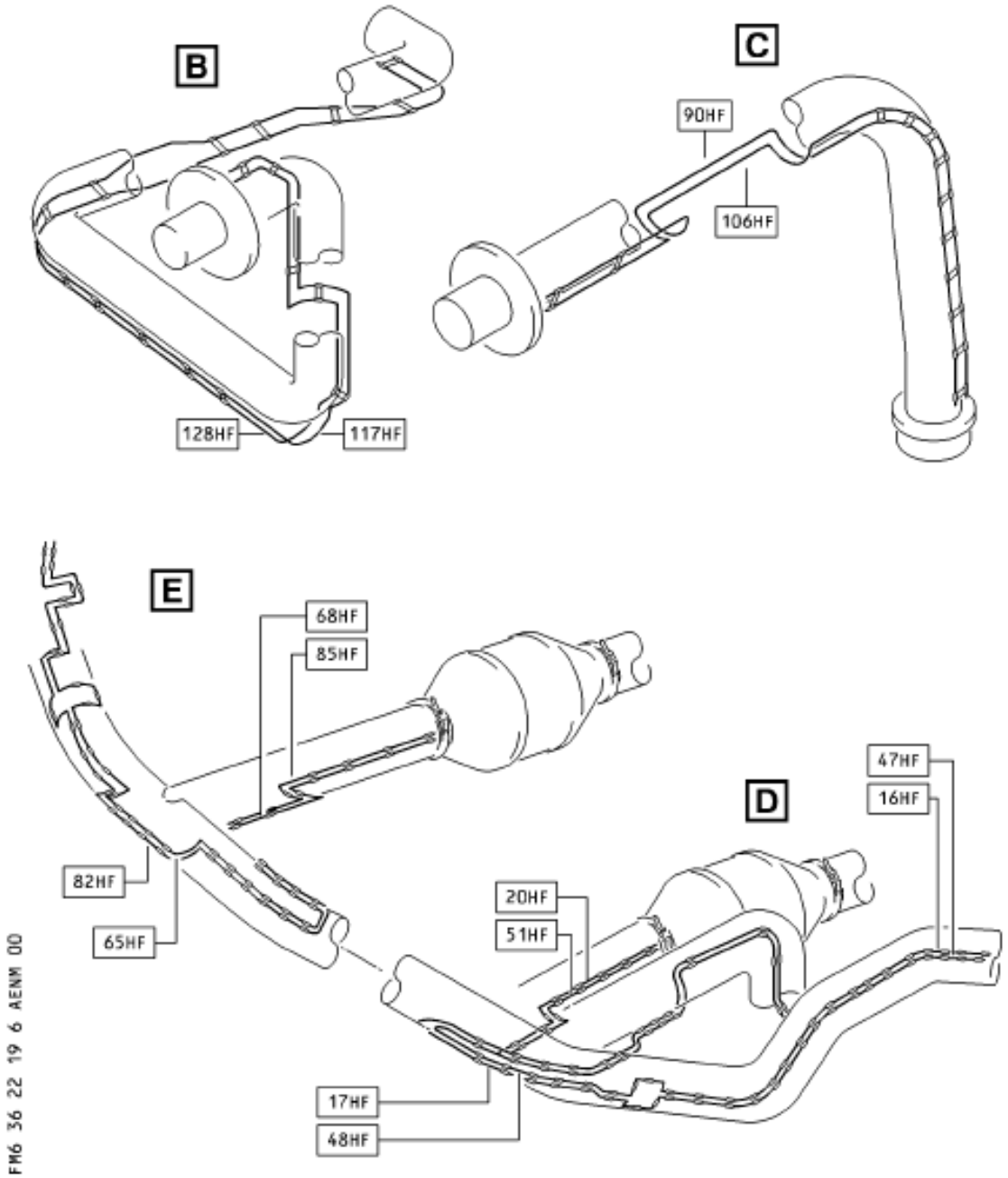
109HF


B
128HF
117HF
C
90HF
106HF
E
68HF
85HF
82HF
65HF
D
47HF
16HF
20HF
51HF
17HF
48HF
FM6 36 22 19 6 AENM 00

(8) FOR 65HF, 82HF

(a) Put the access platform in position below the access panel 192HB.

(b) Remove the access panels 192HB, 192DZ, 192GB and 193AB (Ref. TASK 53-35-13-000-802).

(9) FOR 68HF, 85HF

(a) Put the access platform in position below the access panel 192GB.

(b) Remove the access panels 192GB and 192JB (Ref. TASK 53-35-13-000-802).

(10) FOR 117HF, 128HF, 120HF, 131HF, 124HF, 135HF

(a) Put the access platform in position below the access panel 192MB.

(b) Remove the access panel 192MB (Ref. TASK 53-35-13-000-802).

4. Procedure

(Ref. Fig. 604/TASK 36-22-19-991-007)

Subtask 36-22-19-210-050

A. Inspection of the Wing Overheat Sensing Elements

(1) Make sure that the clearance between the sensing elements and the duct is approximately 12.7 mm (0.5000 in.) minimum measured over the full length of the sensing element.

(2) Make sure that the sensing elements are installed to the permitted tolerance.
(Ref. Fig. 605/TASK 36-22-19-991-008)

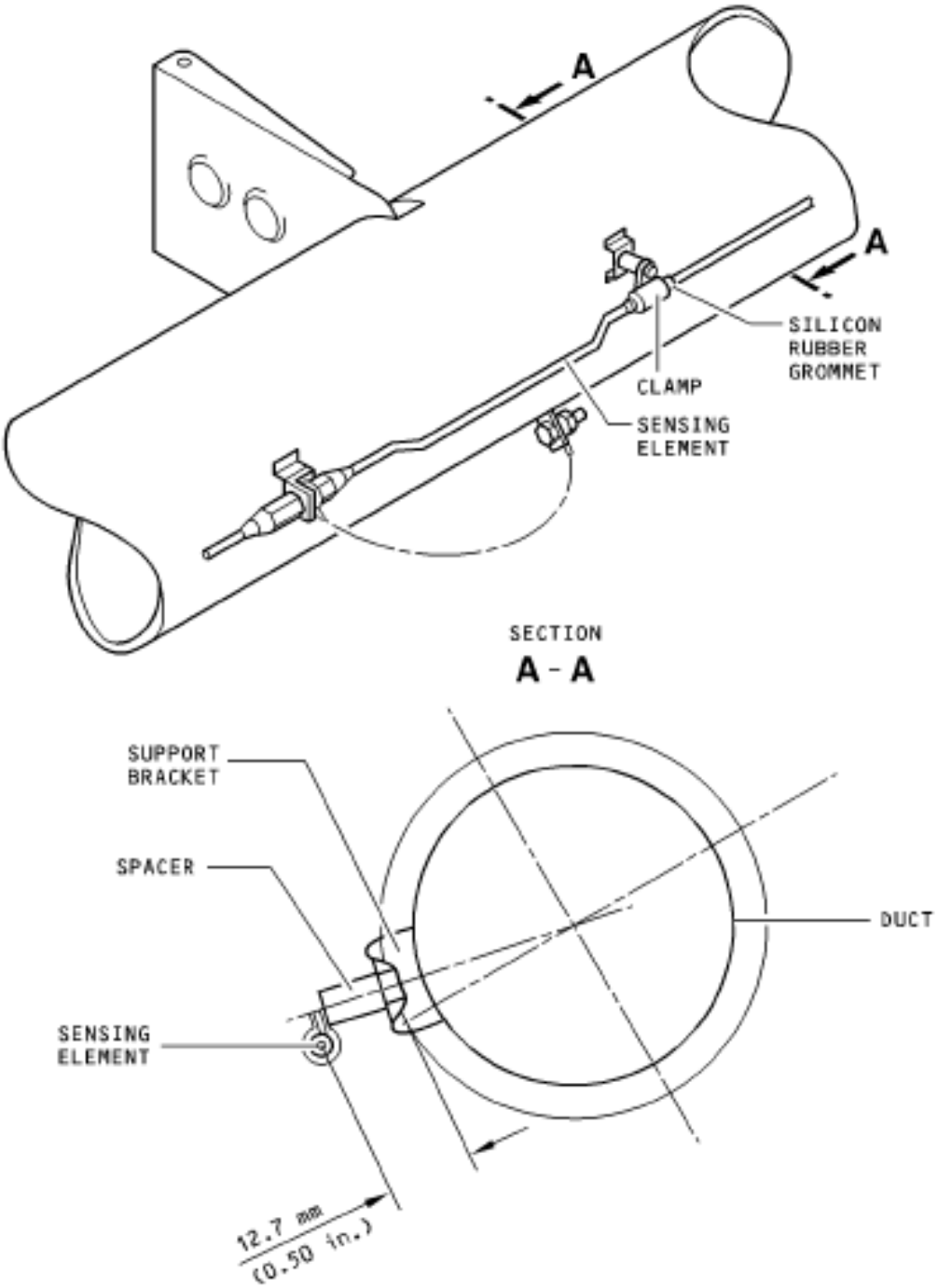
(3) Make sure that each clamp has a silicon rubber grommet.

(4) Make sure that each mounting bracket that is installed directly to the duct has a spacer.

(5) Make sure that each mounting and clamp is not damaged and has no corrosion.

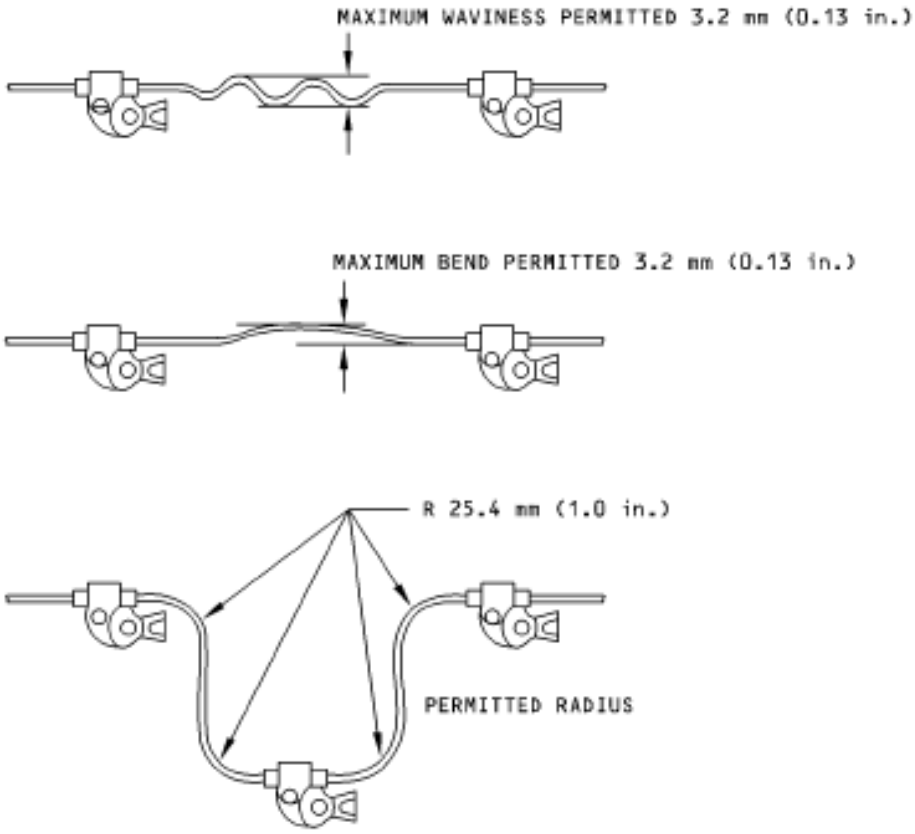
(6) Make sure that the bonding straps are correctly installed (Ref. TASK 20-28-00-912-802).

EXAMPLE FOR AN INSTALLATION OF AN OVERHEAT SENSING ELEMENT

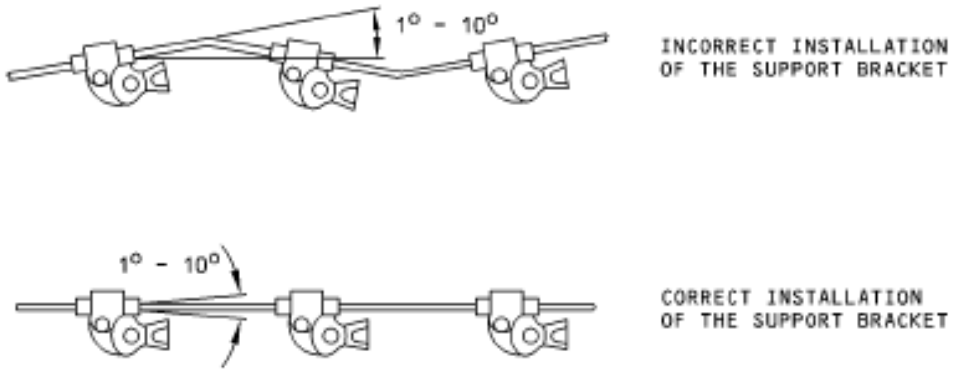


SECTION
A - A

PERMITTED TOLERANCE FOR WAVINESS AND BEND IN THE TUBES



PERMITTED TOLERANCE OF THE ANGLE FOR THE SUPPORT BRACKETS



FM6 36 22 19 6 AJMD 00

(7) Make sure that the lockwires are correctly installed on the connection of the sensing elements.

5. Close-up

Subtask 36-22-19-410-052

A. Close Access to the Wing Overheat Sensing Elements
(Ref. Fig. 601/TASK 36-22-19-991-005)

(1) Make sure that the work area is clean and clear of tools and other items.

(2) FOR 13HF, 44HF
- Install the access panels 521BB and 521AB.

(3) FOR 12HF, 43HF
- Install the access panels 521GB, 521FB, 521DB, 521CB, 521BB and 521AB.

(4) FOR 11HF, 42HF
- Install the access panels 522AB, 521JB, 521GB and 521FB.

(5) FOR 10HF, 41HF
- Install the access panels 522CB, 522BB, 452CL, 452CR, 522AB and 521JB.

(6) FOR 9HF, 40HF
- Install the access panels 522HB, 522TB, 522EB, 522CB and 522BB.

(7) FOR 8HF, 39HF
- Install the access panels 522NB, 522LB, 522JB, 522HB and 522TB.

(8) FOR 7HF, 38HF
- Install the access panels 523CB, 522RB, 522NB and 522LB.

(9) FOR 5HF, 36HF
- Install the access panels 523CB and 522RB.

(10) FOR 62HF, 79HF
- Install the access panels 621BB and 621AB.

(11) FOR 61HF, 78HF
- Install the access panels 621GB, 621FB, 621DB, 621CB, 621BB and 621AB.

(12) FOR 60HF, 77HF
- Install the access panels 622AB, 621JB, 621GB and 621FB.

(13) FOR 59HF, 76HF
- Install the access panels 622CB, 622BB, 462CR, 462CL, 622AB and 621JB.

(14) FOR 58HF, 75HF
- Install the access panels 622HB, 622TB, 622EB, 622CB and 622BB.

(15) FOR 57HF, 74HF
- Install the access panels 622NB, 622LB, 622JB, 622HB and 622TB.

(16) FOR 56HF, 73HF
- Install the access panels 623CB, 622RB, 622NB and 622LB.

(17) FOR 54HF, 71HF
- Install the access panels 623CB and 622RB.

Subtask 36-22-19-410-053

B. Close Access to the Center Fuselage and Pylon Sensing Elements
(Ref. Fig. 602/TASK 36-22-19-991-004)

(1) Make sure that the work area is clean and clear of tools and other items.

(2) FOR 94HF, 110HF, 95HF, 111HF, 96HF, 112HF
- Install the access panel 193EB (Ref. TASK 53-35-13-400-802).

(3) FOR 121HF, 132HF, 122HF, 133HF, 123HF, 134HF
- Install the access panel 192MB (Ref. TASK 53-35-13-400-802).

(4) FOR 94HF, 110HF
- Install the left air-conditioning pack (521HH) (Ref. TASK 21-52-41-400-801).

(5) FOR 121HF, 132HF
- Install the right air-conditioning pack (522HH) (Ref. TASK 21-52-41-000-801).

(6) FOR 16HF, 47HF
- Install the access panels 191HB, 191DZ and 191FB (Ref. TASK 53-35-13-400-802).

(7) FOR 17HF, 48HF, 20HF, 51HF
- Install the access panels 193AB and 193FB (Ref. TASK 53-35-13-400-802).

(8) FOR 90HF, 106HF, 93HF, 109HF, 136HF, 113HF
- Install the access panel 193EB (Ref. TASK 53-35-13-400-802).

(9) FOR 65HF, 82HF
- Install the access panels 192HB, 192DZ, 192GB and 193AB (Ref. TASK 53-35-13-400-802).

(10) FOR 68HF, 85HF
- Install the access panels 192GB and 192JB (Ref. TASK 53-35-13-400-802).

(11) FOR 117HF, 128HF, 120HF, 131HF, 124HF, 135HF
- Install the access panel 192MB (Ref. TASK 53-35-13-400-802).

Subtask 36-22-19-865-057

C. Remove the safety clip(s) and the tag(s) and close this(these) circuit breaker(s):
2HA1, 2HA2, 1CW, 2CW, 10CW.

Subtask 36-22-19-860-052

D. Put the aircraft back to its operational configuration.

(1) Remove the warning notice(s).

(2) De-energize the ground service network (Ref. TASK 24-42-00-862-801).

(3) Close the access door 811.

(4) Remove the access platform(s).

7 TEST RESULTS

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

TEST	PASS/FAIL
Detailed Inspection of the Wing Overheat Sensing Elements	
Comments:	

Table 1: List of Results

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 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:	