
SERVICE BULLETIN

N° 139-661

ALERT

DATE: February 4, 2021

REV. : /

TITLE

ATA 24 – OVERHEAD PANEL INSPECTION

REVISION LOG

First Issue

An appropriate entry should be made in the aircraft log book upon accomplishment.
If ownership of aircraft has changed, please, forward to new owner.

1. PLANNING INFORMATION

A. EFFECTIVITY

Part I:

All AB/AW139 helicopters from S/N 31005 thru S/N 31927, from S/N 41001 thru S/N 41576 and from S/N 41801 thru S/N 41806, except the S/Ns listed in table 1.

HELICOPTERS S/Ns		
31789	31899	31916
31792	31900	31917
31800	31901	31919
31803	31902	31921
31814	31903	31924
31836	31907	41562
41563		41574

Table 1

Part II:

All AB/AW139 helicopters.

B. COMPLIANCE

Part I:

Within and not later than twenty-five (25) FH after the issue of this Service Bulletin.

Part II:

Every three hundred (300) FH or one (1) year whichever occurs first after the compliance with Part I of this Service Bulletin or after the issue date of this Service Bulletin for those helicopters for which the Part I is not applicable.

C. CONCURRENT REQUIREMENTS

N.A.

D. REASON

This Service Bulletin is issued in order to prescribe an inspection of the overhead panel cable harnesses, anchor nuts, screws and supports, to locate potential chafing conditions.

E. DESCRIPTION

Part I of this Service Bulletin is developed to prescribe a one-off inspection inside the overhead panel, in order to check:

- the absence of chafing between the anchor nuts/screws and the cable harnesses;
- the correct lengths of the screws fixing the Circuit Breaker Panel and the lining panels prescribing, in case of findings, their replacement with new ones;
- the condition of the supports fixing the cable harnesses;
- the presence of a clearance of at least 10.0 mm between an anchor nut and the cable harnesses. In case the clearance is not respected, cable harnesses must be properly re-routed.

Moreover, this SB prescribes the application of a white protective tape on the anchor nuts in order to avoid chafing with the cable harnesses.

Part II of this Service Bulletin is developed to prescribe a recurrent inspection inside the overhead panel in order to check the tape condition and the absence of chafing.

F. APPROVAL

The technical content of this Service Bulletin is approved under the authority of DOA nr. EASA.21.J.005. For helicopters registered under other Aviation Authorities, before applying the Service Bulletin, applicable Aviation Authority approval must be checked within Leonardo Helicopters customer portal.

EASA states mandatory compliance with inspections, modifications or technical directives and related time of compliance by means of relevant Airworthiness Directives. If an aircraft listed in the effectivity embodies a modification or repair not LH certified and affecting the content of this Service Bulletin, it is responsibility of the Owner/Operator to obtain a formal approval by Aviation Authority having jurisdiction on the aircraft, for any adaptation necessary before incorporation of the present Service Bulletin.

G. MANPOWER

To comply with this Service Bulletin, the following MMH are deemed necessary:

Part I: approximately six (6) MMH if terminal boards bonding and/or cable harness rerouting are also required, otherwise approximately three (3) MMH;

Part II: approximately two (2) MMH;

MMH are based on hands-on time and can change with helicopter configuration, personnel and facilities available.

H. WEIGHT AND BALANCE

N.A.

I. REFERENCES

1) PUBLICATIONS

Following Data Modules refer to AMP:

<u>DATA MODULE</u>	<u>DESCRIPTION</u>	<u>PART</u>
DM01 39-A-00-20-00-00A-120A-A	Helicopter on ground for a safe maintenance.	I, II
DM02 39-A-06-41-00-00A-010A-A	Access doors and panels - General data	I, II
DM03 39-A-24-91-01-00A-520A-A	Circuit breaker panel - Remove procedure	I,II
DM04 39-A-24-91-01-00A-720A-A	Circuit breaker panel - Install procedure	I,II

2) ACRONYMS & ABBREVIATIONS

AMP	Aircraft Maintenance Publication
AR	As Required
ATA	Air Transport Association
DM	Data Module
DOA	Design Organization Approval
EASA	European Aviation Safety Agency
FH	Flying Hours
LH	Leonardo Helicopter
MMH	Maintenance Man Hours
N.A.	Not Applicable
P/N	Part Number

3) ANNEX

N.A.

J. PUBLICATIONS AFFECTED

N.A.

K. SOFTWARE ACCOMPLISHMENT SUMMARY

N.A.

2. MATERIAL INFORMATION

A. REQUIRED MATERIALS

1) PARTS

N.A.

2) CONSUMABLES

The following consumable materials, or equivalent, are necessary to accomplish this Service Bulletin:

#	SPEC./LH CODE NUMBER	DESCRIPTION	Q.TY	NOTE	PART
1	AW005ME04T05305 or GSC-21-99605-027 or GSC-21-98805-027	White tape (30 mm)	AR	(2)	I, II
	MMM-A-132 Type 2, Class II Code No. 900000581	Adhesive EA9309.3NA (C021)	AR	(2)	I
	Commercial	Lint-free cloth (C011)	AR	(2)	I
4	TT-N-95 Type II	Aliphatic naphtha (C059)	AR	(2)	I
5	AN525-10R9	Screw	AR	(1) (2)	I
6	MS51958-63B	Screw	AR	(1) (2)	I
7	Commercial	Abrasive pad (C015)	AR	(2)	I

3) LOGISTIC MATRIX

N.A.

NOTES

- (1) Item to be ordered only if necessary in accordance with the required screw length.
- (2) Item to be procured as local supply.

B. SPECIAL TOOLS

N.A.

C. INDUSTRY SUPPORT INFORMATION

N.A.

3. ACCOMPLISHMENT INSTRUCTIONS

GENERAL NOTES

- a) Place an identification tag on all components that are re-usable, including the attaching hardware that has been removed to gain access to the modification area and adequately protect them until their later re-use.
- b) Shape the cables in order to prevent interference with the structure and the other existing installations, using where necessary suitable lacing cords and plastic cable tiedown.
- c) Let adhesive cure at room temperature for at least 24 hours unless otherwise specified.
- d) All lengths are in mm.

PART I

1. In accordance with AMP DM 39-A-00-20-00-00A-120A-A, prepare the helicopter on ground for a safe maintenance. Disconnect the battery, all electrical power sources and/or the external power supply.
2. In accordance with AMP DM 39-A-06-41-00-00A-010A-A and with reference to Figure 1 thru Figure 3, remove all external panels, internal panels and internal liners as required to gain access to the area affected and perform the inspection of the overhead panel cable harnesses, anchor nuts, screws and supports as described in the following procedure:
 - 2.1 In accordance with the applicable steps of AMP DM 39-A-06-41-00-00A-010A-A, remove the lining panel 131CL, the lining panel 132CR and their fixing hardware.
 - 2.2 In accordance with the applicable steps of AMP DM 39-A-24-91-01-00A-520A-A and with reference to Figure 1 Detail A, open the circuit breaker panel assy without removing it.

NOTE

Some liner configurations do not require the presence of screws at the locations from n°11 thru n°16.

- 2.3 With reference to Figure 1 Detail A and View B, check the length of the screws (removed in the previous step 2.1) at the indicated locations from n°11 thru n°16, if applicable:
 - 2.3.1 Make sure that each screw is long 15.06 mm or less.

NOTE

Before replacing the screw, check that the length of the new screw P/N AN525-10R9 is less than 15.06 mm.

- 2.3.2 If the length is not less than 15.06 mm replace each affected screw with a new one P/N AN525-10R9.
- 2.4 With reference to Figure 1 Detail A and View B, remove the screws at the indicated locations from n°1 thru n°10 and check their length:
 - 2.4.1 Make sure that each screw is long 12.7 mm or less.

NOTE

Before replacing the screw, check that the length of the new screw P/N MS51958-63B is less than 12.7 mm.

- 2.4.2 If the length is not less than 12.7 mm replace each affected screw with a new one P/N MS51958-63B.
- 2.5 With reference to Figure 1 Detail A and View B, re-install n°6 screws, if applicable, in their respective anchor nuts P/N A407A3C2P at the indicated locations from n°11 thru n°16 without the lining panels previously removed at step 2.1
- 2.6 With reference to Figure 1 Detail A and View B, re-install n°10 screws in their respective anchor nuts P/N A407A3C2P at the indicated locations from n°1 thru n°10, keeping the circuit breaker panel assy open.
- 2.7 With reference to Figure 1 Detail A and View B, check for chafing damage of the cable harness and ensure that clearance exists between the cable harness and the anchor nuts P/N A407A3C2P and/or the screws at the indicated locations from n°1 thru n°16.

NOTE

In case of findings, perform the following step 2.8.

NOTE

Customer must contact Product Support Engineering (engineering.support.lhd@leonardocompany.com) if support is needed to replace the cables or fuses and/or to have the applicable Wiring Diagrams.

- 2.8 With reference to Figure 1 Detail A and View B, remove and replace the damaged cables or fuses.
- 2.9 With reference to Figure 1 View B and to Figure 3 Detail E, measure at the indicated location n°16, on the LH side, the clearance between the anchor nut P/N A407A3C2P and the cable harnesses including a check of the mutual position.

NOTE

Perform the following step 2.10 if the clearance is NOT at least 10.0 mm and/or if the cable harnesses is installed BELOW the anchor nut.

- 2.10 With reference to Figure 1 View B, move the existing support P/N A630A51 or P/N AW001CL001-N6, as applicable, and re-route the cable harnesses in order to respect the clearance of at least 10.0 mm and guarantee the installation ABOVE the anchor nut.
- 2.11 With reference to Figure 1 Detail A and View B, check that all the supports P/N A630A51 and P/N AW001CL001-N6, as applicable, on the LH and RH side are soundly bonded to the panel with no evidences of detachment or delamination.

NOTE

Perform the following step 2.12 in case of discrepancies found from the check of step 2.11.

- 2.12 With reference to Figure 1, replace the supports in the interested position according to the following procedure:
 - 2.12.1 Cut and remove the strap from the bundle and move away the bundle from the work area as far as possible. Make sure that you do not cause damage to the wires during this operation.

NOTE

Perform the following step 2.12.2 only if the support is partially removed or detached.

- 2.12.2 With reference to Figure 1 Detail A and View B, carefully remove the bonded plastic support P/N A630A51 and/or P/N AW001CL001-N6 with an applicable plastic spatula. Make sure that you do not cause damage to the structure during this operation.
- 2.12.3 Rub the seat of the plastic support on the structure with the Abrasive pad (C015) to remove the unwanted sealant.

CAUTION

Make a selection of the solvent to use it on the different structure to prevent damage to the related surfaces.

- 2.12.4 Clean the seat surface with the Lint-free cloth (C011) and with Aliphatic naphtha (C059).

WARNING

BE CAREFUL WHEN YOU USE THE COMPRESSED AIR. DUST AND PARTICLES CAN CAUSE INJURY TO YOUR EYES. ALWAYS USE APPLICABLE PROTECTIVE GOGGLE.

- 2.12.5 Dry the seat surface with the compressed air until you remove all the solvent.
- 2.12.6 With reference to Figure 1 Detail A and View B, install the supports P/N A630A51 and/or P/N AW001CL001-N6, as applicable, according to the following procedure:
 - 2.12.6.1 Prepare the correct quantity of Adhesive EA9309.3NA (C021) for the plastic support and the structure surface.
 - 2.12.6.2 If previously removed, re-install the cable harnesses to the supports P/N A630A51 and/or P/N AW001CL001-N6.
 - 2.12.6.3 Apply a thin layer of adhesive on the structure surface where the plastic support will be installed. Make sure that adhesive is located on an area not wider than the surface of the plastic support.
 - 2.12.6.4 Apply a thin layer of the adhesive on the mating surface of the plastic support.
 - 2.12.6.5 Put the plastic support on the structure and push the plastic support against the structure. Make sure that the bottom of the plastic support is fully against the structure.
 - 2.12.6.6 Let the plastic support in this position for the cure time of the adhesive.
 - 2.12.6.7 Make sure that the adhesive makes a continuous bead around the attached plastic support.
- 2.12.7 Put the bundle in its correct position on the plastic support and safety the bundle with the applicable tiedown strap.

NOTE

On LH and RH side apply only one piece of tape (two layers) in a continuous way.

- 2.13 With reference to Figure 1 Detail A and View B, to Figure 2 View C and View D, apply n°2 layers of the white tape P/N AW005ME04T05305 on n°10 anchor nuts P/N A407A3C2P (n°5 on the LH side and n°5 on the RH side).
- 2.14 With reference to Figure 1 Detail A and View B, to Figure 2 View C and View D, apply n°2 layers of the white tape P/N AW005ME04T05305 on each of the n°6

anchor nuts P/N A407A3C2P (n°3 on the LH side and n°3 on the RH side).

- 2.15 With reference to Figure 1 Detail A and View B, temporarily remove n°10 screws P/N MS51958-63B from their respective anchor nuts P/N A407A3C2P at the indicated locations from n°1 thru n°10.
- 2.16 With reference to Figure 1 Detail A and View B, temporarily remove n°6 screws P/N AN525-10R9 from their respective anchor nuts P/N A407A3C2P at the indicated locations from n°11 thru n°16, if present.
- 2.17 In accordance with the applicable steps of AMP DM 39-A-24-91-01-00A-720A-A and with reference to Figure 1 Detail A, close the circuit breaker panel assy using the hardware removed in the previous step 2.15.
- 2.18 In accordance with the applicable steps of AMP DM 39-A-06-41-00-00A-010A-A, re-install the lining panel 131CL and the lining panel 132CR using the hardware removed in the previous step 2.16.
3. In case of findings, contact Product Support Engineering (engineering.support.lhd@leonardocompany.com) to report about the results of the inspections requested by step 2.
4. Return the helicopter to flight configuration and record for compliance with Part I of this Service Bulletin on the helicopter logbook.
5. Send the attached compliance form to the following mail box:
engineering.support.lhd@leonardocompany.com
As an alternative, gain access to My Communications section on Leonardo WebPortal and compile the "Service Bulletin Application Communication".

PART II

1. In accordance with AMP DM 39-A-00-20-00-00A-120A-A, prepare the helicopter on ground for a safe maintenance. Disconnect the battery, all electrical power sources and/or the external power supply.
2. In accordance with AMP DM 39-A-06-41-00-00A-010A-A and with reference to Figure 1, remove all external panels, internal panels and internal liners as required to gain access to the area affected and perform the inspection inside the overhead panel of the protective tape as described in the following procedure:
 - 2.1 In accordance with the applicable steps of AMP DM 39-A-06-41-00-00A-010A-A, remove the lining panel 131CL, the lining panel 132CR.
 - 2.2 In accordance with the applicable steps of AMP DM 39-A-24-91-01-00A-520A-A and with reference to Figure 1 Detail A, open the circuit breaker panel assy without removing it.
 - 2.3 With reference to Figure 1 Detail A and View B, to Figure 2 View C and View D, check for the condition of the n°2 layers of the white tape P/N AW005ME04T05305 on n°10 anchor nuts P/N A407A3C2P (n°5 on the LH side and n°5 on the RH side).

NOTE

Perform the following step 2.4 only if you need to replace the protective tape on the LH side.

NOTE

Apply only one piece of tape (two layers) in a continuous way.

- 2.4 With reference Figure 2 View C, remove n°2 layers of the white tape from the anchor nuts and apply in the same position n°2 new layers of the white tape P/N AW005ME04T05305.

NOTE

Perform the following step 2.5 only if you need to replace the protective tape on the RH side.

- 2.5 With reference to Figure 2 View D, repeat step 2.4 for the RH side.
- 2.6 With reference to Figure 1 Detail A and View B, to Figure 2 View C and View D, check for the condition of the n°2 layers of the white tape P/N AW005ME04T05305 on each of the n°6 anchor nuts P/N A407A3C2P (n°3 on the LH side and n°3 on the RH side).

NOTE

Perform the following step 2.7 only if you need to replace the protective tape on the LH side.

- 2.7 With reference to Figure 2 View C, remove n°2 layers of the white tape from the anchor nut and apply in the same position n°2 new layers of the white tape P/N AW005ME04T05305. If necessary, repeat for all the three anchor nuts.

NOTE

Perform the following step 2.8 only if you need to replace the protective tape on the RH side.

- 2.8 With reference to Figure 2 View D, repeat step 2.7 for the RH side.
- 2.9 With reference to Figure 1 Detail A and View B, check for chafing damage of the cable harness and ensure that clearance exists between the cable harness and the anchor nuts P/N A407A3C2P and/or the screws at the indicated locations from n°1 thru n°16.

NOTE

In case of findings, perform the following step 2.10.

NOTE

Customer must contact Product Support Engineering (engineering.support.lhd@leonardocompany.com) if support is needed to replace the cables or fuses and/or to have the applicable Wiring Diagrams.

- 2.10 With reference to Figure 1 Detail A and View B, remove and replace the damaged cables or fuses.
- 2.11 In accordance with the applicable steps of AMP DM 39-A-24-91-01-00A-720A-A and with reference to Figure 1 Detail A, close the circuit breaker panel assy.
- 2.12 In accordance with the applicable steps of AMP DM 39-A-06-41-00-00A-010A-A, re-install the lining panel 131CL and the lining panel 132CR.
3. In case of findings, contact Product Support Engineering (engineering.support.lhd@leonardocompany.com) to report about the results of the inspections requested by step 2.
4. Return the helicopter to flight configuration and record for compliance with Part II of this Service Bulletin on the helicopter logbook.
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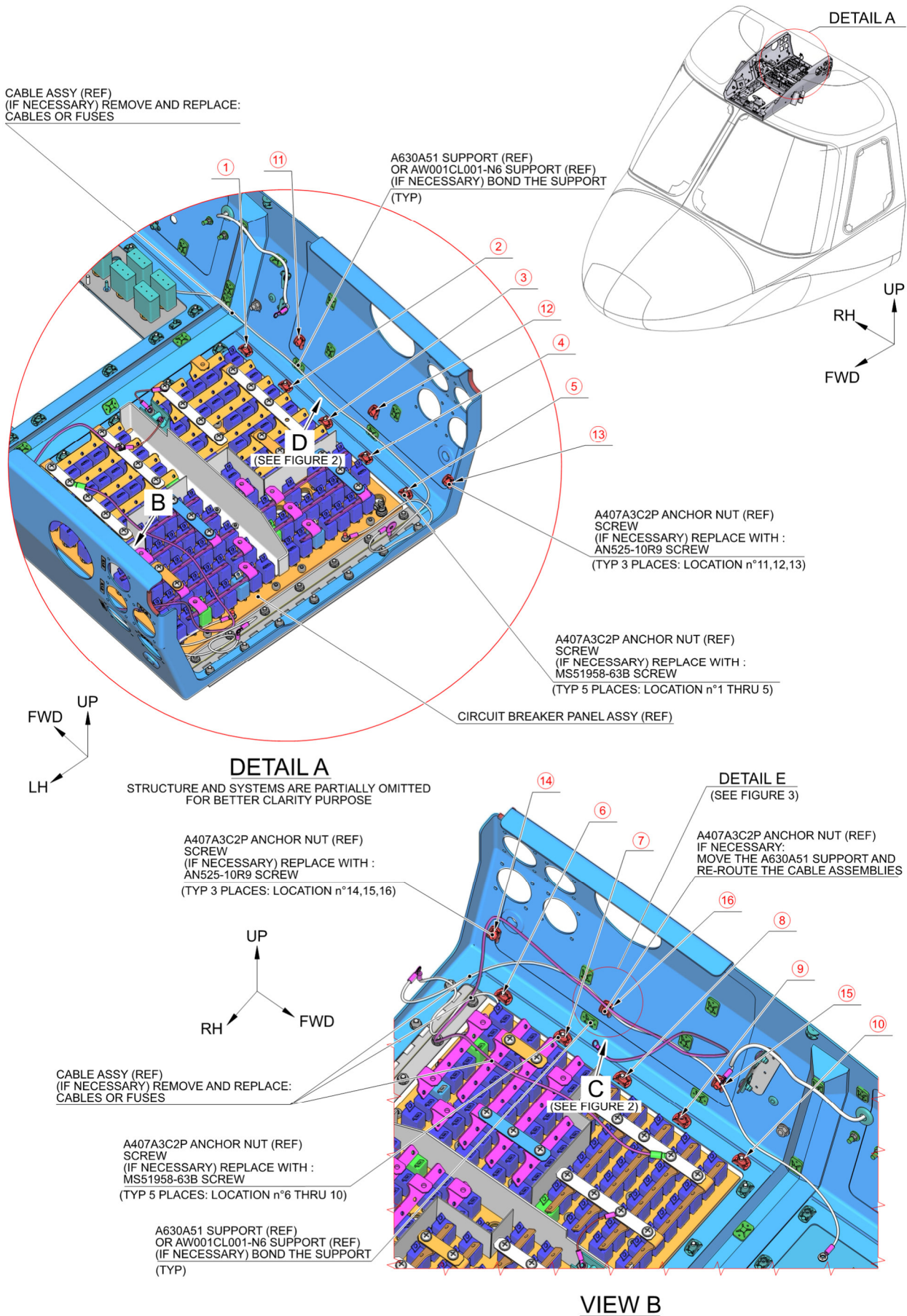


Figure 1

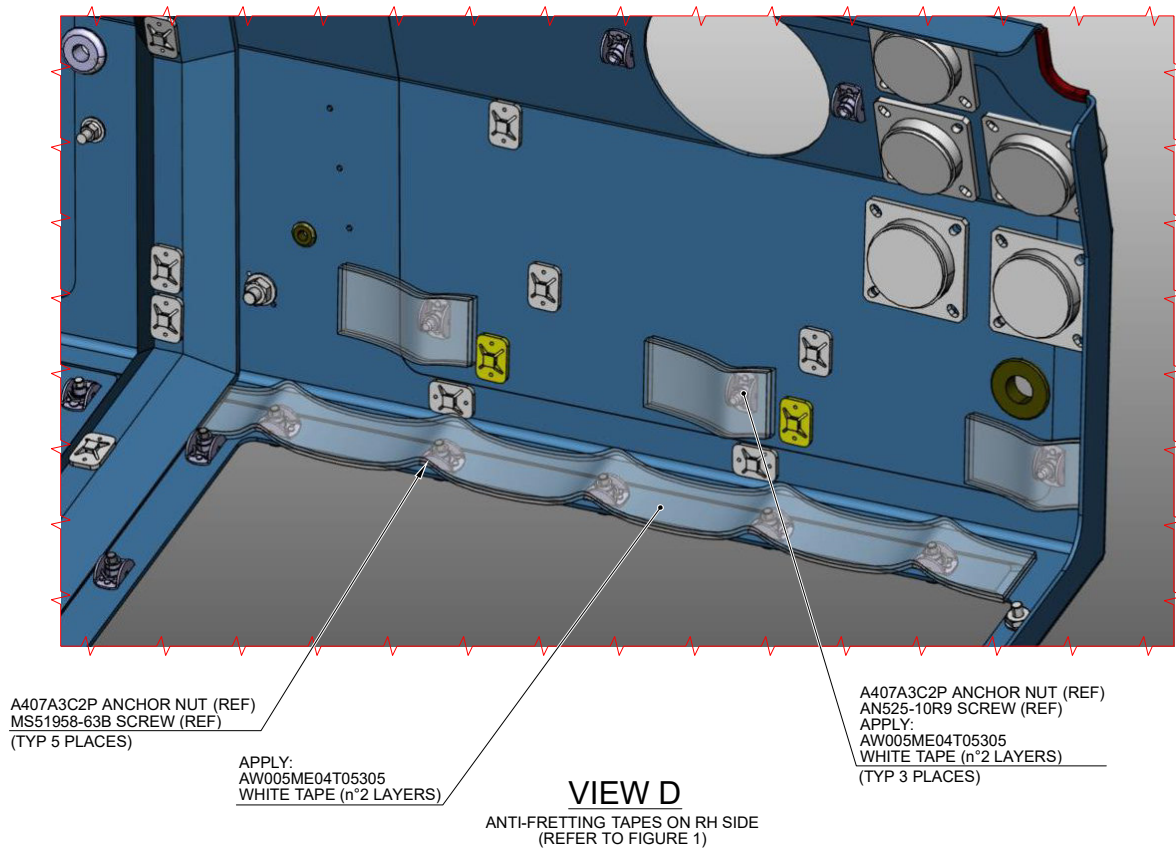
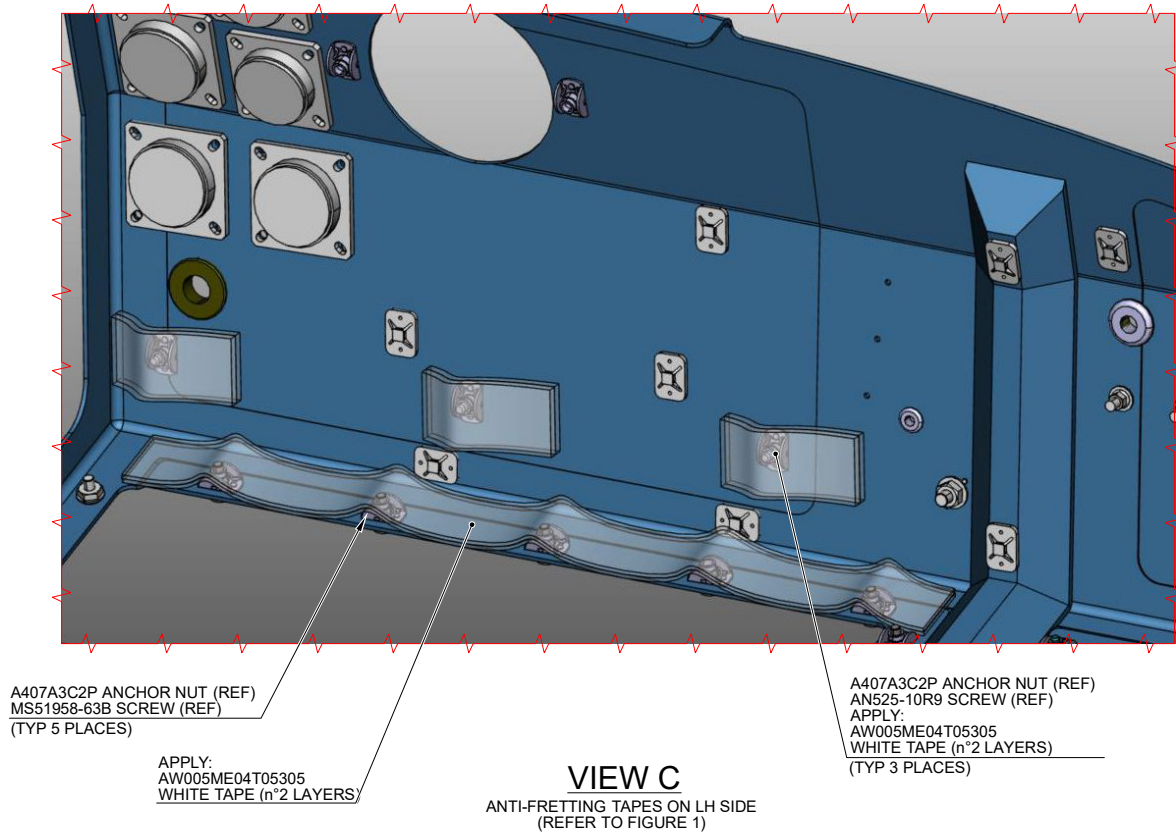
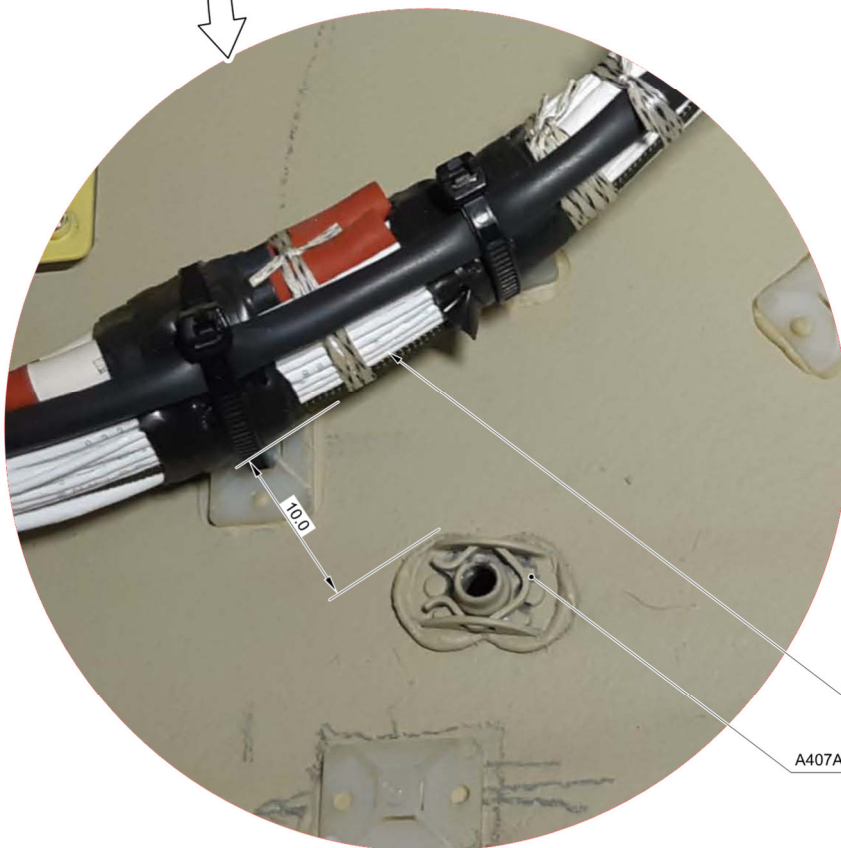
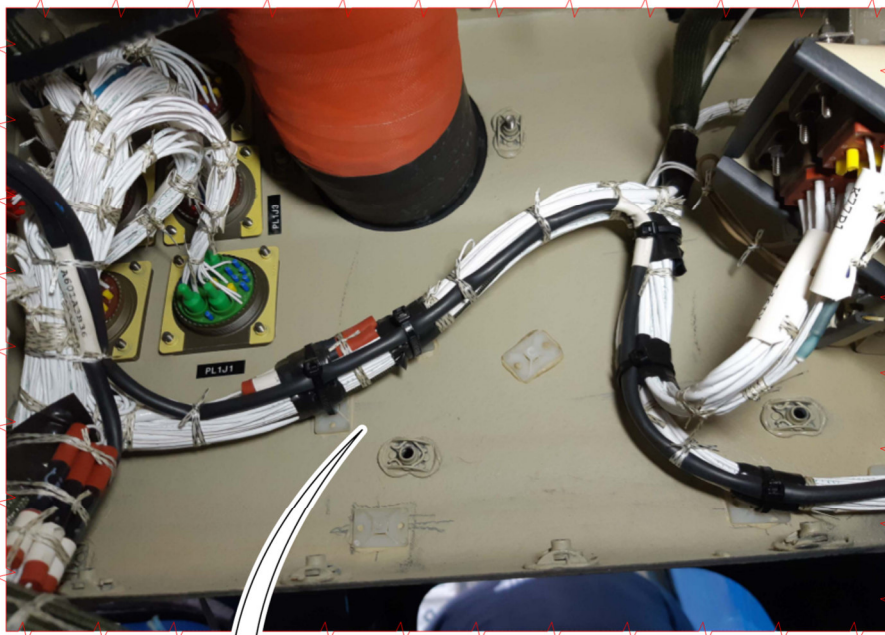


Figure 2



DETAIL E
(REFER TO FIGURE 1)

Figure 3

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DATE: February 4, 2021
REVISION: /

