
SERVICE BULLETIN

N° **139-731**

EMERGENCY ALERT

DATE: October 11, 2022

REV. : /

TITLE

ATA 00 – FORWARD CABIN ROOF CEILING HARNESS 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

All AB/AW139 from S/N 31005 to S/N 31984 (except S/N 31007, S/N 31803, S/N 31959, S/N 31967, S/N 31969, S/N 31974, S/N 31982 and S/N 31983), from S/N 41001 to S/N 41580 and from S/N 41801 to S/N 41806.

B. COMPLIANCE

Part I:

Within and not later than ten (10) FH from the issue date of this Service Bulletin.

Part II:

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

C. CONCURRENT REQUIREMENTS

N.A.

D. REASON

This Service Bulletin is issued in order to prescribe one-off inspections of the Forward Cabin Roof Ceiling Harnesses and their installation in the area between STA 3120 and 3900 to identify potential chafing conditions.

E. DESCRIPTION

Part I of this Service Bulletin is developed to prescribe a one-off inspection of the Forward Cabin Roof Ceiling Harnesses installation in the area between STA 3120 and 3400 to verify the proper installation of the C/As in the area.

Part II of this Service Bulletin is developed to prescribe a one-off inspection of the harness installation in the area between STA 3400 and 3900 where the diode A77 is located.

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 two (2) MMH;

Part II: approximately ten (10) 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-24-91-01-00A-520A-A	Circuit breaker panel - Remove procedure	I
DM03 39-A-24-91-01-00A-720A-A	Circuit breaker panel - Install procedure	I

Following Data Modules refer to CSRP:

<u>DATA MODULE</u>	<u>DESCRIPTION</u>	<u>PART</u>
DM04 CSRP-A-51-21-02-02A-257A-D	Waterborne chromate free primer (AWMS28-002) - Paint and apply marking	I
DM05 CSRP-A-51-21-06-00A-644A-D	Chromate conversion treatments of aluminum alloys – Chromate	I

2) ACRONYMS & ABBREVIATIONS

AMP	Aircraft Maintenance Publication
AR	As Required
ATA	Air Transport Association
AMDI	Aircraft Material Data Information
C/A	Cable Assy
CSRP	Common Structural Repair Publication
DM	Data Module

DOA	Design Organization Approval
EASA	European Aviation Safety Agency
FH	Flying Hours
ITEP	Illustrated Tool and Equipment Publication
IPD	Illustrated Part Data
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

PART I

#	P/N	ALTERNATIVE P/N	DESCRIPTION	Q.TY	LVL	NOTE	LOG P/N
1	3P5315A12931		STRIP ASSY	REF	.	(1)	-
2	AW001CL504B-N6		Support	3	..	(1)	-
3	MS21075L3N	MS21075L3	Nut plate	2	..	(1)	-
4	NAS1097AD3-3		Rivet	0.1 kg	..	(1)	-
5	NAS1720H5L2A		Rivet	3	..	(1)	-
6	3P5315A10531		STRIP ASSY	REF	.	(1)	-
7	AW001CL504B-N6		Support	3	..	(1)	-
8	MS21075L3N	MS21075L3	Nut plate	2	..	(1)	-
9	MS20426AD3-3		Rivet	0.1 kg	..	(1)	-
10	NAS1720H5L2A		Rivet	3	..	(1)	-

PART II

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
11	Commercial	Aluminium Sheet AL-ALY 2024, AMS-QQ-A-250/5, thickness 0.81 mm	AR	(2) (3)	I

Refer also to AMDI for the consumable materials required to comply with the AMP DM referenced in the accomplishment instructions.

3) LOGISTIC MATRIX

N.A.

NOTES

- (1) The quantity of items to be ordered depends on the results of the inspection.
- (2) Item to be procured as local supply.
- (3) As alternative it is possible to use material AMS-QQ-A-250/4 and thickness 1.02 mm.

B. SPECIAL TOOLS

The following special tools, or equivalent, are necessary to accomplish this Service Bulletin:

#	P/N	DESCRIPTION	Q.TY	NOTE	PART
12	Comercial	Borescope	1		I

Refer also to ITEP for the special tools required to comply with the AMP DM referenced in the accomplishment instructions.

C. INDUSTRY SUPPORT INFORMATION

As reported in Part I step 4 and Part II step 3, only if Product Support Engineering confirms the replacements, please Issue relevant MMIR form to your Warranty Administration Dpt.

Please note that “Product Support Engineering’s approvals” is mandatory to evaluate your request, otherwise MMIR could be rejected.

Owners/Operators who comply with the instructions of this Service Bulletin no later than the applicable date in the “Compliance” section will be eligible to receive required materials on free of charge basis, except for Consumable Materials and Special Tools.

NOTE: Customers who fail to comply with the instructions in this Service Bulletin before the compliance date are not eligible for the aforementioned special policy.

Please Issue relevant MMIR form to your Warranty Administration Dpt.

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.
- 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. With reference to Figure 1 thru Figure 5 perform the inspection of the Forward Cabin Roof Ceiling Harnesses and installation in the area between STA 3120 and 3400 as described in the following procedure:
 - 2.1 With reference to Figure 1 thru Figure 5, perform a visual inspection of the harness installation on strips P/N 3P5315A10531 and 3P5315A12931 according to the following steps:
 - 2.1.1 In accordance with the applicable steps of AMP DM 39-A-24-91-01-00A-520A-A and with reference to Figure 1, open the circuit breaker panel assy without removing it.
 - 2.1.2 With reference to Figure 1, insert the borescope inside the lightening holes showed to access the area of the inspection.
 - 2.1.3 Perform a visual inspection of the C/As installation.

NOTE

When C/A installation is correct, C/A are installed below the RH/LH strips P/N 3P5315A10531 and P/N 3P5315AA12931, as shown in Figure 3.

- 2.1.4 If C/As are installed above the strips P/N 3P5315A10531 and/or P/N 3P5315A12931 as per Figure 4 “Incorrect Installation”, go to step 3.
- 2.1.5 If C/As are installed correctly as shown in Figure 3, go to step 5 and close SB Part I application.

NOTE

Perform step 3 only in case the C/As are installed as per step 2.1.4.

- 3. In accordance with AMP DM 39-A-06-41-00-00A-010A-A and with reference to Figure 1 thru 5, remove all external panels, internal panels and internal liners as required to gain access to the area affected by the installation and perform visual inspection of the C/As and of the Torque Tube C3 and the strip installation adjustment as described in the following procedure:
 - 3.1 With reference to Figure 2 and Figure 3, perform a visual inspection of the C/As fixed to strips P/N 3P5315A10531 and 3P5315A12931 according to the following steps:
 - 3.1.1 Check for chafing and/or damage of the cable harness.
 - 3.1.2 In case of any finding, contact Product Support Engineering (engineering.support.lhd@leonardo.com) in order to receive further instruction.
 - 3.2 With reference to Figure 2, perform a visual inspection of the Torque Tube C3 P/N 3E6711A00433. Make sure that there is no damage on the tube. If damage is found, contact Product Support Engineering (engineering.support.lhd@leonardo.com) in order to receive further instruction.
 - 3.3 With reference to Figure 4 and to Figure 6 thru 9 perform strip installation adjustment as described in the following procedure:
 - 3.3.1 With reference to Figure 4, remove C/A from supports AW001CL504B-N6 installed on strips P/N 3P5315A10531 and/or P/N 3P5315A12931.
 - 3.3.2 With reference to Figure 6 remove strips P/N 3P5315A10531 and/or 3P5315A12931 and put them on a workbench. Retain the fixing hardware for later use.

- 3.3.3 With reference to Figure 7, remove n° 3 supports AW001CL504B-N6 from P/N 3P5315A10531 and/or P/N 3P5315A12931.

NOTE

Perform Steps 3.3.4 ONLY in case of damage of the strip P/N 3P5315A10531 and/or P/N 3P5315A12931 and if replacement is needed. Otherwise, go to step 3.3.5.

- 3.3.4 With reference to Figure 7, assemble strips P/N 3P5315A10531 and/or 3P5315A12931 with reference to the following procedure:
- 3.3.4.1 With reference to Figure 8, manufacture strips P/N 3P5315A10551 and/or 3P5315A12951 using Aluminium Sheet AL-ALY 2024.
 - 3.3.4.2 In accordance to CSRP DM CSRP-A-51-21-06-00A-644A-D apply Chromate Conversion Treatment.
 - 3.3.4.3 With reference to Figure 8 and in accordance with CSRP DM CSRP-A-51-21-02-02A-257A-D apply a layer of primer on strips P/N 3P5315A10551 and/or 3P5315A12951.
 - 3.3.4.4 With reference to Figure 7 install n°2 nut plates P/N MS21075L3N by means of n°4 rivet P/N NAS1097AD3-3 or P/N MS20426AD3-3 (as applicable) on strips P/N 3P5315A10551 and/or 3P5315A12951.
 - 3.3.4.5 With Reference to Figure 7, install n° 3 new supports AW001CL504B-N6 by means of n° 3 rivets NAS1720H5L2A on strips P/N 3P5315A10551 and/or 3P5315A12951. Make sure they are oriented opposite with respect to nut plates MS21075L3N.
 - 3.3.4.6 With reference to Figure 7, countermark the obtained components as P/N 3P5315A10531 and/or 3P5315A12931.

NOTE

Perform Step 3.3.5 ONLY in case Steps 3.3.4 was not performed.

- 3.3.5 With Reference to Figure 7, install n° 3 supports P/N AW001CL504B-N6 by means of n° 3 rivets NAS1720H5L2A on bracket P/N 3P5315A10531 and/or 3P5315A12931. Make sure they are oriented opposite with respect to nut plates MS21075L3N.
- 3.3.6 With reference to Figure 9, fix C/As on strips P/N 3P5315A10531 and/or 3P5315A12931 by means of tie wraps.

3.3.7 With Reference to Figure 6, reinstall strips P/N 3P5315A10531 and/or 3P5315A12931.

4. In case of findings, contact Product Support Engineering (engineering.support.lhd@leonardo.com) to report about the results of the inspections requested.
5. In accordance with the applicable steps of AMP DM 39-A-24-91-01-00A-720A-A and with reference to Figure 1 thru Figure 5, close the circuit breaker panel assy.
6. Return the helicopter to flight configuration and record for compliance with Part I of this Service Bulletin on the helicopter logbook.
7. Send the attached compliance form to the following mail box:
engineering.support.lhd@leonardo.com

As an alternative, gain access to My Communications section on Leonardo WebPortal and compile the “Service Bulletin Application Communication”.

PART II

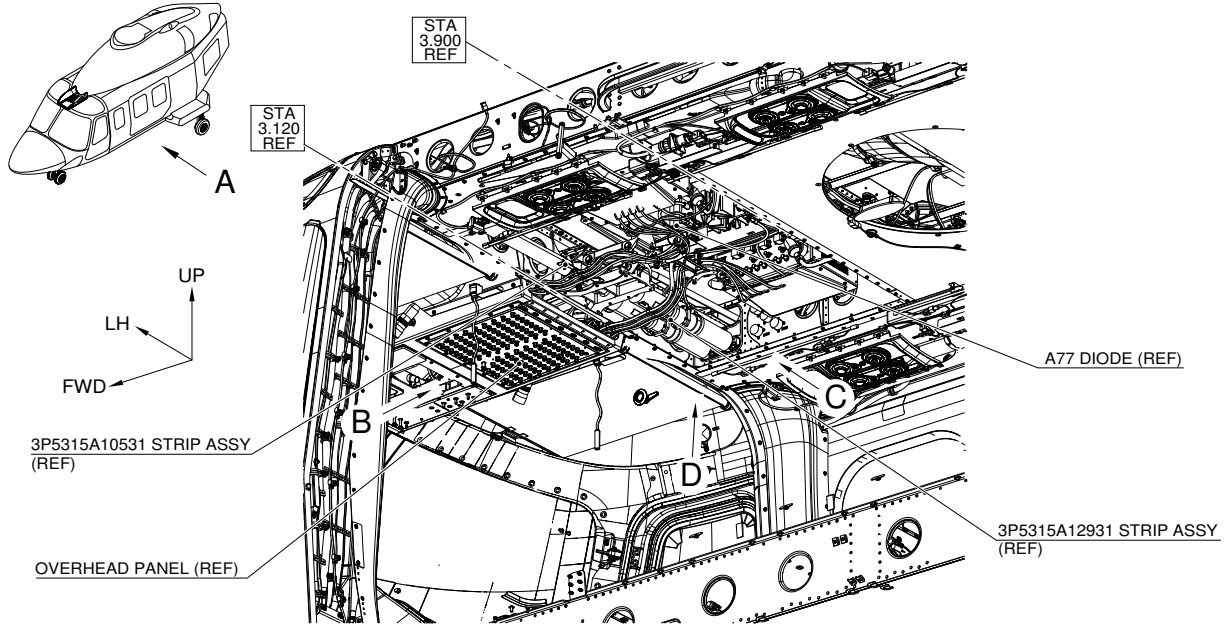
1. In accordance with AMP DM 39-A-00-20-00-00A-120A-A, prepare the helicopter on ground for a safe maintenance. Disconnect the battery, all electrical power sources and/or the external power supply.
2. In accordance with AMP DM 39-A-06-41-00-00A-010A-A and with reference to Figure 5, Figure 10 and Figure 11, remove all external panels, internal panels and internal liners as required to gain access to the area affected by the installation and perform the diode A77 harness installation inspection in the area between STA 3400 and 3900 as described in the following procedure:
 - 2.1 With reference to Figure 5, Figure 10 and Figure 11, perform a visual inspection of the C/As installation next to the Diode A77 P/N 3G2430V00352 according to the following steps:
 - 2.1.1 With reference to Figure 10, check for chafing or damage on the cable harness in the area showed.
 - 2.1.2 In case of any finding, contact Product Support Engineering (engineering.support.lhd@leonardo.com) in order to receive further instruction.
 - 2.1.3 With reference to Figure 10 and Figure 11, ensure that clearance of at least 10.0 mm exists in the area inside the red circle shown in Figure 11, between the cable harness and Diode A77 P/N 3G2430V00352.

NOTE

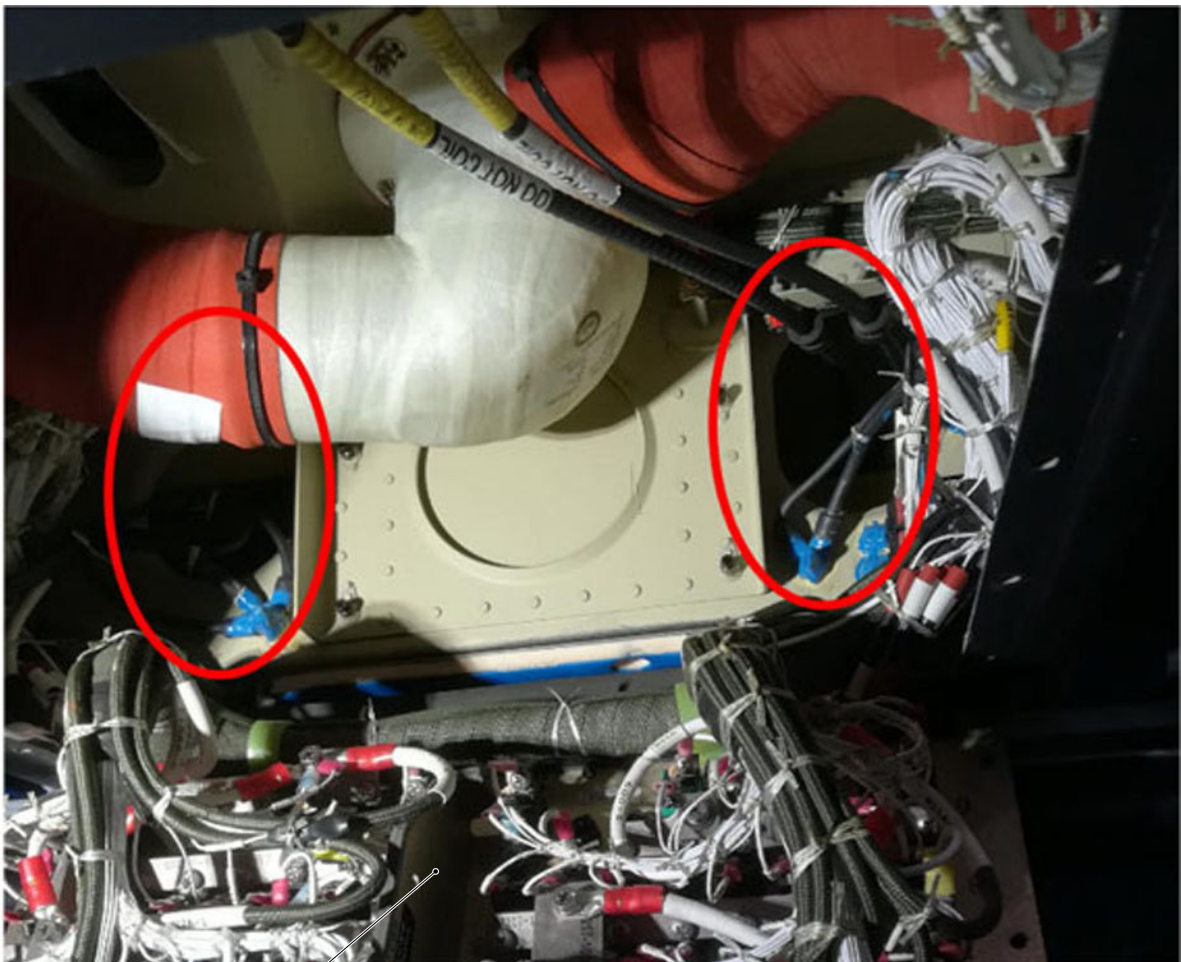
In case of any doubt and/or need to support, contact Product Support Engineering (engineering.support.lhd@leonardo.com) in order to receive further instruction.
 - 2.1.4 If necessary, in accordance with Figure 10 and Figure 11, re-route the cable harnesses (using if needed also lacing cord to fix the cables with each other) in order to respect the clearance of at least 10.0 mm from the diode or any other surrounding structure or component.
 - 2.2 With reference to Figure 10 and 11, perform a visual inspection of the Diode A77. Make sure that no damage is present on the component.
 - 2.3 In case of any finding, contact Product Support Engineering (engineering.support.lhd@leonardo.com) in order to receive further instruction.
3. In case of findings, contact Product Support Engineering (engineering.support.lhd@leonardo.com) to report about the results of the inspections requested.

4. Return the helicopter to flight configuration and record for compliance with Part II of this Service Bulletin on the helicopter logbook.
5. Send the attached compliance form to the following mail box:
engineering.support.lhd@leonardo.com

As an alternative, gain access to My Communications section on Leonardo WebPortal and compile the "Service Bulletin Application Communication".



VIEW A
STRUCTURES AND SYSTEMS ARE PARTIALLY OMITTED FOR BETTER CLARITY PURPOSE



OVERHEAD PANEL (REF)

VIEW B
STRUCTURES AND SYSTEMS ARE PARTIALLY OMITTED FOR BETTER CLARITY PURPOSE

Figure 1



VIEW C
STRUCTURES AND SYSTEMS ARE PARTIALLY
OMITTED FOR BETTER CLARITY PURPOSE

Figure 2

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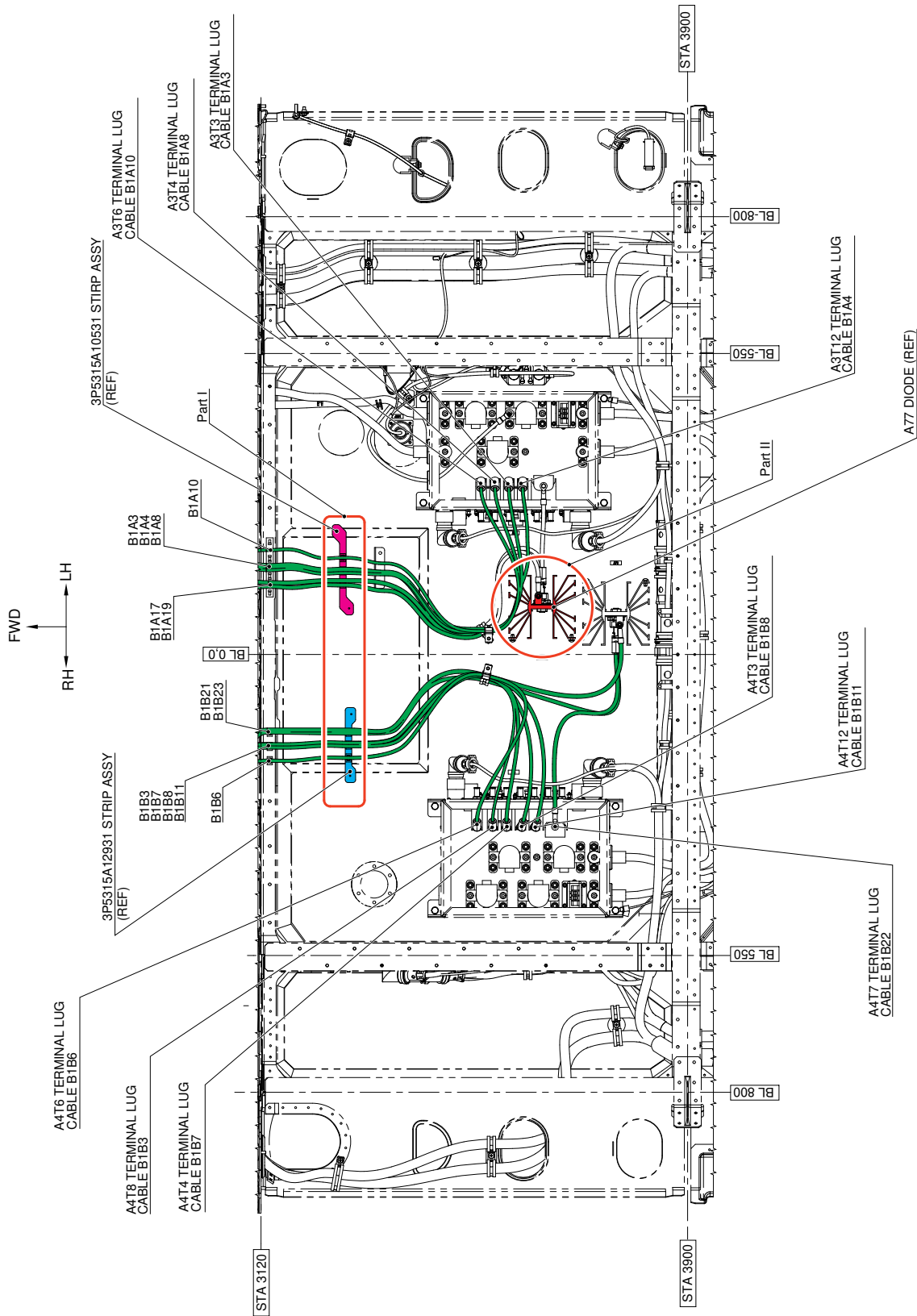


Figure 3



Figure 4

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VIEW D
STRUCTURES AND SYSTEMS ARE PARTIALLY OMITTED FOR BETTER CLARITY PURPOSE

Figure 5

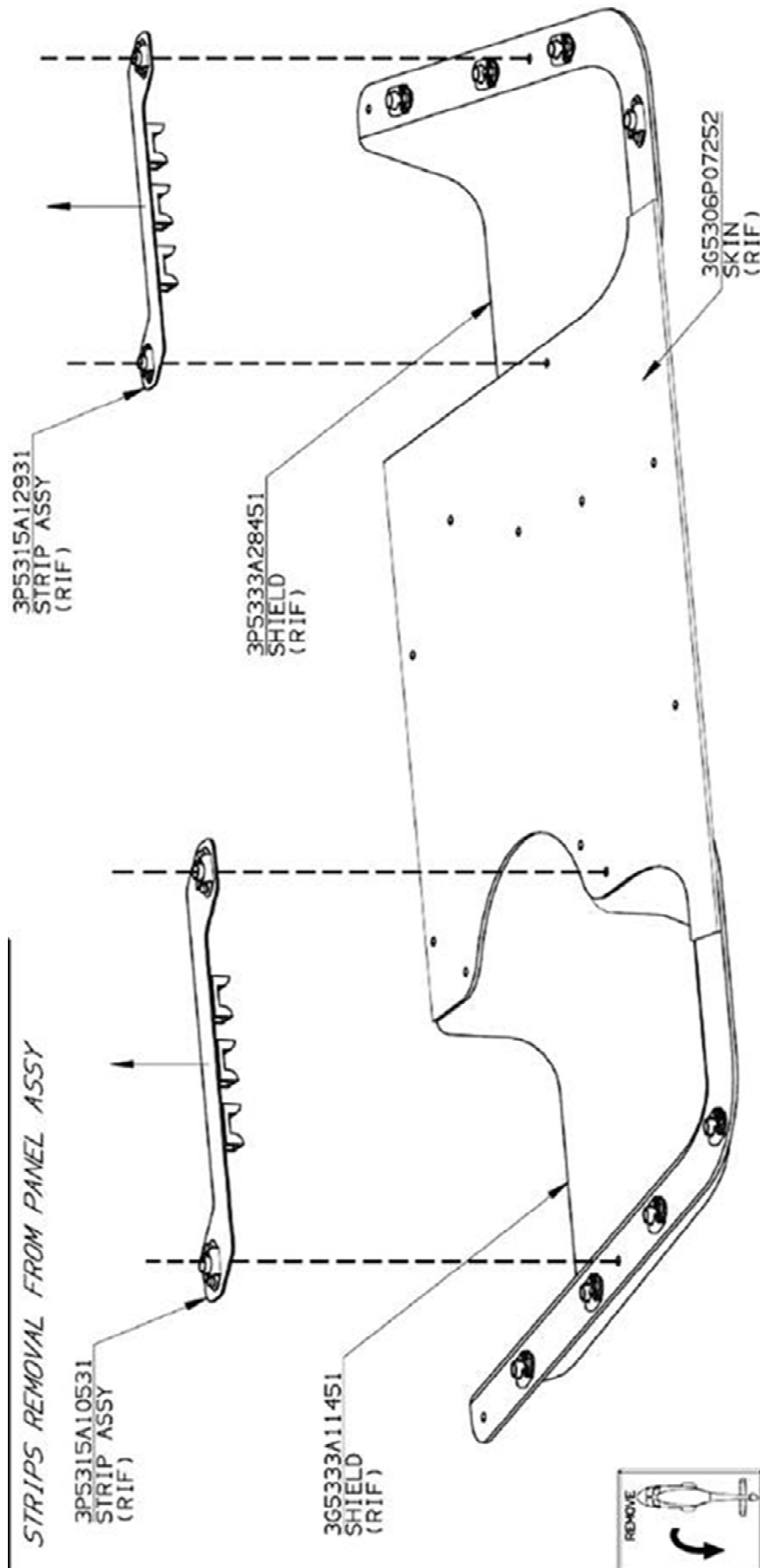
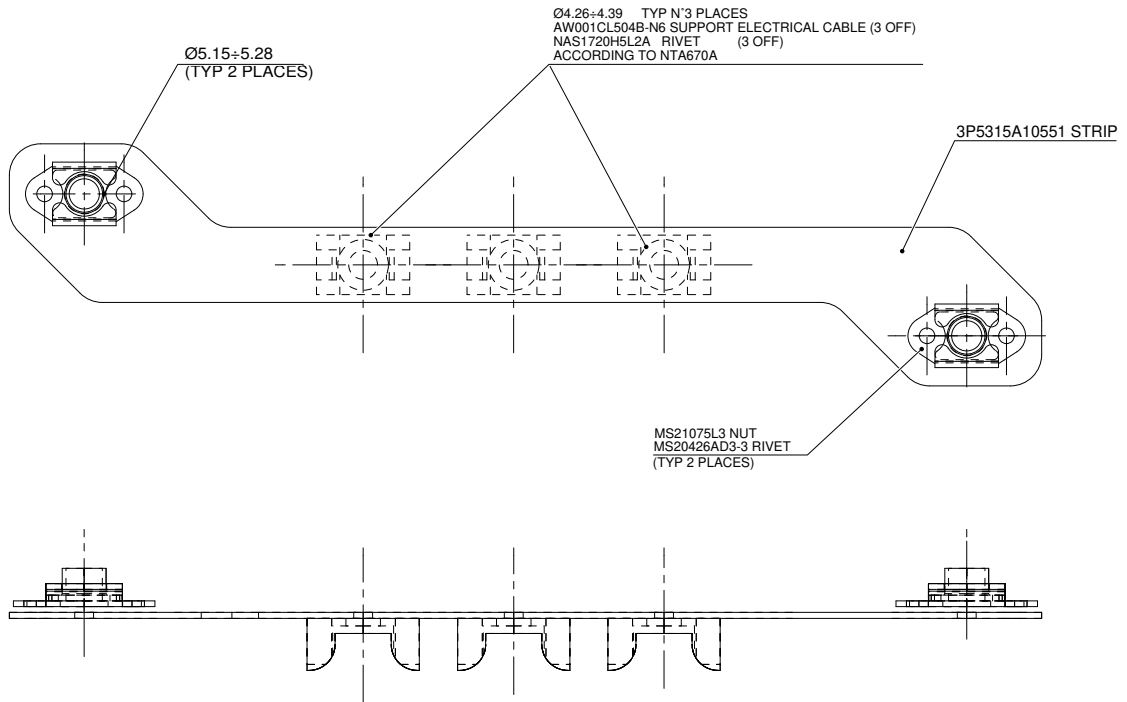


Figure 6

3P5315A10531 STRIP ASSY



3P5315A12931 STRIP ASSY

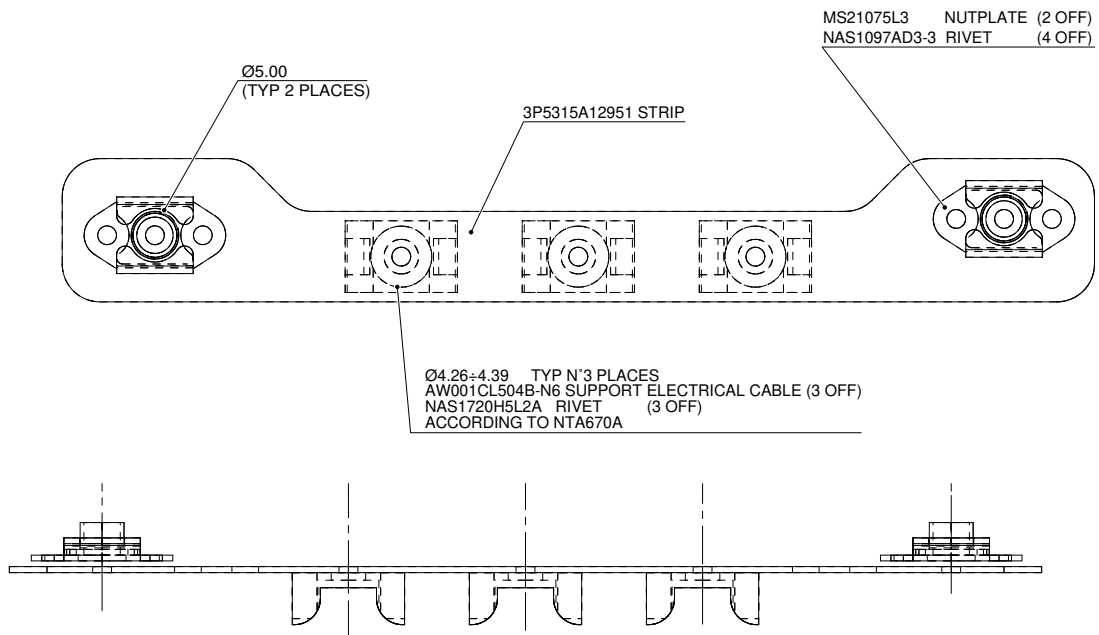
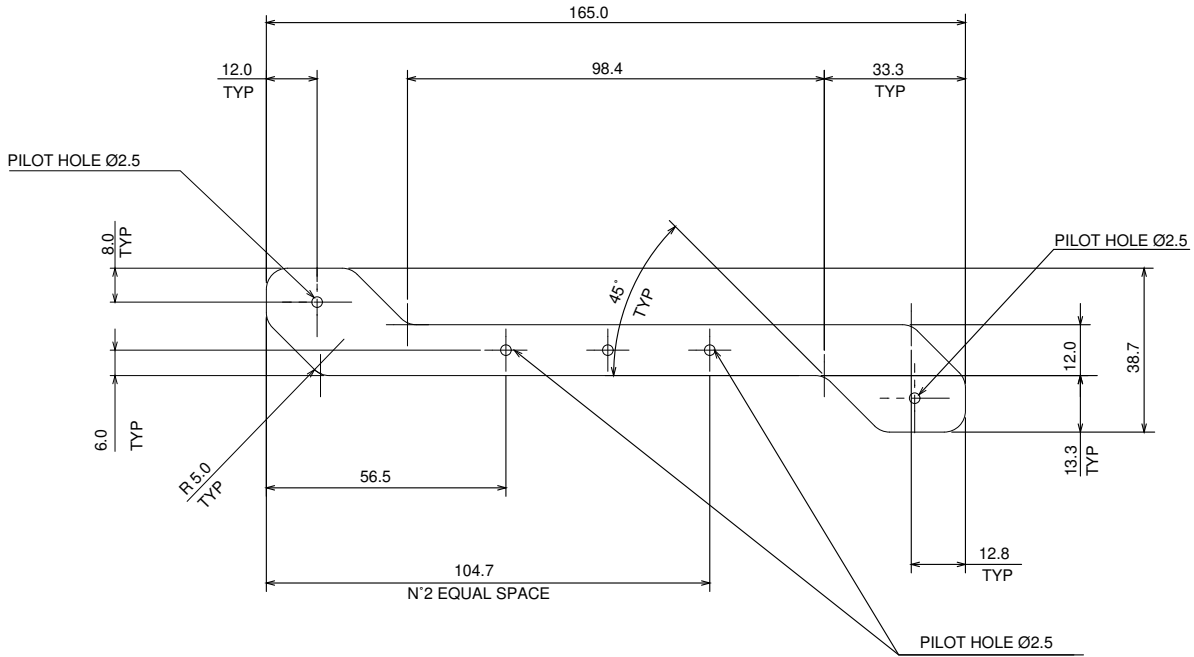


Figure 7

3P5315A10551 STRIP

MATERIAL AL-ALY 2024 T3
AMS-QQ-A-250/5, TH 0.81



3P5315A12951 STRIP

MATERIAL AL-ALY 2024 T3
AMS-QQ-A-250/5, TH 0.81

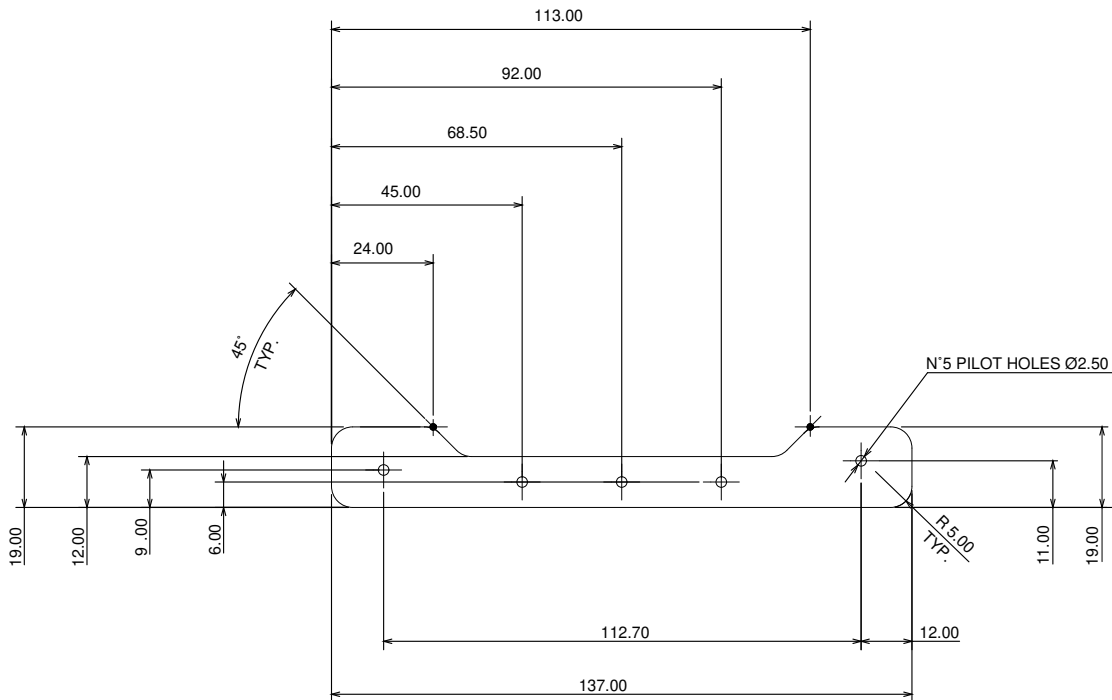


Figure 8

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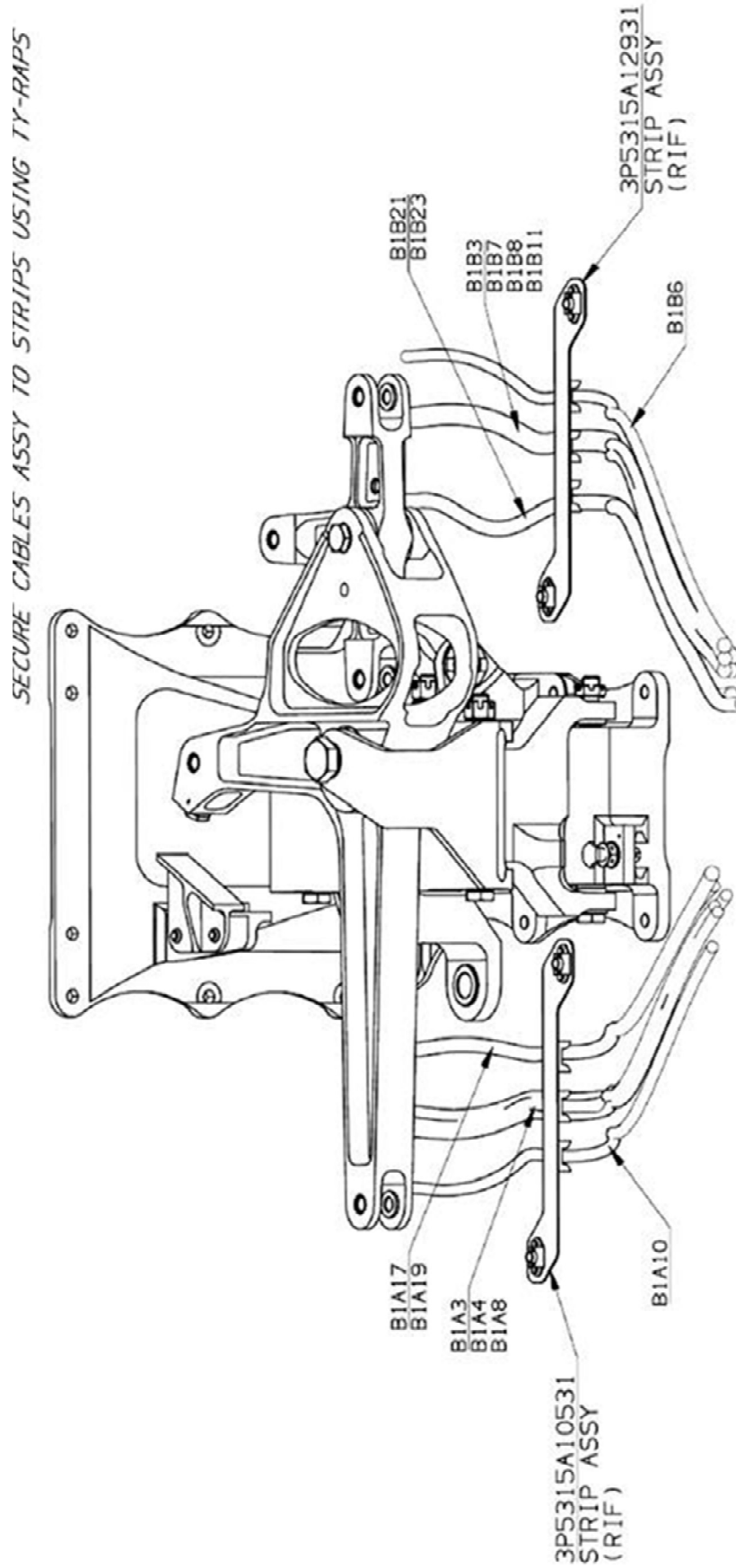


Figure 9



Figure 10

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Figure 11

Please send to the following address: LEONARDO S.p.A. CUSTOMER SUPPORT & SERVICES - ITALY PRODUCT SUPPORT ENGINEERING & LICENSES DEPT. Via Giovanni Agusta, 520 21017 Cascina Costa di Samarate (VA) - ITALY Tel.: +39 0331 225036 Fax: +39 0331 225988	SERVICE BULLETIN COMPLIANCE FORM	Date:
	Number:	
	Revision:	

Customer Name and Address:	Telephone:
	Fax:
	B.T. Compliance Date:

Helicopter Model	S/N	Total Number	Total Hours	T.S.O.

Remarks:

Information:

We request your cooperation in filling this form, in order to keep out statistical data relevant to aircraft configuration up-to-date. The form should be filled in all its parts and sent to the above address or you can communicate the application also via Technical Bulletin Application Communication Section placed in Leonardo AW Customer Portal - MyCommunications Area. We thank you beforehand for the information given.