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AgustaWestland Products

SERVICE BULLETIN

OPTIONAL

N° 189-292

DATE: March 21, 2024

REV. : /

TITLE

ATA 34 - GLONASS IN REAR KIT INSTALLATION

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

AW189 helicopters equipped with “GLONASS rear complete provisions” P/N 8G3450A06211 and equipped with “Marking Installation kit” P/N 8G1100F00211.

B. COMPLIANCE

At Customer's option.

C. CONCURRENT REQUIREMENTS

N.A.

D. REASON

This Service Bulletin is issued in order to provide the necessary instruction on how to perform the installation of “GLONASS in rear kit” P/N 8G3450F01511.

LH issued this SB for the following reason:

Helicopter Reliability/Maintainability	
Product Improvement	
Obsolescence	
Customization	✓
Product/Capability Enhancement	

E. DESCRIPTION

The Global Navigation Satellite System (GLONASS) kit P/N 8G3450F01511 is a stand alone system to be used for independent position determination of the helicopter. This SB gives instructions on how to complete the installation by means of retromod P/N 8G3450P04211.

The GLONASS kit is composed by a receiver and an antenna. The receiver is installed in the rear avionic bay (LH side) and the antenna on the aft side of the access panel 491A.

The antenna receives the GLONASS satellites signal and sends the data to the receiver. The GLONASS information are not be used for helicopter navigation and the GLONASS data are only shown on the Mission Control Display Units (MCDUs).

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 LHD 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, approximately eighty (80) MMH are deemed necessary.

MMH are based on hands-on time and can change with helicopter configuration, personnel and facilities available. MMH are not comprehensive of the overall hours necessary to get access to work areas and to remove all the equipment that interferes with the application of the prescribed instructions.

H. WEIGHT AND BALANCE

WEIGHT (kg)	0,617	
	ARM (mm)	**MOMENT (kg·mm)**
LONGITUDINAL BALANCE	8545,9	5272,8
LATERAL BALANCE	-379,1	-233,9

I. REFERENCES

I.1 PUBLICATIONS

Following Data Modules refer to AMP:

DATA MODULE		**DESCRIPTION**	**PART**
DM01	89-A-00-20-00-00A-120A-A	Helicopter on ground for a safe maintenance.	-
DM02	89-A-06-40-00-00A-028A-A	Access provisions - General	-
DM03	89-A-11-00-01-00A-720A-A	Decal - Install procedure	-
DM04	89-C-34-56-01-00A-720A-A	Receiver - Install procedure	-

DATA MODULE		DESCRIPTION	PART
DM05	89-C-34-56-03-00A-720A-A	Antenna - Install procedure	-
DM06	89-C-34-56-00-00A-320A-A	Global Navigation Satellite System (GLONASS) kit - Operation test	-
DM07	89-A-24-81-00-05A-752A-A	SSEPMS - Personality modules (PMs) - Data loading	-
DM08	89-A-24-81-00-00A-752A-A	Remote electric power units – data loading	-
DM09	89-A-46-21-00-00A-750A-A	Aircraft mission management system – Load software procedure	-
DM10	89-A-46-31-00-00A-750A-A	Cockpit display unit – load software procedure	-

Following Data Modules refer to CSPP:

DATA MODULE		DESCRIPTION	PART
DM11	CSPP-A-20-10-12-00A-259A-D	Ground connections - Other procedures to protect surfaces	-

Following Data Modules refer to CSRP:

DATA MODULE		DESCRIPTION	PART
DM12	CSRP-A-51-42-00-00A-720A-D	Potted Inserts - Install procedure	-

I.2 ACRONYMS & ABBREVIATIONS

AMDI	Aircraft Material Data Information
AMP	Aircraft Maintenance Publication
AR	As Required
CSPP	Common standard practices publication
CSRP	Common Structural Repair Publication
CB	Circuit Breaker
DM	Data Module
DOA	Design Organization Approval
EASA	European Aviation Safety Agency
FWD	Forward
IPD	Illustrated Part Data
ITEP	Illustrated tool and equipment publication
LH	Left Hand
LHD	Leonardo Helicopters Division
MMH	Maintenance Man Hours
N.A.	Not Applicable
P/N	Part Number
RH	Right Hand

SB	Service Bulletin
S/N	Serial Number
WOW	Weight-On-Wheels

I.3 ANNEX

N.A.

J. PUBLICATIONS AFFECTED

N.A.

K. SOFTWARE ACCOMPLISHMENT SUMMARY

Software to be updated:

AMMC option file P/N 8G4620AOXXXX;

CDS option file P/N 8G4630AOXXXX;

ECDU configuration table P/N 8G4620ACXXXX;

REPU configuration table P/N 8G2460ASXXXXX.

Option Files, ECDU config table and REPU config table P/Ns are depending upon helicopter configuration that can be different from the one reported in relevant helicopter "Commessa di Vendita". Customer must contact Product Support Engineering (engineering.support.lhd@leonardo.com) to request the correct Files at least three months in advance from the scheduled embodiment of this Service Bulletin.

SW DESCRIPTION	**S/N HELICOPTER** **P/N SW INSTALLED** **(COMPILED BY CUSTOMER)**	 **P/N SW TO BE ORDERED** **(COMPILED BY LEONARDO COMPANY)**
AMMC OPSW		
AMMC OPTION FILE		
CDS OPTION FILE		
DISPLAY UNIT SW		
ECDU OP SW		
REPU CONFIG TABLE		

2. MATERIAL INFORMATION

A. REQUIRED MATERIALS

A.1 PARTS

#	P/N	ALTERNATIVE P/N	DESCRIPTION	Q.TY	LVL	NOTE	LOG P/N
1	**8G3450F01511**		**KIT GLONASS IN REAR**	**REF**	**.**		
2	**8G3450P04211**		**NEW GLONASS IN REAR RETROMOD COLLECTOR**	**REF**	**..**		
3	**8G3450P04311**		**GLONASS REAR STR PROV RETRO MOD**	**REF**	**...**		
4	A259A03-05		Setscrew	4	....		189-292L1
5	NAS1832-06-3		Insert	4	....		189-292L1
6	NAS1832-3-3		Insert	2	....		189-292L1
7	**8G3450P04111**		**GLONASS REAR INST RETROMOD**	**REF**	**...**		
8	A414A03V224A1		Support	1	....		189-292L1
9	M85049/48-2-2F		Backshell	1	....		189-292L1
10	233-301XW00-175LN1		Connector	1	....		189-292L1
11	A529A400-1702C		Backshell	1	....		189-292L1
12	CT15-26S7		Connector	1	....		189-292L1
13	ED300E44		Decal	1	....		189-292L1
14	TC-240-TM-RA-D		Connector	REF	....		189-292L1
15	A521A-Q035	AT1675-OW-TNCF-000-RG-36-NM	Glonass antenna	1	....		189-292L1
16	ED300A361		Decal	1	....		189-292L1
17	NAS1802-04-7		Screw	4	....		189-292L1
18	NAS1802-06-6		Screw	4	....		189-292L1
19	A583A2418C		Cap	3	....		189-292L1
20	M85049/95-18A		Connector mounting device	1	....		189-292L1
21	D20419-21		Screw	2	....		189-292L1
22	ED300J369		Decal	1	....		189-292L1
23	MS25036-148		Terminal lug	1	....		189-292L1
24	NAS1149D0332J		Washer	2	....		189-292L1
25	NAS1149DN416J		Washer	4	....		189-292L1
26	NAS1149DN632J		Washer	4	....		189-292L1
27	NAS1802-3-6		Screw	2	....		189-292L1
28	NF24Q100-01	AW002WC01-24	Cable	1m	....		189-292L1
29	ASD776-AASAXYZ		Glonass receiver	1	....		189-292L1
30	AW001GH007A		Conductive gasket	1	....		189-292L1
31	8G4620AXXXXX		AMMC Option File	1	.	(1)(2)	-
32	8G4630AXXXX		CDS Option File	1	.	(1)(2)	-
33	8G4620ACXXXX		ECDU configuration table	1	.	(1)(2)	-
34	8G2460ASXXXX		REPU Configuration Table	1	.	(1)(2)	-

Refer also to IPD for the spares materials required to comply with the AMP DMs referenced in the accomplishment instructions.

A.2 CONSUMABLES

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

#	SPEC./LHD CODE NUMBER	DESCRIPTION	Q.TY	NOTE	PART
35	199-05-002, Ty II, Cl 2 / (MMM-A-132 Ty 1 Cl 3) Code No. 900004603	Adhesive EA934NA (C057)	AR	(3)	-

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

A.3 LOGISTIC MATRIX

In order to apply this Service Bulletin, the following Logistic P/N can be ordered in accordance with the applicable notes:

LOGISTIC P/N	Q.TY (PER HELO)	NOTE	PART
189-289L1	1	-	-
8G4620AXXXXX	1	(1)(2)	-
8G4630AXXXX	1	(1)(2)	-
8G4620ACXXXX	1	(1)(2)	-
8G2460ASXXXX	1	(1)(2)	-

NOTES

(1) This software will not be supplied; as specified by Information Letter AW169-19- 017, it will be available for download, along with relevant certification document, in “My Software” sub-section of Leonardo Customer Portal website https://customerportal.leonardocompany.com

(2) Option File P/N is depending upon helicopter configuration that can be different from the one reported in relevant helicopter “Commessa di Vendita” Customers must contact Product Support Engineering (engineering.support.lhd@leonardo.com) to request the correct Option File at least three months in advance from the scheduled application of this Service Bulletin.

(3) Item to be procured as local supply.

B. SPECIAL TOOLS

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

C. INDUSTRY SUPPORT INFORMATION

Customization.

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) Exercise extreme care during drilling operations to prevent instruments, cables and hoses damage.

d) After drilling, remove all swarf and sharp edges. Apply on bare metal a light film of primer unless the hole is used for ground connection.

e) During the installation of bonding braids or components requiring grounding, clean the surface structure in order to obtain a good ground contact.

f) Let adhesive cure at room temperature for at least 24 hours unless otherwise specified.

g) Exposed thread surface and nut must be protected using a layer of tectyl according to MIL-C-16173 grade I.

h) All lengths are in mm.

1. In accordance with AMP DM 89-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 89-A-06-40-00-00A-028A-A, remove access panel 165B to get access to the rear LH avionic bay.
3. With reference to Figures 1 and 2, perform GLONASS rear structural provision P/N 8G3450P04311 as described in the following procedure:

   3.1 With reference to Figure 2 View A, remove the bracket assy P/N 8G3450A19731 from the LH upper shelf assy P/N 8G5315A02232.

3.2 With reference to Figure 2 View B, temporarily locate GLONASS receiver P/N ASD776-AASAXYZ and mark position of n°4 insert holes at positions shown.

3.1 With reference to Figure 2 View B, drill n°4 insert holes Ø14.25÷14.38 at the previously countermarked positions.

3.2 In accordance with CSRP DM CSRP-A-51-42-00-00A-720A-D and with reference to Figure 2 View B, install n°4 inserts P/N NAS1832-06-3 by means of adhesive EA934NA (C057).

3.3 With reference to Figure 2 View B, temporarily locate support P/N A414A03V224A1 and mark position of n°2 insert holes at positions shown.

3.4 With reference to Figure 2 View B, drill n°2 insert holes Ø14.25÷14.38 at the previously countermarked positions.

3.5 In accordance with CSRP DM CSRP-A-51-42-00-00A-720A-D and with reference to Figure 2 View B, install n°2 inserts P/N NAS1832-3-3 by means of adhesive EA934NA (C057).

3.6 With reference to Figure 2 View A, install n°4 setscrews P/N A259A03-05 to close the unused holes.

3.7 With reference to Figure 2 View B and in accordance with DM CSPP-A-20-10-12-00A-259A-D, prepare the surface shown for good electrical bonding.

4. With reference to Figures 3 thru 8, perform GLONASS rear installation retromod P/N 8G3450P04111 as described in the following procedure:

4.1 With reference to Figure 5 wiring diagram (WAS), get access to the PL38P1 connector in the LH rear avionic bay and remove the following wires:

- 1313 from pin 1 of PL38P1 connector;
- 1314 from pin 18 of PL38P1 connector;
- 1315N from pin 34 of PL38P1 connector;
- 1316N from pin 2 of PL38P1 connector;

4.2 With reference to Figure 7 wiring diagram (WAS), remove the following wires from PL38P1 connector:

- 1323 from pin 6 and pin 7 of PL38P1 connector;
- 1329 from pin 12 and pin 13 of PL38P1 connector;
- 1333 from pin 14 of PL38P1 connector.

4.3 With reference to Figure 7 wiring diagram (WAS), make sure that the electrical connections between WOW module TB150-5, sectioning connectors P157, J157 and P127 are correct.

4.4 With reference to Figure 4 and Figure 6 wiring diagrams, remove and discard the connector PL38P1 P/N RD50S10GVL0/AA from the helicopter.

4.5 With reference to Figure 4 View A, install support P/N A414A03V224A1 by means of n°2 screws P/N NAS1802-3-6 and n°2 washers P/N NAS1149D0332J.

4.6 With reference to Figure 4 View A, assemble maintenance connector P/N 233-301XW00-175LN1 and backshell P/N A529A400-1702C. Install the new connector to the support P/N A414A03V224A1 by means of connector mounting device P/N M85049/95-18A, n°4 screws P/N NAS1802-04-7 and n°4 washers P/N NAS1149DN416J. In accordance with AMP DM 89-A-11-00-01-00A-720A-A, install decal P/N ED300J369 adjacent to the connector.

4.7 With reference to Figure 4 View A, assemble connector P/N CT15-26S7 and backshell P/N M85049/48-2-2F by means of n°2 screws P/N D20419-21.

4.8 With reference to Figure 6 and 8 wiring diagrams (BECOMES), perform the electrical connections shown to the new A361P1 connector. Install n°3 caps P/N A583A2418C on wires 1314 and 1329.

4.9 With reference to Figure 8 wiring diagram (BECOMES), lay down a piece of cable P/N NF24Q100-01 of adequate length between the maintenance connector ED300J369 and connector A361P1. Perform electrical connection shown.

4.10 With reference to Figure 8 wiring diagram, install on connector A361P1 shell a terminal lug P/N MS25036-148.

4.11 With reference to Figure 4 View A and in accordance with AMP DM 89-C-34-56-01-00A-720A-A, install the GLONASS receiver P/N ASD776-AASAXYZ by means of n°4 screws P/N NAS1802-06-6 and n°4 washers P/N NAS1149DN632J. Connect A361P1 connector and A362P2 coaxial connector. In accordance with AMP DM 89-A-11-00-01-00A-720A-A, install decal P/N ED300A361 adjacent to the GLONASS receiver.

4.12 With reference to Figure 4 View B and in accordance with AMP DM 89-C-34-56-03-00A-720A-A, install the GLONASS antenna P/N A521A-Q035 and the conductive gasket P/N AW001GH007A. In accordance with AMP DM 89-A-11-00-01-00A-720A-A, install decal P/N ED300E44 adjacent to the GLONASS antenna.

5. In accordance with applicable steps of DM 89-A-46-21-00-00A-750A-A, perform the upload of the Aircraft Mission Management Computer (AMMC) Option File P/N 8G4620AXXXXX.

6. In accordance with applicable steps of the DM 89-A-46-31-00-00A-750A-A, perform the upload of the CDS Option File P/N 8G4630AXXXX.

7. In accordance with AMP DM 89-A-24-81-00-05A-752A-A, perform the installation of ECDU configuration table P/N 8G4620ACXXXX.
8. In accordance with applicable steps of the AMP DM 89-A-24-81-00-00A-752A-A, perform the upload of the REPU Configuration Table P/N 8G2460ASXXXX.
9. In accordance with DM 89-A-06-40-00-00A-028A-A install access panel 165B.
10. In accordance with AMP 89-C-34-56-00-00A-320A-A perform the GLONASS kit operation test.
11. In accordance with weight and balance changes, update the Chart A (see Rotorcraft Flight Manual, Part II, section 6).
12. Return the helicopter to flight configuration and record for compliance with this Service Bulletin on the helicopter logbook.
13. Gain access to My Communications section on Leonardo WebPortal and compile the "Service Bulletin Application Communication".

    As an alternative, send the attached compliance form to the following mail box:

    engineering.support.lhd@leonardo.com

    and (for North, Central and South America) also to:

    AWPC.Engineering.Support@leonardocompany.us

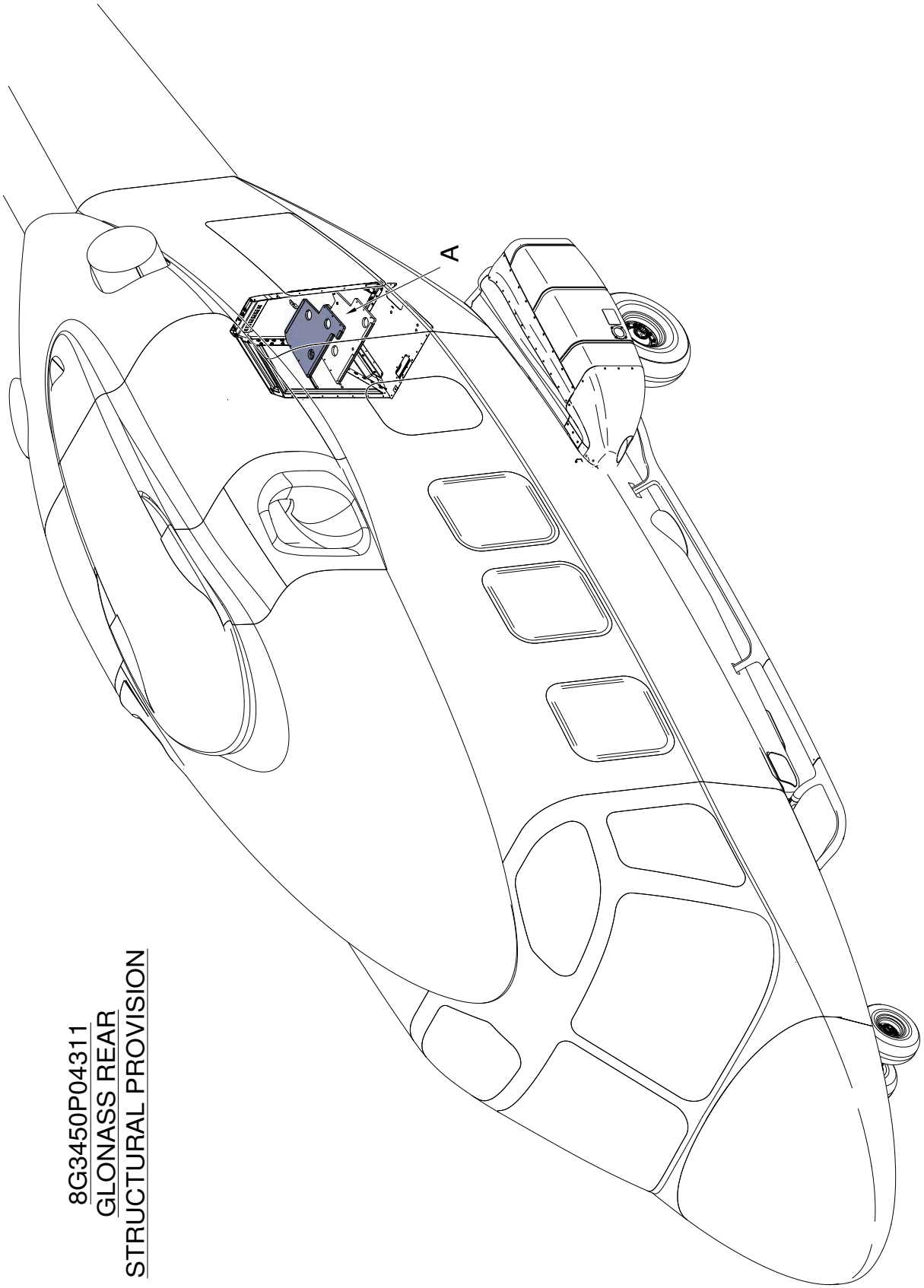
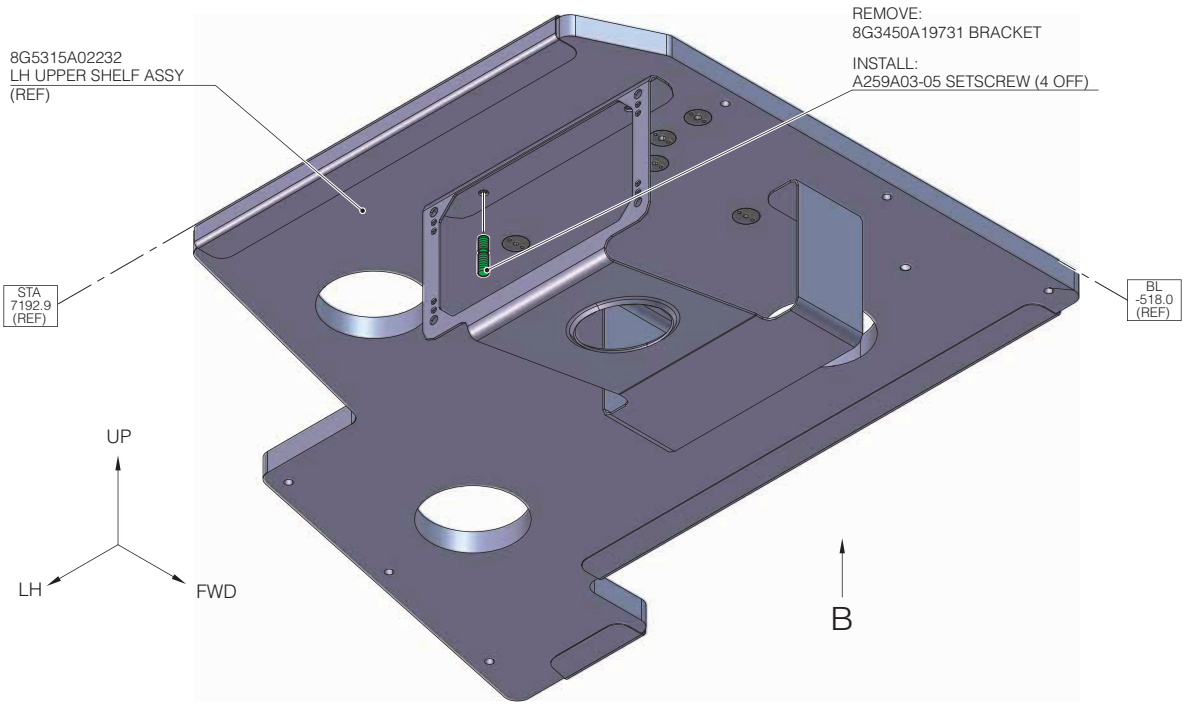
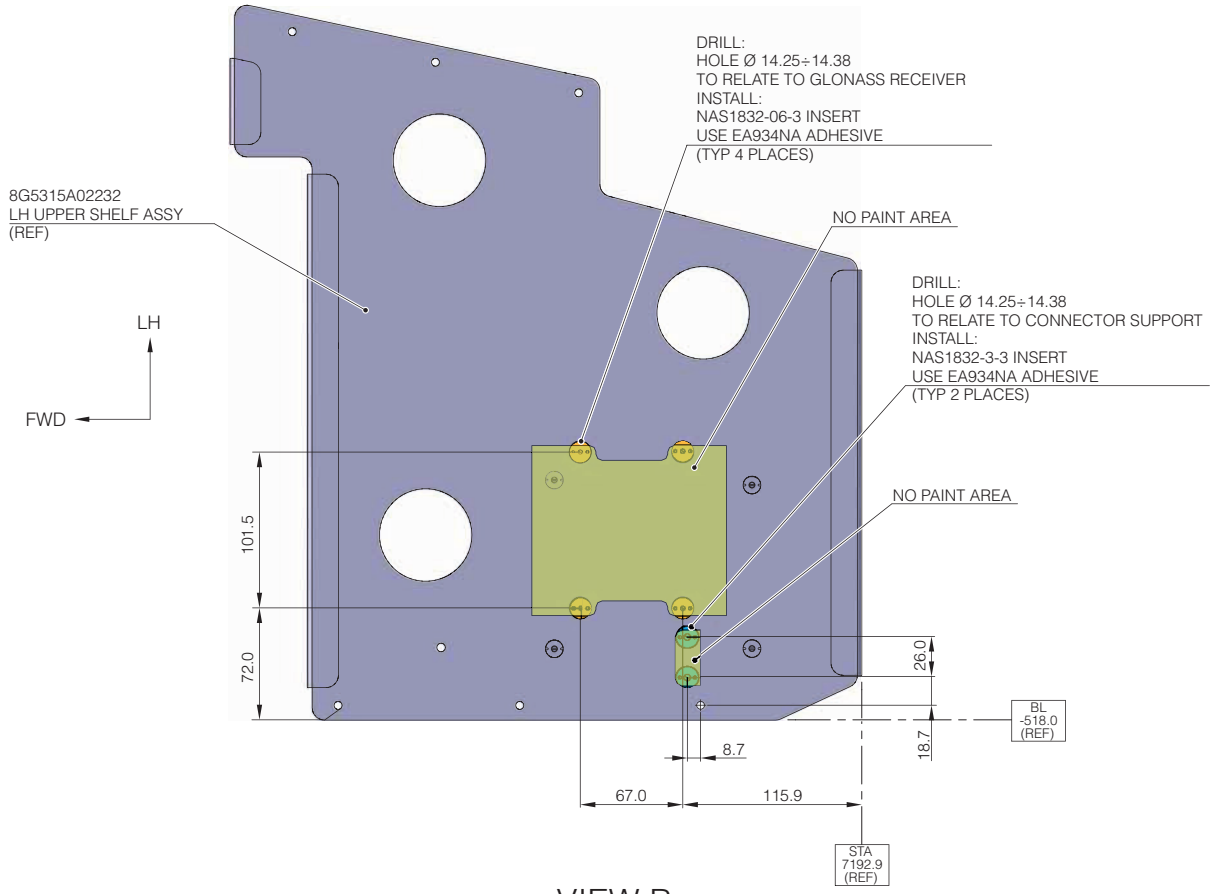


Figure 1



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



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

Figure 2

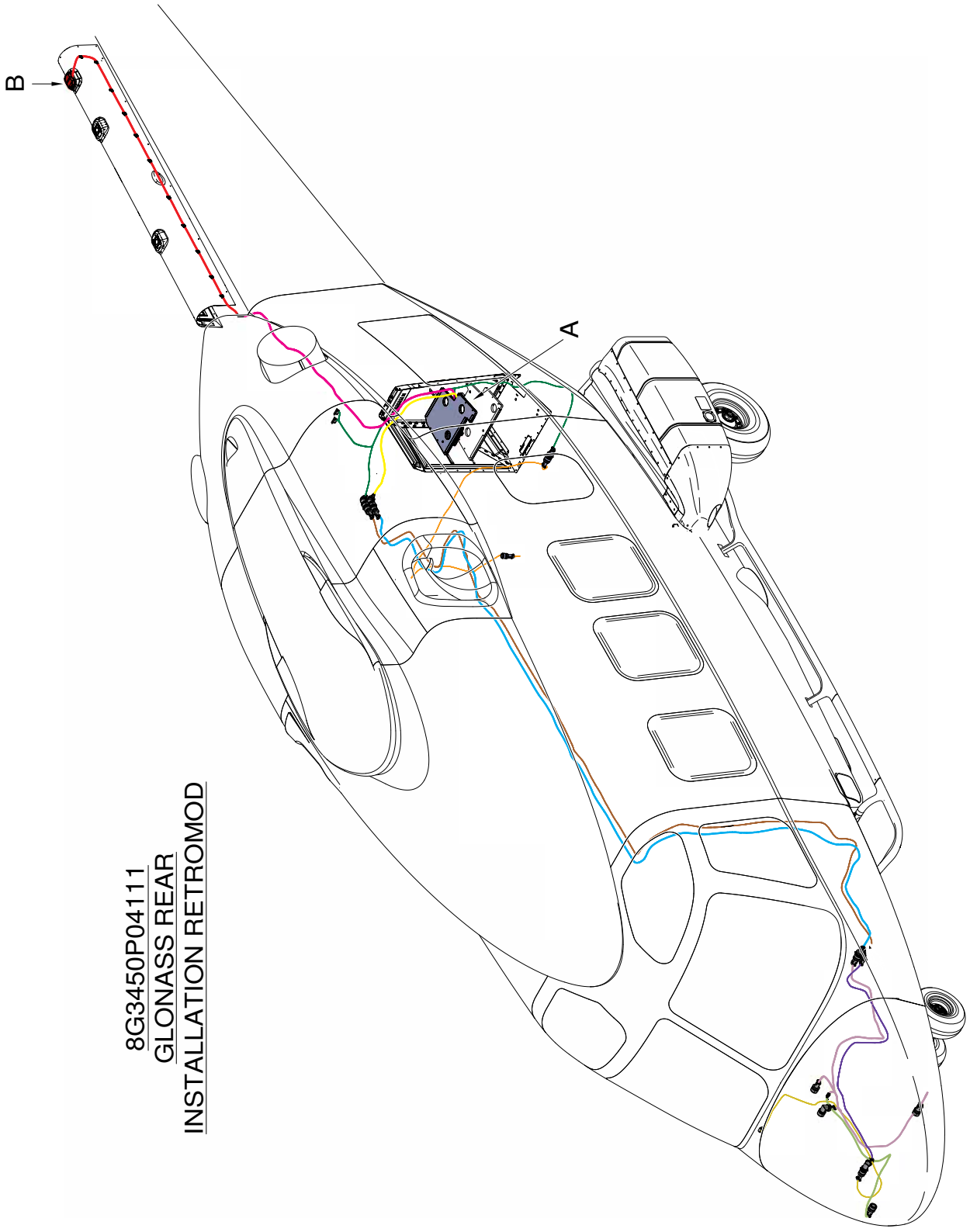
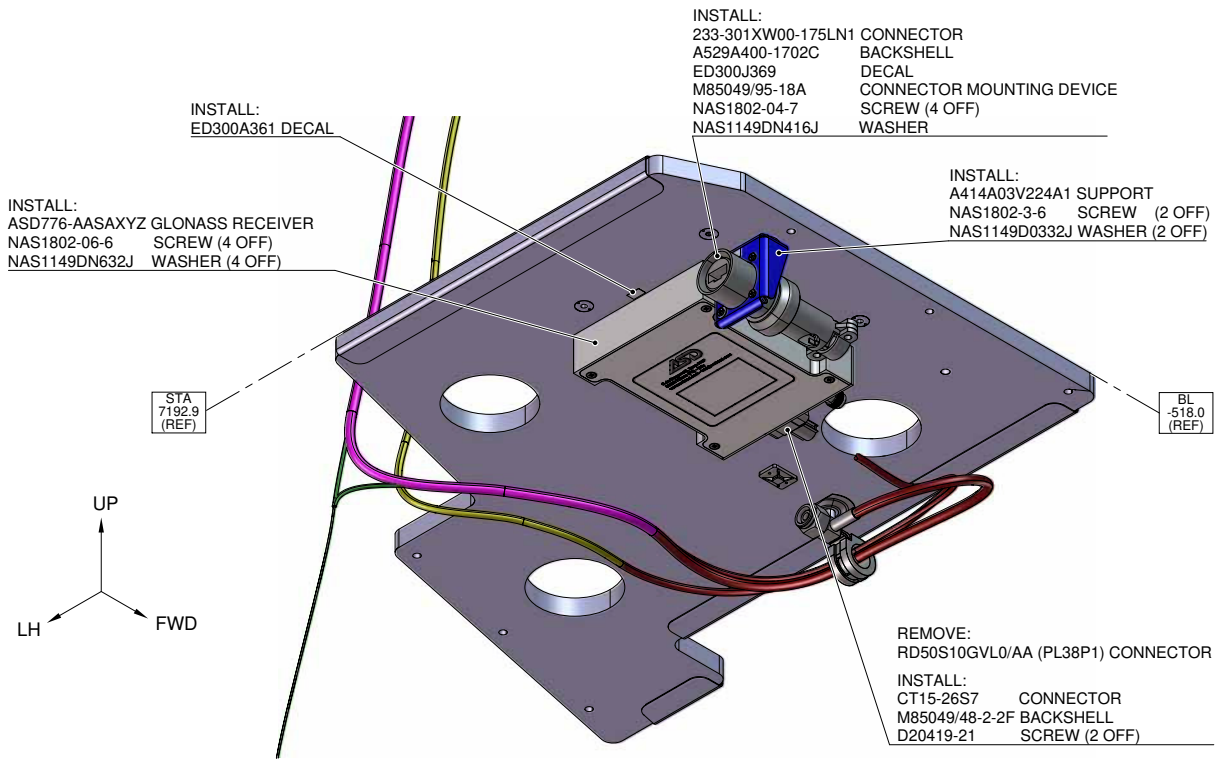
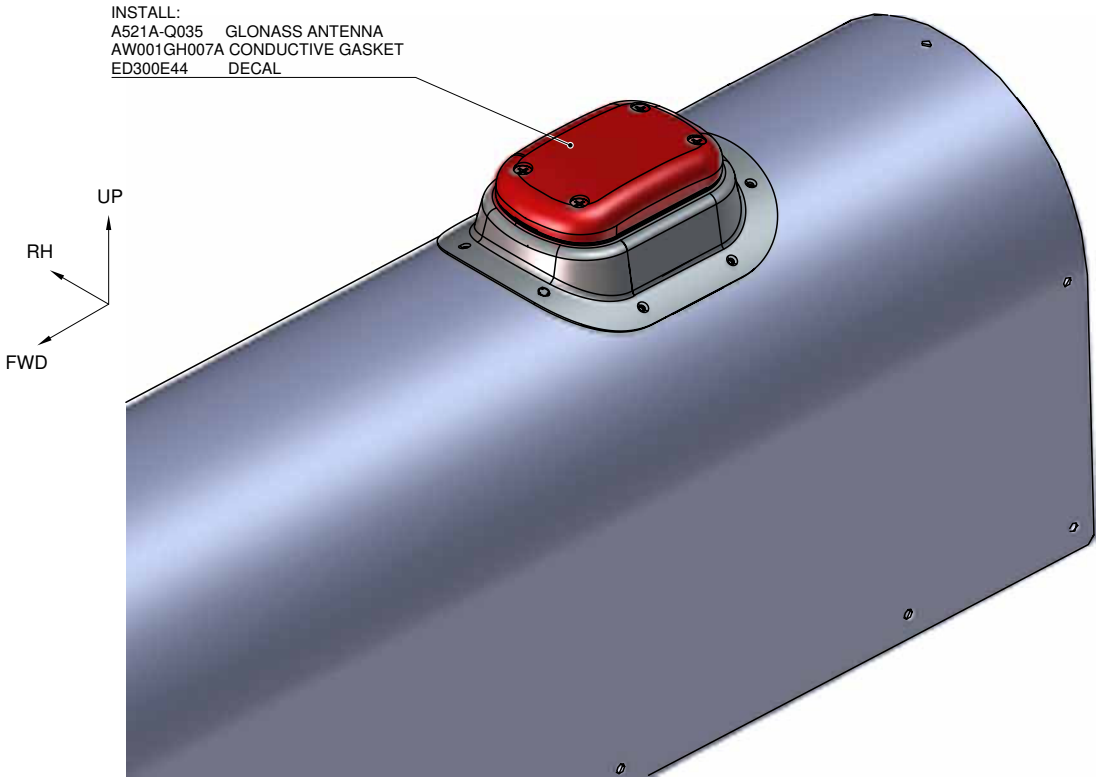


Figure 3



VIEW A

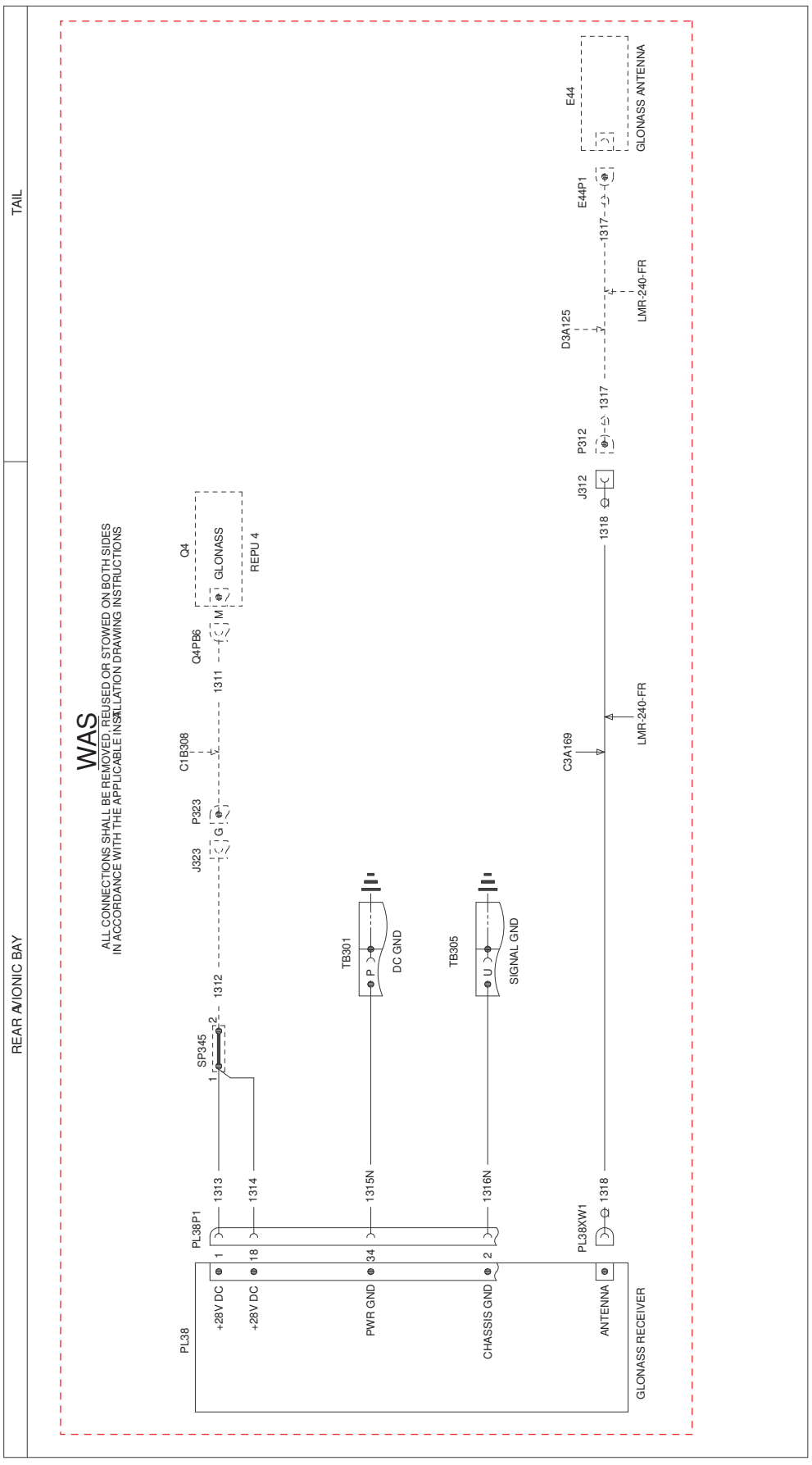
STRUCTURES AND SYSTEMS ARE PARTIALLY OMITTED FOR BETTER CLARITY PURPOSE



VIEW B

STRUCTURES AND SYSTEMS ARE PARTIALLY OMITTED FOR BETTER CLARITY PURPOSE

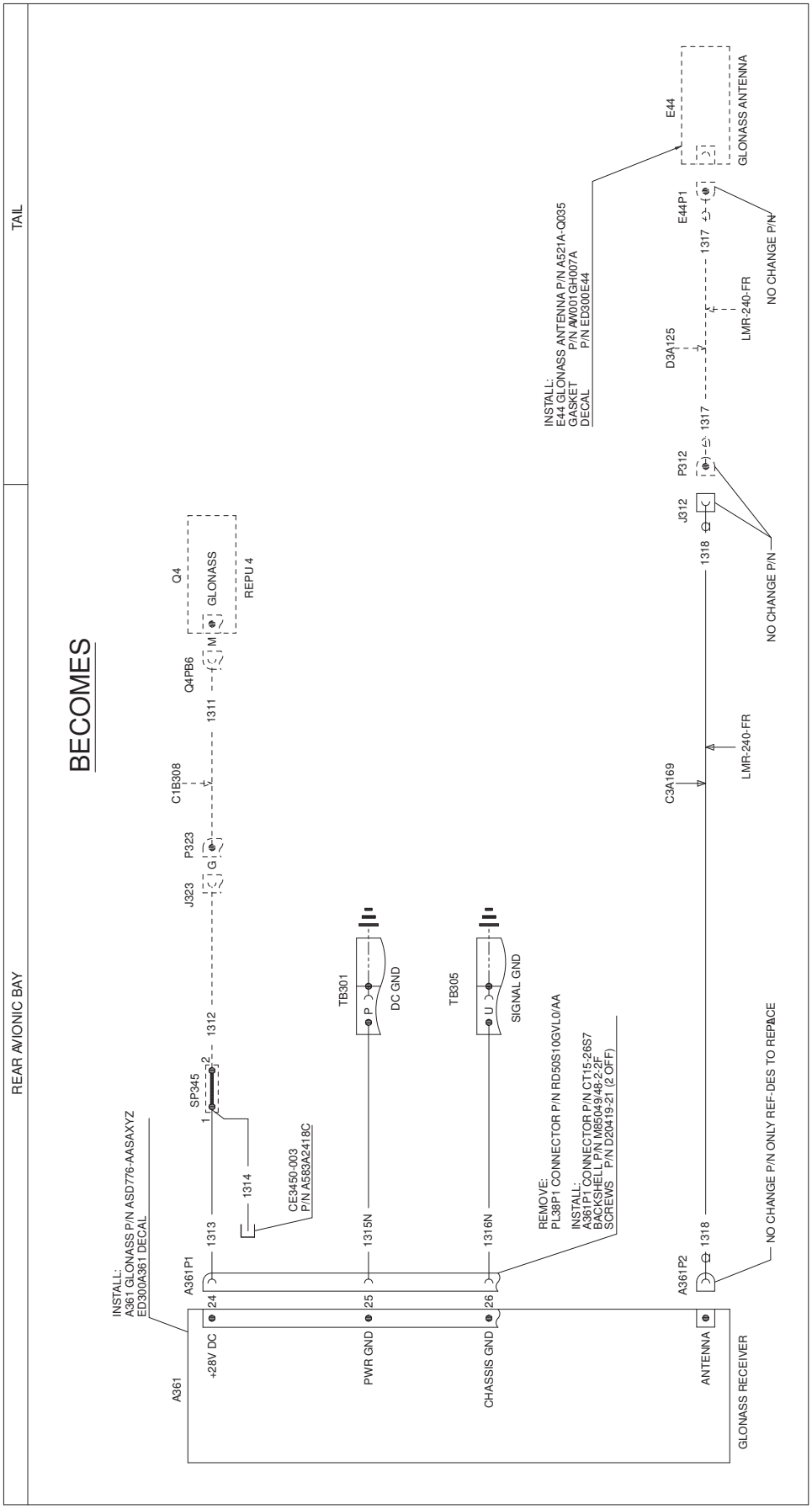
Figure 4



8G3450P04111
WIRING DIAGRAM GLONASS REAR INSTALLATION RETROMOD
SHEET 1

FUNCTIONAL NOTES
ALL CABLES ARE IN LOOM C1A342 UNLESS SPECIFIED
ALL CABLES ARE OF TYPE A556AT 22 UNLESS SPECIFIED

Figure 5



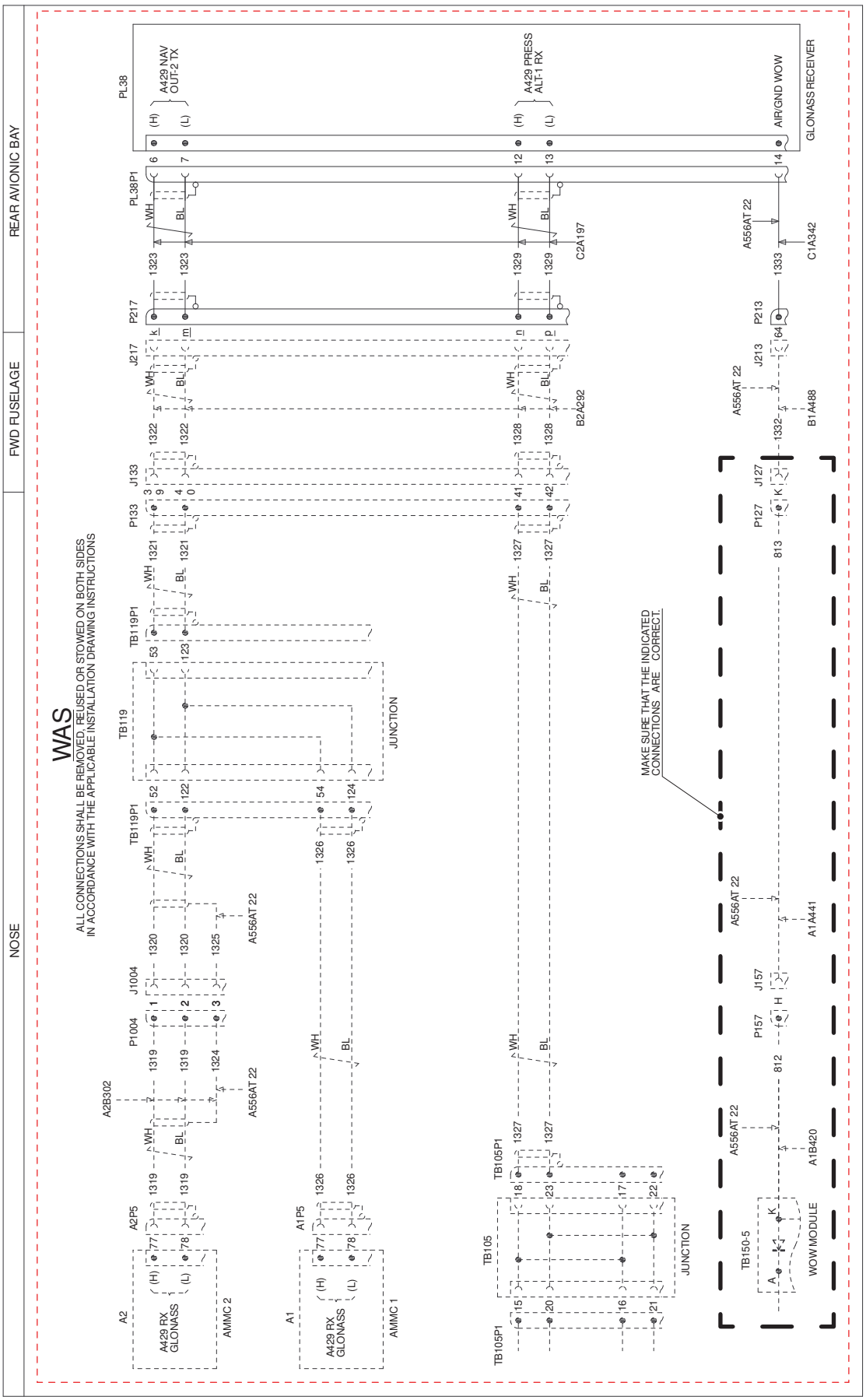
8G3450P04111

WIRING DIAGRAM GLONASS REAR INSTALLATION RETROMOD

SHEET 2

FUNCTIONAL NOTES
ALL CABLES ARE IN LOOM C1A342 UNLESS SPECIFIED
ALL CABLES ARE OF TYPE A556 22 UNLESS SPECIFIED

Figure 6



8G3450P04111

WIRING DIAGRAM GLONASS REAR INSTALLATION RETROMOD

SHEET 3

FUNCTIONAL NOTES
ALL CABLES ARE IN LOOM A2A380 UNLESS SPECIFIED
ALL CABLES ARE OF TYPE A561AT2 22 UNLESS SPECIFIED

Figure 7

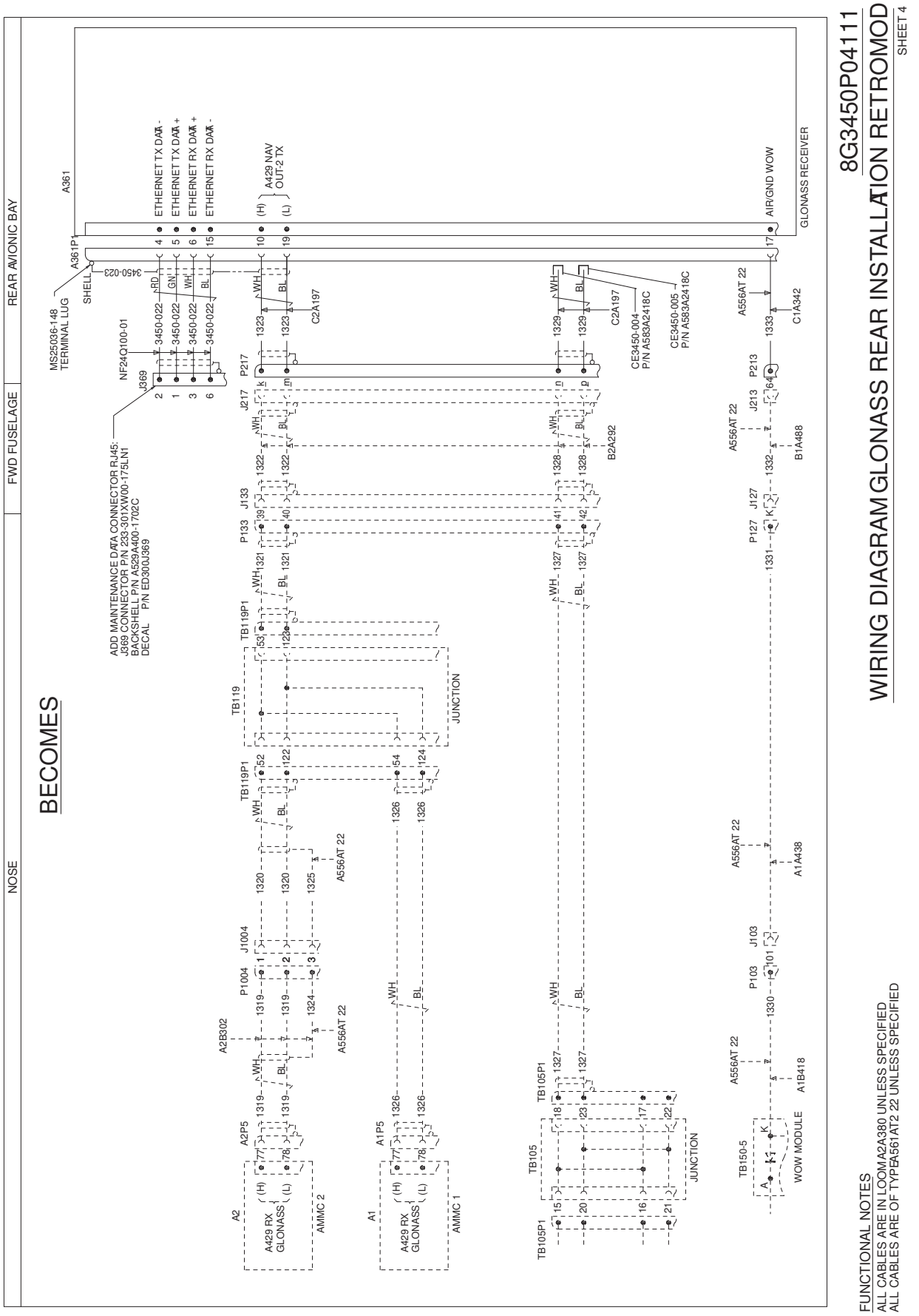

8G3450P04111
WIRING DIAGRAM GLONASS REAR INSTALLATION RETROMOD
SHEET 4
NOSE
FWD FUSELAGE
REAR AVIONIC BAY
BECOMES
ADD MAINTENANCE DATA CONNECTOR RJ45;
J369 CONNECTOR P/N 233-301XW00-175LN1
BACKSHELL P/N A529A400-1702C
DECAL P/N ED300J369
MS25036-148
TERMINAL LUG
SHELL
A361P1
A361
NF24Q100-01
J369
3450-023
3450-022
ETHERNET TX DATA -
ETHERNET TX DATA +
ETHERNET RX DATA +
ETHERNET RX DATA -
A429 NAV OUT-2 TX
AIR/GND WOW
GLONASS RECEIVER
C2A197
CE3450-004
P/N A583A2418C
CE3450-005
P/N A583A2418C
C1A342
B2A292
B1A488
A1A438
A1B418
A2B302
A2P5
A1P5
A2
A1
AMMC 2
AMMC 1
A429 RX
GLONASS
TB119
TB119P1
TB105
TB105P1
JUNCTION
TB150-5
WOW MODULE
A556AT 22
P1004
J1004
P133
J133
P217
J217
P213
J213
P127
J127
P103
J103
FUNCTIONAL NOTES
ALL CABLES ARE IN LOOM A2A380 UNLESS SPECIFIED
ALL CABLES ARE OF TYPE A561AT2 22 UNLESS SPECIFIED

Figure 8

LEONARDO
HELICOPTERS

AgustaWestland Products

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.