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AgustaWestland Products

SERVICE BULLETIN

N° 139-362

DATE: September 15, 2017

REV. : A - August 3, 2022

TITLE

ATA 76 - ENGINE CONTROL MECHANICAL BACK-UP

REVISION LOG

Revision A is issued to align the modification to the latest design.

The main changes consist in:

- Update of the Accomplishment Instructions;
- Update of Figure 2;
- Update of Figure 4.

1. PLANNING INFORMATION

A. EFFECTIVITY

Part I

AB139/AW139 helicopters from S/N 31005 to S/N 31157 (except S/N 31007) and from S/N 41001 to S/N 41023, not equipped with LH and RH exhaust saddle retromod P/N 3G7806P04211 and P/N 3G7806P05211.

AW139 helicopters from S/N 31201 to S/N 31398 and from S/N 41201 to S/N 41293, not equipped with LH and RH exhaust saddle retromod P/N 3G7806P04211 and P/N 3G7806P05211.

AW139 helicopters from S/N 31400 onward and from S/N 41300 onward that have replaced the rear firewall module assy P/N 3G7810A02031 or 3G7810P00331R with rear firewall module assy P/N 3G7810A02033, 3G7810A02034 or 3G7810P00331.

Part II

AW139 helicopters from S/N 31400 onward and from S/N 41300 onward equipped with rear firewall module assy P/N 3G7810A02031 or 3G7810P00331R.

Part III

AW139 helicopters from S/N 31400 onward and from S/N 41300 onward that have replaced the rear firewall module assy P/N 3G7810A02031 or 3G7810P00331R with a rear firewall module assy P/N 3G7810A02033, 3G7810A02034 or 3G7810P00331 already compliant with Part II.

B. COMPLIANCE

At Customer's option.

C. CONCURRENT REQUIREMENTS

N.A.

D. REASON

This Service Bulletin is issued to provide all necessary instructions for the installation of new supports for engine control mechanical backup cables on the upper deck structure.

E. DESCRIPTION

The Engine Control Mechanical Backup retro-modifications P/N 3G7606P00211 and P/N 3G7606P00311, introduced by this Service Bulletin, allow the installation of new supports on the upper deck structure. Each support, now basic on production helicopters, holds a clamp that keeps in correct position the LH and RH engine control

mechanical backup cables in the bending transition from the upper deck to the engine control gearbox, thus improving the cables routing.

Part I of this Service Bulletin provides the necessary instruction to perform the Engine Control Mechanical Backup retromod P/N 3G7606P00311 on both LH and RH sides.

Part II of this Service Bulletin provides the necessary instruction to perform the Engine Control Mechanical Backup retromod P/N 3G7606P00211 on RH side only.

Part III of this Service Bulletin provides the necessary instruction to complete the Engine Control Mechanical Backup retromod P/N 3G7606P00311 when:

- helicopter is already compliant with Part II;
- rear firewall module assy P/N 3G7810A02031 or 3G7810P00331R is replaced with rear firewall module assy P/N 3G7810A02033, 3G7810A02034 or 3G7810P00331.

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, the following MMH are deemed necessary:

Part I: approximately six (6) MMH;

Part II: approximately three (3) MMH;

Part III: approximately three (3) MMH.

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

H. WEIGHT AND BALANCE

PART I

WEIGHT (kg)	0.125	
	ARM (mm)	**MOMENT (kgmm)**
LONGITUDINAL BALANCE	7464	933
LATERAL BALANCE	74	9.25

PART II

WEIGHT (kg)	0.062	
	ARM (mm)	**MOMENT (kgmm)**
LONGITUDINAL BALANCE	7464	466
LATERAL BALANCE	485	30

PART III

WEIGHT (kg)	0.062	
	ARM (mm)	**MOMENT (kgmm)**
LONGITUDINAL BALANCE	7464	466
LATERAL BALANCE	-427	-27

I. REFERENCES

1) PUBLICATIONS

Following Data Modules refer to AMP:

DATA MODULE		DESCRIPTION	PART
DM01	39-A-00-20-00-00A-120A-A	Helicopter on ground for a safe maintenance	All
DM02	39-A-06-41-00-00A-010A-A	Access doors and panels	All
DM03	39-A-20-00-00-00A-711A-A	Threaded fasteners - Tighten procedure	All

Following Data Modules refer to CSRP:

DATA MODULE		DESCRIPTION	PART
DM04	CSRP-A-51-42-00-00A-720A-D	Potted blind - types inserts - Install procedure	All

2) ACRONYMS & ABBREVIATIONS

AMDI	Aircraft Material Data Information
AMP	Aircraft Maintenance Publication
AR	As Required
ASRP	Structural Repair Publication
DM	Data Module

DOA	Design Organization Approval
EASA	European Aviation Safety Agency
ECL	Engine Control Lever
LH	Leonardo Helicopters
LS	Local Supply
MMH	Maintenance Man Hours
P/N	Part Number
S/N	Serial 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	**3G7606P00311**		**ENGINE CONTROL MECHANICAL BACKUP LH/RH**	**REF**	**.**		**-**
2	3G7610A00551		Support	2	..		139-362L1
3	AN3C3A		Bolt	2	..		139-362L1
4	MS21043-3		Nut	2	..		139-362L1
5	AS21919WDG06		Clamp	2	..		139-362L1
6	NAS1149C0332R		Washer	8	..		139-362L1
7	NAS1802-3-5		Screw	4	..		139-362L1
8	NAS1836-3-13		Insert	4	..		139-362L1

PART II

#	P/N	ALTERNATIVE P/N	DESCRIPTION	Q.TY	LVL	NOTE	LOG P/N
9	**3G7606P00211**		**ENGINE CONTROL MECHANICAL BACKUP RETRO MODIFICATION RH**	**REF**	**.**		**-**
10	3G7610A00551		Support	1	..		139-362L2
11	AN3C3A		Bolt	1	..		139-362L2
12	MS21043-3		Nut	1	..		139-362L2
13	AS21919WDG05		Clamp	1	..		139-362L2
14	NAS1149C0332R		Washer	4	..		139-362L2
15	NAS1802-3-5		Screw	2	..		139-362L2
16	NAS1835-3M		Insert	2	..		139-362L2

PART III

#	P/N	ALTERNATIVE P/N	DESCRIPTION	Q.TY	LVL	NOTE	LOG P/N
17	**3G7606P00311**		**ENGINE CONTROL MECHANICAL BACKUP RH**	**REF**	**.**		**-**
18	3G7610A00551		Support	1	..		139-362L1
19	AN3C3A		Bolt	1	..		139-362L1
20	MS21043-3		Nut	1	..		139-362L1
21	AS21919WDG06		Clamp	1	..		139-362L1
22	NAS1149C0332R		Washer	4	..		139-362L1
23	NAS1802-3-5		Screw	2	..		139-362L1
24	NAS1836-3-13		Insert	2	..		139-362L1

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

2) CONSUMABLES

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

#	SPEC./LHD CODE NUMBER	DESCRIPTION	Q.TY	NOTE	PART
25	199-05-002 TY II,CLII	EA934NA AERO Adhesive (C397)	AR	(1)	I
26	MIL-PRF-81733, type II, class 1	Sealing compound (C274)	AR	(1)	I, II

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

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
139-362L1	1		Part I or Part III
139-362L2	1		Part II

NOTE

(1) Item to procured as local supply.

B. SPECIAL TOOLS

N.A.

C. INDUSTRY SUPPORT INFORMATION

Product improvement.

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

c) 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.

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

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

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

g) 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 Figures 1 and 2, remove all external panels, internal panels and internal liners as required to gain access to the area affected by the installation and perform the engine control mechanical backup LH/RH P/N 3G7606P00311 as described in the following procedure:

   2.1 With reference to Figure 2 Detail A, temporarily locate the two supports P/N 3G7610A00551 on the structure. Countermark position of n°4 insert holes in the panel.

NOTE

In accordance with the shape and installation position of supports P/N 3G7610A00551, perform the necessary cut outs on the existing thermal blanket.

2.1 In accordance with CSRP DM CSRP-A-51-42-00-00A-720A-D and with reference to Figure 2 Section C-C, drill n°4 Ø 17.42 ÷ 17.55 holes through skin and honeycomb and up to a depth of 13.

2.2 With reference to Figure 2 Section C-C, install n°4 inserts P/N NAS1836-3-13 by means of adhesive EA934NA AERO (C397).

NOTE

Seal all around the supports with sealing compound (C274).

2.3 With reference to Figure 2 Detail A, install n°2 supports P/N 3G7610A00551 by means of n°4 screws P/N NAS1802-3-5 and n°4 washers P/N NAS1149C0332R. In accordance with AMP DM 39-A-20-00-00-00A-711A-A, tighten the four screws to the standard torque values.

2.4 In accordance with AMP DM 39-A-20-00-00-00A-711A-A and with reference to Figure 2 Section B-B, install n°2 clamps P/N AS21919WDG06 by means of n°2 bolts P/N AN3C3A, n°4 washers P/N NAS1149C0332R and n°2 nuts P/N MS21043-3; route the ECL cable within the clamp and tighten the two nuts to the standard torque values.

3. In accordance with AMP DM 39-A-06-41-00-00A-010A-A re-install all external panels, internal panels and internal liners previously removed.
4. In accordance with weight and balance changes, update the Chart A (see Rotorcraft Flight Manual, Part II, section 6).
5. Return the helicopter to flight configuration and record for compliance with Part I of this Service Bulletin on the helicopter logbook.
6. 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 Figures 3 and 4, remove all external panels, internal panels and internal liners as required to gain access to the area affected by the installation and perform the engine control mechanical backup RH side retro modification RH P/N 3G7606P00211 as described in the following procedure:

   2.1 With reference to Figure 4 Detail C, temporarily locate the support P/N 3G7610A00551 on the structure. Countermark position of n°2 insert holes in the panel.

   NOTE

   In accordance with the shape and installation position of support P/N 3G7610A00551, perform the necessary cut outs on the existing thermal blanket.

   2.2 In accordance with CSRP DM CSRP-A-51-42-00-00A-720A-D and with reference to Figure 4 Section C-C, drill n°4 Ø 17.42 ÷ 17.55 holes through skin and honeycomb and up to a depth of 13.

   2.3 With reference to Figure 2 Section B-B, install n°2 inserts P/N NAS1835-3M by means of adhesive EA934NA AERO (C397).

   NOTE

   Seal all around the support with sealing compound (C274).

   2.4 With reference to Figure 4 Detail C, install the support P/N 3G7610A00551 by means of n°2 screws P/N NAS1802-3-5 and n°2 washers P/N NAS1149C0332R. In accordance with AMP DM 39-A-20-00-00-00A-711A-A, tighten the two screws to the standard torque values.

   2.5 In accordance with AMP DM 39-A-20-00-00-00A-711A-A and with reference to Figure 4 Section A-A, install the clamp P/N AS21919WDG05 by means of the bolt P/N AN3C3A, n°2 washers P/N NAS1149C0332R and the nut P/N MS21043-3; route the ECL cable within the clamp and tighten the two nuts to the standard torque values.

3. In accordance with AMP DM 39-A-06-41-00-00A-010A-A re-install all external panels, internal panels and internal liners previously removed.
4. In accordance with weight and balance changes, update the Chart A (see Rotorcraft Flight

Manual, Part II, section 6).

5. Return the helicopter to flight configuration and record for compliance with Part II of this Service Bulletin on the helicopter logbook.
6. 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 III

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 Figures 1 and 2, remove all external panels, internal panels and internal liners as required to gain access to the area affected by the installation and perform the engine control mechanical backup RH P/N 3G7606P00311 as described in the following procedure:
   - 2.1 With reference to Figure 2 Detail A, temporarily locate the support P/N 3G7610A00551 on the left side of the structure. Countermark position of n°2 insert holes in the panel.
   - 2.2 In accordance with CSRP DM CSRP-A-51-42-00-00A-720A-D and with reference to Figure 2 Section C-C, drill n°2 Ø 17.42 ÷ 17.55 holes through skin and honeycomb and up to a depth of 13.
   - 2.3 With reference to Figure 2 Section C-C, install n°2 inserts P/N NAS1836-3-13 by means of adhesive EA934NA AERO (C397).

     NOTE

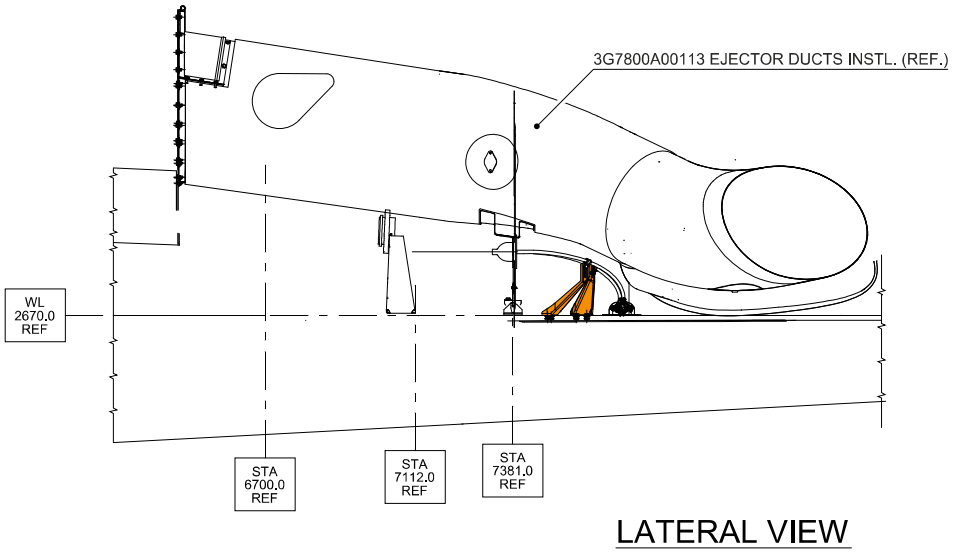
     Seal around the support with sealing compound (C274).
   - 2.4 With reference to Figure 2 Detail A, install support P/N 3G7610A00551 by means of n°2 screws P/N NAS1802-3-5 and n°2 washers P/N NAS1149C0332R. In accordance with AMP DM 39-A-20-00-00-00A-711A-A, tighten the two screws to the standard torque values.
   - 2.5 With reference to Figure 2 Section B-B and in accordance with AMP DM 39-A-20-00-00-00A-711A-A, install the clamp P/N AS21919WDG06 by means of n°1 bolt P/N AN3C3A, n°1 washer P/N NAS1149C0332R and n°1 nut P/N MS21043-3; route the ECL cable within the clamp and tighten the nut to the standard torque values.
3. In accordance with AMP DM 39-A-06-41-00-00A-010A-A re-install all external panels, internal panels and internal liners previously removed.
4. In accordance with weight and balance changes, update the Chart A (see Rotorcraft Flight Manual, Part II, section 6).
5. Return the helicopter to flight configuration and record for compliance with Part III of this Service Bulletin on the helicopter logbook.
6. Send the attached compliance form to the following mail box:

   engineering.support.lhd@leonardo.com

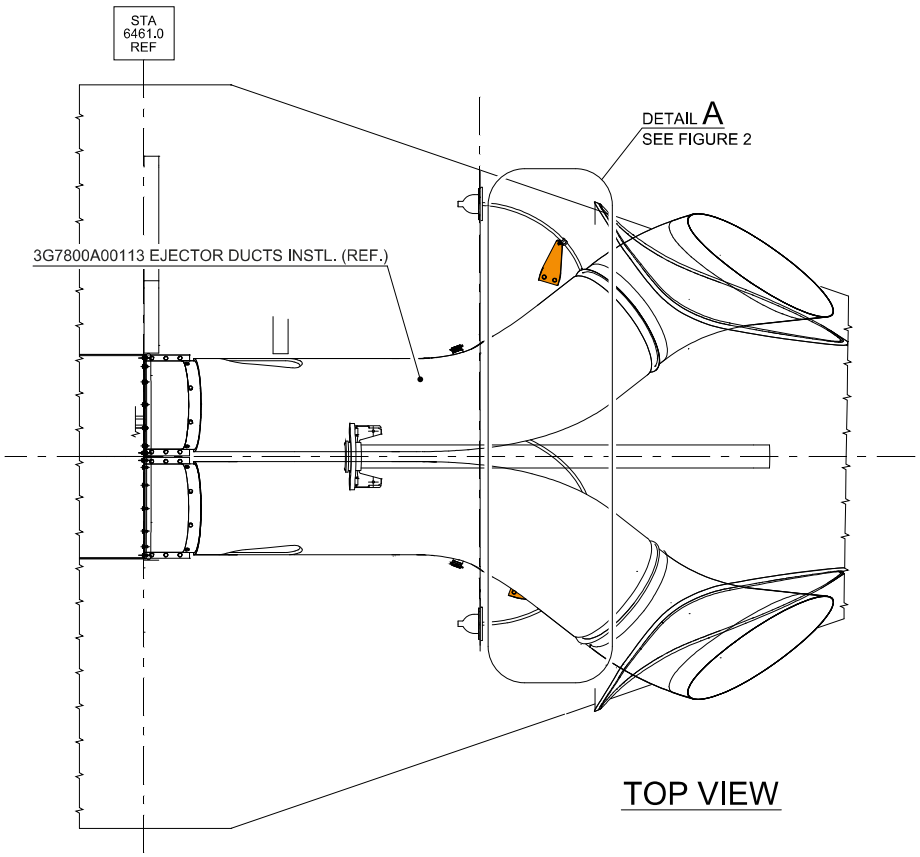
   As an alternative, gain access to My Communications section on Leonardo WebPortal and compile the “Service Bulletin Application Communication”.

3G7606P00311
ENGINE CONTROL MECHANICAL
BACKUP RETROMODIFICATION

FIG. 1
FIG. 2



LATERAL VIEW



TOP VIEW

Figure 1

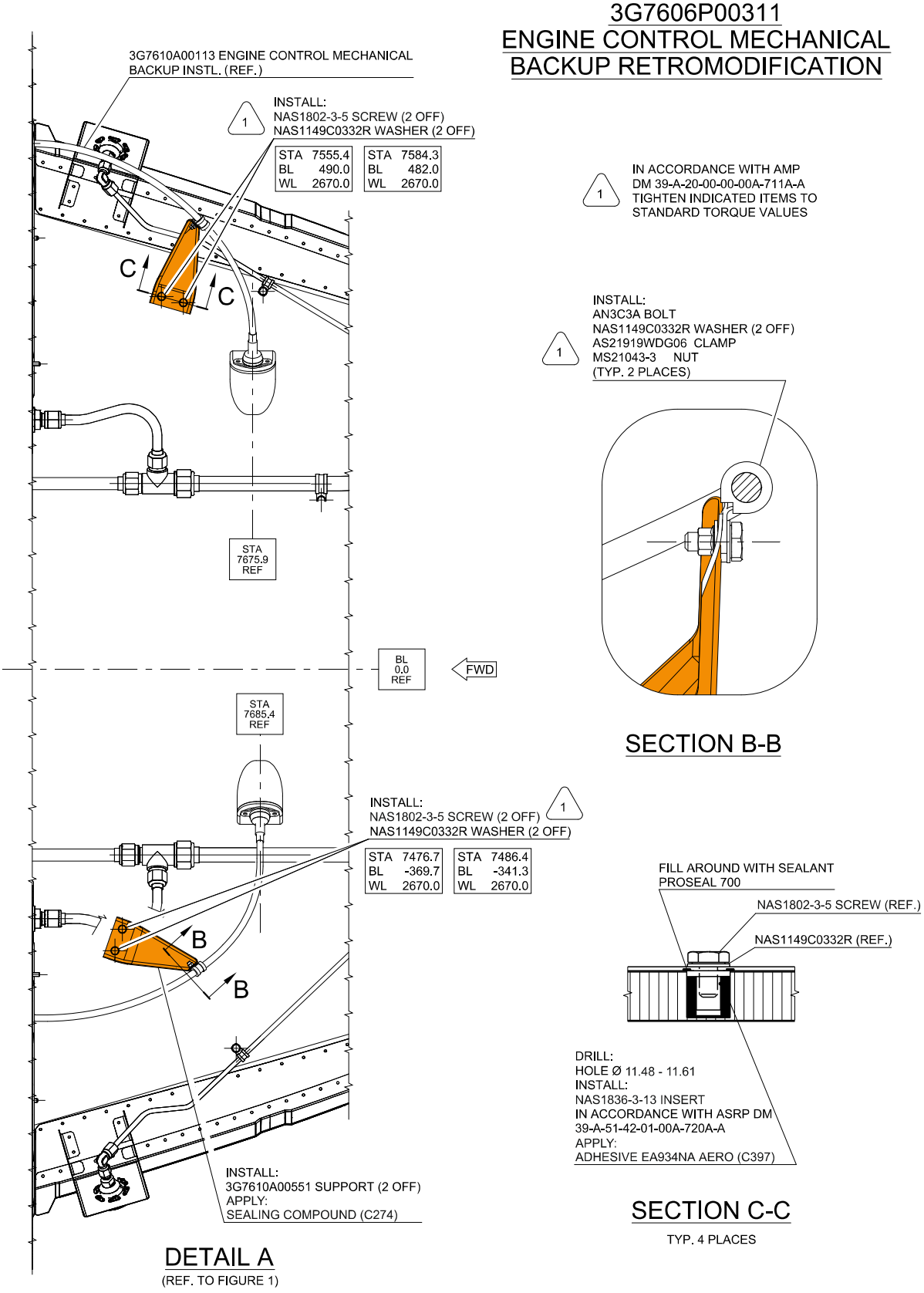

3G7606P00311
ENGINE CONTROL MECHANICAL
BACKUP RETROMODIFICATION
3G7610A00113 ENGINE CONTROL MECHANICAL BACKUP INSTL. (REF.)
1
INSTALL:
NAS1802-3-5 SCREW (2 OFF)
NAS1149C0332R WASHER (2 OFF)
STA 7555.4 BL 490.0 WL 2670.0
STA 7584.3 BL 482.0 WL 2670.0
C
C
STA 7675.9 REF
BL 0.0 REF
FWD
STA 7685.4 REF
INSTALL:
NAS1802-3-5 SCREW (2 OFF)
NAS1149C0332R WASHER (2 OFF)
STA 7476.7 BL -369.7 WL 2670.0
STA 7486.4 BL -341.3 WL 2670.0
B
B
INSTALL:
3G7610A00551 SUPPORT (2 OFF)
APPLY:
SEALING COMPOUND (C274)
DETAIL A
(REF. TO FIGURE 1)
1
IN ACCORDANCE WITH AMP DM 39-A-20-00-00-00A-711A-A
TIGHTEN INDICATED ITEMS TO STANDARD TORQUE VALUES
1
INSTALL:
AN3C3A BOLT
NAS1149C0332R WASHER (2 OFF)
AS21919WDG06 CLAMP
MS21043-3 NUT
(TYP. 2 PLACES)
SECTION B-B
FILL AROUND WITH SEALANT PROSEAL 700
NAS1802-3-5 SCREW (REF.)
NAS1149C0332R (REF.)
DRILL:
HOLE Ø 11.48 - 11.61
INSTALL:
NAS1836-3-13 INSERT
IN ACCORDANCE WITH ASRP DM 39-A-51-42-01-00A-720A-A
APPLY:
ADHESIVE EA934NA AERO (C397)
SECTION C-C
TYP. 4 PLACES

Figure 2

3G7606P00211
ENGINE CONTROL MECHANICAL BACKUP RH SIDE RETROMOD

FIG. 3
FIG. 4

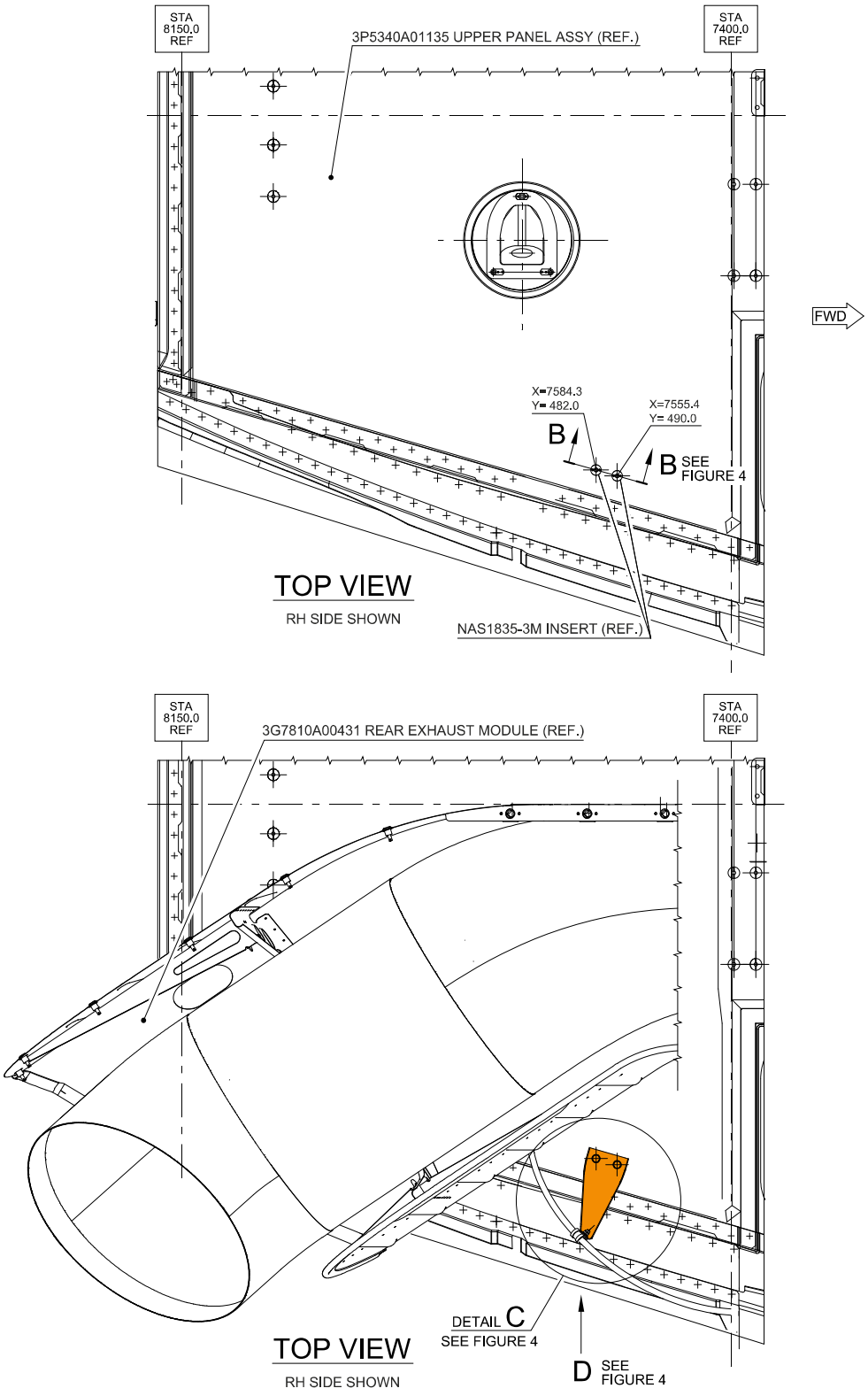
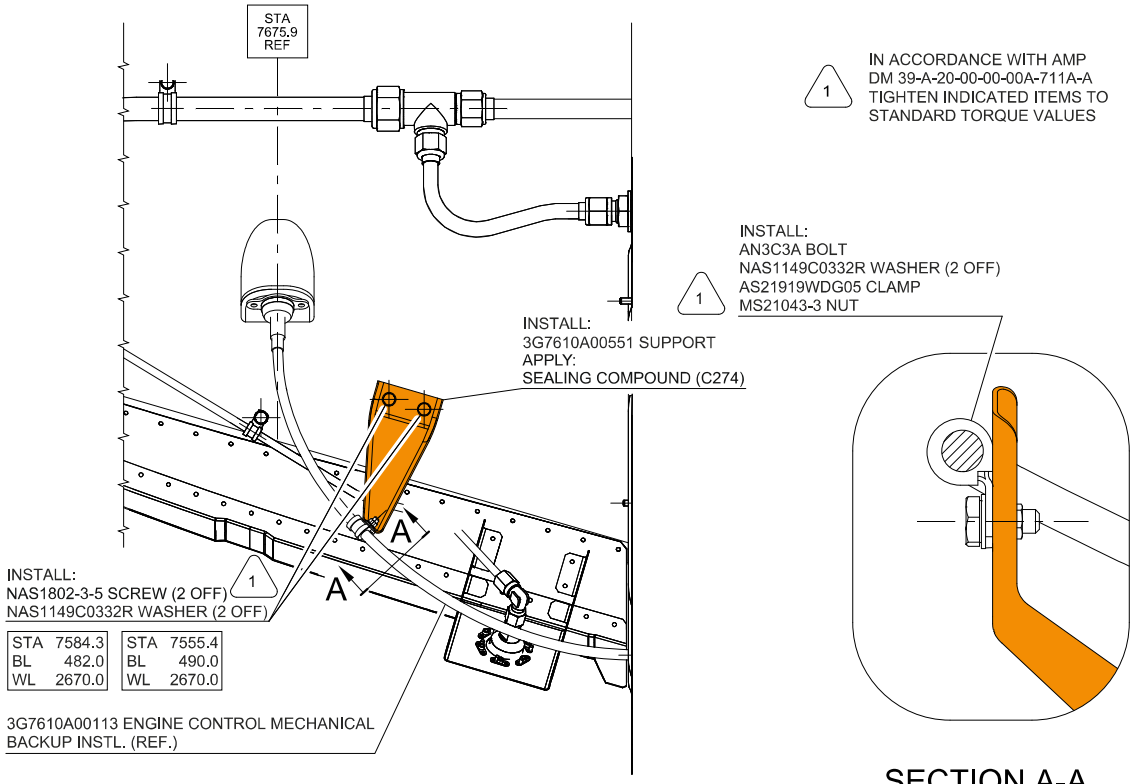


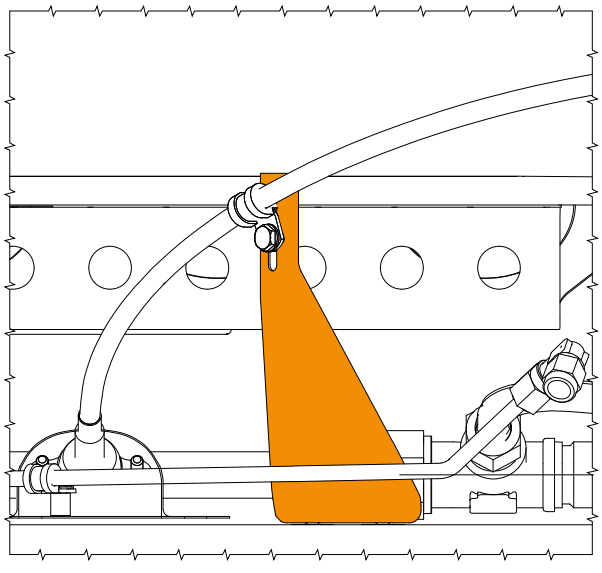
Figure 3

3G7606P00211
ENGINE CONTROL MECHANICAL BACKUP RH SIDE RETROMOD

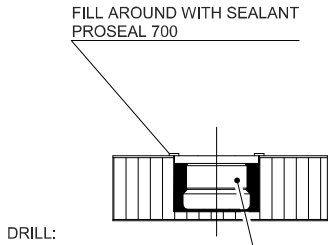


DETAIL C
(REF. TO FIGURE 3)

SECTION A-A



VIEW D
(REF. TO FIGURE 3)



SECTION B-B
TYP. 2 PLACES
(REF. TO FIGURE 3)

Figure 4

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.