
SERVICE BULLETIN

N° 189-245

DATE: December 27, 2021

REV. : /

TITLE

ATA 33 - INSPECTION AND REINFORCEMENT OF SEARCHLIGHT SUPPORT

REVISION LOG

First Issue

1. PLANNING INFORMATION

A. EFFECTIVITY

Part I:

Support searchlight assy P/N 8G3340A16731 installed on AW189 helicopters from S/N 49007 to S/N 49072 (S/N's 49024, 49036, 49040 and 49041 excluded), from S/N 89001 to S/N 89012 (S/N's 89005 and 89006 excluded) and from S/N 92001 to S/N 92010, equipped with kit Searchlight (A800) system P/N 8G3340F00811 and not already marked with searchlight support assy retromod P/N 8G3340P01011.

Support searchlight assy P/N 8G3340A16731 delivered with one of the above helicopters S/N, kept in stock at the date of issuance of this Service Bulletin and not already marked with searchlight support assy retromod P/N 8G3340P01011.

Part II:

AW189 helicopters from S/N 49007 to S/N 49072 (S/N's 49024, 49036, 49040 and 49041 excluded), from S/N 89001 to S/N 89012 (S/N's 89005 and 89006 excluded) and from S/N 92001 to S/N 92010 equipped with kit Searchlight (A800) system P/N 8G3340F00811.

B. COMPLIANCE

Part I

Within and not later than 200 flight hours or 6 months whichever occurs first after the issue of this Service Bulletin

Before the first installation for parts kept in stock.

Part II

Within and not later than 200 flight hours or 6 months whichever occurs first after the issue of this Service Bulletin

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 Trakka support retromod P/N 8G3340P01011 and, in addition, on how to restore the correct torque of a screw on the dovetail assembly.

E. DESCRIPTION

The Trakka support retromod P/N 8G3340P01011 is developed by Leonardo Helicopter Division in order to improve the strength of the part.

The retromod consists of an AFT reinforcement P/N 8G3340P01551 and a FWD reinforcement P/N 8G3340P01651 to be installed inside the searchlight support assy.

Part I provides the instruction on how to install the Trakka support retromod P/N 8G3340P01011.

Part II provides the instructions on how to torque the bolt which fixes the lanyard to the dovetail assembly of the searchlight with the correct torque value.

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 thirty-five (35) MMH;

Part II: approximately two (2) MMH;

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

H. WEIGHT AND BALANCE

PART I

Update the Chart A adding the following entry near the line referred to searchlight Trakka removable parts P/N 8G3340A11411:

P/N 8G3340P01011

“SB 189-245 – Trakka reinforcement retromod”

This entry shall be considered as part of the searchlight Trakka removable parts.

| | | |
|-----------------------------|-----------------|----------------------|
| WEIGHT (Kg) | | 0.154 |
| | ARM (mm) | MOMENT (Kgmm) |
| LONGITUDINAL BALANCE | 3478.9 | 535.75 |
| LATERAL BALANCE | -1396.7 | -215.09 |

PART II

N.A.

I. REFERENCES

1) PUBLICATIONS

Following Data Modules refer to AMP:

| <u>DATA MODULE</u> | <u>DESCRIPTION</u> | <u>PART</u> |
|-------------------------------|--|-------------|
| DM01 89-A-00-20-00-00A-120A-A | Helicopter on ground for a safe maintenance | I, II |
| DM02 89-A-06-41-00-00A-010A-A | Access doors and panels - General data | I, II |
| DM03 89-A-33-47-02-00A-520A-A | Search light mount - Remove procedure | I |
| DM04 89-A-33-47-03-00A-520A-B | Power Conditioning Interface Unit (PCIU) - Remove procedure | I |
| DM05 89-A-33-47-03-00A-720A-B | Power Conditioning Interface Unit (PCIU) - Install procedure | I |
| DM06 89-A-33-47-02-00A-720A-A | Search light mount - Install procedure | I |
| DM07 89-A-33-47-01-00A-520A-A | Search light assembly - Remove procedure | I |
| DM08 89-A-33-47-01-02A-520A-A | Dovetail mount adapter (search light assembly) - Remove procedure | I |
| DM09 89-A-33-47-01-02A-720A-A | Dovetail mount adapter (search light assembly) - Install procedure | I |
| DM10 89-A-33-47-01-00A-720A-A | Search light assembly - Install | I |

| <u>DATA MODULE</u> | <u>DESCRIPTION</u> | <u>PART</u> |
|--------------------|--------------------|-------------|
| | procedure | |

Following Data Modules refer to CSRP:

| <u>DATA MODULE</u> | <u>DESCRIPTION</u> | <u>PART</u> |
|--------------------|---|-------------|
| DM11 | CSRP-A-51-21-06-00A-644A-D Chromate conversion treatments of aluminum alloys - Chromate | I |
| DM12 | CSRP-A-51-23-06-00A-663A-D Wet layup impregnation process - Standard repair procedure | I |
| DM13 | CSRP-A-51-00-00-00A-013A-D List of consumables for repairs - Numeric index | I |
| DM14 | CSRP-A-51-21-02-00A-028A-D Primer application - General | I |

2) ACRONYMS & ABBREVIATIONS

| | |
|------|--|
| AFT | After |
| AMDI | Aircraft Material Data Information |
| AMP | Aircraft Maintenance Publication |
| CSRP | Common Structural Repair Publication |
| DOA | Design Organization Approval |
| EASA | European Aviation Safety Agency |
| FWD | Forward |
| ITEP | Illustrated Tool and Equipment Publication |
| LHD | Leonardo Helicopters Division |
| MMH | Maintenance Man Hours |

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 | 8G3340P01011 | | TRAKKA REINFORCEMENT RETROMOD | REF | . | | - |
| 2 | 8G3340P01431 | | SEARCHLIGHT SUPPORT REINFORCEMENT ASSY | REF | .. | | - |
| 3 | 3G3340A17952 | | Trakka boom AFT reinforcement | 1 | ... | | 189-245L1 |
| 4 | 3G3340A17852 | | Trakka boom FWD reinforcement | 1 | ... | | 189-245L1 |
| 5 | A298A04TW03 | | Rivet | 43 | ... | | 189-245L1 |
| 6 | A298A04TW04 | | Rivet | 8 | ... | | 189-245L1 |
| 7 | A407A3C2P | | Anchor nut | 7 | ... | | 189-245L1 |
| 8 | NAS620C5L | | Washer | 51 | ... | | 189-245L1 |

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

PART II

N.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 |
|----|-----------------------------|---------------------------------|------|--------|------|
| 9 | 199-05-002 TY I, CL 2 | Adhesive EA9309.3NA AERO (C021) | AR | (1)(2) | I |
| 10 | MMM-A-132, Type 2, Class II | EA 9309.3NA AERO (C023) | AR | (1)(2) | I |

Refer also to AMDI for the consumable materials required to comply with the AMP and CSRP 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 |
|--------------|-----------------|------|------|
| 189-245L1 | 1 | | I |

NOTE

- (1) Item to be procured as local supply.
- (2) The two adhesives are alternative.

B. SPECIAL TOOLS

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

| # | P/N | DESCRIPTION | Q.TY | NOTE | PART |
|---|------------|---------------|------|------|------|
| 1 | Commercial | Indelible pen | 1 | (B1) | I |
| 2 | Commercial | Heat gun | 1 | (B1) | I |

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

SPECIAL TOOLS NOTE

(B1) To be procured as local supply.

C. INDUSTRY SUPPORT INFORMATION

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) Protect properly all those equipment not removed from area affected by the modification during installation procedure.
- 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) Let adhesive cure at room temperature for at least 24 hours unless otherwise specified.
- f) All lengths are in mm.

PART I

NOTE

If the searchlight support assy is kept in stock, only perform Steps 4, 8 and 9.

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-06-41-00-00A-010A-A gain access to the area affected by the installation.
3. Remove the searchlight support assy from the helicopter as described in the following procedure:
 - 3.1 In accordance with AMP DM 89-A-33-47-01-00A-520A-A remove the search light assembly from the searchlight support assy.
 - 3.2 In accordance with AMP DM 89-A-33-47-01-02A-520A-A, remove the dovetail mount adapter from the searchlight support assy.
 - 3.3 In accordance with AMP DM 89-A-33-47-02-00A-520A-A, remove the searchlight

support assy P/N 8G3340A16731 from the helicopter.

- 3.4 In accordance with AMP DM 89-A-33-47-03-00A-520A-B, remove the power conditioning interface unit from the searchlight support assy.
4. With reference to Figures 1 and 2, perform searchlight support assy retromod P/N 8G3340P01011 as described in the following procedure:
 - 4.1 With reference to Figure 1 View B, remove and retain for later reuse the cover P/N 3G3340A03452 and existing fasteners from the searchlight support assy P/N 8G3340A16731.
 - 4.2 With reference to Figure 1 View B1, remove and retain for later reuse the cover P/N 3G3340A01953 and existing fasteners from the searchlight support assy P/N 8G3340A16731.

NOTE

Ensure heat gun is set to 110 °C max. Monitor the temperature with a thermocouple.

NOTE

Ensure that the bonding surface is not damaged.

- 4.3 With reference to Figure 1 View B1, carefully remove the support P/N 3G3340A03551 using a heat gun as described in the following procedure:
 - 4.3.1 Raise the temperature of the heat gun to 100 °C.
 - 4.3.2 Carefully open the joint of the support P/N 3G3340A03551 at one end using a pallet knife.
 - 4.3.3 Continue to apply heat and gradually peel off the support P/N 3G3340A03551 until completely removed.
- 4.4 With reference to Figure 2 Section F-F, remove n°7 anchor nuts P/N A407A3C29 from the searchlight support assy P/N 8G3340A16731.
- 4.5 With reference to Figure 3 View G, perform a trim on the edge of the profile of the AFT reinforcement P/N 3G3340A17952.
- 4.6 With reference to Figure 3 View G and in accordance to the applicable steps of CSRP-A-51-21-06-00A-644A-D, restore protective treatment of any cut edges.
- 4.7 With reference to Figure 3 View G remark the reworked AFT reinforcement as P/N 8G3340P01551 adjacent to existing detail part mark.
- 4.8 With reference to Figure 3 View H perform a trim on the edge of the profile of the FWD reinforcement P/N 3G3340A17852.
- 4.9 With reference to Figure 3 View H, and in accordance to the applicable steps of CSRP-A-51-21-06-00A-644A-D, restore protective treatment on FWD reinforcement P/N 3G3340A17852.

- 4.10 With reference to Figure 3 View H, remark the reworked FWD reinforcement as P/N 8G3340P01651 adjacent to existing detail part mark by means of an indelible pen.

NOTE

If one or more AFT reinforcement existing holes don't match with support holes, perform following Step 4.11 to align the two parts. Otherwise, skip to Step 4.12

- 4.11 Modify AFT reinforcement P/N 8G3340P01551 as described in the following procedure:

NOTE

For wet layup procedure refer to CSRP-A-51-23-06-00A-663A-D.

NOTE

As valid alternatives it is possible to use carbon fiber CC90 or a carbon fabric dry from Table 1 of CSRP-A-51-00-00-00A-013A-D.

NOTE

Layers dimensions indicated in figure are indicatives. It is possible to slightly decrease dimensions in order to not cover other holes present on the reinforcement.

- 4.11.1 With reference to Figure 3 Section J-J, apply a layer (P1) of Carbon fiber dry fabric HexForce G0801 7 1020 and let it cure.
- 4.11.2 With reference to Figure 3 Section J-J, fill 7 screw holes with EA9309NA.
- 4.11.3 With reference to Figure 3 Section J-J, apply a layer (P2 and P3) of Carbon fiber dry fabric HexForce G0801 7 1020 and let them cure.
- 4.11.4 In accordance with CSRP-A-51-21-02-00A-028A-D, protect repaired area with primer.
- 4.11.5 With reference to Figure 3 "8G3340P01551 aft reinforcement reworked", countermark and drill n°7 screw holes $\varnothing 5.74 \div 5.86$ thru the aft reinforcement.

NOTE

If necessary, it is possible to temporarily locate the reinforcement on the outer side of the support in order to countermark all the holes. Pay attention to achieve the correct alignment.

- 4.12 With reference to Figure 1 View B2 and Figure 2 View C, temporarily locate the AFT reinforcement P/N 8G3340P01551 and the FWD reinforcement P/N 8G3340P01651 in position on the searchlight support assy P/N 8G3340A16731.
- 4.13 With reference to Figure 1 View B2 and Figure 2 View C, countermark and drill n°51 rivet holes thru the searchlight support assy P/N 8G3340A16731.

NOTE

Fix the AFT reinforcement using adhesive making sure to fill with it all the possible empty spaces under the reinforcement and further retain using rivets and washers. It is possible to slightly trim the AFT reinforcement to let the central hole coincide with the support hole.

- 4.14 With reference to Figure 1 View B2 and Figure 2 Section F-F, install the AFT reinforcement P/N 8G3340P01551 on the searchlight support assy P/N 8G3340A16731 by means of adhesive (C021), n°17 rivets P/N A298A04TW03, n°7 rivets P/N A298A04TW04 and n°24 washers P/N NAS620C5L.

NOTE

Fix the FWD reinforcement using adhesive and further retain using rivets and washers.

- 4.15 With reference to Figure 2 View C and Section E-E, install the FWD reinforcement P/N 8G3340P01651 on the searchlight support assy P/N 8G3340A16731 by means of adhesive (C021), n°26 rivets P/N A298A04TW03, n°1 rivet P/N A298A04TW04 and n°27 washers P/N NAS620C5L.
- 4.16 With reference to Figure 2 Section F-F, install n°7 anchor nuts P/N A407A3C2P on the AFT reinforcement P/N 8G3340P01551 by means of adhesive C021.
- 4.17 With reference to Figure 1 View B1, re-install the existing support P/N 3G3340A03551 previously removed on the searchlight support assy P/N 8G3340A16731 by means of adhesive (C021).
- 4.18 With reference to Figure 1 View B1, re-install the existing cover

P/N 3G3340A01953 on the searchlight support assy P/N 8G3340A16731 by means of existing fasteners previously removed.

- 4.19 With reference to Figure 1 View B, re-install the existing cover P/N 3G3340A03452 on the searchlight support assy P/N 8G3340A16731 by means of existing fasteners previously removed.
- 4.20 With reference to Figure 2 View D, remark the reworked searchlight support assy as P/N 8G3340P01011 by means of an indelible pen.

NOTE

Skip following steps 5 and 6 if the searchlight support assy is kept in stock.

- 5. In accordance with AMP DM 89-A-33-47-03-00A-720A-B, install the power conditioning interface unit on the reworked searchlight support assy.
- 6. Re-install the reworked searchlight support assy on the helicopter as described in the following procedure:
 - 6.1 In accordance with AMP DM 89-A-33-47-02-00A-720A-A, install the searchlight support assy on the helicopter.
 - 6.2 In accordance with AMP DM 89-A-33-47-01-02A-720A-A, install the dovetail mount adapter on the searchlight support assy.
 - 6.3 In accordance with AMP DM 89-A-33-47-01-00A-720A-A, install the search light assembly on the searchlight support assy.
- 7. In accordance with weight and balance changes, update the Chart A (see Rotorcraft Flight Manual, Part II, section 6). Insert the line just after the one referred to searchlight Trakka removable parts.
- 8. Return the helicopter to flight configuration and record for compliance with Part I of this Service Bulletin on the helicopter logbook.
- 9. 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 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-06-41-00-00A-010A-A gain access to the area affected by the installation.
3. With reference to Figure 4 View H, remove and retain for later reuse the retaining safety pin P/N 037310.
4. With reference to Figure 4 View H, tighten the dovetail retaining block bolts P/N 037309 to a torque of 5.5 ± 0.3 Nm.

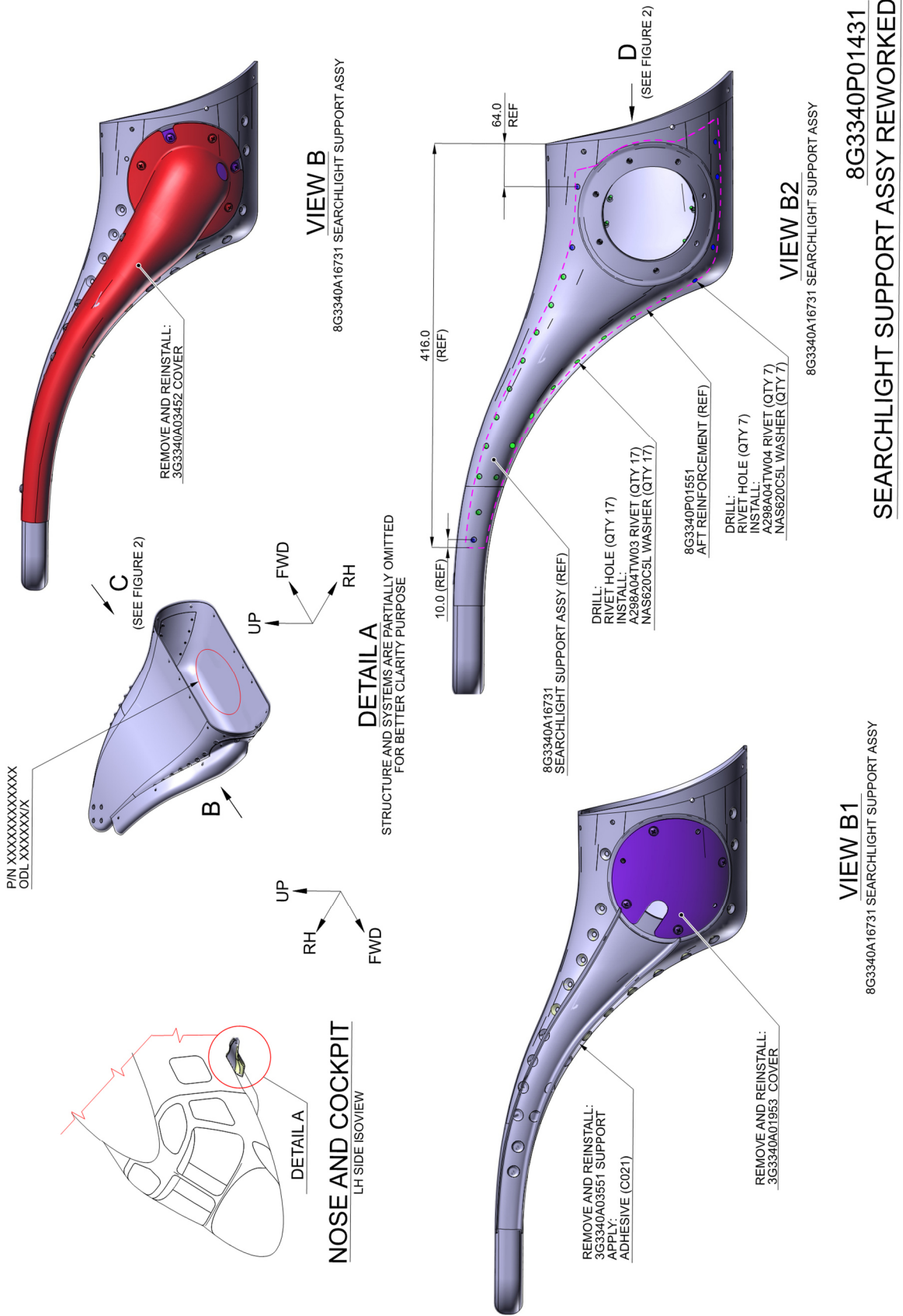
NOTE

If the holes in the retaining bolts do not line up, tighten the two bolts until the holes line up and the safety pin can be inserted. Do not loosen the bolts or retaining them more than 6.5 Nm to achieve this.

5. With reference to Figure 4 View H, insert the retaining safety pin P/N 037310 through the matching holes in the heads of the dovetail retaining bolts P/N 037309 in the direction shown in the illustration.
6. Return the helicopter to flight configuration and record for compliance with Part II of this Service Bulletin on the helicopter logbook.
7. 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".



8G3340P01431
SEARCHLIGHT SUPPORT ASSY REWORKED

Figure 1

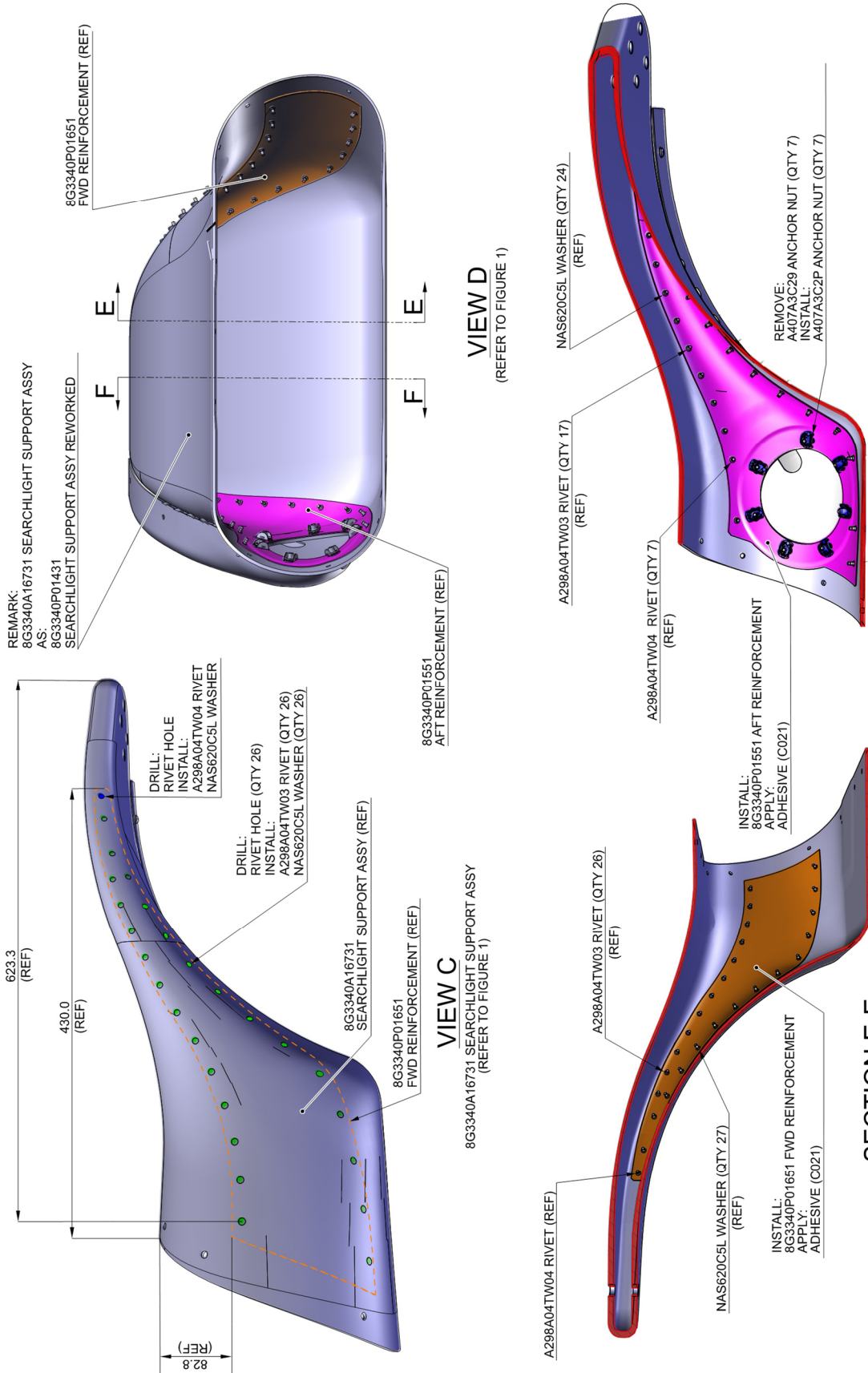
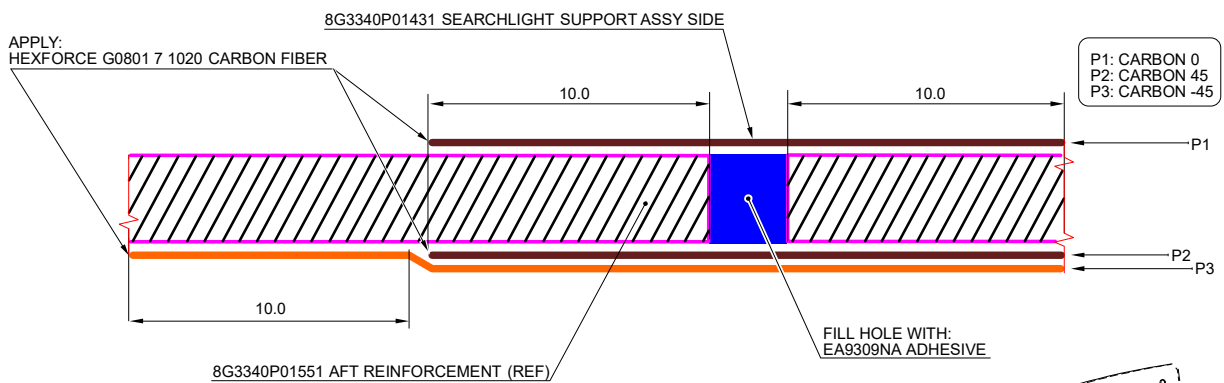
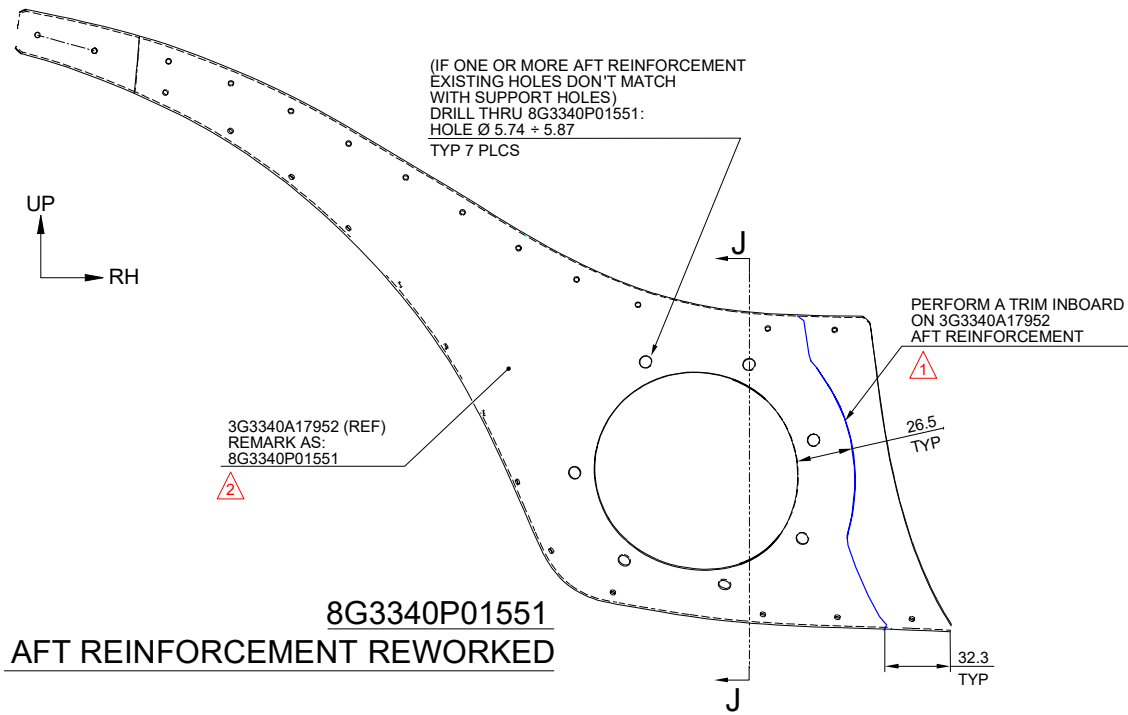
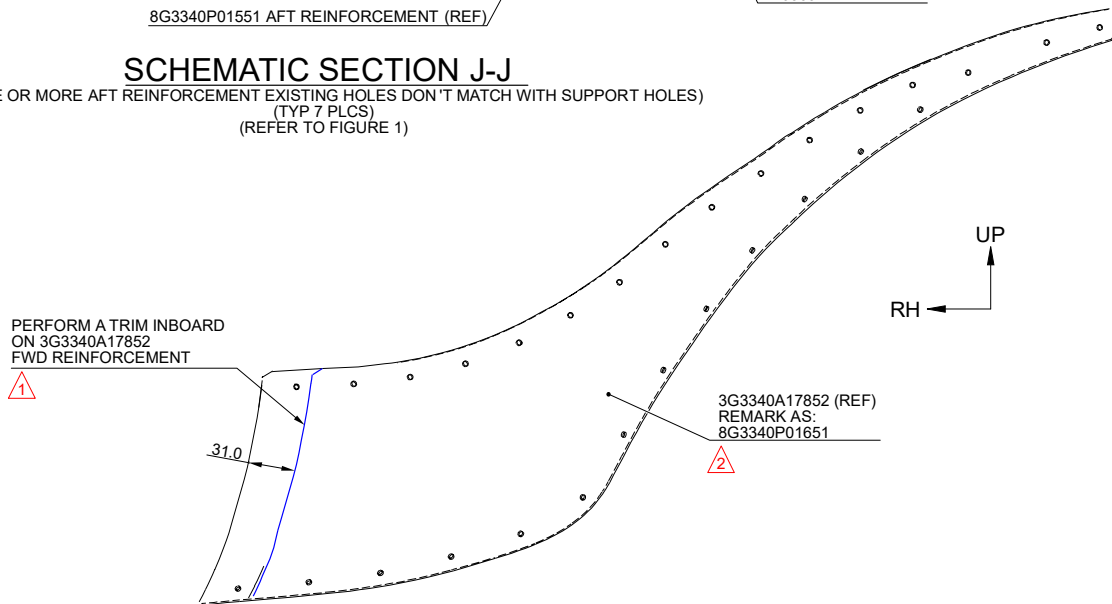


Figure 2



SCHEMATIC SECTION J-J

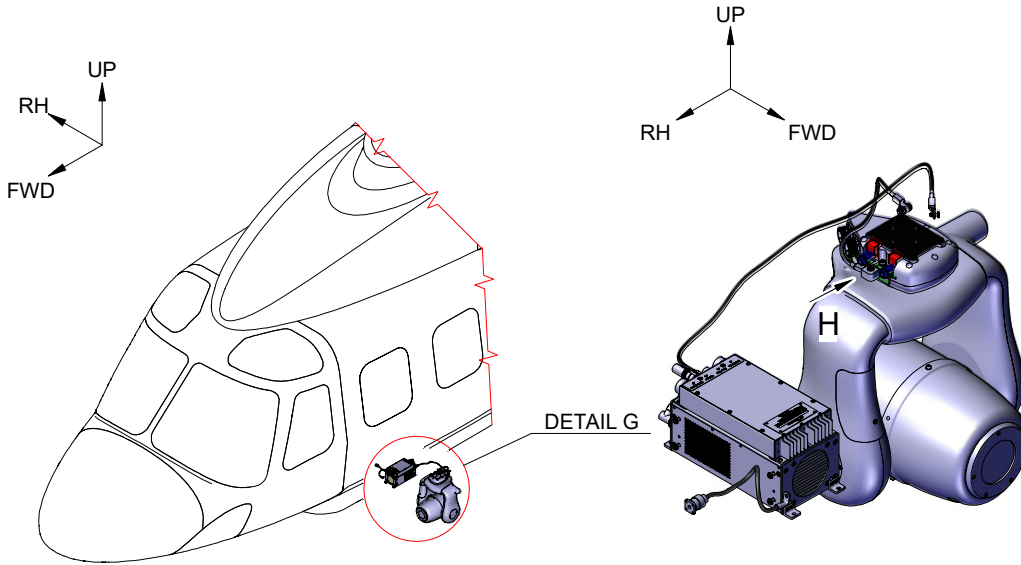
(IF ONE OR MORE AFT REINFORCEMENT EXISTING HOLES DON'T MATCH WITH SUPPORT HOLES)
(TYP 7 PLCS)
(REFER TO FIGURE 1)



8G3340P01651
FWD REINFORCEMENT REWORKED

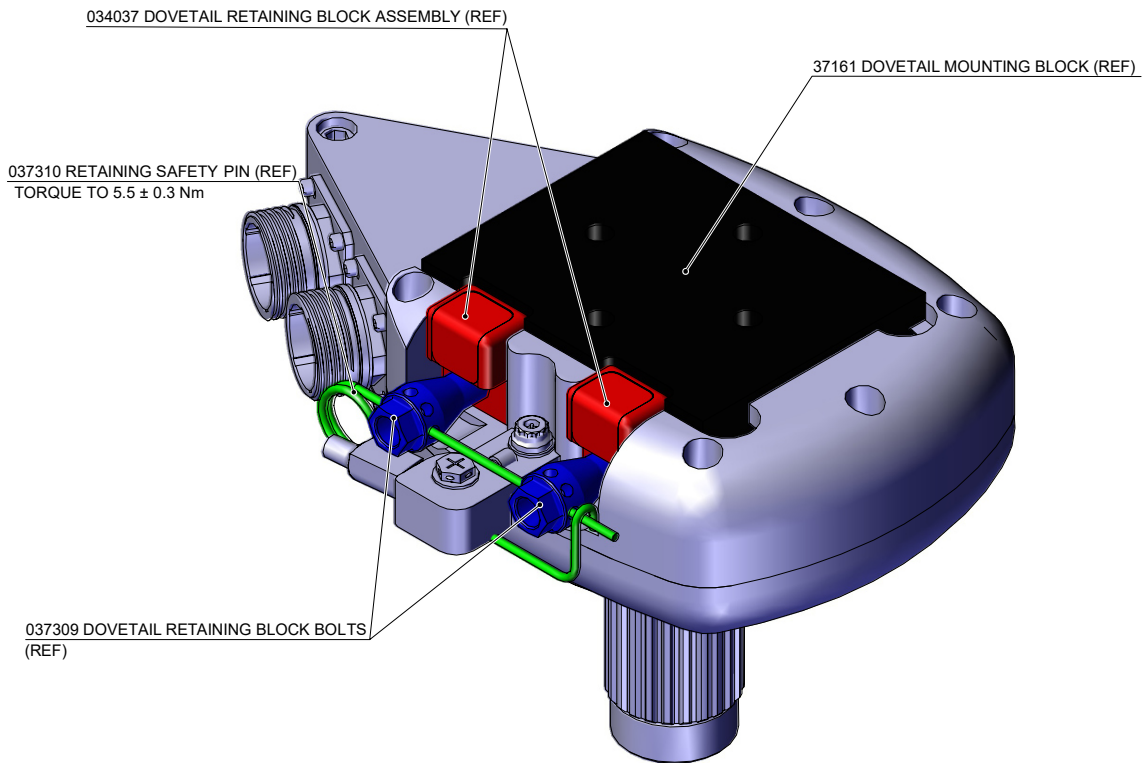
- 1 RESTORE PROTECTIVE TREATMENT OF ANY CUT EDGES
- 2 ADJACENT TO EXISTING PART MARK

Figure 3



NOSE AND COCKPIT
LH SIDE ISOVIEW

DETAIL G
STRUCTURE AND SYSTEMS ARE PARTIALLY OMITTED FOR BETTER CLARITY PURPOSE



VIEW H

STRUCTURE AND SYSTEMS ARE PARTIALLY OMITTED FOR BETTER CLARITY PURPOSE

Figure 4

