
SERVICE BULLETIN

N° 139-601

DATE: December 27, 2021

REV. : /

TITLE

ATA 33 – INSPECTION AND REINFORCEMENT OF SEARCHLIGHT SUPPORT

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: Support searchlight assy P/N 3G3340A01133 installed on AW139 helicopters up to S/N 31939 and S/N 41576, equipped with Trakka A800 searchlight kits P/N 4G3340F02411, P/N 4G3340F02412, P/N 4G3340F02413, P/N 4G3340F02414 or Trakka searchlight kit P/N 4G3340F03011.

Support searchlight assy P/N 3G3340A01133 kept in stock.

Support searchlight assy P/N 3G3340A01133 installed on AW139 helicopters that have installed the support searchlight assy after the issue of this Service Bulletin.

Part II: Support searchlight assy P/N 3G3340A01133 having an “Ordine di Lavoro” indicated in Table 1.

NOTE

The “Ordine di Lavoro” is marked inside the support searchlight assy (refer to Figure 1 Detail A).

426241	428797/1	429250/2	432080/3	434608	438918
426241/1	428797/2	429250/3	432080/4	434608/1	438918/1
426241/2	428797/3	429250/4	432080/5	434609	438918/2
426241/3	428797/4	429755	432156	434609/1	439285
426242	428953	429755/1	432156/1	434610	439285/1
426242/1	428953/1	429755/2	432156/2	434610/1	439285/2
427057	428953/2	429755/3	434349	435306	439924/1
427057/1	429250	432080	434607	436024	439925
428797	429250/1	432080/1	434607/3	436941	439925/1

Table 1: Affected support searchlight assy – Ordine di Lavoro

B. COMPLIANCE

Part I

Within and not later than 100 flight hours or 3 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 prescribe the inspection and, subsequently, the installation of searchlight support variant P/N 3G3340P01011.

E. DESCRIPTION

As a consequence of a recorded case of damaged Trakka searchlight support, Leonardo Helicopter has developed the searchlight support variant P/N 3G3340P01011 in order to improve the strength of the part.

The variant consists of an AFT reinforcement P/N 3G3340A17952 and a FWD reinforcement P/N 3G3340A17852 to be installed inside the searchlight support assy.

Part I of this Service Bulletin provides information to identify affected parts and to perform a visual inspection of the searchlight support in order to find possible damages.

Part II provides the instruction to install the searchlight support variant P/N 3G3340P01011.

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 two (2) MMH;

Part II: approximately thirty-five (35) MMH;

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

H. WEIGHT AND BALANCE

PART I

N.A.

PART II

WEIGHT (Kg)	ARM (mm)	MOMENT (Kgmm)
		0.835
LONGITUDINAL BALANCE	3591	2998.485
LATERAL BALANCE	-1266	-1265.165

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-L-33-49-05-00A-520A-K	Search light mount - Remove procedure	I, II
DM04 39-M-33-49-05-00A-520A-A	Search light mount - Remove procedure	I, II
DM05 39-L-33-49-04-00A-520A-K	Power Conditioning Interface Unit (PCIU) - Remove procedure	I, II
DM06 39-M-33-49-04-00A-520A-A	Power Conditioning Interface Unit (PCIU) - Remove procedure	I, II
DM07 39-L-33-49-04-00A-720A-K	Power Conditioning Interface Unit (PCIU) - Install procedure	I, II
DM08 39-M-33-49-04-00A-720A-A	Power Conditioning Interface Unit	I, II

<u>DATA MODULE</u>	<u>DESCRIPTION</u>	<u>PART</u>
	(PCIU) - Install procedure	
DM09	39-L-33-49-05-00A-720A-K Search light mount - Install procedure	I, II
DM10	39-M-33-49-05-00A-720A-A Search light mount - Install procedure	I, II
DM11	39-M-33-49-01-00A-520A-A Search light assembly - Remove procedure	II
DM12	39-L-33-49-01-02A-520A-K Dovetail mount (search light assembly) - Remove procedure	II
DM13	39-L-33-49-01-00A-520A-K Search light assembly - Remove procedure	II
DM14	39-M-33-49-01-01A-520A-A Dovetail mount (search light assembly) - Remove procedure	II
DM15	39-L-33-49-01-02A-720A-K Dovetail mount (search light assembly) - Install procedure	II
DM16	39-L-33-49-01-00A-720A-K Search light assembly - Install procedure	II
DM17	39-M-33-49-01-01A-720A-A Dovetail mount (search light assembly) - Install procedure	II
DM18	39-M-33-49-01-00A-720A-A Search light assembly - Install procedure	II

Following Data Modules refer to CSRP:

<u>DATA MODULE</u>	<u>DESCRIPTION</u>	<u>PART</u>
DM19	CSRP-A-51-23-06-00A-663A-D Wet layup impregnation process - Standard repair procedure	II
DM20	CSRP-A-51-00-00-00A-013A-D List of consumables for repairs - Numeric index	II
DM21	CSRP-A-51-21-02-00A-028A-D Primer application - General	II

2) ACRONYMS & ABBREVIATIONS

AMD I	Aircraft Material Data Information
AMP	Aircraft Maintenance Publication
DM	Data Module
DOA	Design Organization Approval
EASA	European Aviation Safety Agency
IPD	Illustrated Parts Data
LH	Leonardo Helicopters
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

N.A.

PART II

#	P/N	ALTERNATIVE P/N	DESCRIPTION	Q.TY	LVL	NOTE	LOG P/N
1	3G3340P01011		SEARCHLIGHT SUPPORT VARIANT INSTALLATION	REF	.	-	-
2	3G3340P01131		SEARCHLIGHT SUPPORT ASSY REWORKED	REF	..		-
3	3G3340A17852		FWD reinforcement	1	...	-	139-601L1
4	3G3340A17952		AFT reinforcement	1	...	-	139-601L1
6	A298A04TW03		Rivet	60	...	-	139-601L1
7	NAS1720C4L5P		Rivet	1	...	(1)	139-601L1
8	NAS1720C4L4P		Rivet	3	...	(1)	139-601L1
9	NAS1721C4L4P		Rivet	2	...	(1)	139-601L1
10	NAS1721C4L3P		Rivet	2	...	(1)	139-601L1

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
11	199-05-002 Type I, Class 2	Hysol EA9309NA (C231)	AR	(2)(3)	II
12	MMM-A-132, Type 2, Class II	EA 9309.3NA AERO (C023)	AR	(2)(3)	II
13	A147A2209JB1320	Rubber	AR	(4)	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
139-601L1	1		II

NOTE

(1) It is allowed to use over size rivet in case of ovalized holes.

- (2) Item to be procured as local supply.
- (3) The two adhesives are alternative.
- (4) Item to be ordered only if necessary.

B. SPECIAL TOOLS

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

#	P/N	DESCRIPTION	Q.TY	NOTE	PART
11	Commercial	Indelible pen	1	(2)	II

Refer also to ITEP for the special tools required to comply with the DM referred to 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) Let the adhesive cure at room temperature for at least 24 hours, unless otherwise specified.
- d) All lengths are in mm.

PART I

NOTE

Perform following steps 1 thru 3 only if the searchlight support assy is installed on the helicopter.

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.

NOTE

The removal of the searchlight assembly and the dovetail mount from the searchlight assy it's not required to perform the visual inspection.

NOTE

Refer to AMP DM 39-L-33-49-05-00A-520A-K for kit Trakka A800 searchlight P/N 4G3340F02411, P/N 4G3340F02412, P/N 4G3340F02413 or P/N 4G3340F02414 and to AMP DM 39-L-33-49-05-00A-520A-K for kit Trakka searchlight P/N 4G3340F03011.

2. In accordance with AMP DM 39-L-33-49-05-00A-520A-K or with AMP DM 39-M-33-49-05-00A-520A-A, remove the searchlight support assy from the helicopter.
3. If necessary, in accordance with AMP DM 39-L-33-49-04-00A-520A-K or with AMP DM

39-M-33-49-04-00A-520A-A remove the power conditioning interface unit from the searchlight support assy.

4. With reference to Figure 1 Detail A, check the “Ordine di Lavoro” marked inside the support searchlight assy.

NOTE

Perform following step 5 only if the “Ordine di Lavoro” is among those listed in the Table 1 in the Effectivity paragraph. Otherwise skip to step 7.

5. Perform a visual inspection of the searchlight support assy and check for any crack or damage in the FWD area of the support.
6. In case of finding, record for compliance with Part I of this Service Bulletin on the helicopter logbook and immediately skip to Part II of this Service Bulletin. Otherwise, perform following Step 7.

NOTE

Skip following steps 7 and 8 if the searchlight support assy is kept in stock.

7. If necessary, in accordance with AMP DM 39-L-33-49-04-00A-720A-K or AMP DM 39-M-33-49-04-00A-720A-A, install the power conditioning interface unit on the searchlight support assy.

NOTE

Refer to AMP DM 39-L-33-49-05-00A-720A-K for kit Trakka A800 searchlight P/N 4G3340F02411, P/N 4G3340F02412, P/N 4G3340F02413 or P/N 4G3340F02414 and to AMP DM 39-M-33-49-05-00A-720A-A for kit Trakka searchlight P/N 4G3340F03011.

8. In accordance with AMP DM 39-L-33-49-05-00A-720A-K or AMP DM 39-M-33-49-05-00A-720A-A, install the searchlight support assy on the helicopter.
9. Return the helicopter to flight configuration, if required, and record for compliance with Part I of this Service Bulletin on the helicopter logbook.
10. 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

NOTE

Perform following steps 1 thru 3 only if the searchlight support assy is installed on the helicopter.

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.

NOTE

Perform following step 2 if helicopter is equipped with kit Trakka A800 searchlight P/N 4G3340F02411, P/N 4G3340F02412, P/N 4G3340F02413 or P/N 4G3340F02414.

2. Remove the searchlight support assy from the helicopter as described in the following procedure:
 - 2.1 In accordance with AMP DM 39-L-33-49-01-00A-520A-K, remove the search light assembly from the searchlight support assy 3G3340A01133 from the helicopter.
 - 2.2 In accordance with AMP DM 39-L-33-49-01-02A-520A-K, remove the dovetail mount from the searchlight support assy.
 - 2.3 In accordance with AMP DM 39-L-33-49-05-00A-520A-K, remove the searchlight support assy from the helicopter.
 - 2.4 In accordance with AMP DM 39-L-33-49-04-00A-520A-K, remove the power conditioning interface unit from the searchlight support assy.

NOTE

Perform following step 3 if helicopter is equipped with kit Trakka searchlight P/N 4G3340F03011.

3. Remove the searchlight support assy from the helicopter as described in the following procedure:
 - 3.1 In accordance with AMP DM 39-M-33-49-01-00A-520A-A, remove the search light assembly from the searchlight support assy.
 - 3.2 In accordance with AMP DM 39-M-33-49-01-01A-520A-A, remove the dovetail mount from the searchlight support assy.
 - 3.3 In accordance with AMP DM 39-M-33-49-05-00A-520A-A, remove the searchlight support assy from the helicopter.
 - 3.4 In accordance with AMP DM 39-M-33-49-04-00A-520A-A remove the power conditioning interface unit from the searchlight support assy.

4. With reference to Figures 1 and 2, gain access to the area affected by the installation and perform searchlight support assy rework P/N 3G3340P01131 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, n°5 screws P/N MS27039-1-09, n°3 screws P/N MS27039-1-11 and n°8 washers P/N NAS1149C0316R from the searchlight support assy.
- 4.2 With reference to Figure 1 View B1, remove and retain for later reuse the cover P/N 3G3340A01953, n°4 screws P/N MS27039-1-10 and n°4 washers P/N NAS1149C0316R from the searchlight support assy.
- 4.3 With reference to Figure 1 Detail A, remove the rubber P/N A147A2209JB1320.

NOTE

Remove the support P/N 3G3340A03551 using a spatula. Pay attention to not damage the parts during the removal. Sand parts surfaces to remove extra material remained on them.

- 4.4 With reference to Figure 1 View B1, remove and retain for later reuse the support P/N 3G3340A03551 and remove and discard the rivet P/N NAS1720C4L5P, n°3 rivets P/N NAS1720C4L4P and n°2 rivets P/N NAS1721C4L4P from the searchlight support assy.
- 4.5 With reference to Figure 2 Section F-F, temporary locate the AFT reinforcement P/N 3G3340A17952 in its position inside the searchlight support assy.

NOTE

If one or more AFT reinforcement existing holes don't match with support holes, perform following Step 4.6 to align the two parts. Otherwise, skip to Step 4.7

- 4.6 Modify AFT reinforcement P/N 3G3340A17952 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.

- 4.6.1 With reference to Figure 3 Section G-G, apply a layer (P1) of Carbon fiber dry fabric HexForce G0801 7 1020 and let it cure.
- 4.6.2 With reference to Figure 3 Section G-G, fill 7 screw holes with EA9309NA.
- 4.6.3 With reference to Figure 3 Section G-G, apply a layer (P2 and P3) of Carbon fiber dry fabric HexForce G0801 7 1020 and let them cure.
- 4.6.4 In accordance with CSRP-A-51-21-02-00A-028A-D, protect repaired area with primer.
- 4.6.5 With reference to Figure 2 Section F-F, countermark and drill n°7 screw holes $\varnothing 5.74 \div 5.86$ thru the aft reinforcement.

NOTE

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

- 4.7 With reference to figure 2 Section F-F, countermark 26 rivet holes on the searchlight support assy.

NOTE

Fill with adhesive all the possible empty spaces under the AFT reinforcement. It is possible to slightly trim the AFT reinforcement to let the central hole coincide with the support hole.

- 4.8 With reference to Figure 1 View B2 and in accordance with dimension shown, install the AFT reinforcement P/N 3G3340A17952 on the searchlight support assy by means of adhesive (C231).
- 4.9 With reference to Figure 1 View B2, fix the AFT reinforcement P/N 3G3340A17952 on the searchlight support assy by means of n°26 rivets

P/N A298A04TW03 and n°2 rivets P/N NAS1721C4L4P.

- 4.10 With reference to Figure 3 Detail X, temporary locate the FWD reinforcement P/N 3G3340A17852 and trim it as indicated.

NOTE

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

- 4.11 With reference to figure 2 Section E-E, countermark 29 rivet holes on the searchlight support assy.
- 4.12 With reference to Figure 2 View C and in accordance with dimension shown, install the FWD reinforcement P/N 3G3340A17852 on the searchlight support assy by means of adhesive (C231).
- 4.13 With reference to Figure 2 View C, fix the FWD reinforcement P/N 3G3340A17852 on the searchlight support assy by means of n°29 rivets P/N A298A04TW03 and n°2 rivets P/N NAS1721C4L3P.
- 4.14 With reference to Figure 1 Detail A, re-install the rubber P/N A147A2209JB1320.
- 4.15 With reference to Figure 1 View B1, place and install the support P/N 3G3340A03551 previously removed on the searchlight support assy by means of adhesive (C231).
- 4.16 With reference to Figure 1 View B1, fix the support P/N 3G3340A03551 on the searchlight support assy by means of the rivet P/N NAS1720C4L5P and n°3 rivets P/N NAS1720C4L4P.
- 4.17 With reference to Figure 1 View B1, install the cover P/N 3G3340A01953 previously removed on the searchlight support assy by means of n°4 screws P/N MS27039-1-10 and n°4 washers P/N NAS1149C0316R previously removed.
- 4.18 With reference to Figure 1 View B, install the cover P/N 3G3340A03452 previously removed on the searchlight support assy by means of n°5 screws P/N MS27039-1-09, n°3 screws P/N MS27039-1-11 and n°8 washers P/N NAS1149C0316R previously removed.
- 4.19 With reference to Figure 2 Detail D, Section E-E and Section F-F, remark the reworked searchlight support assy as P/N 3G3340P01131 by means of an indelible pen.

NOTE

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

5. If necessary, in accordance with AMP DM 39-L-33-49-04-00A-720A-K, install the power conditioning interface unit on the searchlight support assy.

NOTE

Perform following step 6 only if helicopter is equipped with kit Trakka A800 searchlight P/N 4G3340F02411 or P/N 4G3340F02412 or P/N 4G3340F02413 or P/N 4G3340F02414.

6. Re-install the searchlight support assy on the helicopter as described in the following procedure:
 - 6.1 In accordance with AMP DM 39-L-33-49-05-00A-720A-K, install the searchlight support assy on the helicopter.
 - 6.2 In accordance with AMP DM 39-L-33-49-01-02A-720A-K, install the dovetail mount on the searchlight support assy.
 - 6.3 In accordance with AMP DM 39-L-33-49-01-00A-720A-K, install the search light assembly on the searchlight support assy.

NOTE

Perform following step 7 only if helicopter is equipped with kit Trakka searchlight P/N 4G3340F03011.

7. Re-install the searchlight support assy on the helicopter as described in the following procedure:
 - 7.1 In accordance with AMP DM 39-M-33-49-05-00A-720A-A, install the searchlight support assy on the helicopter.
 - 7.2 In accordance with AMP DM 39-M-33-49-01-01A-720A-A, install the dovetail mount on the searchlight support assy.
 - 7.3 In accordance with AMP DM 39-M-33-49-01-00A-720A-A, install the search light assembly on the searchlight support assy.
8. In accordance with weight and balance changes, update the Chart A (see Rotorcraft Flight Manual, Part II, section 6).
9. Return the helicopter to flight configuration and record for compliance with Part II of this Service Bulletin on the helicopter logbook.

10. 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”.

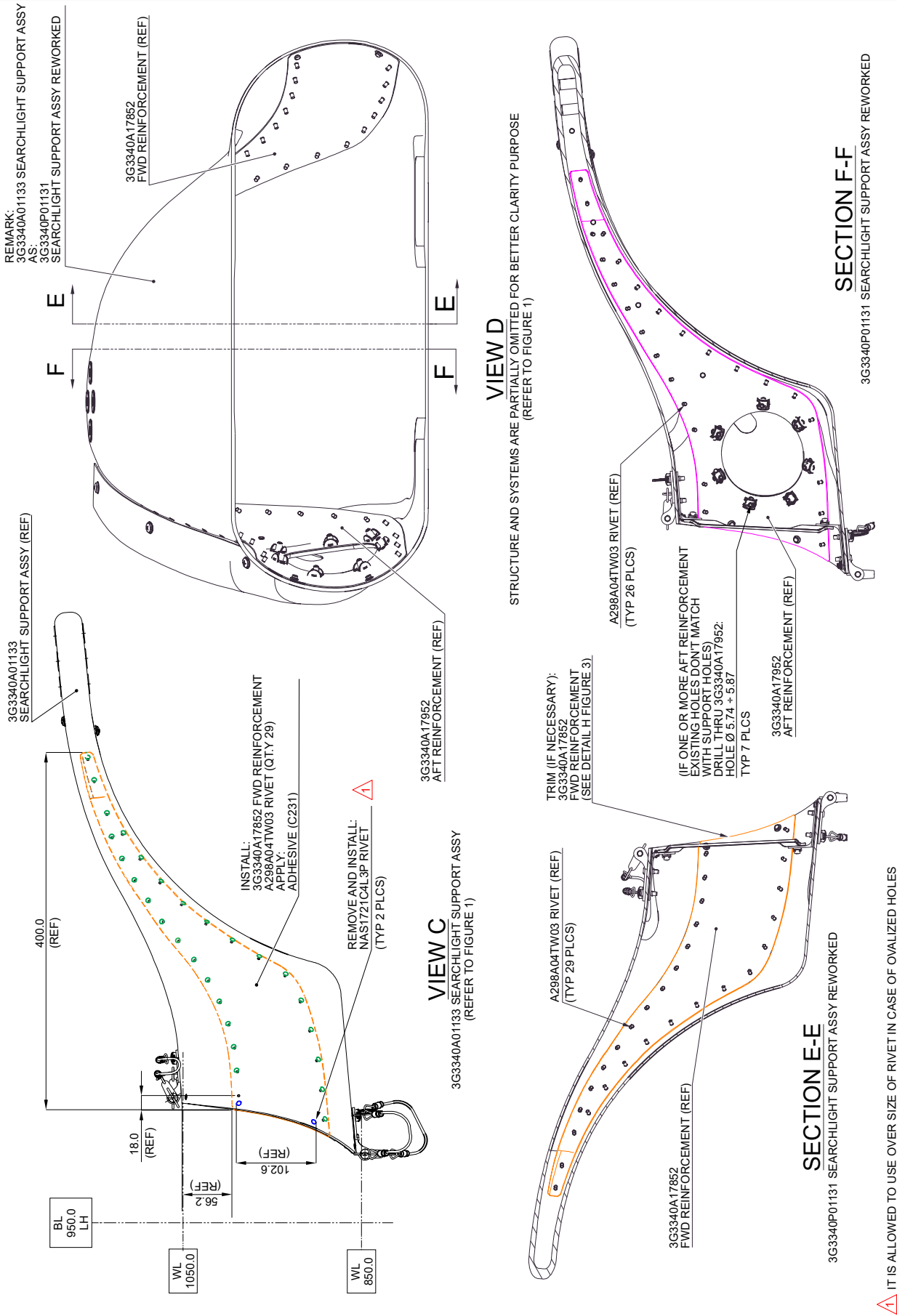
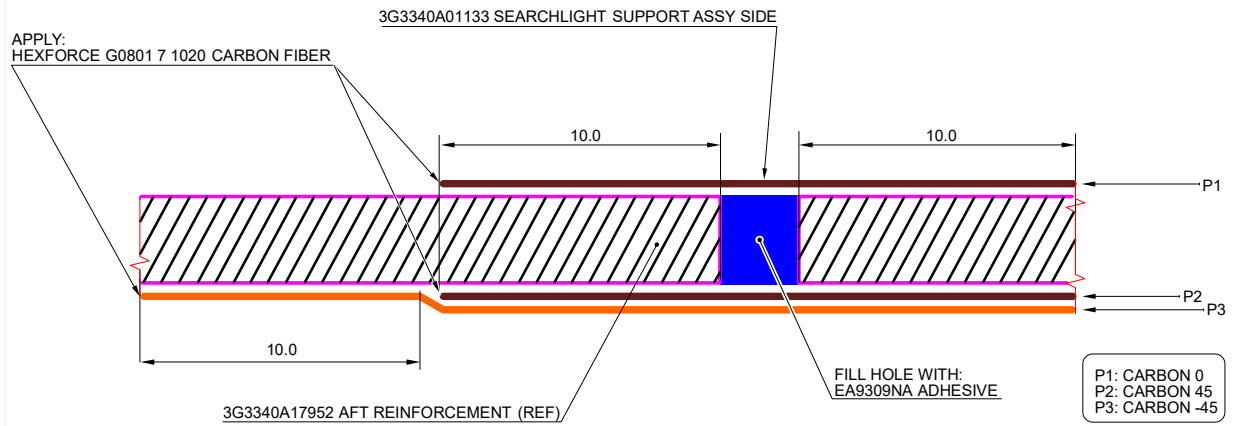


Figure 2

▲ IT IS ALLOWED TO USE OVER SIZE OF RIVET IN CASE OF OVALIZED HOLES



SCHEMATIC SECTION G-G

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

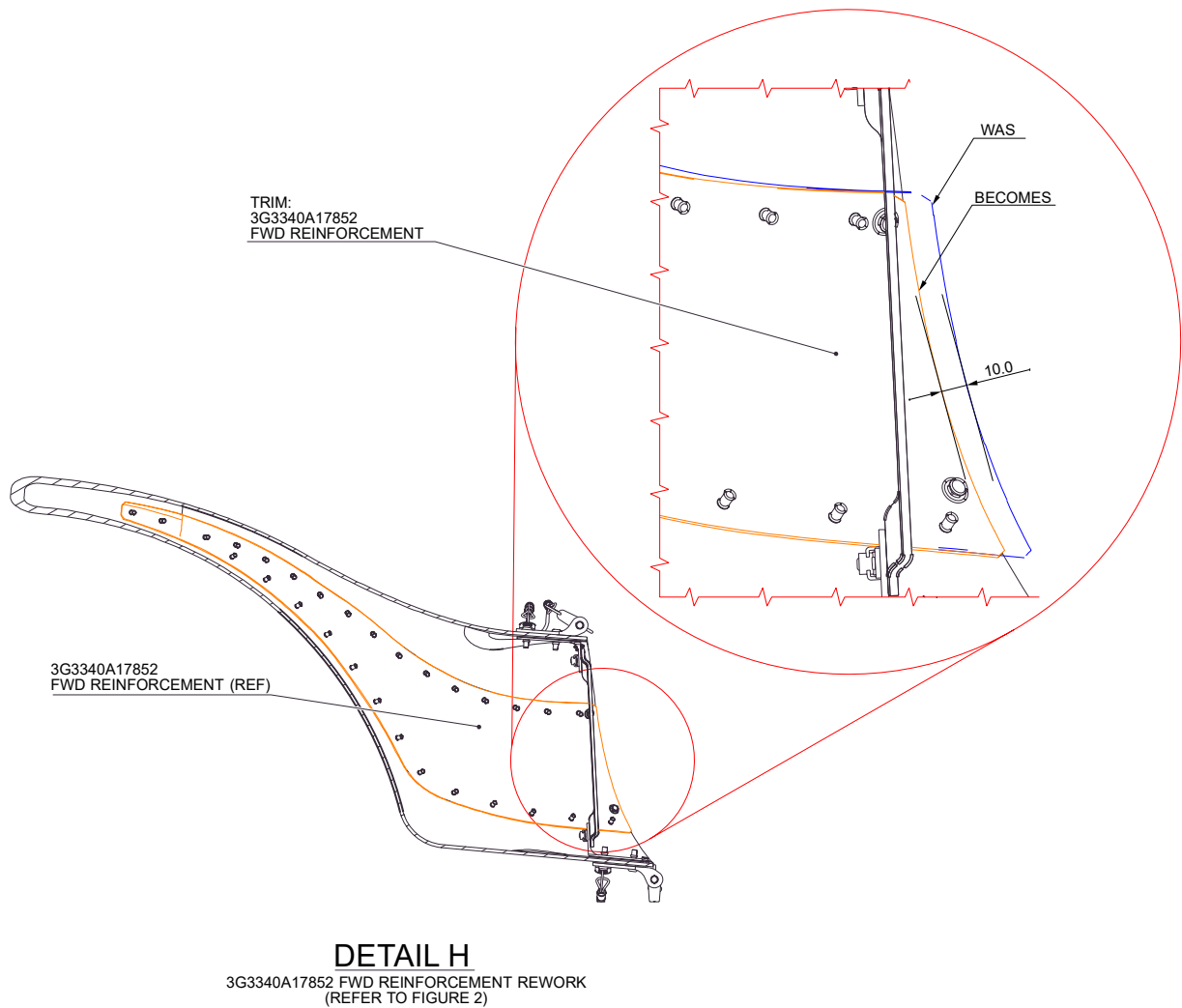


Figure 3

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.