
SERVICE BULLETIN

N° 189-303

DATE: March 1, 2022

REV. : /

TITLE

**ATA 25 - EMERGENCY LIFE-RAFT SYSTEM, ONE-TIME UPGRADE FOR ACTUATION
PULLEYS INSTALLATION**

REVISION LOG

First Issue

1. PLANNING INFORMATION

A. EFFECTIVITY

- All AW189 helicopters equipped with the life raft assemblies LH/RH listed below not already marked with Aero Sekur Service Bulletin SB-189-25-010 on component label and logcard.
- All the life raft assemblies LH/RH kept in stock listed below not already marked with Aero Sekur Service Bulletin SB-189-25-010 on component label and logcard.

Description	P/N (Vendor P/N)	S/N affected
Life raft assy LH	P/N 8G2560V00131 (P/N 310844A)	up to S/N 00117 included
Life raft assy RH	P/N 8G2560V00231 (P/N 310845A)	up to S/N 00110 included

B. COMPLIANCE

Within and not later than 1 year or at 1 year life raft scheduled inspection (AMPI Chapter 5 task 95-04) whichever occurs first after the issue of this Service Bulletin. For life raft assemblies kept in stock, before installation on helicopter.

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 the improved upper and lower pulleys on AW189 life rafts.

E. DESCRIPTION

LHD received a report of an incorrect installation during the manufacturing process of the actuation system of the AW189 Emergency Life raft system. In response to this occurrence LHD has prepared an inspection procedure to check all the in-service raft and to restore the correct installation as necessary (ref. to SB189-279).

To increment the reliability of the system and to prevent further occurrences, the life raft supplier developed an updated configuration of the actuation pulleys via the service bulletin SB-189-25-010.

The supplier SB introduces new pulleys, an upper pulley and two lower pulleys, with a different design for LH and RH ELS to facilitate the installation procedure. The new design replaces the previous Upper pulley P/N 309774A that is a single component mounted mirrored on both LH and RH ELS installations.

For a detailed description of the new actuation pulleys, please refer to Section 1.E of Aero Sekur SB189-25-010 (refer to Annex A).

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 0.5 MMH are deemed necessary.

MMH are based on hands-on time and can change with 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 89-A-00-20-00-00A-120A-A	Helicopter on ground for a safe maintenance.	-
DM02 89-A-25-63-01-00A-520A-A	Left forward upper fairing - Remove procedure	-
DM03 89-A-25-63-01-00A-720A-A	Left forward upper fairing - Install procedure	-

<u>DATA MODULE</u>	<u>DESCRIPTION</u>	<u>PART</u>
DM04 89-A-25-63-02-00A-520A-A	Left forward lower fairing - Remove procedure	-
DM05 89-A-25-63-02-00A-720A-A	Left forward lower fairing - Install procedure	-
DM06 89-A-25-63-03-00A-520A-A	Left life raft container - Remove procedure	-
DM07 89-A-25-63-03-00A-720A-A	Left life raft container - Install procedure	-
DM08 89-A-25-63-05-00A-520A-A	Right forward upper fairing - Remove procedure	-
DM09 89-A-25-63-05-00A-720A-A	Right forward upper fairing - Install procedure	-
DM10 89-A-25-63-06-00A-520A-A	Right forward lower fairing - Remove procedure	-
DM11 89-A-25-63-06-00A-720A-A	Right forward lower fairing - Install procedure	-
DM12 89-A-25-63-07-00A-520A-A	Right life raft container - Remove procedure	-
DM13 89-A-25-63-07-00A-720A-A	Right life raft container - Install procedure	-

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
ELS	Emergency Life-Raft Systems
LHD	Leonardo Helicopters
MMH	Maintenance Man Hours
P/N	Part Number
S/N	Serial Number

Aero Sekur Component Maintenance Manual (CMM) 25-61-16, Rev.1,
dated 20 Dec. 2013.

3) ANNEX

Annex A Aero Sekur Service Bulletin SB-189-25-010.

J. PUBLICATIONS AFFECTED

AW189 Illustrated Parts Data (IPD)

Aero Sekur Component Maintenance Manual (CMM) 25-61-16.

K. SOFTWARE ACCOMPLISHMENT SUMMARY

N.A.

2. MATERIAL INFORMATION

A. REQUIRED MATERIALS

1) PARTS

NOTE

Customers are required to order the AW189 ELS Upgrade kit P/N 318926A.

The parts required for compliance with this Service Bulletin are listed in Section 2.A of Aero Sekur SB189-25-010 (refer to Annex A).

2) CONSUMABLES

The consumables required for compliance with this Service Bulletin are listed in Section 2.A of Aero Sekur SB189-25-010 (refer to Annex A).

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.

B. SPECIAL TOOLS

The special tools required for compliance with this Service Bulletin are listed in Section 2.B of Aero Sekur SB189-25-010 (refer to Annex A).

C. INDUSTRY SUPPORT INFORMATION

Owners/Operators who comply with the instructions of this 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 & Special Tools.

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

CASE 1: Customers who are authorized to implement the Bulletin have to contact directly the vendor according to procedure reported in the Aero Sekur SB-189-25-010 (refer to Annex A).

CASE 2: Customers who are NOT authorized to implement the Bulletin have to issue the relevant M.M.I.R. to Leonardo Warranty Administration Dpt. to activate the exchange process.

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.

NOTE

Steps 1 and 2 are NOT applicable to life raft assemblies LH/RH kept in stock. Remove them from their packaging storage conditions and then skip to step 3.

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-25-63-03-00A-520A-A or 89-A-25-63-07-00A-520A-A, and with Section 3.B of the attached Service Bulletin SB189-25-010 (refer to Annex A), remove the left or right life raft container from the helicopter.
3. In accordance with Section 3.B of the attached SB-189-25-010 (refer to Annex A), replace:
 - Left lower pulley P/N 309771A with left lower pulley P/N 309771B.
 - Right lower pulley P/N 309887A with right lower pulley P/N 309887B.
 - LH/RH upper pulleys P/N 309774A with LH/RH upper pulleys P/N 309774B.
4. In accordance with Section 3.C of the attached SB-189-25-010 (refer to Annex A), remark the parts and record for compliance with this SB on the component logcard.
5. Remove all the tools and other items from the work area.
6. In accordance with AMP DM 89-A-25-63-03-00A-720A-A or 89-A-25-63-07-00A-720A-A and with Section 3.B of the attached Service Bulletin SB-189-25-010 (refer to Annex A), install the left or right life raft container to the helicopter.
7. Return the helicopter to flight configuration.
8. 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".

ANNEX A

AERO SEKUR SERVICE BULLETIN SB-189-25-010

1. PLANNING INFORMATION**A. TITLE**

ATA 25 - Emergency Life-raft System: One-time upgrade for Raft actuation system.

B. EFFECTIVITY

This Service bulletin applies to the units listed below:

P/N 310844A (Leonardo Helicopters P/N 8G2560V00131), up to S/N 00117 included;

P/N 310845A (Leonardo Helicopters P/N 8G2560V00231), up to S/N 00110 included.

C. CONCURRENT REQUIREMENTS

N.A.


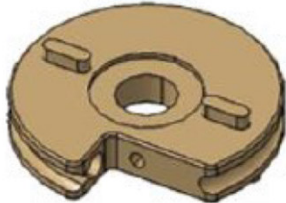


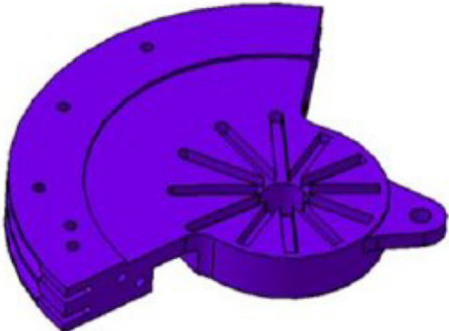
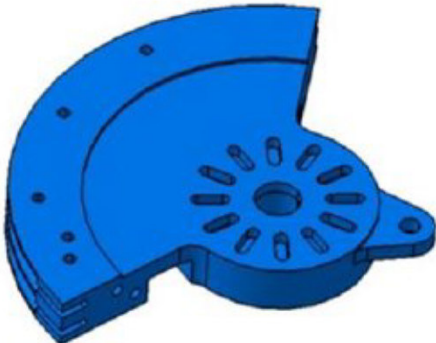
D. REASON

The purpose of this Service Bulletin is to provide the P/N of a new kit, designed to upgrade Upper and Lower Pulleys to be installed on AW189 Liferrafts and to give instruction for their proper installation on the assembly.

E. DESCRIPTION

This Service Bulletin introduces the new configuration of actuation pulleys. The previous upper pulley P/N 309774A is a single component mounted specularly on both left-hand and right-hand for ELS installations; this can lead to an incorrect installation of it and special attention must be taken during assembly phase because its position on the Lower pulley varies for left-hand and right-hand installation. An improper installation of Upper pulley P/N 309774A and raft activation cable implies the incorrect functioning of the ELS in emergency condition.

This Service Bulletin provides a new P/Ns for an upgrade kit, containing the new configuration of Upper and Lower Pulleys, to be used to replace the ones for the earlier configuration:

OLD	NEW
	
 <p style="text-align: right;">SYMMETRIC RIBS</p>	 <p style="text-align: right;">ASYMMETRIC RIBS</p>
Upper Pulley P/N 309774A rev.B	Upper Pulley P/N 309774B rev.A
	
Lower Pulleys: PN 309771A Rev D (left installation) PN 309877A Rev D (right installation)	Lower Pulleys: PN 309771B Rev A (left installation) PN 309877B Rev A (right installation)

This Service Bulletin may be accomplished by Authorized helicopter maintenance personnel. It is understood that Trained operators (I level), Authorized Repair Shops (II level) and Manufacturer (III level) are entitled to accomplish this Service Bulletin, where required.

F. COMPLIANCE:

MANDATORY. This service Bulletin shall be accomplished:

Original Issue – 06 May 2021

SB-189-25-010

Revision No.

Page 2 of 9

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- For equipment (refer to paragraph 1.B) held as spares or in the repair loop, before next installation on aircraft.
- For equipment (refer to paragraph 1.B) in-service, refer to the helicopter Type Certificate Holder Service Bulletin.

A Service Bulletin published by AERO SEKUR Company may be recorded as “completed” in the appropriate Log Card only when the following general requirements are satisfied:

1. A mechanic must complete all of the instructions in the Service Bulletin, including the intent therein.
2. The mechanic must correctly use and install all applicable parts supplied with the Service Bulletin kit.
3. The mechanic must apply the information in the Service Bulletin only to items part number, serial number identified in the “Effectivity” section of the Bulletin.
4. The mechanic must use maintenance practices that are identified as acceptable standard practices in the aviation industry and governmental regulations.

AERO SEKUR Company is not responsible for the quality of maintenance performed to comply with this document, unless the maintenance is accomplished by AERO SEKUR or MRO facility approved by AERO SEKUR.

G. APPROVAL:

The content of this document is approved by Leonardo S.p.A. Helicopters (formerly Finmeccanica S.p.A., AgustaWestland S.p.A.), Design Authority of the AW189 Emergency Liferaft System.

H. MANPOWER:

Approximately 0.5 man-hours are required to complete this bulletin.

NOTE: This estimate is based on hands-on time, and may vary with personnel and facilities available.

NOTE: These labor-hours only concern the work described in this Service Bulletin and do not include other maintenance work which may be performed on this occasion.

I. WEIGHT AND BALANCE:

Not applicable.

J. REFERENCES:

Aero Sekur Component Maintenance Manual (CMM) 25-61-16, Rev.1, dated 20 Dec. 2013.

K. PUBLICATION AFFECTED:

Aero Sekur Component Maintenance Manual (CMM) 25-61-16, Rev.1, dated 20 Dec. 2013.

2. MATERIAL INFORMATION**A. MATERIAL**

Table 1 lists materials required for compliance with this Service Bulletin.

PART NAME	P/N	SOURCE	USE
AW189 ELS Upgrade Kit (see Table 2 for breakdown)	318926A	Aero Sekur	To upgrade the Pulleys used on AW189 ELS.
Permanent Marker, Black	-	Local Supply	Consumable material for SB recording.

Table 1 – Materials

P/N	DESCRIPTION	QTY	NOTE
309774B	Upper Pulley	2	
309771B	Lower Pulley (LH Installation)	1	
309877B	Lower Pulley (RH installation)	1	
318502A	Sticky Label, for SB compliance marking	1	Optional use. Only when no space available on id. label.

Table 2 – Kit breakdown

B. TOOLING

Table 3 lists tools required for compliance with this Service Bulletin.

PART NAME	P/N	SOURCE	USE
Wrench, allen, #2.5 mm	-	Local Supply	To remove/install the screw P/N V-G80044
Screwdriver, phillips, #2	-	Local Supply	To remove/install the screw P/N V-G60006

Table 3 - Tooling

C. INDUSTRY SUPPORT INFORMATION

Aero Sekur shall provide the materials in Table 1 (except for commercial and/or local supply material) on a free of charge basis for the Emergency Liferaft Systems listed in paragraph 1.B. No-charge purchase orders for these items must reference this Service Bulletin and must list (by part number and serial number) the units for which the items are to be used.

3. ACCOMPLISHMENT INFORMATION

WARNING: EXERCISE EXTREME CARE BY HOLDING THE RAFT ASSEMBLY AND PAY ATTENTION TO NOT PULL ITS ACTIVATION CABLE. THE HIGH PRESSURE IN THE CHARGED VESSEL MAY CAUSE AN UNEXPECTED FIRING OF THE SUBSYSTEM OR A LEAK OF HIGH-PRESSURE GAS MAY CAUSE INJURY TO PERSONNEL.

CAUTION: ALL INSTALLATIONS MUST BE HANDLED WITH EXTREME CARE DURING ALL WORKING PHASES. ANY OCCURRENCE WHICH MAY POTENTIALLY IMPACT THE EQUIPMENT INTEGRITY MUST BE REPORTED TO THE MAINTENANCE STAFF.

Original Issue – 06 May 2021

SB-189-25-010

Revision No.

Page 4 of 9

AERO SEKUR SpA, Customer Support, via delle Valli, 04011, Aprilia (LT), ITALY, +39.06.97634000, Fax +39.06.9282849
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S.B. N°189-303
 DATE: March 1, 2022
 REVISION: /

NOTE: Instructions below (paragraphs 3.B) are applicable to all liferaft installations (Left-hand and Right-hand). The item identification and part numbers for left-hand installation are written inside square brackets.

A. PRELIMINARY STEPS.

- (1) For storage ELS only, remove them from their packaging storage conditions.

B. RAFT ACTUATION SYSTEM: REPLACEMENT OF PULLEYS PROCEDURE.

- (1) The application of this service bulletin will be performed at the first scheduled maintenance (Ref: Figure 2) or if an incorrect installation of the upper pulley was detected following inspection as per Aero Sekur SB 189-25-009 Rev. 1.
 - (a) If any, carefully remove the ELS from the helicopter according to the applicable Data Module of the Aircraft Maintenance Manual or DISASSEMBLY section of the CMM 25-61-16.

WARNING: AN ACCIDENTAL PULLING OF THE RAFT ACTUATION CABLE WILL INFLATE THE RAFT.

- (b) Remove the Locking cap P/N 309807A unscrewing the screw P/N V-G80044 and release the raft actuation cable from the Upper Pulley P/N 309774A. Ref to Figure 3.
- (c) Remove the Main Washer P/N 309773A from the Upper Pulley P/N 309774A unscrewing the screws P/N V-G80044, with the grower P/N G-H20022 and the washers P/N G-H10063, ref. to Figure 4.
- (d) Remove the Upper Pulley P/N 309774A from the Main bush P/N 309772A. Discard the Upper Pulley.
- (e) Remove the Right [Left] Upper End Plate from the Right [Left] Lower Pulley unscrewing the two screws P/N V-G80044 with the two growers P/N G-H20022 and the two washers P/N G-H10063
- (f) Remove the Lower Pulley Cover from the Right [Left] Lower Pulley unscrewing the three screws P/N V-G80044, with the three growers P/N G-H20022 and the three washers P/N G-H10063.
- (g) Remove the End Plate from the Right [Left] Lower Pulley unscrewing the two screws P/N V-G80044, with the two growers P/N G-H20022 and the two washers P/N G-H10063.
- (h) Release the Manual cable from the Right [Left] Lower Pulley.
- (i) Remove the Safety Pin.
- (j) Remove the Right [Left] Lower Pulley P/N 309877A [P/N 309771A] from the Main bush. Discard the Right [Left] Lower Pulley.
- (k) Insert the Right [Left] Lower Pulley P/N 309877B [P/N 309771B] on the Main bush.
- (l) Roll up the Manual cable around the lower path of the Right [Left] lower pulley.

Original Issue – 06 May 2021

SB-189-25-010

Revision No.

Page 5 of 9

AERO SEKUR SpA, Customer Support, via delle Valli, 04011, Aprilia (LT), ITALY, +39.06.97634000, Fax +39.06.9282849
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- (m) Fasten the End Plate to the Right lower pulley using two screws P/N V-G80044, two growers P/N G-H20022 and two washers G-H10063, blocking the Manual cable.
- (n) Position the Lower Pulley Cover on the Right [Left] Lower Pulley tightening three screws P/N V-G80044, three growers P/N G-H20022 and three washers P/N G-H10063.
- (o) Position the Right [Left] Upper End Plate on the Right [Left] Lower Pulley tightening two screws V-G80044, two growers P/N G-H20022 and two washers P/N G-H10063.
- (p) Insert the Safety pin in the hole of the Right [Left] Lower Pulley and of the Right [Left] frontal plate.

WARNING: BE SURE THAT THE SAFETY PIN IS CORRECTLY POSITIONED BEFORE PROCEEDING WITH ASSEMBLY.

- (q) Insert the new Upper Pulley P/N 309774B on the Main bush.
- (r) Roll up very carefully the raft cable around the path of the Upper Pulley.
- (s) Engage the dents of the Upper Pulley with the slots of the Lower Pulley. The raft actuation cable should be slightly in tension when the Upper Pulley P/N 309774B is installed on the Lower Pulley.

WARNING: AN ACCIDENTAL PULLING OF THE ACTUATION CABLE CAN ACTIVATE THE RAFT OPENING.

- (t) Position the Main washer on the Upper Pulley and tighten a screw P/N V-G80044, a grower P/N G-H20022 and a washer P/N G-H10063.
- (u) Tighten the Locking cap using a screw P/N V-G80044.

CAUTION: ALWAYS TAKE CARE TO THE CABLE'S ROUTING ALONG PULLEYS. PULLING THE HANDLE SHALL LEAD TO TENSION ON THE RAFT ACTUATION CABLE.

CAUTION: FOR CABLE SLACK RECOVER, ROTATE THE UPPER PULLEY COUNTER CLOCKWISE FOR RIGHT ELS, OR CLOCKWISE FOR LEFT ELS.

CAUTION: WHEN THE RECOVER OF THE SLACK DOES NOT PERMIT THE COUPLING BETWEEN UPPER PULLEY AND LOWER PULLEY, DO NOT INSIST BUT ROTATE BACK THE UPPER PULLEY JUST ENOUGH TO ENGAGE THE PREVIOUS SLOT ON THE LOWER PULLEY.

- (2) Remove the Safety Pin P/N G-C10005 from the Right [Left] Lower Pulley P/N 309877B [309771B].
- (3) Re-install the Frontal plate cover P/N 310865B [310864B], using the six screws P/N V-G60006; refer to the applicable Data Module of the Aircraft Maintenance Manual or ASSEMBLY section of the CMM 25-61-16.

- (a) Restore the Safety Pin P/N G-C10005 in Transport or Flight configuration mode, refer to Figure 1
- (4) If necessary, install the ELS on the helicopter according to applicable Data Module of the Aircraft Maintenance Manual or ASSEMBLY section of the CMM 25-61-16.
- (5) Install the front Fairing by means of screws that hold it on the ELS and helicopter; refer to the applicable Data Module of the Aircraft Maintenance Manual.

C. RECORD INSTRUCTION

- (1) Write the service bulletin reference number (SB-189-25-010), wherever possible on the ELS Identification Label, to record compliance with this Service Bulletin.

NOTE: Where no space available on the identification label, use the “Sticky Label, for SB compliance marking” P/N 318502A – included in the upgrade kit – to record the compliance (ref. to paragraph 2.A). Apply the Sticky Label close to the Identification Label of the ELS.

- (2) Record compliance with this Service Bulletin in the component Log Card.

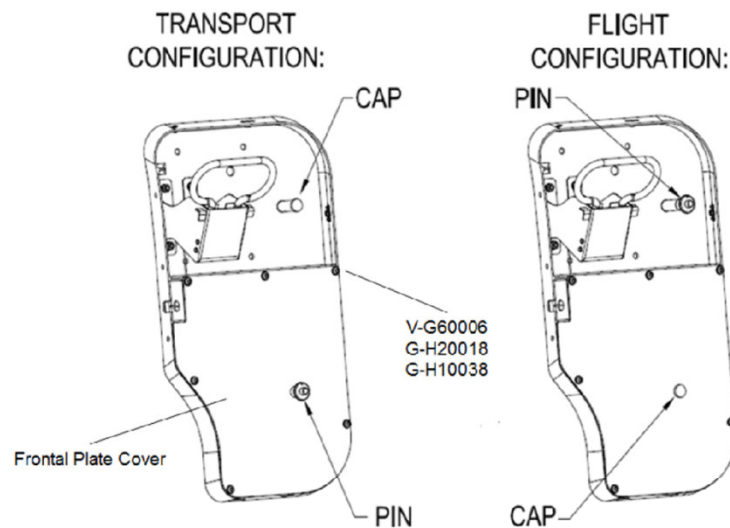


Figure 1 – Transport and flight configuration mode

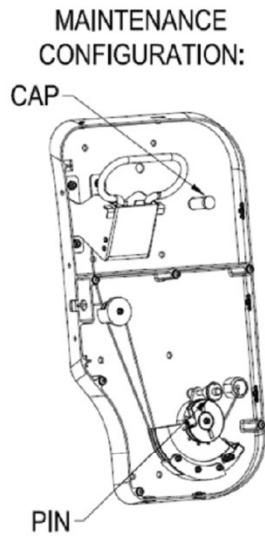


Figure 2 – Maintenance configuration mode

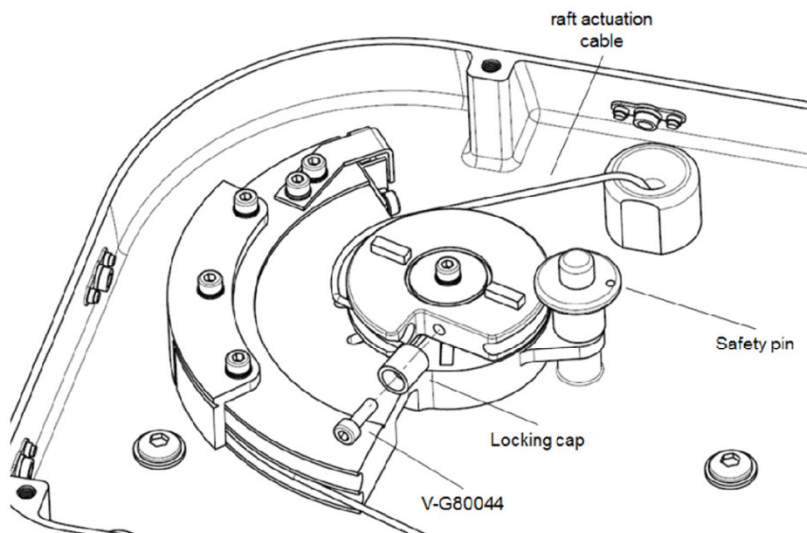


Figure 3 – Raft actuation cable release / locking

Original Issue – 06 May 2021

SB-189-25-010

Revision No.

Page 8 of 9

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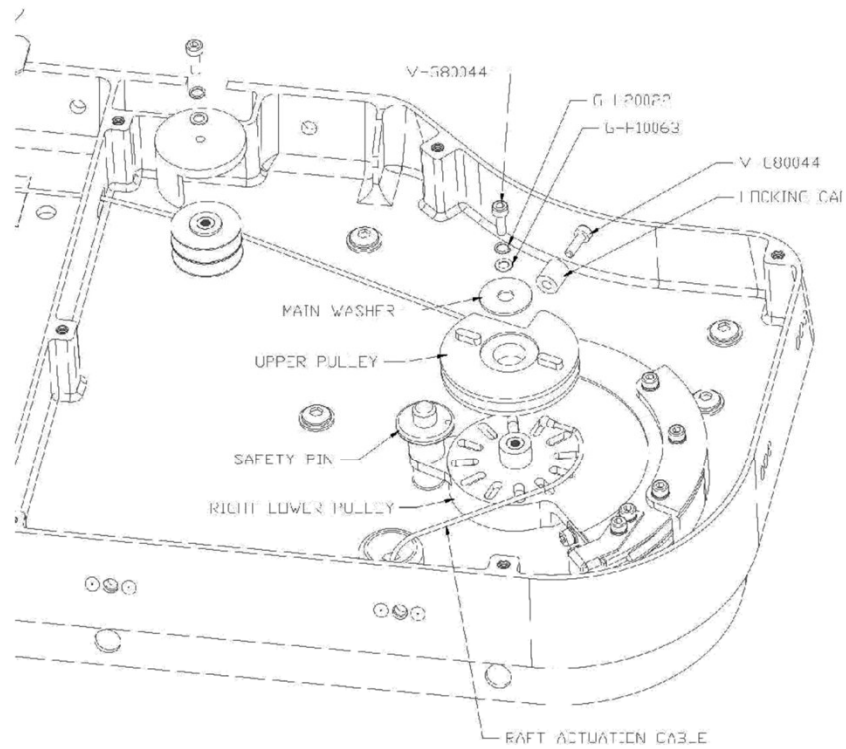


Figure 4 – Upper Pulley disassembly / assembly

Original Issue – 06 May 2021

SB-189-25-010

Revision No.

Page 9 of 9

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