



Installation Instruction

AS350

EC130

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Part 0 Manual Administration

0.1 Document Approval

This document has been established in accordance with an alternative procedure to DOA approved under EASA AP429.

This installation Instruction is applicable for **Airbus AS350 / EC130** helicopter.

Compiled by:  _____ 20 Feb. 2019
Petr Jaros
Engineer, Aveo Engineering Group, s.r.o.

Approved by: _____ 20 Feb. 2019
Georg Hartl
Head of DO, Aveo Engineering Group, s.r.o.

0.2 Amendment Record Procedure

The master copy of this document shall be kept electronically as a read only document under the control of Aveo Engineering Group, s.r.o. as Master Copy.

ALL amendments to this manual will initiate a raise of issue.

The original issue will be identified by "01", and subsequent issues will be numbered sequentially from 02 to 99 in Table 01 - **Issue No.** column.

ALL issues of this document will be approved by Head of DO.

Issue No.	Details	Date	Affected Pages
01	Initial Issue	20.Feb.2019	ALL
Table 01: Record of Document Amendments			

0.3 Affected Pages Procedure

ALL pages affected by ANY raise of issue of this document will be listed in Table 01 - **Affected Pages** Column.

Changes from the previous issue are shown as follows:

- a) new text is highlighted with yellow shading: **new**
- b) deleted text is shown with yellow shading and a strike through: ~~deleted~~

Part 1 Installation Instruction

1.1 General

This installation is to be performed in accordance to common practice as described in FAR AC 43.13-2B Chapter 4 and in FAR AC 43.13 1B Chapter 11 Section 15 (Bonding) as published by FAA or general practice section of the **Airbus AS350 / EC130** Aircraft Maintenance Manual (AMM).

The installer is responsible to follow the installation instructions in the latest revision of the following *installation manuals*:

- FAR AC 43.13-2B Chapter 4
- FAR AC 43.13 1B Chapter 11 Section 15
- AVE-PSPSYW-T-IM
- AVE-WPS-64G-IM
- AVE-RBXP-001-IM
- AVE-RBCRW-001-IM
- AVE-H30-002-IM
- AVE-SDD45-IM

All drawings applicable for this change are listed in the Drawing List:

- AVE-MOD-014-DL, issue 01

The following appliances carry an ETSO authorization:

- AVE-PSPSYW-T01 – ETSOA 210.10068603
- AVE-WPSR-64G & AVE-WPSG-64G – ETSOA 210.10053936
- AVE-RBXPR-001 – ETSOA 210.10055069
- AVE-RBCRW-001 – ETSOA 210.10053491

The change is to be performed using the document AVE-MOD-014-MCS in the latest issue.

The aircraft modified according to this instruction may not be released back to service without the EASA design approval certificate being provided.

1.2 Continued Airworthiness

The aircraft manuals remain fully valid. The inspection intervals and the procedures of the aircraft override the general statements in the component manuals as listed under §1.1.

For inspection of the new lights themselves follow the procedure of the Aveo Installation Manuals referenced above.

1.3 Airworthiness Limitations

No new or changed airworthiness limitations result from this modification.

The airworthiness limitation section is approved and variations must also be approved.

1.4 Description

This modification rests in the replacement of position, anti-collision, taxi and landing lights by lights of LED type.

1.4.1 Position and anti-collision lights

Both new position lights (*Ultra Galactica Embedded, PosiStrobe Titania*) feature also a strobe function. The strobe function requires the Airbus **MOD 074725 - Position Lights**. This modification is prerequisite to replace or install the Aveo strobe light function. For helicopter without this modification the Aveo strobe cannot be activated. The two wires for the strobe and the synchronization are then capped & stowed.

The replacement for the anti-collision light is the *RedBaron XP Galactica* which is a red anti-collision light.

Synchronization:

The **strobe lights** may be synchronized. In order to ensure synchronization function, the blue wires of each light to be synchronized have to be connected. Provided that additional wires are to be installed for this function, these must be installed along the wire bundle in which the lights power wires run. In case the function is not used the blue wires of each light are to be capped and stowed.

1.4.2 Taxi and landing lights

The *AS350 / EC130 helicopter* can be equipped with a taxi light (wide angle lens) and a landing light (narrow angle).

For replacement of all installed taxi and landing lights, the same configuration can be used as was before this modification. The change of configuration is not allowed.

1.5 Position Lights Installation – Left and Right

Kit Number: ARBA-01

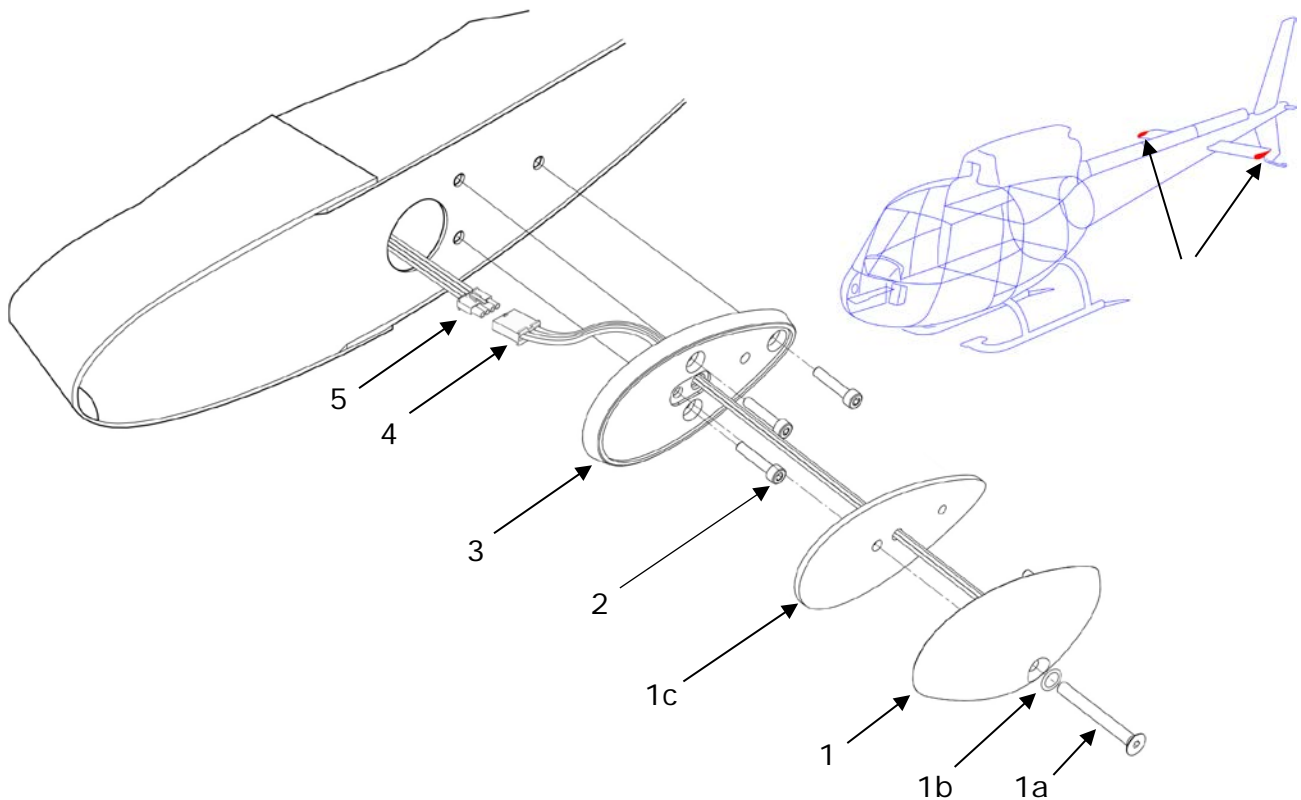


FIGURE AND INDEX NUMBER	PART NUMBER	DESCRIPTION	PARTS AVAIL	QTY PER ASSY
1	AVE-WPSR-64G AVE-WPSG-64G	Ultra Galactica Embedded Red Ultra Galactica Embedded Green		1 1
1a	AVS-SCM05045LHS-D0A	Screw		2
1b	AVS-OR00480190N70-D0A	O-Ring		1
1c	AVS-P001290550-A1A	Gasket		1
2	MS-16995-17	Screw		6
3	AVS-P000100175-A60	Ultra Adapter		2
4	19-09-1046	4-Pole Connector Kit - Female		2
5	19-09-2046	4-Pole Connector Kit - Male		2

NOTES

1. Remove the original position/strobe light on the left and right hand sides according to AMM.
2. Remove connectors and connect wires using connector C2, C3 (items 4, 5) as per wiring diagram below.
3. Inspect the location for corrosion and if necessary repair according to aircraft SRM.
4. Install the complete light adapter plate (item 1) using the fasteners (item 2).
5. Install the new light (item 3) using items (4) and (5) as described.
6. If you install a position light with strobe function, remove the strobe power supplies.

Note: The strobe function requires the Airbus **MOD 074725 - Position Lights**. This modification is prerequisite to replace or install the Aveo strobe light function. For helicopter without this modification the Aveo strobe cannot be activated.

1.6 Position Light Installation – Tail Position

Kit Number: ARBA-02

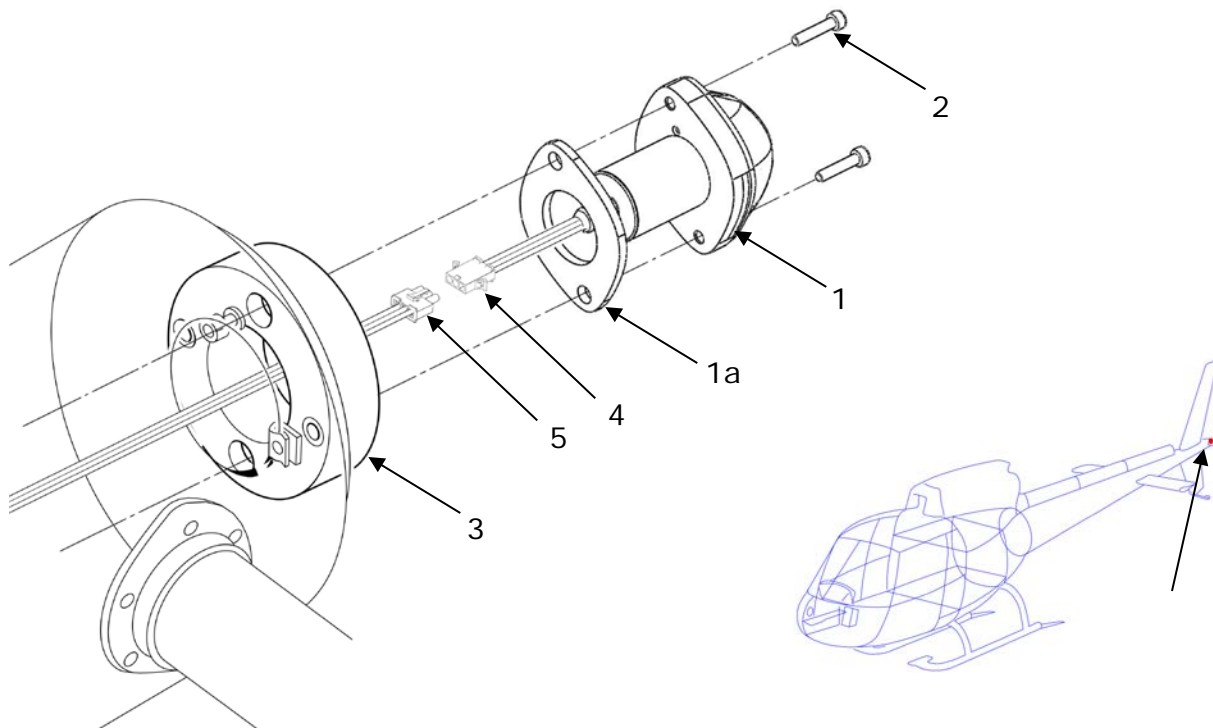


FIGURE AND INDEX NUMBER	PART NUMBER	DESCRIPTION	PARTS AVAIL	QTY PER ASSY
1	AVE-PSPSYW-T01	PosiStrobe Titania		1
1a	AVS-P000105638-A10	Gasket		1
2	MS-16995-12	Screw #4-40 Thread, 5/8" SHCS		2
3	<i>Original part</i> 350A64-3122-00	Support		1
4	19-09-1036	3-Pole Connector Kit - Female		1
5	19-09-2036	3-Pole Connector Kit - Male		1
1	AVE-PSPSYW-T01	PosiStrobe Titania		1
1a	AVS-P000105638-A10	Gasket		1

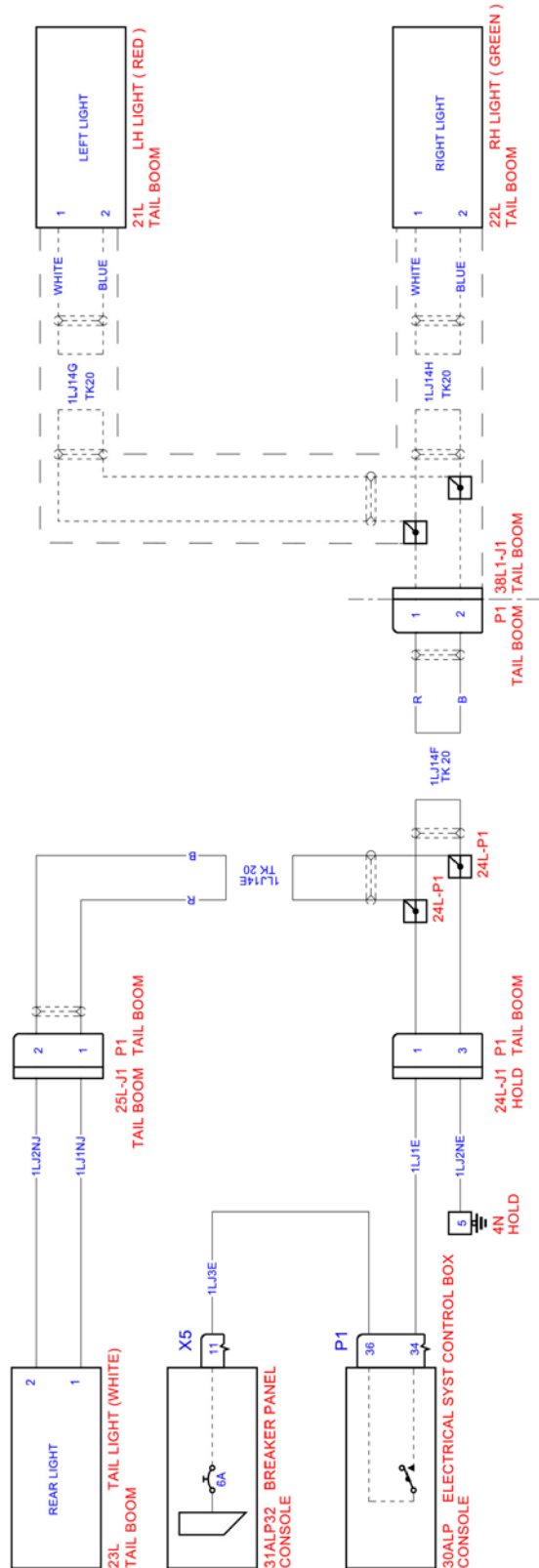
NOTES

1. Remove the original tail position light according to AMM.
2. Inspect the location for corrosion and if necessary repair according to aircraft SRM.
3. Remove connectors and connect wires using connector C4 (items 4, 5) as per wiring diagram below.
4. Install the new light (item 1) using the fasteners (item 2) and gasket (item 3).

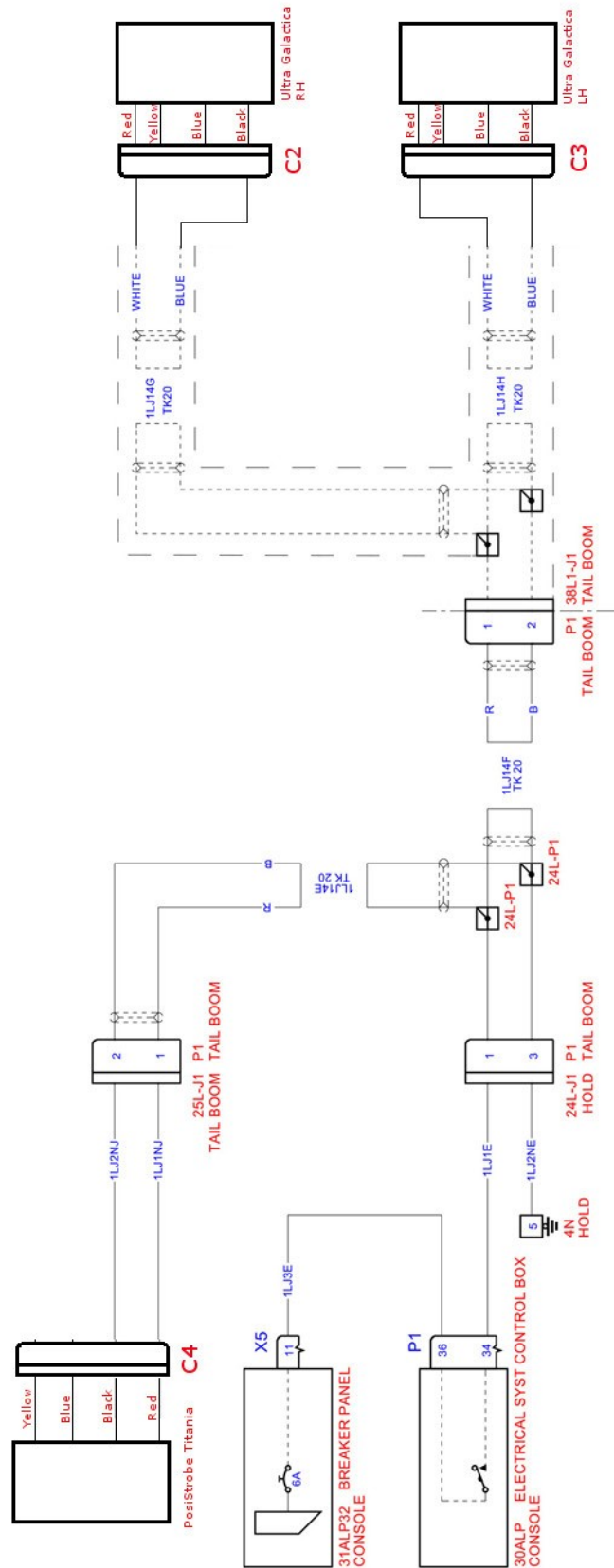
Note: The strobe function requires the Airbus **MOD 074725 - Position Lights**. This modification is prerequisite to replace or install the Aveo strobe light function. For helicopter without this modification the Aveo strobe cannot be activated.

1.6.1 Wiring Diagram of Position Lights without Strobe

Wiring diagram **before** installation of Aveo position lights if no strobes are installed (with strobe see next paragraph):

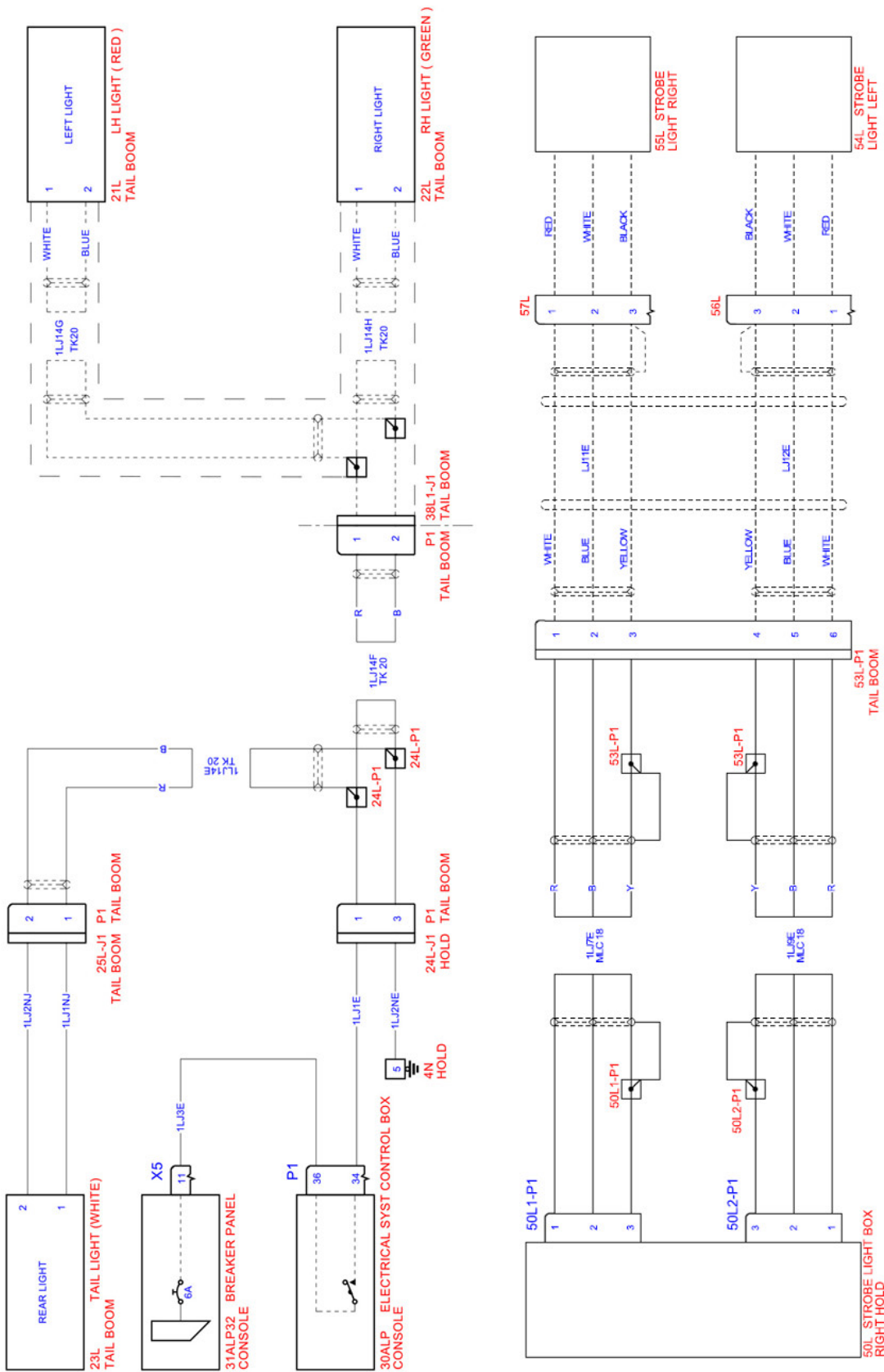


Wiring diagram **after** installation of Aveo position lights:

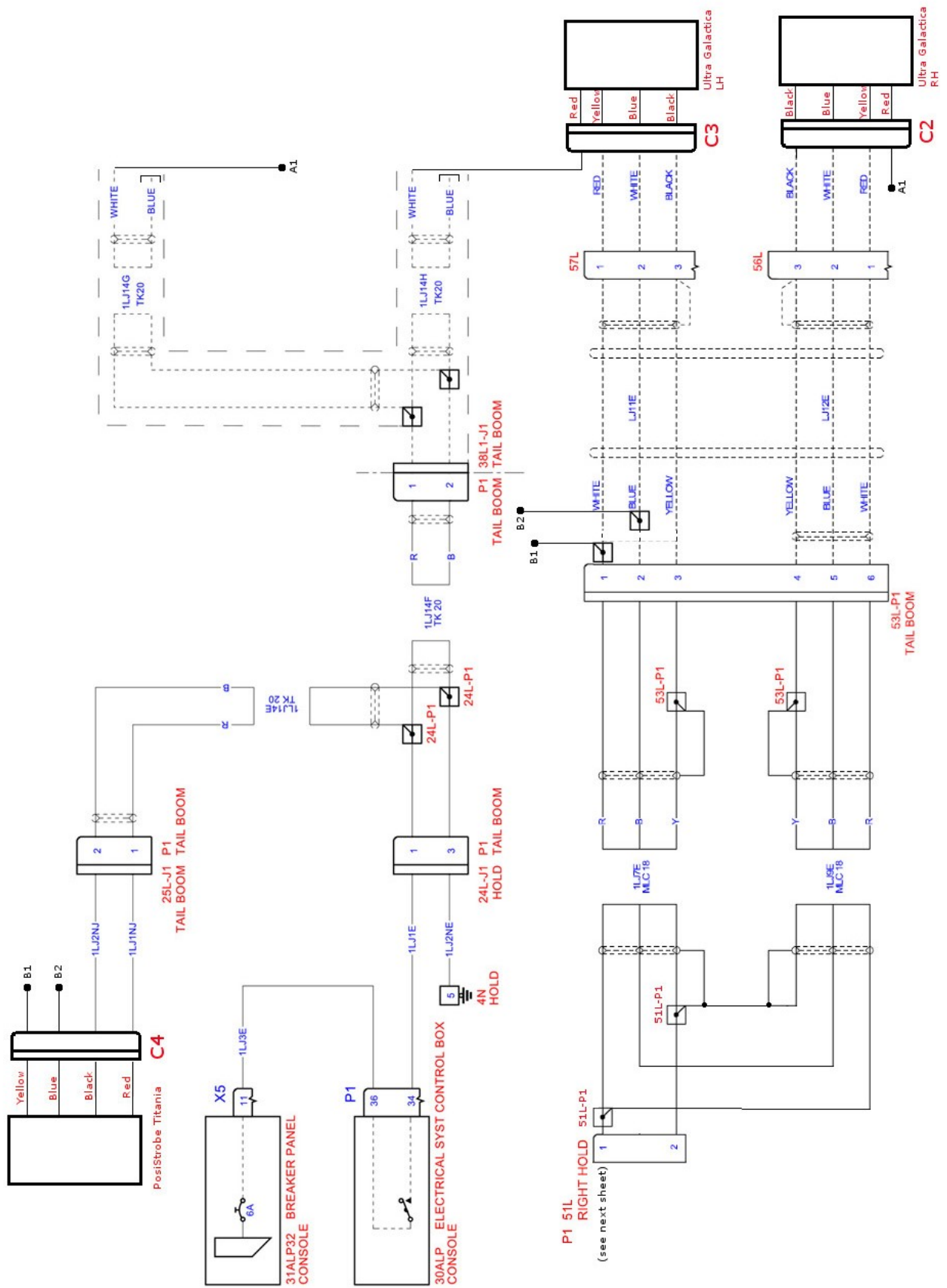


1.6.2 Wiring Diagram of Position Lights with Strobe

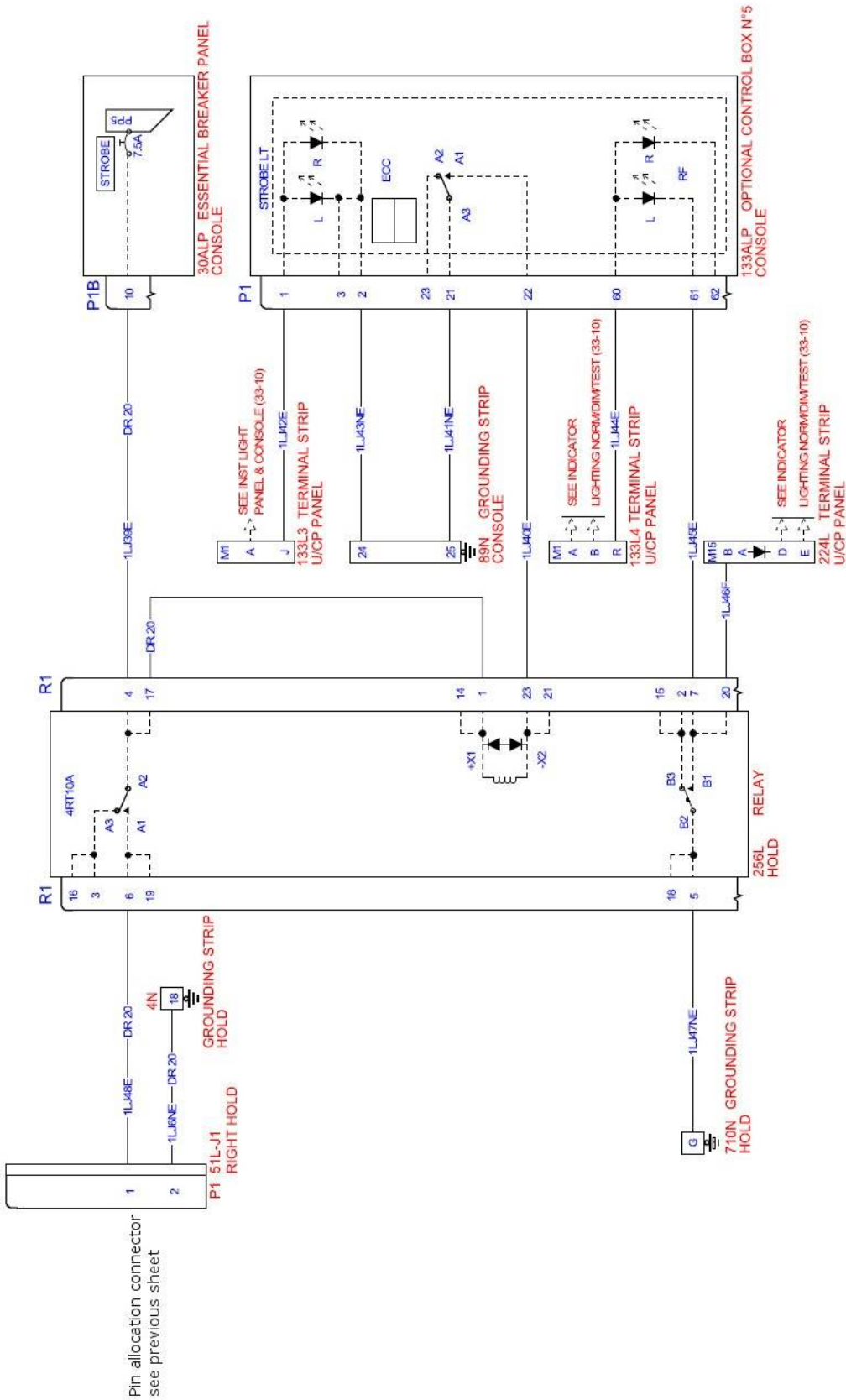
Wiring diagram **before** installation of Aveo position lights if strobes are installed



Wiring diagram **after** installation of Aveo position lights:

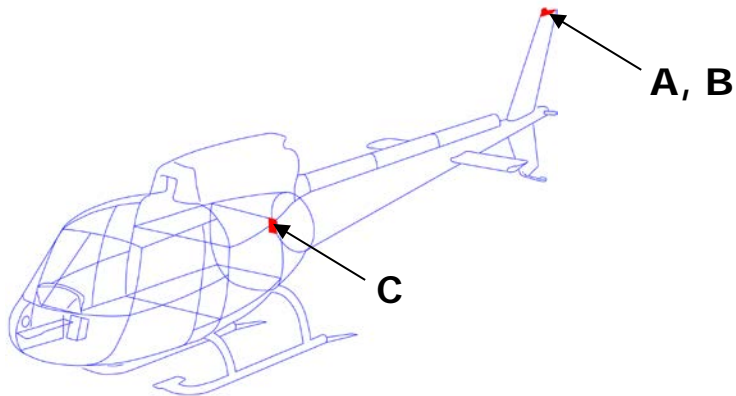


Wiring diagram **after** installation of Aveo position lights – forward section

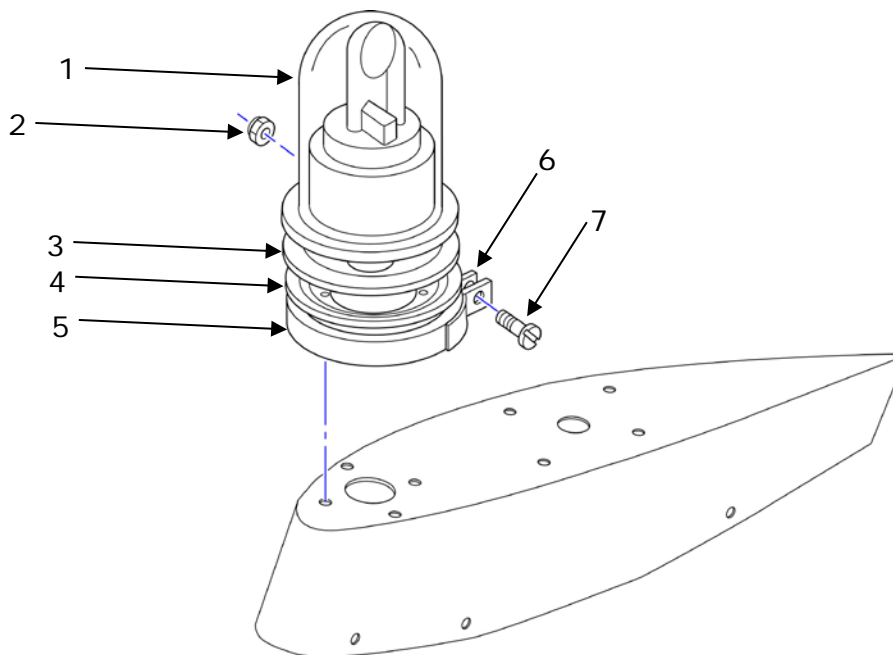


1.7 Anti-collision Light Installation

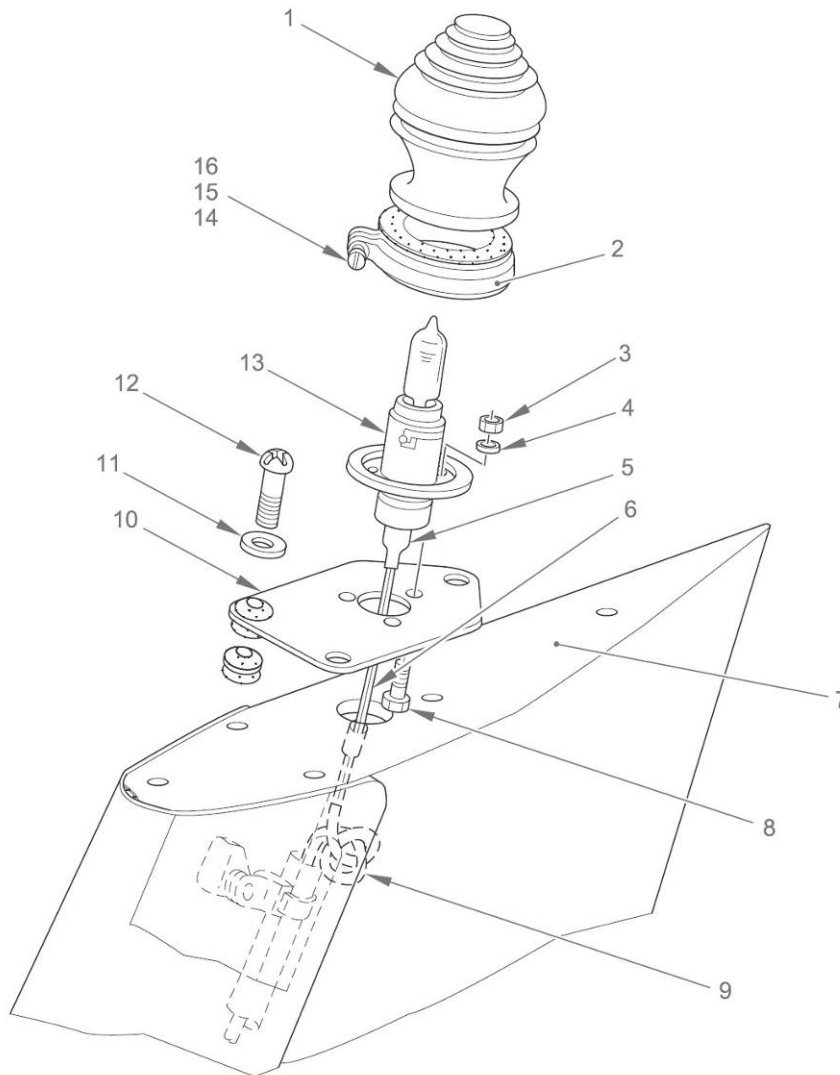
The basic helicopter



A-1 – Removal of strobe light



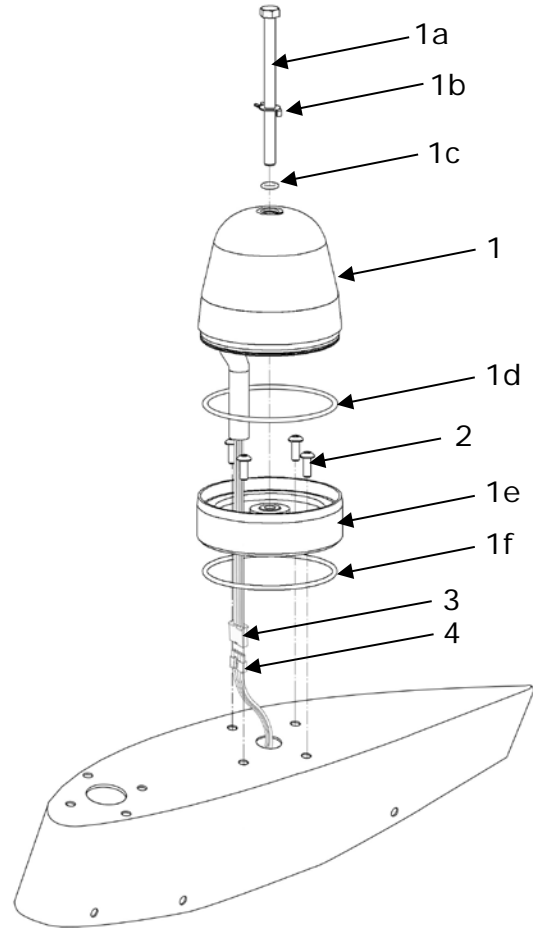
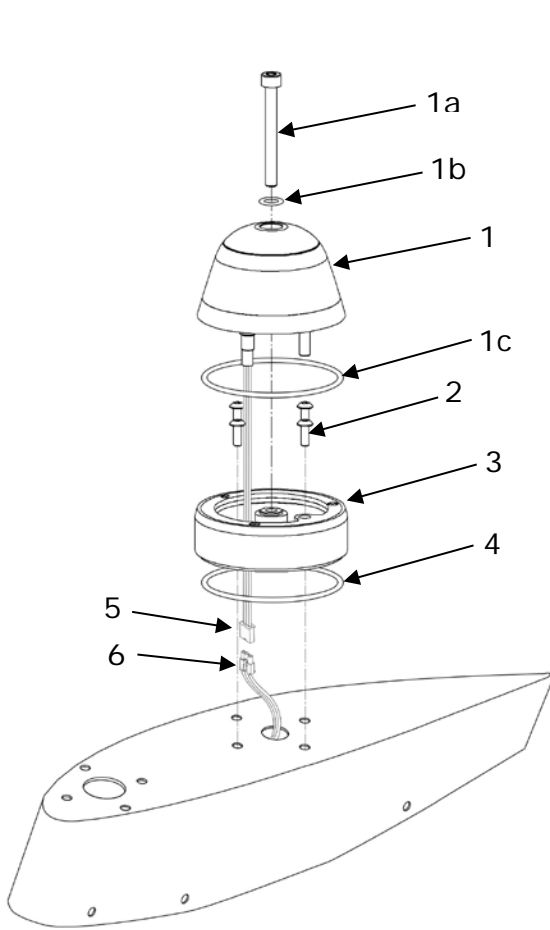
A-2 – Removal of anti-collision light



B –Installation of Anti-Collision Light

Option B1: RedBaron XP
 Kit Number: ARBA-03

Option B2: RedBaron Combo HI SL
 Kit Number: ARBA-04



C – Removal of strobe box

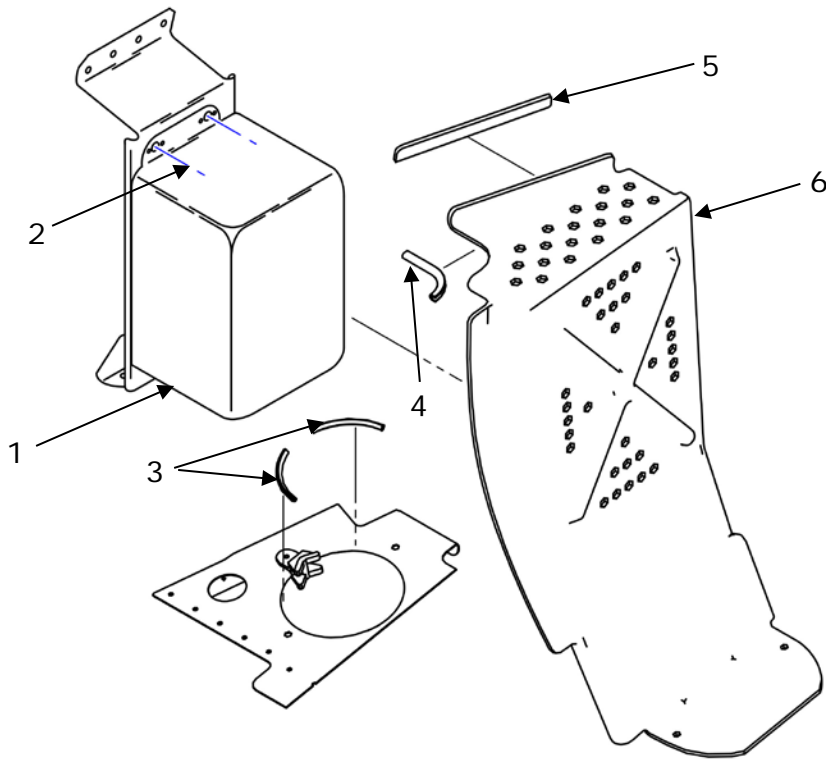


FIGURE AND INDEX NUMBER	PART NUMBER	DESCRIPTION	PARTS AVAIL	QTY PER ASSY
A-1 – Removal of Strobe light				
1	Original part	Glass protection		1
2	Original part	Nut		1
3	Original part	Seal		1
4	Original part	Base		1
5	Original part	Clamp		1
6	Original part	Attachment		1
7	Original part	Screw		1

A-2 – Removal of anti-collision light				
1	Original part	Glass		1
2	Original part	Clamp ring		1
3	Original part	Nut		1
4	Original part	Washer		1
5	Original part	Connector		1
6	Original part	Wire		1
7	Original part	Vertical tail structure		N/A
8	Original part	Screw		1
9	Original part	Knot		N/A
10	Original part	Base Plate		1
11	Original part	Washer		1
12	Original part	Screw		1
13	Original part	Lamp socket		1
14	Original part	Screw		1
15	Original part	Washer		1
16	Original part	Nut		1

B - Installation				
Option B1				
1	AVE-RBXPR-001	RedBaron XP Galactica		1
1a	AVS-SCM05050HAS-DOA	Screw		1
1b	AVS-170299005W-DOA	Washer		1
1c	AVS-OR05302N70-DOA	O-Ring		1
2	Original part	Screw		4
3	AVE-LARBUHS-01B	RedBaron Legacy Light Replacement Adapter		1
4	AVS-OR057020N70-DOA	O-Ring		1

5	19-09-1036	3-Pole Connector Kit - Female	1
6	19-09-2036	3-Pole Connector Kit - Male	1

Option B2			
1	AVE-RBCRW-001	RedBaron Combo HISL	1
1a	AVS-SCM05070HHS-DOA	Screw	1
1b	MS-9276-09	Washer	1
1c	AVS-OR00500150N70-DOA	O-Ring	1
1d	AVS-OR06000150N70-DOA	O-Ring	1
1e	AVS-P000100831-AOH	Mounting Socket	1
1f	AVS-OR05700200N70-DOA	O-Ring	1
2	Original part	Screw	4
3	19-09-1046	4-Pole Connector Kit - Female	1
4	19-09-2046	4-Pole Connector Kit - Male	1

C – Removal of Strobe box			
1	Original part	Power Supply	1
2	Original part	Screw, Washer, Nut Anchor	4
3	Original part	Extrusion, Edging	1
4	Original part	Extrusion	1
5	Original part	Tape, Self-adhesive	1
6	Original part	Strobe Light Protector	1

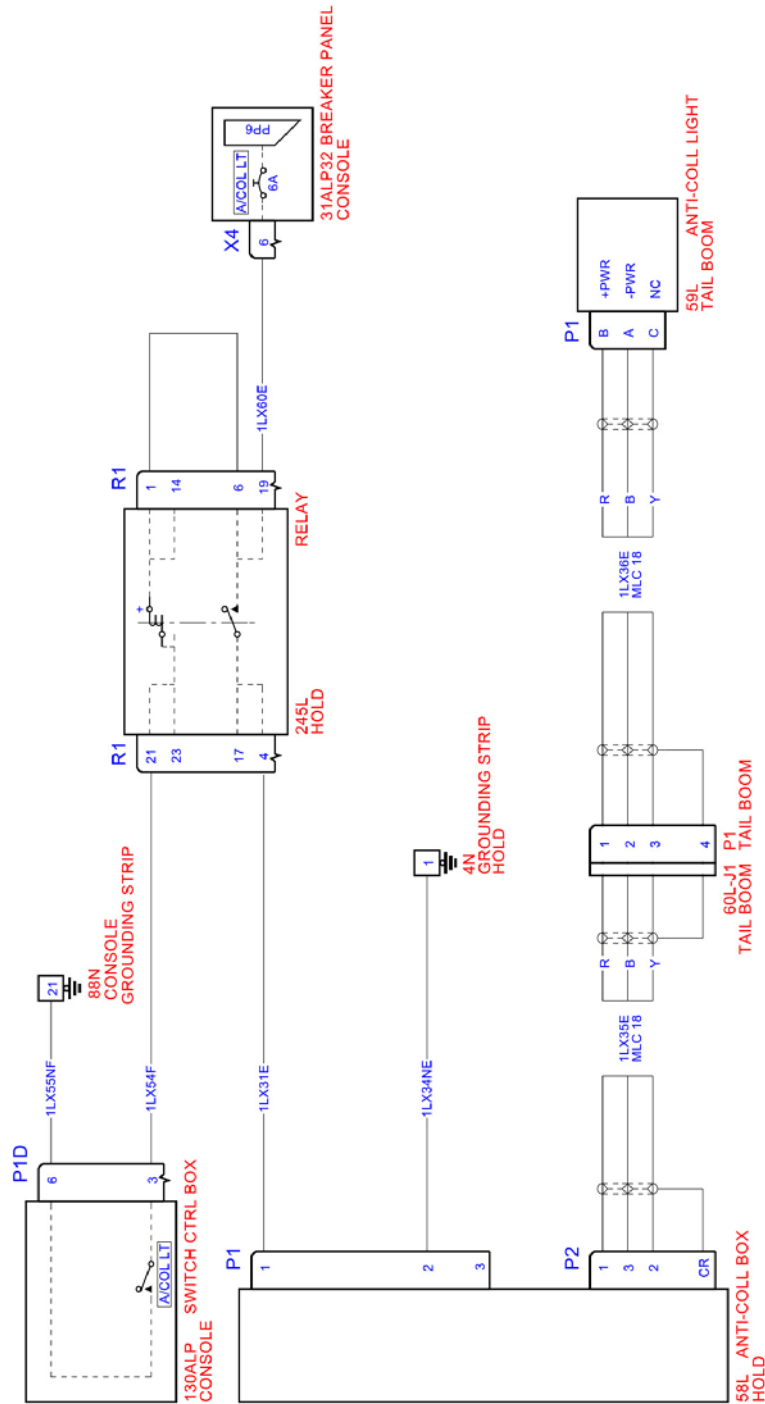
NOTES

1. If a strobe light (A-1) is installed in front of anti-collision light, remove it according to AMM (items 1-7) as the strobe function is supported by Ultra Embedded Galactica on sides and PosiStrobe CP in the rear of aircraft.
2. If the anti-collision light (A-2) is installed, remove it according to AMM (items 1-16).
3. Inspect the location for corrosion and if necessary repair according to aircraft SRM.
4. Remove connectors and connect wires using connector C1 (5) as per wiring diagram below.
5. Install the adapter (4) using original fasteners (3) on the tail and attach RedBaron (2) using M5 screw (1).
6. Remove the strobe power supply (D).
7. Modify wiring according to wiring diagrams below per AMM standard practice.

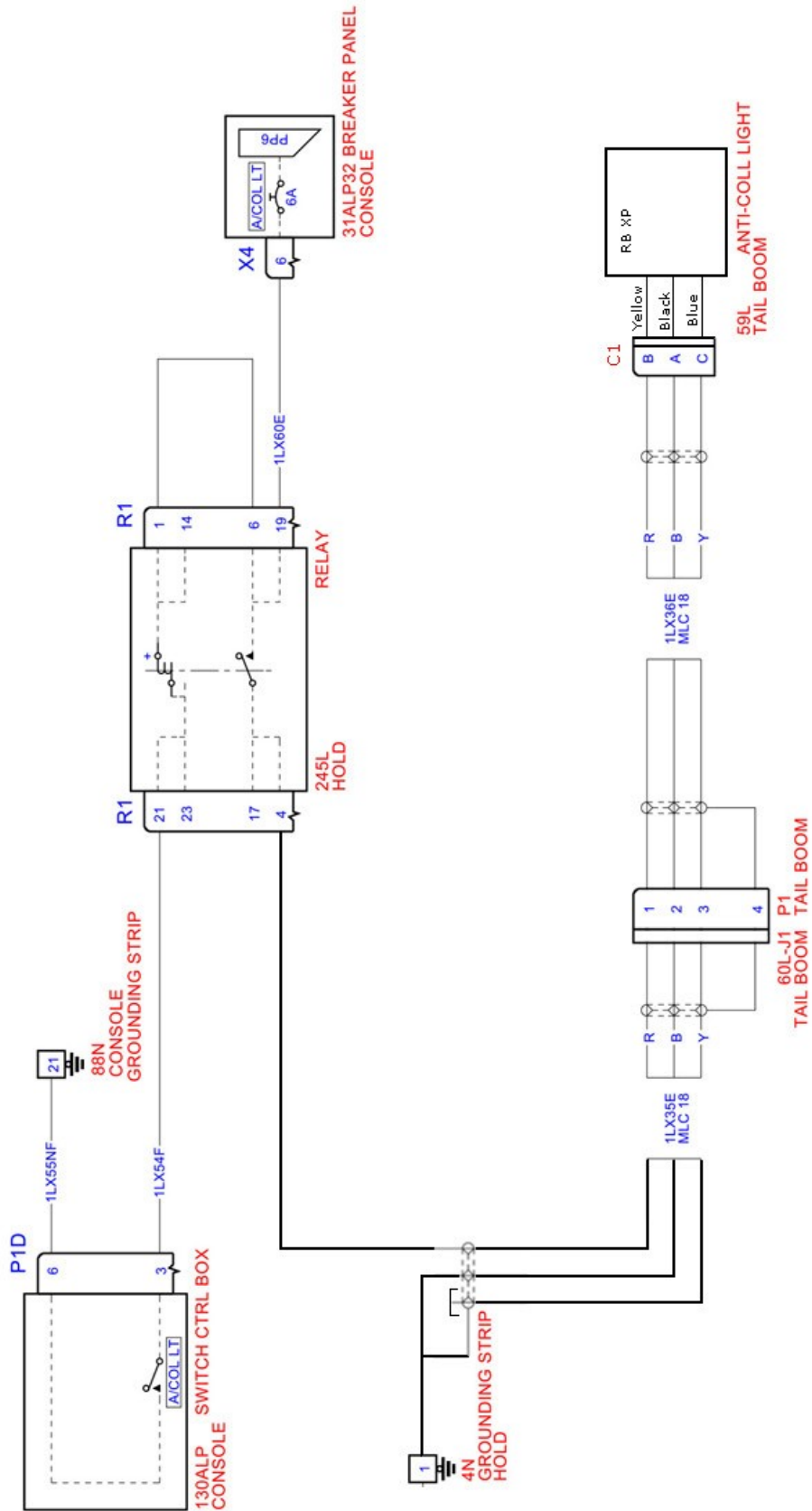
Note: The strobe function requires the Airbus **MOD 074725 - Position Lights**. This modification is prerequisite to replace or install the Aveo strobe light function. For helicopter without this modification the Aveo strobe cannot be activated.

1.7.1 Wiring Diagram of Anti-Collision Lights

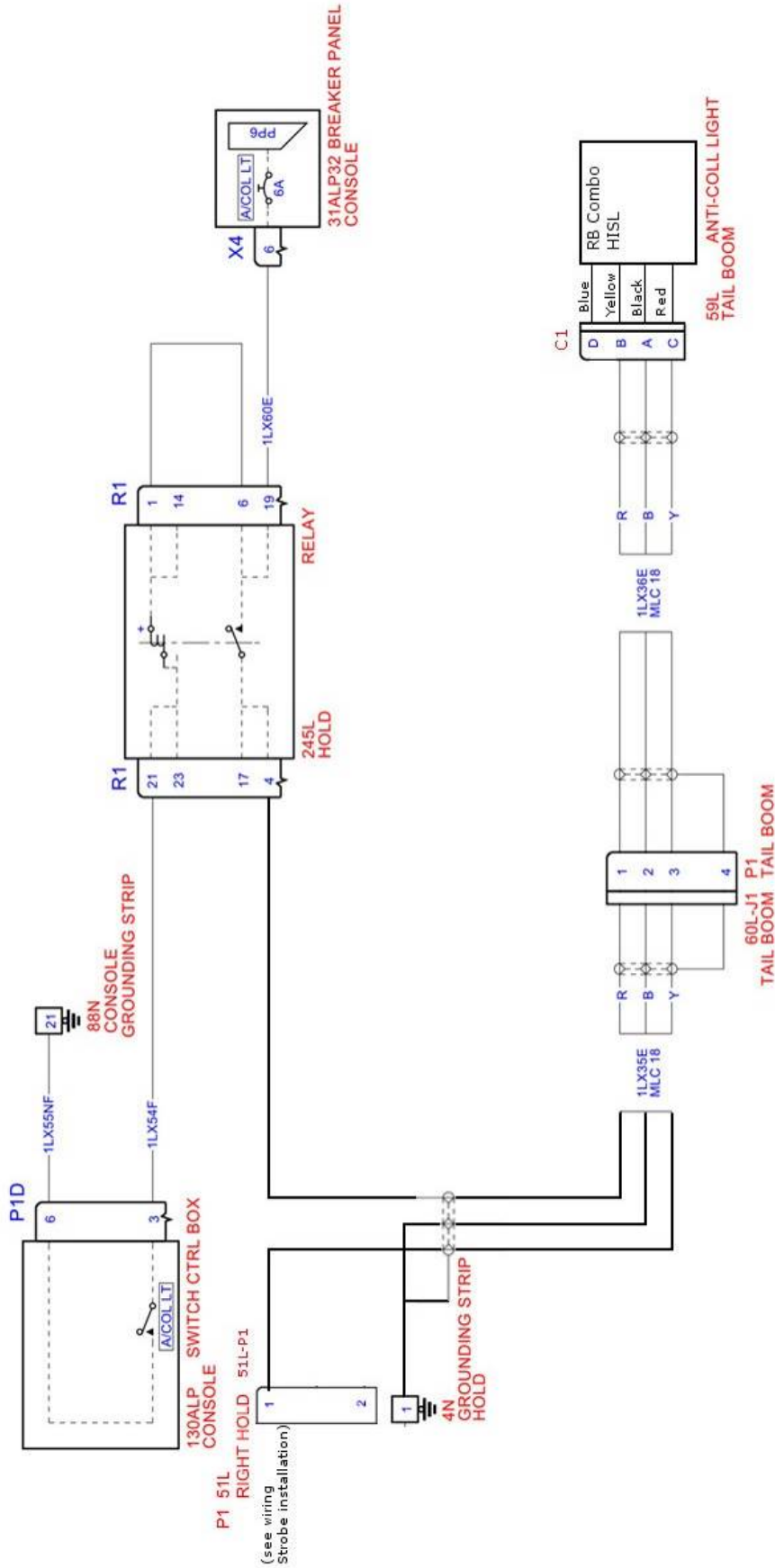
Wiring diagram **before** installation of Aveo anti-collision lights:



Wiring diagram **after** installation of Aveo anti-collision light – RedBaron XP Galactica:



Wiring diagram **after** installation of Aveo anti-collision light – RedBaron Combo HISL:



1.8 Landing and Taxi Light Installation

Kit Number: ARBA-05

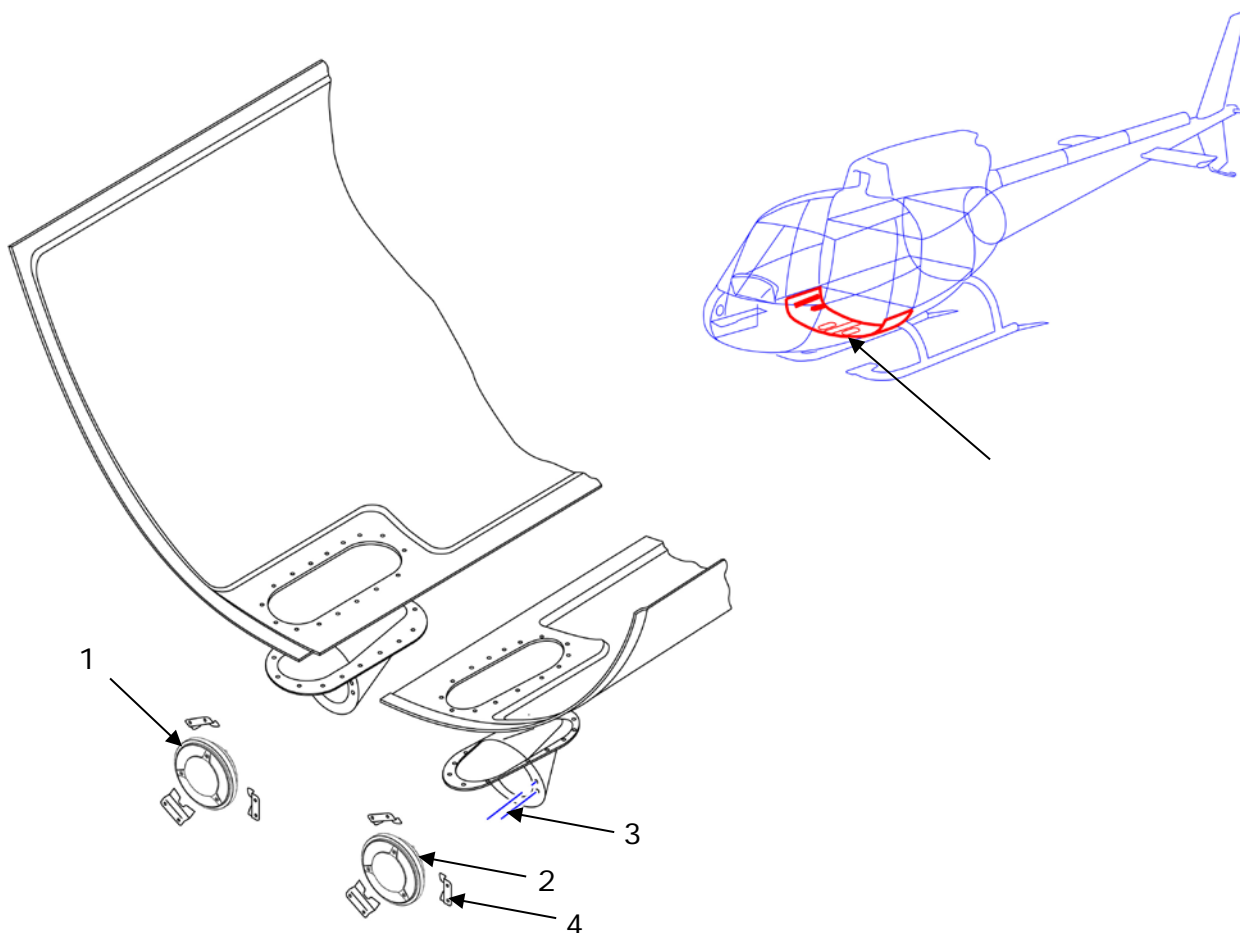


FIGURE AND INDEX NUMBER	PART NUMBER	DESCRIPTION	PARTS AVAIL	QTY PER ASSY
1	AVE-SDD45LW-T02	Samson Drop-In II Landing		1
2	AVE-H30TATSNT-T0A	Hercules Drop-In Taxi		1
3	Original parts	Screw, Washer		2
4	Original parts	Flanges		3

Notes:

#1 is a Samson drop-in light with landing lens (narrow beam) and On/Off function, connected via terminal.
 #2 is a Hercules drop-in light with taxi lens (wider beam) and On/Off function, connected via terminal.

Part 2 Compliance Demonstration

This document is in relation to the certification program AVE-MOD-014-PFC.
The compliance is demonstrated for the following certification specification:

Requirements	MoC	Statement of Compliance
CS 27.609 Protection of structure	MoC 0	(a) All parts installed are verified to be suitable. The installation instruction requests the aircraft structure to be inspected for probable corrosion before installing the new lights. (b) Not applicable
CS 27.1301 Function and installation	MoC 0	(a) All navigation and anti-collision lights are ETSO certified. The landing light is qualified according to RTCA DO160 as per AVE-S45-CCL and the taxi light per AVE-H30-001-CCL. (b) Not applicable as the function is as original installation. (c) All equipment is installed within their limits. (d) The proper function is determined in a ground check as per MCS.
CS 27.1383 Taxi and landing lights	MoC 0	(a) The configuration of the original installation is not changed. (b) (1) and (2) are not affected as the installation is not changed. (3) is improved as the new lights are brighter than the originally installed. (c) The landing light switches and the landing light configuration are not modified.
CS 27.1529 Instructions for Continued Airworthiness	MoC 0	The modification does not require any changes to the aircraft maintenance procedure which is clearly stated in §1.2 Continued Airworthiness.