



Installation Instruction **EC145/BK117**

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EC145 (BK 117) C-2 and C-2e



EC145 (BK 117) D-2



Part 0 Manual Administration


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0.2 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 all EC 145 (BK117) Helicopter.

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Approved by:  12. – Dec. - 2016
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0.3 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

ALL raises of issue will be given a sequential Alphabetic Issue Ident sequentially from 01 to 99 in Table 01 - **Issue No:** Column– Initial Issue of Document will be "01"

ALL Issues of this document will be approved by Head of DO

Issue No.	Details	Date	Effected Pages
01	Initial Issue	20.Jul.2016	ALL
02	Paragraph Continued Airworthiness added Removal of power supply added Statement corrected Add notes to the instructions	12.Dec. 2016	6 9 7, 8, 11 7-13
Table 01: Document Amendment Record Table			

0.4 Effected Pages Procedure

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

The reason(s) for ALL raise of issue and description of change due to raise of issue will be provided for ALL raises of issue in Table 01 - *Details* Column.

Changes from the previous issue are highlighted by **YELLOW HIGHLIGHTING** over new content. AND **YELLOW HIGHLIGHTING** AND CROSSING OUT of deleted content.

Example (**CROSSING OUT**)

0.5 ***Distribution List***

As stated in 0.3 above; 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 holders of copies of this Document will be recorded by listing in Table 02 – Distribution List.

Copy holders listed will be issued a copy of this document with sequential copy number as shown in Table 02 – Distribution List

Copy No.	Holder
MASTER	Aveo Engineering Group, s.r.o.
Table 02: Distribution List	

Part 1 Installation Instruction

1.1 ***General***

This installation is to be performed in accordance to common practice as described in the Aircraft Maintenance Manual AMM BK117 as published by Airbus Helicopter.

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

- AVE-H30-001-IM
- AVE-WPS-64G-IM
- AVE-POSW-54G-IM
- AVE-RBXP-001-IM

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

- AVE-MOD-005-DL, issue 01

The following appliances carry an ETSO authorization:

- AVE-POSW-54G – ETSOA 210.10053449
- AVE-WPSR-64G & AVE-WPSG-64G – ETSOA 210.10053936
- AVE-RBXPR-001 – ETSOA 210.10055069
- AVE-RBCWR-001 – ETSOA 210.10053491

The change is to be performed using the document AVE-MOD-005-MCS in the latest issue.

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 **Description**

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

1.3.1 **Position and anti-collision lights**

The new position lights all also include the strobe function. Also two options for the anti-collision lights can be installed. The RedBaron XP Galactica offers only the red anti-collision light while the RedBaron combo HISL can be operated either as red beacon or white strobes.

Hence the following optional installations can be done with this modification:

- Position lights including strobe + Beacon red (RedBaron XP)
- Position lights including strobe + Beacon red white strobe (RedBaron HISL)

Synchronization:

The strobe lights and the RedBaron HISL may be synchronized but the frequency of the strobes is so low that synchronization of the lights is not required.

For the synchronization function the blue wires of each light to be synchronized have to be connected. If for this function additional wires are to be installed then these must be installed along the wire bundle in which the lights power wires run. If the function is not used the blue wire at each light is to be capped and stowed.

1.3.2 **Taxi- and landing lights**

The EC 145 (BK117) can be equipped with a taxi light (wide angle lens) and a landing light (narrow angle). This modification allows replacing all installed taxi and landing lights with the same configuration as installed before the modification. A configuration change is not allowed.

1.4 **Navigation Lights Installation – Left and Right**

ARB-01

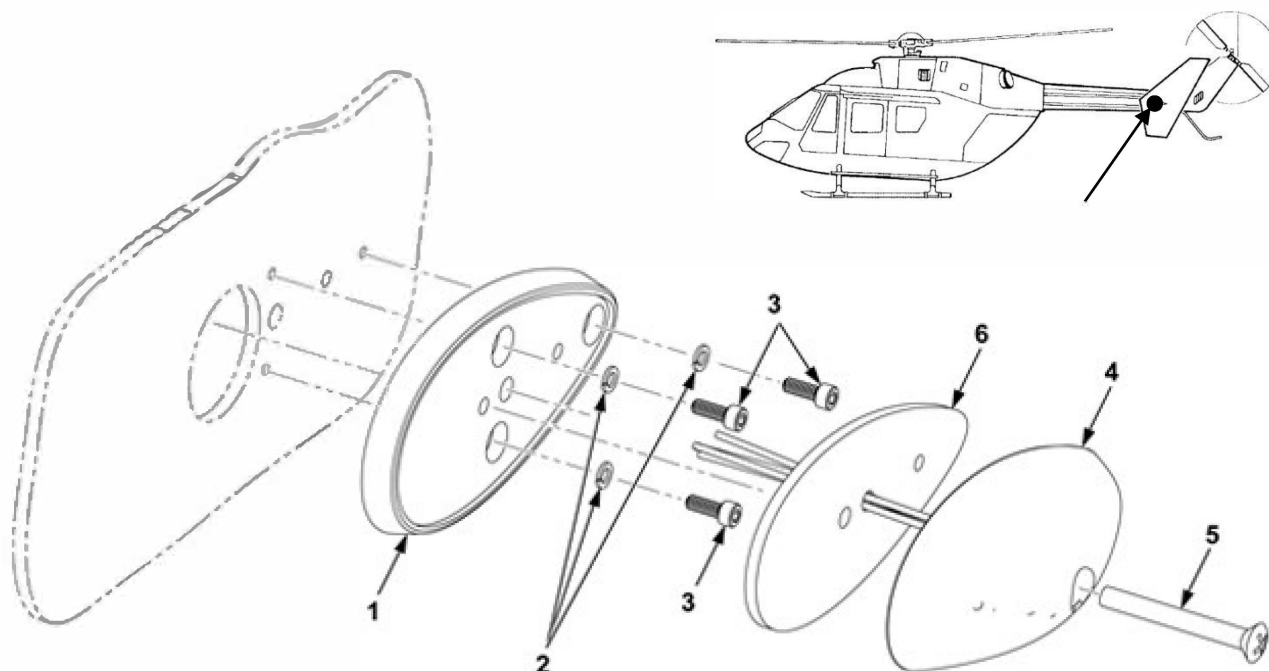


FIGURE AND INDEX NUMBER	PART NUMBER	DESCRIPTION	PARTS AVAIL	QTY PER ASSY
		NAVIGATION LIGHTS INSTALLATION – RIGHT AND LEFT POSITION		
1	AVS-P000100175-A60	Ultra Adapter		2
2	AVS-WAU0612ESS-U0A	Washer #6 Split Lock		6
3	AVS-SCC0510CAS-C0A	Screw #6-32 x 3/8" SHCS		6
4	AVE-WPSR-64G AVE-WPSG-64G	Ultra Galactica Embedded Red Ultra Galactica Embedded Green		1
5	AVS-P000102116-A3A	Screw #10-24 x 1-5/8" FHSCS		2
6	AVS-P001290550-A1A	Gasket		2

NOTES

1. Remove position lights in accordance to the aircraft maintenance manual.
2. Disconnect the wire bundle from the position light
3. Inspect location for corrosion and if applicable correct as per aircraft maintenance manual.
4. Install item 1 to 6 as described.
5. Splice the new light's wires into the bundle according to the referenced installation manuals and the AMM

Remarks:

If the aircraft is not already equipped with the strobe function this function cannot be installed through this change. A separate EASA **approved** modification is required for the introduction of the strobe function.

If the strobe function is not used the blue and the yellow wires described in the component installation manual are not used and therefore have to be capped and stowed.

1.5 **Navigation Lights Installation – Tail Position**

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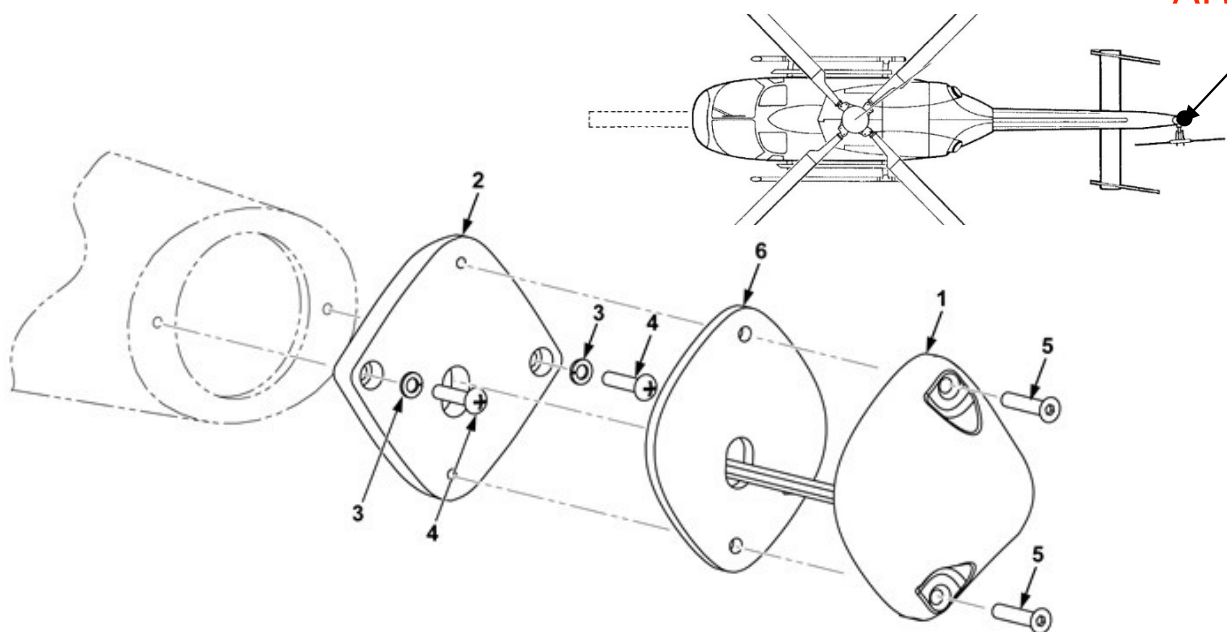


FIGURE AND INDEX NUMBER	PART NUMBER	DESCRIPTION	PARTS AVAIL	QTY PER ASSY
		NAVIGATION LIGHTS INSTALLATION – TAIL POSITION		
1	AVE-POSW-54G	PosiStrobe CP		1
2	AVS-P000100157-A6A	PosiStrobe Adapter		1
3	AVS- WAU0411CSS-U0A	Washer #4 Split Lock		2
4	AVS-SCC0313BPS-C0A	Screw #4-40 x 1/2" BHCS		2
5	AVS-SCC0315FAS-C0A	Screw #4-40 x 19/32" FHSCS		2
6	AVS- P000103402-A1A	Gasket		1

NOTES

1. Remove position light in accordance to the aircraft maintenance manual.
2. Disconnect the wire bundle from the position light
3. Inspect location for corrosion and if applicable correct as per AMM.

4. Splice the new light's wires into the bundle according to the referenced installation manuals and the aircraft maintenance manual.
5. Install item 1 to 3 as described.

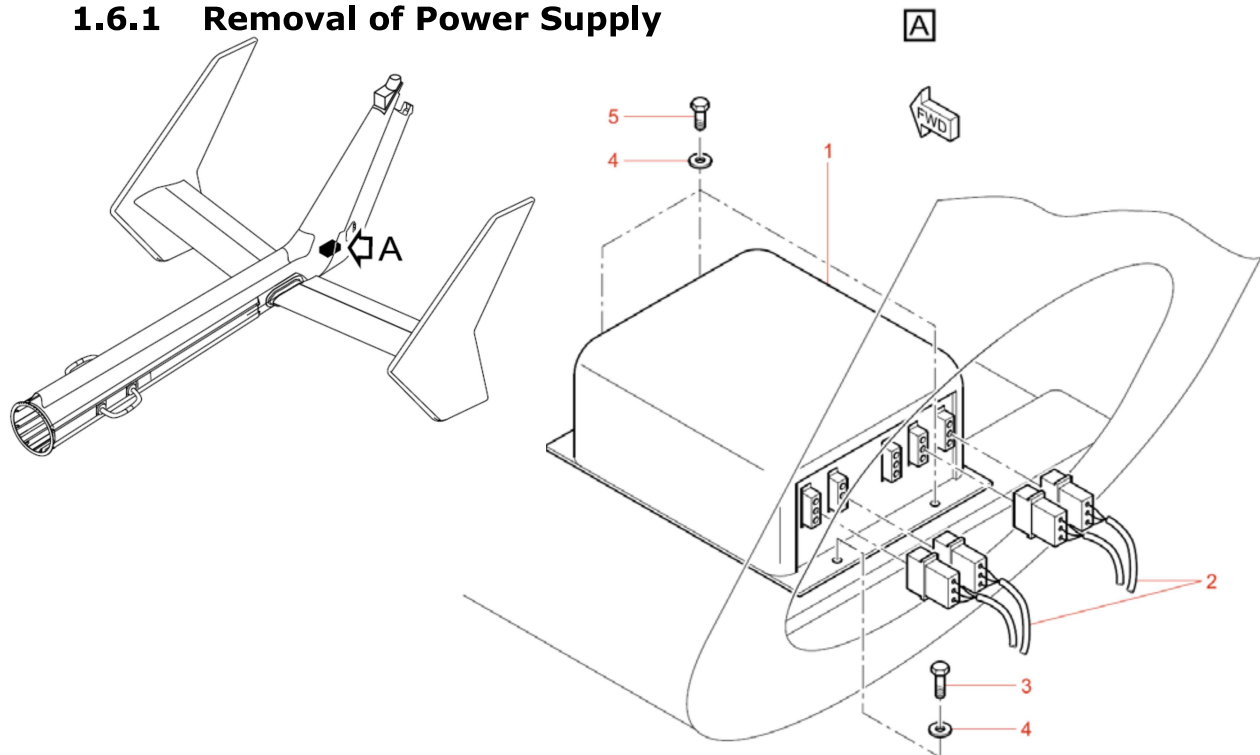
Remarks:

If the aircraft is not already equipped with the strobe function this function cannot be installed through this change. A separate EASA **approved** modification is required for the introduction of the strobe function.

If the strobe function is not used the blue and the yellow wires described in the component installation manual are not used and therefore have to be capped and stowed.

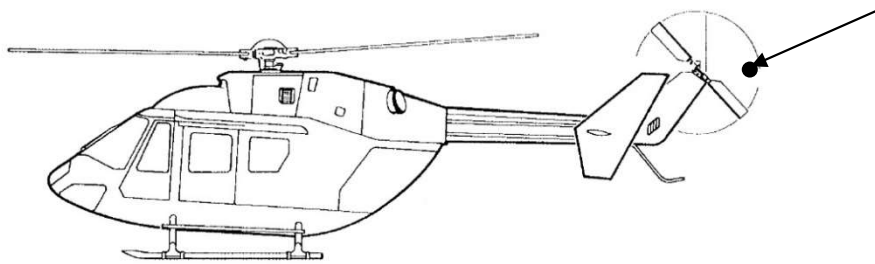
1.6 **Anti-Collision Light Installation**

1.6.1 Removal of Power Supply

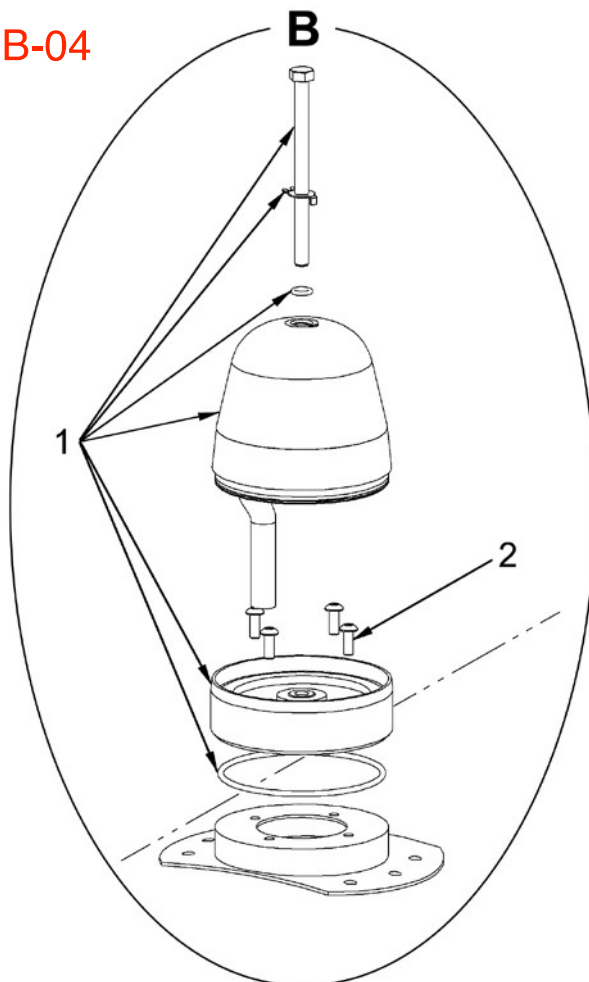
**NOTES**

1. Remove Power Supply unit in accordance to the aircraft maintenance manual.
2. Inspect location for corrosion and if applicable correct as per AMM.
3. Remove connector and splice the wires according to:
 - a. 28VDC to ANODE
 - b. SYNC to TRIGGER
 - c. GND to CATHODE

1.6.2 Installation of Light



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ARB-03

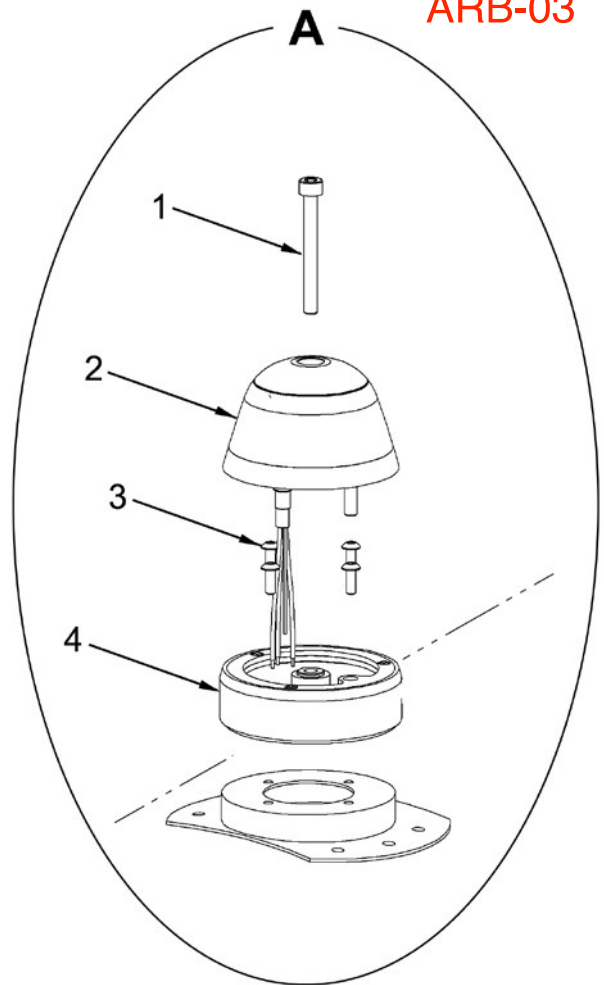


FIGURE AND INDEX NUMBER	PART NUMBER	DESCRIPTION	PARTS AVAIL	QTY PER ASSY
		ANTI-COLLISION LIGHT INSTALLATION		
	Option A			
1	AVS-P000102111-A3A	Hex Socket Metric Screw Assy		1
2	AVE-RBXPR-001	RedBaron XP Galactica		1
3		Original Fasteners		4
4	AVE-LARBUHS-01B	RedBaron Legacy Light Replacement Adapter		1
	Option B			
1	AVE-RBCWR-001	RedBaron Combo HISL		1
2		Original Fasteners		4
NOTES <ol style="list-style-type: none"> Remove anticollision light in accordance to the aircraft maintenance manual. Disconnect the wire bundle from the anticollision light Inspect location for corrosion and if applicable correct as per AMM. Splice the new light's wires into the bundle according to the referenced installation manuals and the aircraft maintenance manual. Install items as per option A or B. 				

Remarks:

If the aircraft is not already equipped with the strobe function this function cannot be installed through this change. A separate EASA **approved** modification is required for the introduction of the strobe function.

If the strobe function is not used the blue and the yellow wires described in the component installation manual are not used and therefore have to be capped and stowed.



Figure 1: Option B - RedBaron Combo HISL



Figure 2: Option B - RedBaron Combo HISL

1.7 **Landing Light Installation forward**

ARB-05, 06

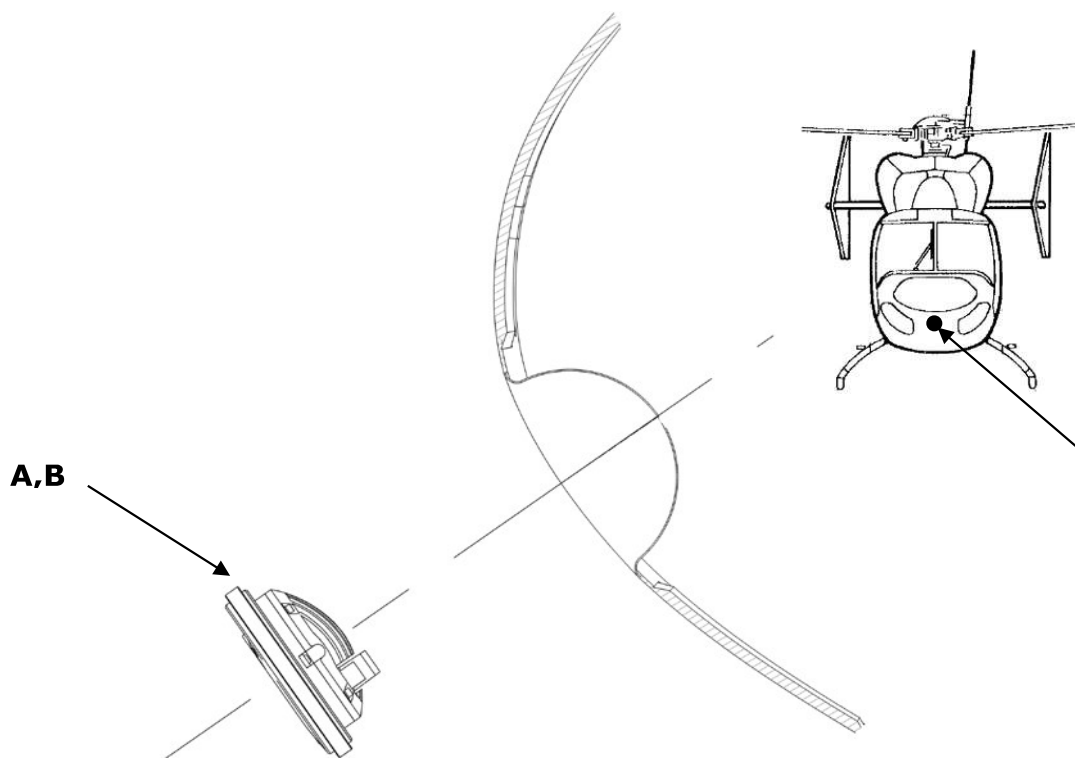


FIGURE AND INDEX NUMBER	PART NUMBER	DESCRIPTION	PARTS AVAIL	QTY PER ASSY
A	Option A AVE-H30TATSNL-T0A	LANDING LIGHTS INSTALLATION Hercules Drop-In Landing		1
B	Option B AVE-H30TATSNT-T0A	Hercules Drop-In Taxi		1

NOTES

1. Remove original light bulb (type 4596) in accordance to the aircraft maintenance manual.
2. Install item A and B using the original hardware as direct replacement in accordance to the aircraft maintenance manual. Regard polarization.

Remarks:

Option A is Drop-In light with Landing lens (narrow beam) and On/Off function, connected via terminal.

Option B is 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-005-PFC.

The compliance is demonstrated for the following certification specification:

Requirements	MoC	Statement of Compliance
CS 29.609 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 29.1301 Function and installation	MoC 0	(a) All navigation and anti-collision lights are ETSO certified. All landing lights are qualified according to RTCA DO160 as per AVE-H30-001-CCL. (b) Only one optional switch may be installed an label is defined herein. (c) All equipment is installed within their limits.
CS 29.1383 Taxi and landing lights	MoC 0	(a) The configuration of the original installation is not changed. (b) is not affected as the installation is not changed. (c) is improved as the new lights are brighter than the originally installed. (d) The landing light surface temperature is significantly lowered by this modification.
CS 29.1529 Instructions for Continued Airworthiness	MoC 0	The modification does not require any changes to the aircraft maintenance procedure which is clearly stated in §1.1 General.