



Installation Instruction

GULFSTREAM

G IV and GV SERIES

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 Gulfstream **G IV and GV**.



Compiled by: _____ 5. – Jun. - 2020

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Approved by: _____ 5. – Jun. - 2020

Georg Hartl
Head of DO, Aveo Engineering Group, s.r.o.

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	Affected Pages
01	Initial Issue	20.July.2016	ALL
02	Change of Hardware	28.July.2016	9, 11, 15, 17, 19
03	Change to common practice reference, ICA statement	29.Aug.2016	5
04	Changes to strobe light installation		12, 20, 26 & 27
04	Addition of optional connector solution on SmartStrobe installations	29. Mar. 2017	12, 13, 20, 21, 27-29
05	Add reference to G IV Add chapters 1.6.1 and 1.6.2 (only headline marked for clarity)	5.Jun. 2020	Several 23, 24

Table 01: Document Amendment Record Table

0.4 Affected Pages Procedure

ALL pages affected by ANY raise of issue of this document will be listed in Table 01 - *Affected 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 general practice section of the Gulfstream **G IV or** GV Aircraft Maintenance Manual.

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

- **G IV or** GV AMM
- AVE-WP-51G-IM
- AVE-IS30ANCSAS-02G-IM
- AVE-POSW-74G-IM

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

- AVE-MOD-006-DL, issue **02**

The following appliances carry an ETSO authorization:

- AVE-POSW-74G-401 – ETSOA 210.10055101
- AVE-IS30ANCSAS-02G – ETSOA 210.10055229
- AVE-WPR-51G-401 & AVE-WPG-51G-402 – ETSOA 210.10055070

The change is to be performed using the document AVE-MOD-006-MCS in the latest issue.

The aircraft manuals remain fully valid. For maintenance of the new lights follow the Aveo Installation Manuals referenced above.

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 lights (type I, II & III) and the strobe lights by LED type lights.

The lights are direct replacements and do not require any change on the A/C side.

1.4 Wing Position and Anti-collision Lights Installation – Left

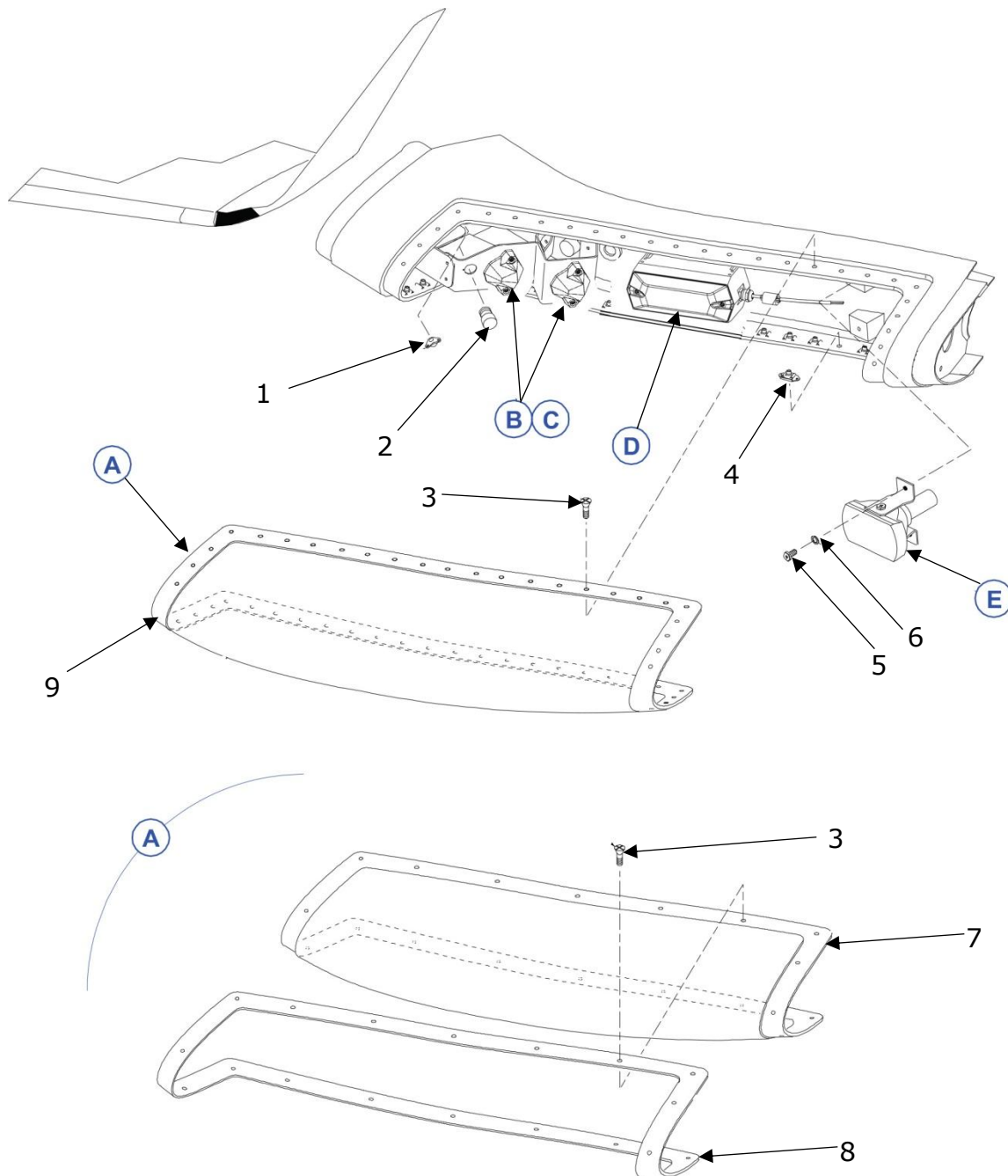


Figure and Index Number	Part Number	Description	Parts Avail.	QTY. Per Assy.
B C D E	AVE-WPR-51G-401 AVE-IS30ANCSAS-02G AVE-N09PANSNL-1WA	Nebulon light – Red SmartStrobe light Nubion Landing		2 1 1
	Original Parts			
1	NAS1793C3-2	Nutplate		4
2	M83287/01-33	Indicator		1
3	NAS1581C3T7P	Bolt		52
		Used with: 1159WP56414-1,-2		
4	202-16130-3B2CD	Nutplate		48
5	NAS1802-08-8	Screw		2
6	NAS1149DN832K	Washer		2
7	1159WP56414-11	Window (LH)		1
		Alternate: 1159WP56414-17		
		Alternate: 1159WP56414-19		
		Alternate: 1159WP56414-21		
8	1159WP56414-15	Retainer (LH)		1
		Used with: 1159W56402-31		
9	1159WP56414-3	Window assy (LH)		1
		Note: Uses 20 attach bolts		
		Alternate: 1159WP56414-1		
		Alternate: 1159WP56414-17		
		Alternate: 1159WP56414-19		
		Alternate: 1159WP56414-21		
NOTES				

A Open Wing Light

Remove lens, item A according to current AMM.

B Wing Position Light Installation - Left

Kit Number: GLF-01

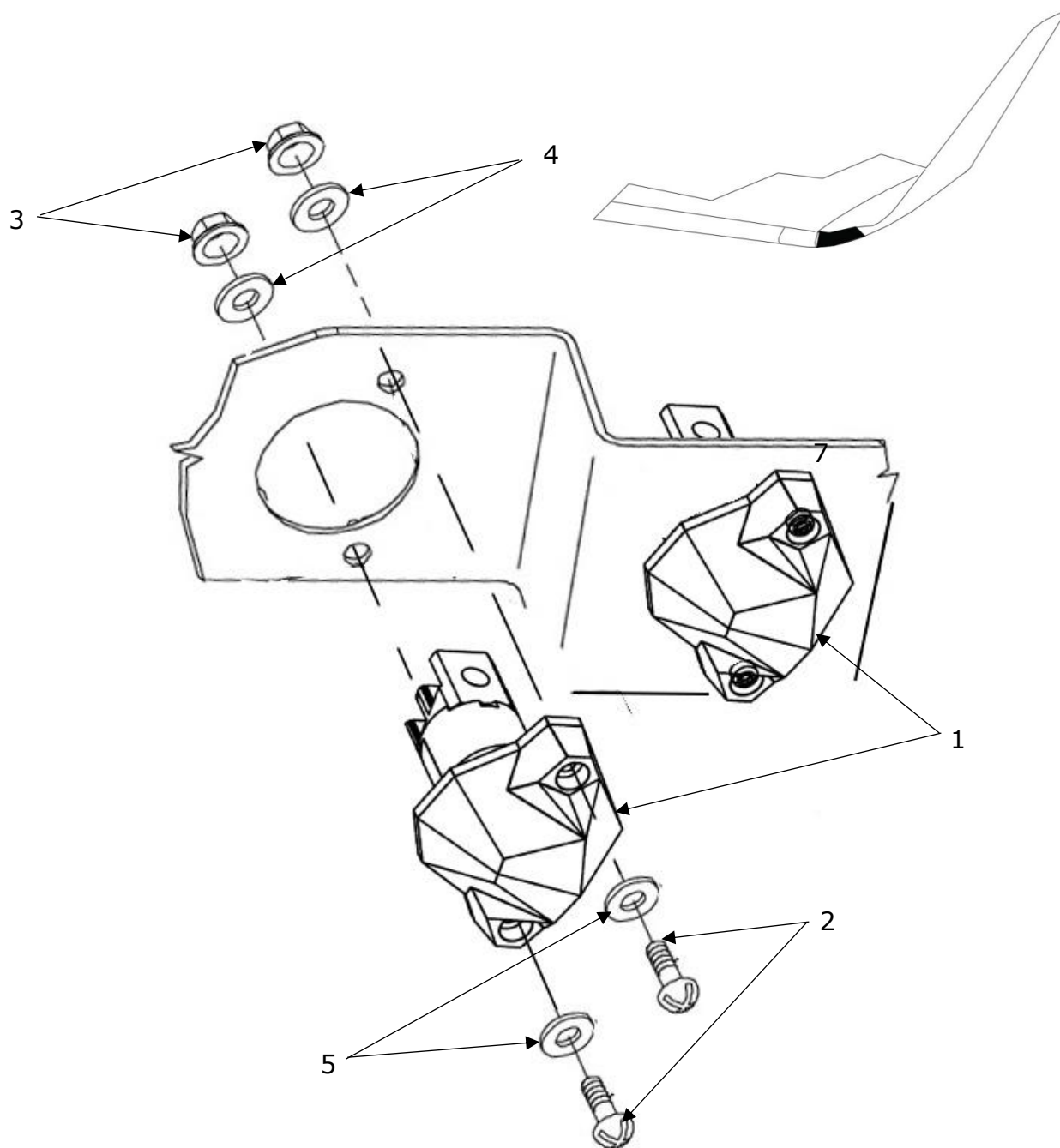


Figure and Index Number	Part Number	Description	Parts Avail.	QTY. Per assy.
1	AVE-WPR-51G-401	Nebulon light - Red		2
2	AVS-91772A113	Pan Head Screw, #4-40, length ¾"		4
3	AVS-91831A005	Hex nylon insert lock nut #4-40		4
4	AVS-92146A530	Split Lock Washer #4		4
5	AVS-170299025	Flat washer - Nylon		4
NOTES The lights are to be connected as described in manual AVE-WP-51G-IM.				

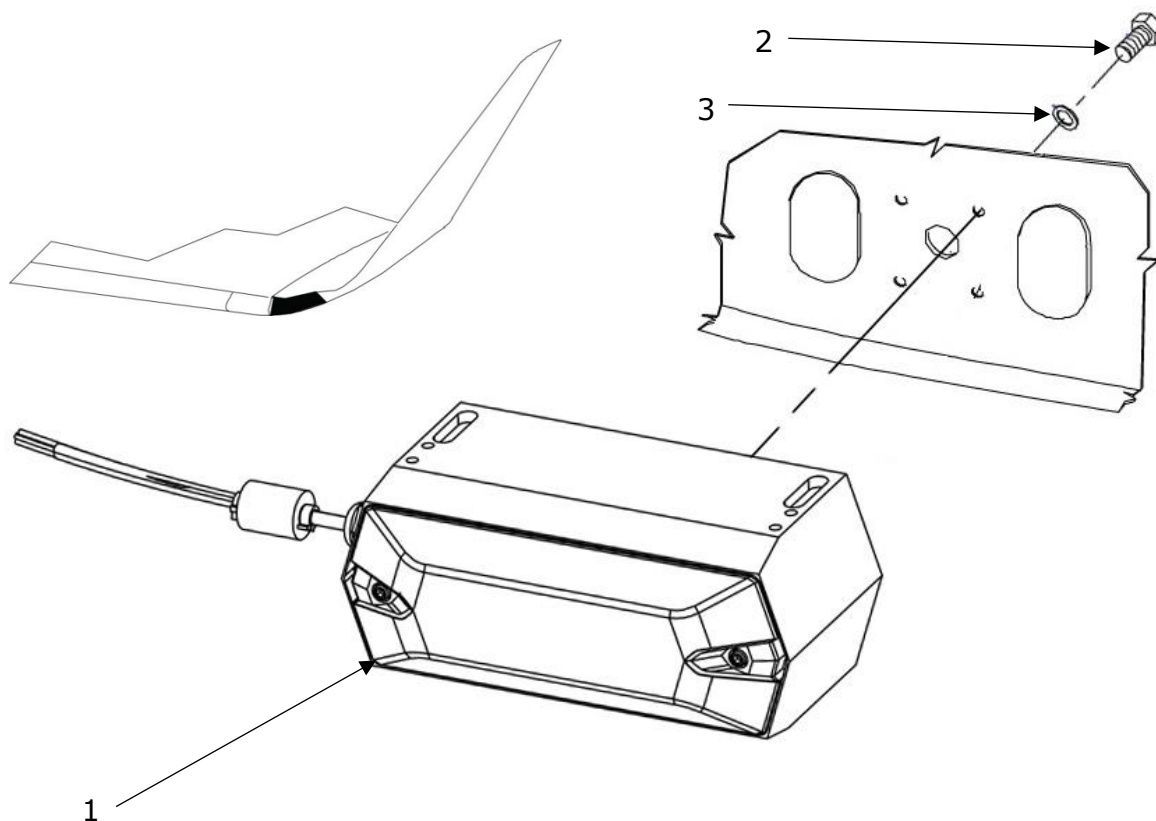
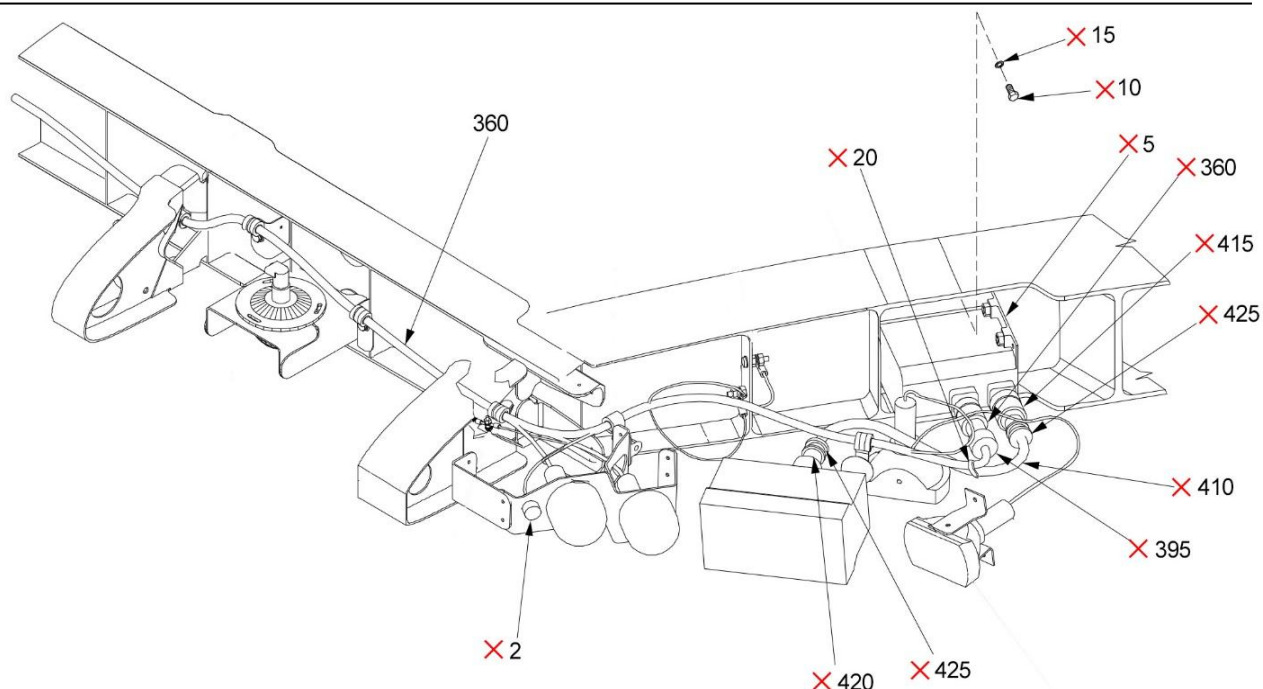
C Wing Strobe Light Installation - Left**Kit Number: GLF-03**

Figure and Index Number	Part Number	Description	Parts Avail.	QTY. Per assy.
1	AVE-IS30ANCSAS-02G	SmartStrobe light		1
2	AVS-92196A148	Screw SHCS #6-32, 1/2 inch		4
3	AVS-92146A540	Split Lock washer #6		4

NOTES
The lights are to be connected as described in manual AVE_IM_033.

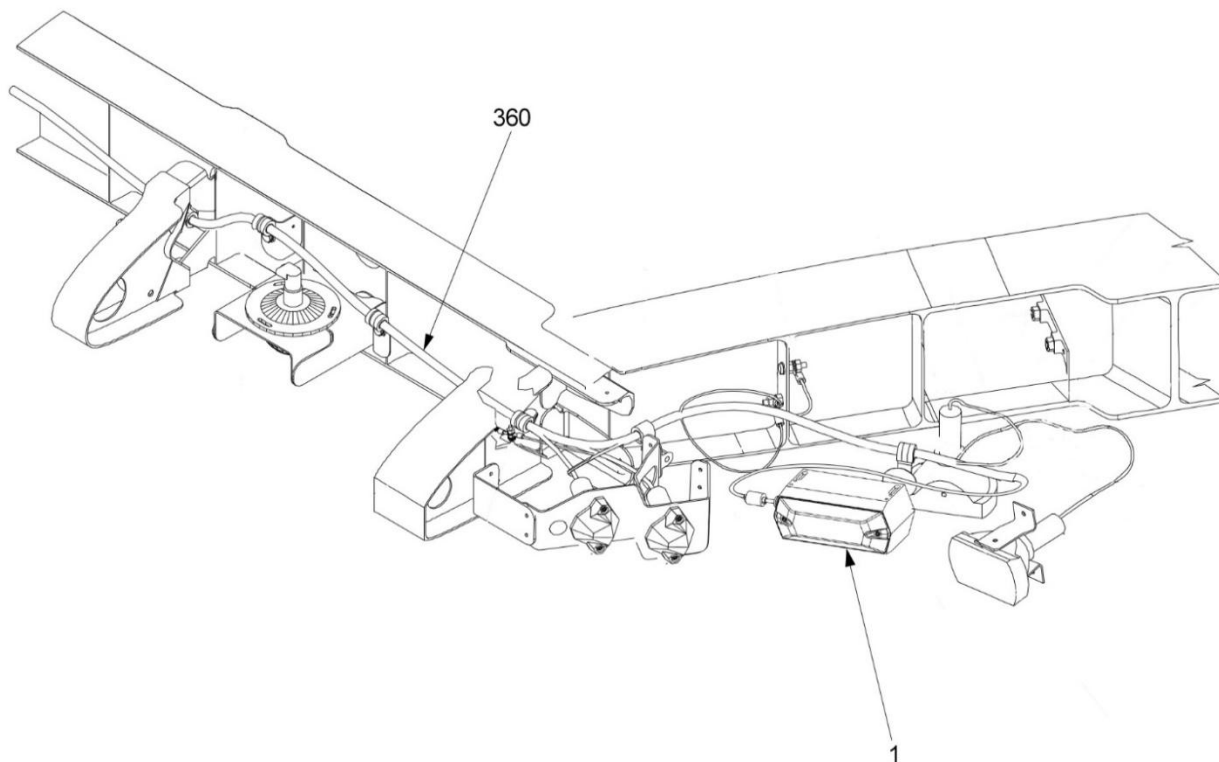
Removing strobe power supply and fault indicator



Remove 2, 5, 10, 15, 20, 390, 395, 410, 415, 420 and 425

Option A – Connection of SmartStrobe by wire splice:

Splice the pigtail wires for ground, neutral and 115V AC according the installation manual AVE-IS30ANCSAS-02G-IM and the wiring diagram in section 1.8 (shown connector is for option B only). Cap and stow all unused wires according Gulfstream AMM.



Option B – Connection of SmartStrobe by connector installation:

Install connector bracket in the location of former power supply using the same fastener. Connect wire bundle to the receptacle and the SmartStrobe pig tail to the connector as per wiring diagrams in section 1.8.

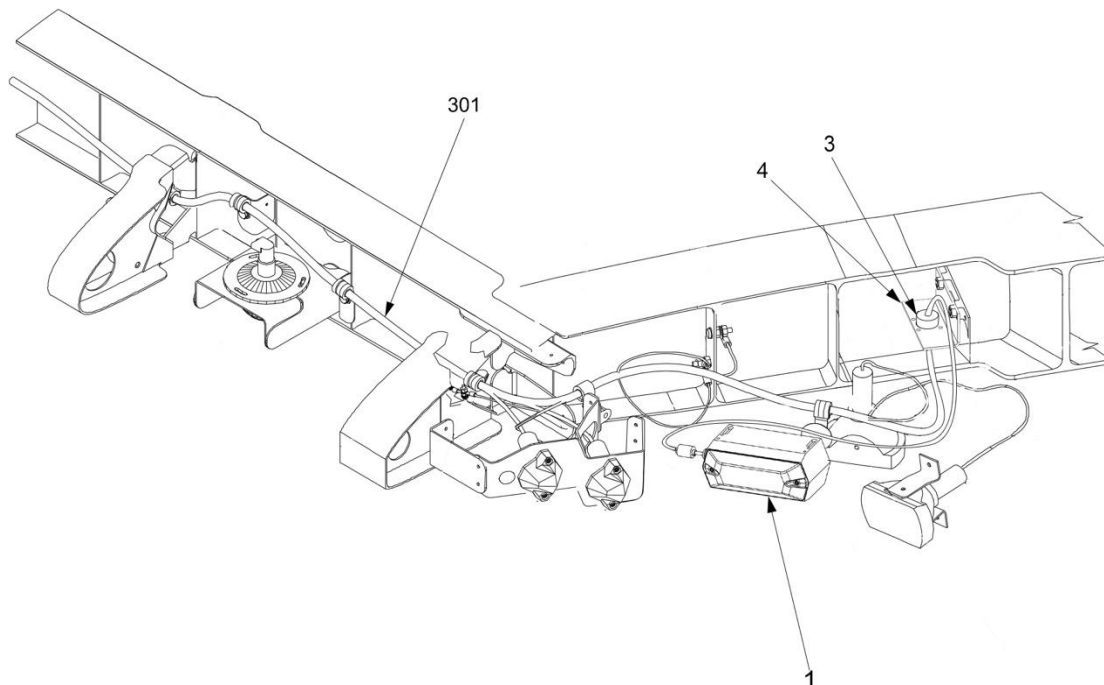


Figure and Index Number	Part Number	Description	Parts Avail.	QTY. Per assy.
1	AVE-IS30ANCSAS-02G	SmartStrobe light		1
2	M83287/01-33	Indicator		1
3	MS24264R10B5SN	Receptacle (including standard fastener, bolt, washer, nut)		1
	MS24266R10B5PN	Connector		1
	MS272911	Back shell		2
4	AVS-P000101656	Bracket		1
5	60-4943-1	Power supply		1
10	NAS6403U4	Bolt		4
15	NAS1149D0316J	Washer		4
20	MS3367-1-9	TY-RAP		1
360	1159AV50501-9	Wiring harness (LH)		1
390	GAC801TA11-99S1	Connector		1
395	GAA800BA10D1	Backshell		1
410	1159AV50503-1	Wiring harness (LH)		1
415	GAC800TA13-98P1	Connector		1
420	GAC800TA13-98S1	Connector		1
425	447US018XM1204	Backshell		1
NOTES Items 3 and 4 are applicable for option B only				

D Wing Taxi Light Installation-left

The taxi and downwash light is can be installed according to Installation Instructions AVE-MOD-026-INS approved under EASA.

Taxi Light Kit number: GLF-07

Downwash Light kit number: GLF-08

A Close Wing Light

Install lens, item A according to current AMM.

1.5 Wing Position and Anti-collision Lights Installation - Right

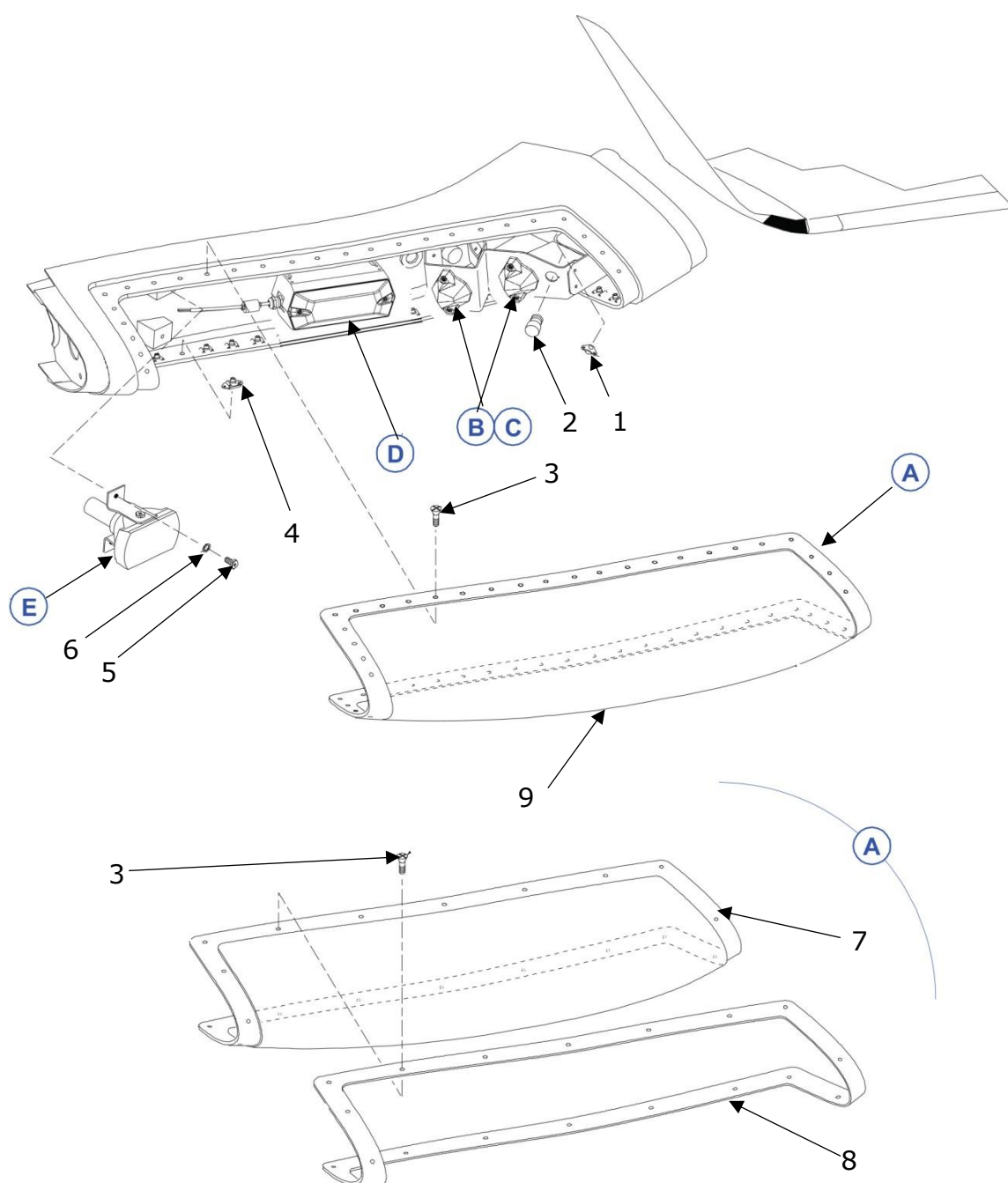


Figure and Index Number	Part Number	Description	Parts Avail.	QTY. Per assy.
B C	AVE-WPG-51G-402	Nebulon light – Green		2
D	AVE-IS30ANCSAS-02G	SmartStrobe light		1
E	AVE-N09PANSNL-1WA	Nubion Landing		1
Original Parts				
1	NAS1793C3-2	Nutplate		4
2	M83287/01-33	Indicator		1
3	NAS1581C3T7P	Bolt		52
		Used with: 1159WP56414-1,-2		
4	202-16130-3B2CD	Nutplate		48
5	NAS1802-08-8	Screw		2
6	NAS1149DN832K	Washer		2
7	1159WP56414-12	Window (RH)		1
		Alternate: 1159WP56414-18		
		Alternate: 1159WP56414-20		
		Alternate: 1159WP56414-22		
8	1159WP56414-16	Retainer (RH)		1
		Used with: 1159W56402-32		
9	1159WP56414-4	Window assy (RH)		1
		Note: Uses 20 attach bolts		
		Alternate: 1159WP56414-2		
		Alternate: 1159WP56414-18		
		Alternate: 1159WP56414-20		
		Alternate: 1159WP56414-22		
NOTES				

A Open Wing Light

Remove lens, item A according to current AMM.

B Wing Position Light Installation - Right

Kit Number: GLF-02

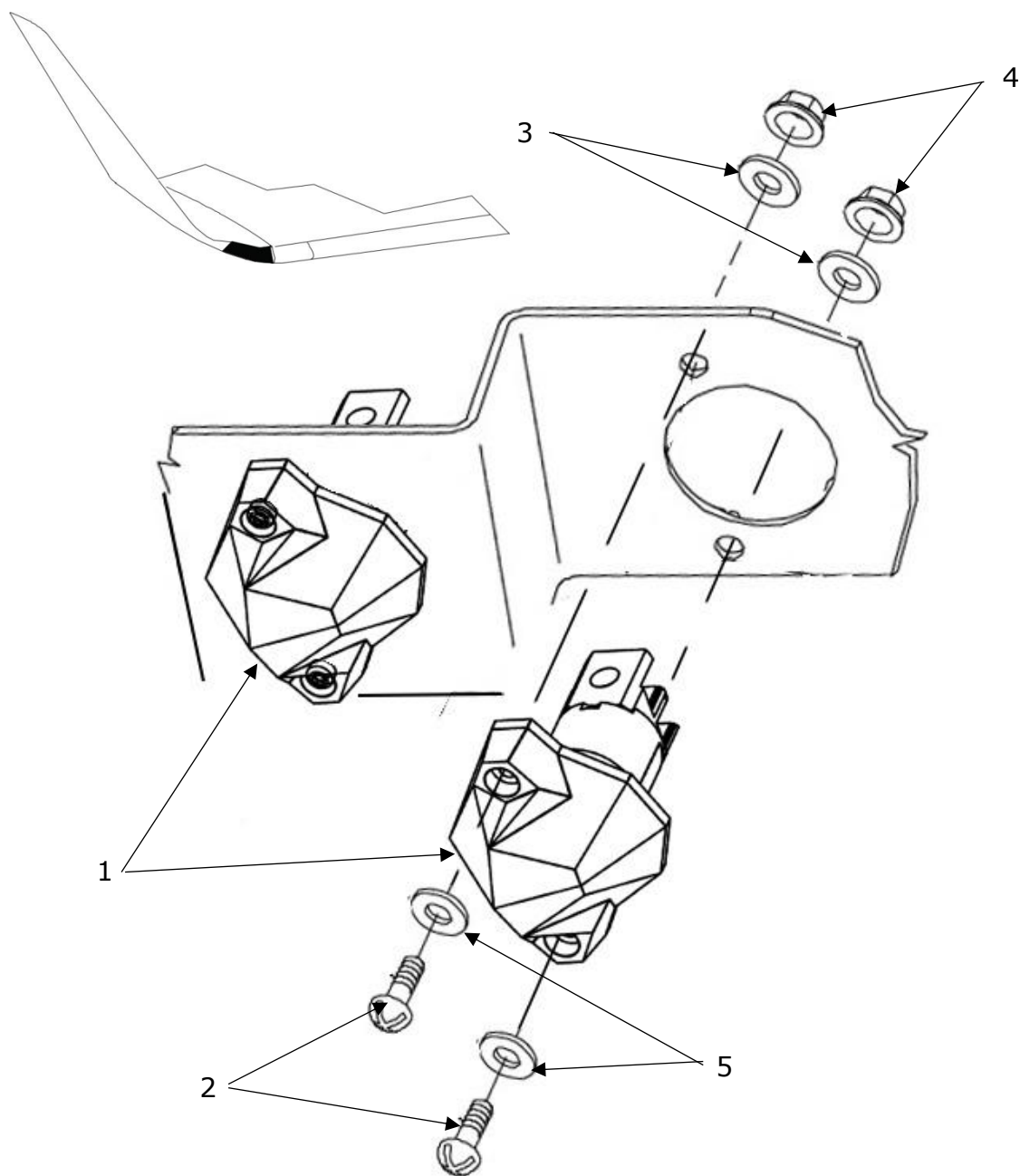


Figure and Index Number	Part Number	Description	Parts Avail.	QTY. Per assy.
1	AVE-WPG-51G-402	Nebulon light - Green		2
2	AVS-91772A113	Pan Head Screw, #4-40, length ¾"		4
3	AVS-91831A005	Hex nylon insert lock nut #4-40		4
4	AVS-92146A530	Split Lock Washer #4		4
5	AVS-170299025	Flat washer - Nylon		4
NOTES The lights are to be connected as described in manual AVE-WP-51G-IM.				

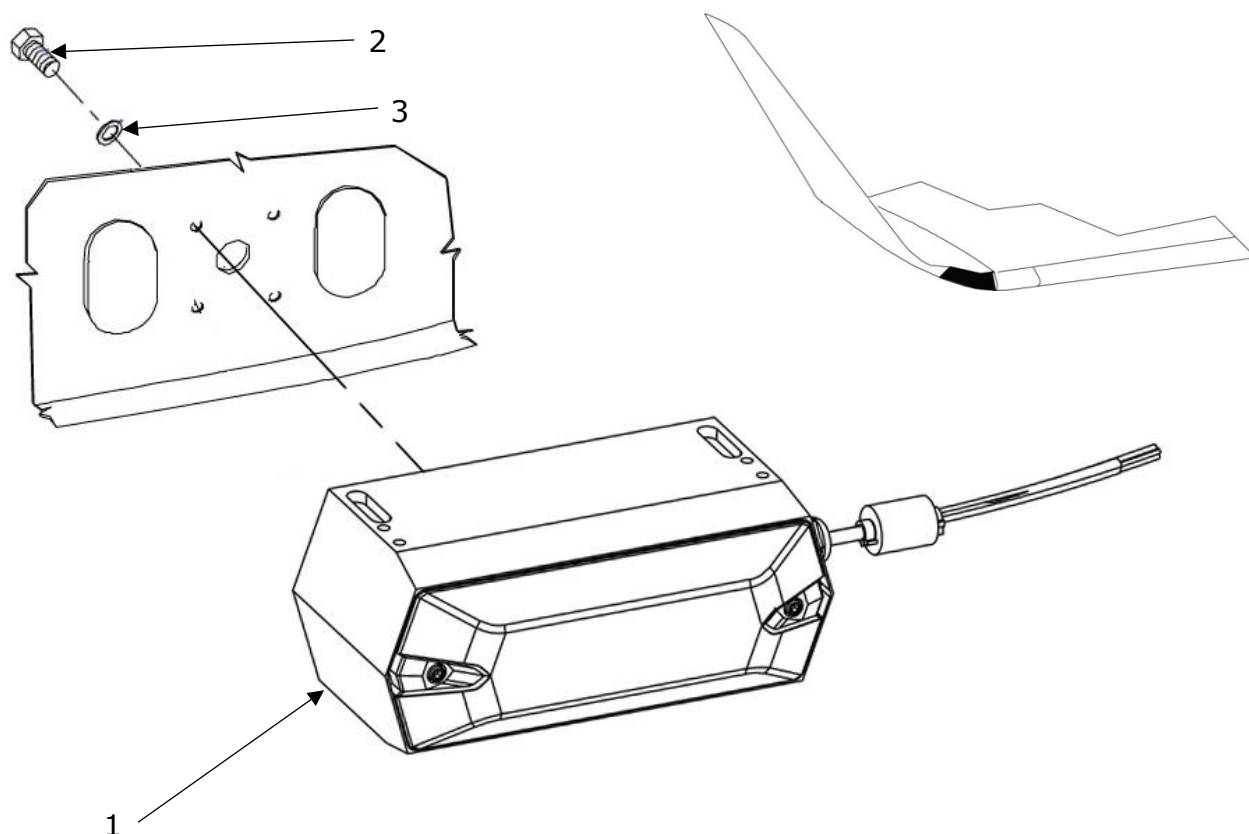
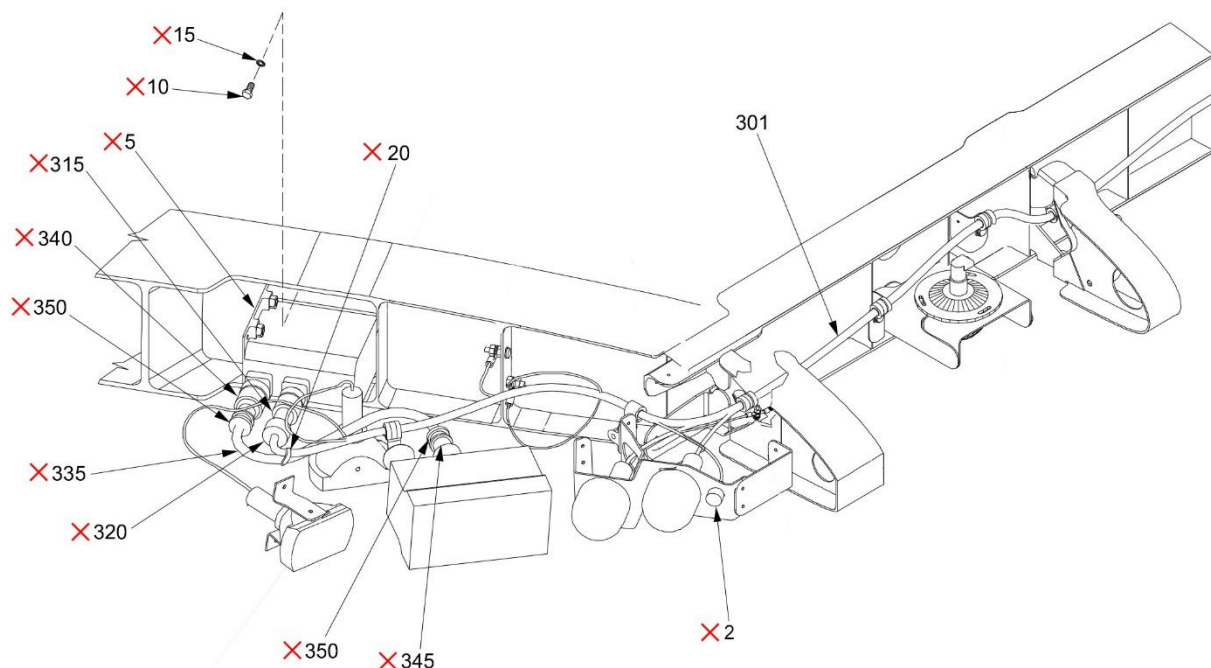
C Wing Strobe Light Installation - Right**Kit Number: GLF-03**

Figure and Index Number	Part Number	Description	Parts Avail.	QTY. Per assy.
1	AVE-IS30ANCSAS-02G	SmartStrobe light		1
2	AVS-92196A148	Screw SHCS #6-32, 1/2 inch		4
3	AVS-92146A540	Split Lock washer #6		4

NOTES

The lights are to be connected as described in manual AVE_IM_033.
Strobe power supply box must be removed. See next page.

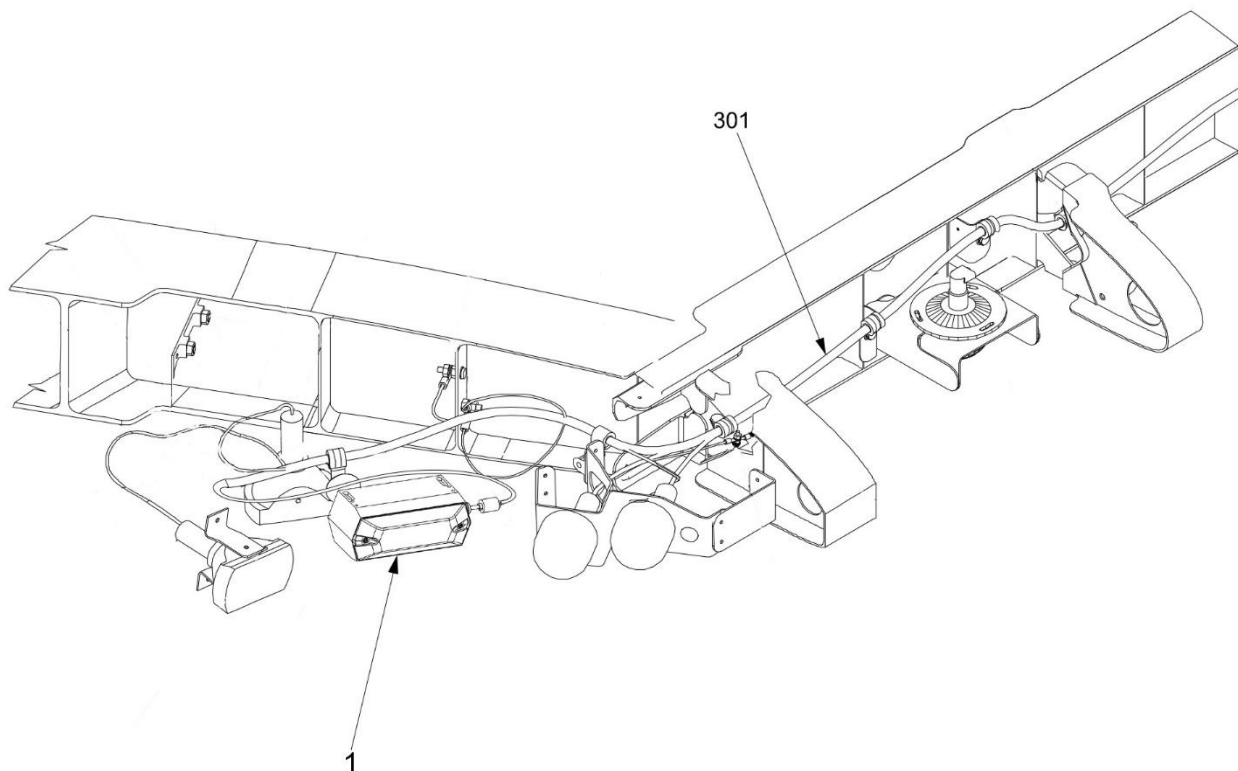
Removing strobe power supply and fault indicator



Remove 2, 5, 10, 15, 20, 315, 320, 335, 340, 345, 350.

Option A – Connection of SmartStrobe by wire splice:

Splice the pigtail wires for ground, neutral and 115V AC according the installation manual AVE-IS30ANCSAS-02G-IM and the wiring diagram in section 1.8 (shown connector is for option B only). Cap and stow all unused wires according Gulfstream AMM.



Option B – Connection of SmartStrobe by connector installation:

Install connector bracket in the location of former power supply using the same fastener. Connect wire bundle to the receptacle and the SmartStrobe pig tail to the connector as per wiring diagrams in section 1.8.

Figure and Index Number	Part Number	Description	Parts Avail.	QTY. Per assy.
1	AVE-IS30ANCSAS-02G	SmartStrobe light		1
2	M83287/01-33	Indicator		1
3	MS24264R10B5SN	Receptacle (including standard fastener, bolt, washer, nut)		1
	MS24266R10B5PN	Connector		1
	MS272911	Back shell		2
4	AVS-P000101656	Bracket		1
5	60-4943-1	Power supply		1
10	NAS6403U4	Bolt		4
15	NAS1149D0316J	Washer		4
20	MS3367-1-9	TY-RAP		1
301	1159AV50502-9	Wiring harness (RH)		1
315	GAC801TA11-99S1	Connector		1
320	GAA800BA10D1	Backshell		1
335	1159AV50504-1	Wiring harness (RH)		1
340	GAC800TA13-98P1	Connector		1
345	GAC800TA13-98S1	Connector		1
350	447US018XM1204	Backshell		1

NOTES

Items 3 and 4 are applicable for option B only

D Wing Taxi Light Installation-left

The taxi and downwash light is can be installed according to Installation Instructions AVE-MOD-026-INS approved under EASA.

Taxi Light Kit number: GLF-07

Downwash Light kit number: GLF-08

E Close Wing Light

Install lens, item A according to current AMM.

1.6 Navigation Lights Installation – Tail Position

1.6.1 G IV up to serial number 1274

Kit Number: GLF-13

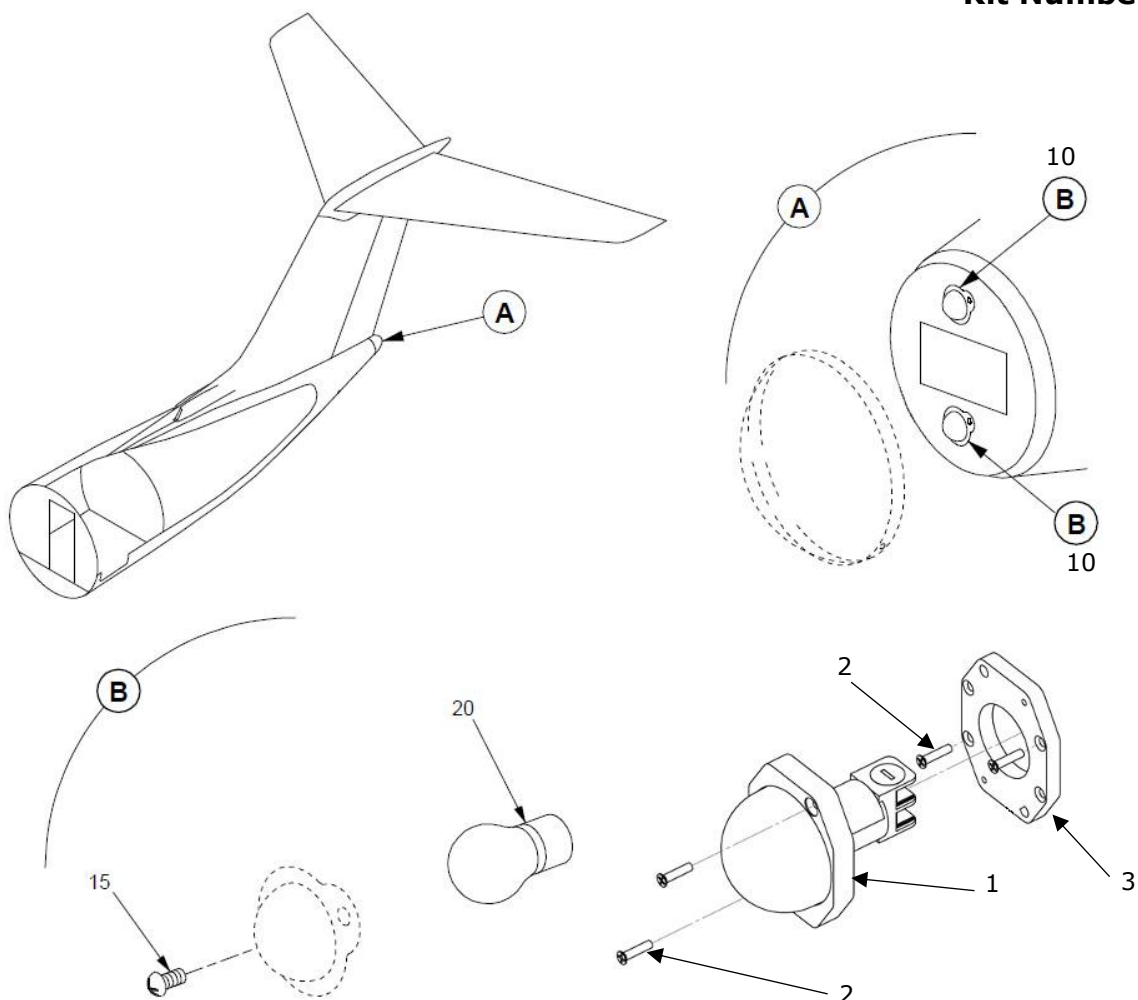


Figure and Index Number	Part Number	Description	Parts Avail.	QTY. Per assy.
1	AVE-POSW-74G-401	Pegatron		2
2	AVS-93085A110	4-40 x 1/2" 100 Degree Flat Head		12
3	AVS-A030106060-A60	Adapter		2
10	Original Parts	Light assy		2
15	B9730-1 or 30-2368-1	Screw		4
20	MS24693-C6	Bulb		2
	MS35478-1683			

NOTES

Remove lens on tail fairing according AMM

Remove and disconnect Light assy (item 10) including bulb and screws (items 15, 20)

Install adapter (item 3) with screws (item 2) in upper and lower location

The lights (item 1) are to be connected as described in manual AVE-POSW-74G-IM and installed with screw (item 2)

Install lens according AMM

1.6.2 G IV serial number 1275 and higher

Kit Number: GLF-13

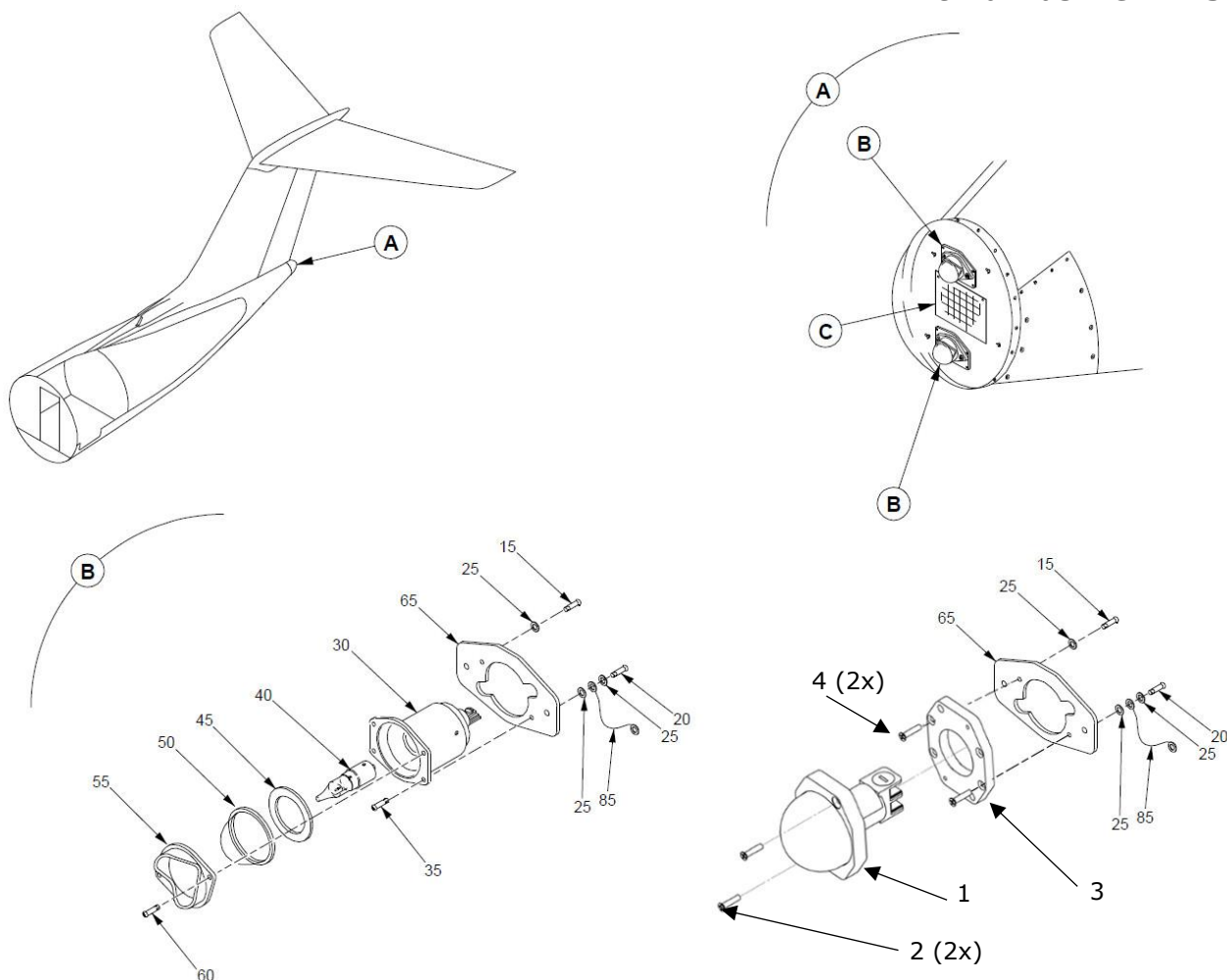


Figure and Index Number	Part Number	Description	Parts Avail.	QTY. Per Assy.
1	AVE-POSW-74G-401	Pegatron		2
2	MS24693-C6	4-40 x 1/2" 100 Degree Flat Head		4
3	AVS-A030106060-A60	Adapter		2
4	MS24693-C6	4-40 x 1/2" 100 Degree Flat Head		4
10	Original Parts			
15	B9730-1 or 30-2368-1	Light Assy		2
20	MS24693-C6	Screw		4
	MS35478-1683	Bulb		2

NOTES

Remove lens on tail fairing according AMM

Remove and disconnect Light Assy (items 30 through 60) including bulb and screws

Install adapter (item 3) with screws (item 4) to doubler (item 65) in upper and lower location

The lights (item 1) are to be connected as described in manual AVE-POSW-74G-IM and installed with screw (item 2)

Install lens according AMM

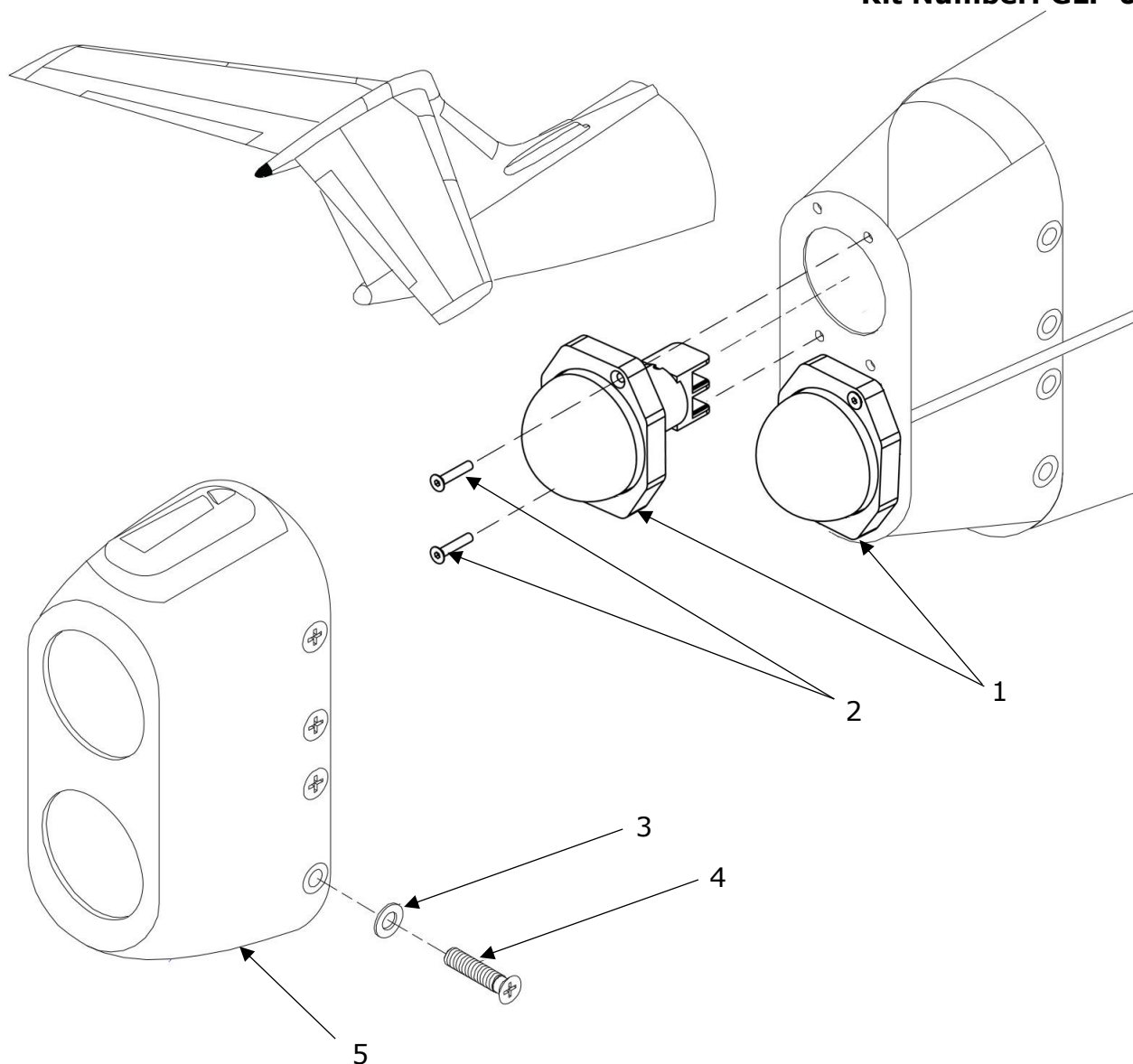
1.6.3 G V installation**Kit Number: GLF-04**

Figure and Index Number	Part Number	Description	Parts Avail.	QTY. Per Assy.
1	AVE-POSW-74G-401	Pegatron		2
2	AVS-93085A112	4-40 x 5/8" 100 Degree Flat Head		4
3	Original Parts	Washer		8
4	NAS1169C10L	Original fastener		8
5	1159CS52044-405	Tail cone Spare: 1159CSH52044-413		1

NOTES

(#3 & #4) Use original washer and screw to mount lights to holder.
The lights are to be connected as described in manual AVE-POSW-74G-IM.

1.7 Rear Anti-collision Strobe Light Installation

Kit Number: GLF-05

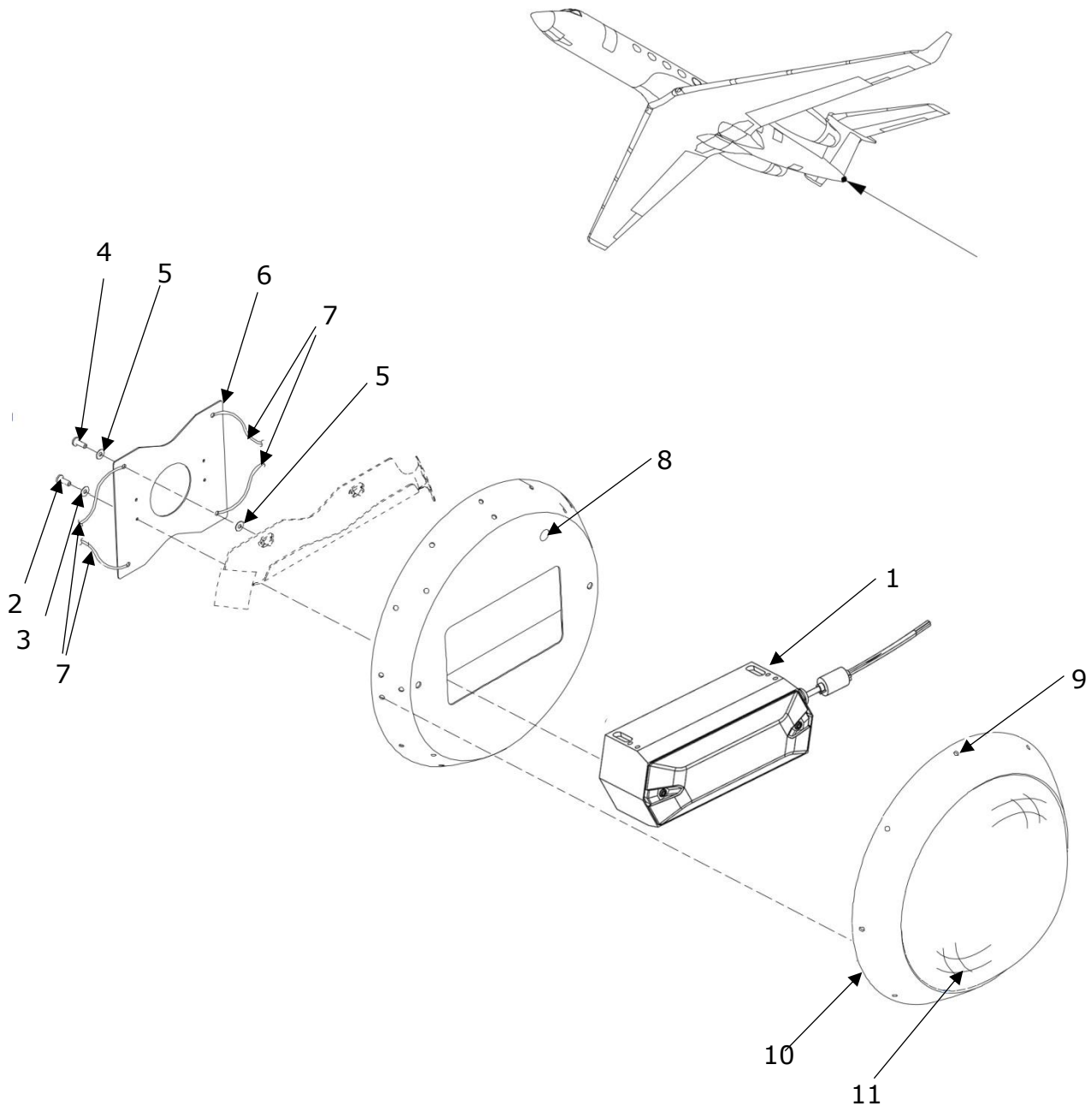


Figure and Index Number	Part Number	Description	Parts Avail.	QTY. Per assy.
1	AVE-IS30ANCSAS-02G	SmartStrobe light		1
2	AVS-92196A148	Screw SHCH #6-32, 1/2 inch		4
3	AVS-92146A540	Split Lock washer #6		4
4	Original Parts MS27039-0807	Screw		4
5	AN960D6L	Washer		4
6	1159B50908-13	Plate, mounting		1
7	MS25083-6BB10	Jumper, bonding		1
8	M83287/01-33	Indicator, bite		8
9	NAS1921B05FC	Rivet		1
10	1159BP50907-11	Ring, Lens attachment		1
11	1159BP20132-1	Lens		1
NOTES The lights have to be connected as described in manual AVE_IM_033. Strobe power supply box must be removed. See next page				

REMOVING POWER SUPPLY BOX

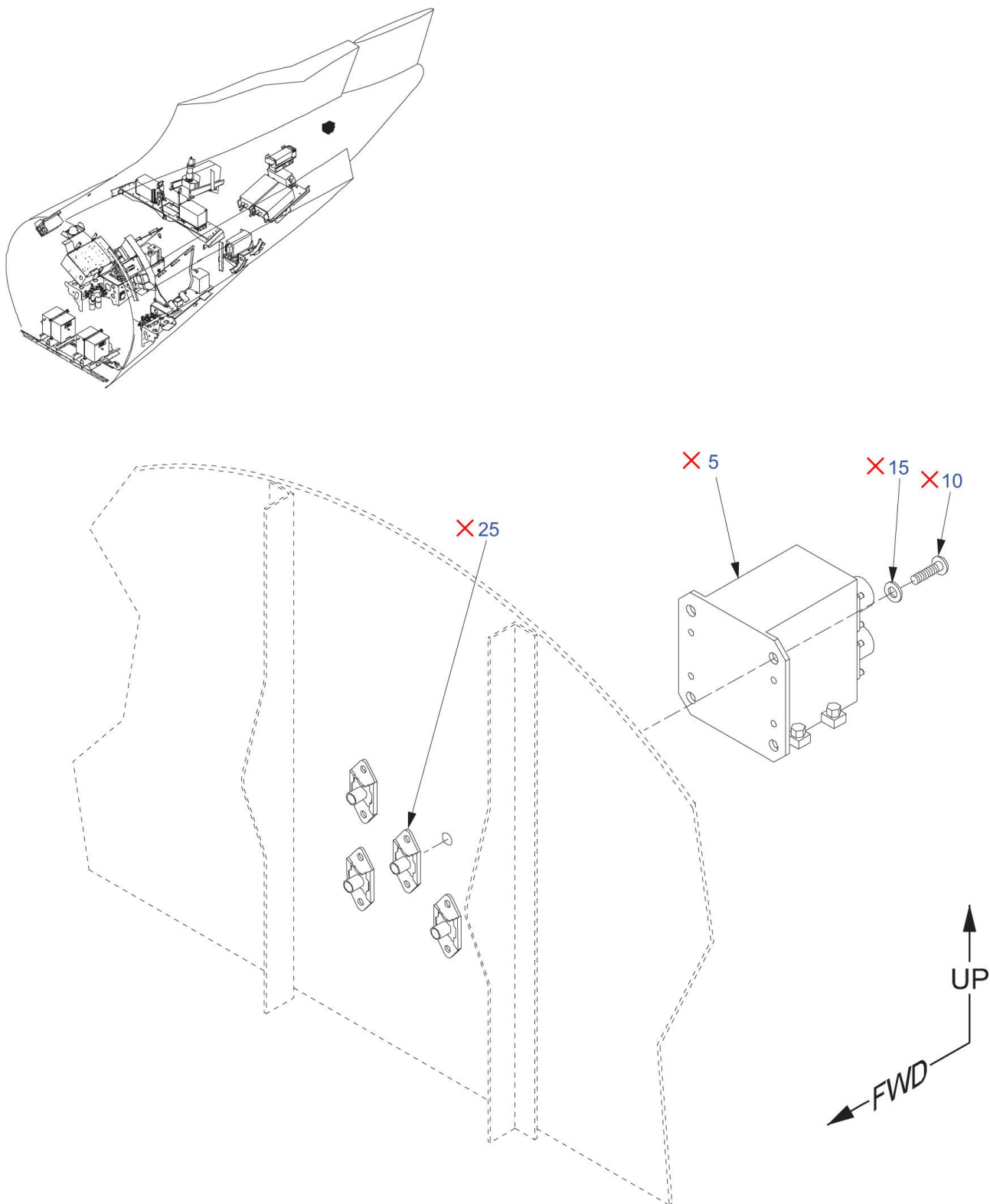


Figure and Index Number	Part Number	Description	Parts Avail.	QTY. Per assy.
5	Original Parts			
10	60-4943-1	Power supply		1
15	MS2709-1-10	Screw		4
25	AN960D10L	Washer		4
	MS21059L3	Nutplate		4

NOTES

Remove items 5, 10 and 15

Option A – Connection of SmartStrobe by wire splice:

Extend the pigtail with a wire bundle of three wires, size #24 to run in parallel to the existing wires to the connector location 123PS3P1. Remove connector and splice the pigtail wires for ground, neutral and 115V AC according the installation manual AVE-IS30ANCSAS-02G-IM and the wiring diagram in section 1.8 (shown connector is for option B only). Cap and stow all unused wires and connectors according Gulfstream AMM.

Option B – Connection of SmartStrobe by connector installation:

Install connector bracket in the location of former power supply using the same fastener. Extend the pigtail with a wire bundle of three wires, size #24 to run in parallel to the existing wires to the connector location 123PS3P1. Connect wire bundle from the aircraft to the receptacle and the extended SmartStrobe pig tail to the connector as per wiring diagrams in section 1.8.

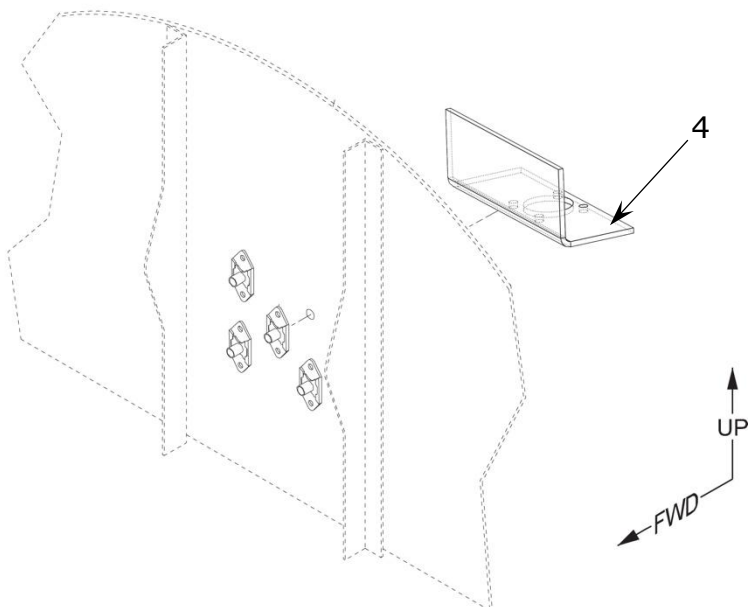
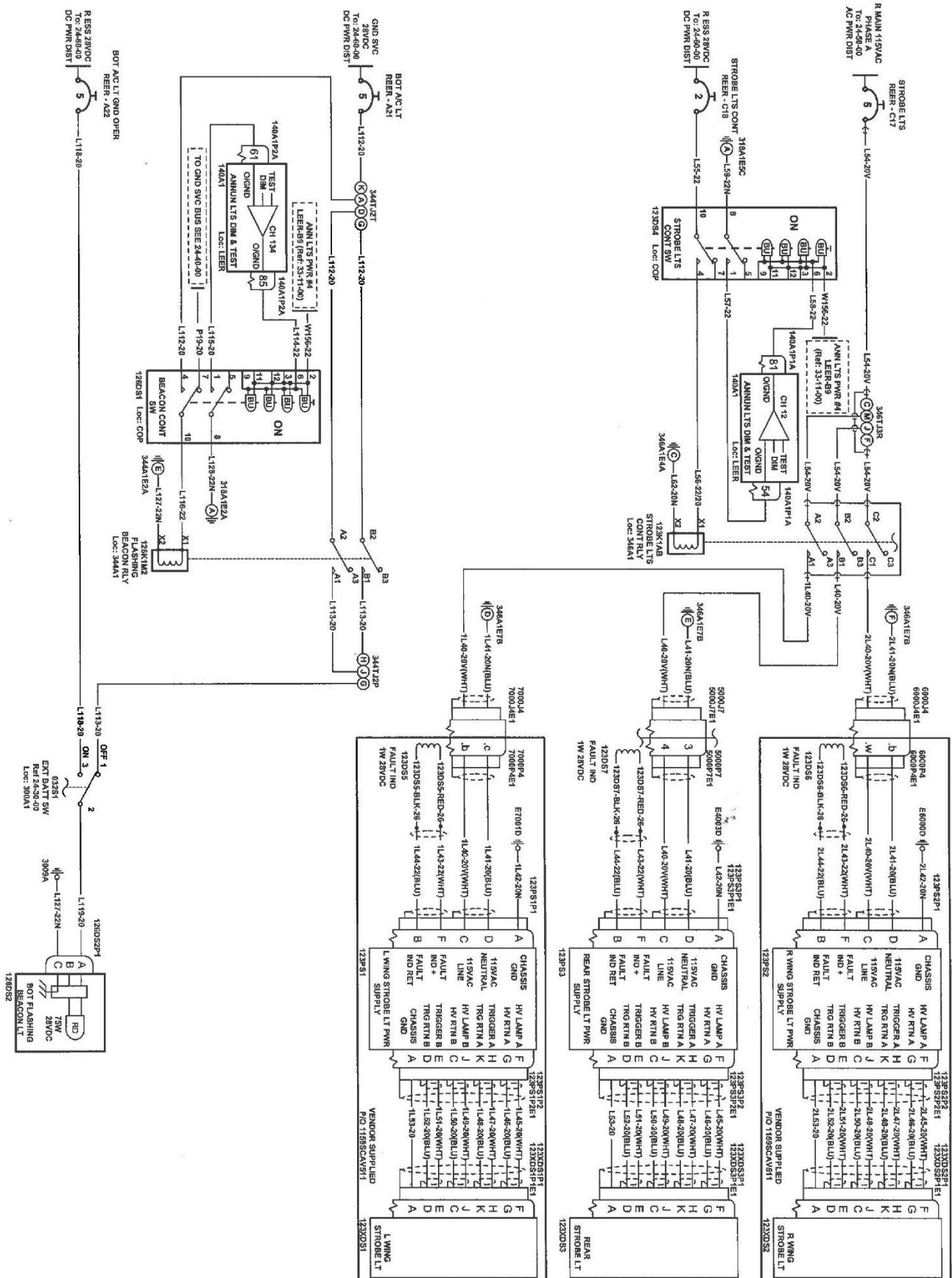


Figure and Index Number	Part Number	Description	Parts Avail.	QTY. Per Assy.
3 (not shown)	Original Parts MS24264R10B5SN	Receptacle (including standard fastener, bolt, washer, nut)		
	MS24266R10B5PN	Connector		1
4	MS272911	Back shell		2
	AVS-P000101656	Bracket		1
NOTES				
Items 3 and 4 are applicable for option B only				

1.8 Wiring Diagrams for SmartStrobe Installation

Wiring diagram, as per aircraft maintenance manual, before the modification:



1) Land R Strobe Lighting
2) Tail Strobe Lighting
3) Bottom Flashing Beacon and Anti-Collision and Position Lighting
4) Aircraft 501-Subsequent

Part 2 Compliance demonstration

This document is in relation to the certification program AVE-MOD-006-PFC.
The compliance is demonstrated for the following certification specification:

Requirements	MoC	Statement of Compliance
CS 25.609 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 25.1301 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 25.1529 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.