



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 | 29. Mar. 2017 | 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.

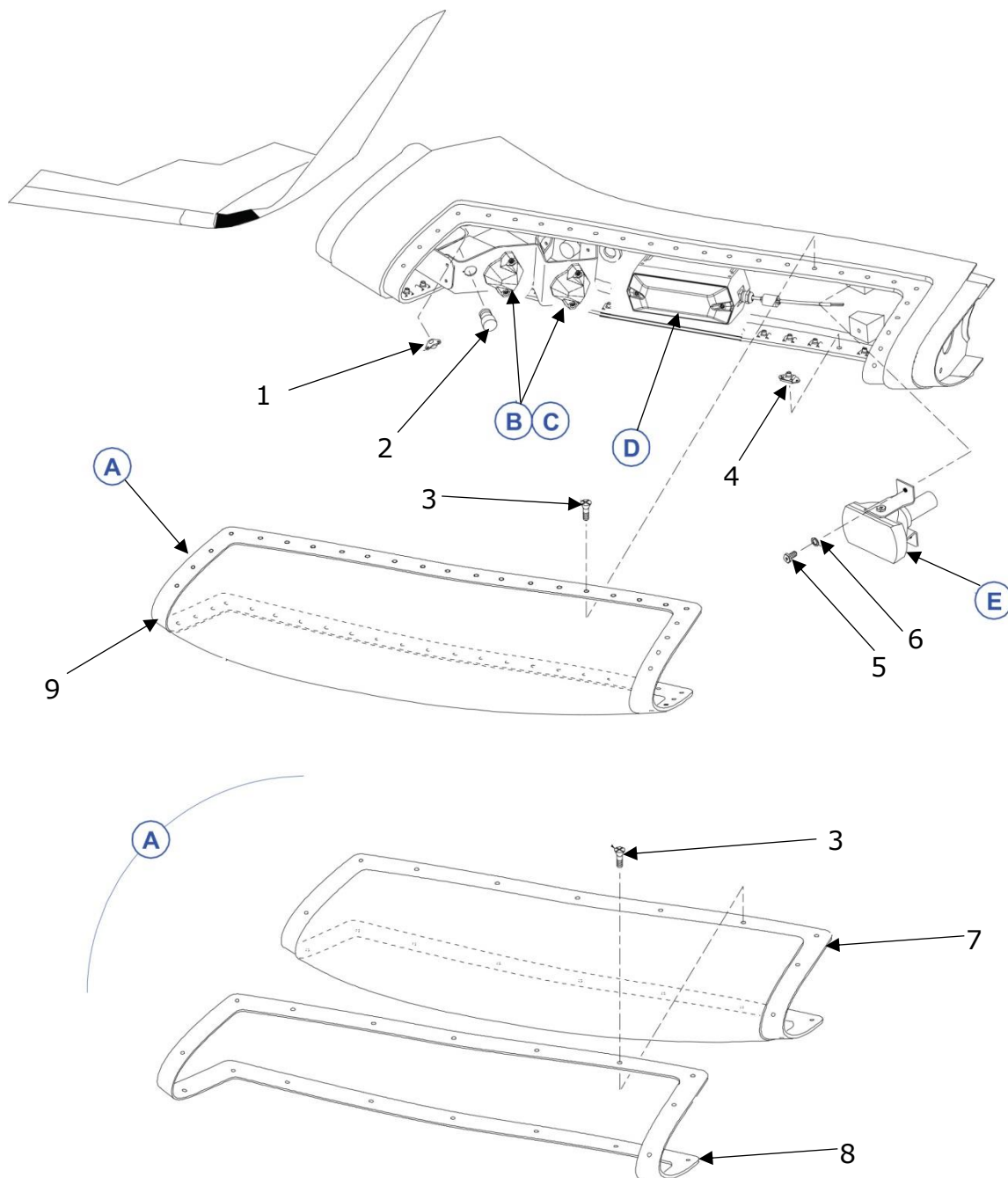
For inspection of the new lights themselves follow the procedure of the Aveo Installation Manuals referenced above.

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



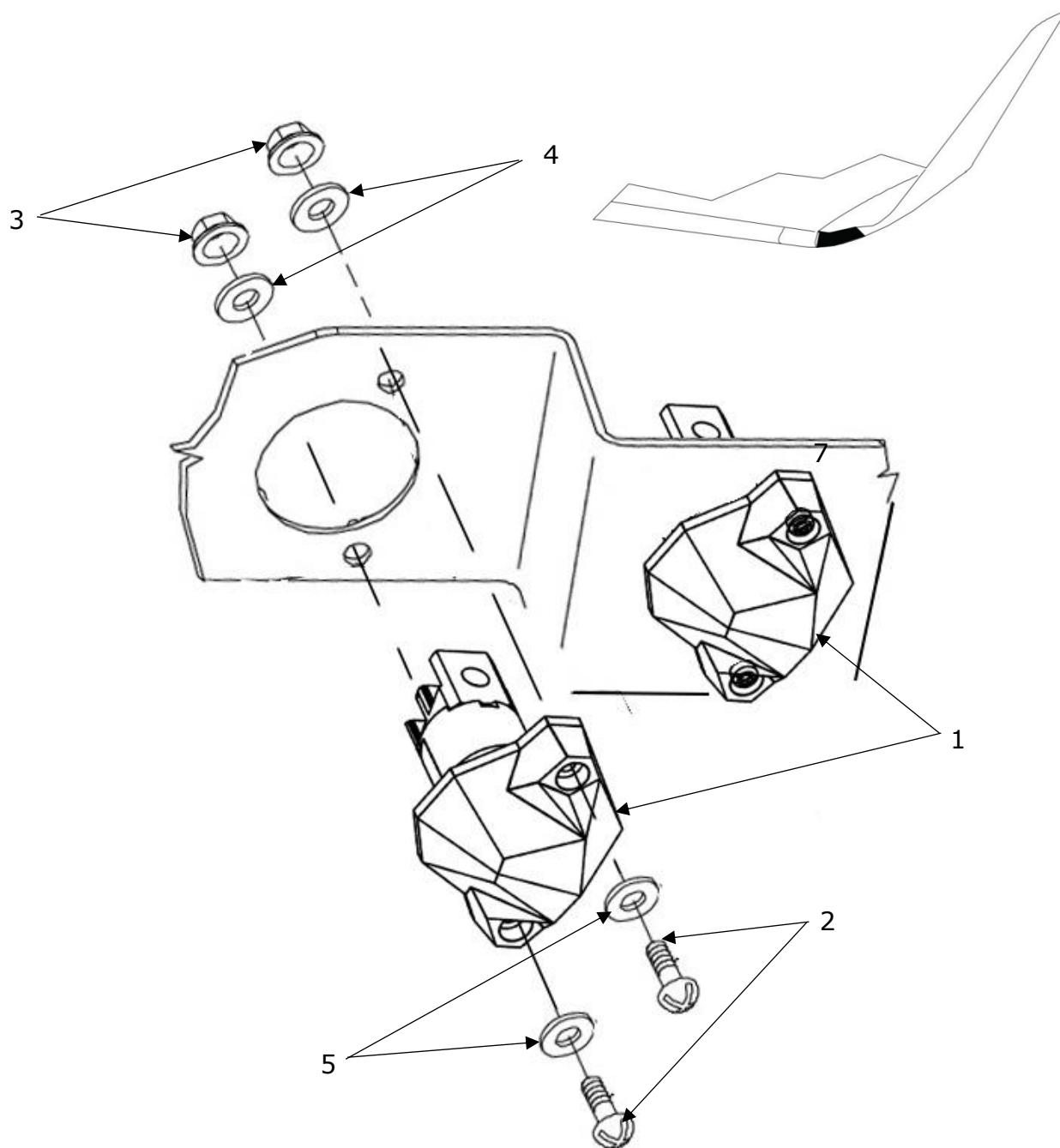
| Figure and Index Number | Part Number | Description | Parts Avail. | QTY. Per assy. |
|-------------------------|--|--|--------------|----------------|
| B C D E | AVE-WPR-51G-401 AVE-IS30ANCSAS-02G AVE-N09PANSNL-1WA | Nebulon light – Red SmartStrobe light Nubion Landing | | 2 1 1 |
| | Original Parts | | | |
| 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

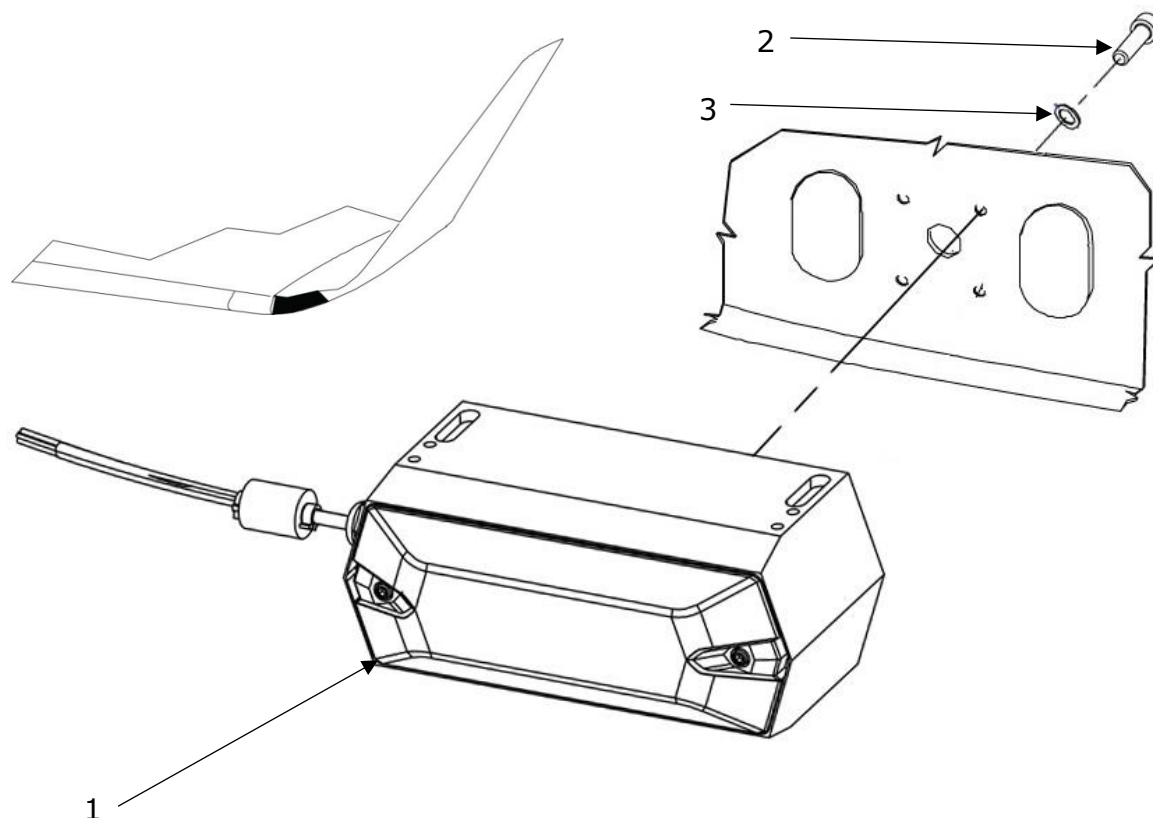
Remove lens, item A according to current AMM.

B Wing Position Light Installation - Left

Kit Number: GLF-01

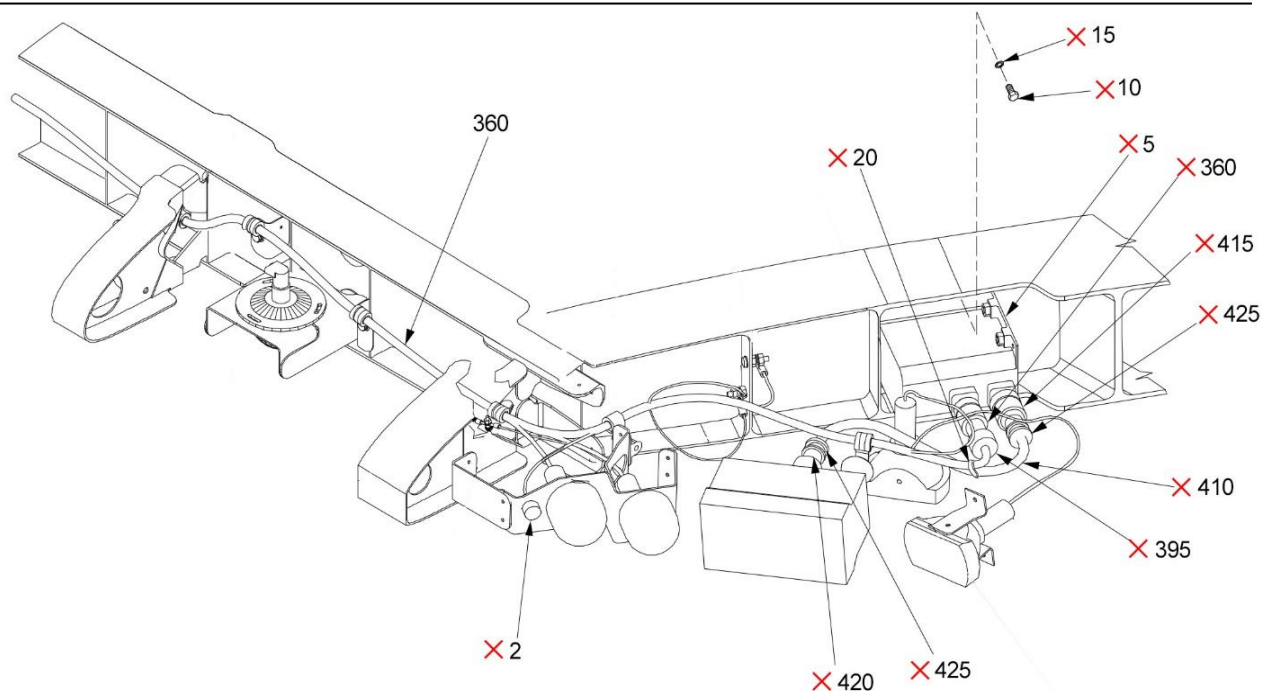


| Figure and Index Number | Part Number | Description | Parts Avail. | QTY. Per assy. |
|--|-----------------|----------------------------------|--------------|----------------|
| 1 | AVE-WPR-51G-401 | Nebulon light - Red | | 2 |
| 2 | AVS-91772A113 | Pan Head Screw, #4-40, length ¾" | | 4 |
| 3 | AVS-91831A005 | 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 UNC#6-32 Thread, 1/2" Length Socket Head Screw | | 4 |
| 3 | AVS-92146A540 | Split Lock washer #6 | | 4 |

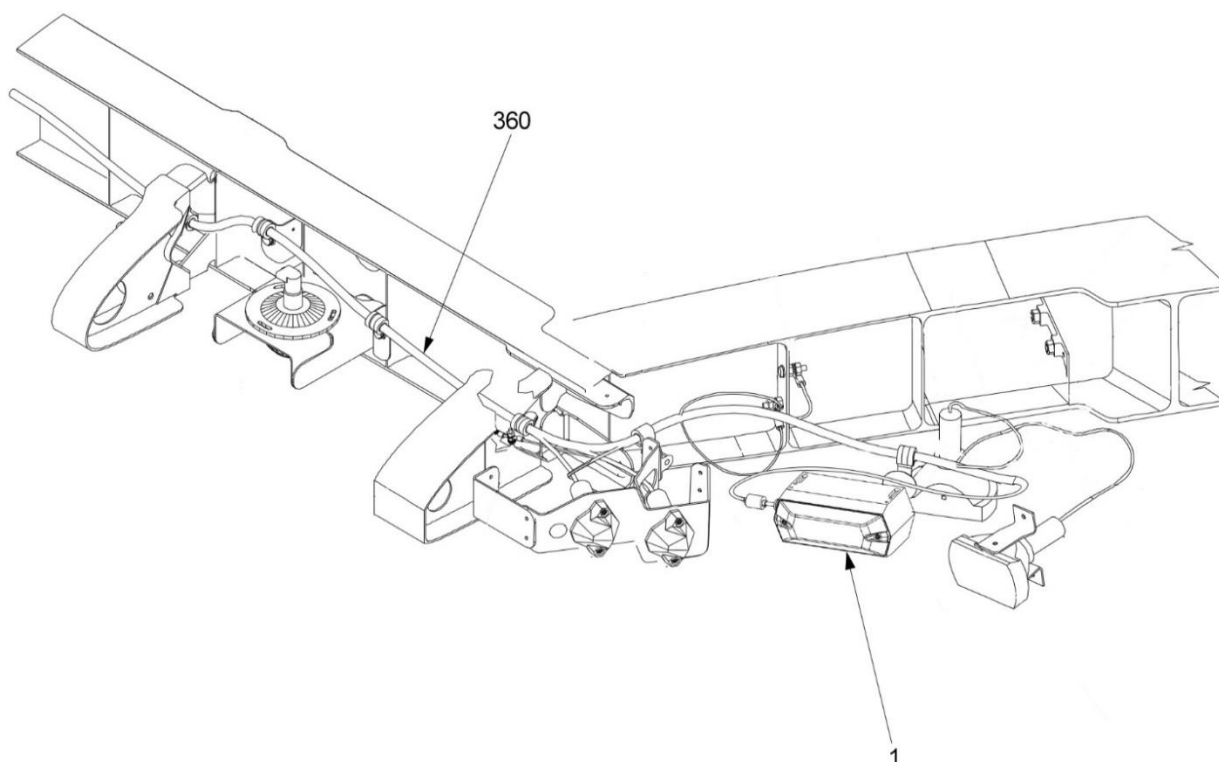
NOTES
The lights are to be connected as described in manual AVE_IM_033.



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

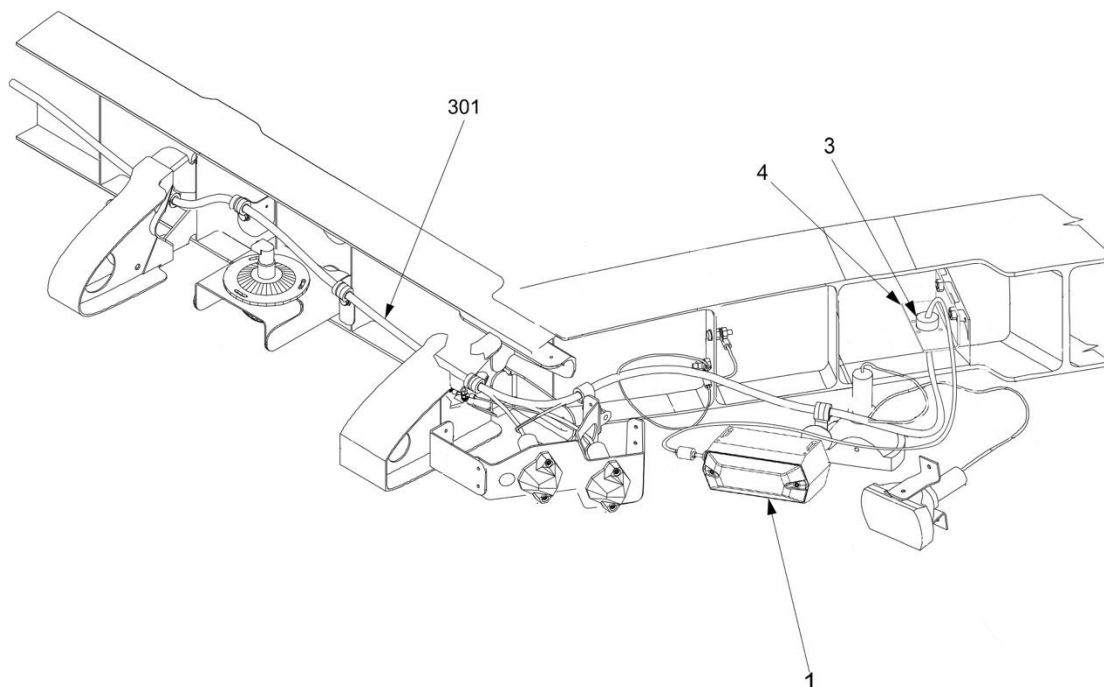
Option A – Connection of SmartStrobe by wire splice:

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 |
| | MS24266R10B5SN | 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-right

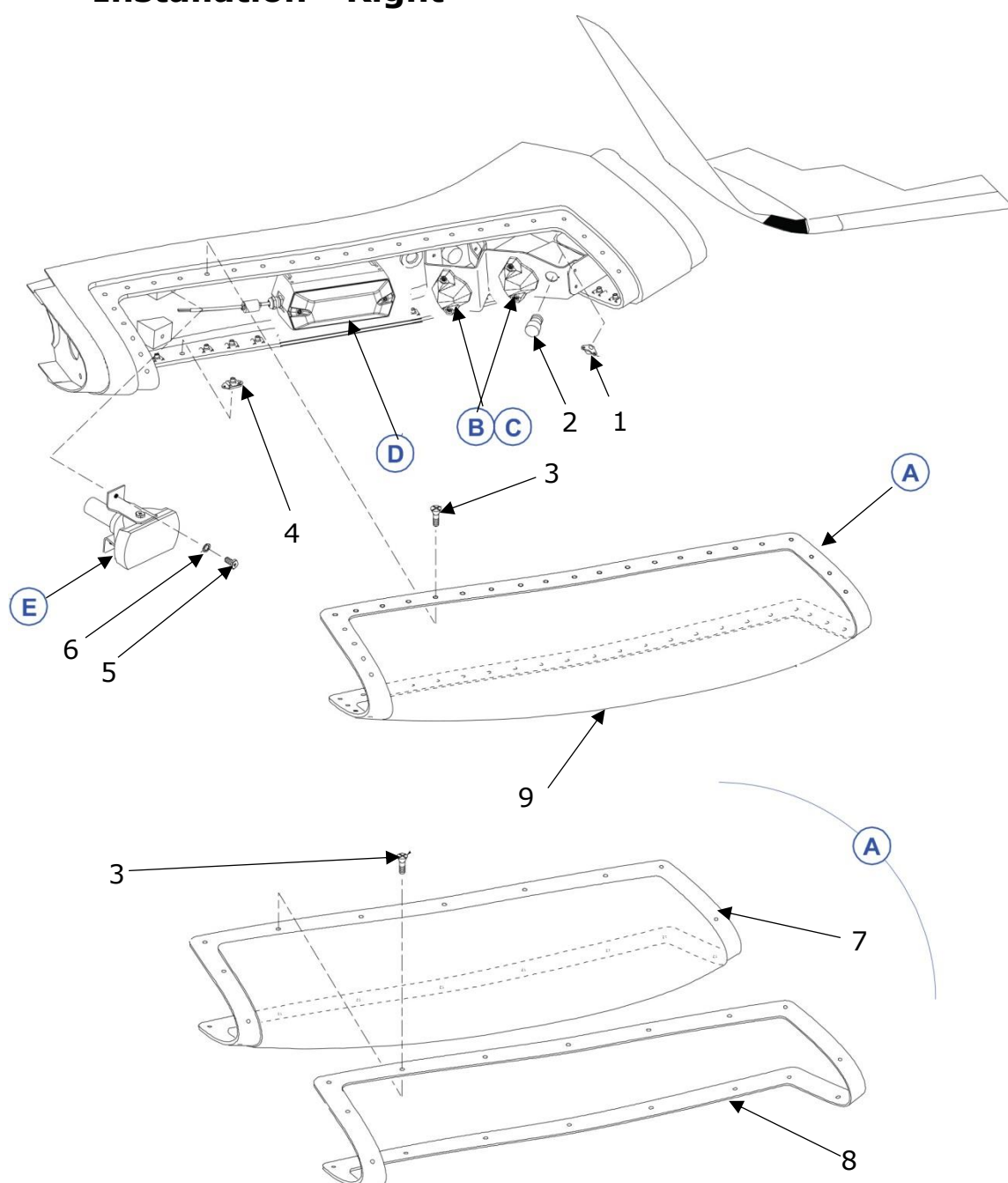
The taxi and downwash light is can be installed according to Installation Instructions AVE-MOD-026-INS approved under EASA.

Taxi Light Kit number: GLF-07
Downwash Light Kit number: GLF-08

E Close Wing Light

Install lens, item A according to current AMM.

1.5 Wing Position and Anti-collision Lights Installation - Right



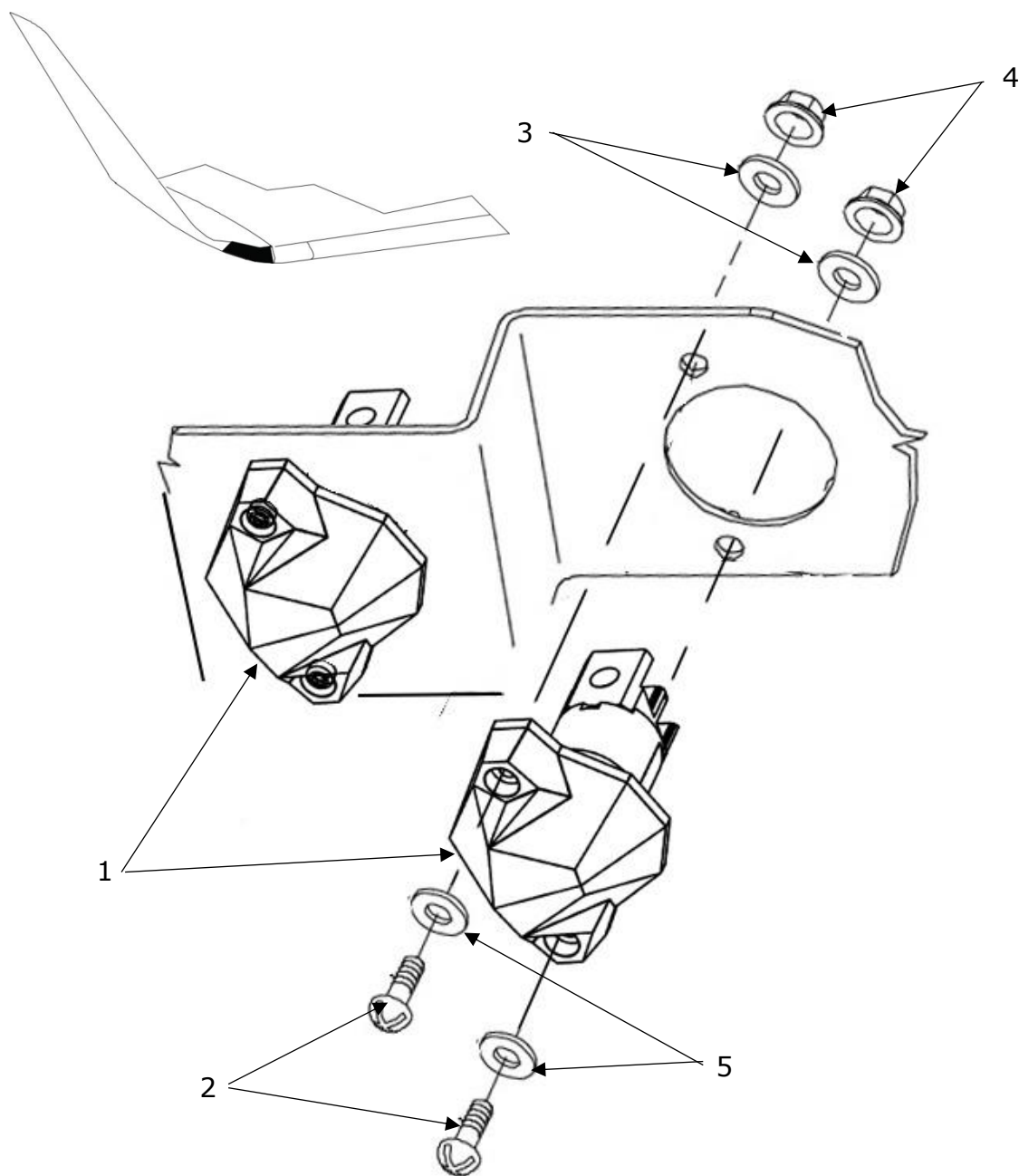
| Figure and Index Number | Part Number | Description | Parts Avail. | QTY. Per assy. |
|-------------------------|--|--|--------------|----------------|
| B C D E | AVE-WPG-51G-402 AVE-IS30ANCSAS-02G AVE-N09PANSNL-1WA | Nebulon light – Green SmartStrobe light Nubion Landing | | 2 1 1 |
| | Original 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 | 1159WP56414-12 | 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

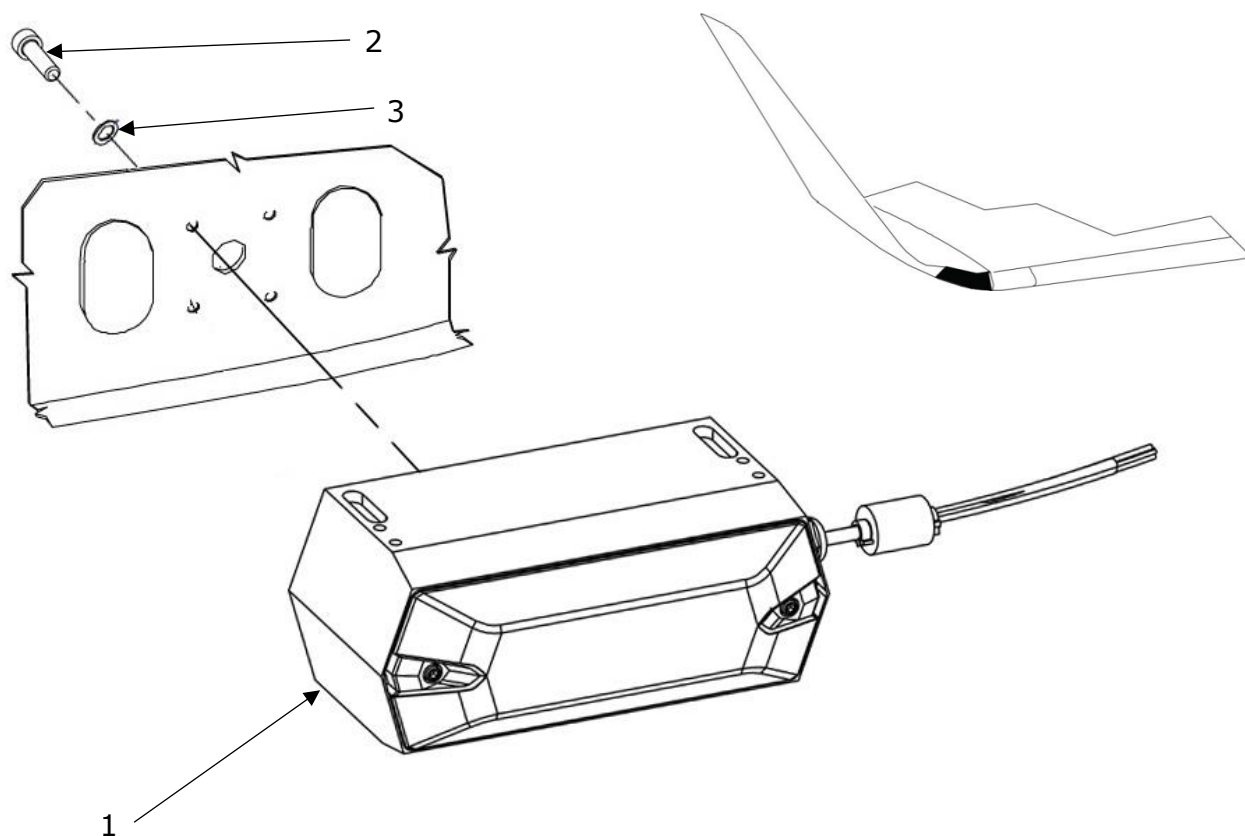
Remove lens, item A according to current AMM.

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. | | | | |

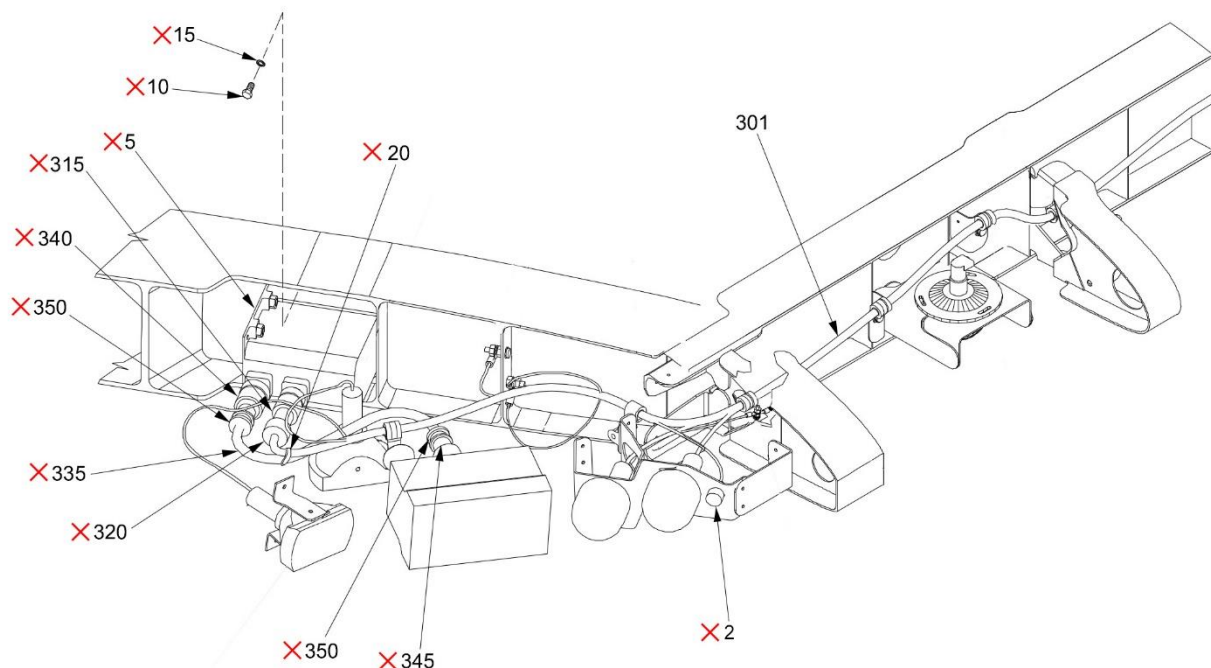
C Wing Strobe Light Installation - Right**Kit Number: GLF-03**

| Figure and Index Number | Part Number | Description | Parts Avail. | QTY. Per assy. |
|-------------------------|--------------------|--|--------------|----------------|
| 1 | AVE-IS30ANCSAS-02G | SmartStrobe light | | 1 |
| 2 | AVS-92196A148 | Screw UNC#6-32 Thread, 1/2" Length Socket Head Screw | | 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.

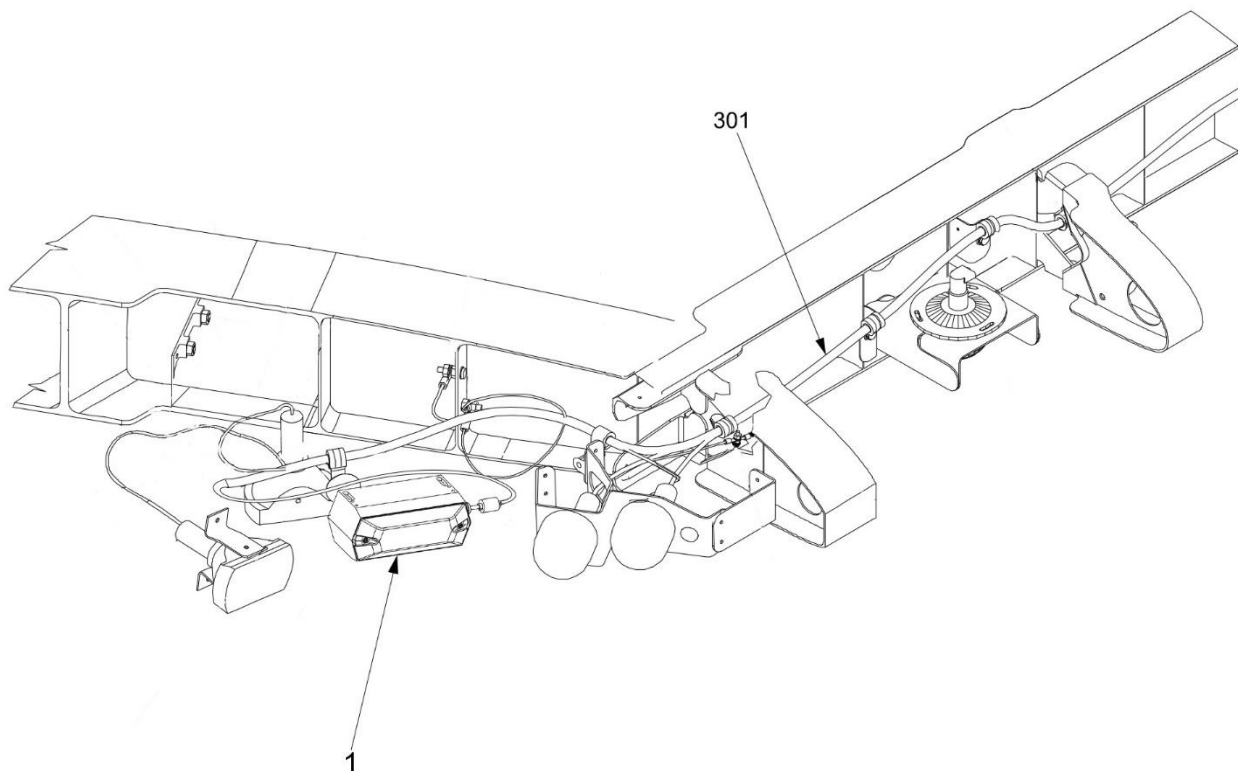
Removing strobe power supply and fault indicator



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 |
| | MS24266R10B5SN | 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-right

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

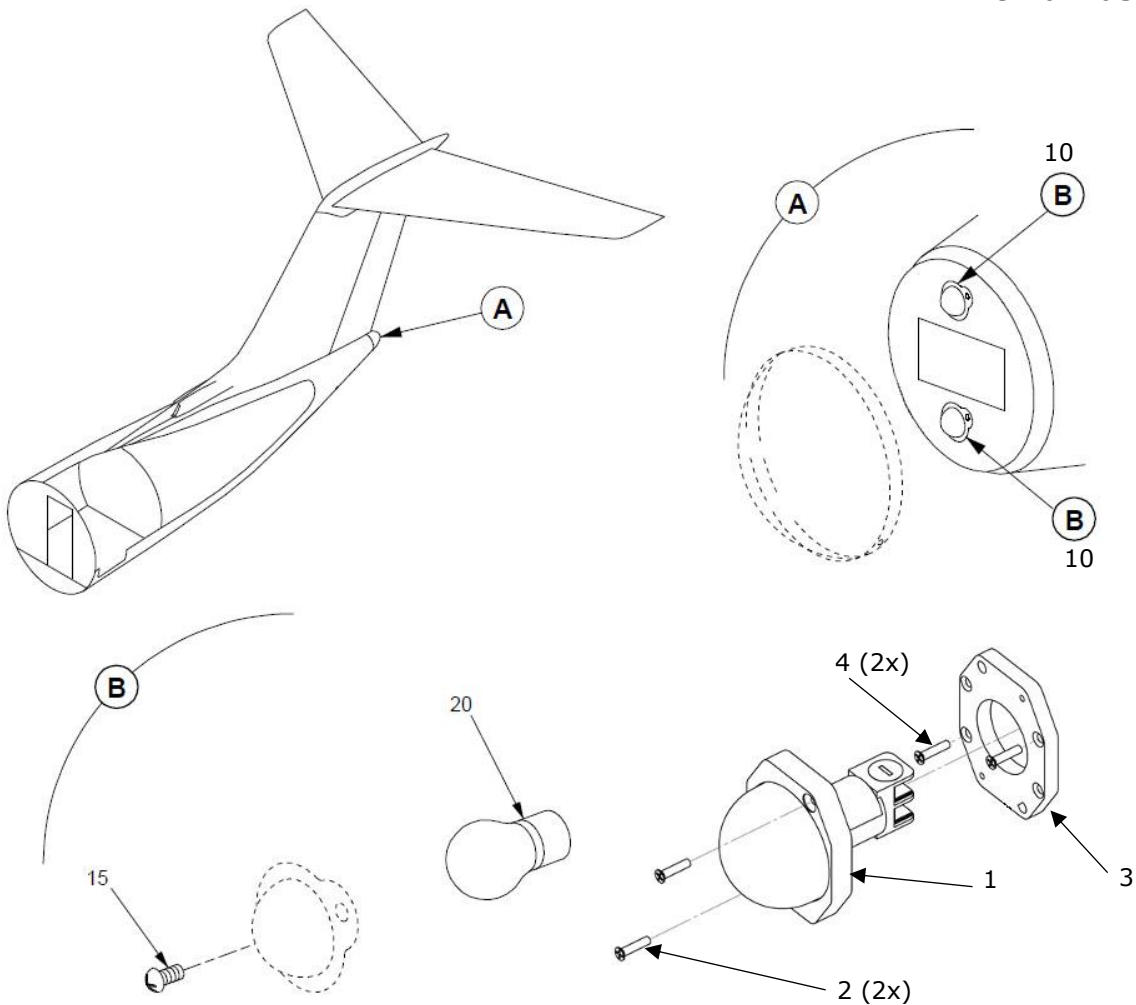
E Close Wing Light

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 ½" 100 Degree Flat Head | | 4 |
| 3 | AVS-A030106060-A60 | Adapter | | 2 |
| 4 | AVS-93085A110 | 4-40 x ½" 100 Degree Flat Head | | 4 |
| 10 | Original Parts B9730-1 or 30-2368-1 | Light assy | | 2 |
| 15 | MS24693-C6 | Screw | | 4 |
| 20 | MS35478-1683 | Bulb | | 2 |

NOTES

Remove lens on tail fairing according AMM

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

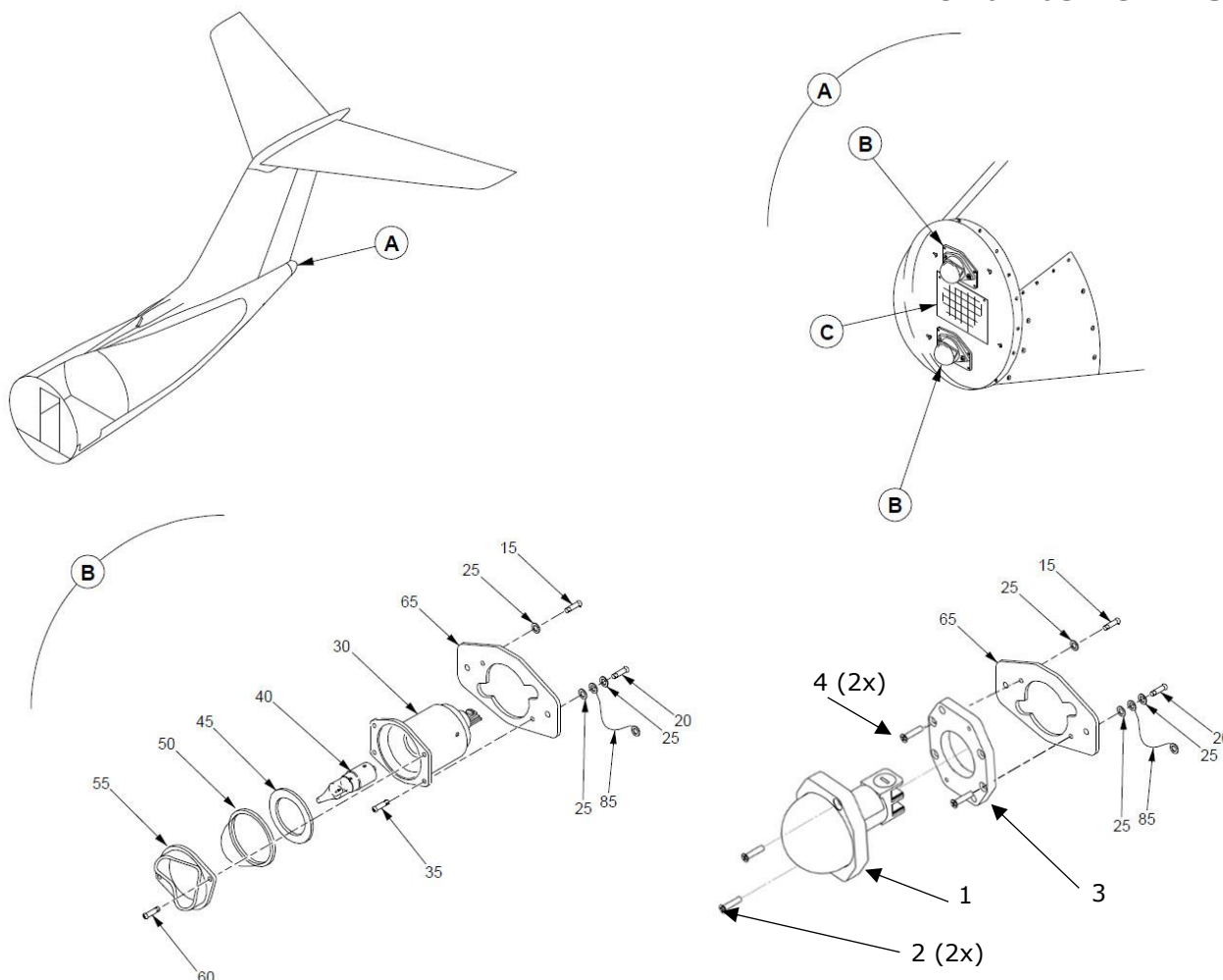
Install adapter (item 3) with screws (item 4) in upper and lower location

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

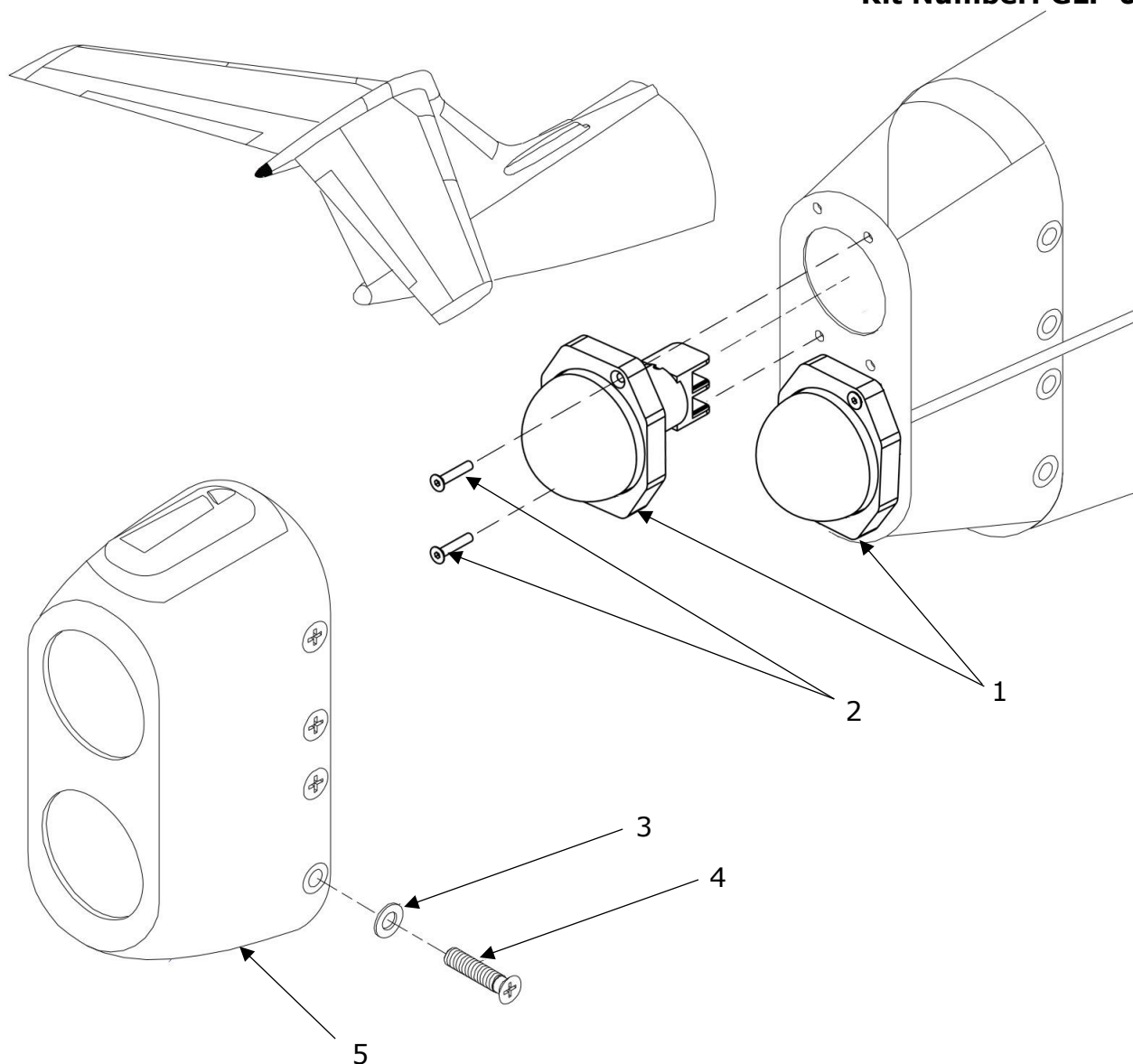
Remove lens on tail fairing according AMM

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


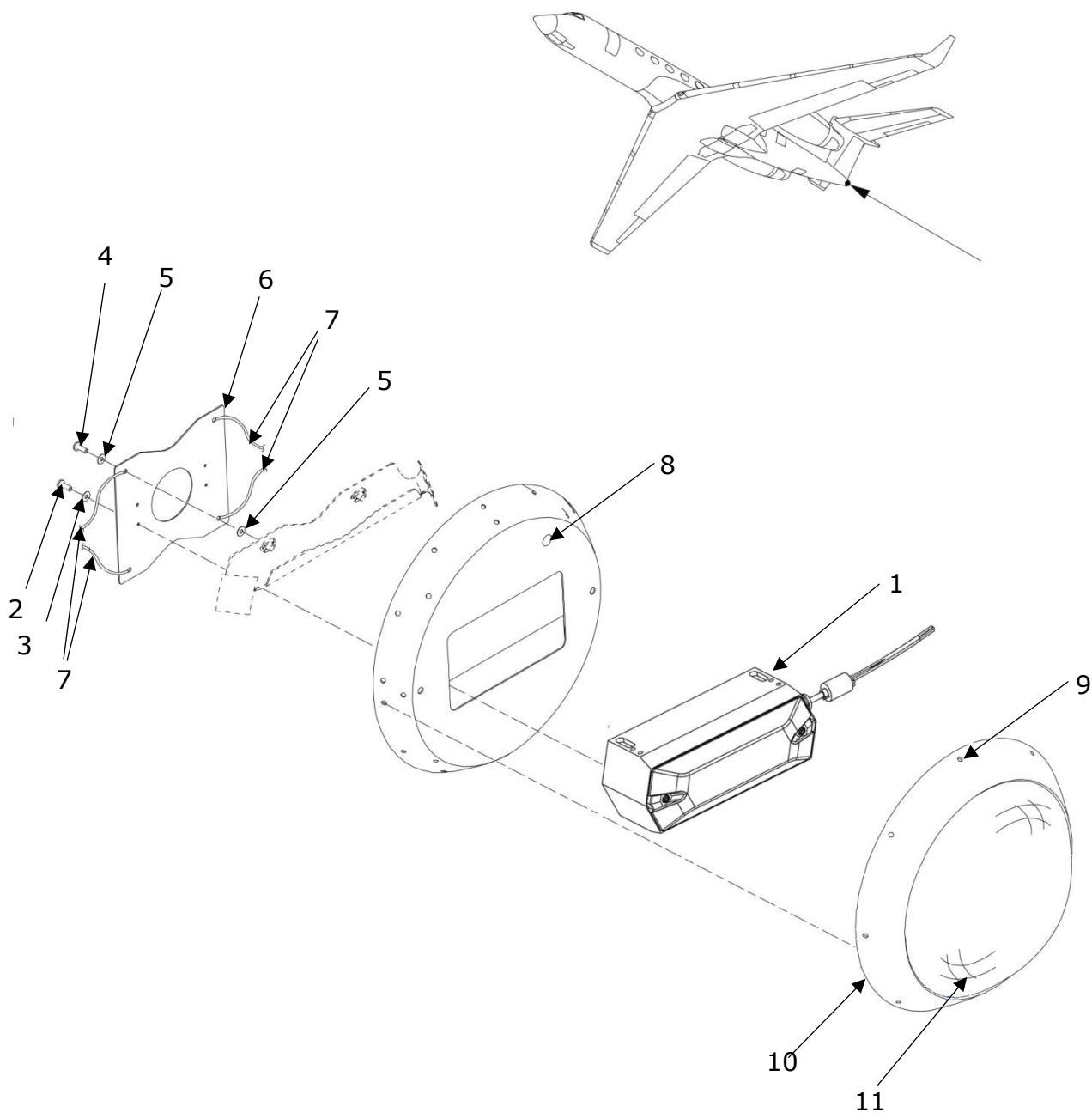
| Figure and Index Number | Part Number | Description | Parts Avail. | QTY. Per Assy. |
|-------------------------|------------------|--------------------------------------|--------------|----------------|
| 1 | AVE-POSW-74G-401 | Pegatron | | 2 |
| 2 | AVS-93085A112 | 4-40 x 5/8" 100 Degree Flat Head | | 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

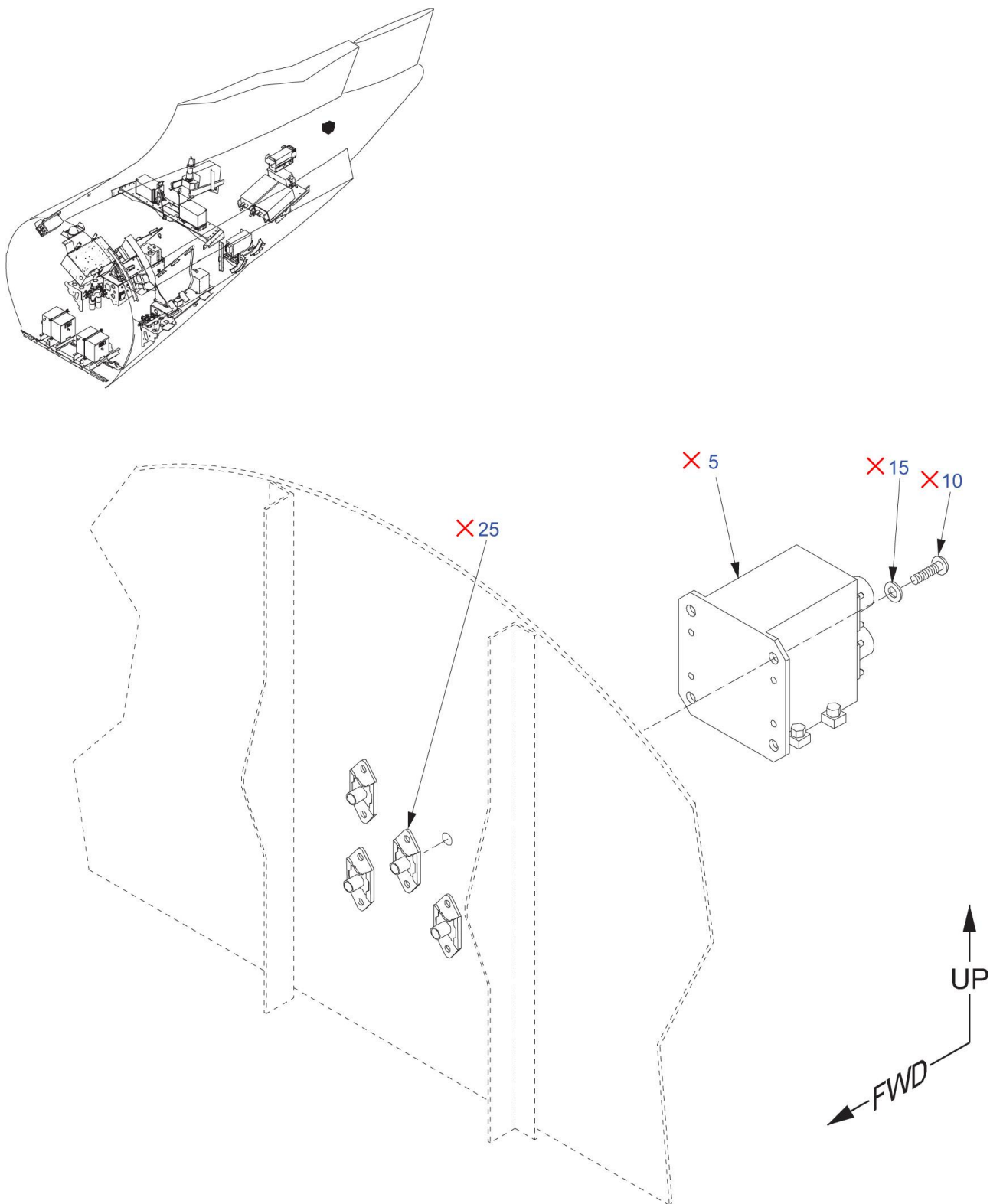


| Figure and Index Number | Part Number | Description | Parts Avail. | QTY. Per assy. |
|-------------------------|--------------------------------|----------------------------|--------------|----------------|
| 1 | AVE-IS30ANCSAS-02G | SmartStrobe light | | 1 |
| 2 | AVS-92196A148 | Screw SHCH #6-32, 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

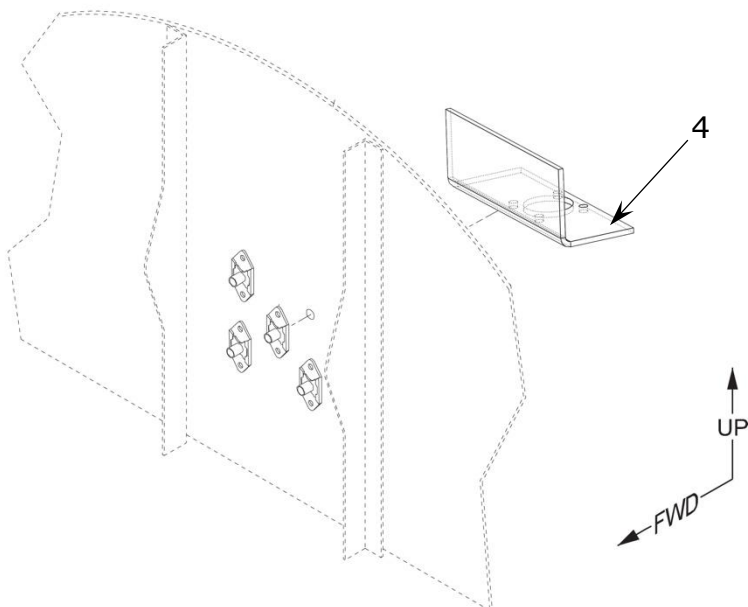
Remove items 5, 10 and 15

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) | | |
| | MS24266R10B5SN | Connector | | 1 |
| 4 | MS272911 | Back shell | | 2 |
| | AVS-P000101656 | Bracket | | 1 |
| NOTES | | | | |
| Items 3 and 4 are applicable for option B only | | | | |

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



1) L and R Strobe Lighting
2) Tail Strobe Lighting
3) Bottom Flashing Beacon
ANT-COLLISION AND POSITION LIGHTING
 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. |