



Installation Instruction
**BEECHCRAFT SUPER KING AIR
200 & 300**

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 the Beechcraft models 200, 200C, 200CT, 200T, 300 and 300LW.

Compiled by:  12. – Dec. - 2019
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Approved by: _____ 12. – Dec. - 2019
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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	Affected Pages
01	Initial Issue		ALL

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**)

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.

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

- FAR AC 43.13-2B Chapter 4
- FAR AC 43.13 1B Chapter 11 Section 15
- AVE-WPS-64G-IM
- AVE-PSPSYW-IM
- AVE-RBXP-001-IM
- AVE-N09PANSN-IM
- AVE-H30-001-IM

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

- AVE-MOD-032-DL, issue 01

The following appliances carry an ETSO authorization:

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

The change is to be performed using the document AVE-MOD-032-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 defined in AVE-MOD-032-SUP-AMM supplied with this modification.

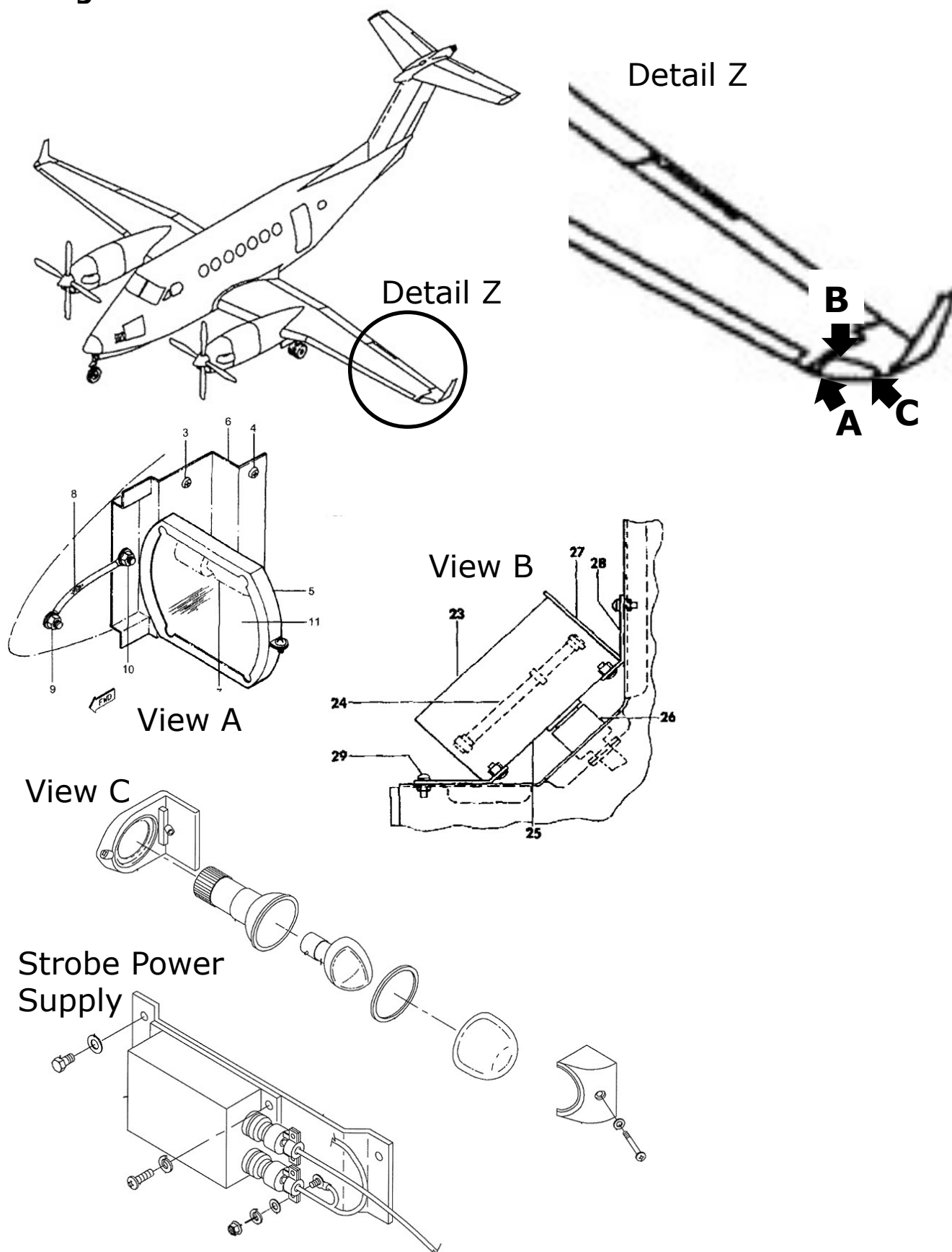
1.3 Description

This modification is the replacement of position lights (type I, II & III), anti-collision lights, strobe lights, taxi lights and the landing lights by LED type lights.

In general the lights are direct replacements and do not require any structural change on the A/C side. Only exemption may be additional attachment holes and installation of anchor nuts in the secondary bracket of the wingtip light installation. The changes in wiring are very minor and are described in this modification or are to be done according to referenced standard practice (e.g. change of connector).

1.4 Wing Position and Recognition Lights Installation

Original Installation:



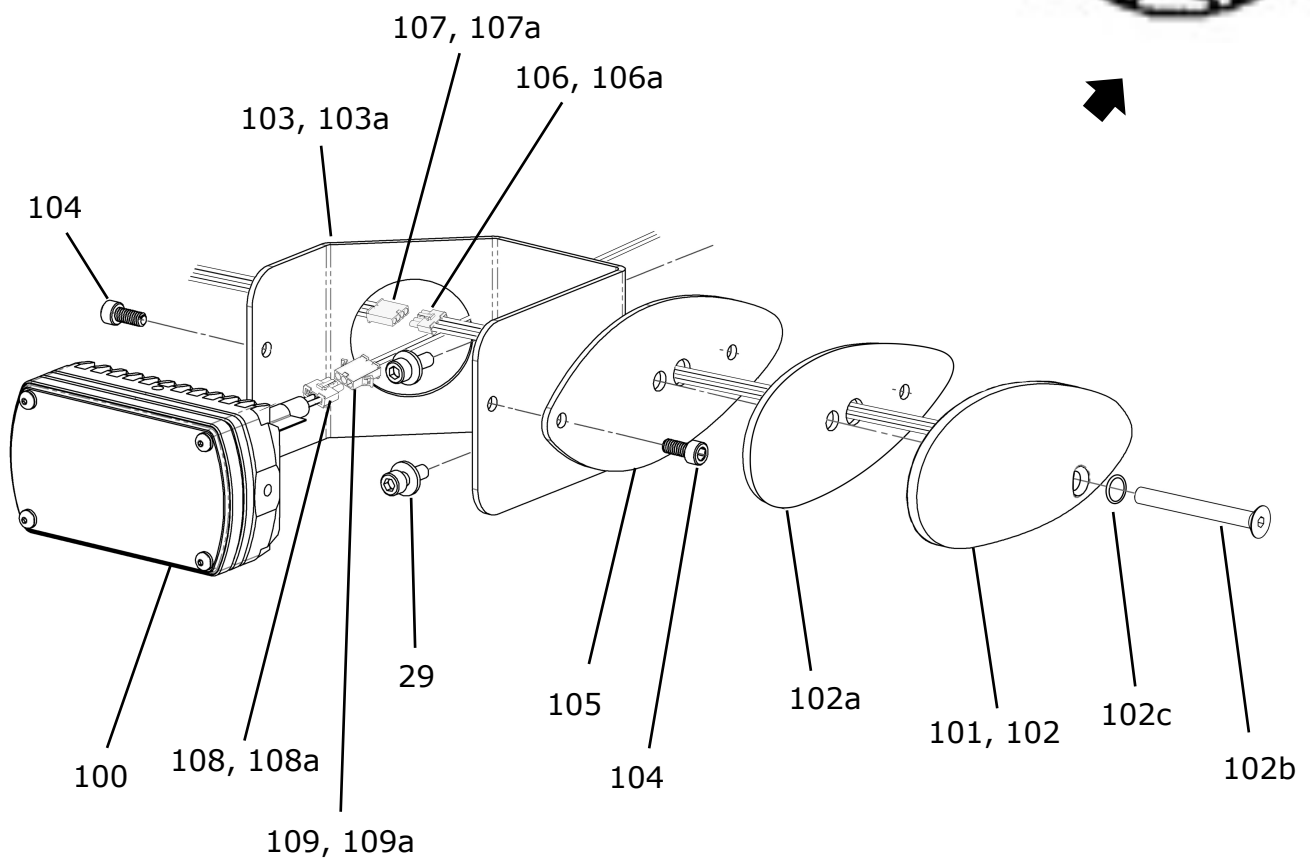
New Installation:**Kit Number: KNG-07**

Figure and Index Number	Part Number	Description	Parts Avail.	QTY. Per assy.
100	AVE-N09PANSNT-EWA	Nubion Taxi		2
101	AVE-WPSR-64G	Ultra Galactica Embedded Red		1
102	AVE-WPSG-64G	Ultra Galactica Embedded Green		1
102a	AVS-P001290550-A1A	Gasket		2
102b	AVS-79840905045	Screw M5x45mm		2
102c	AVS-OR00480190N70-D0A	O-ring		2
103	AVS-P000104707-A60	Bracket Ultra-Nubion LH		1
103	AVS-P000104708-A60	Bracket Ultra-Nubion RH		1
104	MS-24671-13	#8-32 x 3/8" UNC Socket Flat Head Screw		4
105	AVS-P000104709-A60	Ultra Plate		2
106	03091041	4-Pole Connector – Male		2
106a	2092116	Pin		8
107	03092041	4-Pole Connector - Female		2
107a	2091117	Socket		8
108	03091031	3-Pole Connector – Male		2
108a	2092116	Pin		6
109	03092031	3-Pole Connector - Female		2
109a	2091117	Socket		6
	Original parts			
29	MS 16997-32 AN960-8L	Screw Washer		4 4

NOTES

1. Remove wingtip lens as per Aircraft Maintenance Manual (AMM).
2. Remove the light assemblies shown in views A (Recognition light), B (Strobe light) and C (Position light) in accordance to the AMM.
3. Disconnect the wire bundle from the recognition, the position and the strobe light.
4. Inspect the installation area for corrosion and correct according to AMM if required.
5. Install bracket, item 103 as described, using the fastener of the strobe light installation, item 29. Pick up fastener location from aircraft.
6. Remove strobe light power supply according to AMM. Connect the wingtip position and strobe light unit as per wiring change description below.
7. Install the wingtip light, item 102.
8. Connect the wiring of the Nubion recognition light as per AVE-N09PANSN-IM and common practice. Regard lights polarity.
9. Install lens per AMM.

1.4.1 Wiring Change Position and Strobe Lights

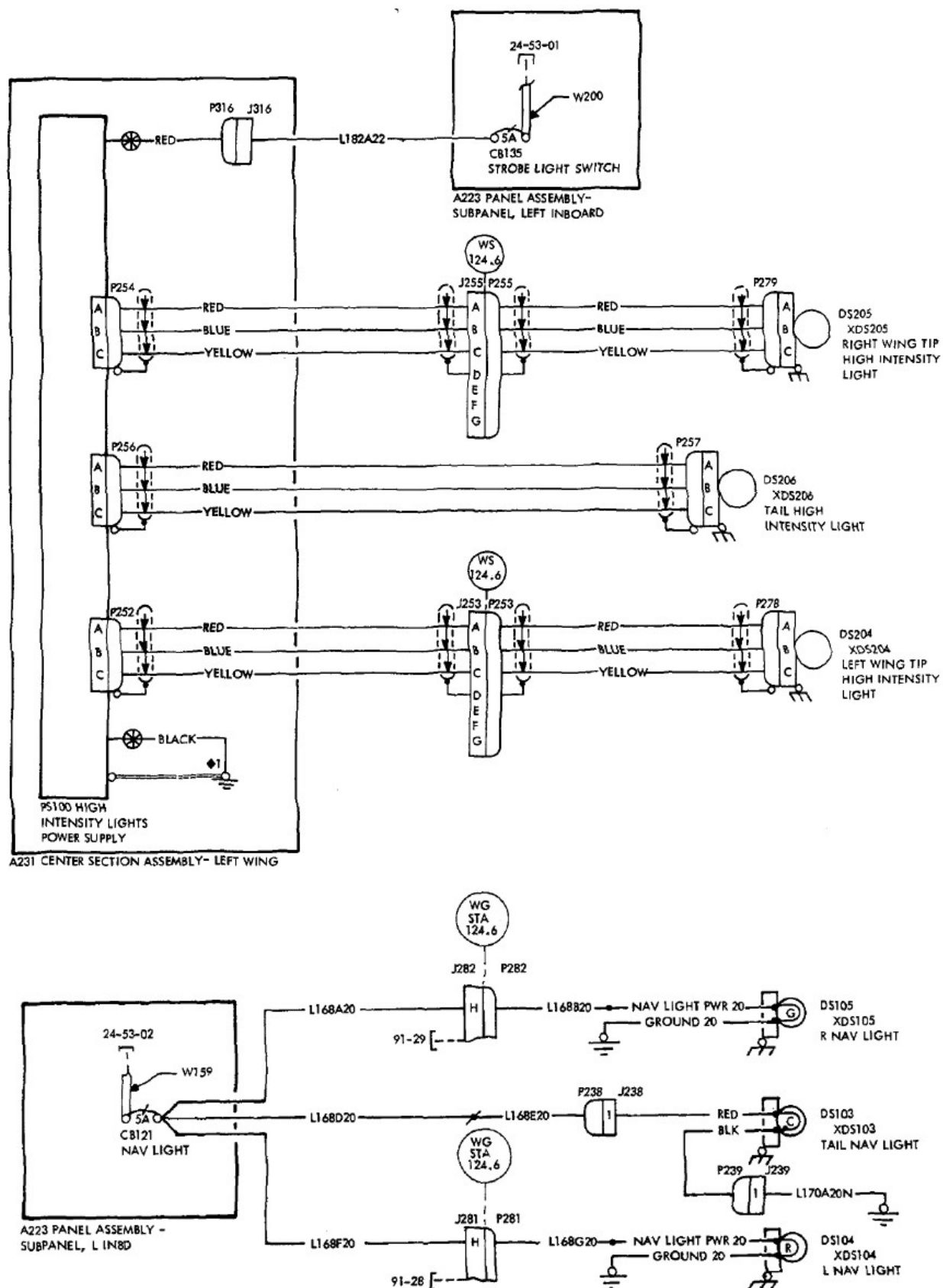
The original aircraft has separate position and strobe lights installed. These two units are replaced by one unit with the same functionality.

The wiring manual of the aircraft covers the following different configurations:

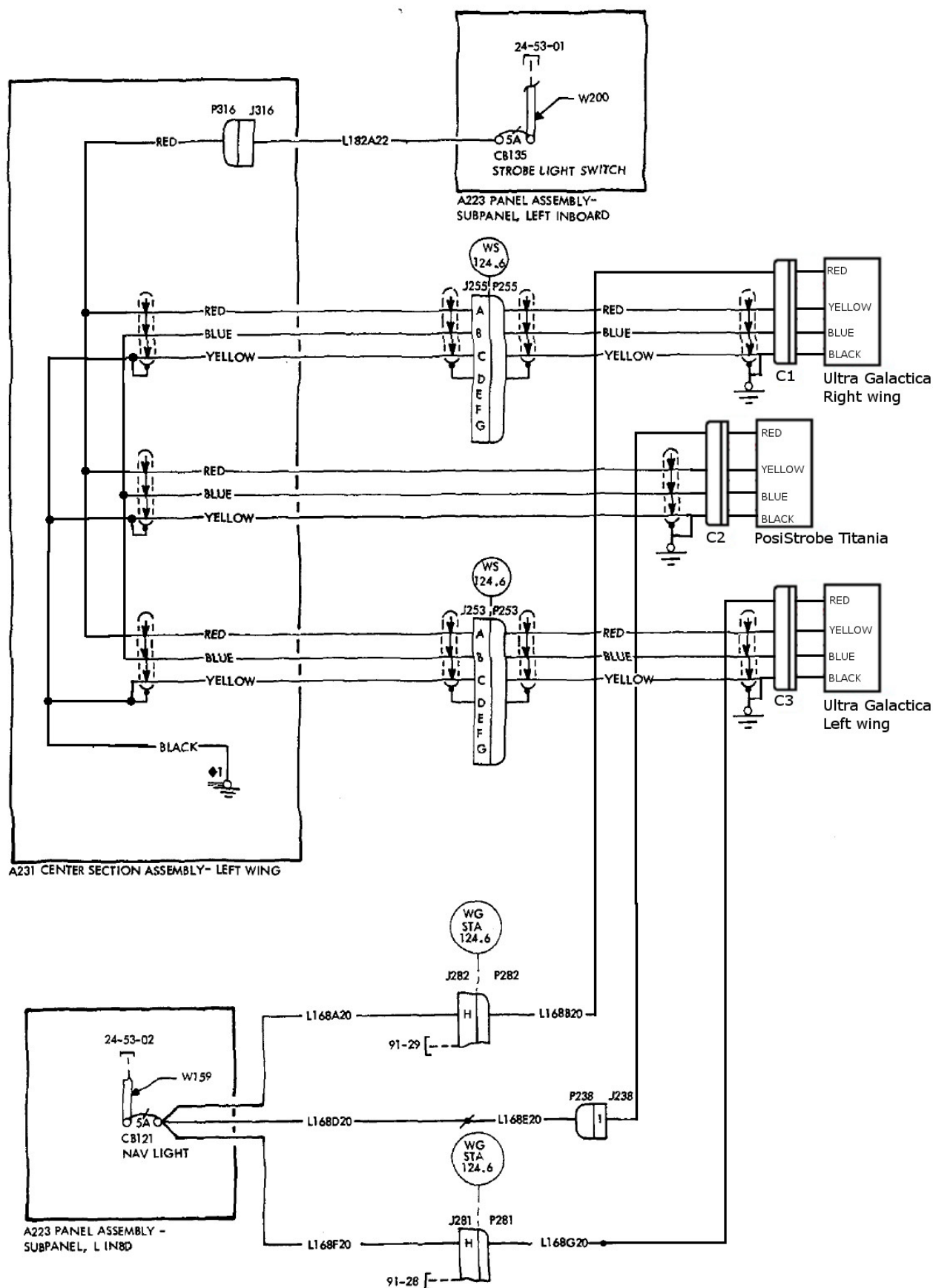
1. One power supply for all three strobes
2. One power supply and removable wingtip / wingtip tanks
3. Three power supplies and removable wingtip / wingtip tanks
4. Three power supplies close to the lights

The more complex part of the wire change is to remove the strobe power supplies and to change the wiring at that location. This is the same for standard configuration and removable wingtip / wingtip tanks configuration. Hence is here shown the configuration 1, which also covers configuration 2 and shown is configuration 4, which also covers configuration 3.

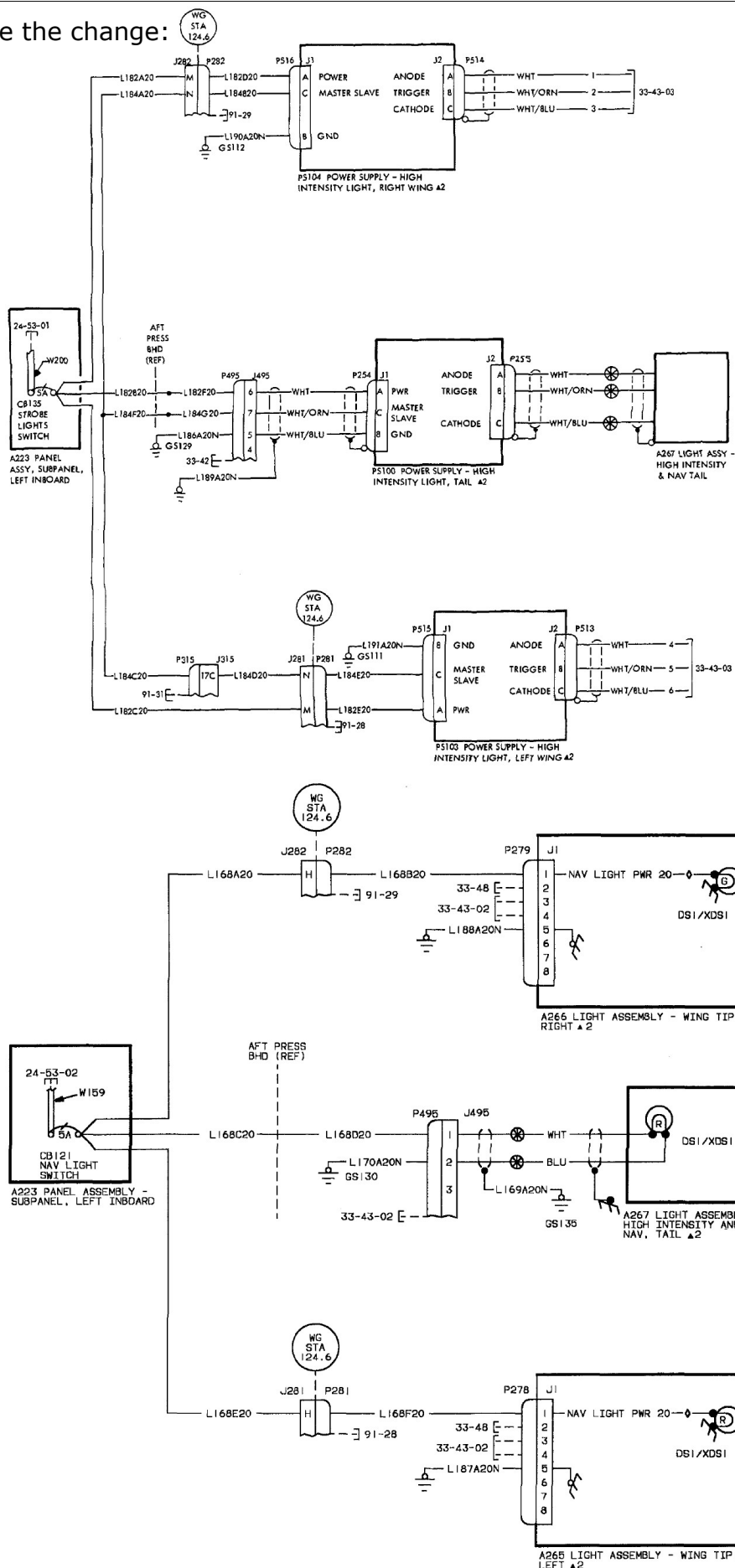
Configuration 1 before change:



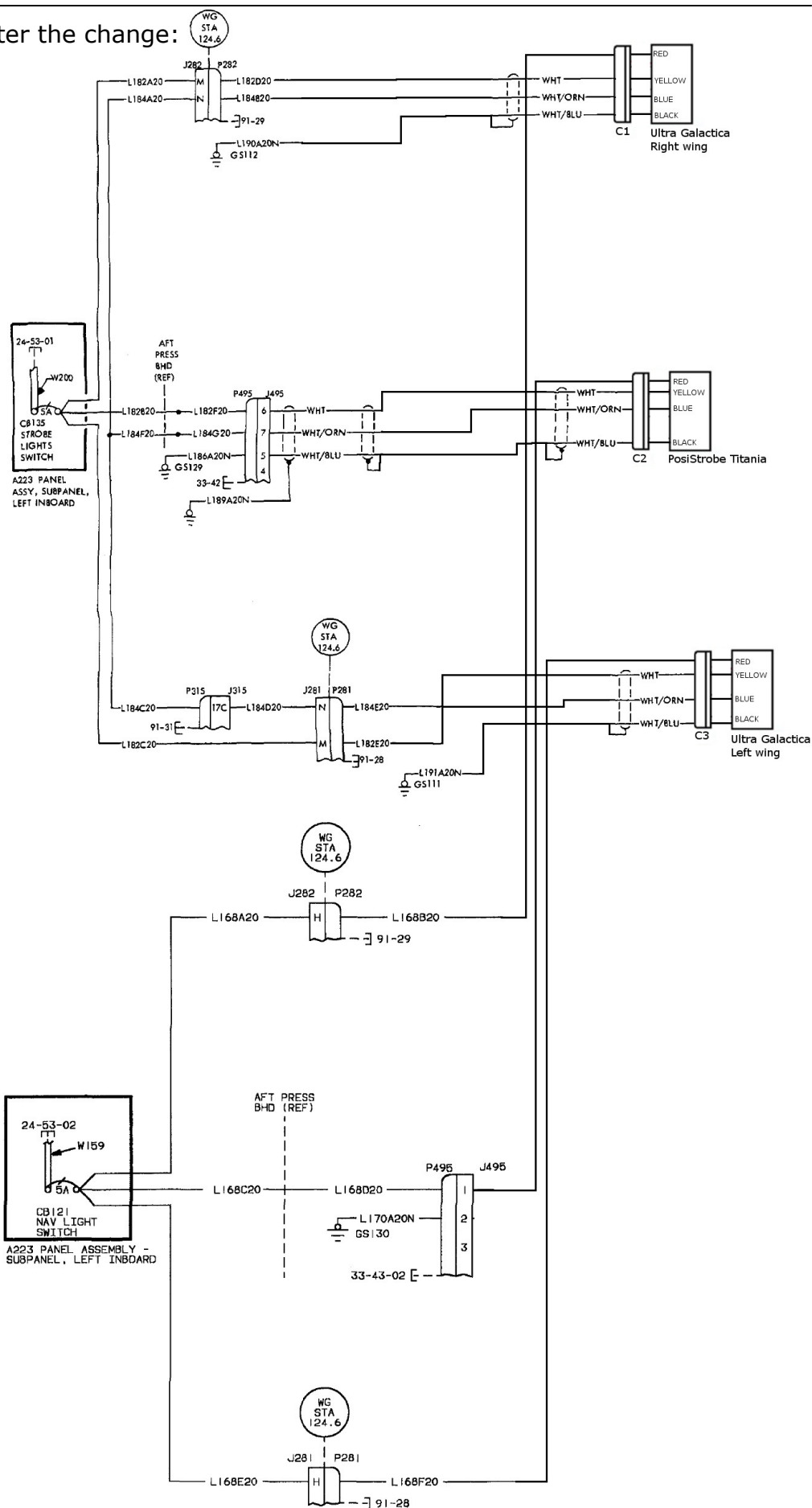
Configuration 1 after the change:



Configuration 4 before the change:



Configuration 4 after the change:



1.5 Rear Position Light Installation

Kit Number: KNG-02

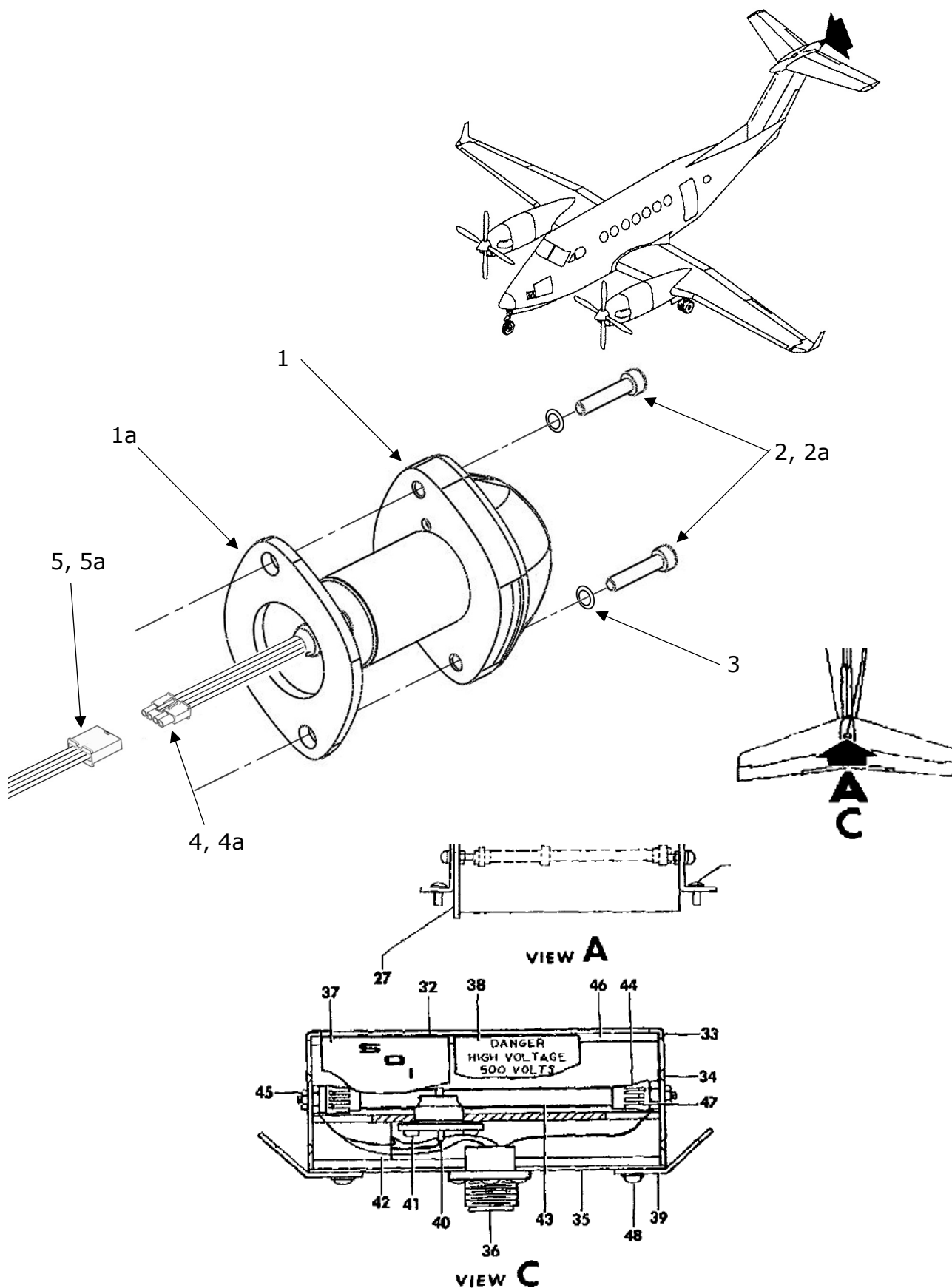


Figure and Index Number	Part Number	Description	Parts Avail.	QTY. Per assy.
1	AVE-PSPSYW-T01	PosiStrobe Titania		1
1a	AVS-P000105638-A10	Gasket		1
2	AVS-92196A152	Screw #6-32 Thread, 7/8" SHCS		2
2a	AVS-92210A102	Screw #4-40 Thread, 7/8" SHCS		2
3	AVS-90295A359	Flat Washer – Nylon		2
4	03091041	4-Pole Connector – Male		1
4a	2092116	Pin		4
5	03092041	4-Pole Connector - Female		1
5a	2091117	Socket		4

	View A			
105	MS3456L10SL3S	Connector		1
120	207573-1	Housing Pin		1
135	101-361159-9	Strap		1
140	MS35206-245	Screw		5
190	100-384118-9	Power Supply – Strobe Light		1
	100-384118-21			

NOTES

1. Remove position light in accordance to the aircraft maintenance manual.
2. Disconnect the wire bundle from the position light
3. Remove strobe box (View A) and aft strobe light according to the aircraft maintenance manual and modify the wiring as described in chapter 1.4.1.
4. Inspect the installation area for corrosion and correct according to AMM if required
5. Connect the new light's wires into the bundle as described in chapter 1.4.1 and common practice per FAR AC 43.13-2B Chapter 4
6. Install item 1 to 4 as described.
7. Close open holes of unused light

1.6 Anti-collision Lights Installation

Kit Number: KNG-04

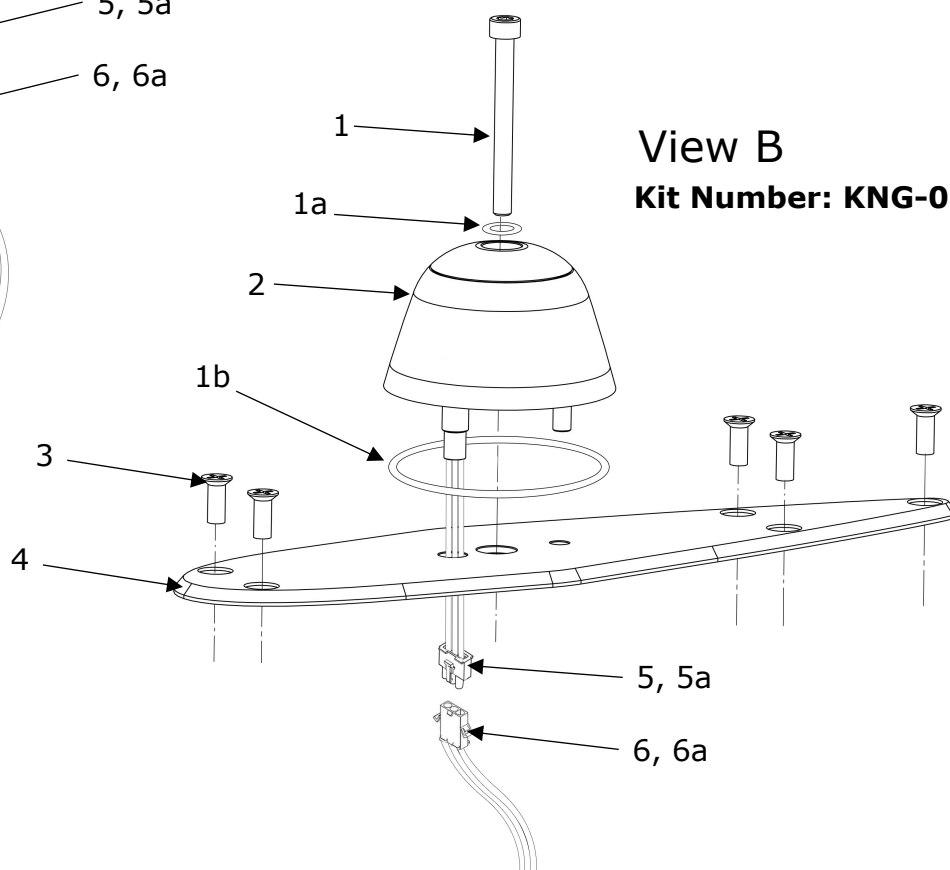
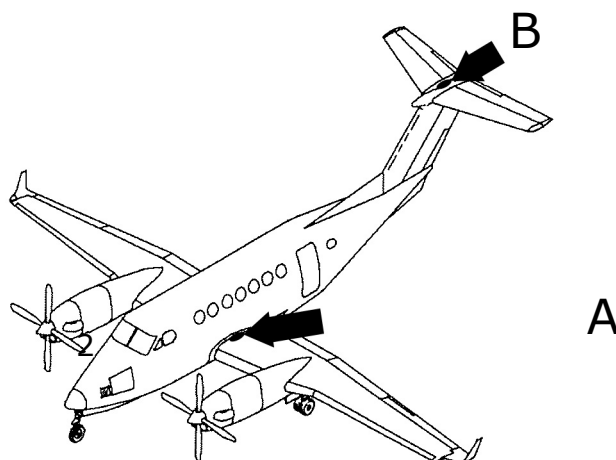
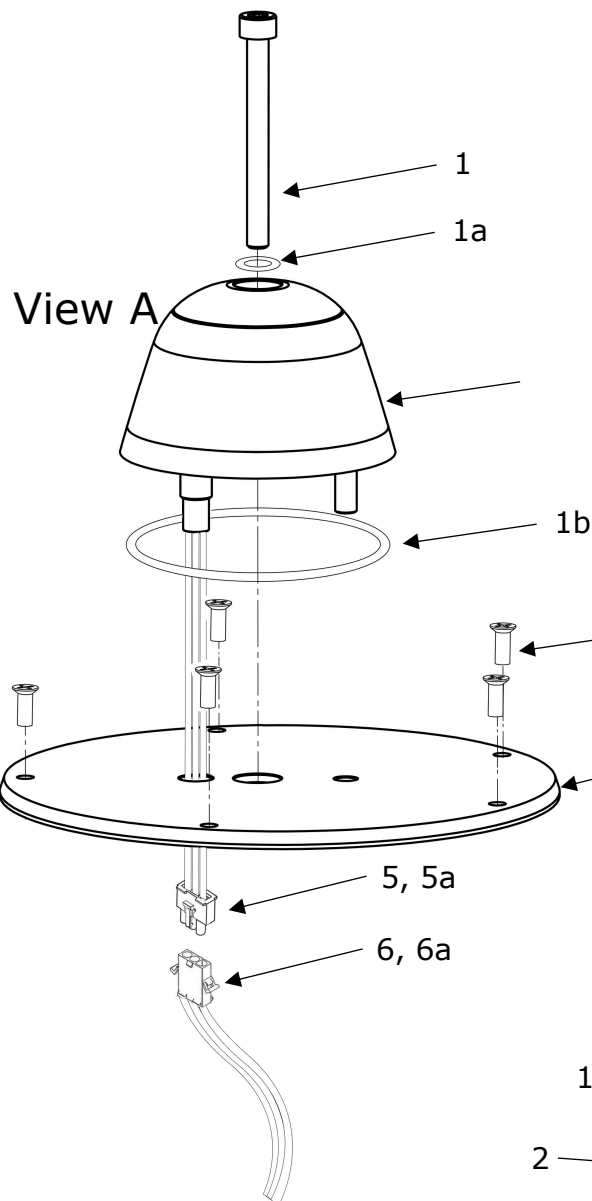


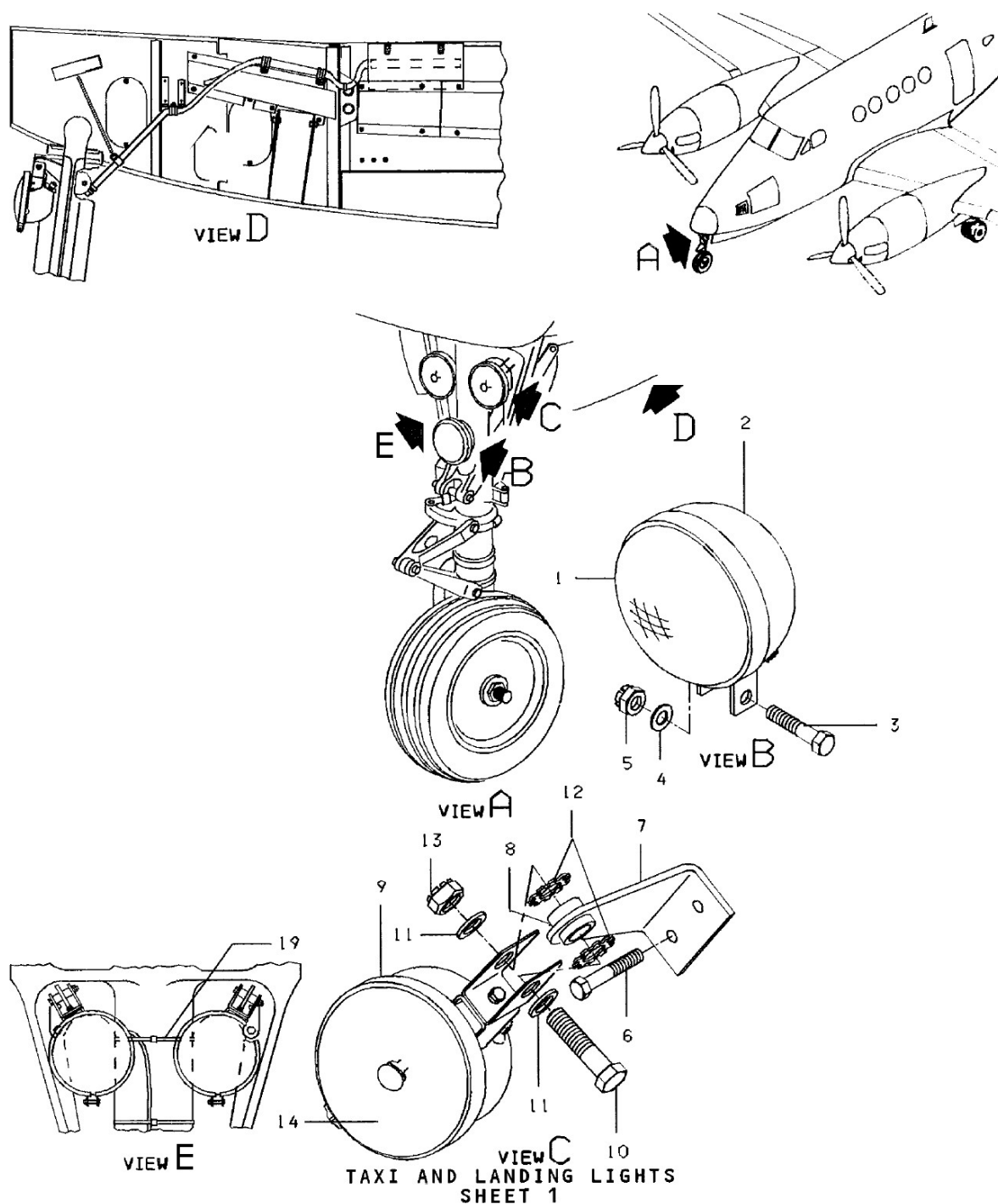
Figure and Index Number	Part Number	Description	Parts Avail.	QTY. Per assy.
A		BOTTOM ANTI-COLLISION LIGHT INSTALLATION		
1	AVS-79840905050	Screw M5x50mm		1
1a	AVS-170299005	Flat Washer – Nylon		1
1b	AVS-OR05302N70-D0A	O-Ring		1
2	AVE-RBXPR-001	RedBaron XP Galactica		1
3	MS24693-S28	Original Fasteners		5
4	AVS- P000600093-A60	RedBaron XP Light Replacement Adapter 2		1
5	03091031	3-Pole Connector – Male		1
5a	2092116	Pin		3
6	03092031	3-Pole Connector - Female		1
6a	2091117	Socket		3
B		UPPER ANTI-COLLISION LIGHT INSTALLATION		
1	AVS-79840905050	Screw M5x50mm		1
1a	AVS-170299005	Flat Washer – Nylon		1
1b	AVS-OR05302N70-D0A	O-Ring		1
2	AVE-RBXPR-001	RedBaron XP Galactica		1
3	MS 24694-S50	Original Fasteners		4
4	AVS- P000600092-A60	RedBaron XP Light Replacement Adapter 1		1
5	03091031	3-Pole Connector – Male		1
5a	2092116	Pin		3
6	03092031	3-Pole Connector - Female		1
6a	2091117	Socket		3

NOTES

1. Remove A523 lower flashing beacon in accordance to the aircraft maintenance manual.
2. Disconnect the wire bundle from the flashing beacon
3. Inspect the installation area for corrosion and correct according to AMM if required
4. Splice the new light's wires into the bundle according to the referenced installation manuals and the common practice FAR AC 43.13-2B Chapter 4
5. Install item A1 to 5 as described in view A. Drill hole to substructure for anti-rotation pin as required.
6. Remove A524 upper flashing beacon in accordance to the aircraft maintenance manual.
7. Disconnect the wire bundle from the flashing beacon
8. Splice the new light's wires into the bundle according to the referenced installation manuals and the common practice FAR AC 43.13-2B Chapter 4
9. Install item B1 to 5 as described in view B. Drill hole to substructure for anti-rotation pin as required.

1.7 Taxi and Landing Lights Installation – Nose Gear

Before installation:



After Installation:

Kit Number: KNG-06

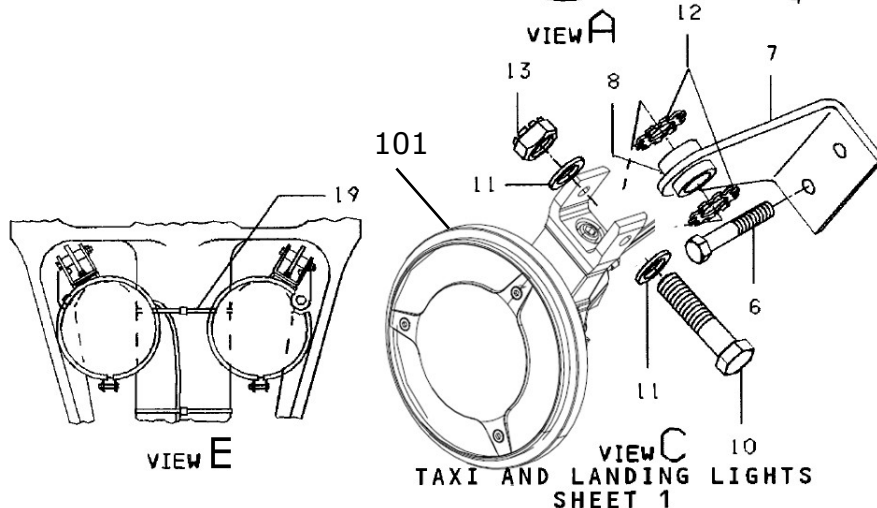
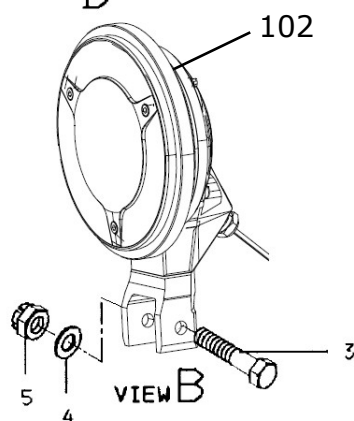
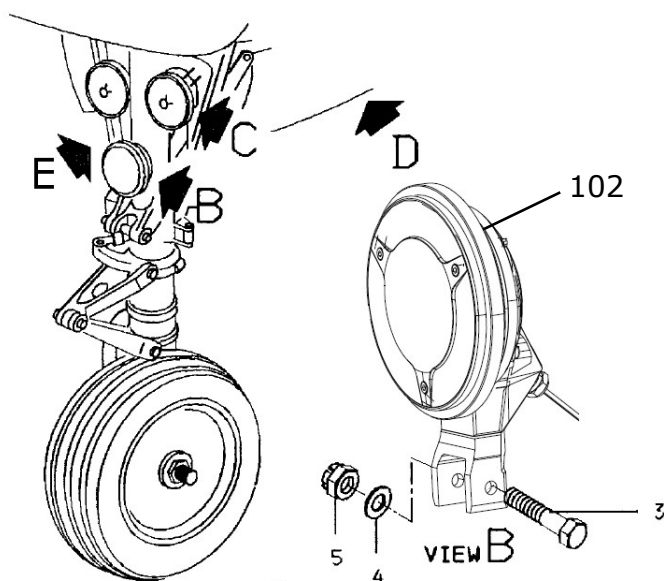
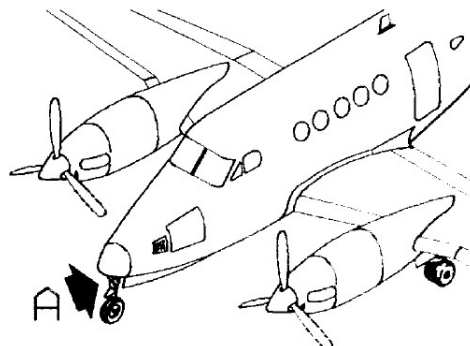
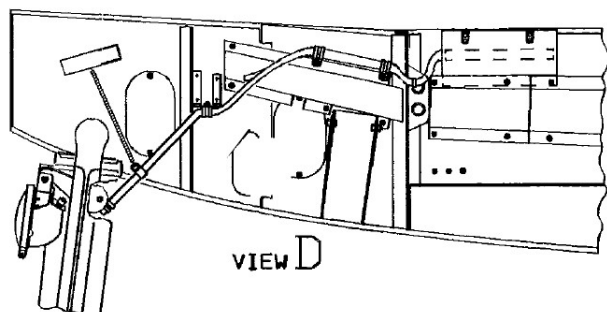


Figure and Index Number	Part Number	Description	Parts Avail.	QTY. Per assy.
101	AVE-H30-W-112	Hercules LLP Landing		2
102	AVE-H30-W-111	Hercules LLP Taxi		1
	Original parts			
1	4587	Bulb, Taxi Light		1
2	AN3176-1	Light assy		1
3	AN4	Bolt		1
4	AN960-416	Washer		1
5	130909N32	Nut		1
6	1309090B19	Bolt		2
7	90-360010-3	Bracket, LH		1
	90-360010-4	Bracket, RH		1
8	100696A-ZW031	Spacer		2
9	90-360010-5	Light assy		2
10	130909B46	Bolt		2
11	AN960-416L	Washer		4
12	AN936-B416	Washer, lock		4
13	130909N32	Nut		2
14	4596	Bulb, Landing		2

NOTES

1. Remove landing light assy (item 9, incl. item 14) and taxi light assy (item 2, incl. item 1) in accordance to the Aircraft Maintenance Manual (AMM).
2. Disconnect the wire bundle from the landing and taxi lights.
3. Inspect the installation area for corrosion and correct according to AMM if required
4. Install landing light, item 101 and taxi light, item 102 using the original hardware as described and in accordance to the aircraft maintenance manual. Trim bracket, item 7, as necessary in case it is required for the adjustment of the light. Assure that corrosion protection is applied again per AMM.
5. Splice the wires of the lights into the aircraft wiring as per AMM and common practice. Regard lights polarity.

Part 2 Compliance demonstration

This document is in relation to the certification program AVE-MOD-032-PFC.

The compliance is demonstrated for the following certification specification:

Requirements	MoC	Statement of Compliance
CS 23.2250 Design and construction principles	MoC 0	<p>CS 23.603</p> <p>(a) All materials used are common tested materials.</p> <p>(b) No strength and other property data has been used for this modification.</p> <p>(c) The environmental conditions have been regarded for the selection of materials and the surface treatment.</p>
CS 23.2260 Materials and processes	MoC 0	<p>CS 23.603</p> <p>(a) All materials used are common tested materials.</p> <p>(b) No strength and other property data has been used for this modification.</p> <p>(c) The environmental conditions have been regarded for the selection of materials and the surface treatment.</p> <p>CS 23.605</p> <p>(a) The fabrication methods for composite parts is defined in our POE.</p> <p>(b) Is not applicable as the fabrication method is common knowledge and the parts are not load carrying.</p> <p>CS 23.613</p> <p>(a) to (e) Is not applicable as the parts are nonstructural. The design values used are very conservative and do not require a premium selection of the material. The materials are widely common materials with better properties than the original part. No failure can have a catastrophic consequence and the material also is not fatigue critical.</p>
CS 23.2335 Lightning protection	MoC 0	<p>CS 23.0867</p> <p>Specific PNs of the lights installed were not tested for lightning direct effects as per Section 23.0 of RTCA DO-160G, therefore compliance with paragraph 23.867 was not demonstrated in this project.</p> <p>CS 23.1365</p> <p>(a) The only additional wire to be installed is the synchronization wire which is only a signal wire and does not transfer power.</p> <p>(b) The installed equipment is thermally protected.</p> <p>(c) The additional wire is spliced to the light and therefore identified.</p> <p>(d) The wire is to be installed along the existing wiring which is an approved location.</p> <p>(e), (f) not applicable</p>

Requirements	MoC	Statement of Compliance
CS 23.2500 General requirements on systems and equipment function	MoC 0	CS 23.1301 (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) No changes are made which would require a changed or a new label. The equipment is labelled to be identified and with its limitation. (c) All equipment is installed within their limits. (d) The proper function is determined in a ground check as per MCS. The improved visibility had been demonstrated in document AVE-MOD-004-SR. CS 23.1309 (a) All products have been tested to the appropriate environmental standard. In addition to that improves the new light installation the mean time between failure by a factor of about 1000. All lights are brighter at lower power consumption and a much lower temperature.
CS 23.2625 Instructions for Continued Airworthiness	MoC 0	CS 23.1529 The modification includes a supplement to the King Air 200 & 300 Aircraft Maintenance Manual (AMM) modified by the AMM Supplement.