



Installation Instruction

**CESSNA**

**177 SERIES**

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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 all Cessna 177.

Compiled by: \_\_\_\_\_ 22 – Jan - 2026



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Engineer, Aveo Engineering Group, s.r.o.

Approved by: \_\_\_\_\_ 22 – Jan. - 2026



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	16 Oct 2024	ALL
02	Add note Add limitation Add to compliance demonstration	22.Jan.2026	6, 7 8, 36 44
<b>Table 01: Document Amendment Record Table</b>			

## 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.

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-H30TATSN-IM
- AVE-HJPDO-IM
- AVE-WPST-54G-IM
- AVE-WPS-64G-IM
- AVE-PSPSYW-IM
- AVE-RBXP-001-IM
- AVE-ARBCC177-IM

The following appliances carry an ETSO authorization:

- AVE-PSPSYW-T01 – ETSOA 210.10068603
- AVE-WPSR-54G & AVE-WPSG-54G – ETSOA 210.10053935
- AVE-WPSR-64G & AVE-WPSG-64G – ETSOA 210.10053936
- AVE-RBXPR-001 – ETSOA 210.10055069

The change is to be performed using the document AVE-MOD-045-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 Description

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

#### 1.2.1 Wingtip replacement

The new Aveo RedBird Conformia wingtip includes and can replace navigation, strobe, rear position / strobe light and landing, taxi lights as well. Aveo RedBird Conformia also includes additional features as recognition (long range landing light), downwash (ground illumination) and tail fin (logo) light. When aircraft is equipped with Aveo RedBird Conformia wingtips, original landing and taxi lights need to be replaced with the Aveo landing and taxi lights §1.7.

#### 1.2.2 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 the red or white

anti-collision light.

As not all C177 are already equipped with the strobe function (white strobe) in addition to the red beacon, this function may be added with this modification.

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

For aircraft with strobe function already installed:

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

For aircraft without strobe:

- Position lights without strobe + Beacon red or white (RedBaron XP)
- Additional switch and wiring change + Position lights including strobe + Beacon red (RedBaron XP)

Synchronization:

The strobe lights 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.

### 1.2.3 Taxi- and landing lights

The C177 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, except as described under the Wingtip installation (§ 1.2.1).

### 1.2.4 Energy consumption

The analysis ( $I = \Delta I_B + I_L$ ) showed that after installation of LED lights, in case of Position/Strobe lights, the total energy consumption dropped by 40% when Ultra Galactica lights are installed. When Aveo RedBird Conformia lights were installed is the current for the position lights 0.8A lower. The peak power for the strobes is increased by 1.6A while the average current is 2.5A lower.

The installation of the PosiStrobe Titania replaces the position light function for which the current is 0.7A lower. But the light also adds the strobe function which requires additional current of 1.8A peak or 0.3A average consumption and therefore 0.4A lower than the previous installation.

In case of Landing/Taxi light replacement, the energy consumption dropped by 50 %. If the Aveo RedBird wingtips are installed are additional lights added to the landing light circuit. But the new landing and taxi lights plus all the wingtip lights take 1.08A less than the original installation, which still results in consumption drop of 10%.

In case of anti-collision light (beacon), the peak current dropped by 42% when RedBaron XP Galactica is installed.

It is concluded that all installations provide a reduction of the energy consumption.

**Important Note:** The CB for the strobes is increased with this modification from 5A to 10A due to the uneven load over time without increasing the average load. This is

only applicable for this installation and must not be used to increase the average load on that circuit above 5A by a later installation.

Original Installation		Changed Installation	
Lights	Input Current $I_{BUBL}$ (A)@28V	Lights	Input Current $I_{LED}$ (A)@28V
Position light/strobe	1.9 / 3.4	Ultra Galactica	0.38 / 2.76(Ø 0.5)
Position light/strobe	1.9 / 3.4	Ultra Galactica Embedded	0.30 / 2.58(Ø 0.4)
Navigation	1.9	Aveo RedBird Conforma	0.82
Strobe	3.4		5.0 (Ø 0.9)
Landing	5.36		2.88
Taxi	5.36		0.90
Recognition	--		1.88
Ground illumination*	--		2.30
Tail Fin / Logo	--		0.84
Tail position light	0.9	PosiStrobe Titania	0.21 / 1.84(Ø 0.3)
Anti-collision	4.0	RedBaron XP Galactica	2.31
GE4626	5.36	Hercules Drop-In Landing	2.13
GE4626	5.36	Hercules Drop-In Taxi	2.13
GE4626	5.36	Hercules JP Landing	2.65
GE4626	5.36	Hercules JP Taxi	2.65

**Table 03: Energy consumption**

\*Ground Illumination is only operative if the landing light is switched off.

Note:

GE4626 original Cessna Landing and TAXI bulb.

**Wingtip Installation Conforma Solution**

This solution applies to the C 177B and to the C 177RG only.

**1.2.5 Wingtip Installation LEFT**

**Kit Number: C177-01**

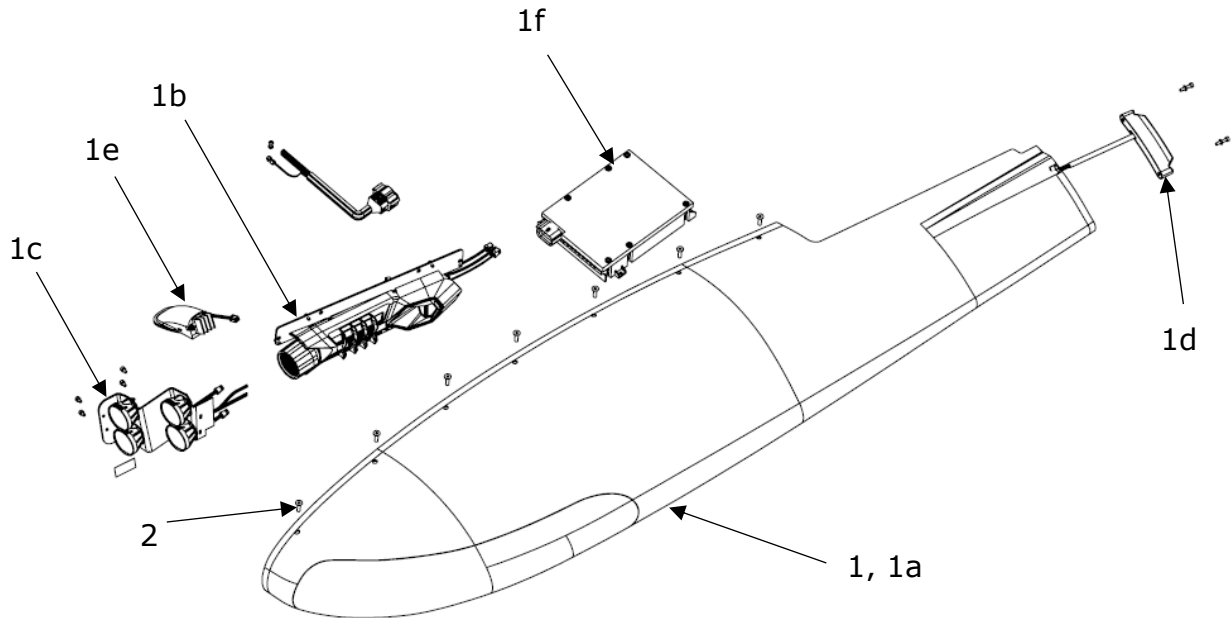


Figure and Index Number	Part Number	Description	Parts Avail.	QTY. Per assy.
	<b>Kit Number: C177-01</b>			
1	AVE-ARBCC177L-T01	Aveo RedBird Conforma C177 Left Top Assembly		1
1a	AVS-C130110748-A40	Wingtip Left		1
1b	AVE-WSMLNILSYWR-T01	WarpSpeed Module Left		1
1c	AVE-LTMLTLW-T01	Landing-Taxi Module Left		1
1d	AVE-RLMLPILSYW-T01	Rear Light Module Left		1
1e	AVE-DWMLILW-T01	Downwash Module Left		1
1f	AVS-EC00110769-A00	Control Unit		1
-----	-----	-----	-----	-----
2		ORIGINAL PARTS Fasteners		

## NOTES

Remove installed wing tip and verify that aircraft structure is not subject to substantial corrosion. In case of detected corrosion apply relevant AMM section or consult OEM before continuing with this installation.

(#2) Use original fasteners to mount wingtips to the wing.

The lights are to be connected as described in manual AVE-ARBC-IM.

Additional circuit breaker and labels are to be installed according to §1.8. Parts required for that are not part of the kit.

**1.2.6 Wingtip Installation RIGHT**

**Kit Number: C177-01**

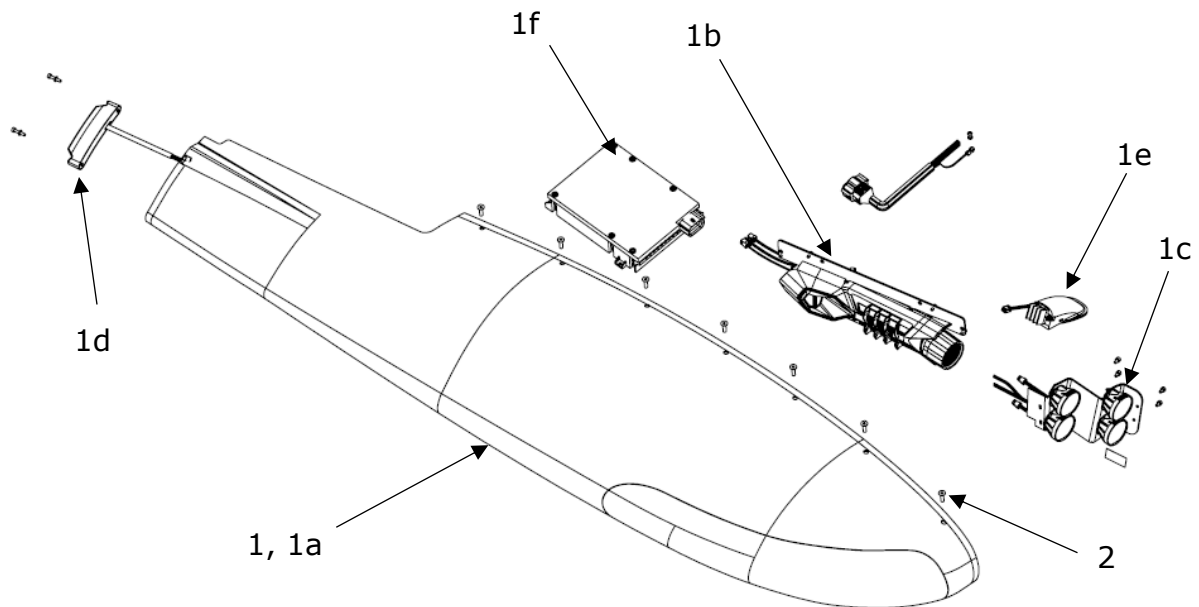


Figure and Index Number	Part Number	Description	Parts Avail.	QTY. Per assy.
	<b>Kit Number: C177-01</b>			
1	AVE-ARBCC177R-T01	Aveo RedBird Conforma C177 Right Top Assembly		1
1a	AVS-C130110749-A40	Wingtip Right		1
1b	AVE-WSMLNILSYWR-T01	WarpSpeed Module Right		1
1c	AVE-LTMLTLW-T01	Landing-Taxi Module Right		1
1d	AVE-RLMLPILSYW-T01	Rear Light Module Right		1
1e	AVE-DWMLILW-T01	Downwash Module Right		1
1f	AVS-EC00110769-A00	Control Unit		1
-----	-----	-----	-----	-----
2		ORIGINAL PARTS Fasteners		
<p><b>NOTES</b></p> <p>Remove installed wing tip and verify that aircraft structure is not subject to substantial corrosion. In case of detected corrosion apply relevant AMM section or consult OEM before continuing with this installation.</p> <p>(#2) Use original fasteners to mount wingtips to the wing.</p> <p>The lights are to be connected as described in manual AVE-ARBC-IM.</p> <p>Additional circuit breaker and labels are to be installed according to §1.8. Parts required for that are not part of the kit.</p>				

### 1.3 Wingtip Installation Conventional Lights

#### 1.3.1 Wing Position / Strobe Light Installation LEFT

KIT Number: C177-02  
C177-03

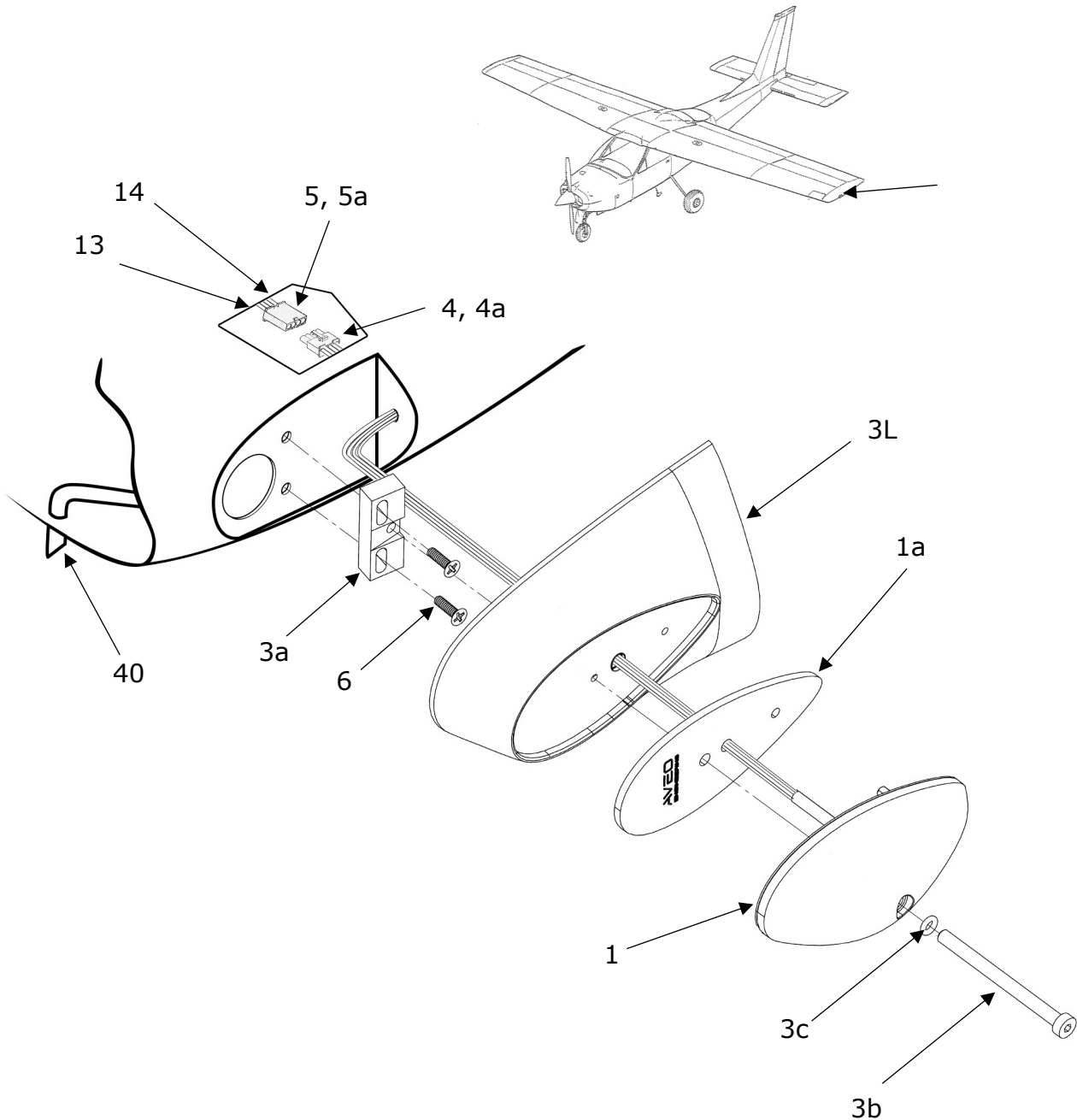


Figure and Index Number	Part Number	Description	Parts Avail.	QTY. Per assy.
	<b>Kit Number: C177-02</b>			
1	AVE-WPSTR-54G Mod(4)	Ultra Galactica Red		1
1a	AVS-P001290550-A1A	Gasket		1
3L	AVS-C220105979-A40	Cessna Fairing w AL Adapter L		1
3a	AVS-P000105978-A2C	AL Adapter		1
3b	AVS-A7984565	Screw M5x65		1
3c	AVS-OR00480190N70-D0A	O-Ring		1
4	03-09-1041	4-Pole Connector – Male		1
4a	02-09-2116	Pin		4
5	03-09-2041	4-Pole Connector - Female		1
5a	02-09-1117	Socket		4
6	AVS-92200A150	Screw 6-32 x 5/8		2
13		AWG20 Wire – Yellow - Strobe		1
14		AWG22 Wire – Blue - Synchro		1
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40	1221201-3 1221201-4	ORIGINAL PARTS Detector – Wing Position Light LH Detector – Wing Position Light RH		1 1

**NOTES**

Remove installed wingtip lights and verify that aircraft structure is not subject to substantial corrosion. In case of detected corrosion apply relevant AMM section or consult OEM before continuing with this installation.

The lights are to be connected as described in manual AVE-WPST-54G. 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.

If the aircraft is not already equipped with the strobe function this function can be installed through this change by following the instructions in §1.8. Additional cables for strobe (#13) and synchronization (#14) function have to be installed according to §1.8.

Figure and Index Number	Part Number	Description	Parts Avail.	QTY. Per assy.
	<b>Kit Number: C177-03</b>			
1	AVE-WPSR-64G Mod(4)	Ultra Galactica Embedded Red		1
1a	AVS-P001290550-A1A	Gasket		1
3L	AVS-C220105979-A40	Cessna Fairing w AL Adapter L		1
3a	AVS-P000105978-A2C	AL Adapter		1
3b	AVS-A7984565	Screw M5x65		1
3c	AVS-OR00480190N70-D0A	O-Ring		1
4	03-09-1041	4-Pole Connector – Male		1
4a	02-09-2116	Pin		4
5	03-09-2041	4-Pole Connector - Female		1
5a	02-09-1117	Socket		4
6	AVS-92200A150	Screw 6-32 x 5/8		2
13		AWG20 Wire – Yellow - Strobe		1
14		AWG22 Wire – Blue - Synchro		1
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40	1221201-3 1221201-4	ORIGINAL PARTS Detector – Wing Position Light LH Detector – Wing Position Light RH		1 1

**NOTES**

Remove installed wingtip lights and verify that aircraft structure is not subject to substantial corrosion. In case of detected corrosion apply relevant AMM section or consult OEM before continuing with this installation.

The lights are to be connected as described in manual AVE-WPS-64G-IM. 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.

If the aircraft is not already equipped with the strobe function this function can be installed through this change by following the instructions in §1.8. Additional cables for strobe (#13) and synchronization (#14) function have to be installed according to §1.8.

1.3.2 Wing Position / Strobe Light Installation RIGHT

KIT Number: C177-02  
C177-03

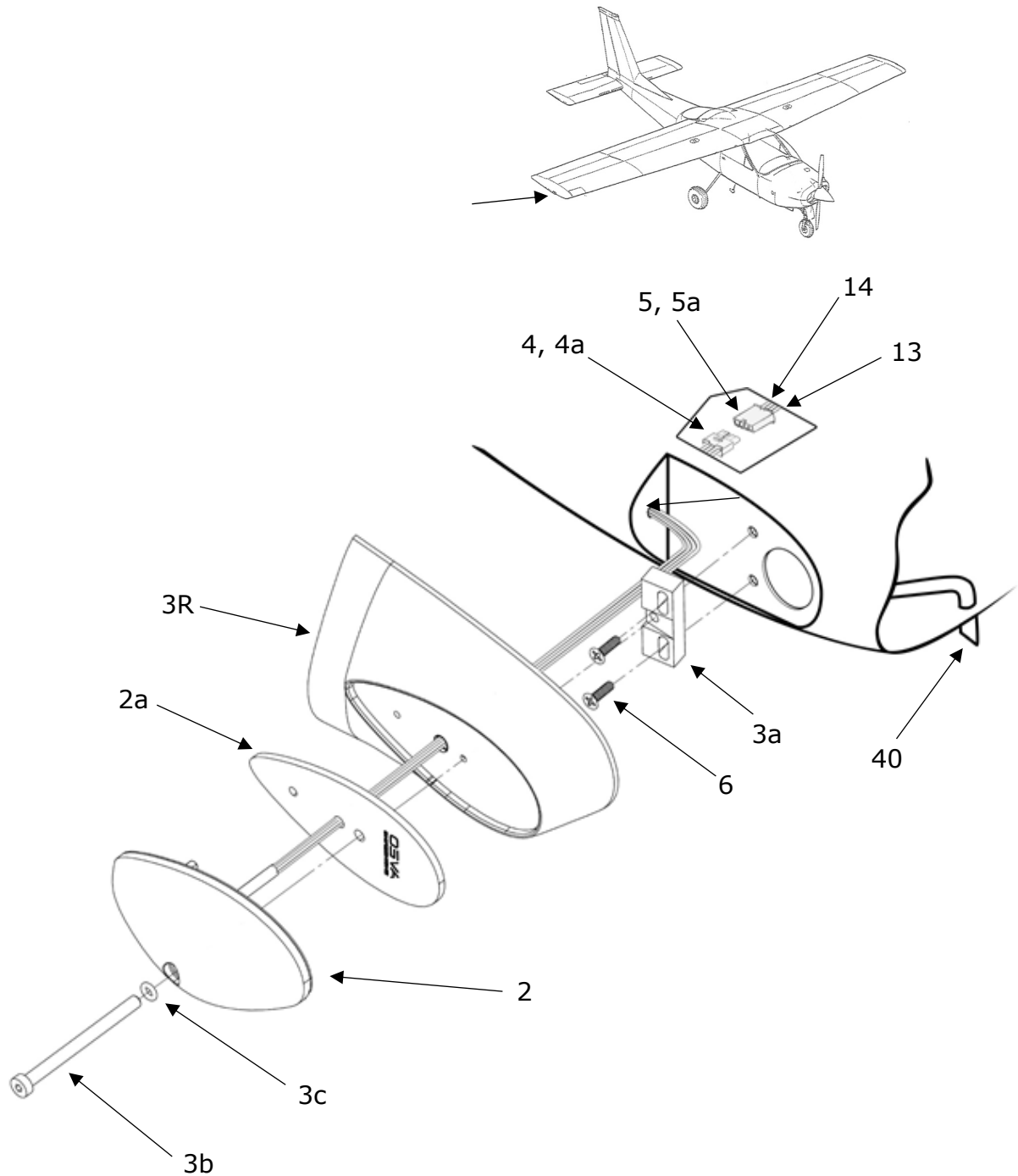


Figure and Index Number	Part Number	Description	Parts Avail.	QTY. Per assy.
	<b>Kit Number: C177-02</b>			
2	AVE-WPSTG-54G Mod(4)	Ultra Galactica Green		1
2a	AVS-P001290550-A1A	Gasket		1
3R	AVS-C220105972-A40	Cessna Fairing w. AL Adapter R		1
3a	AVS-P000105978-A2C	AL Adapter		1
3b	AVS-A7984565	Screw M5x65		1
3c	AVS-OR00480190N70-D0A	O-Ring		1
4	03-09-1041	4-Pole Connector – Male		1
4a	02-09-2116	Pin		4
5	03-09-2041	4-Pole Connector - Female		1
5a	02-09-1117	Socket		4
6	AVS-92200A150	Screw 6-32 x 5/8		2
13		AWG20 Wire – Yellow - Strobe		1
14		AWG22 Wire – Blue - Synchro		1
-----	-----	-----	-----	-----
40	1221201-3 1221201-4	ORIGINAL PARTS Detector – Wing Position Light LH Detector – Wing Position Light RH		1 1

**NOTES**

Remove installed wingtip lights and verify that aircraft structure is not subject to substantial corrosion. In case of detected corrosion apply relevant AMM section or consult OEM before continuing with this installation.

The lights are to be connected as described in manual AVE-WPST-54G. 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.

If the aircraft is not already equipped with the strobe function this function can be installed through this change by following the instructions in §1.8. Additional cables for strobe (#13) and synchronization (#14) function have to be installed according to §1.8.

Figure and Index Number	Part Number	Description	Parts Avail.	QTY. Per assy.
	<b>Kit Number: C177-03</b>			
1	AVE-WPSG-64G Mod(4)	Ultra Galactica Embedded Green		1
1a	AVS-P001290550-A1A	Gasket		1
3L	AVS-C220105979-A40	Cessna Fairing w AL Adapter L		1
3a	AVS-P000105978-A2C	AL Adapter		1
3b	AVS-A7984565	Screw M5x65		1
3c	AVS-OR00480190N70-D0A	O-Ring		1
4	03-09-1041	4-Pole Connector – Male		1
4a	02-09-2116	Pin		4
5	03-09-2041	4-Pole Connector - Female		1
5a	02-09-1117	Socket		4
6	AVS-92200A150	Screw 6-32 x 5/8		2
13		AWG20 Wire – Yellow - Strobe		1
14		AWG22 Wire – Blue - Synchro		1
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40	1221201-3 1221201-4	ORIGINAL PARTS Detector – Wing Position Light LH Detector – Wing Position Light RH		1 1

**NOTES**

Remove installed wingtip lights and verify that aircraft structure is not subject to substantial corrosion. In case of detected corrosion apply relevant AMM section or consult OEM before continuing with this installation.

The lights are to be connected as described in manual AVE-WPS-64G-IM. 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.

If the aircraft is not already equipped with the strobe function this function can be installed through this change by following the instructions in §1.8. Additional cables for strobe (#13) and synchronization (#14) function have to be installed according to §1.8.

1.4 Navigation Lights Installation – Tail Position

Kit Number: C177-04

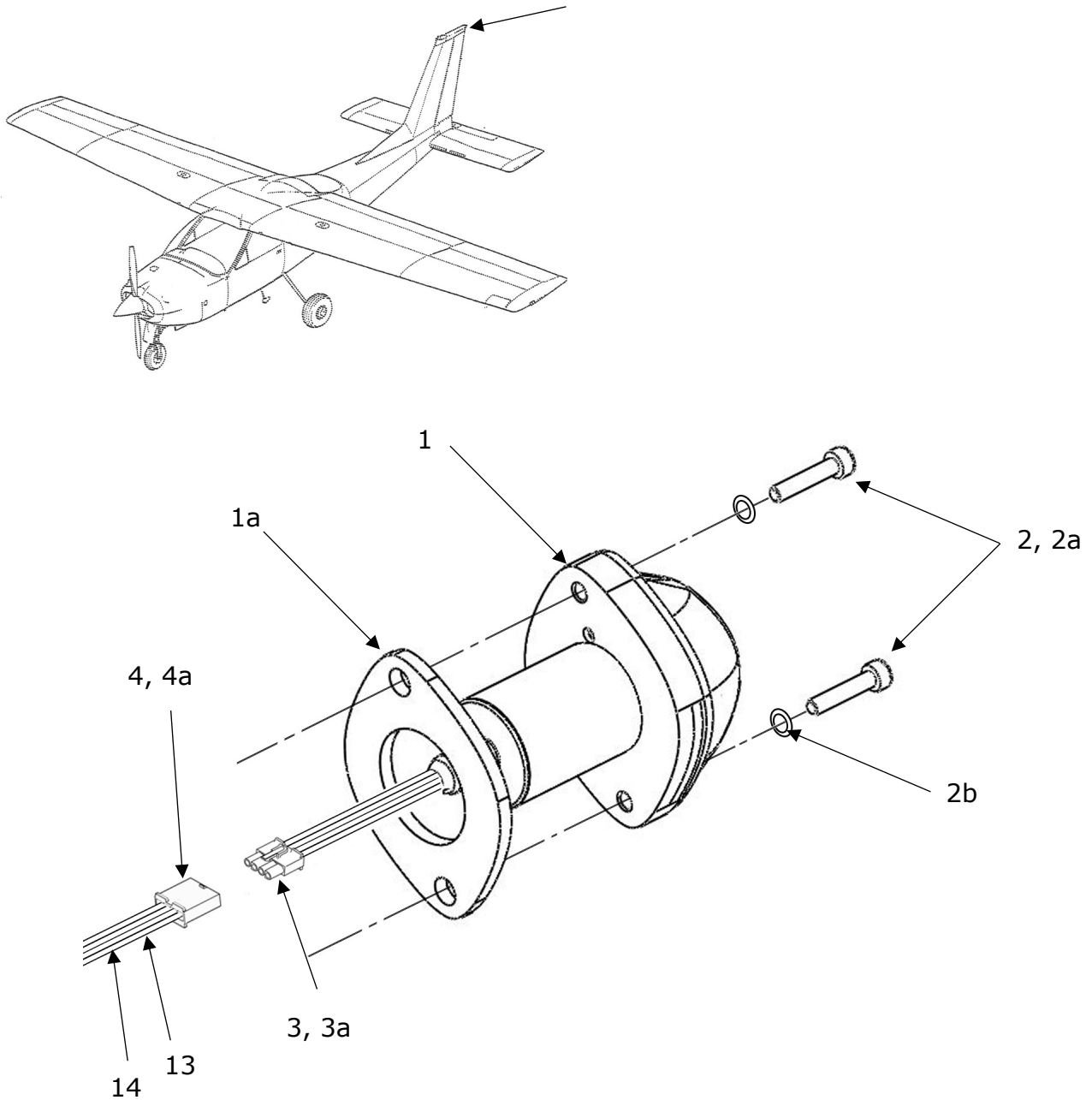


Figure and Index Number	Part Number	Description	Parts Avail.	QTY. Per assy.
	<b>Kit Number: C177-04</b>			
1	AVE-PSPSYW-T01	PosiStrobe Titania		1
1a	AVS-P000105638-A10	Gasket		1
2	AVS-92196A150	Screw #6-32 Thread, 5/8" SHCS		2
2a	AVS-92200A111	Screw #4-40 Thread, 5/8" SHCS		2
2b	AVS-90295A359	Flat Washer – Nylon		2
3	03-09-1041	4-Pole Connector – Male		1
3a	02-09-2116	Pin		4
4	03-09-2041	4-Pole Connector - Female		1
4a	02-09-1117	Socket		4
13		AWG20 Wire – Yellow - Strobe		2
14		AWG22 Wire – Blue - Synchro		2

**NOTES**

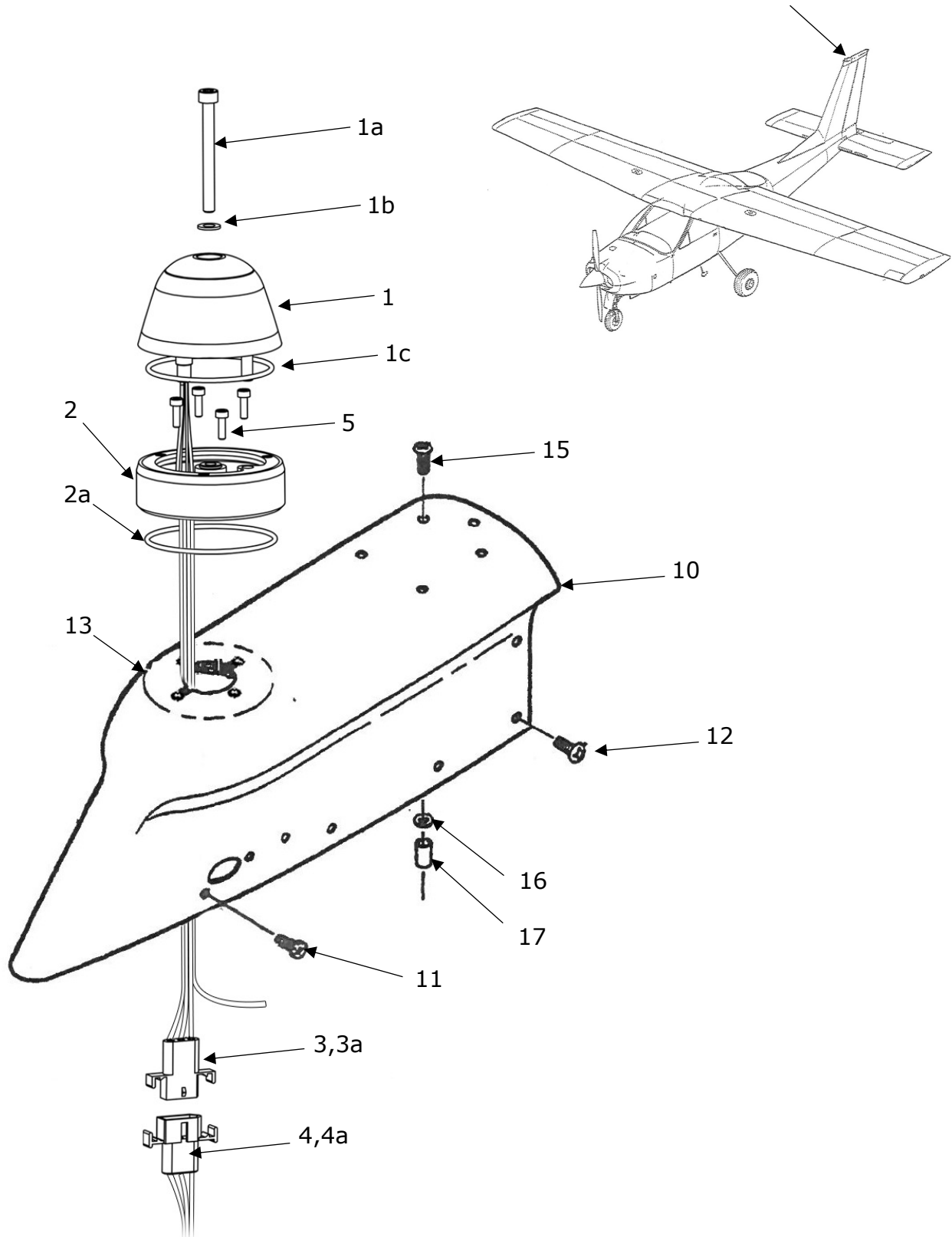
Remove installed wingtip lights and verify that aircraft structure is not subject to substantial corrosion. In case of detected corrosion apply relevant AMM section or consult OEM before continuing with this installation.

The lights are to be connected as described in manual AVE-PSPSYW-IM. 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.

If the aircraft is not already equipped with the strobe function this function can be installed through this change by following the instructions in §1.8. Additional cables for strobe (#13) and synchronization (#14) function have to be installed according to §1.8.

### 1.5 Anti-collision Light Installation

Kit Number: C177-05  
C177-06



**Strobe box removal**

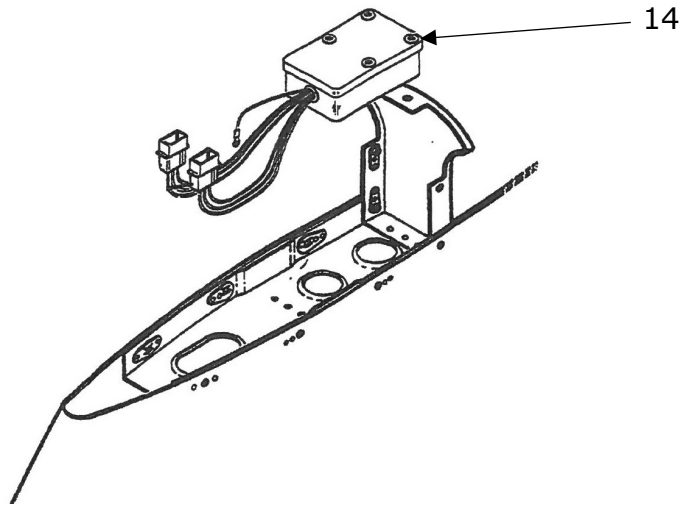


Figure and Index Number	Part Number	Description	Parts Avail.	QTY. Per Assy.
	<b>Kit Number: C177-05</b>			
1	AVE-RBXPR-001 Mod(1)	RedBaron XP Galactica Red		1
1a	AVS-79840905050	Screw		1
1b	AVS-170299005	Flat Washer – Nylon		1
1c	AVS-OR05300200N70-D0A	O-Ring		1
2	AVE-LARBUHS-01B	RedBaron Legacy Light Replacement Adapter		1
2a	AVS-OR05700200N70-D0A	O-Ring		1
3	03-09-1031	3-Pole Connector – Male		1
3a	02-09-2116	Pin		3
4	03-09-2031	3-Pole Connector - Female		1
4a	02-09-1117	Socket		3
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		ORIGINAL PARTS		
5	AN515-8R8	Screw		4
10	1731009-4 1731009-3	Tip Assembly-Fin – Without Omni Antenna Tip Assembly-Fin – Used with Omni Antenna		1 1
11	S1021Z8-6	Screw		6
12	AN515-8R8	Screw		5
13	NAS680A08	Nutplate		2
14	S594501-0203	Flasher Assembly-Beacon Light		1
15	AN515-8R10	Screw		4
16	AN960-8L	Washer		4
17	NAS43DD3-16	Spacer		4
18	S1638-2	Housing-Cap		2
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19		AWG22 Wire – Blue – Synchro		1

**NOTES**

Remove installed anticollision light and strobe box (#14) and verify that aircraft structure is not subject to substantial corrosion. In case of detected corrosion apply relevant AMM section or consult OEM before continuing with this installation.

The lights are to be connected as described in manuals AVE-RBXP-001-IM.

Additional cable for synchronization function (#19) has to be installed according to §1.8.

Figure and Index Number	Part Number	Description	Parts Avail.	QTY. Per assy.
	<b>Kit Number: C177-06</b>			
1	AVE-RBXPW-001 Mod(1)	RedBaron XP Galactica White		1
1a	AVS-79840905050	Screw		1
1b	AVS-170299005	Flat Washer – Nylon		1
1c	AVS-OR05300200N70-D0A	O-Ring		1
2	AVE-LARBUHS-01B	RedBaron Legacy Light Replacement Adapter		1
2a	AVS-OR05700200N70-D0A	O-Ring		1
3	03-09-1031	3-Pole Connector – Male		1
3a	02-09-2116	Pin		3
4	03-09-2031	3-Pole Connector - Female		1
4a	02-09-1117	Socket		3
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		ORIGINAL PARTS		
5	AN515-8R8	Screw		4
10	1731009-4 1731009-3	Tip Assembly-Fin – Without Omni Antenna Tip Assembly-Fin – Used with Omni Antenna		1 1
11	S1021Z8-6	Screw		6
12	AN515-8R8	Screw		5
13	NAS680A08	Nutplate		2
14	S594501-0203	Flasher Assembly-Beacon Light		1
15	AN515-8R10	Screw		4
16	AN960-8L	Washer		4
17	NAS43DD3-16	Spacer		4
18	S1638-2	Housing-Cap		2
-----	-----	-----	-----	-----
19		AWG22 Wire – Blue – Synchro		1

**NOTES**

Remove installed anticollision light and strobe box (#14) and verify that aircraft structure is not subject to substantial corrosion. In case of detected corrosion apply relevant AMM section or consult OEM before continuing with this installation.

The lights are to be connected as described in manuals AVE-RBXP-001-IM.

Additional cable for synchronization function (#19) has to be installed according to §1.8.

## 1.6 Landing / Taxi Light Installation

### 1.6.1 Wing Installation

Kit Number: C177-07 Option A

Kit Number: C177-08 Option B

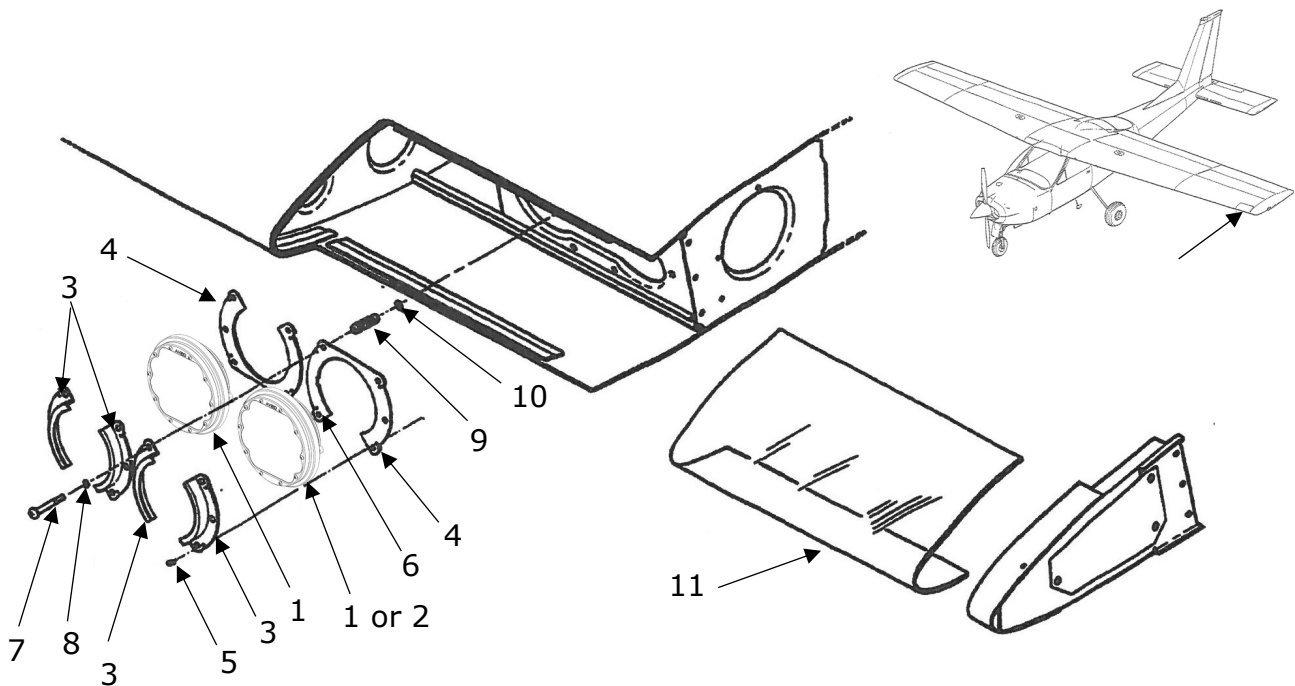


Figure and Index Number	Part Number	Description	Parts Avail.	QTY. Per assy.
	<b>OPTION A</b>			
	<b>Kit Number: C177-07</b>			
1	AVE-H30TATSNL-T0A Mod(1)	Hercules Drop-In Landing		2
	<b>OPTION B</b>			
	<b>Kit Number: C177-08</b>			
1	AVE-H30TATSNL-T0A Mod(1)	Hercules Drop-In Landing		1
2	AVE-H30TATSNT-T0A Mod(1)	Hercules Drop-In Taxi		1
-----	-----	-----	-----	-----
		ORIGINAL PARTS		
3	1221059-5	Bracket-Landing Light		4
4	1221059-6	Plate-Landing Light Bracket		2
5	S1021Z6-8	Screw		4
6	NAS488-1-3	Nut		4
7	AN515-8R26	Screw		3
8	AN960-8L	Washer		3
9	0713124-1	Spring		3
10	AN960-10L	Washer		
2	1221060-5	Lens-Landing Light		1

**NOTES**

It is to be checked by the installer before the modification whether Option A or B is installed on the aircraft. For a change in configuration e.g. 2 landing lights into 1 landing and 1 taxi light requires an additional EASA change.

Remove installed landing / taxi lights and verify that aircraft structure is not subject to substantial corrosion. In case of detected corrosion apply relevant AMM section or consult OEM before continuing with this installation.

Remove existing connector and replace as indicated. Verify polarity of wires before connection (ref. to AVE-H30TATSN-IM).

**Kit Number: C177-09 Option A**

**Kit Number: C177-10 Option B**

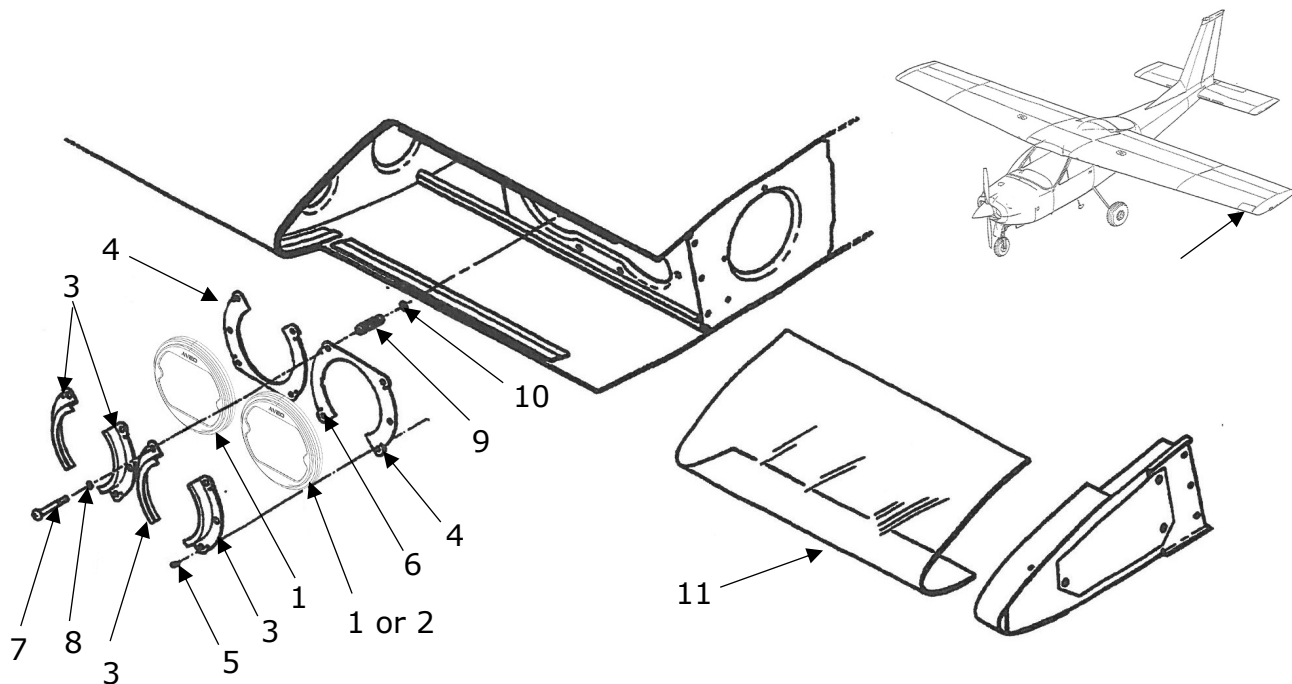


Figure and Index Number	Part Number	Description	Parts Avail.	QTY. Per assy.
	<b>OPTION A</b>			
	<b>Kit Number: C177-09</b>			
1	AVE-HJPDOLW-DS3	Hercules JP Landing		2
	<b>OPTION B</b>			
	<b>Kit Number: C177-10</b>			
1	AVE-HJPDOLW-DS3	Hercules JP Landing		1
2	AVE-HJPDOTW-DS3	Hercules JP Taxi		1
-----	-----	-----	-----	-----
		ORIGINAL PARTS		
3	1221059-5	Bracket-Landing Light		4
4	1221059-6	Plate-Landing Light Bracket		2
5	S1021Z6-8	Screw		4
6	NAS488-1-3	Nut		4
7	AN515-8R26	Screw		3
8	AN960-8L	Washer		3
9	0713124-1	Spring		3
10	AN960-10L	Washer		
11	1221060-5	Lens-Landing Light		1

**NOTES**

It is to be checked by the installer before the modification whether Option A or B is installed on the aircraft. For a change in configuration e.g. 2 landing lights into 1 landing and 1 taxi light requires an additional EASA change.

Remove installed landing / taxi lights and verify that aircraft structure is not subject to substantial corrosion. In case of detected corrosion apply relevant AMM section or consult OEM before continuing with this installation.

Remove existing connector and replace as indicated. Verify polarity of wires before connection (ref. to AVE-HJPDO-IM).

1.6.2 Cowling Installation

Kit Number: C177-11 Option A

Kit Number: C177-12 Option B

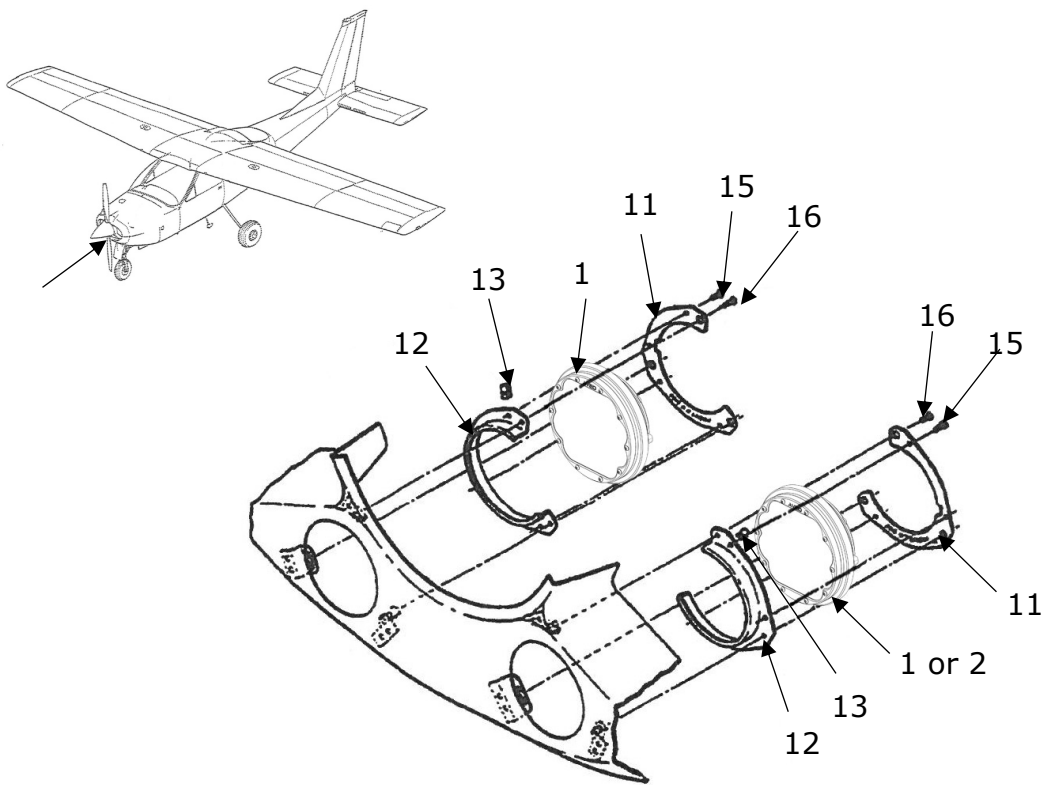


Figure and Index Number	Part Number	Description	Parts Avail.	QTY. Per assy.
	<b>OPTION A</b>			
	<b>Kit Number: C177-11</b>			
1	AVE-H30TATSNL-T0A Mod(1)	Hercules Drop-In Landing		2
	<b>OPTION B</b>			
	<b>Kit Number: C177-12</b>			
1	AVE-H30TATSNL-T0A Mod(1)	Hercules Drop-In Landing		1
2	AVE-H30TATSNT-T0A Mod(1)	Hercules Drop-In Taxi		1
-----	-----	-----	-----	-----
		ORIGINAL PARTS		
11	2052041-3	Plate-Landing Light		2
12	2052041-1	Bracket Assy		2
13	NAS488-1-3	Nut		3
15	S1021Z6-8	Screw		6
16	AN515-8R8	Washer		6

**NOTES**

It is to be checked by the installer before the modification whether Option A or B is installed on the aircraft. For a change in configuration e.g. 2 landing lights into 1 landing and 1 taxi light requires an additional EASA change.

Remove installed landing / taxi lights and verify that aircraft structure is not subject to substantial corrosion. In case of detected corrosion apply relevant AMM section or consult OEM before continuing with this installation.

Remove existing connector and replace as indicated. Verify polarity of wires before connection (ref. to AVE-H30TATSNI-IM).

**Kit Number: C177-13 Option A**

**Kit Number: C177-14 Option B**

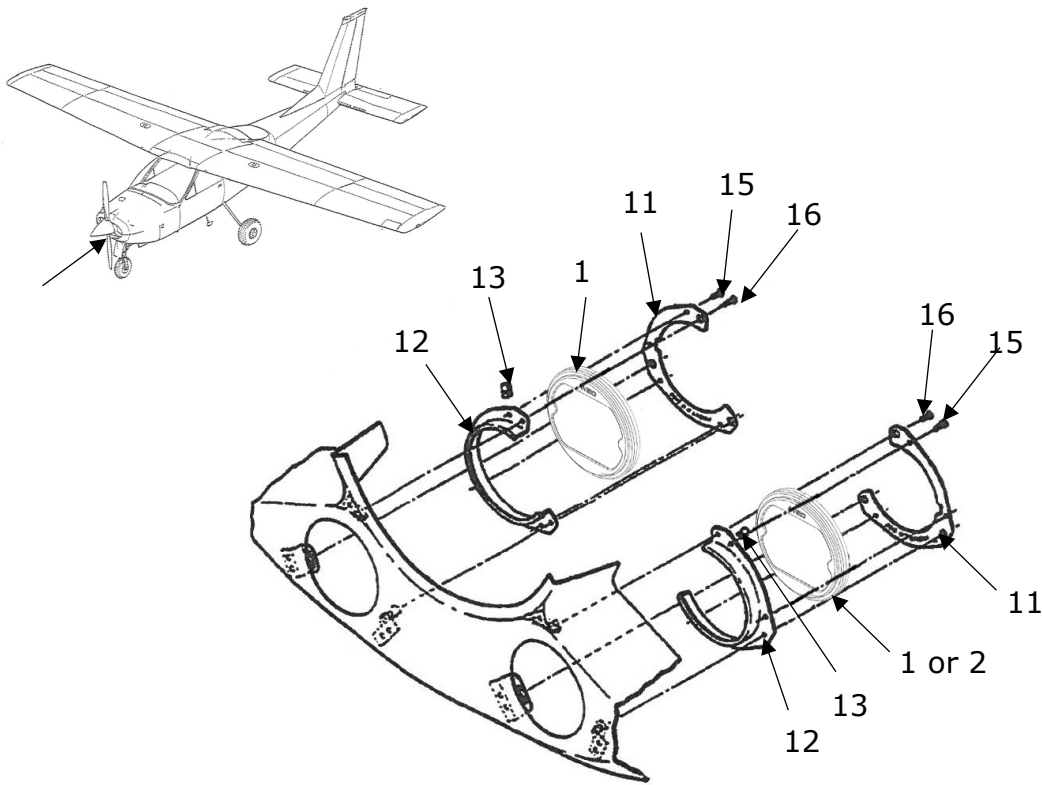


Figure and Index Number	Part Number	Description	Parts Avail.	QTY. Per assy.
	<b>OPTION A</b>			
	<b>Kit Number: C177-13</b>			
1	AVE-HJPDOLW-DS3	Hercules JP Landing		2
	<b>OPTION B</b>			
	<b>Kit Number: C177-14</b>			
1	AVE-HJPDOLW-DS3	Hercules JP Landing		1
2	AVE-HJPDOTW-DS3	Hercules JP Taxi		1
-----	-----	-----	-----	-----
		ORIGINAL PARTS		
11	2052041-3	Plate-Landing Light		2
12	2052041-1	Bracket Assy		2
13	NAS488-1-3	Nut		3
15	S1021Z6-8	Screw		6
16	AN515-8R8	Washer		6

**NOTES**

It is to be checked by the installer before the modification whether Option A or B is installed on the aircraft. For a change in configuration e.g. 2 landing lights into 1 landing and 1 taxi light requires an additional EASA change.

Remove installed landing / taxi lights and verify that aircraft structure is not subject to substantial corrosion. In case of detected corrosion apply relevant AMM section or consult OEM before continuing with this installation.

Remove existing connector and replace as indicated. Verify polarity of wires before connection (ref. to AVE-HJPDO-IM).

1.6.3 Cowling Installation

Kit Number: C177-15 Option A

Kit Number: C177-16 Option B

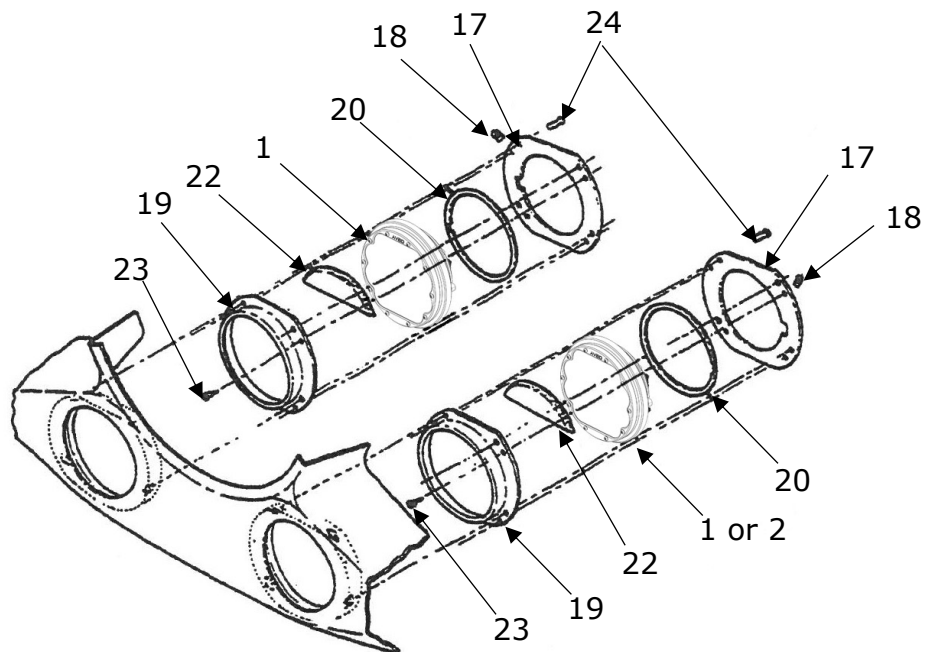


Figure and Index Number	Part Number	Description	Parts Avail.	QTY. Per assy.
	<b>OPTION A</b>			
	<b>Kit Number: C177-15</b>			
1	AVE-H30TATSNL-T0A Mod(1)	Hercules Drop-In Landing		2
	<b>OPTION B</b>			
	<b>Kit Number: C177-16</b>			
1	AVE-H30TATSNL-T0A Mod(1)	Hercules Drop-In Landing		1
2	AVE-H30TATSNT-T0A Mod(1)	Hercules Drop-In Taxi		1
-----	-----	-----	-----	-----
		ORIGINAL PARTS		
17	2052047-2	Plate Assy-Landing Light AFT		2
18	NAS488-1-3	Nut		4
19	2052047-1	Bracket-Landing Light FWD		2
20	0752646-1	Gasket		2
22	2052043-1	Deflector		2
23	S1021Z6-8	Screw		8

**NOTES**

It is to be checked by the installer before the modification whether Option A or B is installed on the aircraft. For a change in configuration e.g. 2 landing lights into 1 landing and 1 taxi light requires an additional EASA change.

Remove installed landing / taxi lights and verify that aircraft structure is not subject to substantial corrosion. In case of detected corrosion apply relevant AMM section or consult OEM before continuing with this installation.

Remove existing connector and replace as indicated. Verify polarity of wires before connection (ref. to AVE-H30TATSN-IM).

Kit Number: C177-17 Option A

Kit Number: C177-18 Option B

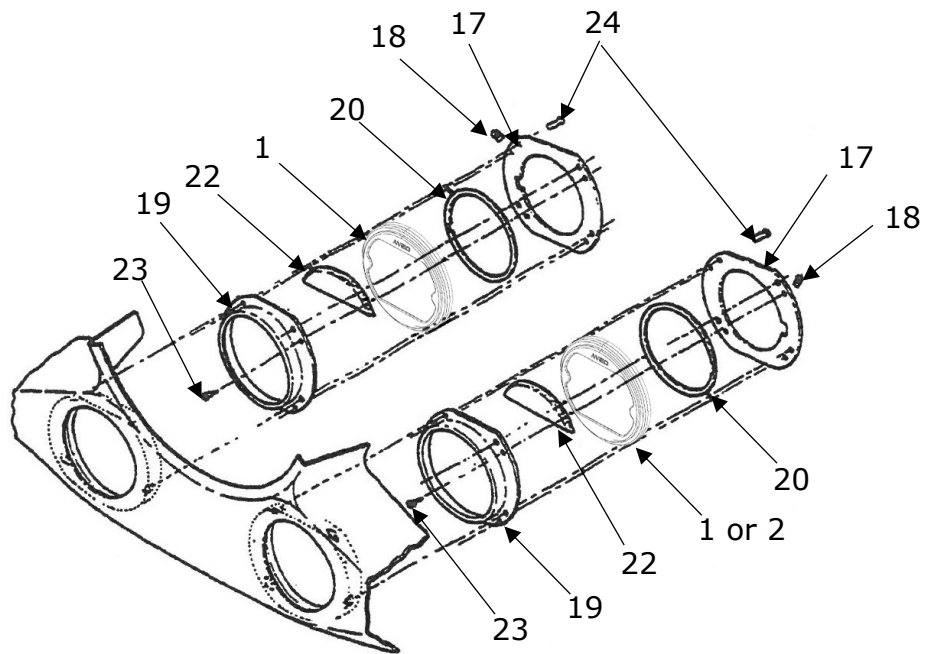


Figure and Index Number	Part Number	Description	Parts Avail.	QTY. Per assy.
	<b>OPTION A</b>			
	<b>Kit Number: C177-17</b>			
1	AVE-HJPDOLW-DS3	Hercules JP Landing		2
	<b>OPTION B</b>			
	<b>Kit Number: C177-18</b>			
1	AVE-HJPDOLW-DS3	Hercules JP Landing		1
2	AVE-HJPDOTW-DS3	Hercules JP Taxi		1
-----	-----	-----	-----	-----
		ORIGINAL PARTS		
17	2052047-2	Plate Assy-Landing Light AFT		2
18	NAS488-1-3	Nut		4
19	2052047-1	Bracket-Landing Light FWD		2
20	0752646-1	Gasket		2
22	2052043-1	Deflector		2
23	S1021Z6-8	Screw		8

**NOTES**

It is to be checked by the installer before the modification whether Option A or B is installed on the aircraft. For a change in configuration e.g. 2 landing lights into 1 landing and 1 taxi light requires an additional EASA change.

Remove installed landing / taxi lights and verify that aircraft structure is not subject to substantial corrosion. In case of detected corrosion apply relevant AMM section or consult OEM before continuing with this installation.

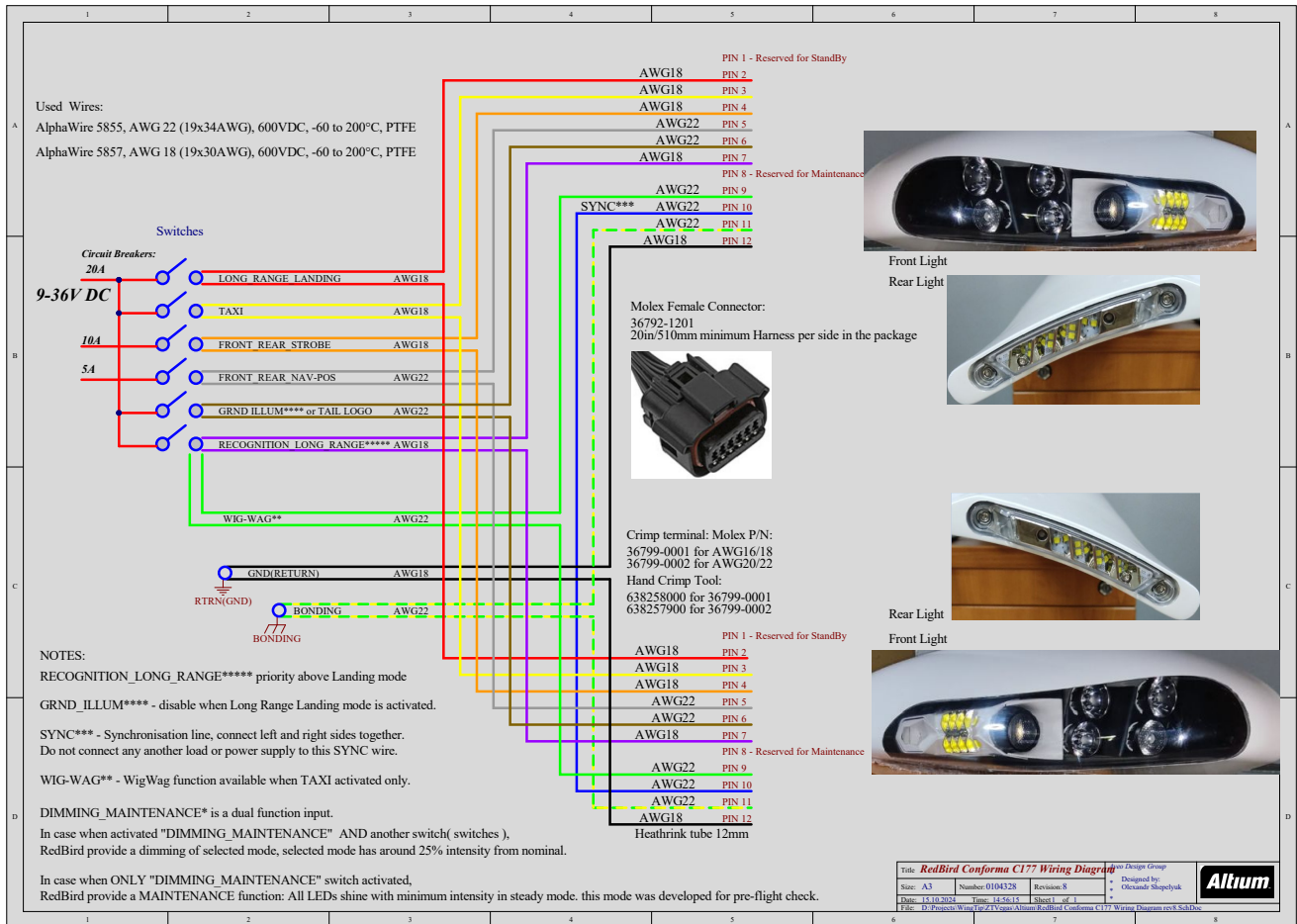
Remove existing connector and replace as indicated. Verify polarity of wires before connection (ref. to AVE-HJPDO-IM).

### 1.7 Wiring Changes

This solution applies to the C 177B and to the C 177RG only.

If the Aveo RedBird Conformia is to be installed, then additional light functions are introduced. These are recognition, Wig-Wag, downwash and logo light. The wingtips can be integrated using the following wiring modifications.

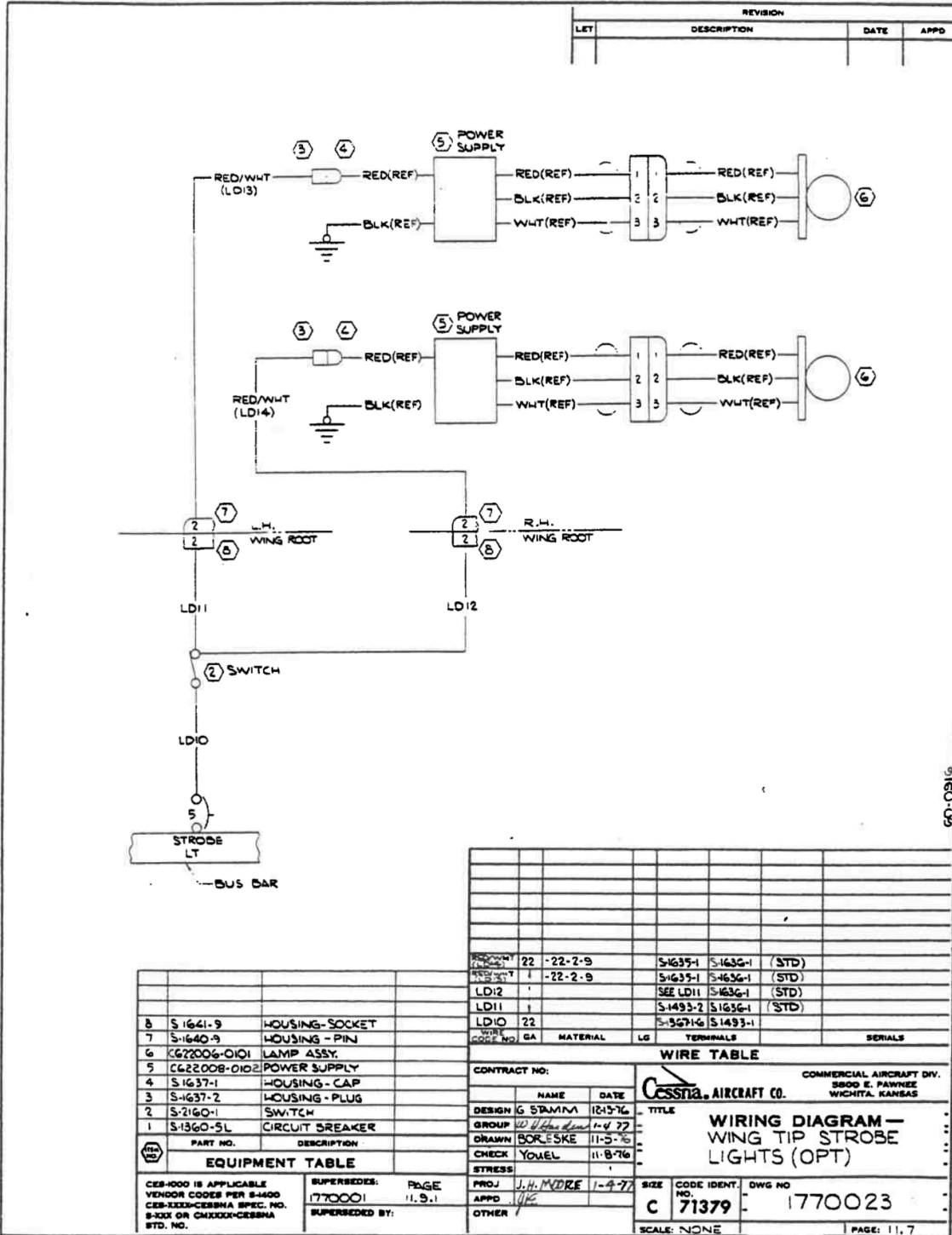
#### Connection Schematic of the RedBird wingtip:



**1.7.1 Addition or modification of strobe function**

For aircraft C177 which are not already equipped with the strobe function this function can be integrated using the following modification instruction.

**Wiring Diagram Strobe Cessna 177 original (if installed)**



PART NO.	DESCRIPTION
8	S 1641-9 HOUSING - SOCKET
7	S 1640-9 HOUSING - PIN
6	C622006-0101 LAMP ASSY.
5	C622008-0102 POWER SUPPLY
4	S 1637-1 HOUSING - CAP
3	S 1637-2 HOUSING - PLUG
2	S 2160-1 SWITCH
1	S 1360-5L CIRCUIT BREAKER

REV	DATE	DESCRIPTION
22	-22-2-9	S 1635-1 S 1636-1 (STD)
1	-22-2-9	S 1635-1 S 1636-1 (STD)
		SEE LD11 S 1636-1 (STD)
		S 1493-2 S 1636-1 (STD)
		S 1637-1 S 1493-1

DESIGN	NAME	DATE	TITLE
G SPAMM		12-13-76	
GROUP	W J. H. MADRE	1-4-77	
DRAWN	BORLESKE	11-5-76	
CHECK	YOUEL	11-8-76	
STRESS			

WIRING DIAGRAM - WING TIP STROBE LIGHTS (OPT)

CONTRACT NO: \_\_\_\_\_

COMMERCIAL AIRCRAFT DIV. 3800 E. PAWNEE WICHITA, KANSAS

CESSNA AIRCRAFT CO.

SCALE: NONE

PAGE: 11, 7

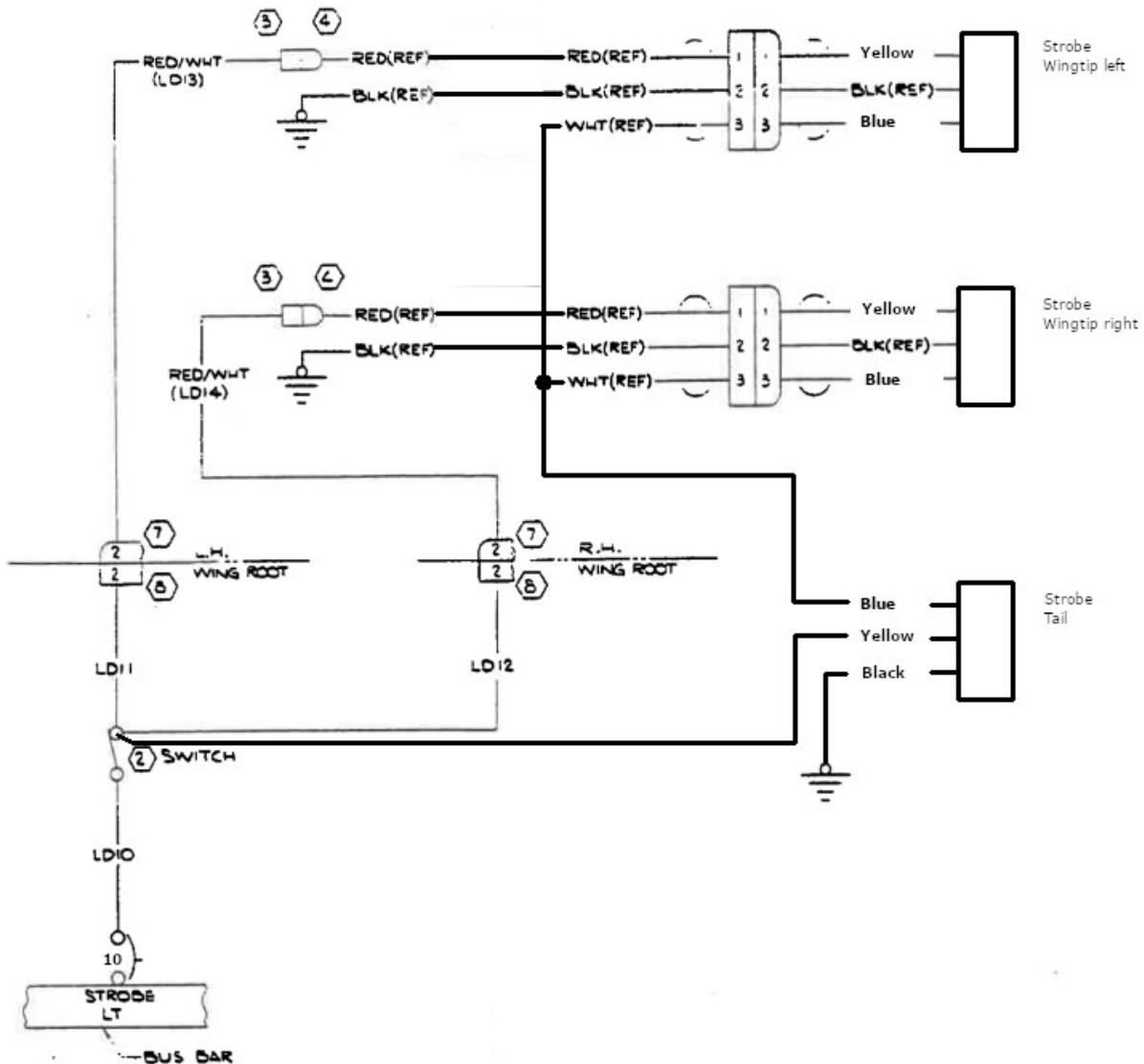
EQUIPMENT TABLE
CESS-1000 IS APPLICABLE
VENDOR CODES PER 8-400
CESS-XXXX-CESSNA SPEC. NO.
8-XXXX OR CXXXX-CESSNA
STD. NO.

SUPERSEDES:	PAGE
1770001	11, 9, 1

PROJ	APPD	OTHER
J. H. MADRE		

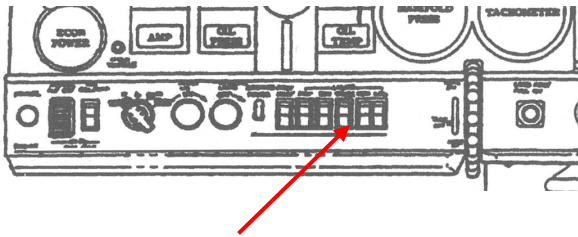
SIZE	CODE IDENT.	DWG NO.
C	71379	1770023

If the strobe function is already existing then the wiring is to be modified according this:



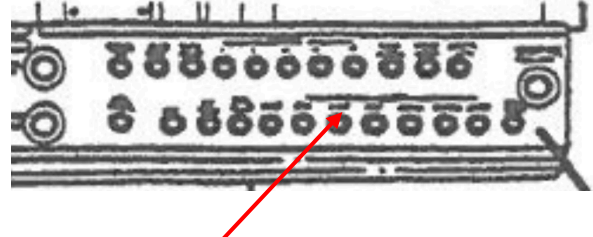
For the new strobe function, the CB needs to be increased to 10A. Wiring as far as available can be reused as shown. The power supply for the original strobes must be removed and the wiring adjusted as shown in the diagrams. If new wires are to be installed then this should be done along the existing wire bundle and in accordance to FAR AC 43.13-2B Chapter 4 and in FAR AC 43.13 1B Chapter 11 Section 15 (Bonding). For aircraft without a strobe installation shall the installation be done according to the wiring above. All newly installed wires shall be aviation type wiring with AWG20. The installation of connectors as indicated on the diagram is optional. The CB and the switch are to be installed to the location forseen in the aircraft, using the Cessna original parts.

Cockpit left



Use free location for strobe switch and label it with label (#2) (if applicable)

Cockpit right



Use free location for strobe circuit breaker and label them with label (#2) (if applicable)

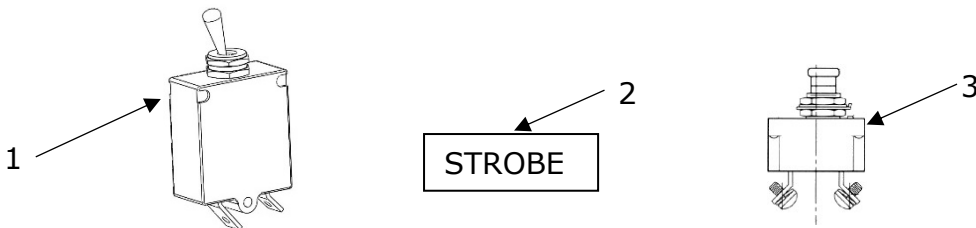


Figure and Index Number	Part Number	Description	Parts Avail.	QTY. Per assy.
1	S-1158-2-2 or AN3021-2 or equivalent	Switch		
2		Label		
3	S-1232-10	Circuit breaker 10A		

**NOTES**

To install strobe light function:

Install switch (item 1) into a free location of the instrument panel according Aircraft Maintenance Manual. Add labels to the switches to indicate the function as described above.

Install circuit breaker (item 3) into the free space in the circuit breaker panel according the Aircraft Maintenance Manual. Add label to the circuit breaker.

Wiring is to be performed according the wiring diagram. If the strobes are to be synchronized then the blue wires of the position lights must be connected. If the lights shall not be synchronized the blue wires of the different lights are to be capped and stowed.

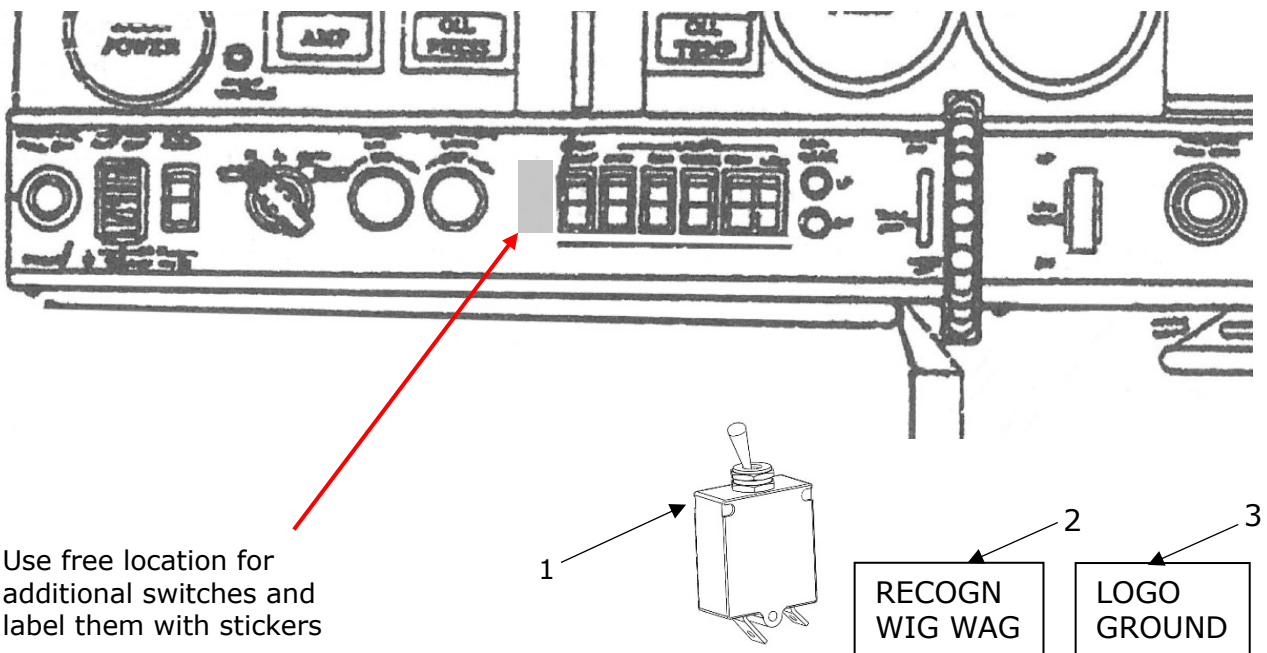
The additional wires are to be installed along the wire bundle with the wires for the position and anti-collision lights.

**1.7.2 Additional wiring for RedBird functions**

The RedBird Conforma wingtip offers additional functions which require additional wires, if those functions are to be used. These functions are the recognition- and Wig-Wag-function and the ground and logo light. Two switches are required, if all functions are to be used. The switches can be used the part number S-1158-2-2 (Cessna original part, requires a square cutout) or part number AN3021-2 (Cessna original part, requires a round hole) or an equivalent aviation switch.

The additional switches are to be installed next to switch panels (see below).

Instrument panel C177RG (actual instrument panel to be taken from AMM)



Instrument panel C177 (actual instrument panel to be taken from AMM)

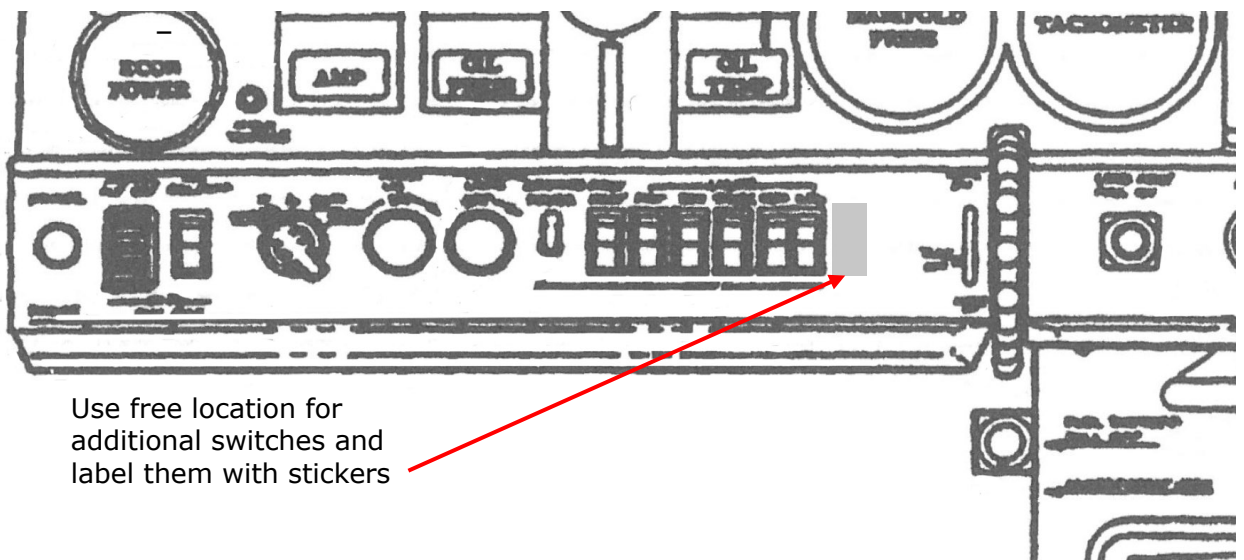


FIGURE AND INDEX NUMBER	PART NUMBER	DESCRIPTION	PARTS AVAIL	QTY PER ASSY
1	S-1158-2-2 or AN3021-2 or equivalent	Switch		2
2		Label Recognition/Wig-Wag		1
3		Label Logo/Ground		1

**NOTES**

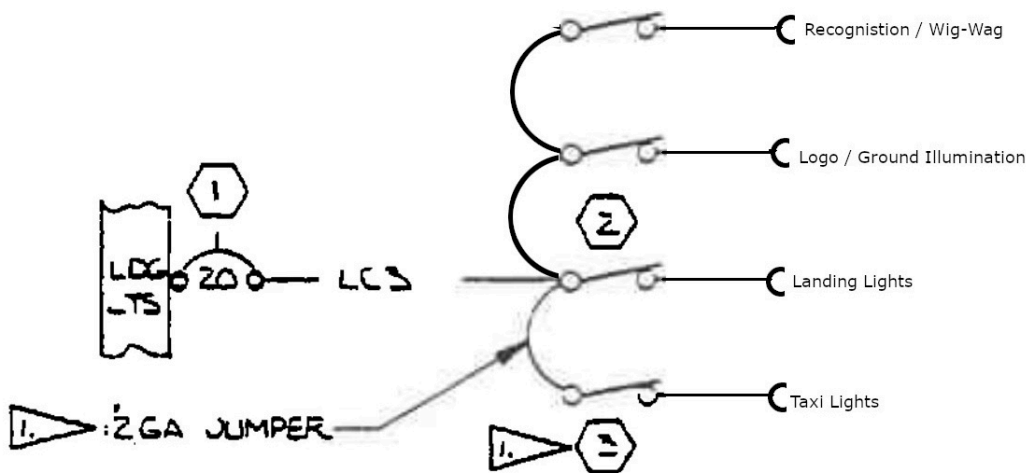
To install additional light functions:

Install switches (item 1) as required into a free locations of the instrument panel according Aircraft Maintenance Manual. Add labels to the switches to indicate the function as described above.

Wiring is to be performed according the wiring diagram. If the strobes are to be synchronized then the blue wires of the position lights and the anti-collision light must be connected. If the lights shall not be synchronized the blue wires of the different lights are to be capped and stowed.

The additional wires are to be installed along the wire bundle with the wires for the position and anti-collision lights.

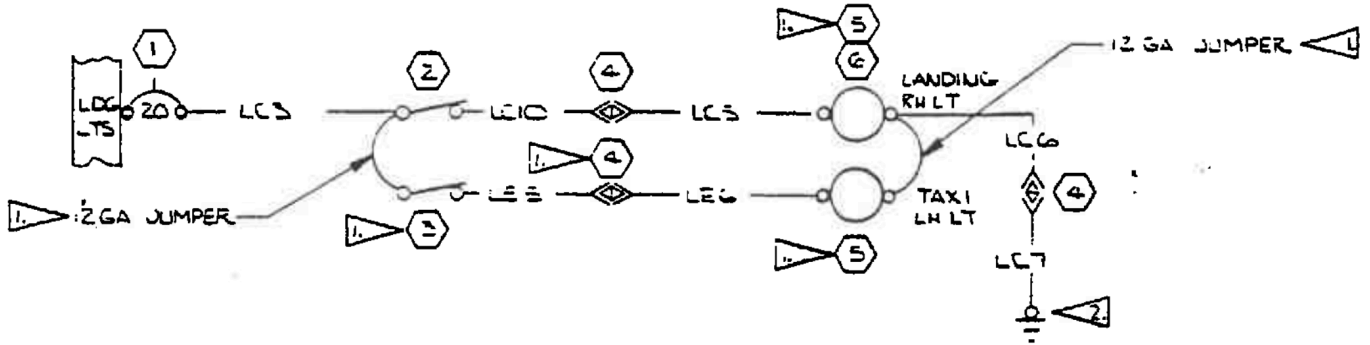
The additional switches for Recognition / Wig-Wag and Logo / Ground Illumination are to be installed in parallel to the existing landing and taxi light switches:



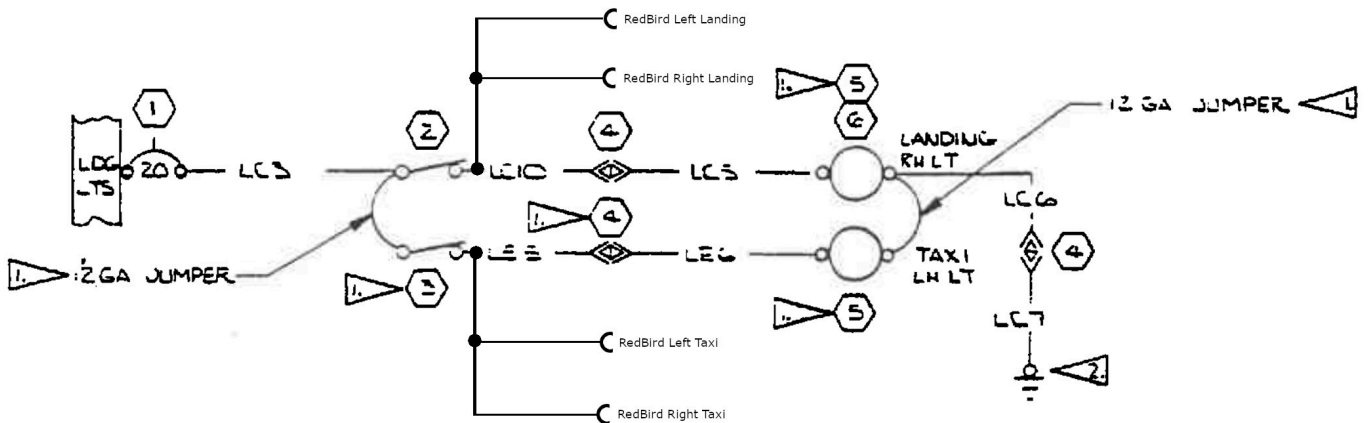
The wiring shall be aviation type wiring with AWG20. The wires shall be installed parallel to the wire bundle for the landing lights.

The landing and the taxi lights on the C177 are installed on the cowling or in the leading edge of the left wing. For the installation of the RedBird Wingtip is it required to replace the taxi and the landing light by this modification (§ 1.7), so enough power for the wingtip lights is available.

The original wiring for the landing and taxi lights is:



The modified wiring is this:



New wires installed shall be aviation type wires with AWG18. In the case that the landing and taxi lights are installed in the wing, can the wires up to the original location be used and the connection to the wingtip be made there.

**1.7.3 Wiring change for position (navigation) lights**

The position light system is mainly unchanged. The Ultra Galactica and the PosiStrobe Titania are combined lights for position (navigation) lights and strobes. The position light section is the red wire, which is to be connected to the original position light wire. In case of the Aveo RedBird wingtips is the original position light wire to be connected to pin 5 (see wiring schematic above).

The strobe section and ground connection are described in the strobe section § 1.8.1.



## Part 2 Compliance demonstration

This document is in relation to the certification program AVE-MOD-045-PFC.  
The compliance is demonstrated for the following certification specification:

Requirements	MoC	Statement of Compliance
CS 23.603 Materials and workmanship	MoC 0	(a) All materials used are common tested materials. (b) No strength and other property data has been used for this modification. (c) The environmental conditions have been regarded for the selection of materials and the surface treatment.
CS 23.609 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 23.777 Cockpit controls	MoC 0	<b>CS 23.777</b> (a) Added switches are located next to the existing switch panel, very close to other light functions. The switches are marked according to their function. (b) It is assured that the pilot has unrestricted access and interference with his clothing is excluded by the position of the switches. (c) - (h) is not affected by the modification.
CS 23.1301 Function and installation	MoC 0	(a) All navigation and anti-collision lights are either ETSO certified or qualified by RTCA DO160 testing and intensity tests. All landing and taxi lights are qualified according to RTCA DO160 as per AVE-H30-001-CCL. (b) Three optional switches may be installed an label is defined herein. (c) All equipment is installed within their limits.
CS 23.1359 Electrical system fire protection	MoC 0	(c) The installation instructions require the added wiring to be aviation type wiring.
CS 23.1365 Electric cables and equipment	MoC 0	The installation instruction § 1.1 requests to follow the FAR AC 43.13-2B Chapter 4 and in FAR AC 43.13 1B Chapter 11 Section 15 which implies that only aviation specified wiring is to be used.
CS 23.1383 Taxi and landing lights	MoC 0 MoC 5	(a)The configuration of the original installation is not changed except that additional lights are added. (b) Has been verified that glare is not affected. (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 23.1529 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.