

RV BITS LIGHT SET INSTALLATION

RV10 and RV14 Wingtip

This document will take you through the steps to install the RV Bits light set into new blank wingtips and also how to retrofit it on wingtips with other lights installed. This document is for the RV10 and 14.

In your kit you will receive the following:

LINE	PART NUMBER	QUANTITY
1	RVBITS LIGHT MODULE LEFT	1
2	RVBITS LIGHT MODULE RIGHT	1
3	INBOARD BRACKET	2
4	OUTBOARD BRACKET	2
5	K1000-08 PLATE NUTS	8
6	MACHINE SCREW COUNTERSINK M4 X 20MM	2
7	BUSH 8MM	10
8	MS35206-247 PANHEAD PHILIPS SCREW	2
9	AN507C832R8 COUNTERSINK SCREW	4
10	AN960-516 WASHER	4
11	AN365-08 NYLOCK NUT	2
12	AN960-08 WASHER	2
13	AN526C832R8 SS MACHINE SCREW	2

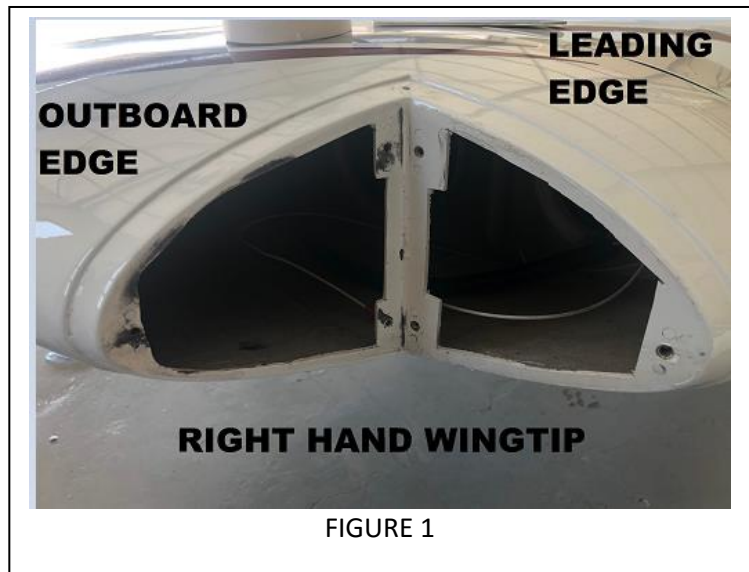
Important Notes.

1. This document shows the installation on the **RIGHT HAND** wingtip.
2. All the pictures and diagrams are shown with the wingtip leading edge to the right and the wingtip outboard edge to the left of the pictures and diagrams.
3. On the RV10 and RV14 installation a simple **Adaptor Plate** is also needed as described in Step 4. This will move the base of the light modules inboard by about 8 mm in order to provide clearance for the lens to fit properly. This Adaptor Plate and the screws and nuts needed to install it is not supplied in the kit.

Step 1

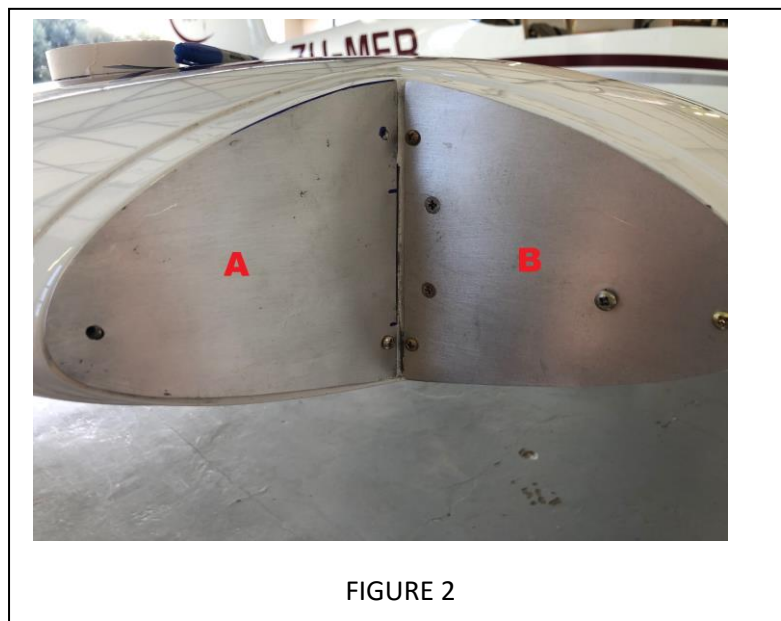
For a RETROFIT: Remove old lights. Figure 1 shows an example of how material has been trimmed away on the two faces of an RV7A **RIGHT HAND** wingtip. The leading edge of the wingtip is on the right-hand side of the picture and the outboard edge of the wingtip is on the left-hand side of the picture.

In this case the builder has fabricated base plates and nut plates to install the old lights. This is taken after the old lights and base plates have been removed. It will be different for other installations.



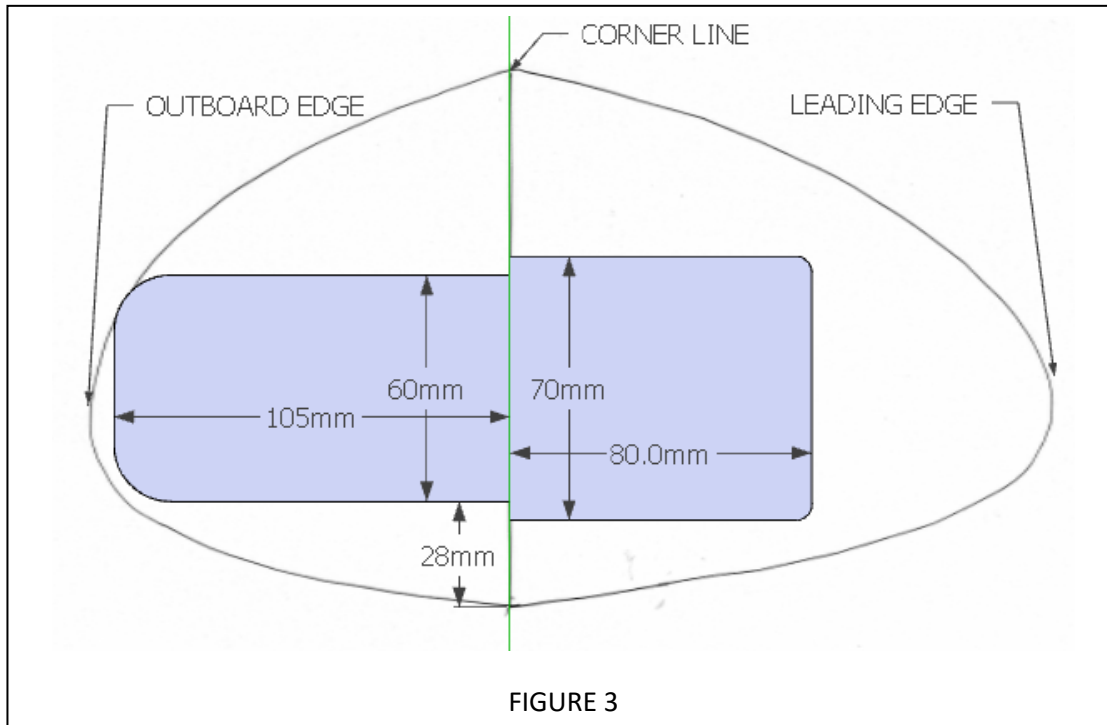
Step 2

For a RETROFIT: If needed make two blanking plates, A and B from 040 Alclad or similar material to cover the openings where the old navigation and strobe lights and landing lights have been. Figure 2 below shows the blanking plates fitted. Another option is to make one plate combining A and B and to then bend it to fit the recess profile. Note that figure 2 shows an RV7A wingtip.

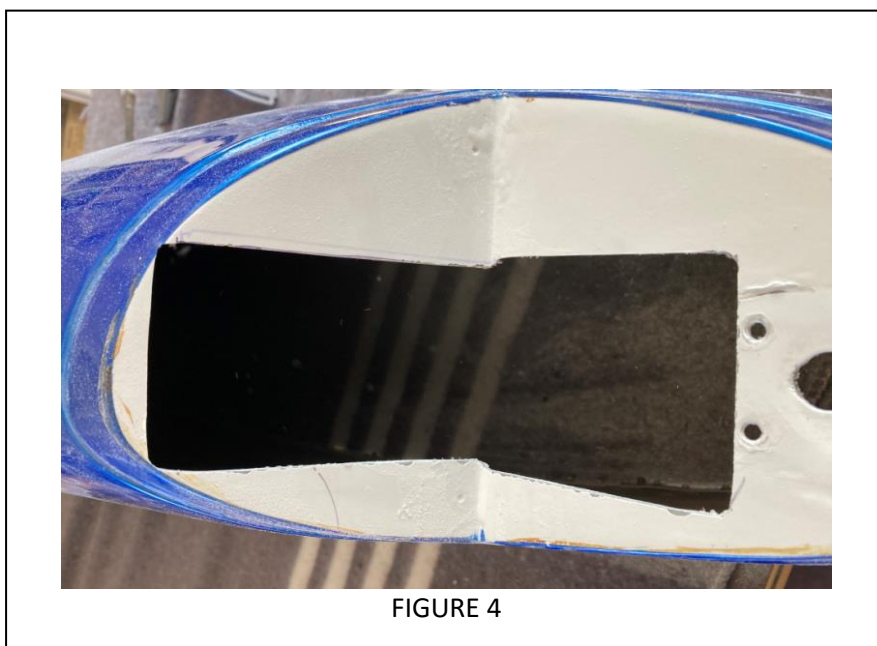


Step 3

For RETROFIT and NEW WINGTIPS: Trim away the fiber glass as shown below. Note that your measurements might differ. Start slightly smaller with the cut out and trim bigger. If you have had to make blanking plate B, trim the blanking plate as shown on the right (front) of the corner line.

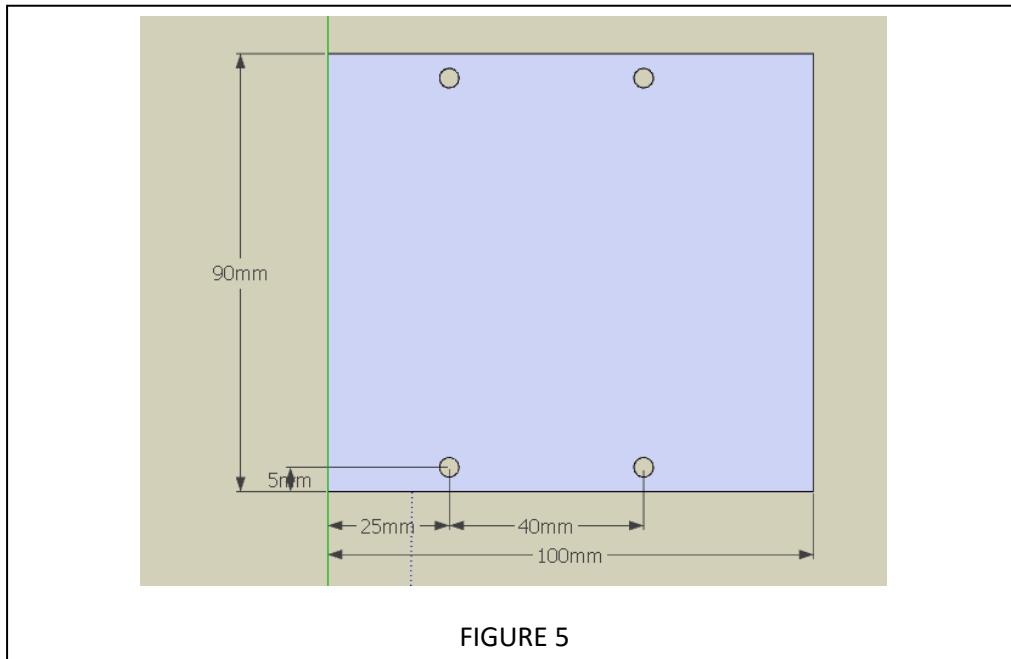


The result should look like my example in Figure 4 below. Note that for the RV14 taildragger the cut out to the right (front) of the bend line (CORNER) should be angled down to accommodate the deck angle of the taildragger. Note that the cut out below was not the final trim.



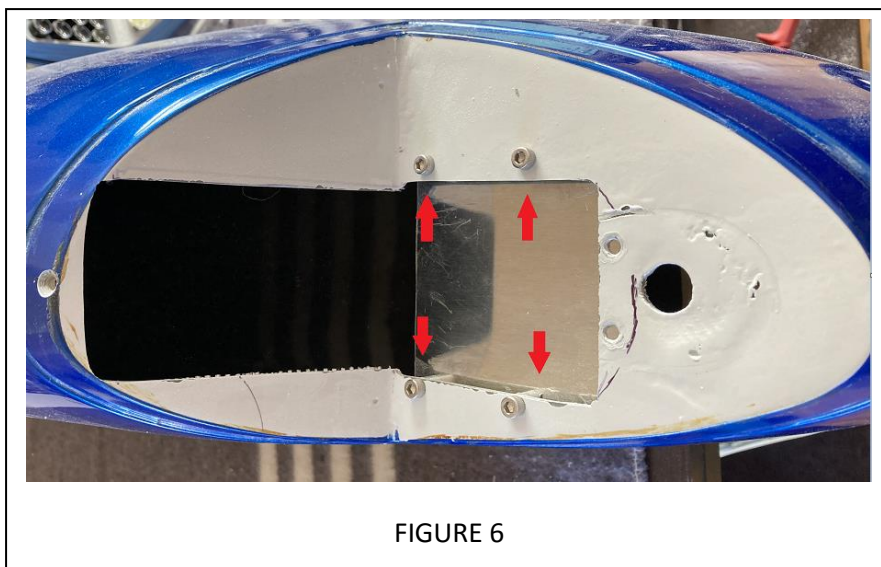
Step 4

For RETROFIT and NEW WINGTIPS: Manufacture two adaptor plates from 040" alclad or similar. One for the left-hand tip and one for the right-hand tip. See Figure 5 below. The adaptor plate is used to move the light module inboard by about 8 mm in order to clear the lens. In other words, it is recessed into the wingtip.



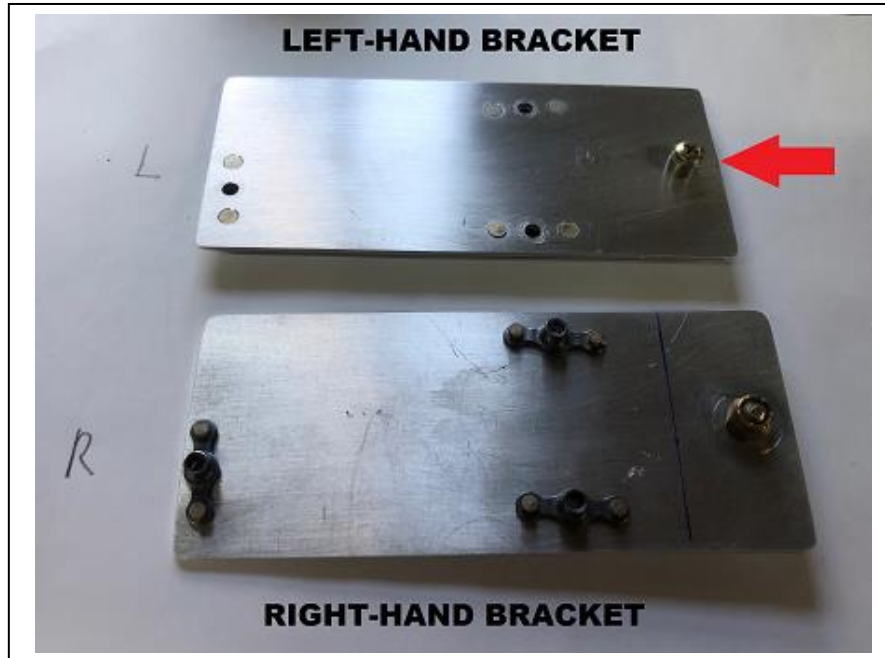
Step 5

For RETROFIT and NEW WINGTIPS: Install the adaptor plate as shown below in Figure 6, using the supplied hardware and four bushes. The four red arrows points to the bushes installed between the wingtip flange and the adaptor plate.



Step 6

For RETROFIT and NEW WINGTIPS: Install the three plate nuts on the two supplied Inboard Brackets as shown in Figure 7. Note that there is a **LH and RH Inboard Bracket**. Also install the bush with the hardware supplied. The red arrow points to the bush.



Step 7

For RETROFIT and NEW WINGTIPS: Mark a line about 40 mm from the aft end of the Inboard Bracket and position it with the 40 mm line aligned with the rear of the adaptor plate as shown below in Figure 8. Then mark **ONLY** the adjustment hole. It is the bottom hole in figure 8, marked "USE BOTTOM HOLE FOR RH TIP". Remove the Inboard plate and slide the light module into position, aligning the adjustment slot with the mark made on the adaptor plate. Note that Figure 8 shows the adaptor plate and inboard bracket in isolation for clarity.

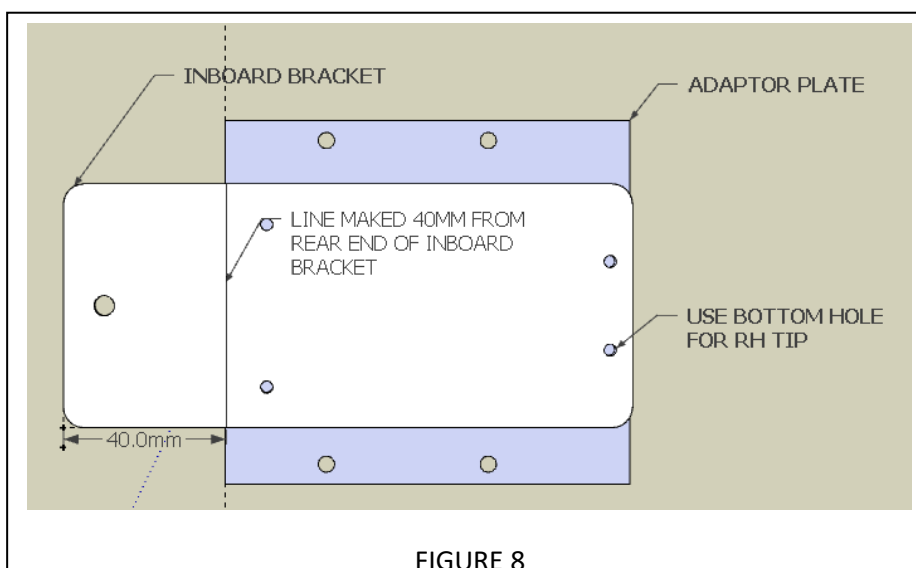


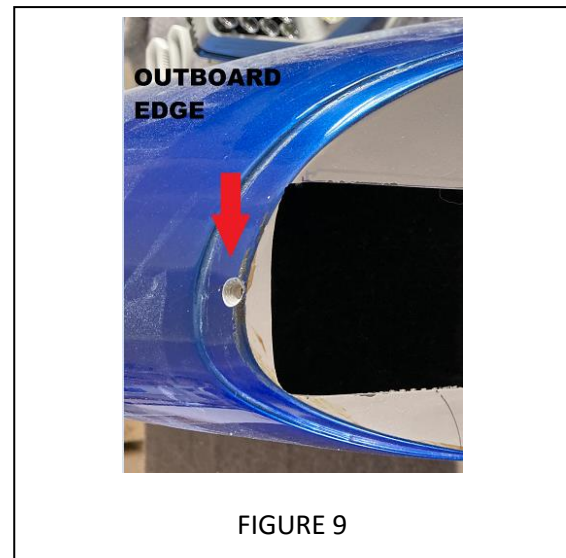
FIGURE 8

Step 8

With the adjustment hole mark aligned with the light module adjustment slot, check to see if the outboard mounting hole of the light module align with centre of the lens flange. Move the module backwards and forward to achieve this. The red arrow points to the outboard mounting hole.

Mark and drill the hole for the outboard mounting screw (Countersink M4 X 20).

Use an awl or drill bit to align this hole and test fit the light module by installing the outboard mounting screw. Then final check the adjustment hole position marked in Step 7 .

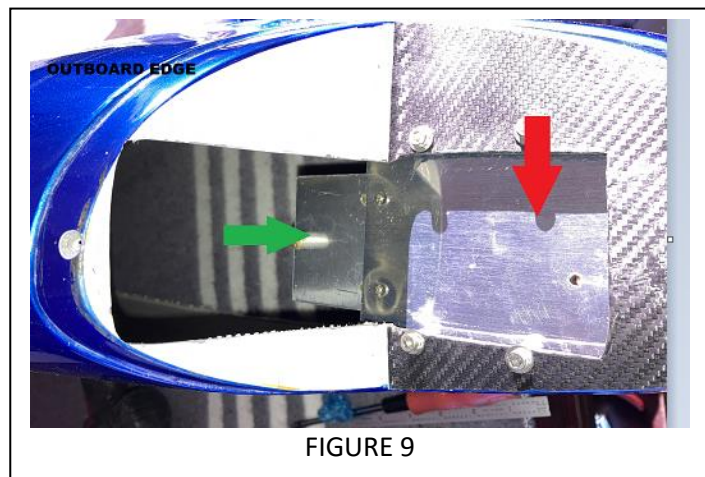


Step 9

For RETROFIT and NEW WINGTIPS:
Mark the two rear holes of the Inboard bracket. Drill all three Inboard bracket attach holes.

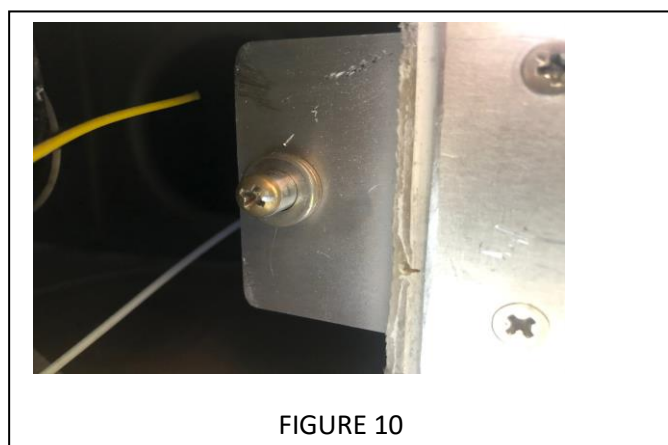
Countersink the two rear holes
Attach the Inboard Bracket as shown
In Figure 9 using only the two AN507C832R8 countersink screws.

The red arrow points to the installed adaptor plate and the green arrow points to the installed inboard bracket.



Step 10

For RETROFIT and NEW WINGTIPS:
Insert the two AN960-516 washers as shown in Figure 10 if required. It can be glued in place as well.



Step 11

For RETROFIT and NEW WINGTIPS: Install the light module by sliding it over the pivot point and by using the MS35206-247 PANHEAD PHILIPS screw where the adjustment slot is and the M4 countersink screw at the outboard mounting hole.

Step 12

For RETROFIT and NEW WINGTIPS: Adjust the module as needed and install the lens cover supplied by Vans. The final installation should look like this



MAY THERE BE LOTS OF LIGHT