

CARBON CUB EX-2

EXPERIMENTAL



CUBCRAFTERS



LIGHTING **MANUAL**

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SECTION 1 LENS HOLDER PREP

Use Figure L1 to locate holes for nut plates on the top and bottom of the landing light holder. Drill holes with a #40 bit. Use a countersink and hand countersink holes for rivets. Test fit rivet and install.



Photo 001



Photo 002

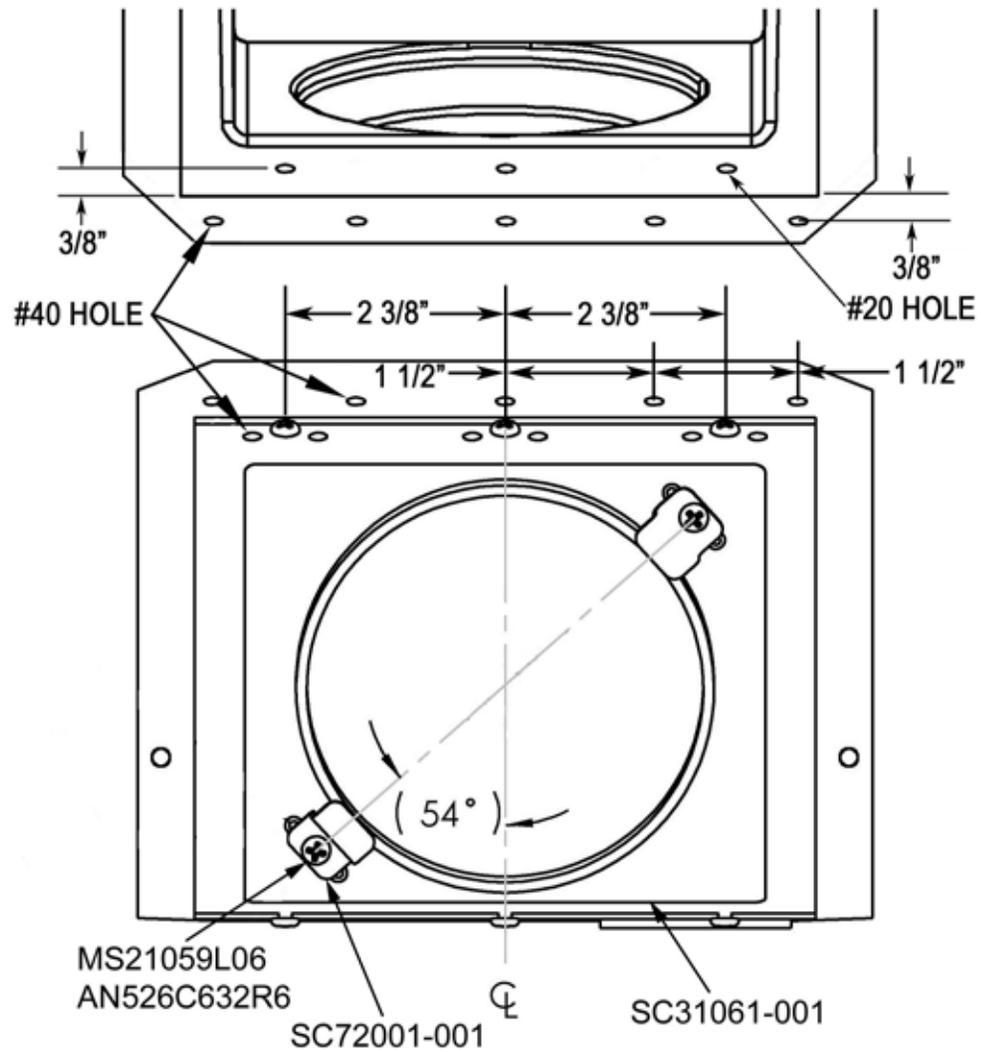


Figure L1

Drill the center hole, #29 bit, of the nut plates. Use the hand squeezer to set rivets for the nut plates. Repeat the process for the bottom three nut plates.



Photo 003



Photo 004

Test fit lamp into holder. Mark location of clip with a marker. Use Figure L1 to locate holes for nut plates on each side of the landing light . **NOTICE THE LANDING LIGHT BULB HAS TOP MARKED ON THE FACE.**



Photo 005



Photo 006

Drill hole, # 40 bit, where mark was made in step 5 above. Using the nut plate as a template drill nut plate retaining holes. Drill out center hole of nut plate, #29 bit, and install rivets. Use a countersink and hand countersink holes for rivets. Test fit rivet and install. Use the hand squeezer to set rivets for the nut plates(MS21059L06). Install screws(AN526C632R6) into nut plates to secure lamp as shown in Photo 008. Set completed lamp assembly aside for later installation into leading edge skin.



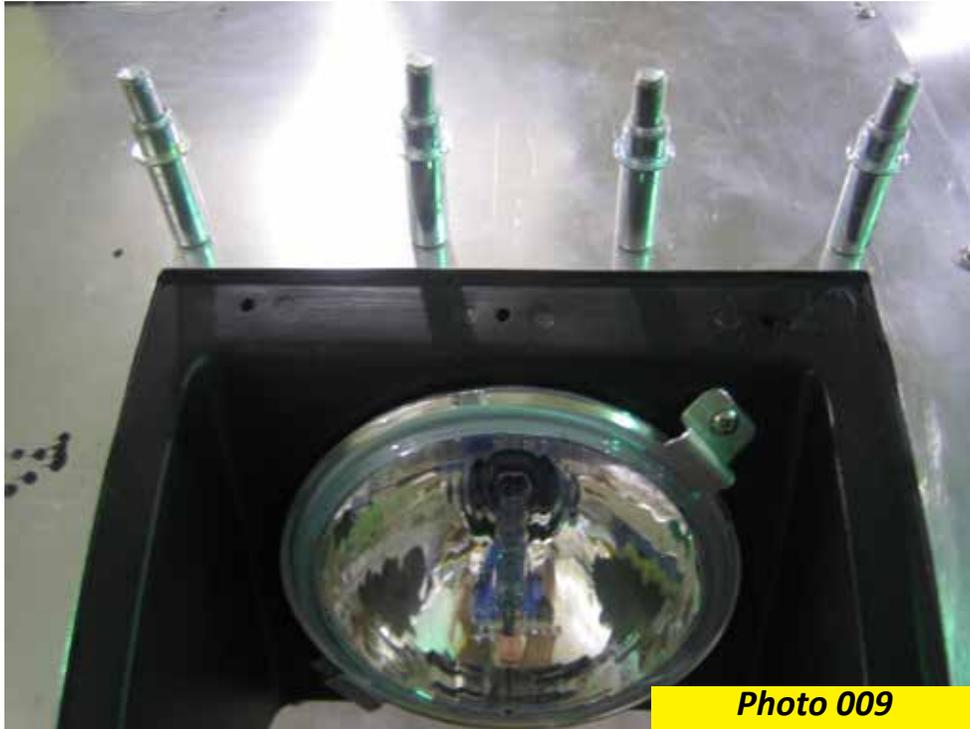
Photo 007



Photo 008

SECTION 2 LENS HOLDER INSTALLATION

Press lamp holder into the leading edge skin. Ensure a smooth, tight fit on all sides. Drill 5 holes per Figure L2 (**ONLY 4 HOLES SHOWN IN PHOTO**), using a #40 bit, to secure lamp holder to leading edge skin as shown in Photo 009. Drill two holes, #40 bit, on each side of the lamp holder on the leading edge. Use clamps across the bottom of lamp holder as shown in Photo 010.



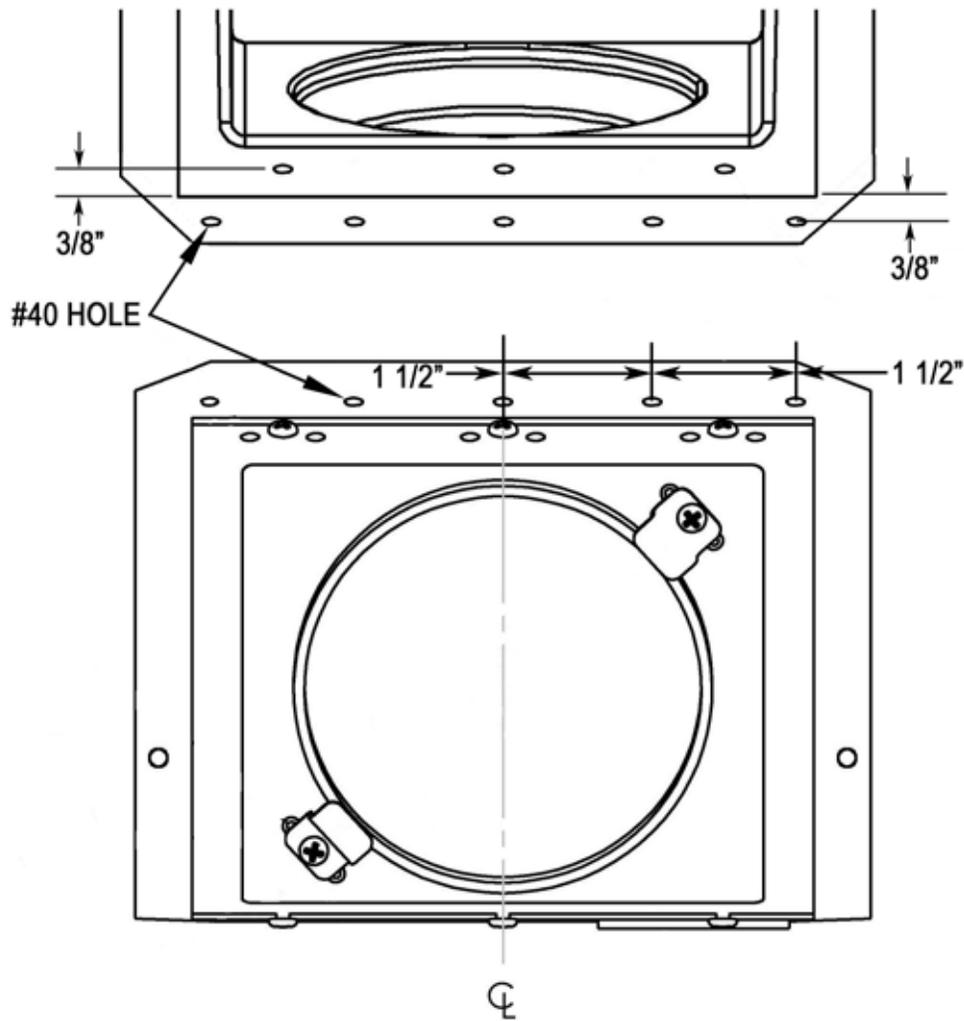


Figure L2

Remove the clamps to allow application of Methacrylate adhesive to lamp holder. **METHACRYLATE ADHESIVE WILL ONLY BE USED ON THE BOTTOM OF THE LANDING LIGHT MOUNT.** Reinsert clamps to secure lamp holder until adhesive sets.



Photo 011



Photo 012

Install the bottom rivet in leading edge skin to ribs on both sides of the lamp holder per Photo 013. When methacrylate has set, countersink and install HDW-04-00981 rivets into the five holes on top and the two holes on leading edge as shown in Photo 014.



Photo 013



Photo 014

SECTION 3 CONNECTING THE LANDING LIGHT BULB

The wires should have already the wires for the nav. and landing lights installed per Section 25 in the WING MANUAL (STANDARD FUEL) or Section 26 in the WING MANUAL (EXTENDED FUEL). Now is the time to connect the landing light bulb to the wiring harness, use Figure L3 for this operation.



Photo 015

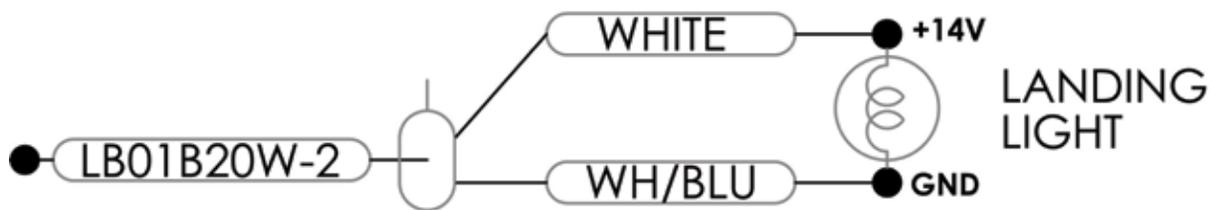


Figure L3

SECTION 4 INSTALLING THE WING NAV LIGHTS

The nav light section of this manual cover the installation of Aveo Flash nav and strobe lights. If your kit has the new Aveo flash nav lights in it, use this manual and the manufacturers installation instructions. Use an exacto knife to cut the fabric away from the three places on the wing tip as shown in Photo 016. Then install the plate nut shown in Photo 017 and Figure L4.



Photo 016



Photo 017

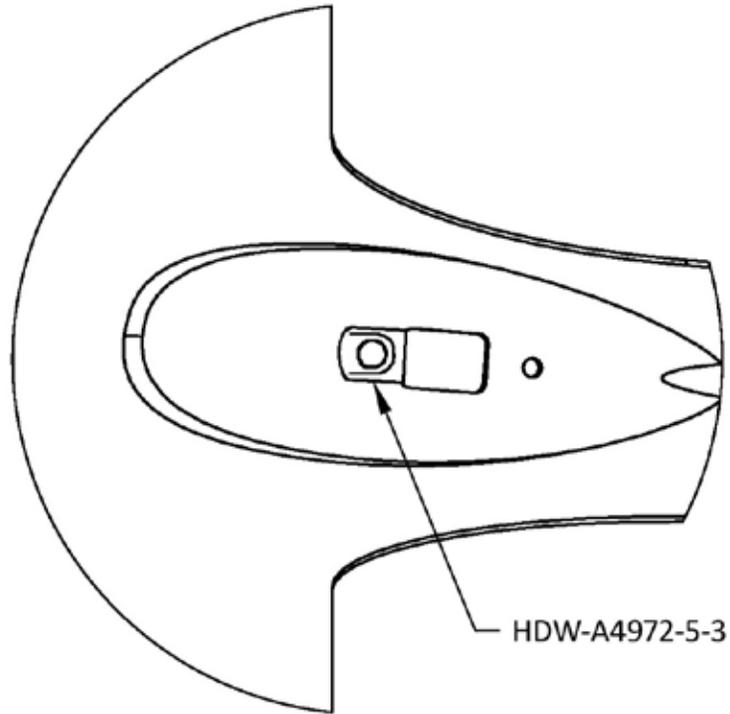


Figure L4

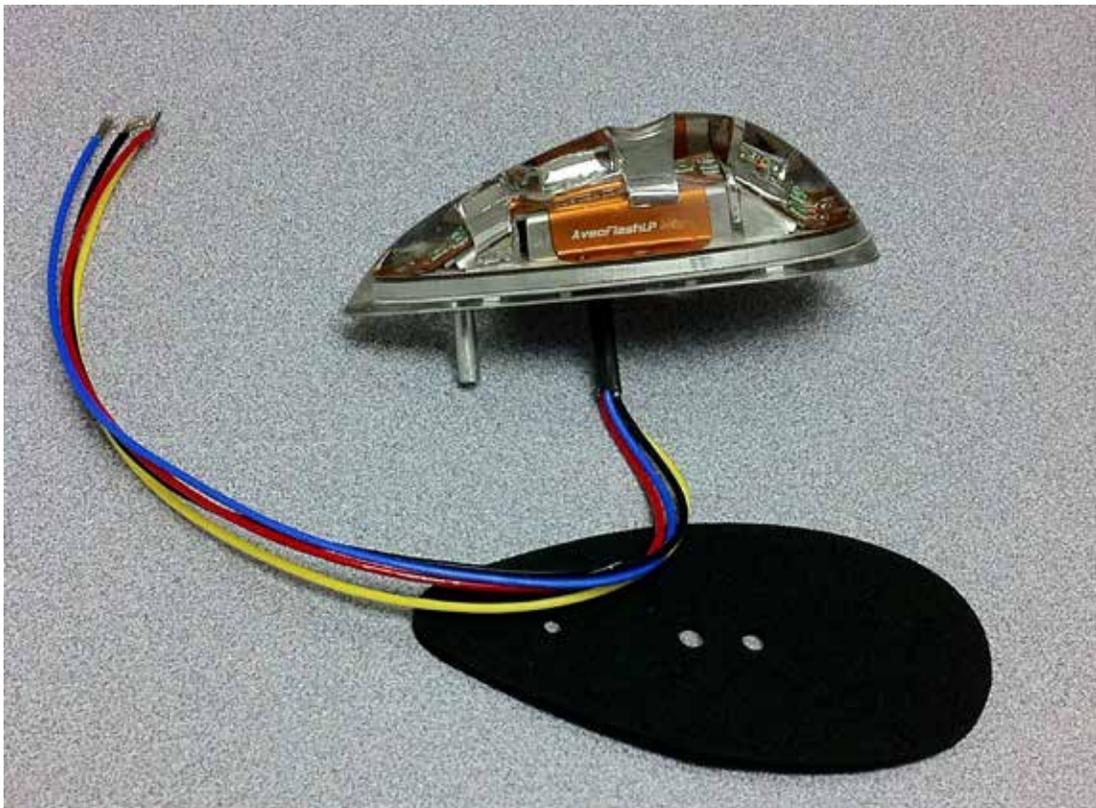


Photo 018

Connect the Nav/Strobe light to the existing wire harness as shown in Photo 019 and Figure L5. Make sure you have the foam gasket already installed before you connect the wing harness. The butt connectors are already connected to the harness that is in the wing. **DOUBLE CHECK THAT THE WIRES AND THE BATTERY ARE CONNECTED CORRECTLY.**



Photo 019

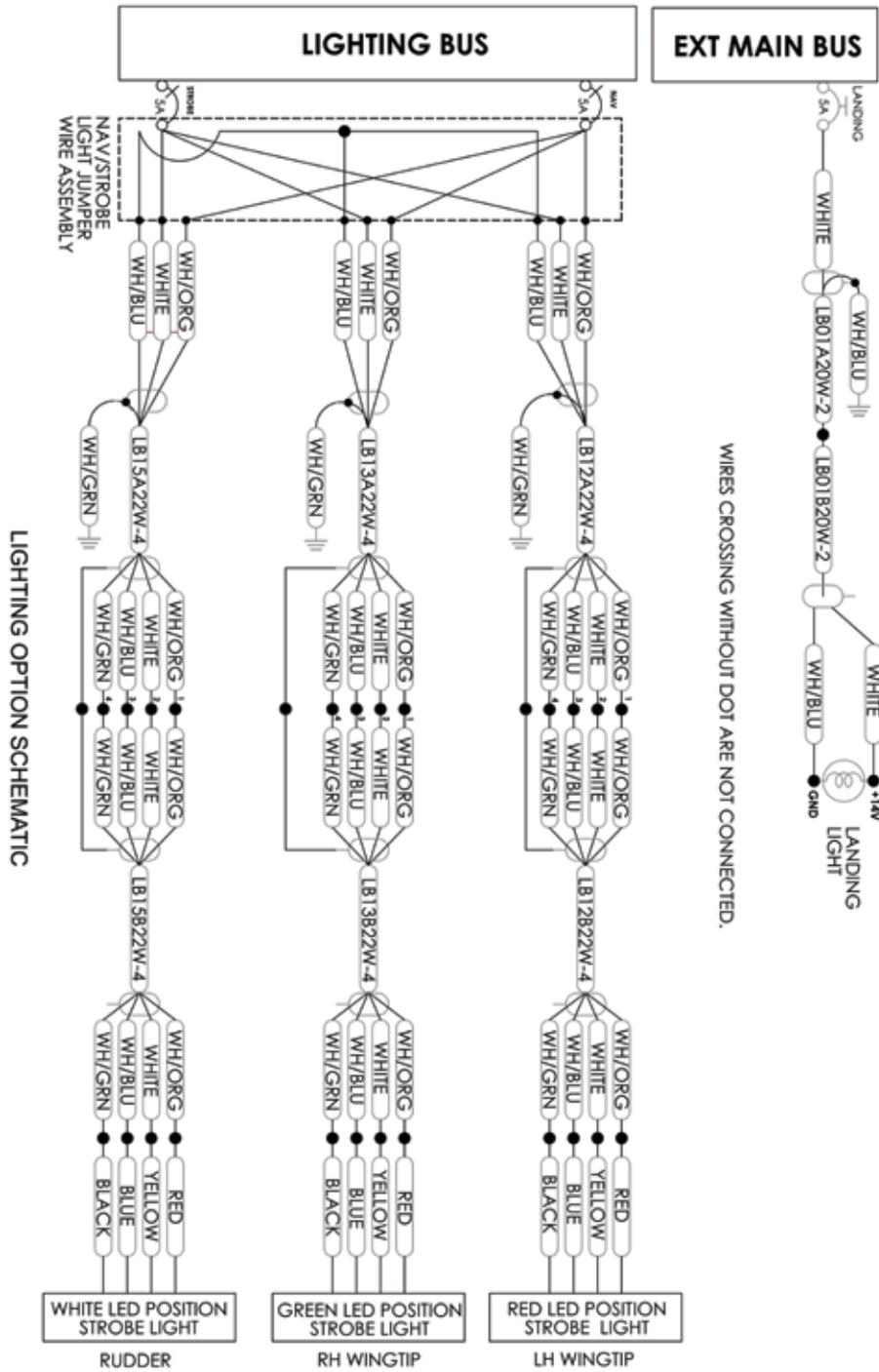


Figure L5

Tuck the excess wires into the wing tip and position the foam gasket onto the Nav/Strobe light as shown in Photo 020. Install the Nav/Strobe light attaching screw as shown in Photo 022 and Figure L6. **DO NOT OVERTIGHTEN THIS SCREW, IT WILL DAMAGE THE LIGHT.**



Photo 020



Photo 021



Photo 022

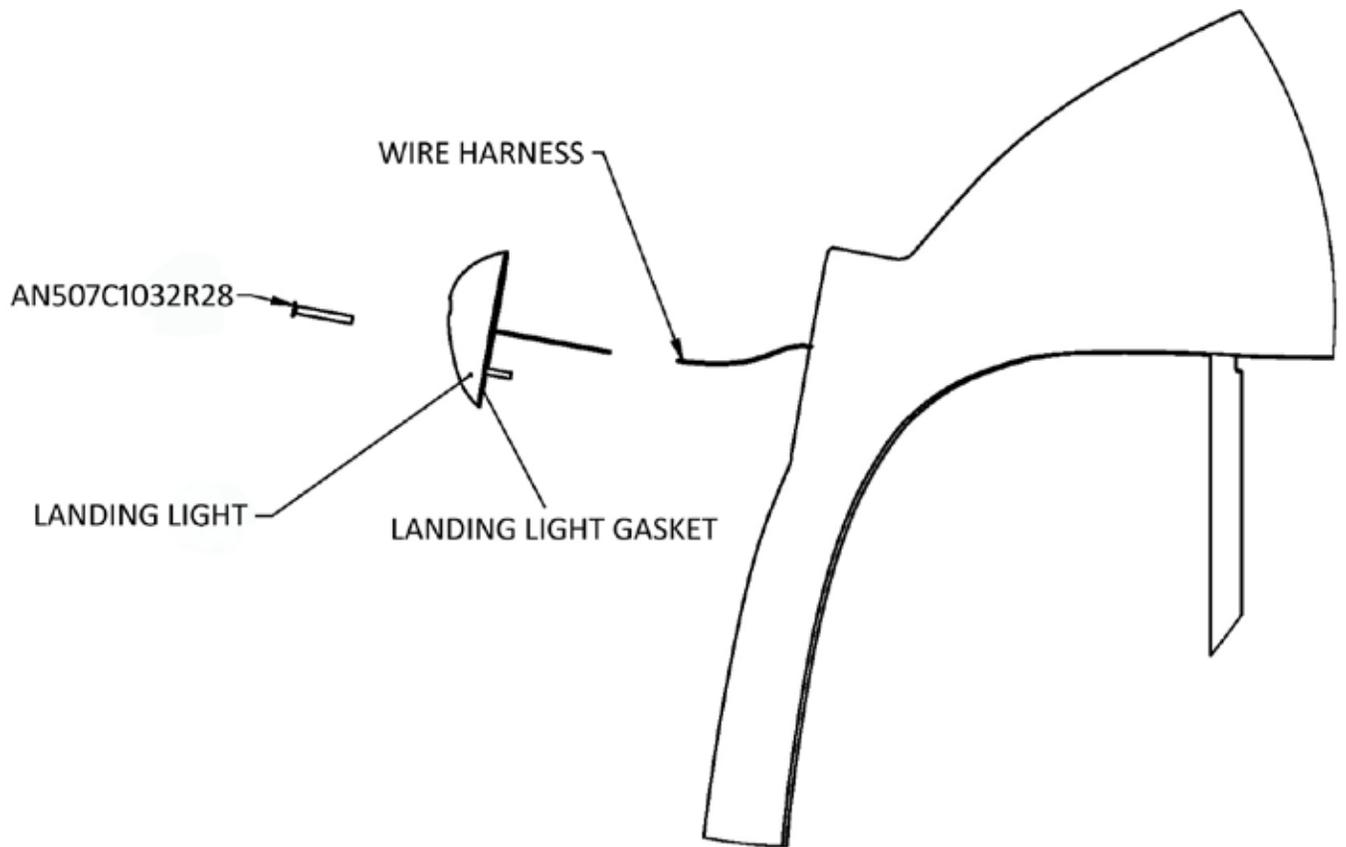


Figure L6

SECTION 5 INSTALLING THE RUDDER NAV LIGHTS

This section will cover the installation of your tail light/strobe light. I recommend that the first thing you will do is prep the rudder for the light and install the tail lighting harness before the covering is installed. Match drill the two holes shown in Photo 023 and Figure L7 with a #43 drill bit and tap the holes using a #4-40 UNC tap. Next you will install the Rudder Lighting harness as shown in Photo 024. Wrap friction tape around the harness and rudder as shown in the Photo 24. The friction will not interfere with the covering process or the necessary rib stitching. Once these things have been accomplished, set the rudder aside for cover and paint.



Photo 023

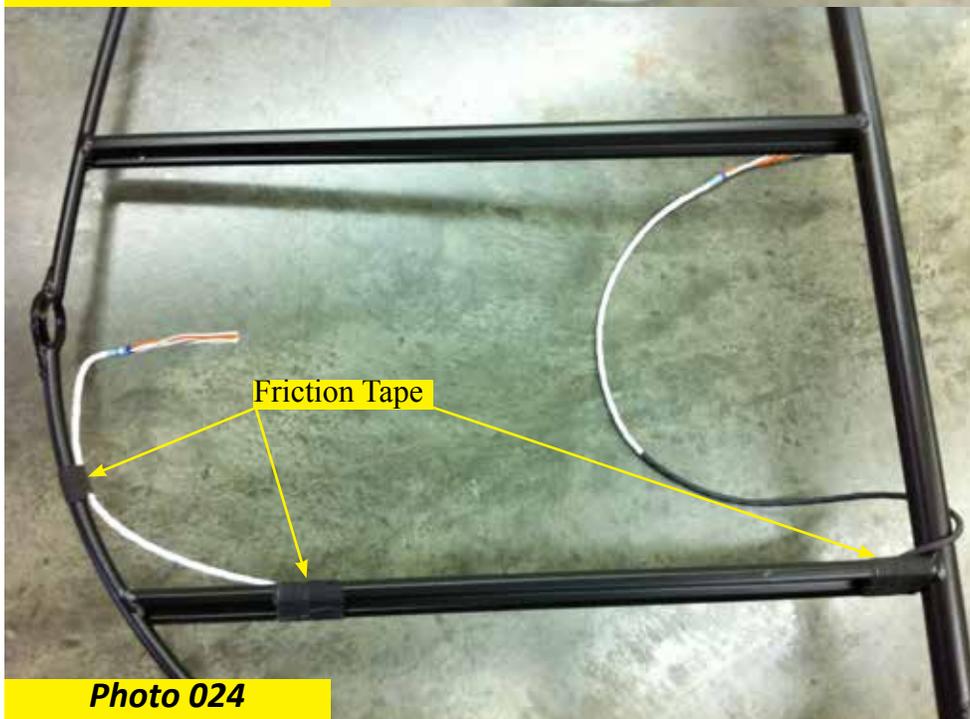


Photo 024

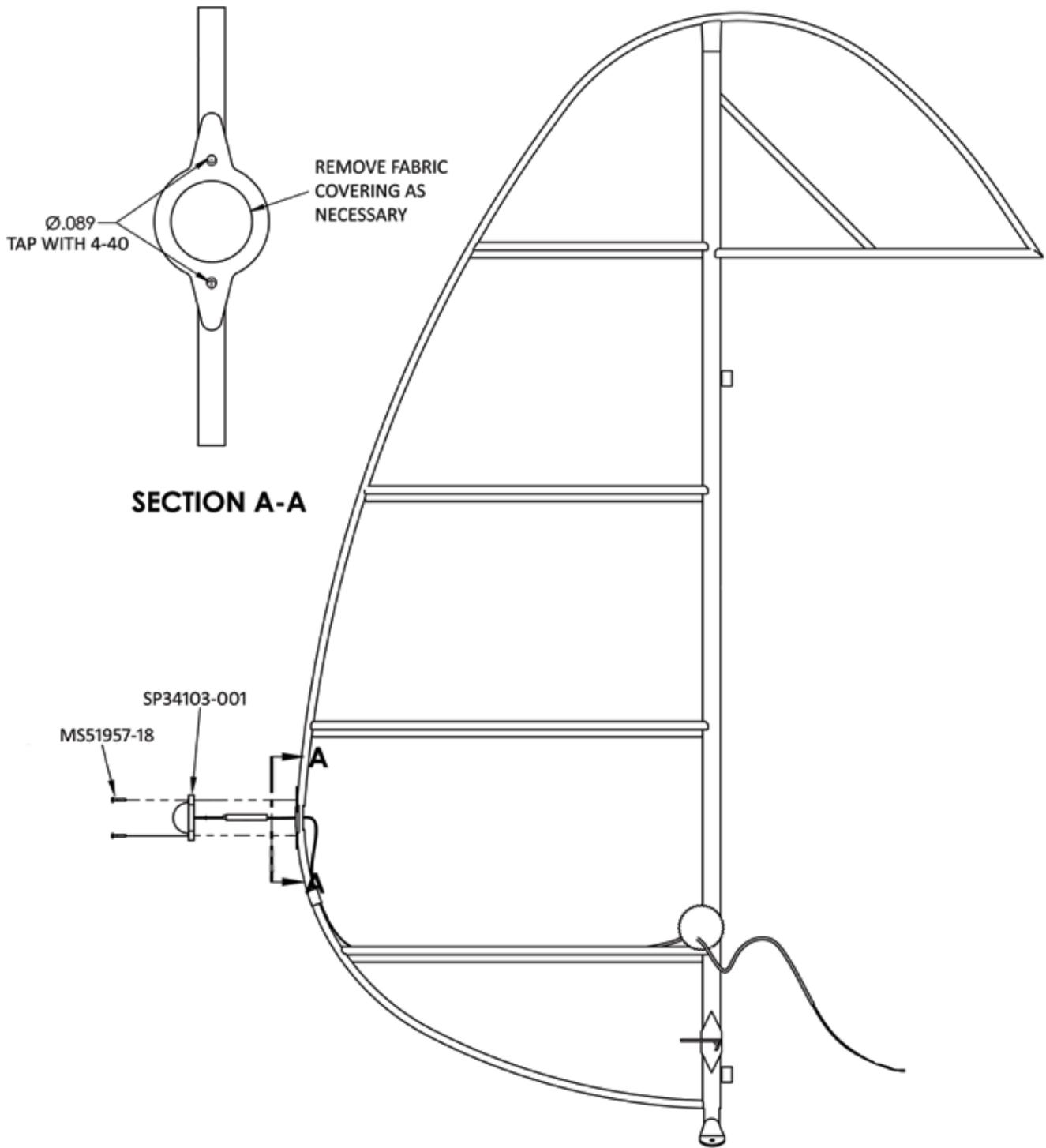


Figure L7

After covering and paint, connect the harness to the Tail/Strobe light as shown in Figure L8 and install the Tail/Strobe light as shown in Figure L7. **BE SURE TO SLIDE THE GASKET ONTO THE TAIL/STROBE LIGHT WIRES BEFORE CONNECTING THE WIRES.**

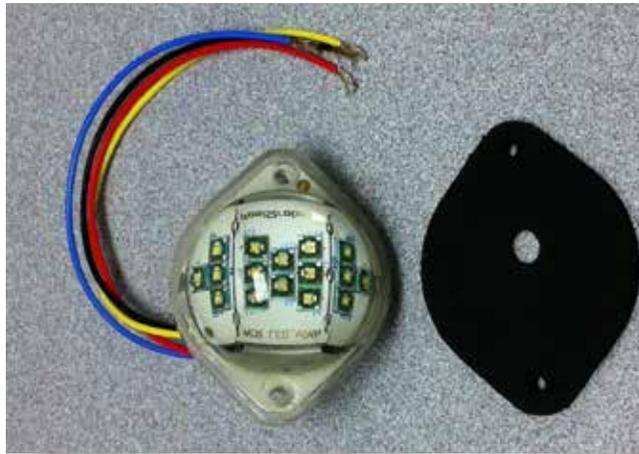


Photo 025

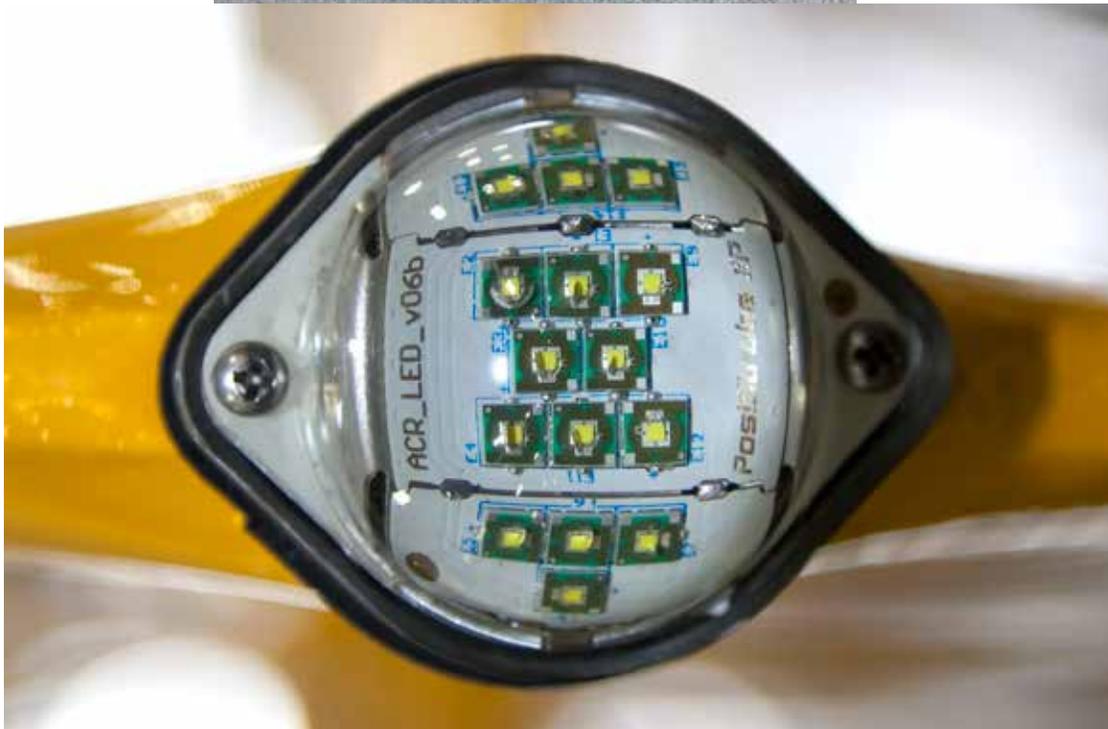


Photo 026

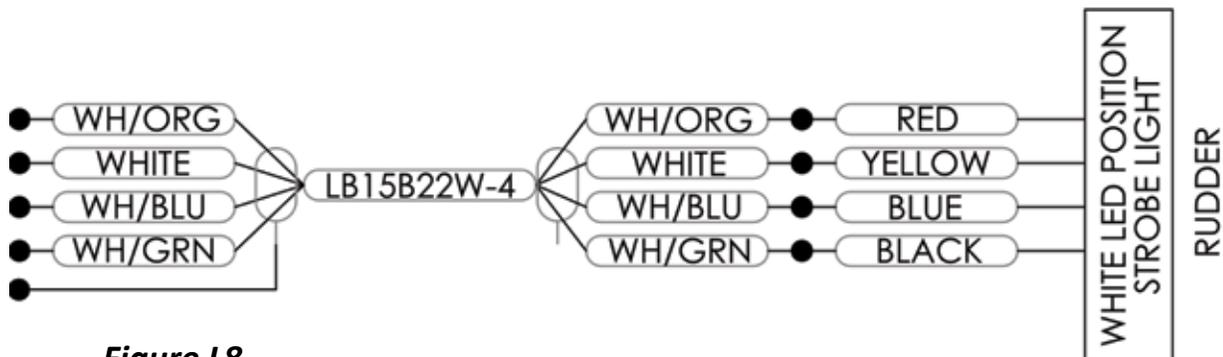
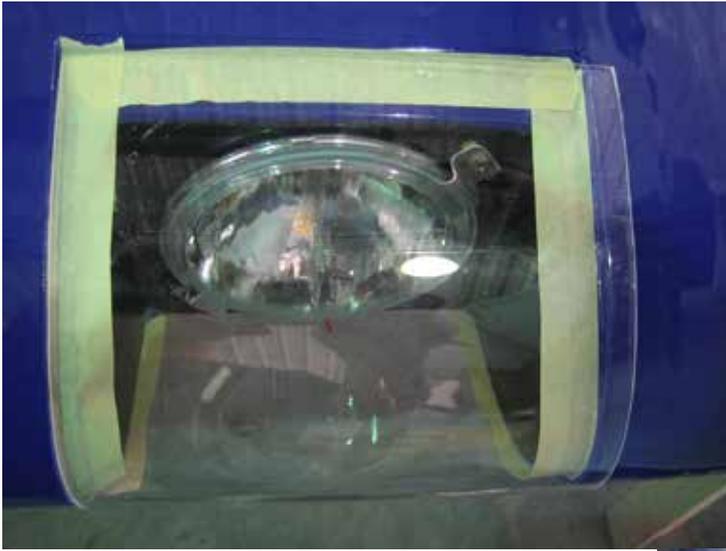


Figure L8

SECTION 6 INSTALLING THE LANDING LIGHT LENS**Photo 027**

Apply $\frac{3}{4}$ " masking tape to the inside lip of the landing light. Place the landing light into position for a check fit. This will allow you to see how much material must be removed, if any for a proper fit. Mark the lens and apply masking tape to the inside of the line that needs to be trimmed.

**Photo 028****Photo 029**

Use a die grinder with a cut off wheel to trim the lens. You may want to allow the center screw of the cut off wheel to rest on the lens as you cut away the excess material. Do not mark the side of the lens that you will be using.

Use the belt sander to smooth the trimmed edge. Test fit to landing light and use belt sander as needed. Final fit is accomplished by use of a sanding block with fine sandpaper. The final fit should allow approximately 1/32" gap between lens and leading edge skin.



Photo 030



Photo 031



Photo 032

Locate the three nut plates on the top and bottom of landing light and poke a hole in the center. Place trimmed lens into position and use 2" masking tape to secure.



Photo 033

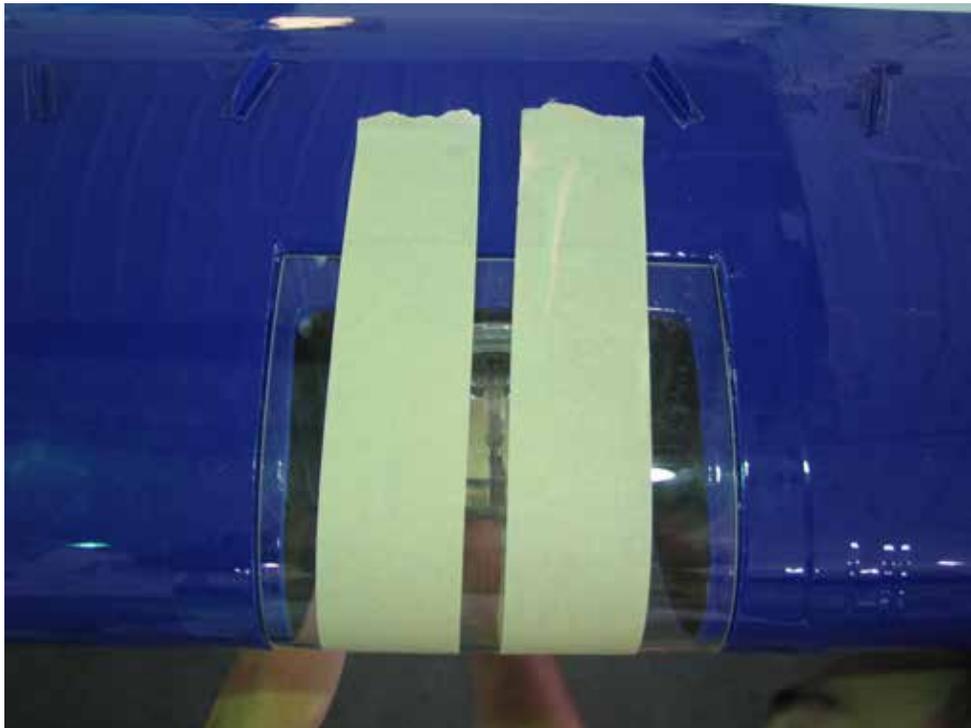


Photo 034

Drill a pilot hole, #50 drill bit, for each of the nut plates. Locate pilot hole toward the leading edge side of the punched hole in the fabric over the nut plate. Open pilot holes in lens with a uni bit to 5/32". Use a hand counter sink on both sides of holes.

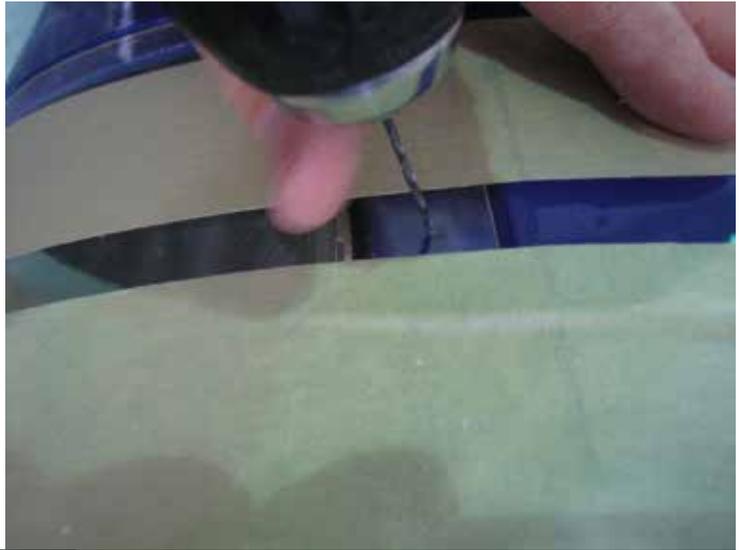


Photo 035

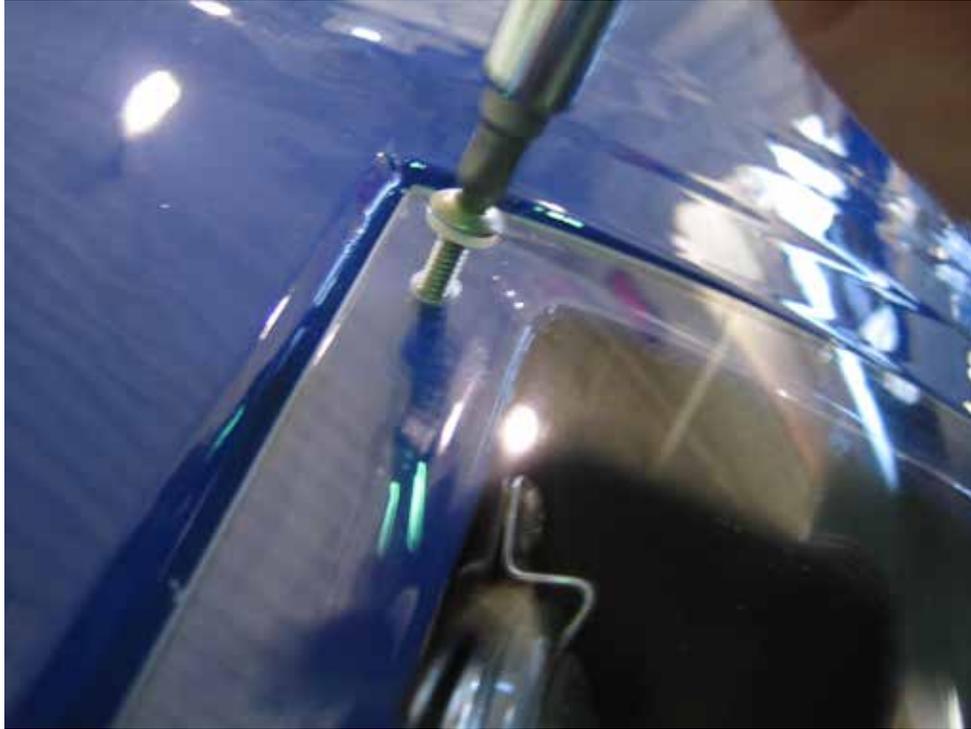


Photo 036



Photo 037

Wipe the lens with denatured alcohol acrylic. Insert screws (use Figure L4 for installation hardware) into the top three nut plates; do not tighten at this time. Insert the bottom three screws and tighten. Finally tighten the top three screws.

*Photo 038**Photo 039*

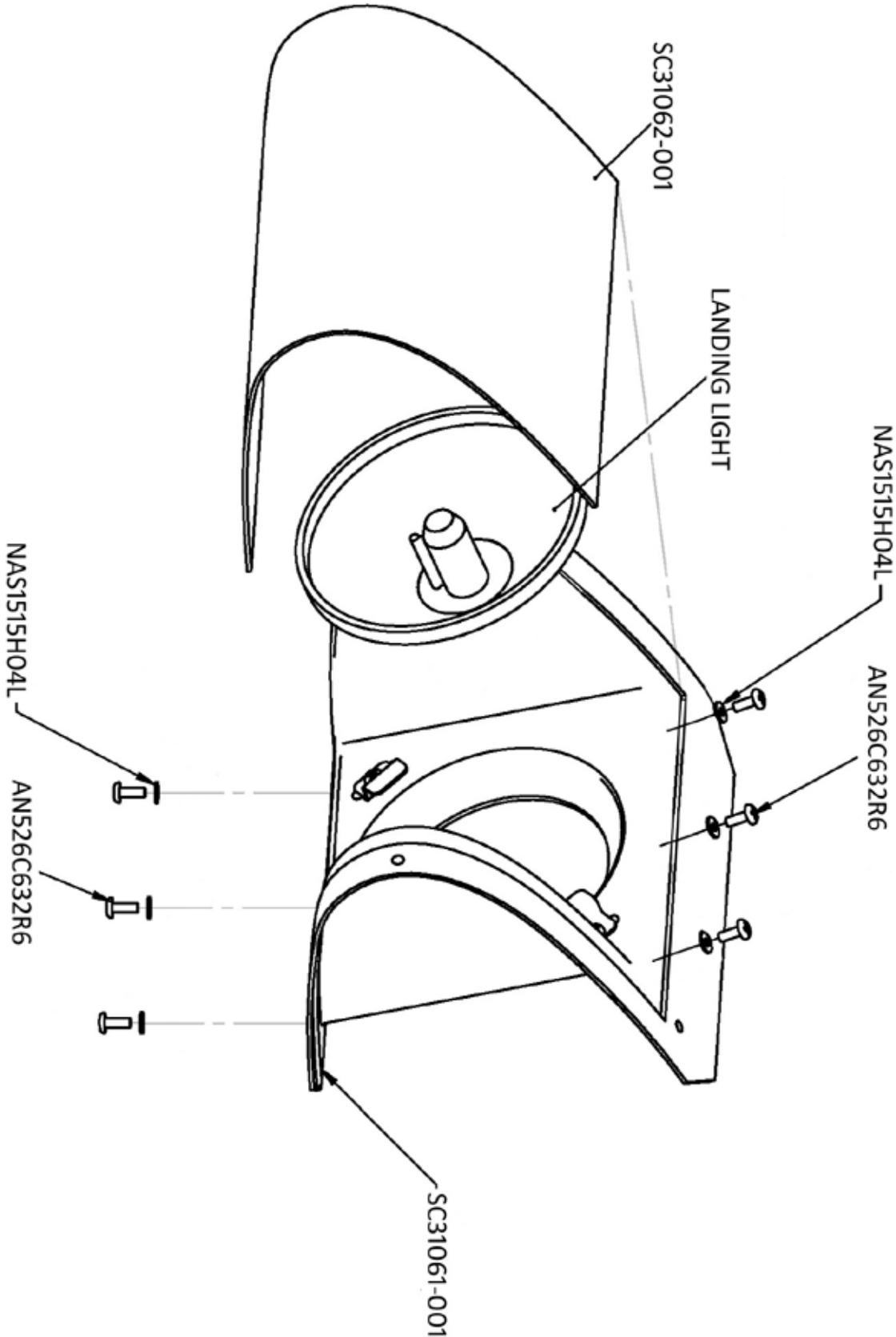
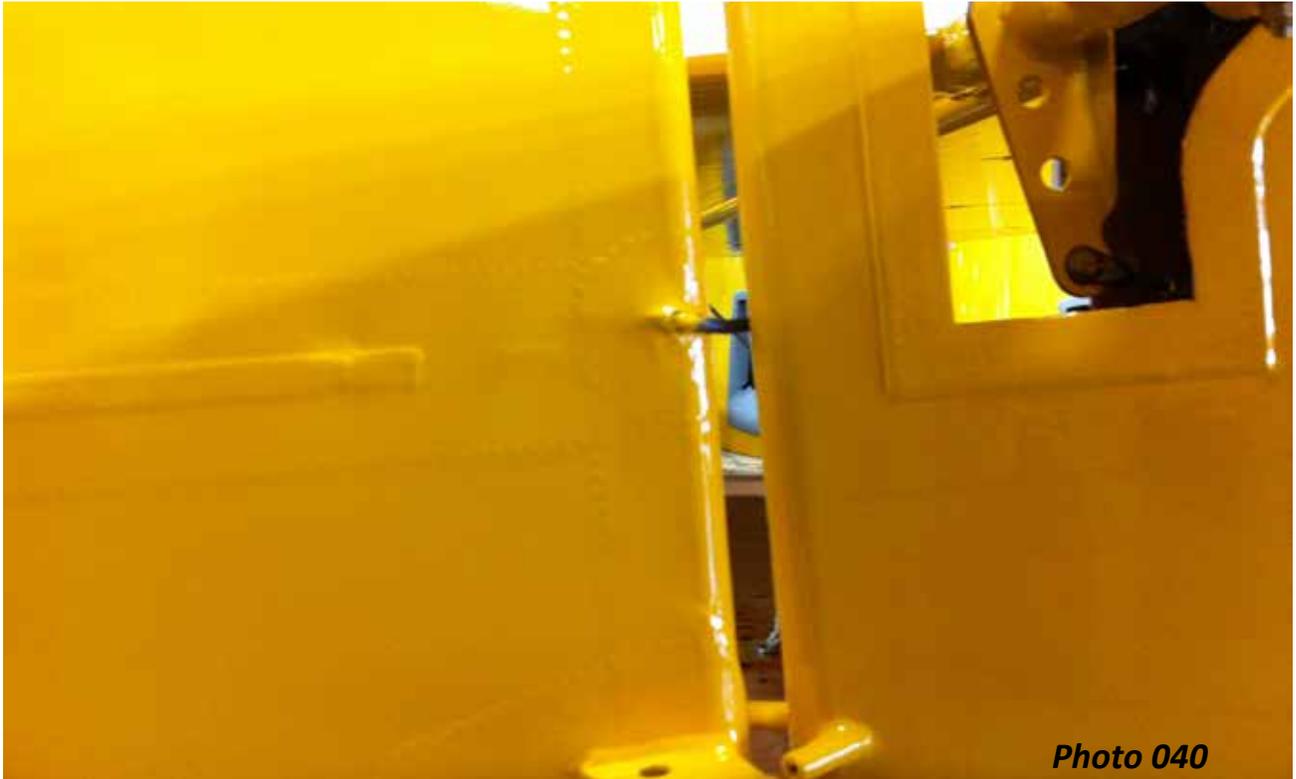


Figure L9

When you cover the rudder, you will notice the position of the Tail/Strobe light wire exits the rudder and wraps around the tail post and enters the fuselage on the opposite side Photos 040 and 041. This allows the rudder to move without binding the wire harness, or having a big loop that hangs out. This method just adds to the clean look of your Carbon Cub EX.

*Photo 040**Photo 041*

