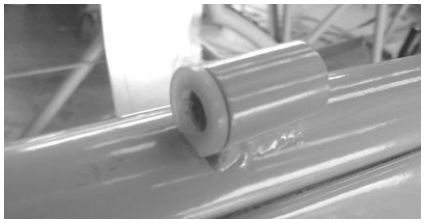
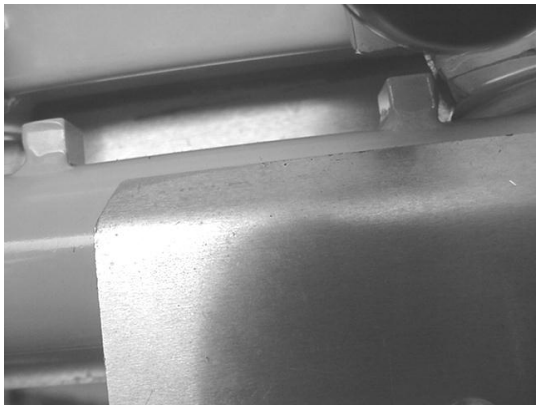
PITTS MODEL 12

Canopy Installation Instructions

Mounting Canopy Assembly to fuse.



Clean paint from all 6 pin bushings welded to the top longerons on fuselage using 5/16” drill or Reamer. Push in 6 Delrin sleeves into the above bushings from rear towards the front. Make sure the flange is towards the tail of the airplane. Tap in as needed.



Place canopy assembly on fuselage with all 6 pins behind the Delrin/welded on bushings. Try sliding canopy forward and engaging pins into sleeves. The side skirts of the canopy may need to be gently bent outward for adequate clearance. Make small adjustment in skirts to allow pins to engage. Pins may need alignment too. Pins can be bent for alignment using a small piece of tubing as a lever slid over the pin. Canopy assembly is fully forward when the latch located on the left engages in front of the forward stop block on the longeron. Make very small adjustments to the skirts and pins. It is better to take your time rather than bend them too far.

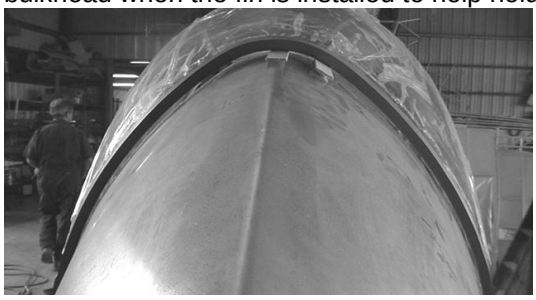
Hinge Arm Installation

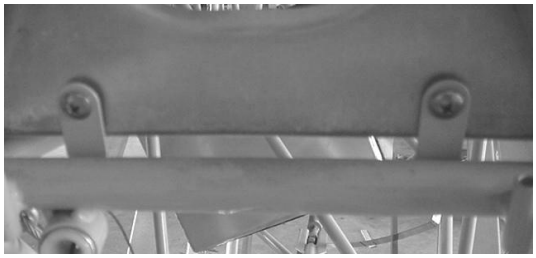
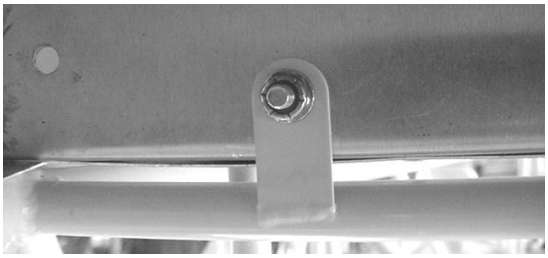
With canopy in full forward and locked position, install hinge arms on right side using the AN3 bolts provided. Note that the front and rear hinge arms are different. The difference is very slight and hard to see. If yours are not labeled front and rear, use trial and error to find the best fit in both places. Adjust bearings in hinge arms so that the 6" long slide bolts can pass thru the fuselage brackets and the bearings. Bending the hinge arms to align them with the bolt is OK. To bend them, tighten the AN3 bolts then bend arm in or out as needed. Now test slide the canopy. If the canopy seems to drop down on the right side when the pins slide out of the Delrin sleeves, you may need to adjust the bearings to raise the canopy due the weight of the assembly. Adjust arms, pins, skirts, etc. until the canopy slides forward and aft with ease. Grease on the pins, Delrin sleeves and slide bolts should be used. Once satisfied with the operation of the canopy, tighten slide bolt nuts and bearing jam nuts. We recommend fitting the canopy without the fuse side metal skins installed. After the canopy is adjusted and operating smoothly, install your side sheet metal again and readjust the skirts so that the canopy operates smoothly again.



Turtle Deck Assembly

With canopy installed and in the locked position, align and install your turtle deck assembly. Make sure the canopy does not rub on the turtle deck. Fasten the turtle deck to the fuselage using 6 each 8-32 screws, washers and nuts through the tabs and holes you drill. Then drill thru the fin front tower mount bolt hole into the rear bulkhead. The fin bolt will pass through the bulkhead when the fin is installed to help hold the turtle deck in alignment.



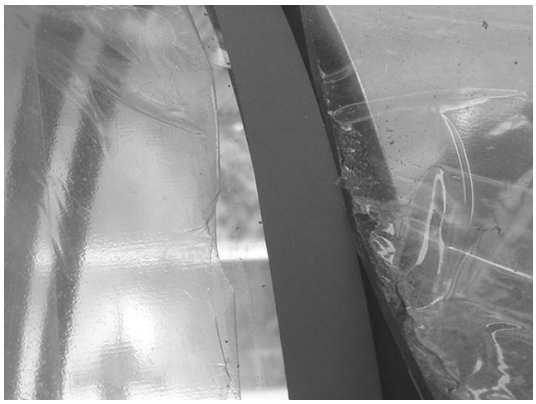
Installing Windshield

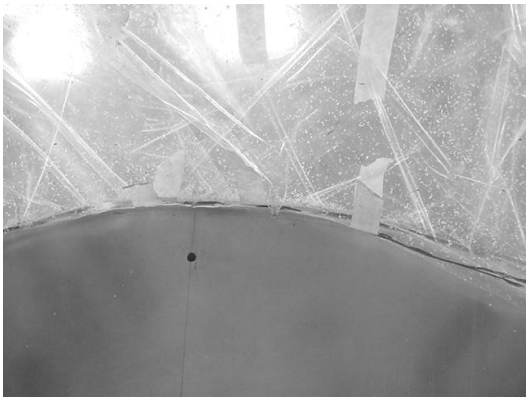
Windshield Hoop

Place canopy in forward and locked position. Install front instrument panel with face of panel 3" aft of the centerline of the cross tube at station 22. Brace this panel vertical relative to the top longerons so that it is rigid and stable. Slip windshield hoop onto the stubs welded to the top longerons just in front of the canopy assembly. Trim/grind the bottom ends of the windshield hoop until the height is such that the windshield fits flush with the canopy. To do this, lay the windshield on the hood touching the front edge of the canopy. Once the hoop height is set, Drill 3/16" holes thru the holes in the hoop and the stubs. Bolt hoop to stubs thru these holes (bolt nut supplied). Use scrap ¼" or 3/8" wood to space the hoop an even distance from the front end of the canopy assembly. Clamp the wood and hoop to the front of the canopy from the inside using spring clamps. Now the front instrument panel and the support hoop are in place ready to fit the windshield.

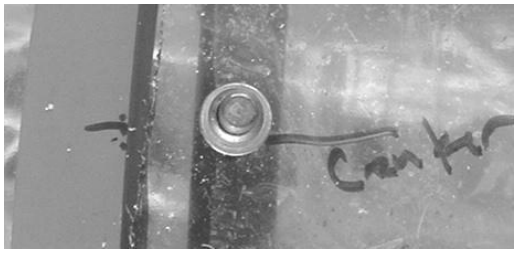
Fitting Windshield

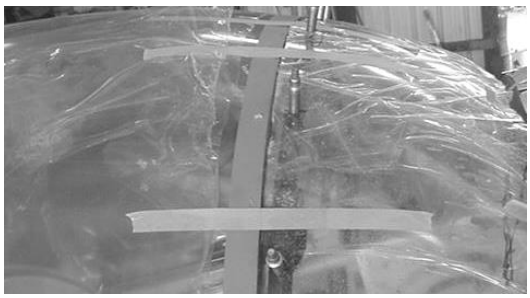
The object here is to have the windshield lay on the hoop and barely be long enough to touch the front instrument panel at the extreme top/center of the panel. The front panel should be mounted so that the face you see when in the seat is 3" aft of the center of the fuselage cross tube it mounts on. The outer surface of the windshield should line up with the corner of the front panel at the center. Place Windshield on hoop and front instrument panel. Mark and trim bottom center edge of the windshield as needed in very small amounts. Only trim off what touched the panel with each trim step. Don't worry about trimming the entire bottom edge to shape at this time. You may need to trim the lower rear ends of the windshield as it rotates down from trimming the front.





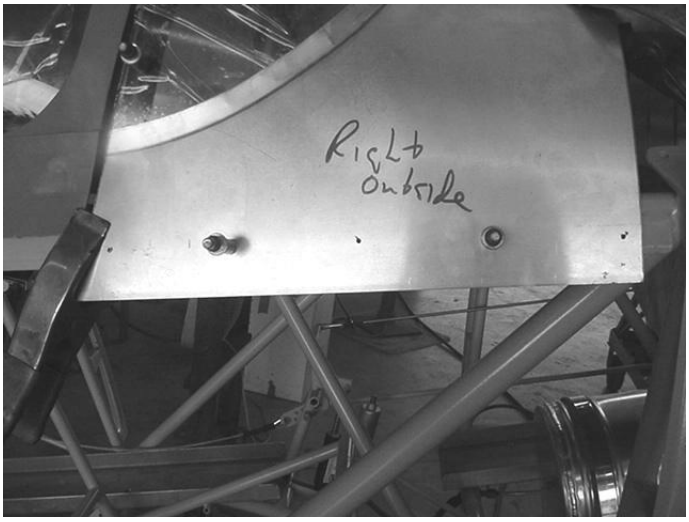
Once you have obtained this positioning of the windshield, mark and trim the rear edge of the windshield for ¼" gap to the front of the Canopy. Place the windshield on the hoop again maintaining the 1/4" gap. Clamp to the hoop at each end. Mark and drill a #40 drill hole (3/32") at the center top of the hoop thru the windshield. Make sure the drill is perpendicular to the surface of the glass and is in the center of the hoop tube. Only drill thru the top side of the hoop not all the way thru the other side. Cleco this hole. Mark and drill 3" spacing to the left and right along the hoop and drill and cleco in place.





Fitting Windshield Base Metal

The windshield base metal is oversize everywhere except the formed curved edge that fits against the windshield. DO NOT TRIM THE FORMED EDGE. All trimming will be on the front, lower, rear or center edge of these panels.



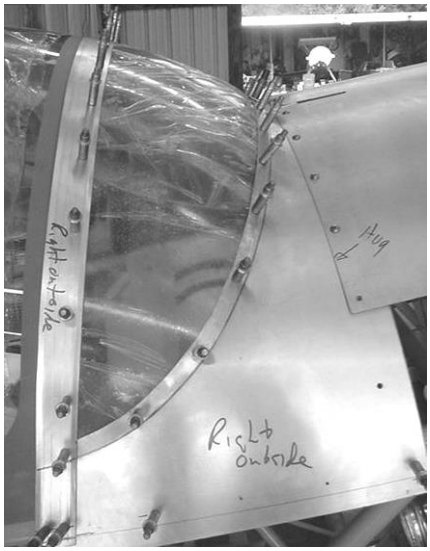
With the windshield still in place from the previous steps, clamp the left base metal panel in place. Align it so that the formed curved edge lines up with the skirt on the canopy. This means that the glass to metal edge on the canopy is even with the glass to metal edge on the windshield. You may need to adjust the bend angle on the formed edge to lay flat on the windshield glass. Now match drill this metal to the holes in the longeron strips and front instrument panel. If you do not have the longeron strips and front panel drilled for screws, layout you spacing, approx. 3" and drill. Cleco the base metal to the longeron strip and front panel.

Repeat for other windshield base metal panel. The 2 panels should overlap ¾" at the center. Trim as needed.

With both base panels clecoed in place, starting from the center, mark and drill a series of holes along the formed edge through the windshield glass. Spacing is 2.5 to 3". Cleco in place as you drill.

Closure Strip

Next is to install the closure strip along the rear edge of the windshield. Remove the clecos from the rear edge of the windshield and the hoop. Match drill the strips, 1 L and 1R starting at the center. Overlap them ¾" at the center. Align the strips to hide the windshield hoop and overlap the front end of the canopy. These strips extend all the way down to the bottom edge of the base metal along the longeron attachment strip so that they close the gap to the canopy and skirt. Bend and/or crease the strips as needed to fit the base metal and formed edge. Trim ends off even with the lower edge of the base metal. Now remove both strips, base metal panels and the windshield.



Final Details

Trim the lower edge of the wind shield leaving 3/8" of glass below the screw holes you drilled earlier. Sand all edges of the glass smooth. Drill out all holes in windshield glass to 3/16" diameter carefully as not to crack the glass. Drill out all holes in the base metal and closure strips to 3/16" to allow screw clearance. DO NOT DRILL OUT THE HOLES IN THE HOOP!!!! These must remain #40. When reinstalling the windshield for the final time, use #6 sheet metal screws into the hoop thru the strips. Use 6-32 screws, washers, and nuts thru the base metal and lower edge of the windshield. Use your choice of screws along the front instrument panel and longeron strips. Prime and paint the metal as desired. Sand prime and paint the exterior of the canopy as desired.