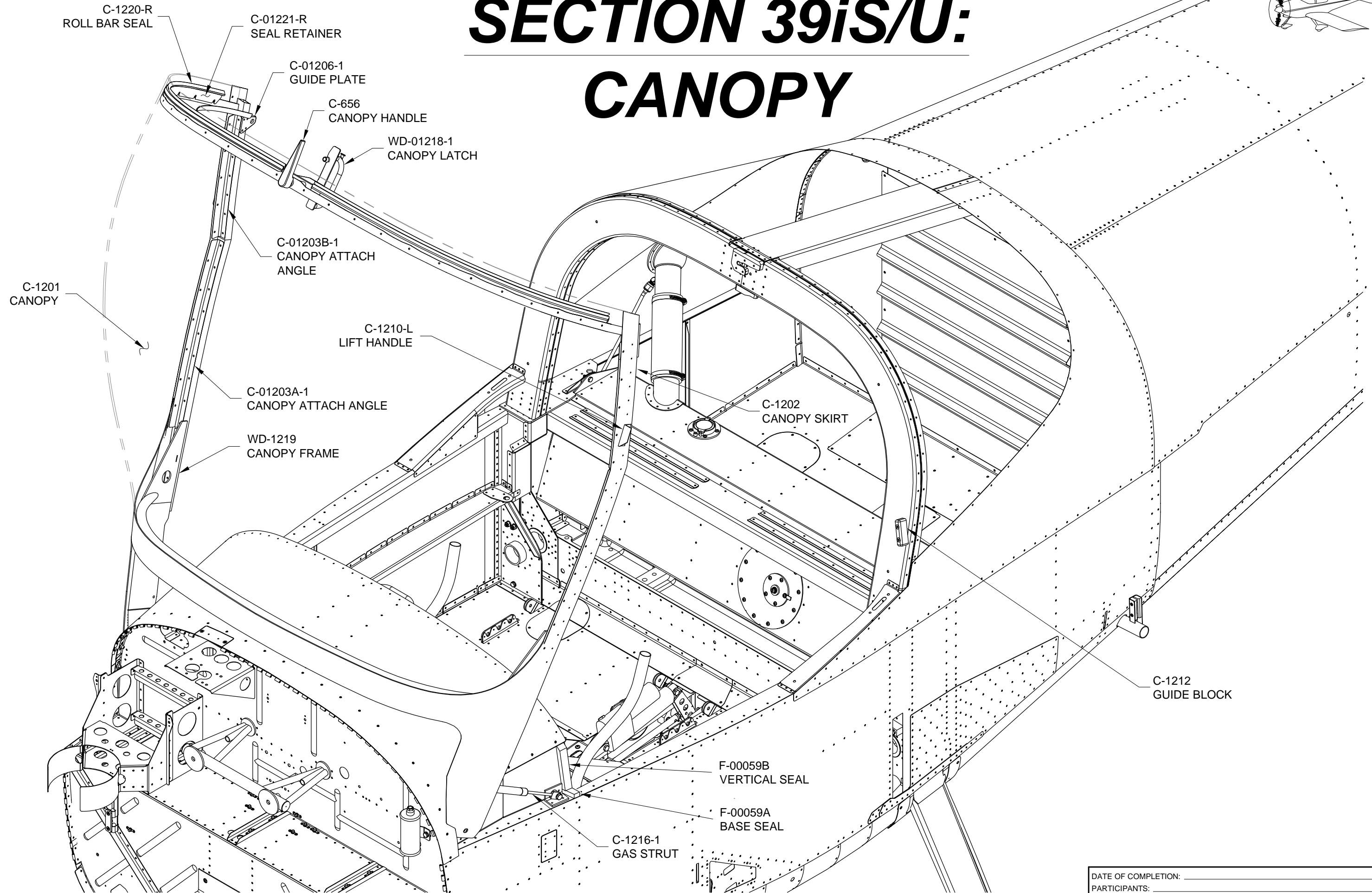
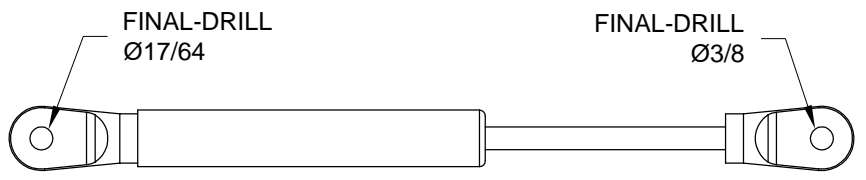


# SECTION 39iS/U: CANOPY



Step 1: Final-Drill both ends of the C-1216-1 Gas Struts as shown in Figure 1.



**FIGURE 1: FINAL-DRILL GAS STRUTS**

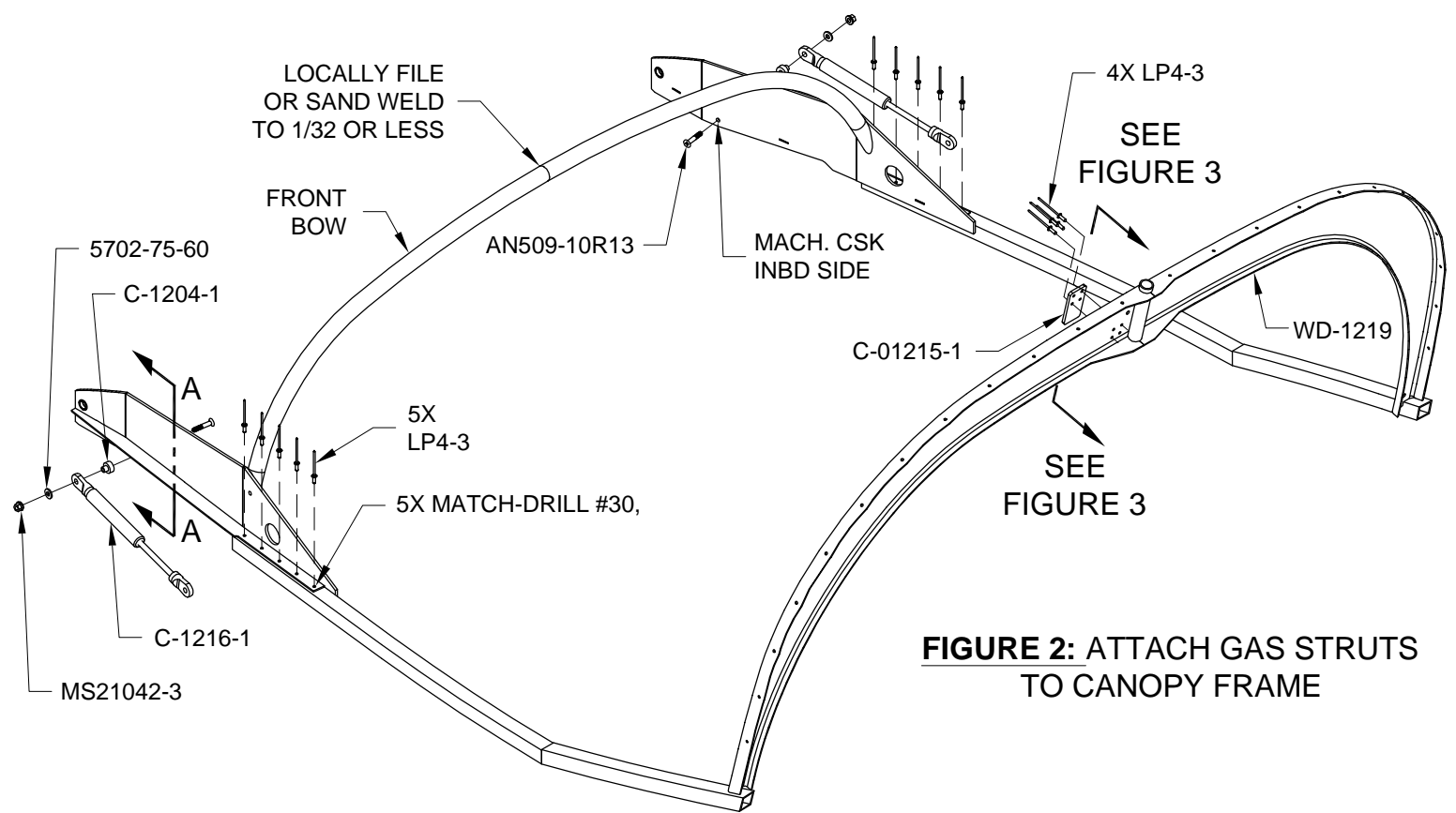
Step 2: Machine countersink the WD-1219 Canopy Frame to fit the heads of the #10 flush head screws shown in Figure 2. The depth of the countersink should be such that the screw head is flush to 1/32 [.8 mm] protruding. A #30 pilot countersink can be used if you are very careful or you can buy/borrow a cutter with a #12 pilot.

Match-Drill the holes in the canopy frame as shown in Figure 2. Deburr the holes and install blind rivets called out in Figure 2.

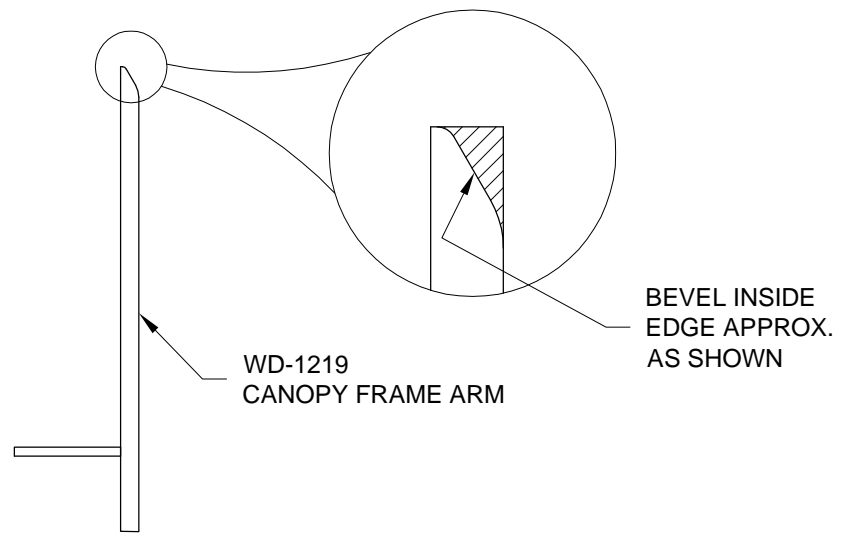
File or sand the weld in the center of the canopy frame front bow such that it protrudes not more than 1/32 [.8 mm] above the basic tube. See Figure 2. This should be localized to only the place where the canopy will later make contact. See Page 39iS/U-05, Detail C for the location of the canopy to frame contact.

Bevel the top inside edge of the canopy frame arms starting at the front of the arm and going back to the front bow as shown in Section A-A.

Attach the C-1216-1 Gas Struts to the canopy frame using the parts and hardware shown in Figure 2. For proper long-term operation of the gas struts, it is critical that they are oriented as shown in Figure 2.



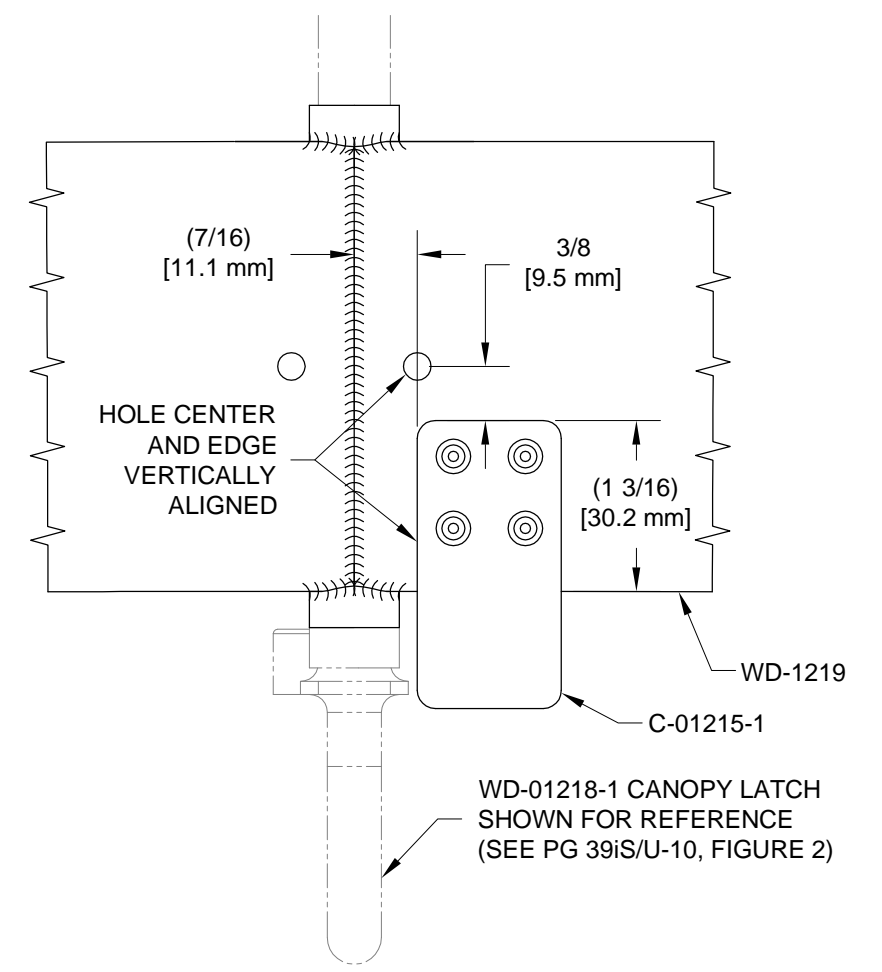
**FIGURE 2: ATTACH GAS STRUTS TO CANOPY FRAME**



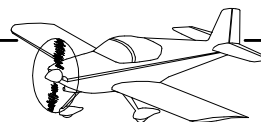
**SECTION A - A**

Step 3: Position the C-01215-1 Canopy Latch Stop to the WD-1219 Canopy Frame as shown in Figures 2 and 3 and match-drill #30 the latch handle stop to the canopy frame. (Later frames are shipped with two locating holes.)

Deburr the holes in the canopy frame then attach the latch handle stop to the canopy frame using the hardware called out in Figure 2.



**FIGURE 3: ATTACH LATCH HANDLE STOP TO CANOPY FRAME**



Step 1: Attach the WD-1219 Canopy Frame to the fuselage as shown in Figure 1.

Attach the C-1216-1 Gas Struts to the fuselage as shown.

Step 2: Trim pieces of 1/8 in. [3.2 mm] thick corrugated cardboard to match the longeron contour and tape to the F-01234-L-1 & -R-1 Canopy Decks.

The corrugated cardboard will hold the bottom of the canopy frame the proper distance above the canopy deck as shown on Page 39iS/U-04, Section A-A, and Section B-B.

**NOTE:** Because the canopy frame is unsupported/unreinforced at this time, it is necessary to apply force simultaneously to both sides while lowering or raising the canopy frame to prevent the force of the C-1216-1 Gas Struts from distorting the canopy frame.

Step 3: Rotate the WD-1219 Canopy Frame down to the closed position.

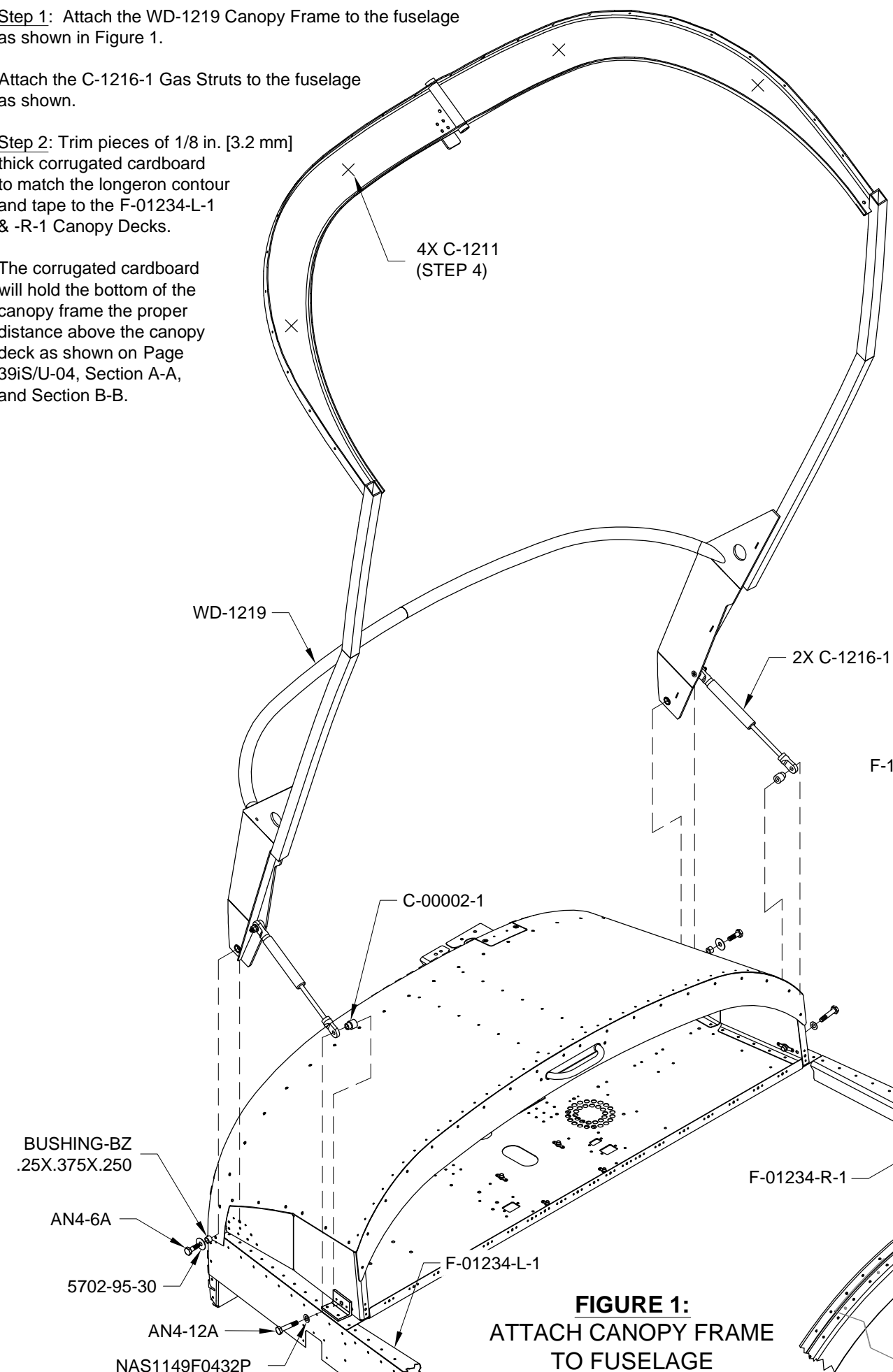
Check for proper position of the canopy frame forward bow relative to the instrument panel. See Figure 2. Carefully adjust/bend the canopy frame forward bow as required to achieve the proper position.

Verify that the forward arms of the canopy frame do not "catch" or interfere with the F-01240-1 Upper Forward Fuselage Skin by rotating the canopy frame up to the open position. If the canopy frame arm interferes then install a washer between the canopy frame and fuselage at the canopy pivot point.

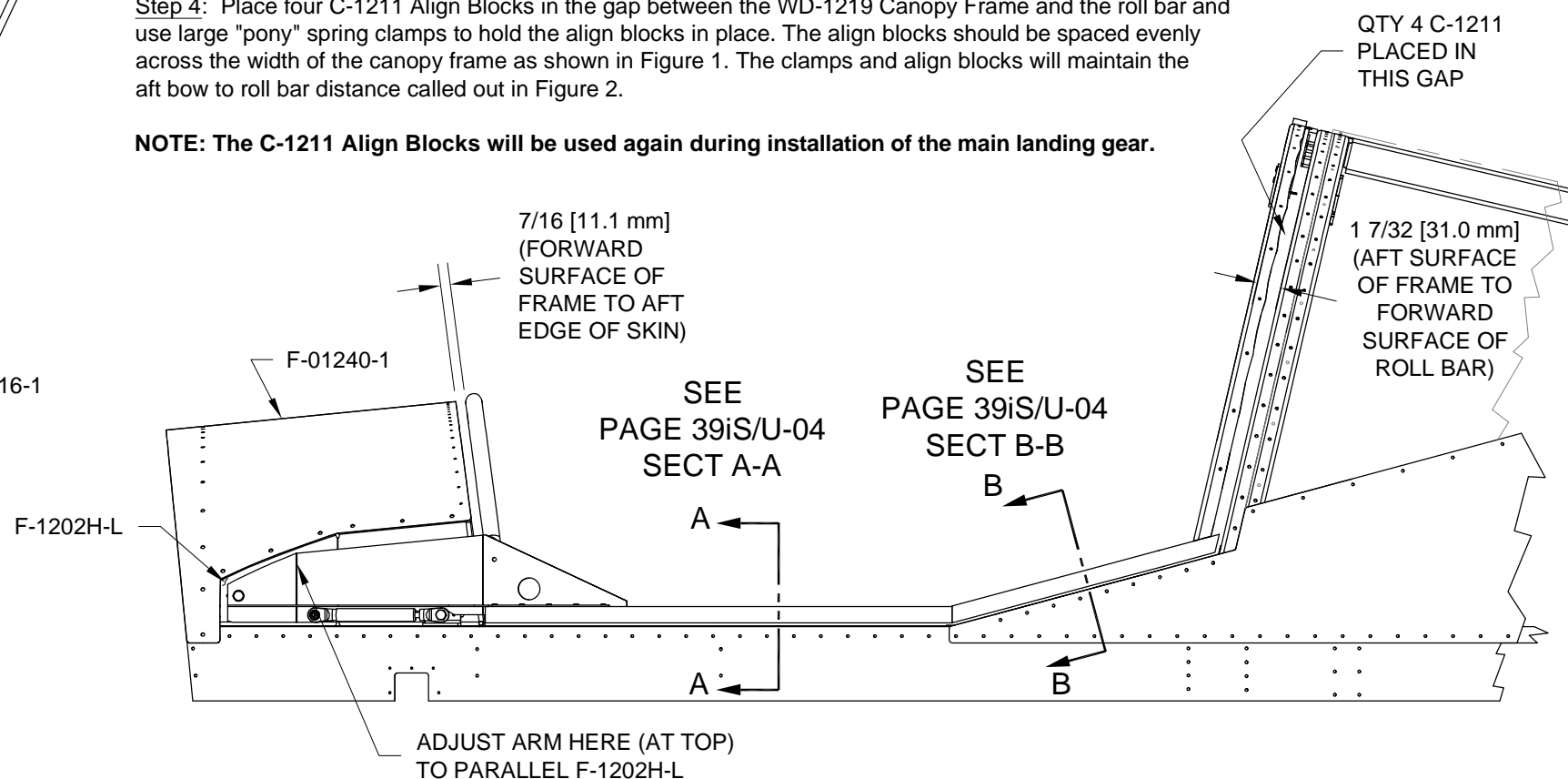
Adjust the canopy arms at the bend line to make the portion of the arm that is forward of the bend line parallel to the adjacent F-1202H-L. See Figure 2 call-outs.

Step 4: Place four C-1211 Align Blocks in the gap between the WD-1219 Canopy Frame and the roll bar and use large "pony" spring clamps to hold the align blocks in place. The align blocks should be spaced evenly across the width of the canopy frame as shown in Figure 1. The clamps and align blocks will maintain the aft bow to roll bar distance called out in Figure 2.

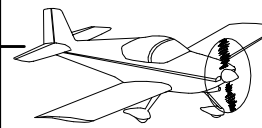
**NOTE:** The C-1211 Align Blocks will be used again during installation of the main landing gear.



**FIGURE 1:**  
ATTACH CANOPY FRAME  
TO FUSELAGE



**FIGURE 2:**  
FIT CANOPY FRAME TO FUSELAGE



**Step 1:** Check the overhang dimension along both sides. See Section details. To adjust frame if/as req'd see Figure 3.

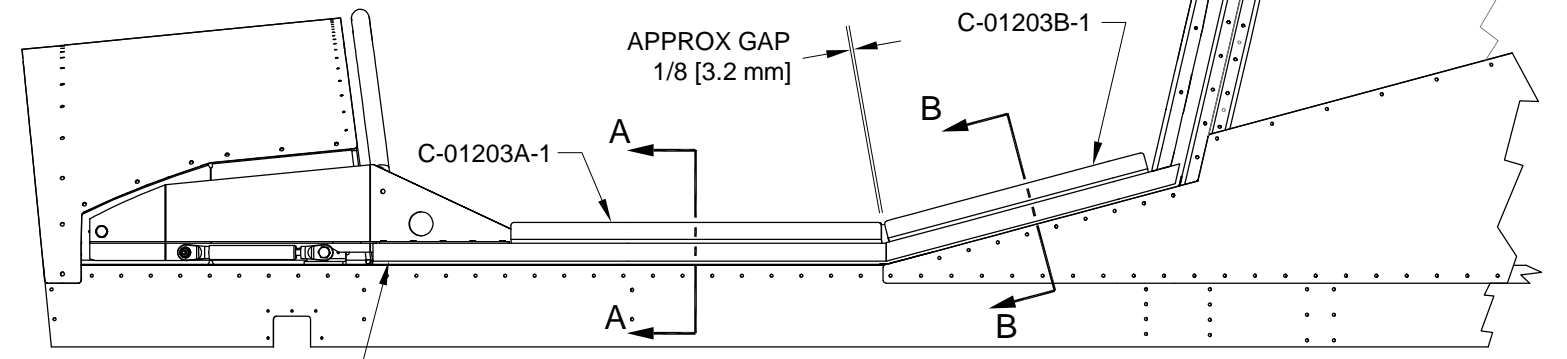
**Step 2:** Flute the C-01203A-1 and C-01203B-1 Canopy Attach Angles between holes to match the shape of the canopy frame sides. Be sure the flutes are formed upward, toward the inside of the angle, so that the attach angles mate flush to the top surfaces of the canopy frame as shown in Figures 1 and 2. Flute such that the inside edges of the attach angles are flush with the inside surface of the canopy frame sides as shown in Figure 1, Sections A-A and B-B.

**Step 3:** With the inbd edge of the C-01203A-1 held flush to the inside surface of the canopy frame side, see Section A-A and the fore/aft position as shown in Figure 1, match-drill #30 the attach angle to the canopy frame and cleco.

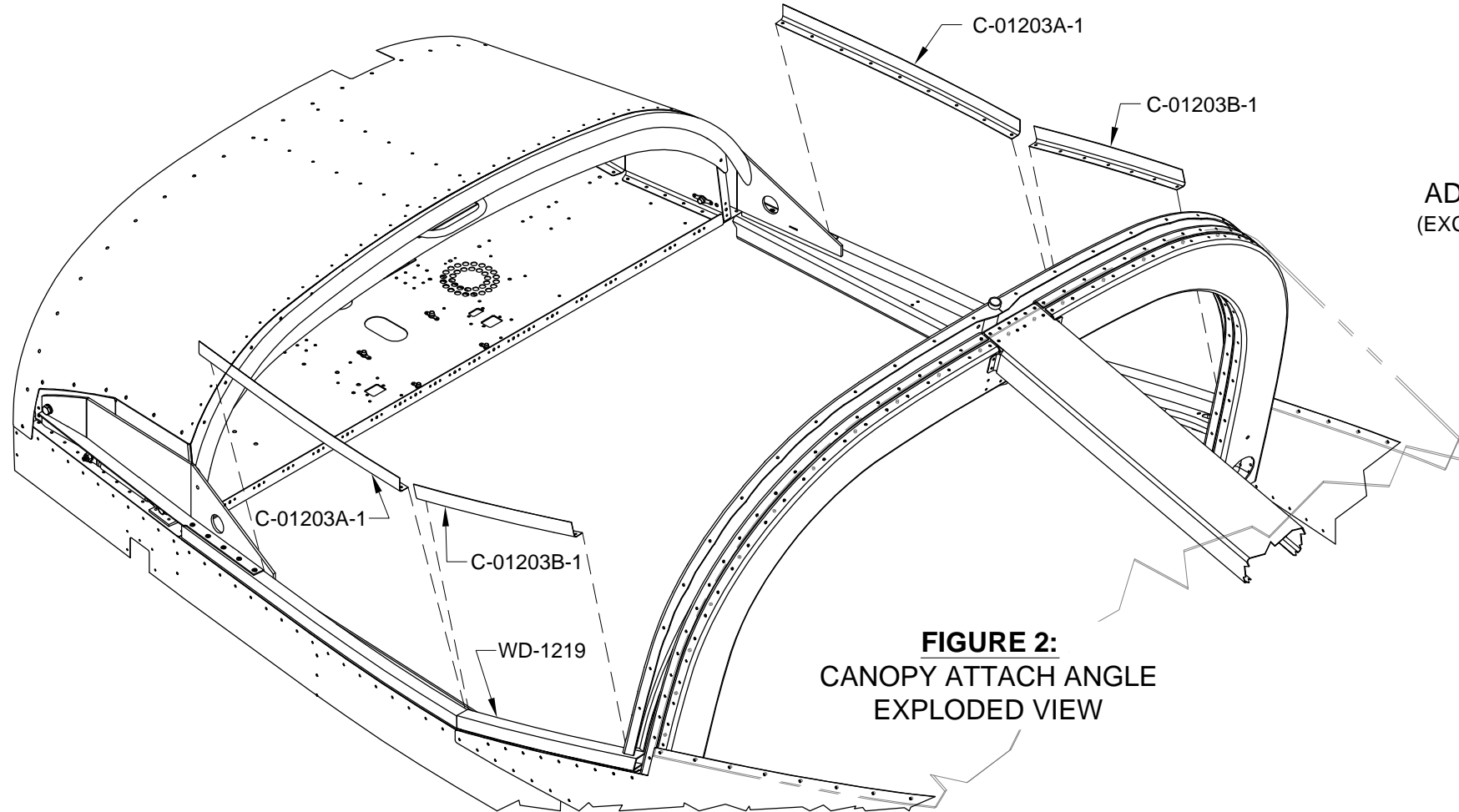
Work progressively from one end of the attach angle to the other. The flushness of the edge of the attach angle and canopy frame can be fine-tuned as match-drilling and clecoing progresses along the length of the attach angle. Repeat for the other side.

**Step 4:** Repeat Step 3 for the C-01203B-1 Attach Angles using Section B-B.

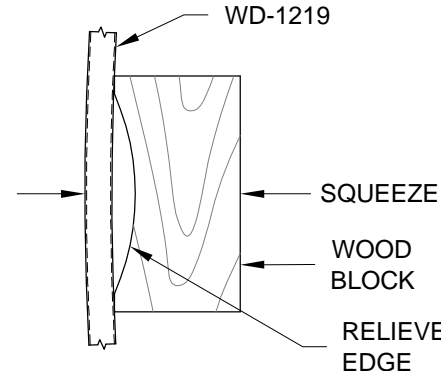
**Step 5:** Un-cleco the C-01203A-1 and C-01203B-1 Attach Angles from the WD-1219 Canopy Frame. Deburr all holes in the attach angles and canopy frame. Rivet all four attach angles to the canopy frame using the hardware called out in Sections A-A and B-B.



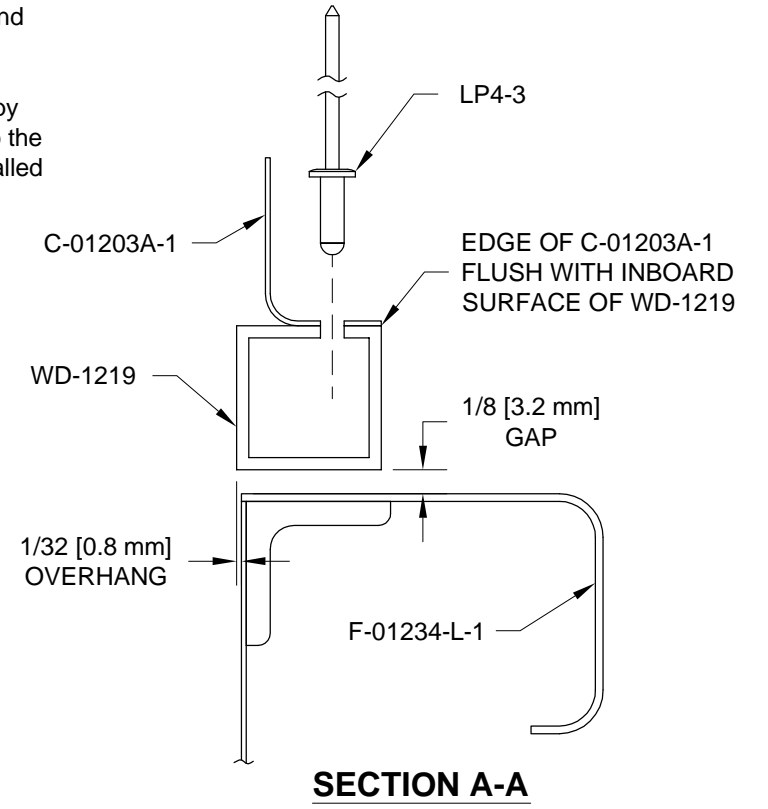
**FIGURE 1: FITTING CANOPY ATTACH ANGLES**



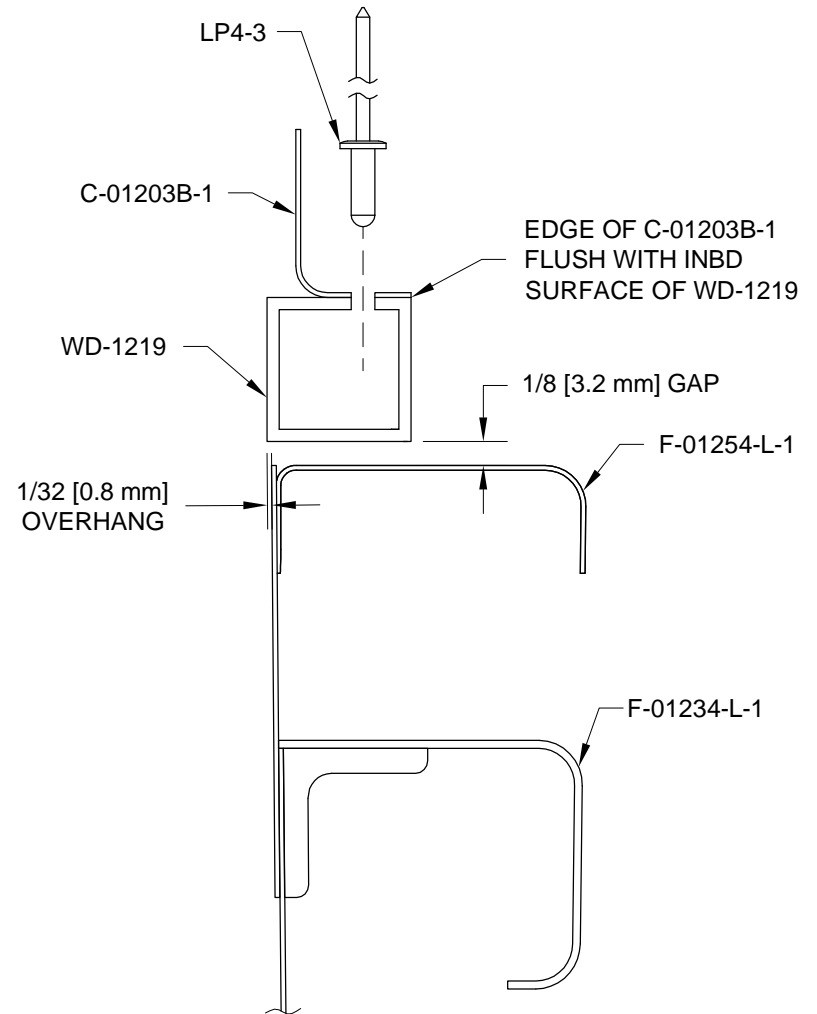
**FIGURE 2: CANOPY ATTACH ANGLE EXPLODED VIEW**



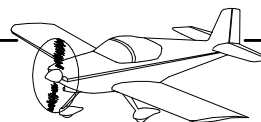
**FIGURE 3: ADJUSTING FRAME (EXCEPT AT WELD JOINTS)**



**SECTION A-A**



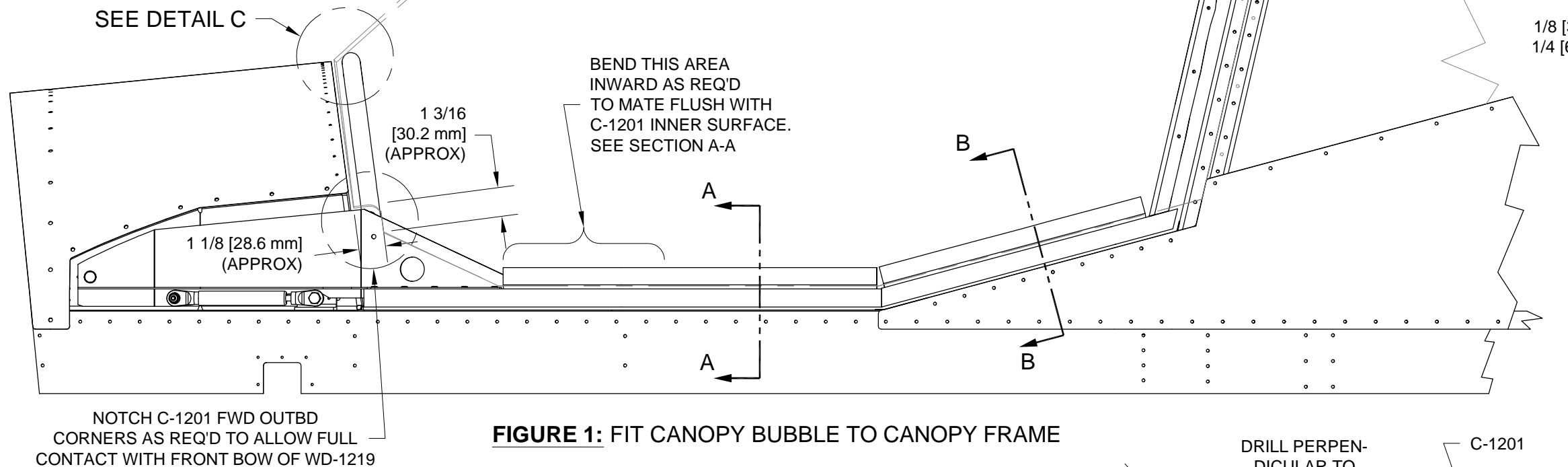
**SECTION B-B**



**Step 1:** Place strips of Low-Tack painters masking tape over the edges of the C-01203A-1 and B-1 Attach Angles and over the end of the latch handle tube in the center of the rear bow of the WD-1219 Canopy Frame.

Carefully place a strip of tape along the full width of the canopy frame front bow, but leave the tape flat and do not press it down to conform to the shape of the front bow. Estimate angle of canopy and place tape in approximately this orientation. See Detail C.

The tape will protect the inside of the canopy bubble from being scratched while fitting and will show the tangent contact point of the canopy to the canopy frame front bow.



**FIGURE 1: FIT CANOPY BUBBLE TO CANOPY FRAME**

**NOTE:** See Section 5.19 for tips on working with the Plexiglass canopy. As supplied, the canopy is covered with plastic film, inside and out. To protect the canopy as much as possible during the assembly process, trim the plastic film, inside and out, so that the outer 3 in. [76.2 mm] (approximately) of canopy are exposed then run a strip of tape along the edge of the plastic film to keep it from peeling-up throughout the rest of the process. Ideally the film should be left in place until the aircraft is complete and nearly ready to fly.

**Step 2:** Place the C-1201 Canopy onto the canopy frame inserting the canopy frame tube into the hole in the canopy and position it both fore/aft and side-to-side to achieve the dimensions shown in Figure 1, Section A-A, Section B-B, and Detail C.

Using a "Sharpie" pen, mark the canopy with the location of the center of the tube (if they are not concentric). Also mark on the canopy the amount of trim required at the forward outboard corners. See Figure 1.

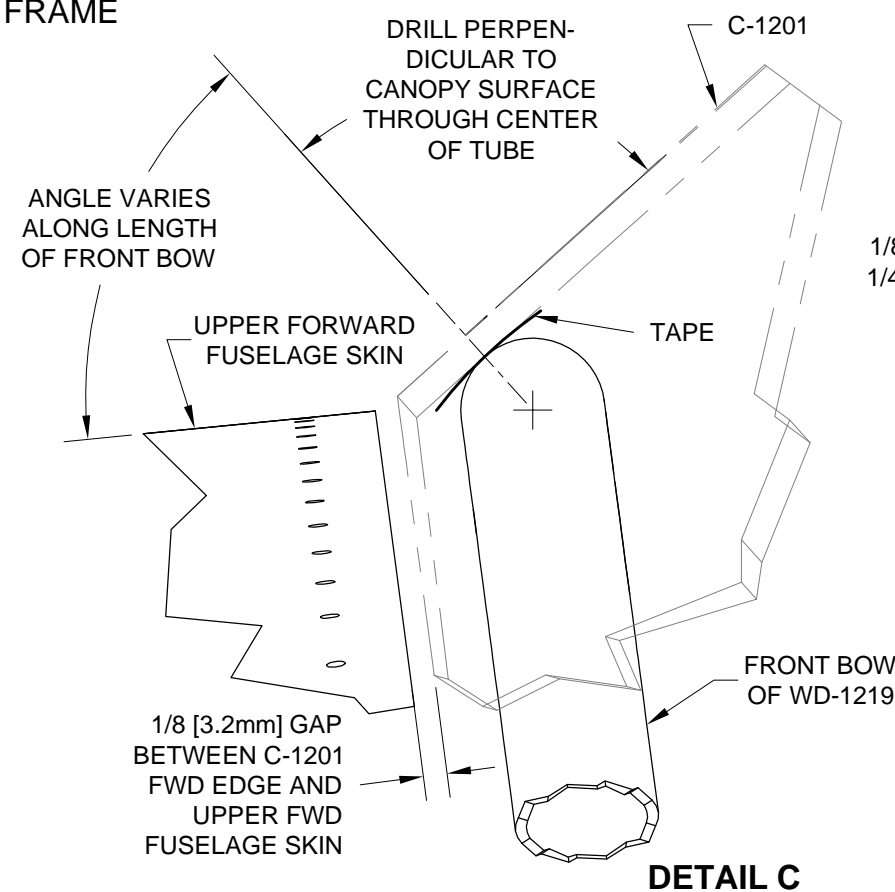
Remove the canopy from the frame. Deburr the edges of the 3/4 in. [19.1 mm] hole.

Use a 1 in. [25.4 mm] diameter dowel wrapped with 40 or 60 grit sandpaper to trim the forward outboard corners. Smooth the trimmed edges with 220 grit sandpaper.

**Step 3:** Place the canopy back onto the canopy frame inserting the canopy frame tube into the hole in the canopy. Use strips of duct tape to help pull the sides of the canopy down and to hold it in place.

Re-check the position of the canopy both fore/aft and side-to-side to verify that the dimensions shown in Figure 1, Section A-A, Section B-B, and Detail C are achieved. If the position of the canopy needs to be adjusted, the canopy latch tube hole may be carefully elongated by as much as 1/8 in. [3.2 mm] in any direction. Additionally, 80 to 100 grit sandpaper and a wood block can be used to remove material from the aft edge of the canopy if it interferes with the forward edge of the F-1277B Aft Window.

Push-down the front edge of the canopy along the front bow. This will adhere the masking tape to the front bow but only along the line of tangency where the canopy contacts the front bow. This line of canopy-to-front bow contact is visible in the tape as a slightly darker color.



**DETAIL C**

1/8 [3.2 mm] NOMINAL  
1/4 [6.4 mm] MAXIMUM

WD-1219

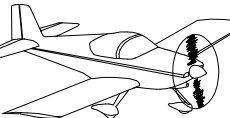
**SECTION A-A**

1/8 [3.2 mm] NOMINAL  
1/4 [6.4 mm] MAXIMUM

WD-1219

**SECTION B-B**

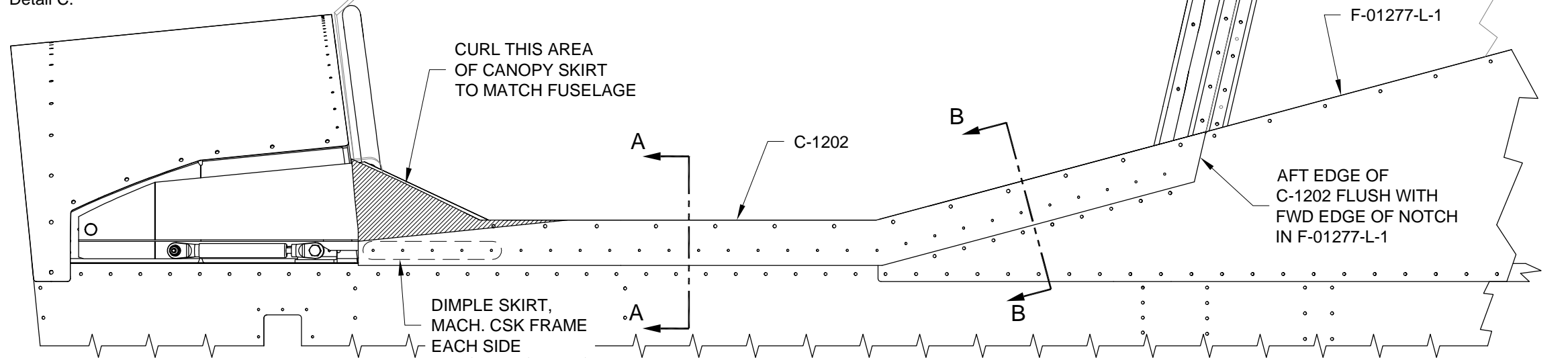
ADJUST BEND ANGLE AS REQUIRED TO FIT CANOPY



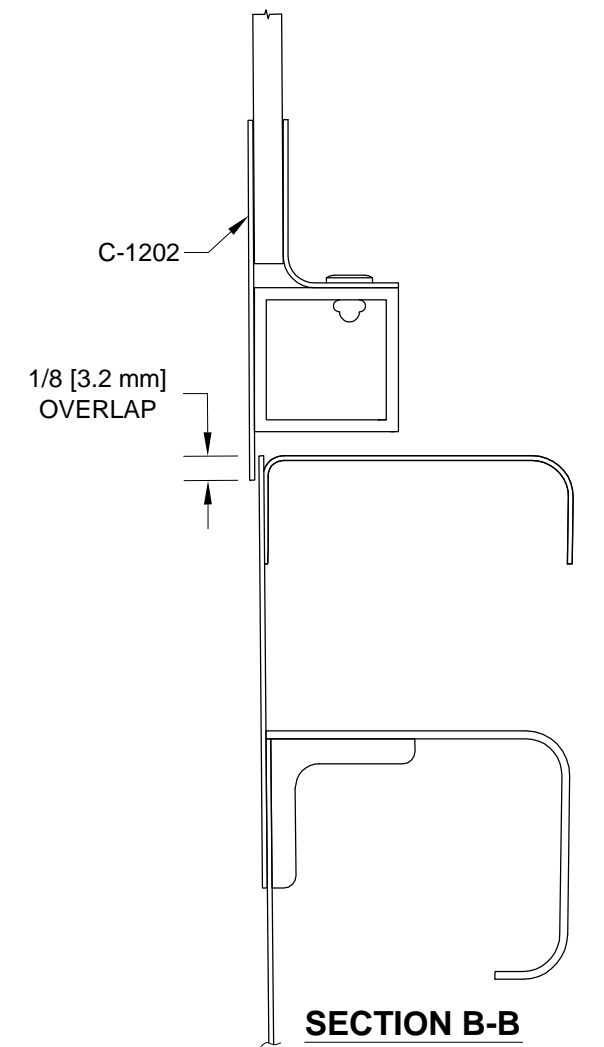
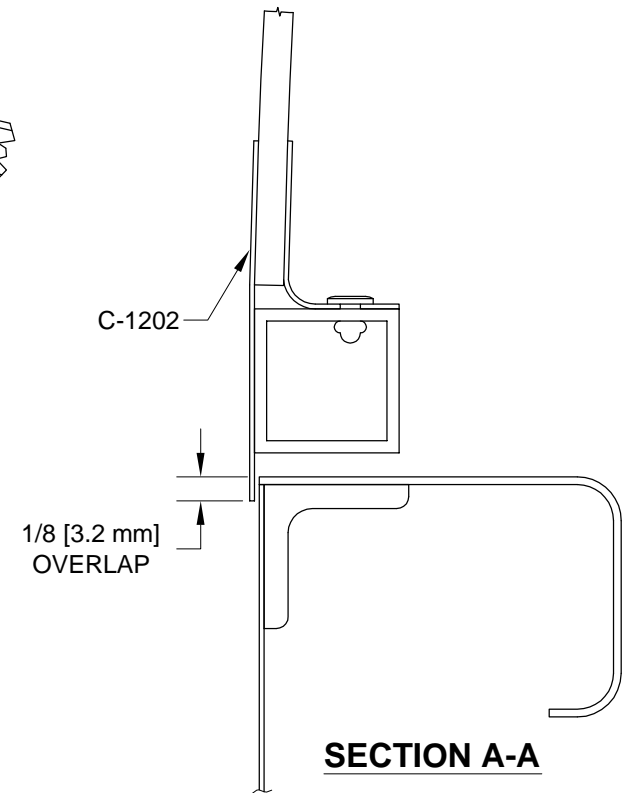
**Step 1:** Remove the C-1201 Canopy. Measure 2 in. [50.8 mm] each side of the weld joint at the middle of the WD-1219 Canopy Frame front bow and make a pen mark on the line of canopy to front bow contact.

Then measure and mark every 2 in. [50.8 mm] on the line of contact both directions. Pre-drill #40 at each mark. Be sure to align the drill so that you are drilling through the center of the tube at each hole. See Page 39iS/U-05, Detail C.

**Step 2:** Place the C-1201 Canopy back on the WD-1219 Canopy Frame and use strips of duct tape to help pull the sides of the canopy down and hold it in place. Verify that the canopy is properly positioned fore/aft and side-to-side as shown in Page 39iS/U-05, Figure 1, Section A-A, Section B-B, and Detail C.



**FIGURE 1: ATTACH CANOPY SKIRTS**



**Step 3:** Beginning at one of the holes nearest the center of the front bow, drill with a #30 Plexiglass bit through the canopy and into the pre-drilled hole in the frame. Use the tape contact line to aid drilling through the center of the tube and use the reflection of the drill bit in the canopy to drill perpendicular to the canopy surface. See Page 39iS/U-05, Detail C. Drill using full drill speed and light pressure. Cleco the hole after drilling.

Using a #30 Plexiglass bit, drill and cleco the canopy to the canopy frame rear bow at the hole nearest the top center of the rear bow. Clear any shavings from under the canopy before clecoing each drilled hole. Be sure that the canopy lays tightly against the canopy frame rear bow when it is clecoed. It is acceptable to loosen the spring clamps and allow the canopy frame to move upward even if the gap between the bottom of the canopy frame and deck becomes greater than 1/8 in. [3.2 mm].

Re-verify that the strips of duct tape (installed in Step 2) are holding both sides of the canopy tight to the canopy frame front and rear bows and to the C-01203A-1 & B-1 Attach Angles.

Alternate drilling and clecoing between the front bow and rear bow working one hole outboard toward the left and right sides each time. Periodically check the position of the canopy on the frame to make sure that the canopy is neither migrating out of position nor that the canopy sides are bulging outboard as drilling progresses.

**Step 4:** Position the C-1202 Canopy Skirt to the outside surface of the canopy frame sides as shown in Figure 1, Section A-A and Section B-B. With the canopy skirt held or taped in place, match-drill #30 through the canopy skirt and into the canopy frame and cleco. Remove chips as required after drilling each hole, then cleco.

Repeat for the opposite side of the canopy.

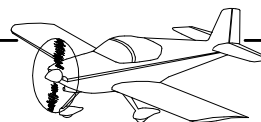
**Step 5:** Remove the C-1202 Canopy Skirt and deburr the drilled holes. Dimple the most forward five rivet holes in the canopy skirt and machine countersink the corresponding holes in the frame as called out in Figure 1.

**Step 6:** Curl the forward upper corner of the canopy skirt to match the shape of the fuselage such that the upper forward corner of the skirt lays tight against the canopy and frame when clecoed in place. Over-curling is preferable to under-bending so as to keep the curled skirt firmly in contact with the canopy and frame. The curl can be formed using hand pressure on the canopy skirt held against a cylindrical object.

This will require a few iterations of clecoing to the fuselage, noting required adjustments, removing, adjusting, and re-fitting. When nearly satisfied with the fit of the skirt to the fuselage, trim the aft end of the skirt to leave a 1/16 in. [1.6 mm] gap between the aft edge of the skirt and the fwd edge of the notch in the F-01277-L-1 Fwd Turtle Deck Skin.

**Step 7:** Remove the Canopy from the canopy frame and deburr the holes in each.

Remove the clamps and spacers that were holding the canopy frame rear bow in position. Rotate the canopy frame to the open position. Remove the corrugated cardboard spacers that were placed between the canopy frame and the cockpit sills.



**Step 1:** You will need to have a non-claustrophobic friend/spouse/child help you with this step. After having your helper climb into the cockpit, rotate the WD-1219 Canopy Frame back down to the closed position. Hand one of the wood spacers to your helper.

Place the C-1201 Canopy back into place on the canopy frame and re-cleco.

**Step 2:** Re-cleco both C-1202 Canopy Skirts to the canopy frame. Be sure that the canopy is clecoed along the full width of the front and rear bows. Use duct tape if/as required to pull the canopy sides down between the front and rear bows.

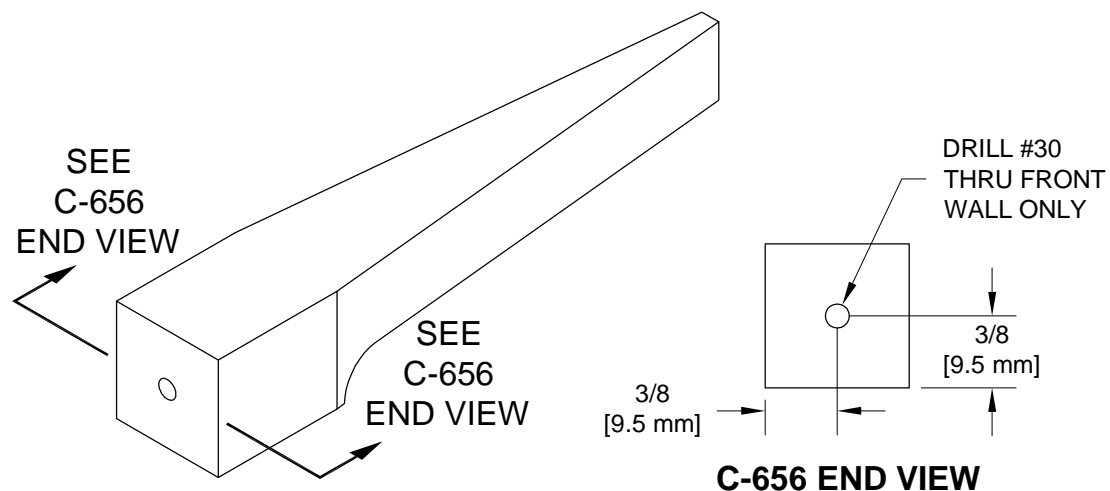
Match-Drill using a #30 Plexiglass bit through the upper row of holes in the canopy skirt through the Canopy and C-01203A-1 and C-1203B-1 Attach Angles. (The Plexiglass bit will easily cut through the thin aluminum attach angles.) Have your helper hold the wood spacer against the canopy attach angles to resist the drill pressure. Cleco each hole after drilling.

Repeat for the opposite side of the canopy.

**Step 3:** Remove the Canopy from the fuselage and set it on your work table. Your helper can now be set free!

Final-Drill all holes in the canopy using a #27 Plexiglass bit. Deburr the drilled holes in the canopy.

Machine countersink the holes along the front edge of the canopy to fit the head of an AACQ4-4 blind rivet. Countersinks that are up to .015 in. [.4 mm] too shallow are acceptable and are preferable to countersinks that are even slightly too deep.



**FIGURE 1:**  
PILOT-DRILL CANOPY HANDLE

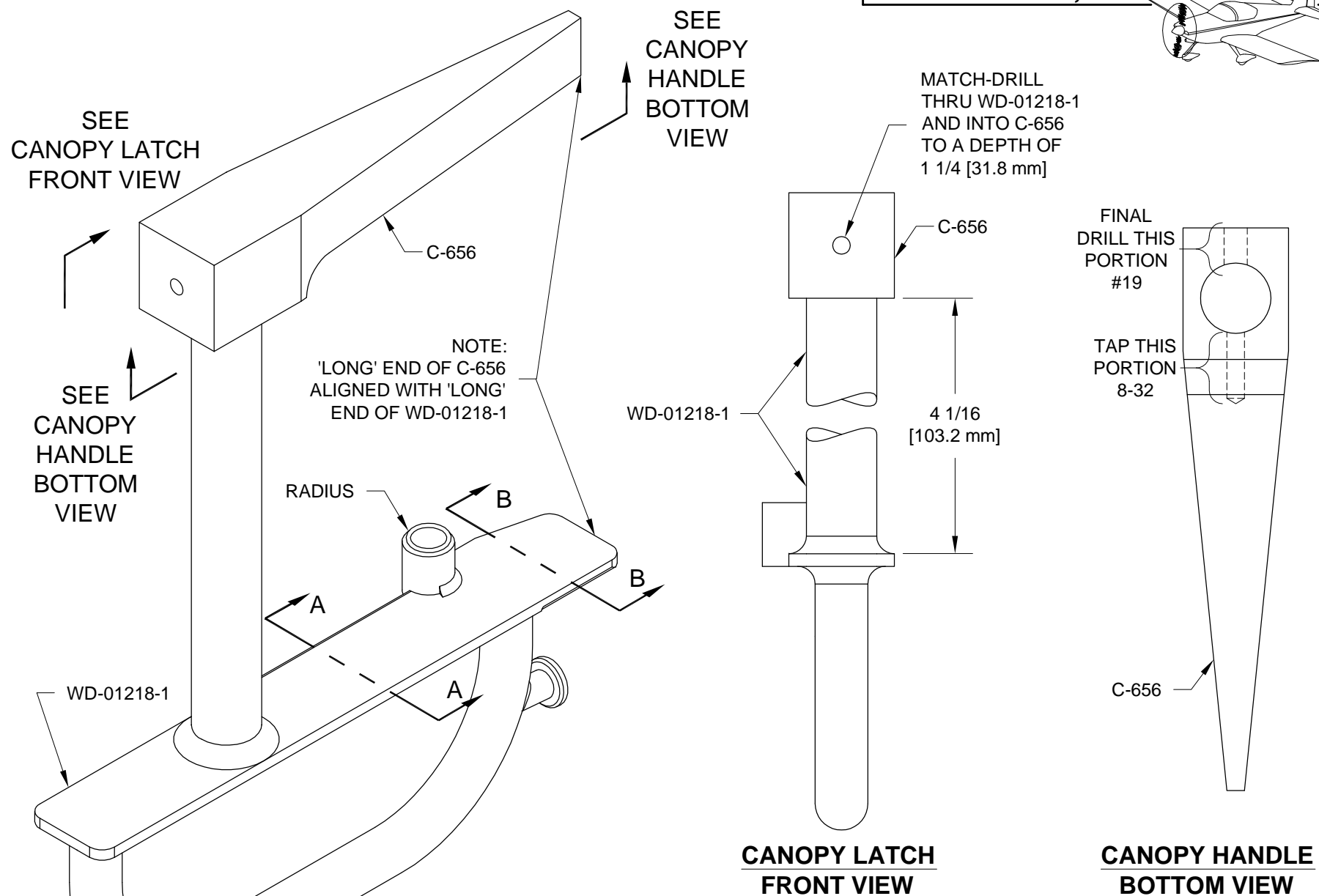
**Step 4:** Drill a pilot hole in the end of the C-656 Canopy Handle as shown in Figure 1.

Take the WD-01218-1 Canopy Latch and C-656 Canopy Handle and assemble them as shown in Figure 2. The tube end of the canopy latch may be shortened if/as required to achieve the dimension called out in Figure 2.

Using the pilot hole in the canopy handle as a drill guide, match-drill #30 through both sides of the canopy latch tube and into the canopy handle to the depth called out in Figure 2.

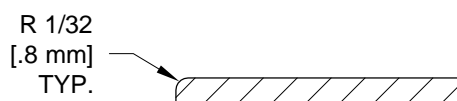
Disassemble the canopy latch and canopy handle. Final-Drill #19 through the front part of the canopy handle. Final-Drill #19 through the canopy latch. Deburr holes. Cut threads in the rear "tail" portion of the canopy handle using an 8-32 tap. Machine countersink the canopy handle to fit the head of a #8 flush screw.

Round off the edges of the latch plate as shown in Figure 2, Sections A-A and B-B. The canopy handle edges and ends may be rounded if/as desired. See Figure 3 for an example of a final shape.

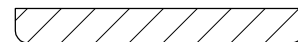


**FIGURE 2:**  
CANOPY LATCH & HANDLE ASSEMBLY

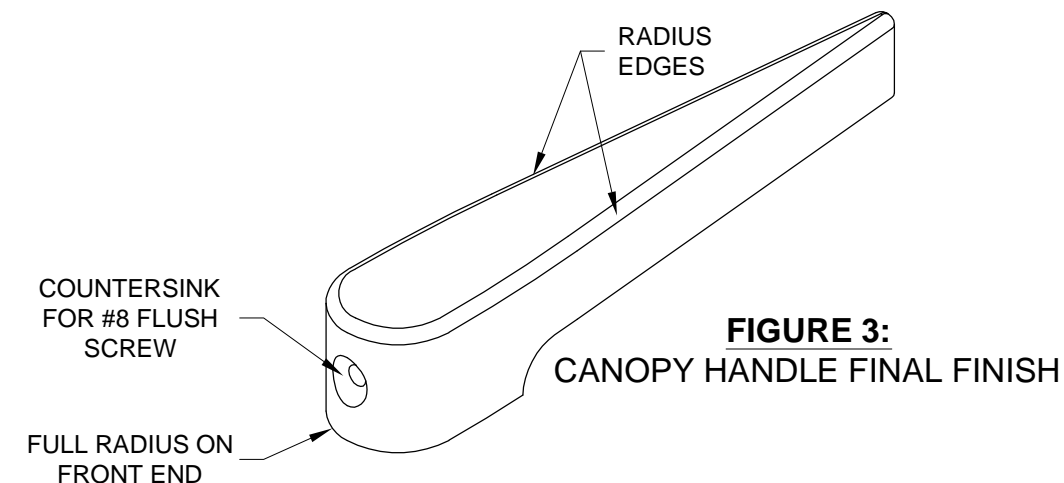
SEE  
CANOPY LATCH  
FRONT VIEW



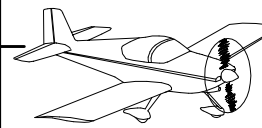
**SECTION A - A**



**SECTION B - B**



**FIGURE 3:**  
CANOPY HANDLE FINAL FINISH



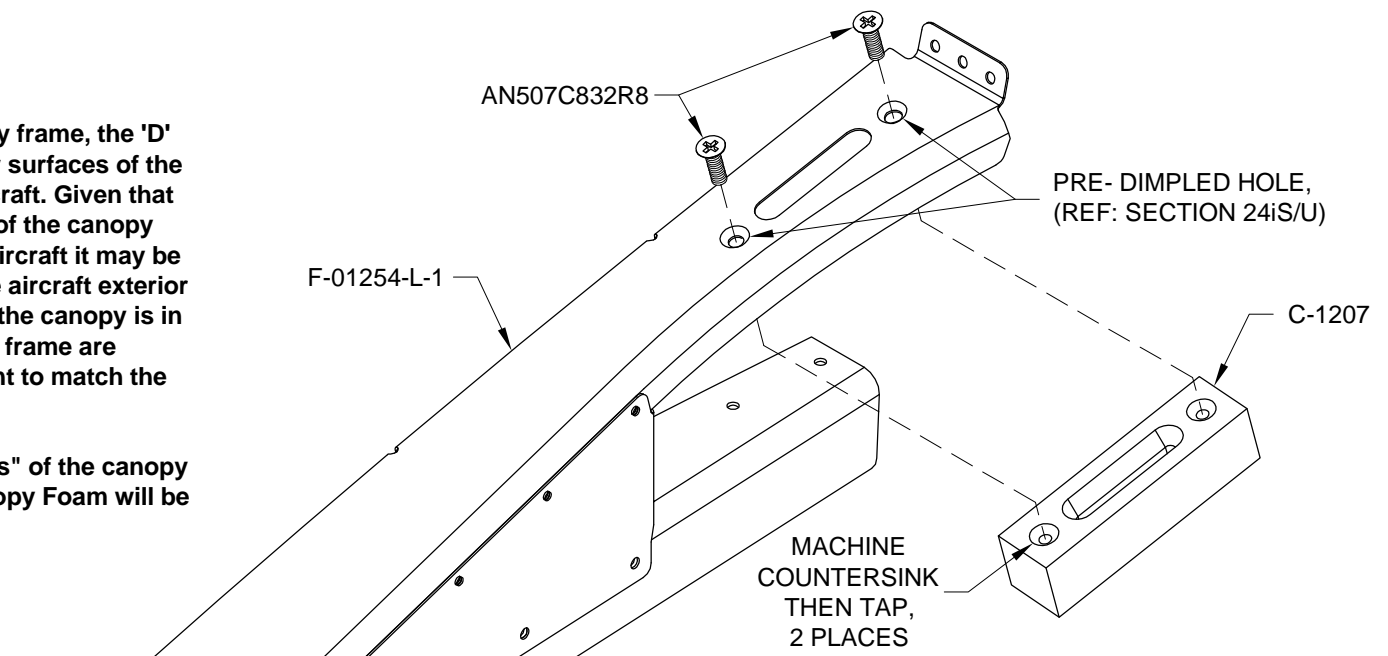
**Step 1:** Machine countersink the two holes in each C-1207 Guide Block to fit the head of a #8 flush screw. See Figure 1. Countersinks that are up to .015 too deep are acceptable and are preferable to countersinks that are too shallow. Tap 8-32 the two holes in each guide block.

**Step 2:** Install C-1207 Guide Blocks as shown in Figure 1.

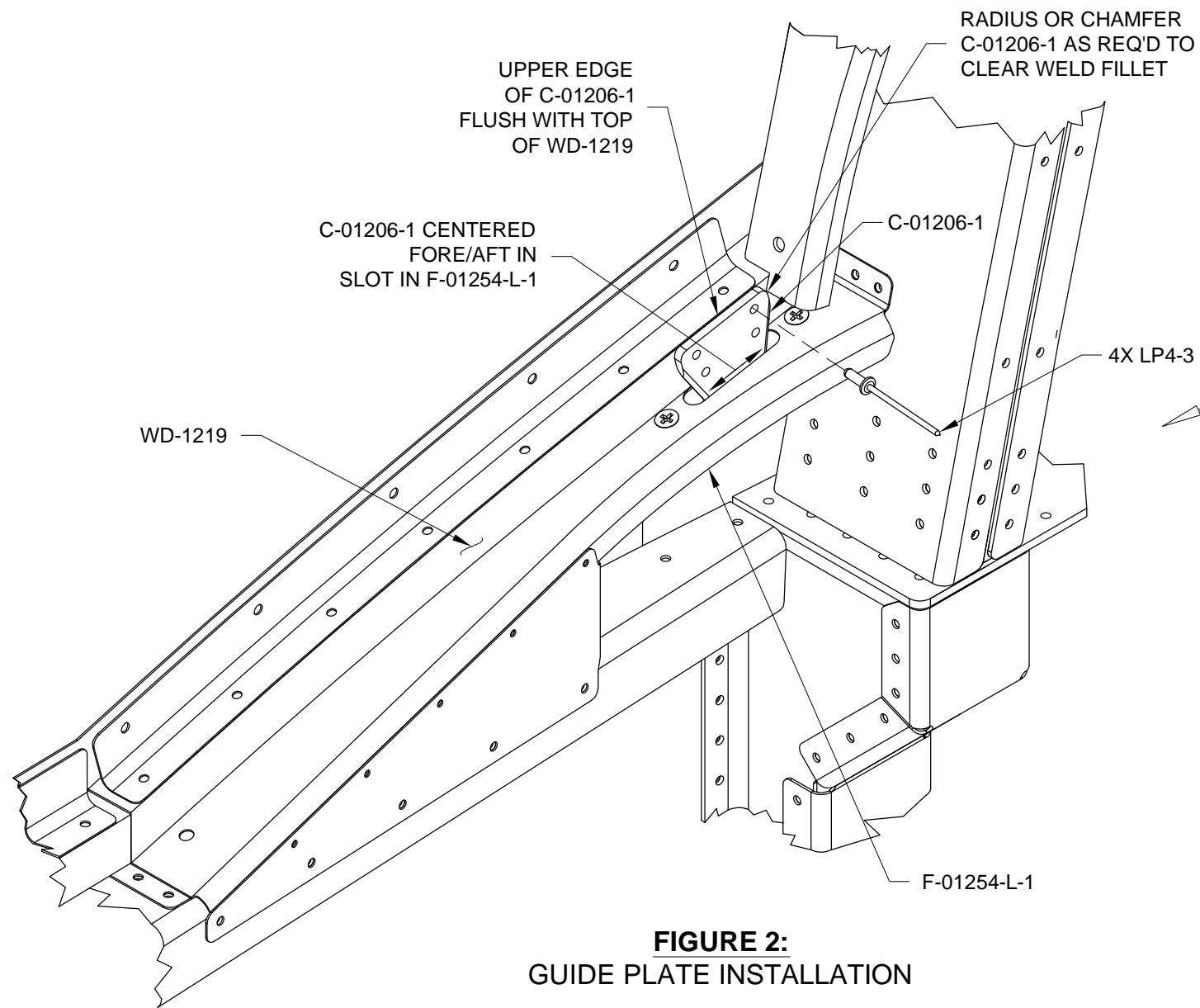
**Step 3:** Insert the C-01206-1 Guide Plate in the slot in the C-1207 Guide Block and position as called out in Figure 2. Match-Drill the guide plate to the WD-1219 Canopy Frame using a #30 drill bit. Remove the guide plate and deburr holes. Rivet the guide plate to the canopy frame using the blind rivets called out in Figure 2.

**NOTE:** This is a good time to paint the canopy frame, the 'D' Handle portion of the canopy latch, and inner surfaces of the canopy skirts to match the interior of the aircraft. Given that the canopy rear bow above the upper edges of the canopy skirts will be visible from the outside of the aircraft it may be more desirable to paint portions to match the aircraft exterior rather than interior. Consider also that when the canopy is in the open position certain parts of the canopy frame are exposed and it may be more desirable to paint to match the exterior rather than the interior.

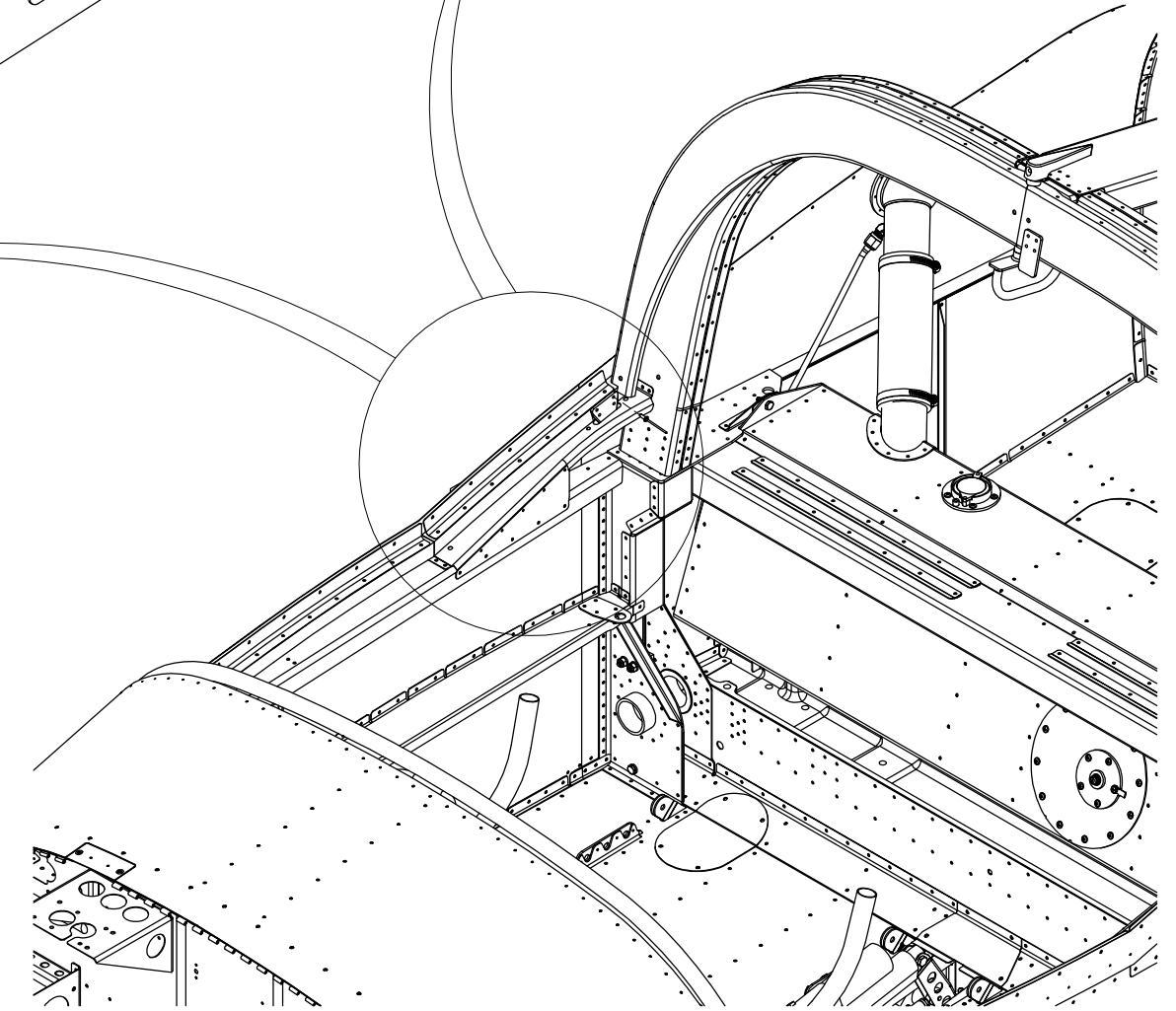
Leave the outer surfaces of the forward "arms" of the canopy frame bare in the area where the C-1208 Canopy Foam will be bonded. See Page 39iS/U-13.



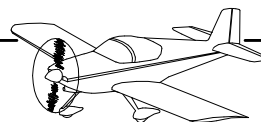
**FIGURE 1:**  
GUIDE BLOCK INSTALLATION



**FIGURE 2:**  
GUIDE PLATE INSTALLATION

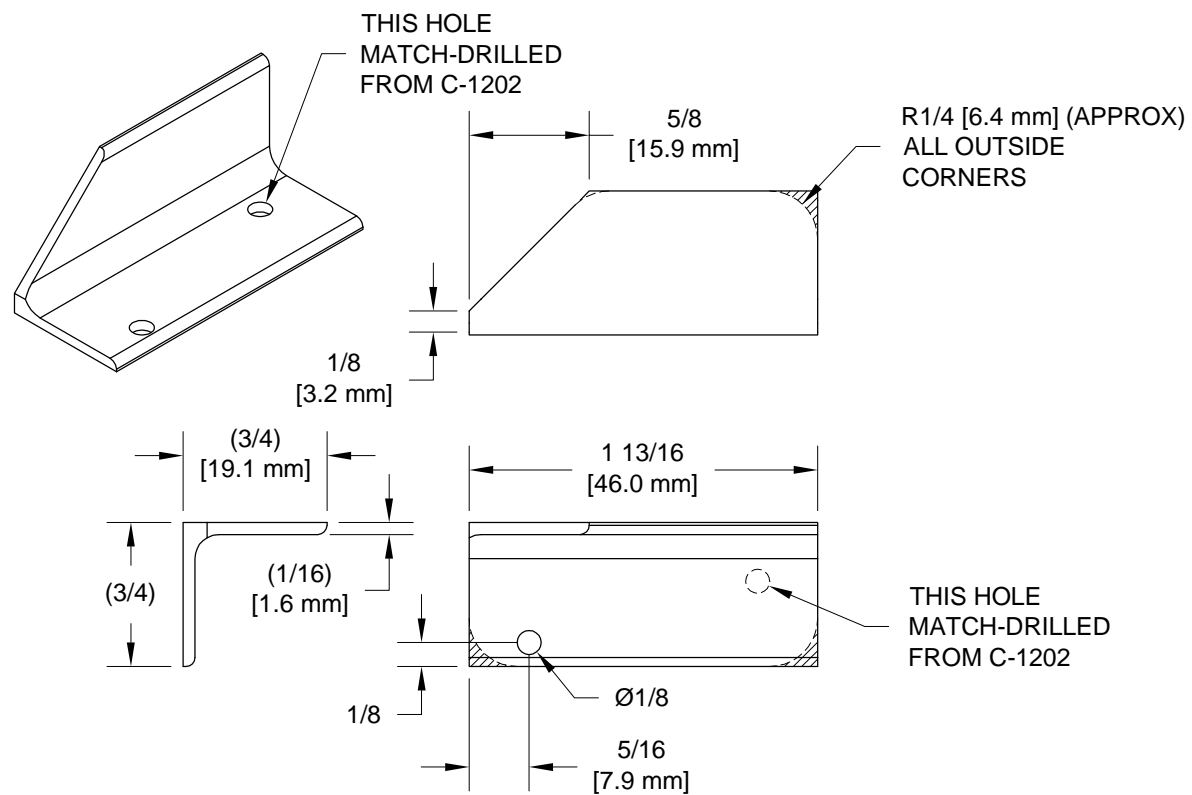




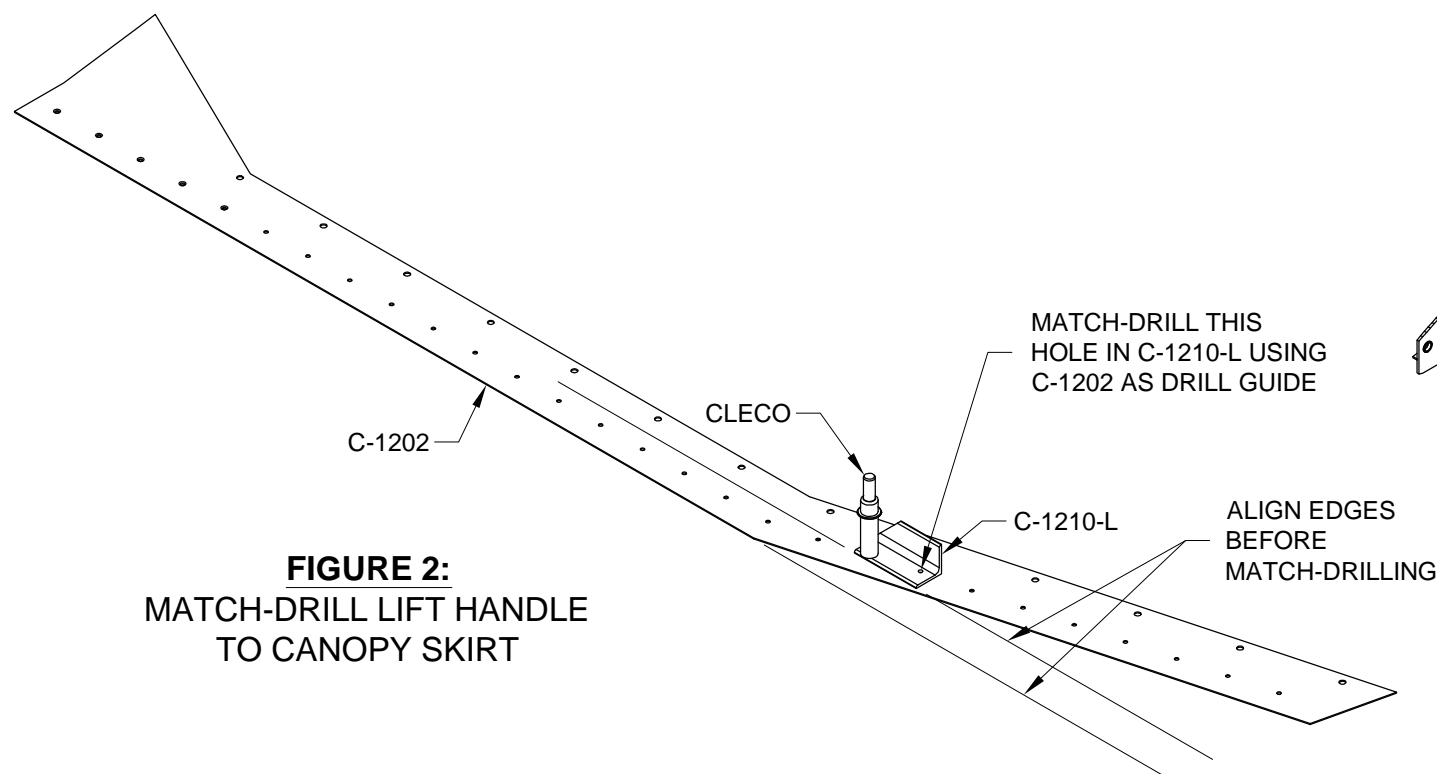


Step 1: Fabricate C-1210 Canopy Lift handles from 3/4 x 3/4 x .063 Aluminum Angle as shown in Figure 1. Make one "left" and one "right" lift handle.

Cleco the lift handle to the C-1202 Canopy Skirt as shown in Figure 2. Align the lift handle and match-drill the second hole in the lift handle using the hole in the canopy skirt as a drill guide.



**FIGURE 1:**  
FABRICATE LIFT HANDLES  
(C-1210-L SHOWN)



**FIGURE 2:**  
MATCH-DRILL LIFT HANDLE  
TO CANOPY SKIRT

Step 2: Place the C-1201 Canopy on the WD-1219 Canopy Frame. Cleco the canopy to the canopy frame along the front bow.

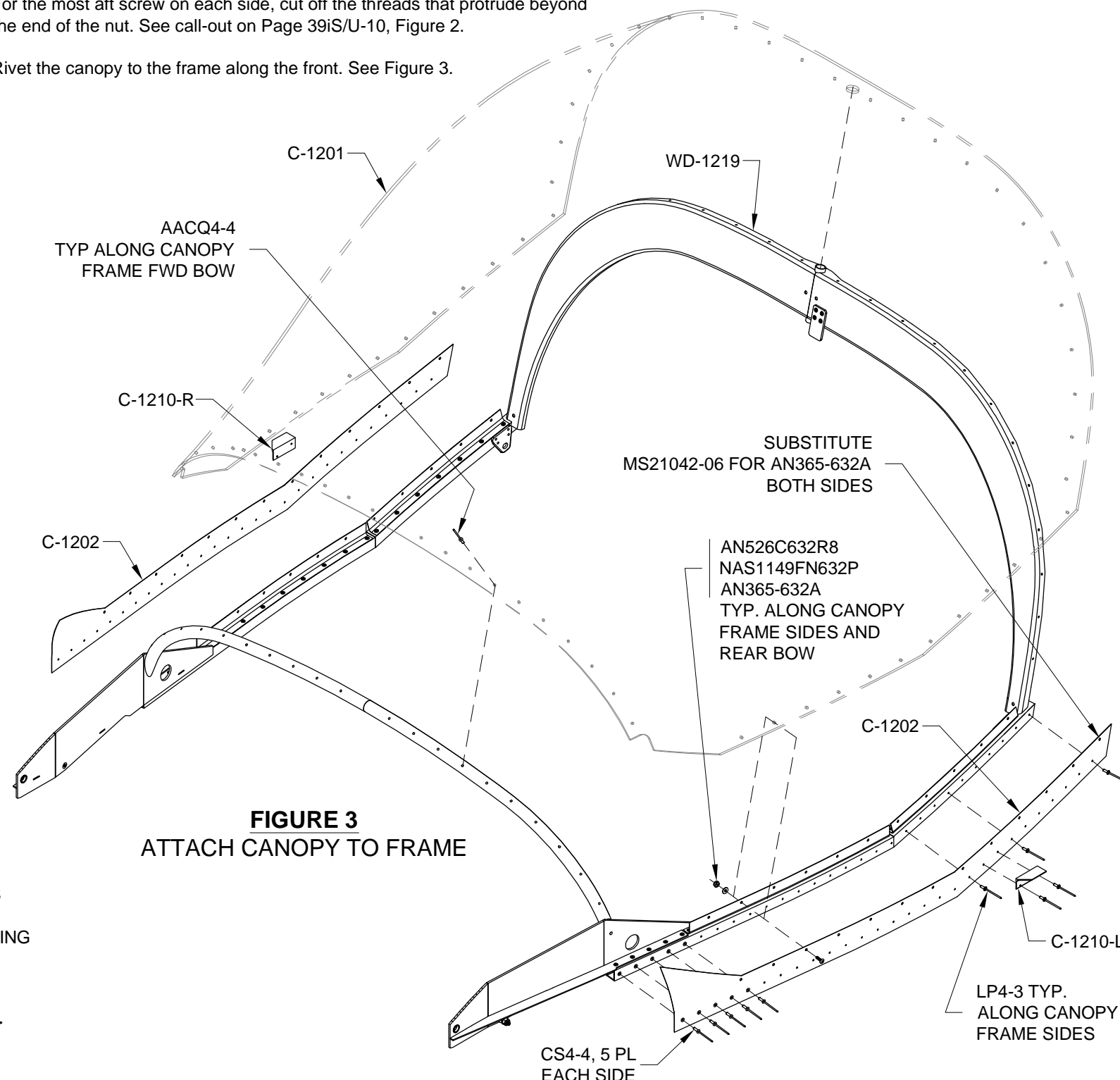
Screw the canopy to the frame along the rear bow using the hardware called out in Figure 3. Do not over-tighten the screws; tighten just enough so that the screws do not turn freely.

Step 3: Rivet the C-1202 Canopy Skirts and C-1210 Lift Handles to the WD-1219 Canopy Frame as shown in Figure 3.

Step 4: Screw the Canopy to the frame along the sides. Once again, tighten only to the point that the screws do not turn freely.

For the most aft screw on each side, cut off the threads that protrude beyond the end of the nut. See call-out on Page 39iS/U-10, Figure 2.

Rivet the canopy to the frame along the front. See Figure 3.



**FIGURE 3**  
ATTACH CANOPY TO FRAME

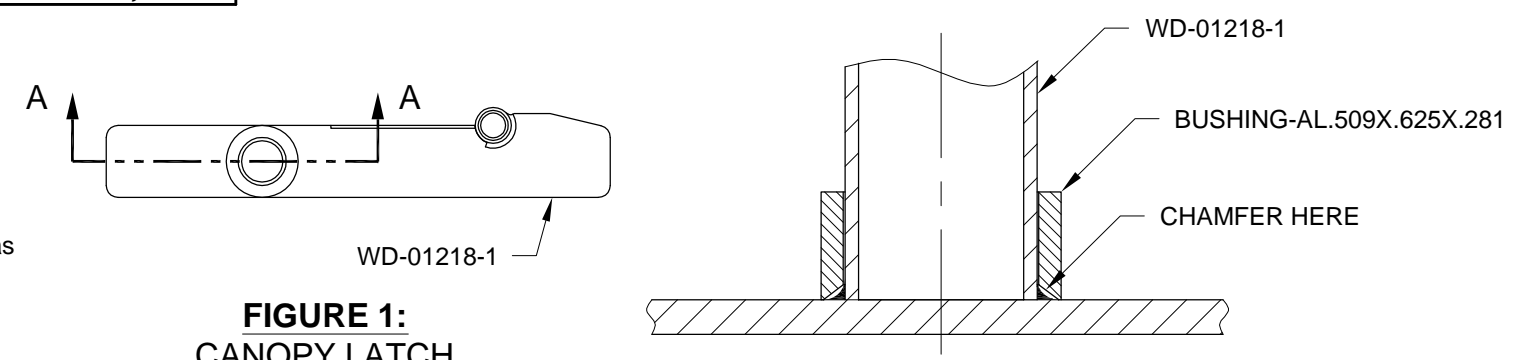
**Step 1:** Chamfer the inside of BUSHING-AL.509X.625X.281 allowing it to sit lower on the WD-01218-1 Canopy Latch tube as shown in Figure 1.

**Step 2:** Install the WD-01218-1 Canopy Latch, called out bushing, C-671 Plastic Washer and C-656 Canopy Handle on the WD-1219 Canopy Frame as shown in Figure 2.

If the canopy latch rotates freely enough in the canopy frame tube that it will turn under its own weight when the canopy is rotated up to the open position, then the bottom of the canopy frame tube should be carefully pinched slightly so as to create enough friction to prevent undesired rotation.

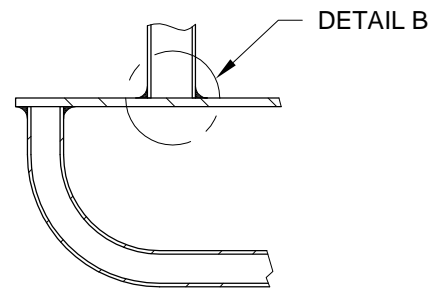
When installing the canopy latch for the final time, lightly grease the pivot tube so as to prevent corrosion and to help keep water out.

**Step 3:** Remove the canopy struts at this time and set aside until the fiberglass lay-up has been trimmed.

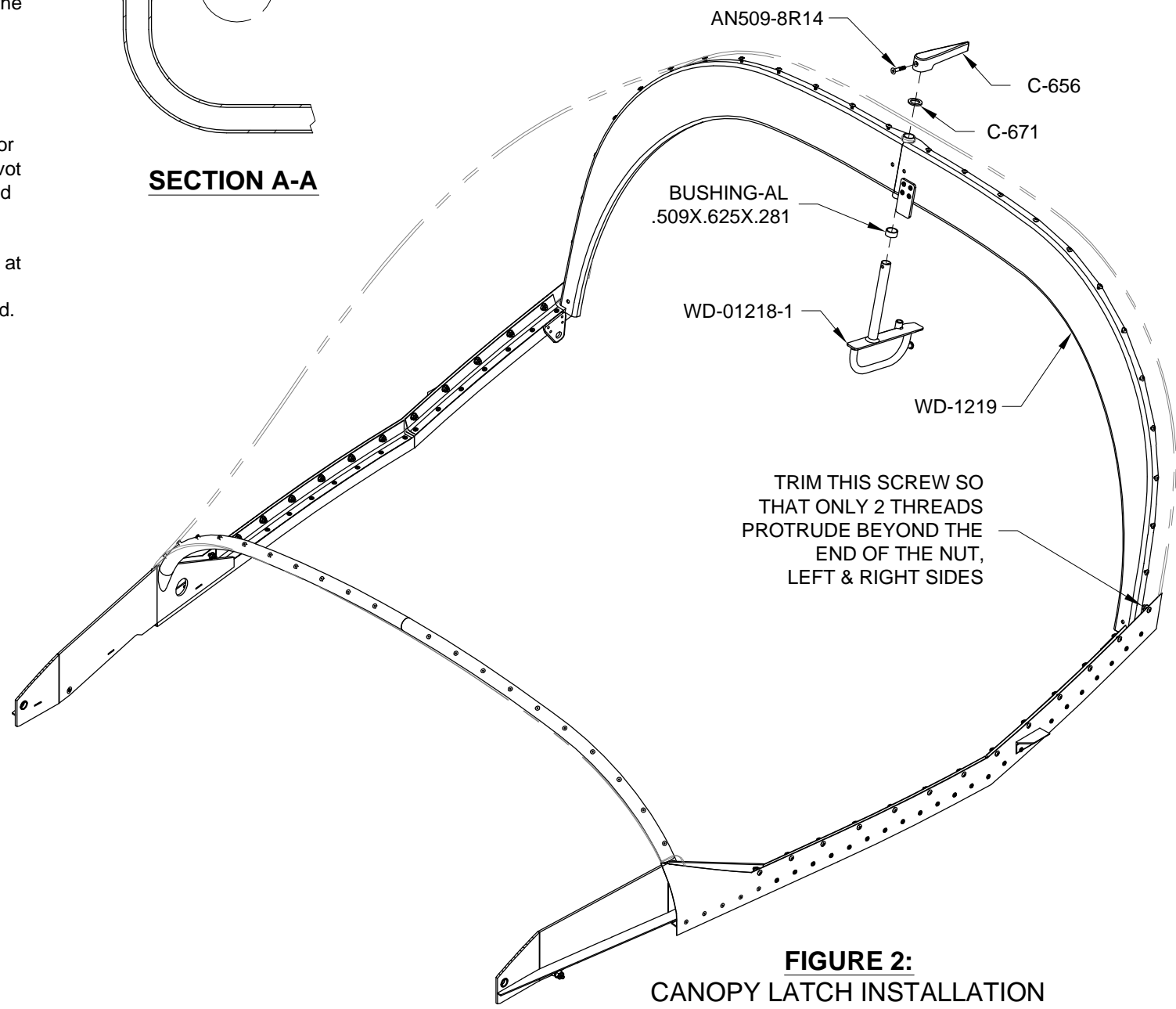


**FIGURE 1:**  
CANOPY LATCH  
(TOP VIEW)

**DETAIL B**  
CHAMFER BUSHING



**SECTION A-A**

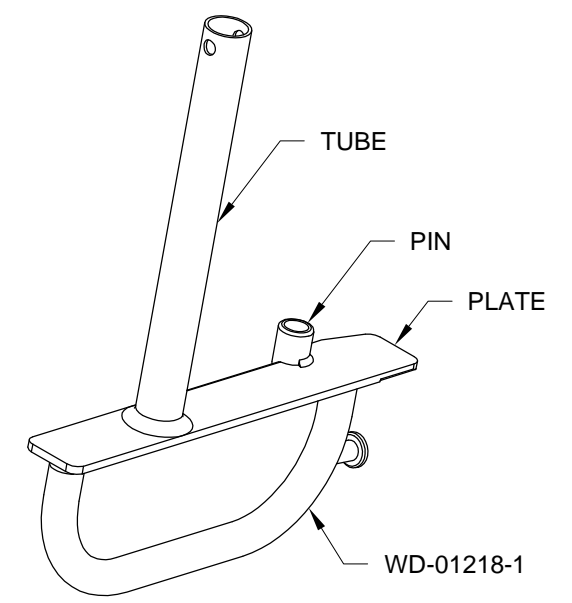


**FIGURE 2:**  
CANOPY LATCH INSTALLATION

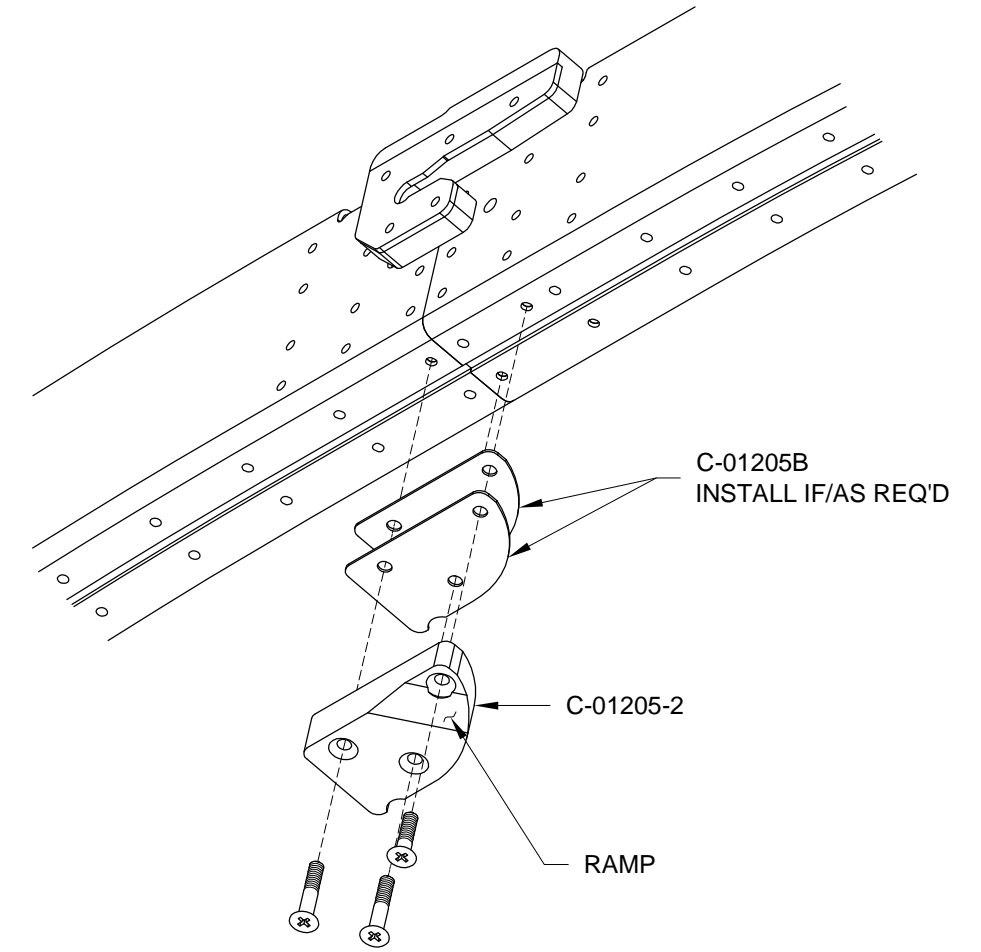
**Step 4:** Place the canopy on the fuselage, installing the pivot bolts but not the gas struts.

**Step 5:** From inside the cockpit lower the canopy and rotate the latch to the closed position. It is acceptable for the latch plate to strike the ramped portion of the block. See Figures 3 and 4.

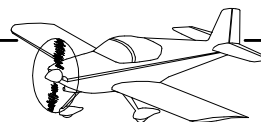
If there is any gap between the top surface of the latch plate and the lower surface of the guide block that allows canopy movement (even though the latch is fully closed and the latch pin is snapped into the detent in the guide block) remove the guide block and add one or two C-01205B Shims between guide block and roll bar to lower the block and eliminate the gap. See Figure 4.



**FIGURE 3:** CANOPY LATCH



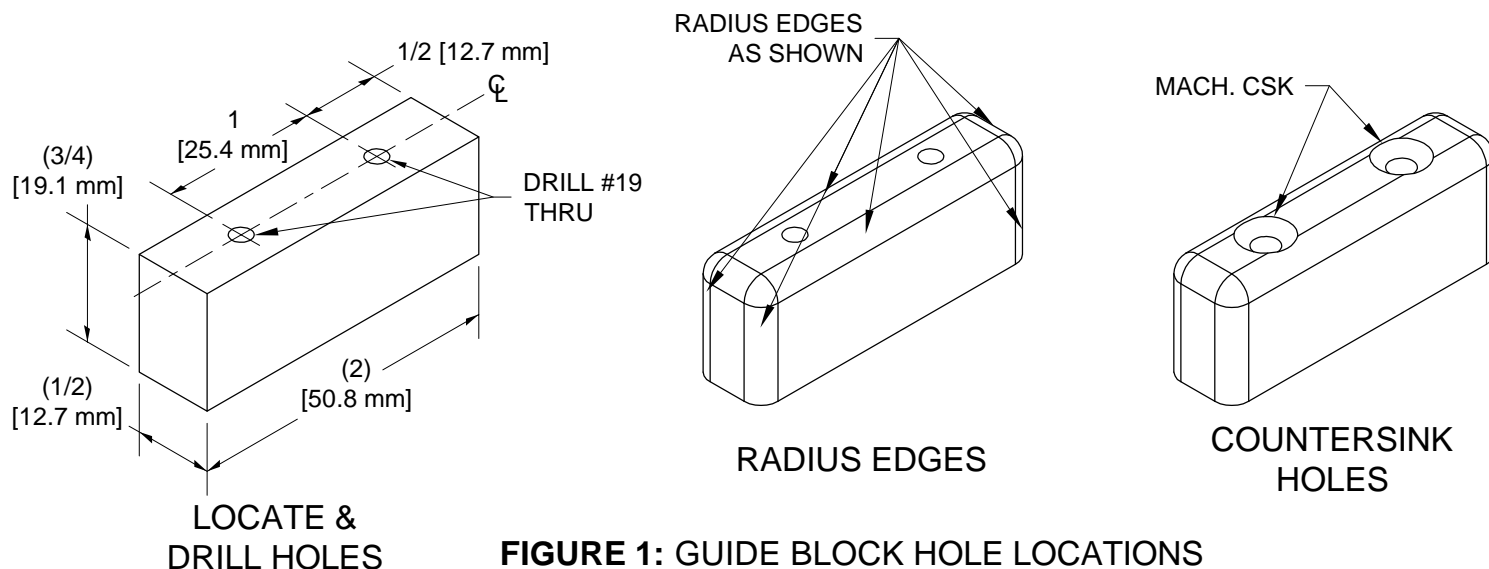
**FIGURE 4:** SHIM INSTALLATION



Step 1: Measure, mark, and drill each C-1212 Guide Block as shown in Figure 1, "LOCATE & DRILL HOLES".

Step 2: Radius the edges of each C-1212 Guide Block as shown in Figure 1, "RADIUS EDGES".

Step 3: Machine countersink the two holes in each C-1212 Guide Block to fit the head of a #8 flush screw. See Figure 1, "COUNTERSINK HOLES". Countersinks that are up to .015 in. [.4 mm] too deep are acceptable and are preferable to countersinks that are too shallow.



Step 4: Unlatch the canopy and rotate it up to the open position.

Measure, mark, and drill the indicated hole in the F-1231A-FL and F-1231A-FR Roll Bar Frames as shown in Figure 2. (Later frames have the hole pre-punched.)

Hold one of the C-1212 Guide Blocks against the front of the roll bar frame and use one of the holes in the guide block to ensure that the tap remains aligned while cutting threads. Remove the guide block and clear away chips then temporarily attach the guide block to the roll bar frame using the same hole that was used to guide the tap. See Figure 2.

Select the remaining guide block and repeat the tap process for the opposite side.

Step 5: Rotate each of the guide blocks on it's screw until the lower outboard corner is just tangent to the outside surface of the roll bar frames as shown in Figure 2.

With the guide block held in proper position, run a #19 drill through the open hole in the guide block to make a mark on the roll bar frame. Repeat for the opposite side.

Rotate the guide block to expose the mark and drill #30 through the roll bar frame. Repeat for the opposite side.

Rotate the guide block back to it's proper position and tap using the hole in the guide block to hold the tap aligned while cutting threads. Repeat for the opposite side.

Clear away chips and final install both guide blocks as shown in Figure 2.

Step 6: Rotate the canopy down to the closed position. As the canopy nears the fully closed position, verify that there is no interference between any screws and the lower outboard corners of the guide blocks. Chamfer the lower outboard corner of the guide block as required to eliminate interference.

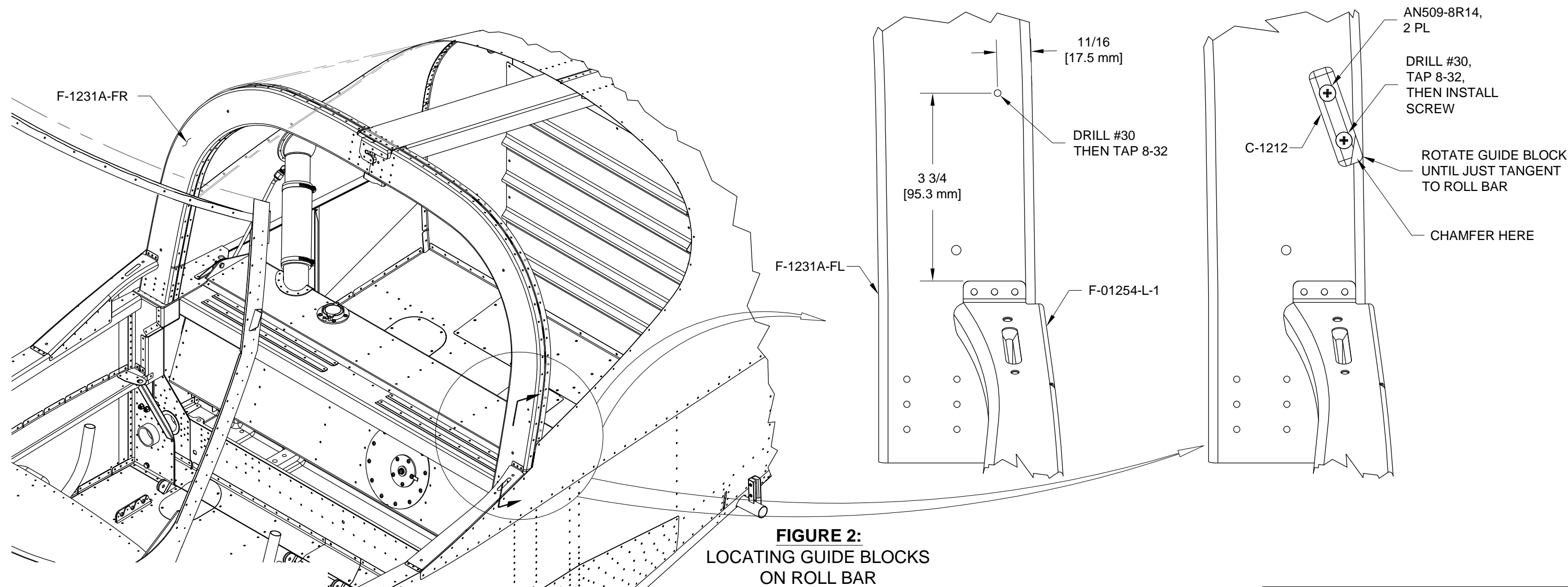
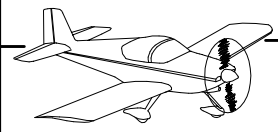


FIGURE 2:  
LOCATING GUIDE BLOCKS  
ON ROLL BAR



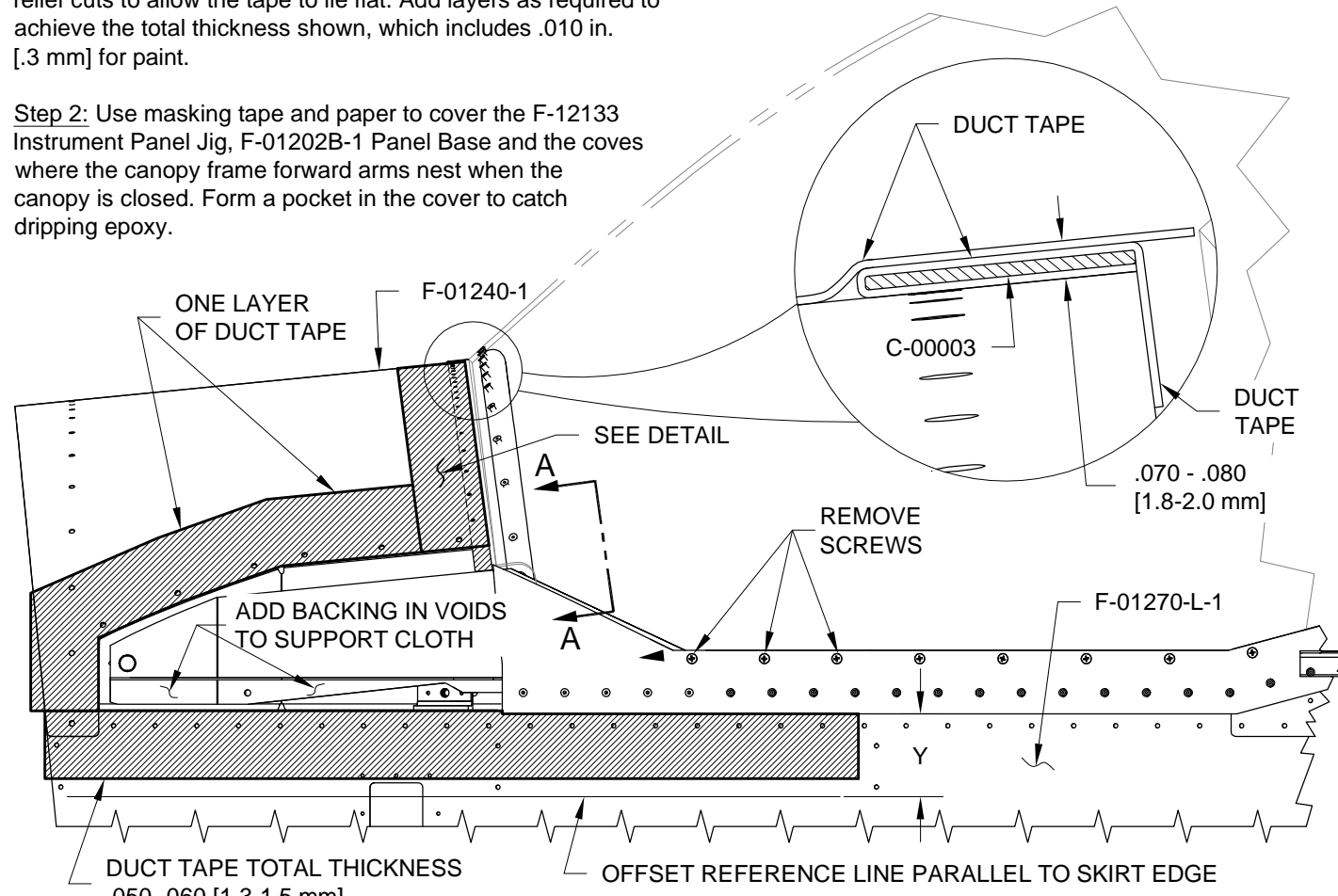
**Step 1:** A void needs to be made to accommodate the C-1217A Fwd Seal, (Page 39iS/U-19). Fabricate the

C-00003 Seal Spacer by cutting AS3-025X.5X43 to the length shown in Figure 2.

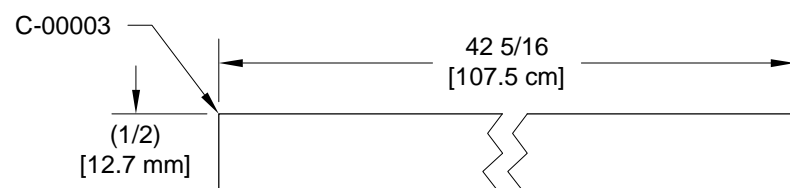
Measure the thickness of your duct tape to determine the number of layers needed to achieve the dimension provided. Wrap the seal spacer in duct tape. Begin by placing the edge of the spacer along the edge of the tape.

Raise the canopy. Align the wrapped spacer along the aft edge of the F-01240-1 Upper Fwd Fuse Skin. See Figure 1 detail and View A-A. Work the excess width of the tape downward onto the aft face of the panel jig as shown in the Figure 1 detail, making relief cuts to allow the tape to lie flat. Add layers as required to achieve the total thickness shown, which includes .010 in. [.3 mm] for paint.

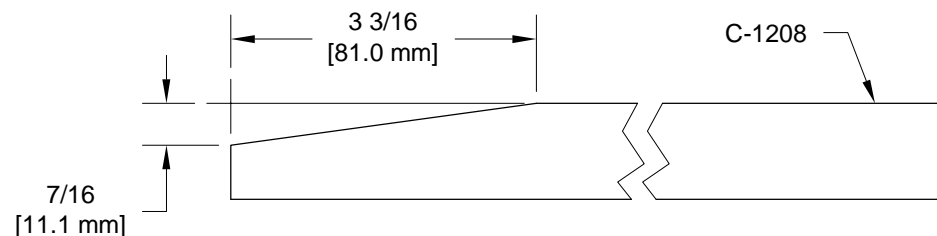
**Step 2:** Use masking tape and paper to cover the F-12133 Instrument Panel Jig, F-01202B-1 Panel Base and the covers where the canopy frame forward arms nest when the canopy is closed. Form a pocket in the cover to catch dripping epoxy.



**FIGURE 1:**  
SEAL SPACER & PROTECTIVE TAPE PLACEMENT



**FIGURE 2:** TRIM SEAL SPACER



**FIGURE 3:** TRIM CANOPY FOAM

Place duct tape along the upper edge of the F-01270-L-1 & -R-1 Fuselage Side Skins from the firewall to approximately 24 to 30 in. [61-76 cm] aft of the firewall. See Figure 1 call-out for thickness.

Remove the three most forward screws on each side as called out in Figure 1.

Lower the canopy.

Mark an offset reference line onto the F-01270-L-1 & -R-1 parallel to the bottom of the canopy skirt to be used for establishing the trim line on the cured fiberglass. See the Figure 1 call-out.

**Step 3:** Place duct tape per the call-out to the side edges of

the F-01240-1 Upper Forward Fuselage Skin as shown in Figure 1. Mask-off the remaining area of the upper forward fuselage skin using masking tape and newsprint or butcher paper.

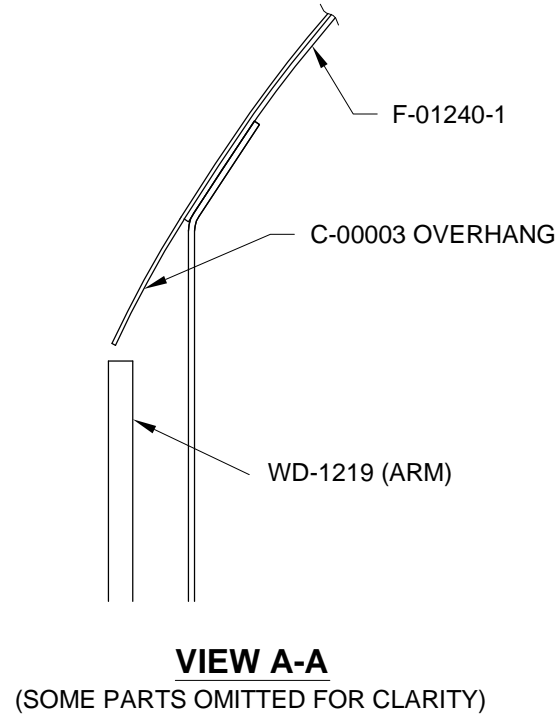
**Step 4:** Trim each C-1208 Canopy Foam as shown in Figure 3.

**Step 5:** Position the trimmed C-1208 Canopy Foam in place on the canopy frame as shown in Figure 4.

Push each canopy foam aft against the forward edge of the C-1202 Canopy Skirts so that the canopy skirts crush the canopy foam to a depth of approximately 1/32 in. [.8 mm].

Push each canopy foam inboard against the head of the AN4 bolt that the canopy frame pivots on so that the bolt head crushes the canopy foam to a depth of approximately 1/32 in. [.8 mm].

Using a Sharpie (fine tip permanent marker) pen, trace the



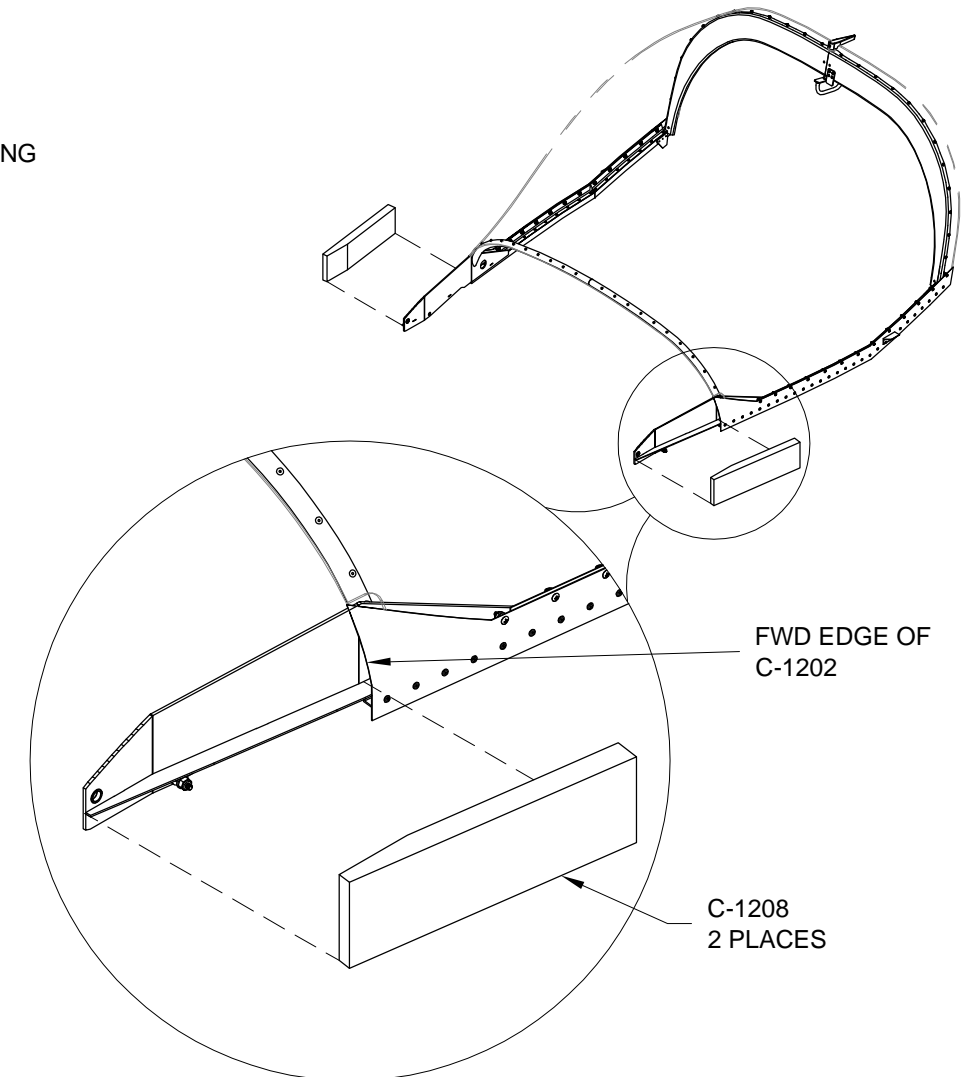
shape of the upper forward fuselage onto the inboard side of each canopy foam.

Remove the canopy foam and trim the upper edge to the sharpie mark. Use a hack-saw blade. Using a unibit, drill a 7/8 diameter hole through the canopy foam at the center of the mark made by the AN4 bolt head.

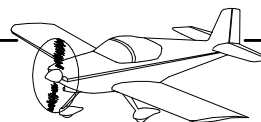
Use a piece of 80 to 100 grit sandpaper to scuff the surface of the canopy frame where the canopy foam will be in contact. Scuff so that the gloss is removed from the entire aluminum surface.

Glue the canopy foam to the canopy frame using epoxy thickened with flox. Flox should be added to the resin until the mixture is just thick enough that it won't pour when the mixing cup is tipped.

Spread a thin (approx. 1/16 in. [1.6 mm]) layer of thickened epoxy on the mating surface of the foam. Achieve a good bond between the canopy foam and canopy frame but use care so as not to get any epoxy/flox mixture on the pivot bolt or washers.



**FIGURE 4:**  
CANOPY FOAM INSTALLATION



**Step 1:** Using a 15 to 18 in. [38 to 46 cm] long by 3 in. [76.2 mm] wide sanding block with 80 grit sandpaper, shape the C-1208 Canopy Foam to match the contours of the forward fuselage. Use the sanding block held in an approximately fwd/aft direction guiding on the fuselage structure to achieve the desired shape.

**Step 2:** Cut out the CANOPY MASKING GUIDE & GLASS FABRIC PLY TEMPLATES. (These are supplied full scale on a separate 24 X 36 in. [61.0 X 91.4 cm] drawing.) Using several small pieces of masking tape align both right and left side templates to the canopy and tape in place.

**Step 3:** Place a strip of good quality electrical tape on the canopy closely following the edge of the paper templates. Use tape to bridge between the right and left templates following the line established by the templates. When bridging between right and left sides, project the line from the template on one side across the center of the canopy to match the line from the template on the other side.

Carefully remove the templates and set them aside to be used in the next step.

Place a second layer of electrical tape on top of the first layer. Mask-off the entire canopy above and aft of the double layer of electrical tape.

**Step 4:** Cut ten plies (two each of ply #1 through #5 as called out on the CANOPY MASKING GUIDE & GLASS FABRIC PLY TEMPLATE) from 9 oz./square yard [305 g/sq. m], plain weave E-Glass fabric. Use a rotary cutter on a smooth, relatively soft surface when cutting (the finished side of the crate your kit was delivered in makes a good surface for the rotary cutter). Cut the plies to the size and shape defined on the template. The templates will not be used again, so it is acceptable to cut the template down as you are cutting the plies.

Arrange the cut plies into two neat sequential stacks with ply #5 at the bottom of each.

**Step 5:** Sand the exposed canopy with 60 to 80 grit sandpaper. Sand the canopy skirt where glass fabric will be bonded. Use extra care to be sure that there are no shiny or glossy areas anywhere on the canopy or canopy skirts that will have glass fabric bonded to them. There must be NO visible shiny or glossy spots on any of the surfaces. Brush away (with a new paint brush) or gently blow away (using compressed air) all the sanding dust and other shop debris.

Place mylar packaging tape over the duct tape strips that are protecting the F-01240-1 Upper Forward Fuselage Skin as well as the tape over the spacer.

Apply a light coating of wax to the surface of the mylar tape. Use great care to not get wax on any surface that the glass fabric bonds to.

**NOTE: The remaining steps on this page should be completed in a single work session, so you will need to budget approximately four hours of uninterrupted work time before moving forward.**

**Step 6:** Cut away the thin edges of the C-1208 Canopy Foam along the upper edge until there is a "shelf" approximately 1/8 in. [3.2 mm] wide.

Mix epoxy and thicken with floc to create a paste and fill the just created gaps with the thickened resin mixture. See Figure 1 and Page 39iS/U-14, Figure 2.

**Step 7:** Place a piece (or pieces) of plastic food wrap on your work table. Place ply #1 on the plastic wrap and wet it out with epoxy. Use bondo squeegee to ensure that fabric is wetted with epoxy but not excessively so.

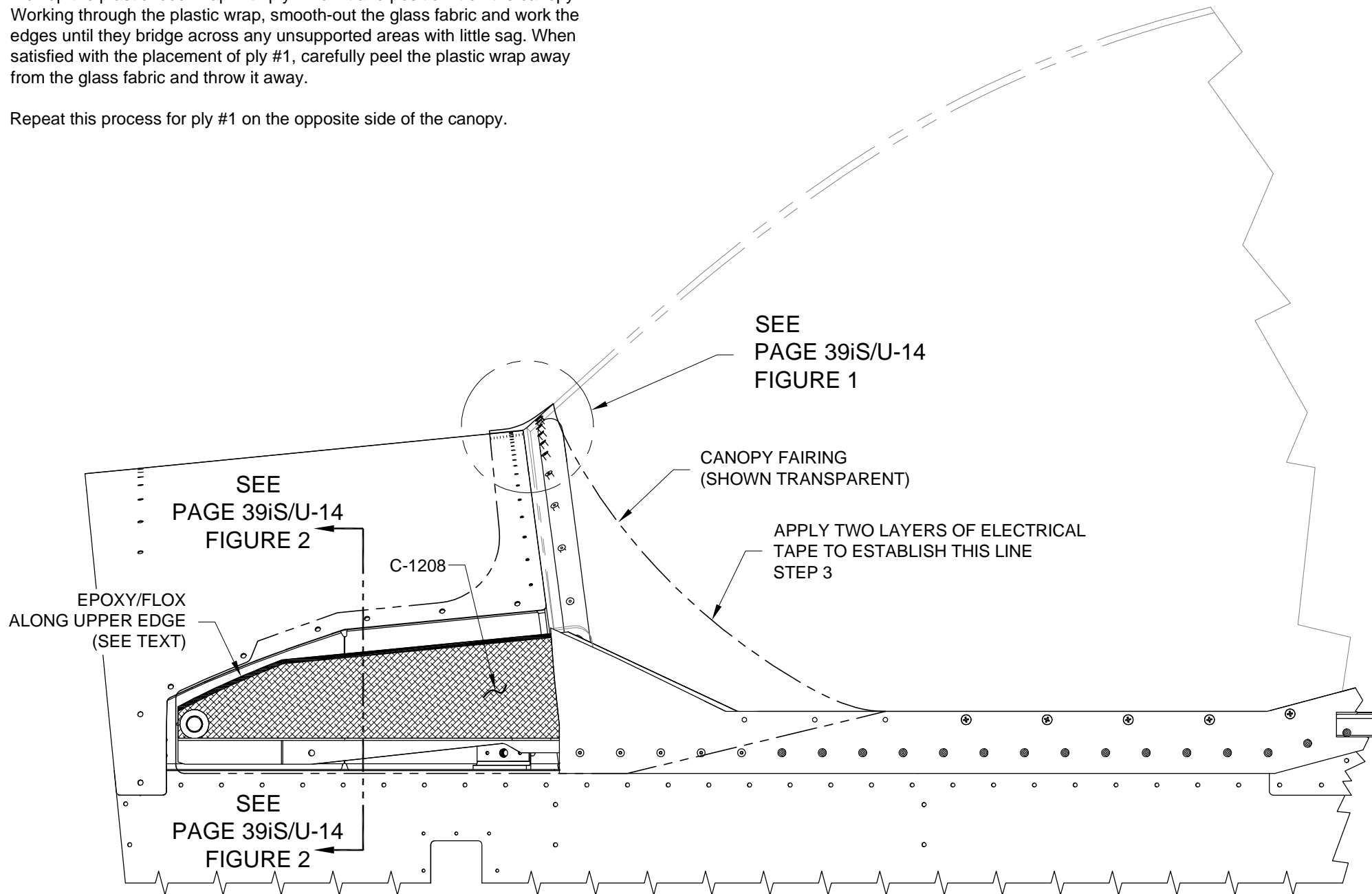
Brush a coat of epoxy on the porous outer surface of the final-shaped canopy foam as well as on the surfaces of the canopy and canopy skirts that will have glass fabric bonded to them.

Pick up the plastic food wrap with ply #1 on it and position it on the canopy. Working through the plastic wrap, smooth-out the glass fabric and work the edges until they bridge across any unsupported areas with little sag. When satisfied with the placement of ply #1, carefully peel the plastic wrap away from the glass fabric and throw it away.

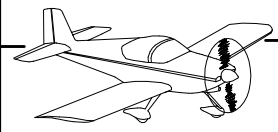
Repeat this process for ply #1 on the opposite side of the canopy.

**Step 8:** Allow resin to cure to the point that it is beginning to gel, but is still tacky. While the epoxy for ply #1 is still uncured, place ply #2 (dry) in place on the canopy and wet it out with epoxy resin. Use care while wetting-out the ply #2 fabric so as not to disturb the placement of ply #1. Place and wet-out ply #2 on the opposite side of the canopy.

Continue placing successive plies until ply #5 has been placed and wetted-out on both sides of the canopy. While still wet, cover the entire lay-up with peel ply (if desired) to minimize sanding before the next portion of the canopy fairing is layed-up. The peel ply should fully wet-out with resin when applied. It will easily pull-off after the resin is cured.



**FIGURE 1: GLASS FABRIC CANOPY FAIRING LAY-UP**



Width	mm	Qty	Figure 1 Ply #
2 3/4	[69.9]	1	1
2 1/2	[63.5]	2	2, 12
2 1/4	[57.2]	1	13
2	[50.8]	1	3
3/4	[19.1]	2	5, 9
1/2	[12.7]	3	4, 6, 10
3/8	[9.5]	2	7, 11
1/4	[6.4]	1	8

**TABLE 1: LAY-UP SCHEDULE**

**Step 1:** Cut strips of glass fabric that are 36 in. [91.4 cm] long with quantities and widths as listed in Table 1.

Use a rotary cutter along with a long straight edge when cutting these long skinny strips. Arrange the cut plies into a neat sequential stack with ply #13 at the bottom.

**NOTE:** The next step on this page should be completed in a single work session, so you will need to budget approximately three hours of uninterrupted work time before moving forward. Exact ply placement and number can be adjusted to provide the best smooth transitional shape.

**Step 2:** Remove the peel ply (if used) from the previous lay-ups. If peel ply was not used, sand the most inboard three inches of the previous lay-up with 60 to 80 grit sandpaper. Use extra care to be sure that there are no un-sanded areas anywhere on the previous lay-up that will have glass fabric bonded to them. Brush away (with a new paint brush) or gently blow away (using compressed air) all the sanding dust and other shop debris.

**Step 3:** Place a piece of plastic food wrap on your work table. Place ply #1 on the plastic wrap and wet it out with epoxy. Use a bondo squeegee to ensure that the glass fabric is wetted with epoxy but not excessively so.

Brush a coat of epoxy on the surfaces of the canopy and previous lay-ups that will have glass fabric bonded to them.

Pick up the plastic food wrap with ply #1 on it and position it on the canopy. Place the edge of ply #1 against the edge of the electrical tape. Place the end of ply #1 such that it overlaps the previous lay-up by approximately 1/2 in. [12.7 mm]. Working through the plastic wrap, smooth-out the glass fabric and work the edges until they bridge across the unsupported areas with little sag. When satisfied with the placement of ply #1, carefully peel the plastic wrap away from the glass fabric and throw it away.

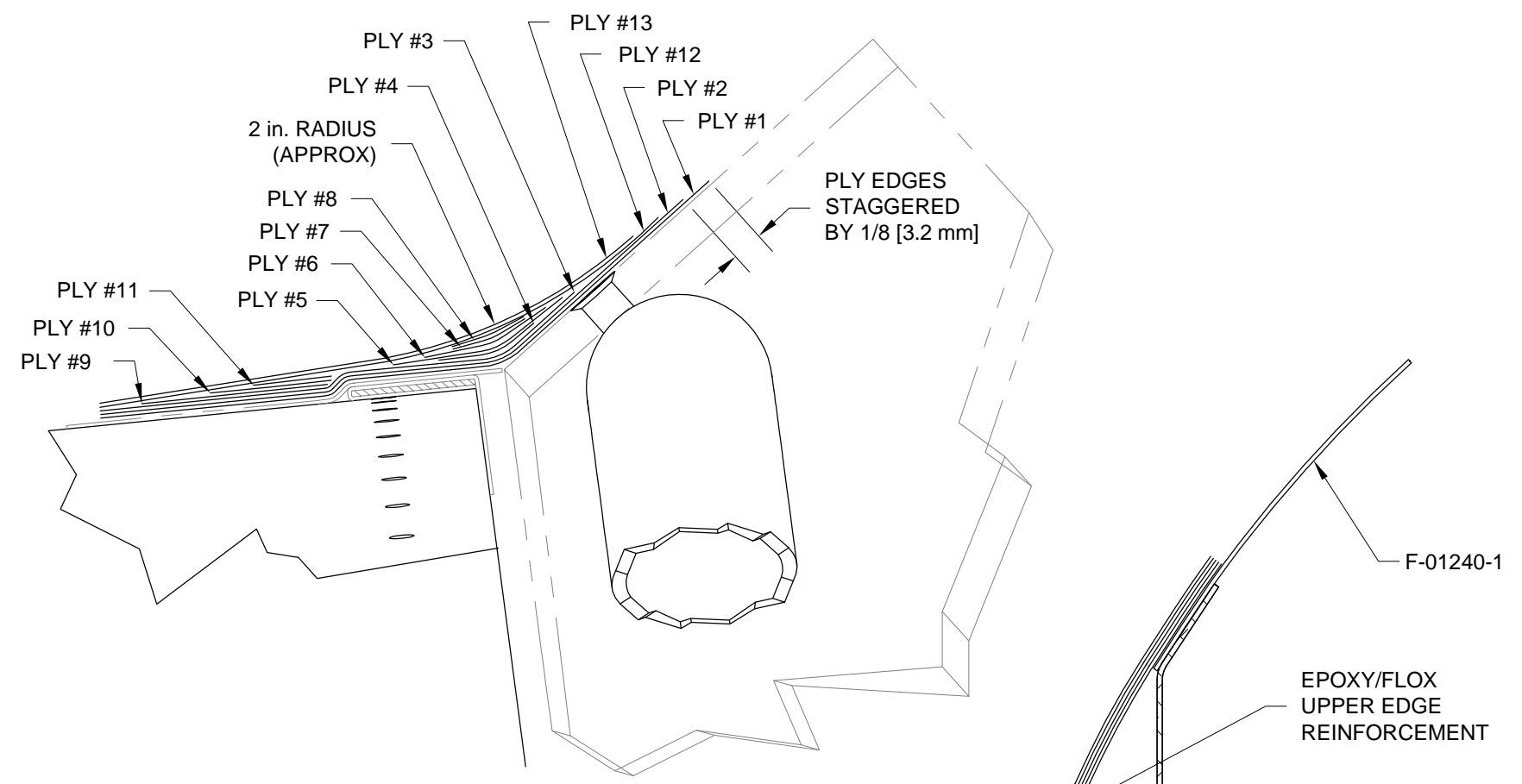
Work from one side across to the other and trim the ply to achieve 1/2 in. [12.7 mm] overlap "in-place" as the last few inches are layed down.

**Step 4:** Allow resin to cure to the point that it is beginning to gel, but is still tacky. With the epoxy for ply #1 still uncured, place ply #2 (dry) in place on the canopy and wet it out with epoxy resin. Place the edge of ply #2 1/8 in. [3.2 mm] below the edge of ply #1 as shown in Figure 1. Place the end of ply #2 such that it overlaps the end of ply #1 by approximately 1/2 in. [12.7 mm]. Use care while wetting-out the ply #2 fabric so as not to disturb the placement of ply #1. Trim the other end to achieve 1/2 in. [12.7 mm] overlap.

Continue placing successive plies until ply #13 has been placed and wetted-out. Place the edges of the plies as shown in Figure 1. Stagger the ends of the various plies so that the thickness of the new lay-up transitions smoothly into the previous lay-ups thus preventing "lumps" that make final finishing more difficult.

**Step 5:** Allow everything to cure for a day or so before beginning the finishing process. Start with 60 to 80 grit sandpaper on a flat sanding block for the sides and use a round (approximately 2 in. [50.8 mm] radius) sanding block for the center. This will get you quickly to the general shape, but be careful to not get into the electrical tape that is protecting the canopy.

When you get down near the tape, switch to about 80 to 100 grit sandpaper and work very carefully until you are just contacting the tape and the canopy skirt metal on the edges of the lay-up.



**FIGURE 1: CANOPY FAIRING CENTER PORTION LAY-UP DETAIL**

If you sand through the first layer of electrical tape, the second one should protect the canopy if you are watching carefully.

In areas where the edges of the lay-up don't bond onto the canopy or canopy skirt, it is only necessary to finish the surface to within approximately 1/4 in. [6.4 mm] of the edge of the lay-up.

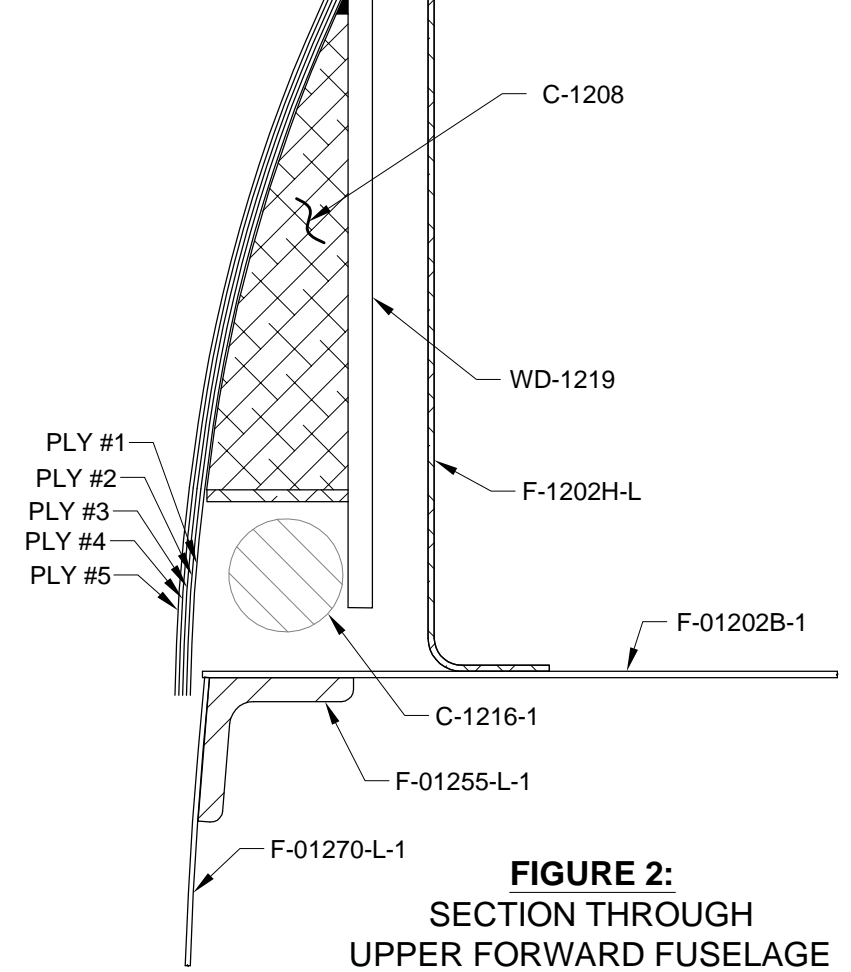
Remove the top layer of electrical tape (leaving only the first layer to protect the canopy) and sand carefully using 150 grit sandpaper until you just start to see sanding marks in the tape.

Brush on a heavy coat of epoxy overlapping the epoxy onto the tape and let harden.

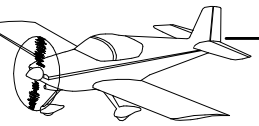
Sand again with 100 grit sandpaper then 150 grit sandpaper.

If there are any areas that need filling you can fill them now by scuffing with 60 grit sandpaper and filling with a dry mix of epoxy and microballoons.

The goal is to have a lay-up with the outer surface being a build-up of two or three coats of epoxy that has been finish sanded to final shape with the epoxy blending onto the canopy being the thickness of the electrical tape (or less). The epoxy/glass fabric lay-up that covers the forward portion of the C-1202 Canopy Skirts should blend to zero thickness seamlessly onto the metal. The final blending of the lay-up into the metal may require a couple of wet sanded applications of a filler primer to blend it out entirely.



**FIGURE 2: SECTION THROUGH UPPER FORWARD FUSELAGE AND CANOPY FRAME**



Step 1: Draw a trim line onto the surface of the cured fiberglass lay-up that is parallel to the offset reference line drawn onto the side of the fuselage earlier and that is collinear to the lower edge of the C-1202 Canopy Skirt. See Page 39iS/U-12 Figure 1.

Step 2: Drill a 3/8 diameter hole through the glass fabric lay-up at the location of the canopy pivot bolt centers. Carefully enlarge the holes to 13/16 in. [20.6 mm] using a file or coarse sandpaper wrapped around a drill bit.

With the canopy pivot bolts now accessible remove the bolts and then remove the canopy. Remove the tape protecting the upper forward fuselage and fuselage side skins.

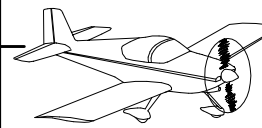
Step 3: Re-drill the three holes on each side where screws were removed and re-install the screws, washers and nuts.

Trim the lower edges (the edges that slightly overlap the F-01270-L-1 & -R-1 Fuselage Side Skins) of the glass fabric lay-up along the line drawn in Step 1.

Step 4: Cut out the CANOPY LAY-UP TRIM TEMPLATE. (This is supplied full scale on a separate 24 X 36 in. [61.0 X 91.4 cm] drawing.) Using several small pieces of masking tape, align the template to the canopy and tape in place. Mark the trim line on the glass fabric lay-up using the template as a guide. ( Page 39iS/U-13, Figure 1 also depicts the final-trim of the glass fabric lay-up.) Remove the template and use it to mark the opposite side of the canopy. Trim the glass fabric lay-up to the trim lines. Finish sand the trimmed edges.

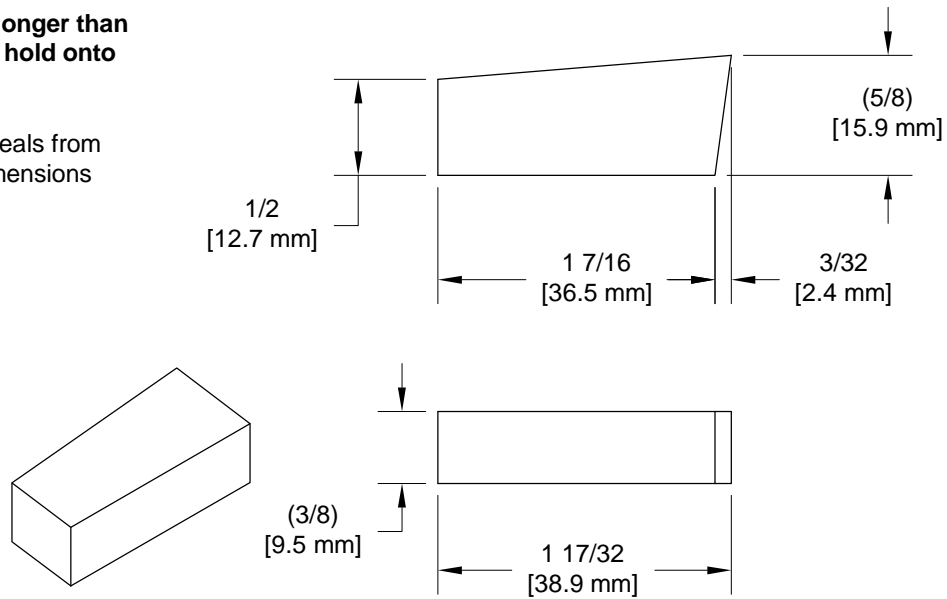
Step 5: Reinstall the struts then place the canopy back on the fuselage and re-install the pivot bolts. Carefully pivot the canopy up while observing the relationship of the forward edges of the glass fabric lay-up and the upper forward fuselage. If there is any impending interference, stop moving the canopy and mark where the glass fabric lay-up needs to be trimmed to clear the fuselage as it pivots up. Remove the canopy and trim as required. Repeat this process until the canopy can be fully opened without any interference between the glass fabric lay-up and the fuselage.

Step 6: Brush-coat with epoxy the exposed areas of the C-1208 Canopy Foam inside the pivot bolt cavities and along the front edge of the canopy foam where the glass fabric lay-up does not cover it. This will seal the foam and make it more durable. The epoxy may be thickened with flox if needed to fill gaps or cavities. Finish sand these areas as desired. Repetition of the brush coat may be necessary after finish sanding.



**NOTE: The Base Seal is intended to be cut longer than necessary in order to provide something to hold onto while installing.**

Step 1: Fabricate the F-00059A-L & -R Base Seals from SEAL-00003 Foam PVC .375X.625 per the dimensions shown in Figure 1.



**FIGURE 1: FABRICATE BASE SEAL**  
LEFT SHOWN - RIGHT OPPOSITE

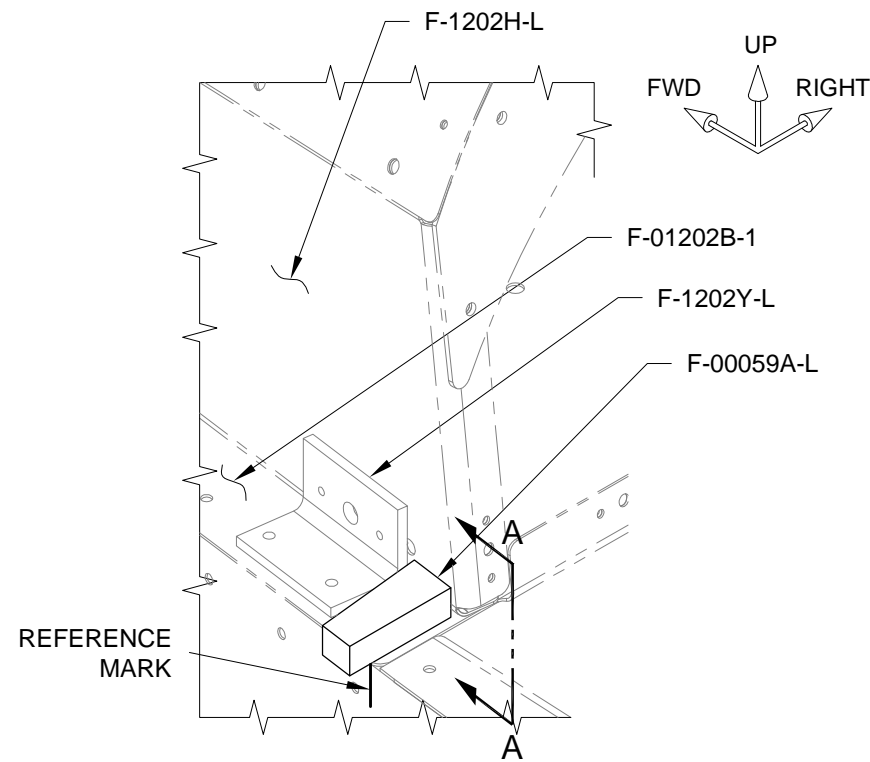
**NOTE: Delay final installation of seals attached to painted surfaces until 5-7 days after painting is complete.**

Step 2: Trim the lower inboard corner of the F-00059A-L Base Seal where it would interfere with the fillet of sealant at the bottom of the F-1202H-L Canopy Rib as shown in Figure 2, View A-A.

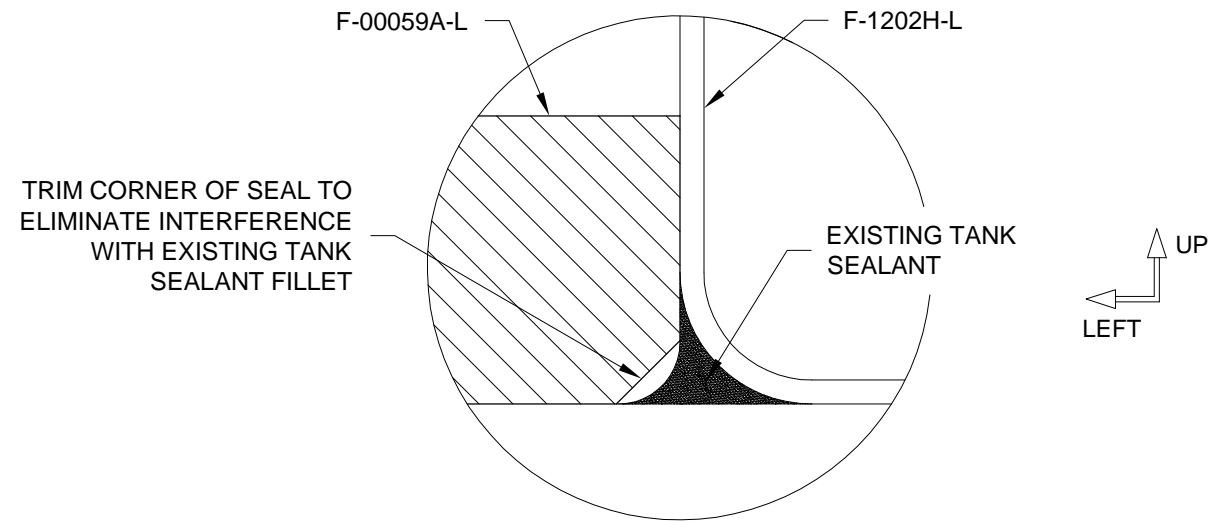
Step 3: Temporarily position the base seal onto the F-01202B-1 Panel Base with the seal's aft inboard corner aligned with the beginning of the bend in F-1202H-L Canopy Rib and the inboard face of the seal butted up against the canopy rib. See Figure 2.

Step 4: Place a reference mark on the fuselage side skin as shown. Set aside the base seal for now.

Step 5: Repeat Steps 2-5 for the F-00059A-R Base Seal.

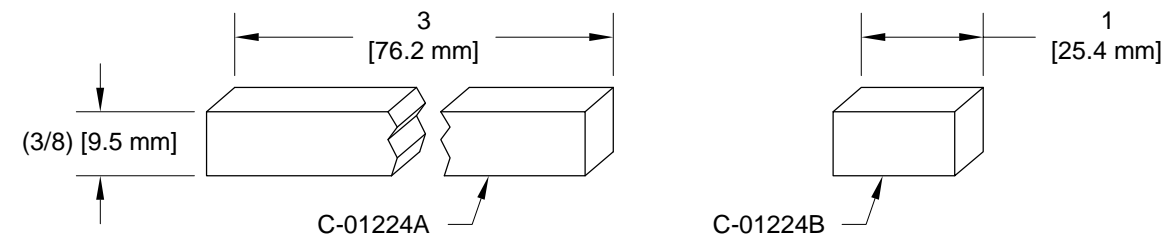


**FIGURE 2: PREPARE BASE SEALS**



**VIEW A-A:**  
**BASE SEAL ATTACHMENT**  
(SEAL SHOWN TRIMMED)

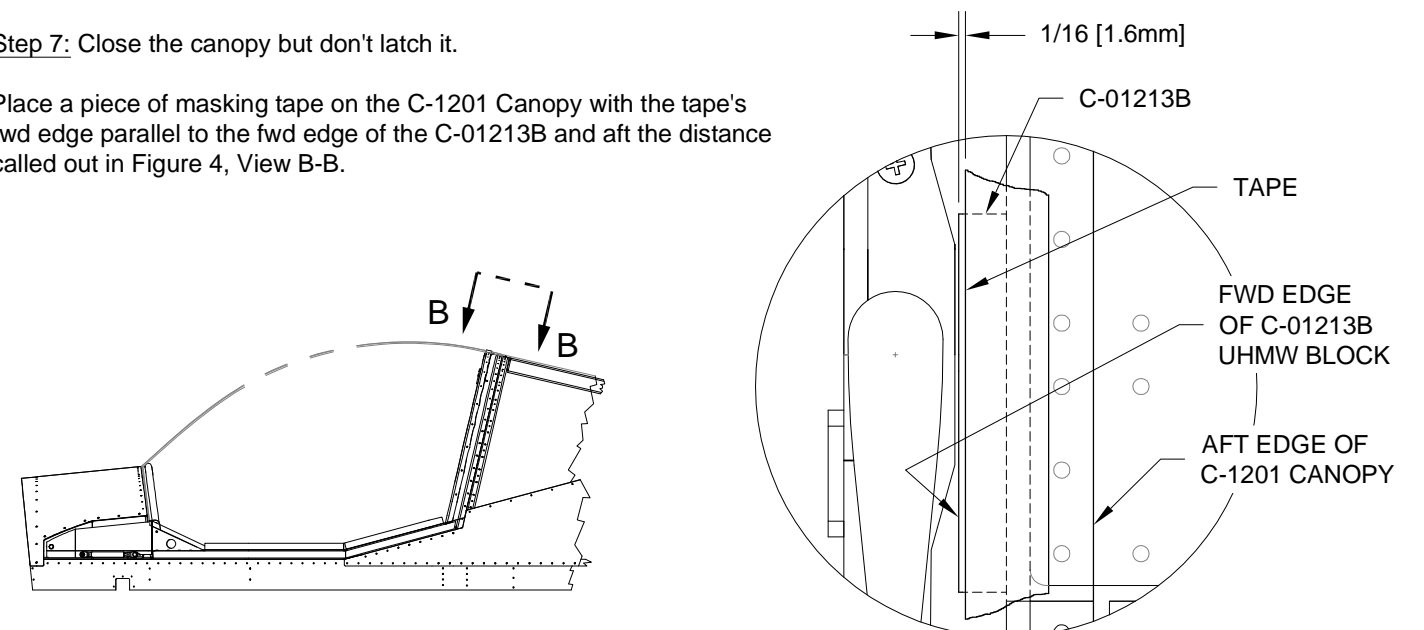
Step 6: Fabricate one C-01224A and two C-01224B Latch Seals from SEAL-00003 FOAM PVC .375X.625 per Figure 3.



**FIGURE 3: FABRICATE LATCH SEALS**

Step 7: Close the canopy but don't latch it.

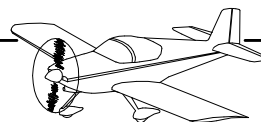
Place a piece of masking tape on the C-1201 Canopy with the tape's fwd edge parallel to the fwd edge of the C-01213B and aft the distance called out in Figure 4, View B-B.



**FIGURE 4:**  
**INDEX CENTER LATCH SEAL AFT EDGE**

**VIEW B-B**





**NOTE: Check for fit before priming or painting the C-01221-L/R Seal Retainers.**

**Step 1:** Place the SEAL-00002, C-01221-L & -R Seal Retainers, a 5/16 nut driver, Phillips screwdriver, straight-slot screwdriver with the end taped over, "Sharpie" pen, and C-1219 Foam Spacer (see Page 39iS/U-18 Section C-C) inside the cockpit and climb inside.

**Step 2:** With the canopy assembly open loosen the nuts attaching the C-1201 Canopy to the canopy frame enough to allow the retainers to slide in between the frame and the washers.

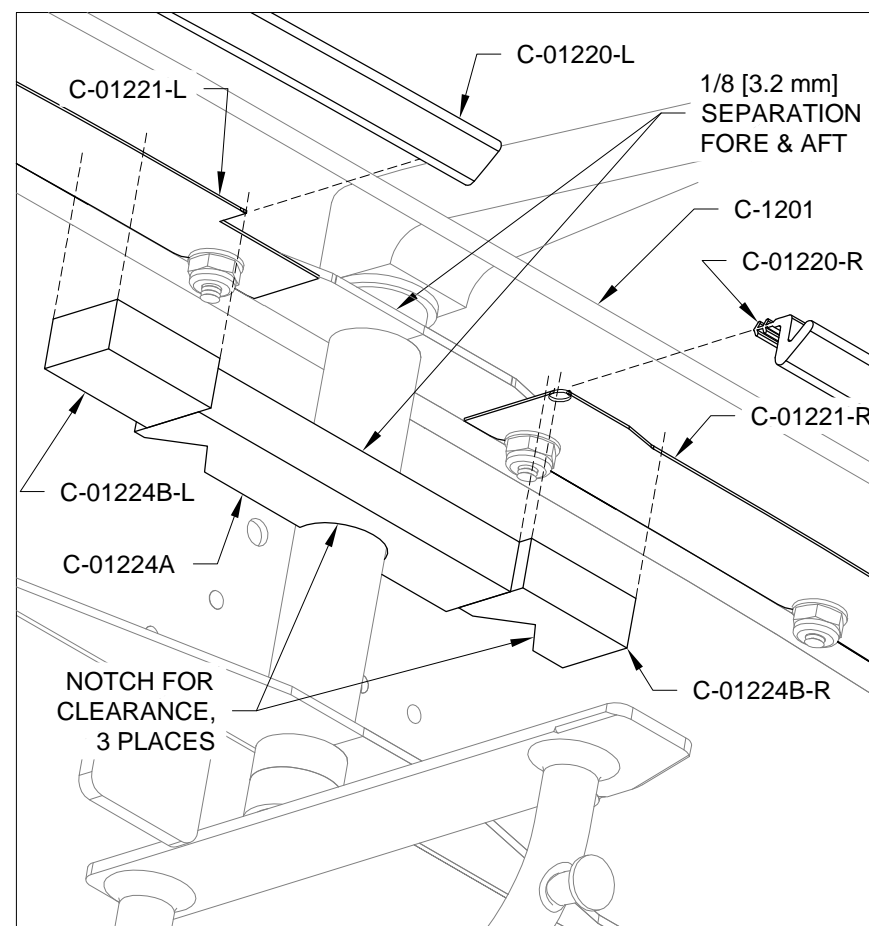
Install the C-01221-L & -R Seal Retainers as shown in Figure 1 and Figure 3, Section B-B.

Tighten the screws just enough to hold the retainers in place and still allow the retainers to be adjusted with the taped screwdriver.

**Step 3:** Push the end of the SEAL-00002 into the gap between the canopy and the seal retainer starting at the lower end of the left retainer. Match the end of the seal to the end of the retainer.

Push in the seal until reaching the upper end of the retainer then mark the seal at the end of the retainer. Pull out the last few inches of seal and cut with scissors at the mark. When cut, the seal is designated C-01220-L. Reinstall the C-01220-L and repeat this step for the right side (C-01220-R).

**Step 4:** Verify the seals are fully seated along the entire length of both seal retainers. See Section B-B.



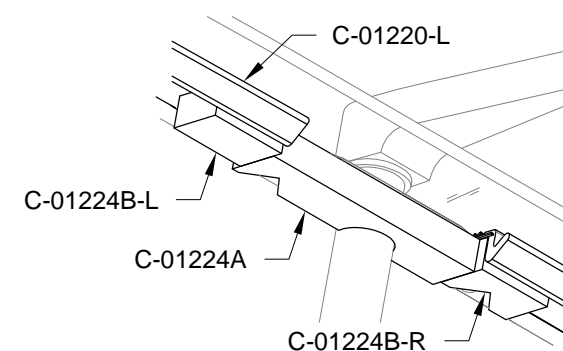
**FIGURE 1:**  
SEAL RETAINER & ROLL BAR SEAL INSTALLATION

**Step 5:** Close and latch the canopy with an assistant stationed on the wing walk and the Phillip's screwdriver in hand.

**NOTE: The assistant's job is to observe the seal gap from outside the canopy and tell the one on the inside which direction the seal retainer and seal should be moved and by how much.**

**Step 6:** Pry the seal retainer fwd or aft with the taped screwdriver to obtain the amount of seal-to-roll bar engagement called out in the Section B-B detail.

**NOTE: If the retainer is pushed fwd as far as it will go but the seal is tightly compressed, trim the aft edge of the retainer to relieve the seal. If the fwd edge of the retainer is riding the radius of the frame trim back the fwd edge of the retainer.**



**FIGURE 2:**  
COMPLETED SEAL INSTALLATION

**Step 7:** Mark the retainer before removal for an accurate reinstallation (fore and aft). Trim the retainer if necessary, deburr, prime, and paint if desired.

**NOTE: Do not over-tighten canopy attach screws, rather tighten just enough to prevent screws from turning freely.**

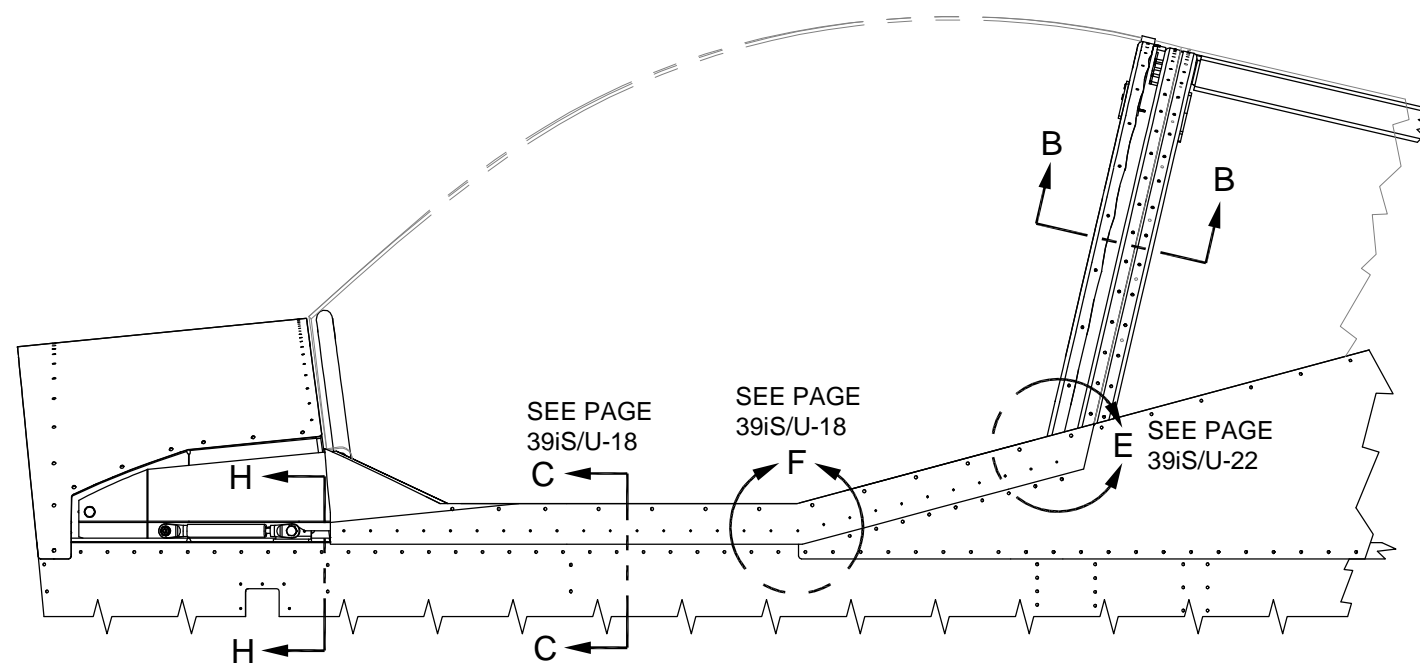
**Step 8:** Reinstall the retainers and the roll bar seals.

**Step 9:** Position the C-01224A Latch Seal laterally between the ends of the C-01220-L/R seals with the adhesive side up. Position it fore and aft so that its aft edge aligns with the fwd edge of the masking tape (See Page 39iS/U-16, View B-B).

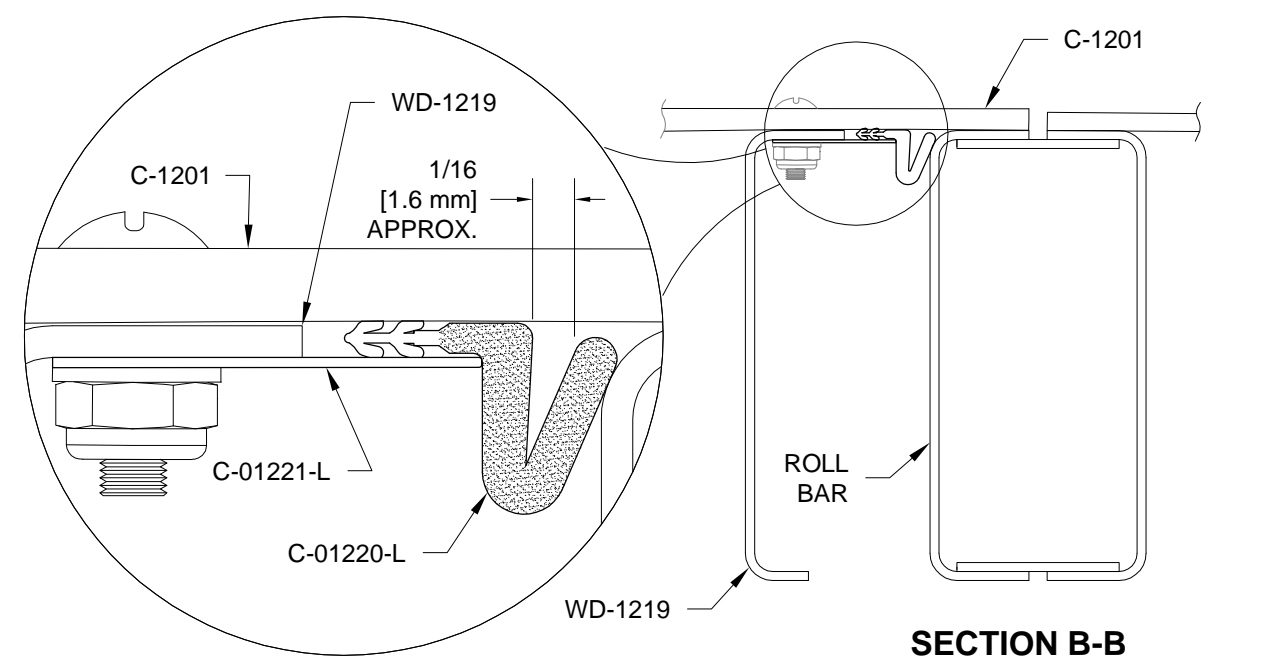
Mark where the C-01224A will need to be relieved to fit around the tube and the nut as shown in Figures 1 and 2. Cut notches into the seal then remove the paper backing and install the C-01224A onto the canopy frame flange and C-01221-L Retainer as shown in Figures 1 and 2.

Use the same process for the C-01224B-R, cutting a notch for clearance, then installing it to the C-01221-R retainer as shown in Figures 1 and 2. Butt the seal up to the end of the C-01224A latch seal and contact the fwd face of the C-01221-L roll bar seal to close the small transverse gap between the roll bar seal and the center latch seal.

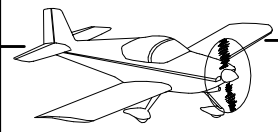
Install seal C-01224B-L to the C-01221-L Retainer in similar fashion to the C-01224B-R.



**FIGURE 3: LEFT SIDE VIEW**



**SECTION B-B**  
(VIEW ROTATED CCW; SOME PARTS OMITTED)



**NOTE:** Section C-C depicts the intended design gap between the WD-1219 Canopy Frame and the F-01234-L-1 Canopy Deck.

In some cases this gap may exceed the vertical capability of the C-1217B Side Seal which is about 1/4 in. [6.4 mm]. Compare Sections C-C and C'-C'.

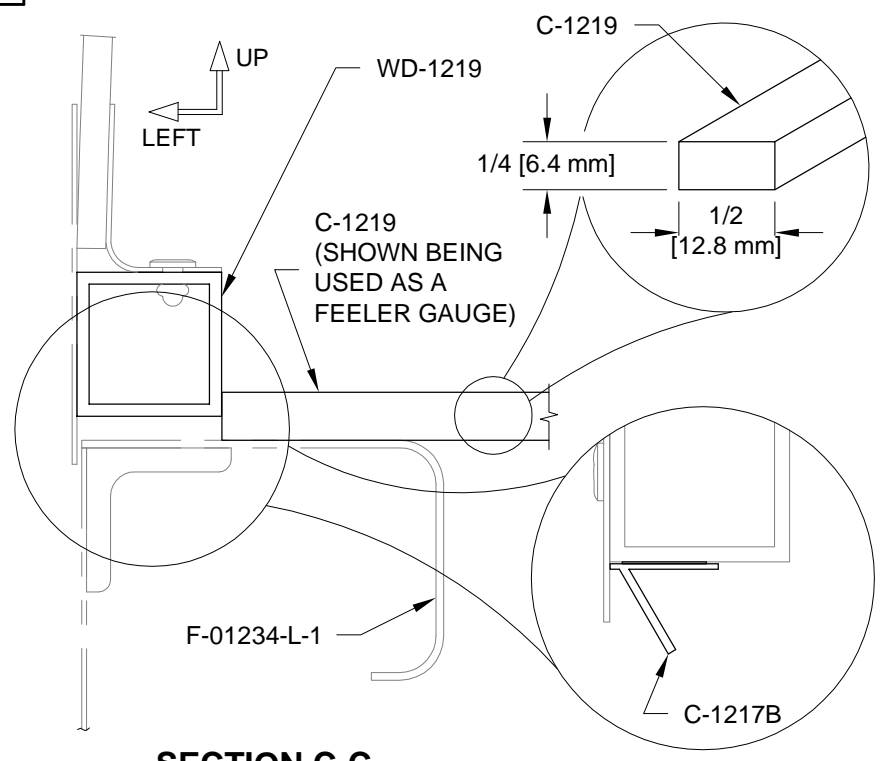
If necessary reduce this gap using the C-1219 Foam Spacer wherever the gap is large enough to allow it to slide in easily.

**Step 1:** From inside the cockpit, with the canopy closed and latched, attempt to slide the foam spacer into the gap between the WD-1219 Canopy Frame and F-01234-L-1 Canopy Deck, keeping in mind that the C-1217B Side Seal will also be attached later.

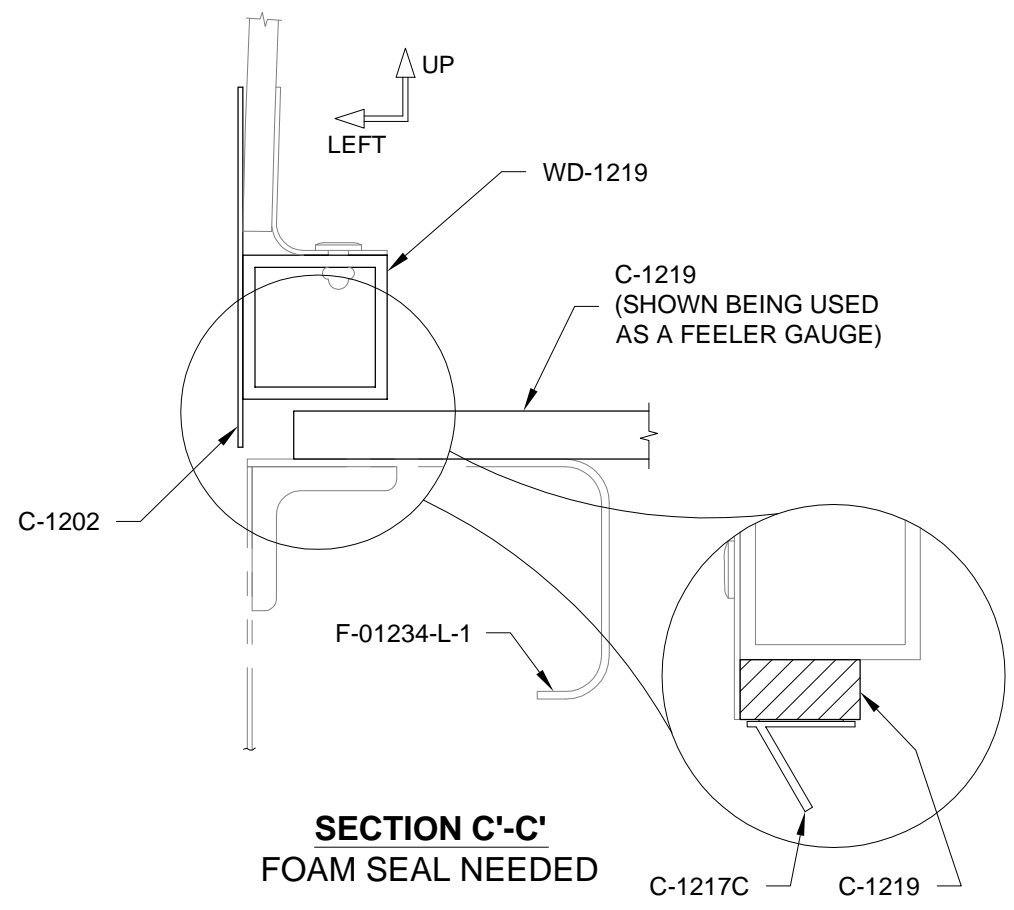
Mark the length of the canopy frame needing the foam spacer, if at all.

Repeat for the other side of the canopy.

**Step 2:** Clean the entire length of the underside of the square tubes.



**SECTION C-C**  
FOAM SEAL NOT NEEDED  
(SEE PAGE 39iS/U-17, FIGURE 3)

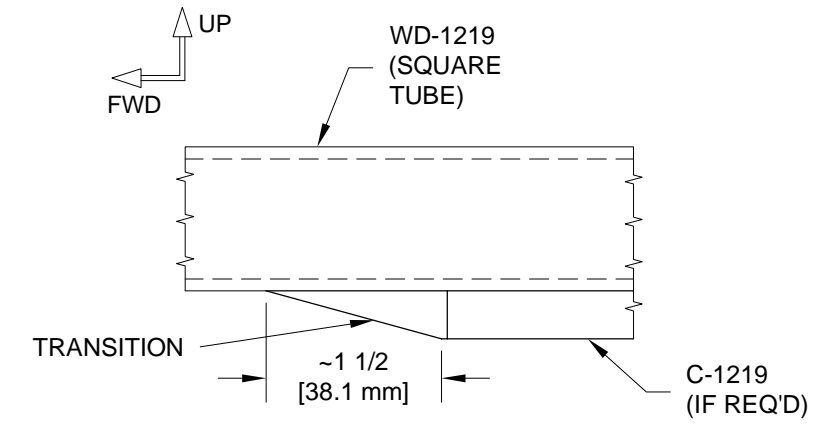


**SECTION C'-C'**  
FOAM SEAL NEEDED

**Step 3 (FOAM SPACER NOT NEEDED):** Skip to Step 4.

**NOTE:** If the C-1219 Foam Spacer is needed taper the end to provide a smoother transition for the side seal as it transitions from the square tube to the surface of the spacer. See Figure 1.

**Step 3 (FOAM SPACER NEEDED):** Apply the C-1219 Foam Spacer to the bottom of the square tube per the marks made in Step 1 and as shown in Section C'-C'.



**FIGURE 1: TRANSITION**  
(LEFT SIDE VIEW, C-1202 NOT SHOWN)

**Step 4:** Determine the starting point (fwd end) of the C-1217B Side Seal by transferring the reference mark made on Page 39iS/U-16, Figure 2 to the outer surface of the C-1202 Canopy Skirt, then to the inner surface of the skirt, and finally to the bottom of the square tube.

**NOTE:** When a continuous length of side seal is applied around the corner joint in the square tube the seal collapses somewhat and may leak. To prevent this a two-piece seal is used to provide enough material for an overlapping joint.

**Step 5:** Fabricate the C-1217B and C-1217C Side Seals from SEAL-00001 LEAF SIL .313X.438.

Measure the side seal length beginning from the mark (see Step 4) near the fwd end and extending aft to the corner joint. Add 1/4 in. [6.4 mm] for the overlap. Refer to this piece as the C-1217B Side Seal. See Detail F.

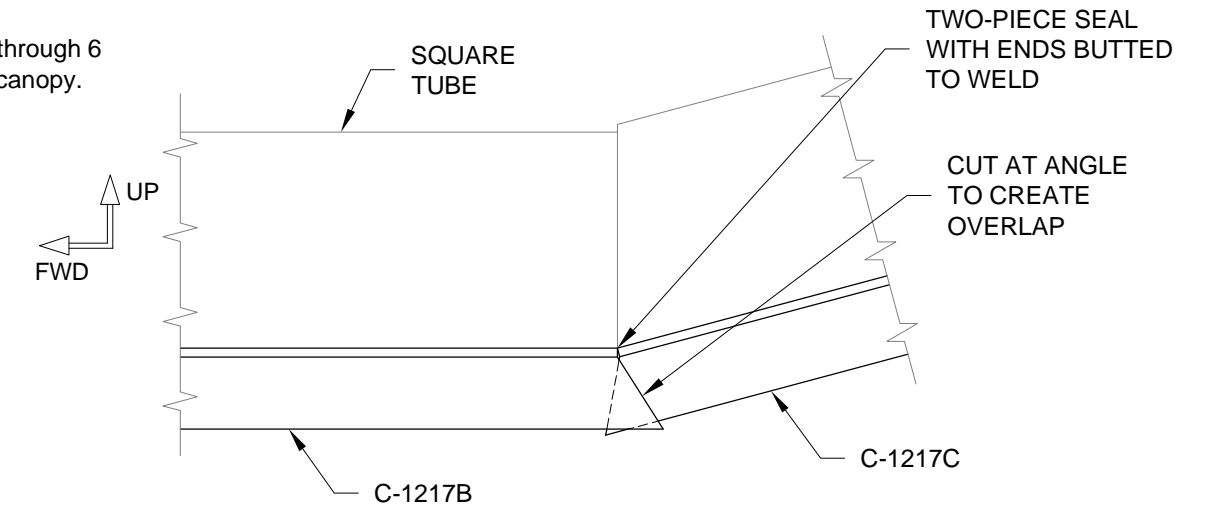
Attach the C-1217B Side Seal per the method described on Page 39iS/U-19, Steps 2-7.

Trim off only the C-1217B adhesive leg where it butts to the weld at the corner of the tube.

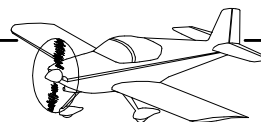
Trim the C-1217B's non-adhesive leg at the angle shown at the corner to fabricate the overlap.

**Step 6:** Repeat Step 5 for the C-1217C Side Seal, this time leaving 1/4 in. [6.4 mm] extra length forward of the tube corner.

**Step 7:** Repeat Steps 4 through 6 for the other side of the canopy.



**DETAIL F: OVERLAP AT SQUARE TUBE CORNER**  
(SOME PARTS OMITTED FOR CLARITY, SEE PAGE 39iS/U-17, FIGURE 3)



Step 1: Inspect the underside of the fiberglass lay-up where the C-1217A Fwd Seal will attach as shown in Figure 1, Section A-A. Remove any high spots that may prevent good adhesion.

**CAUTION: Mineral Spirits or other petroleum based cleaning products should NOT be used.**

Step 2: Clean the surface to which the fwd seal is to be attached with isopropyl (rubbing) alcohol. Let the surface dry completely.

**NOTE: The C-1217A Fwd Seal is intended to overlap the yet to be installed F-00059B Vertical Seal. See Page 39iS/U-21, Figure 1.**

Step 3: Measure the cut length of the seal. See Figure 2 to locate seal end points. Pre-cut the seal with about one in. extra from SEAL-00001 LEAF SIL .313X.438 material before installing.

**NOTE: Apply when temperature is between 50°F and 100°F. Do NOT stretch fwd seal as it can retract or shrink. Use very firm pressure when applying.**

**Adhesion takes delayed set. Immediate removal and resetting can be done if an error occurs in the initial placement. DO NOT reset after one hour.**

Step 4: Remove approximately 12 in. [30.5 cm] of paper backing from the adhesive strip.

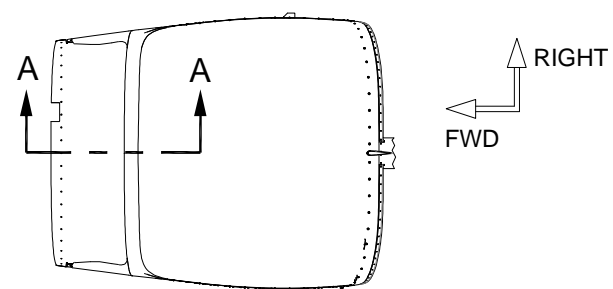
Step 5: Position the seal as shown in Section A-A and Figure 2, starting at one end and working toward the other.

Step 6: Remove the next 12 in. [30.5 cm] of paper backing and repeat until the entire length is installed. Trim the excess with a razor blade.

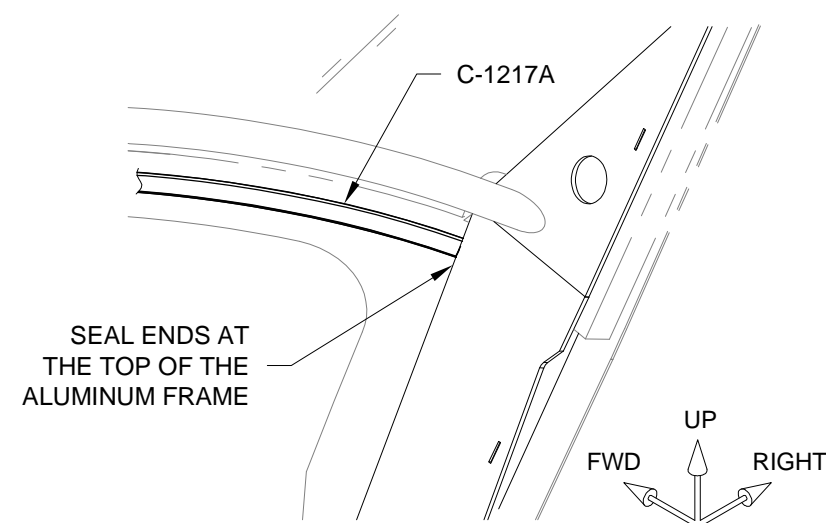
**NOTE: If available use a wallpaper seam roller or similar tool to reinforce adhesion after applying.**

Step 7: Once installed apply firm pressure along the entire surface of the seal to ensure proper adhesion.

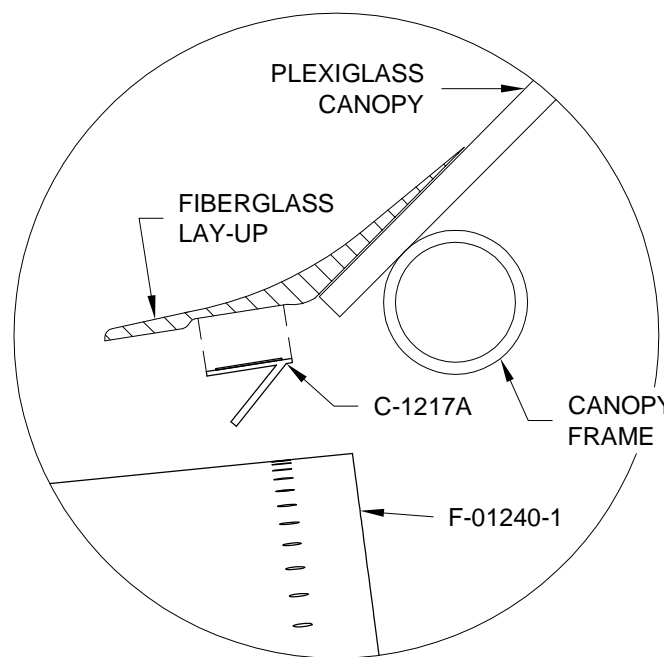
Double-check adhesion after 2-3 hours. Full set is reached in 24 hours.



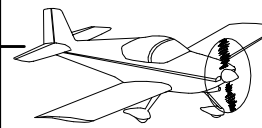
**FIGURE 1: CANOPY/FWD FUSE**  
TOP VIEW



**FIGURE 2: SEAL LOCATION**  
(OPEN CANOPY SHOWN)



**SECTION A-A: SEAL POSITION**  
OPEN CANOPY SHOWN



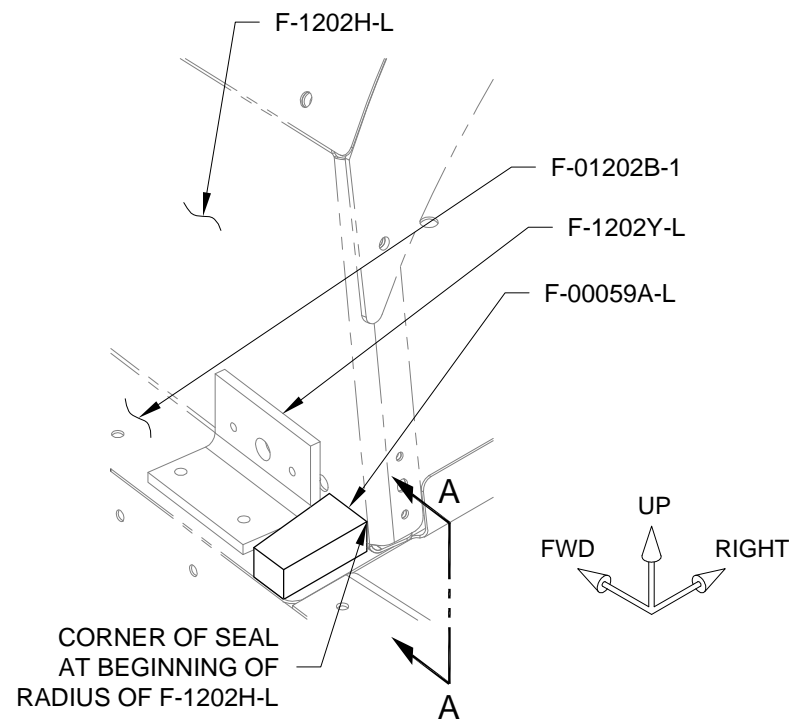
**Step 1:** Clean the painted surfaces where the foam seals will attach.

**Step 2:** Apply clear silicone adhesive per the call-out to the inboard end of the F-00059A-L Base Seal and to fill the gap at the inside corner.

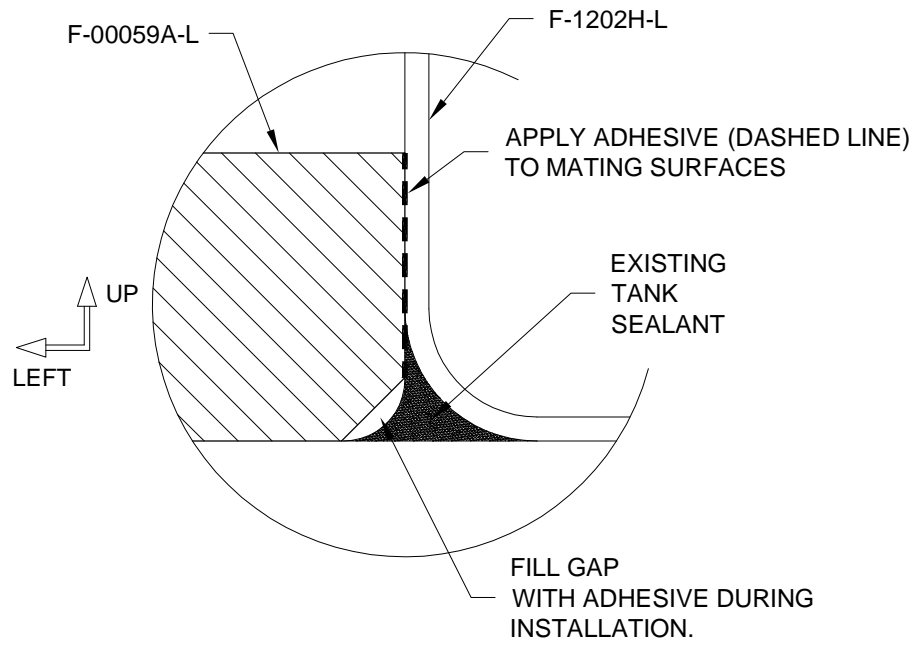
**Step 3:** Remove the base seal's paper backing and attach the seal to the F-01202B-1 Panel Base, butting it up to the F-1202H-L Canopy Rib as shown.

Apply firm pressure in order to create a good bond.

**Step 4:** Repeat Steps 1-3 for the F-00059A-R Base Seal.



**FIGURE 1:**  
ATTACH BASE SEAL  
(SEAL SHOWN TRIMMED)

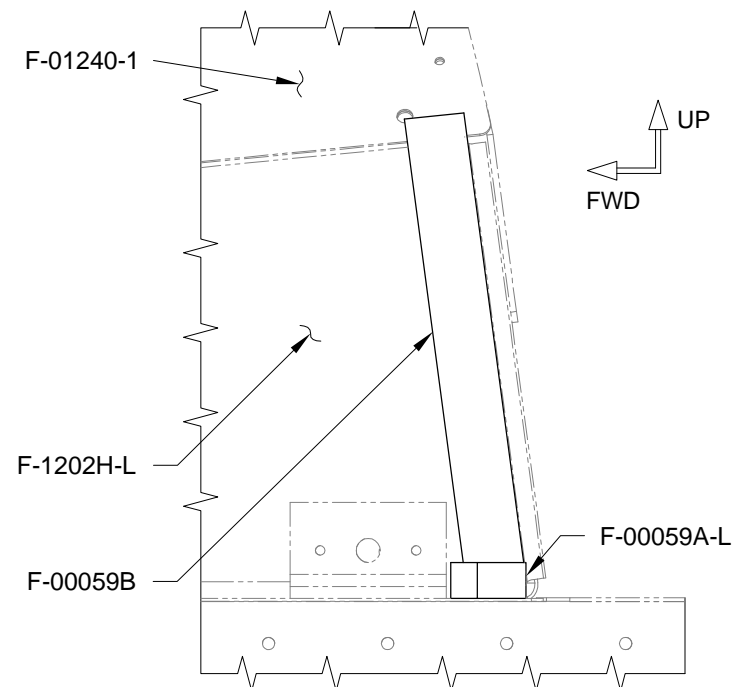


**VIEW A-A:**  
BASE SEAL ATTACHMENT  
(SEAL SHOWN TRIMMED)

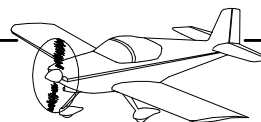
**Step 5:** Temporarily position the strip of SEAL-00003 Foam PVC .375X.625 material on top of the F-00059A-L Base Seal and against the F-1202H-L Canopy Rib.

Push on the seal where it coincides with the edge of the F-01240-1 Upper Forward Fuselage Skin to indent the paper backing.

Cut the seal about 1/4 in. [6.4 mm] above the indentation. The seal will be cut to final length after installation. Hereafter the seal will be referred to as the F-00059B Vertical Seal.



**FIGURE 2:** LEFT SIDE VIEW  
(SEAL SHOWN TRIMMED TO LENGTH)



**Step 1:** Apply a clear silicone adhesive to the lower end of the F-00059B Vertical Seal where the vertical seal will sit on top of the base seal. See Figure 1.

Remove the paper backing from the vertical seal.

**Step 2:** Attach the F-00059B Vertical Seal to the top of the F-00059A-L Base Seal then to the F-1202H-L Canopy Rib as shown in Figure 1.

Apply firm pressure to ensure a good bond.

Repeat Steps 1 and 2 for the right side of the fuselage.

**Step 3:** Allow the foam seals and silicone adhesive to cure for 48 hours before trimming the seal or closing the canopy.

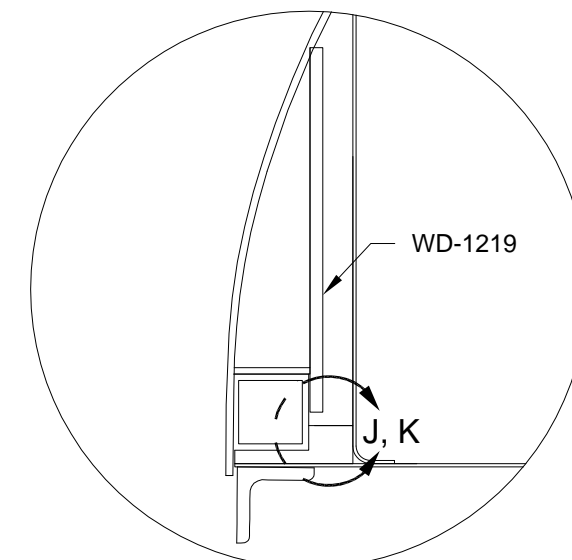
**Step 4:** After the sealant has had time to cure position a 1/16 in. [1.6 mm] spacer roughly tangent to the F-01240-1 Upper Forward Fuselage Skin surface. See View G-G.

Trim the upper end of the F-00059B Vertical Seal using a sharp razor blade atop the spacer.

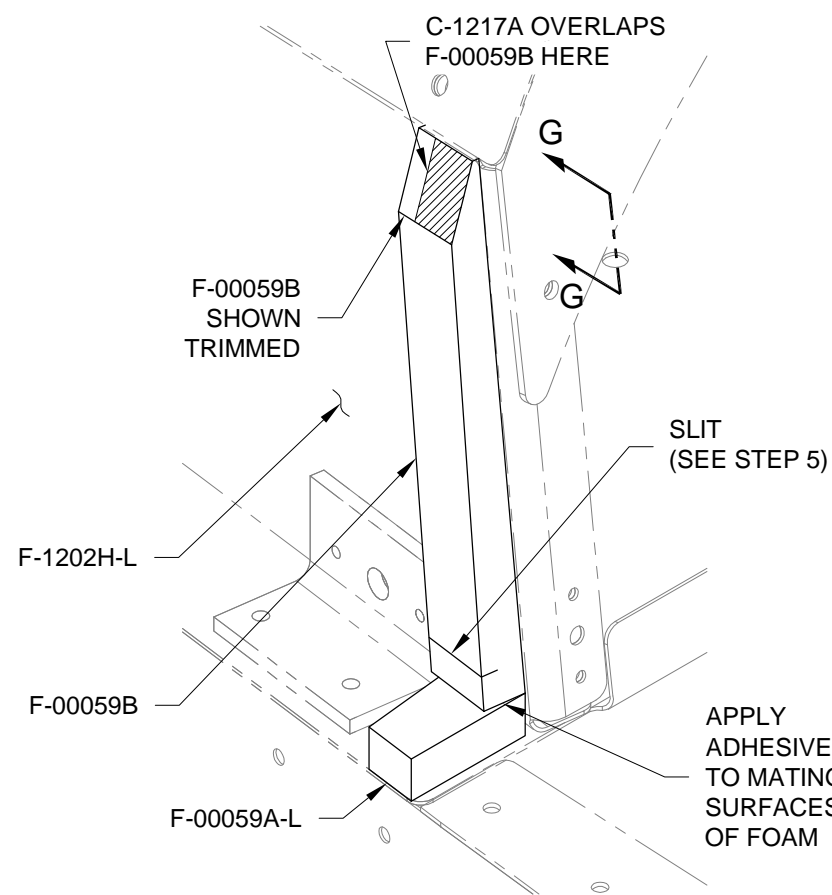
Trim the outboard end of the F-00059A-L & -R to be flush with the fuselage side skin.

**Step 5:** After seal adhesive has cured, close the canopy and mark the foam adjacent to the bottom of the .125 in. [3.2 mm] thick aluminum plate which is part of the WD-1219 Canopy Frame as shown in Section H-H, Detail J.

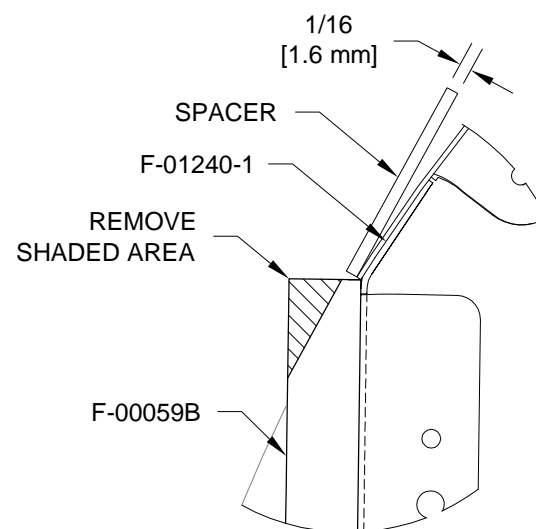
Open the canopy and slit the F-00059B Vertical Seal horizontally at the mark approximately 1/8 in. [3.2 mm] deep to allow the bottom of the vertical seal to remain at full thickness thereby filling the gap. See Details J and K and Figure 1.



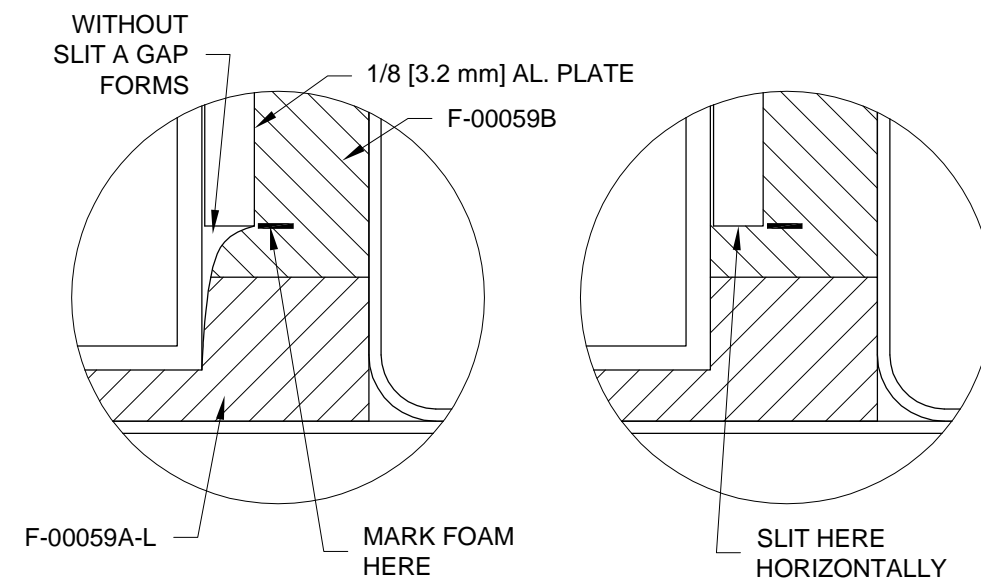
**SECTION H-H:**  
**SLIT FOAM SEAL**  
(SEE PAGE 39iS/U-17, FIGURE 3)



**FIGURE 1: ATTACH VERTICAL SEAL**



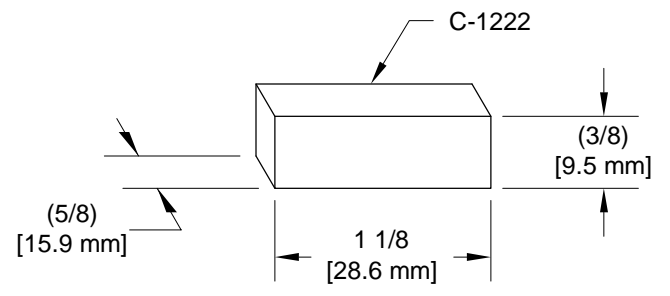
**VIEW G-G**  
(INSTRUMENT PANEL JIG NOT SHOWN)



**DETAIL J:**  
**GAP IN FOAM SEAL**

**DETAIL K:**  
**GAP CLOSED**

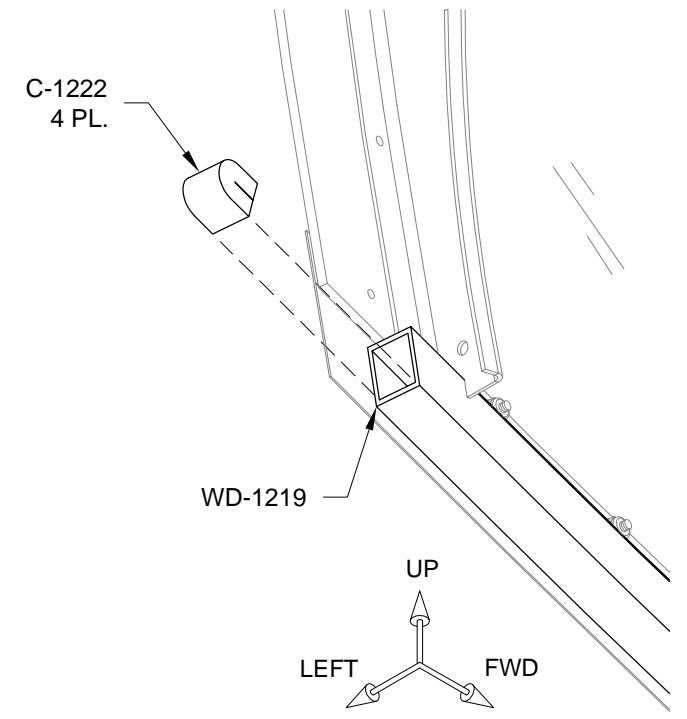
**Step 1:** Fabricate four C-1222 Foam Plugs from SEAL-00003 Foam PVC .375X.625 per the dimensions shown in Figure 1.



**FIGURE 1: FABRICATE FOAM PLUG**

**Step 2:** Remove the adhesive backing from the C-1222 Foam Plug. Double up the foam strip with the adhesive contacting itself to form a plug as shown in Detail E.

Install one foam plug into each of the forward and aft open ends of the WD-1219 Canopy Frame square tubes. Additional adhesive is not required.



**DETAIL E: INSTALL FOAM PLUG**  
(SEE PAGE 39iS/U-17, FIGURE 3)

**Step 3:** With the seals in place check the canopy latch operation.

The canopy latch was designed not only to secure the canopy in the closed position but to complete canopy seal compression. By design this operation requires a reasonable, but not excessive, amount of force.

From outside the cockpit lower the canopy and rotate the handle to the closed position. You should observe the roll bar seal compressing slightly against the roll bar as the handle is turned. If not, stop and move the roll bar seal aft. See Page 39iS/U-17 Section B-B.