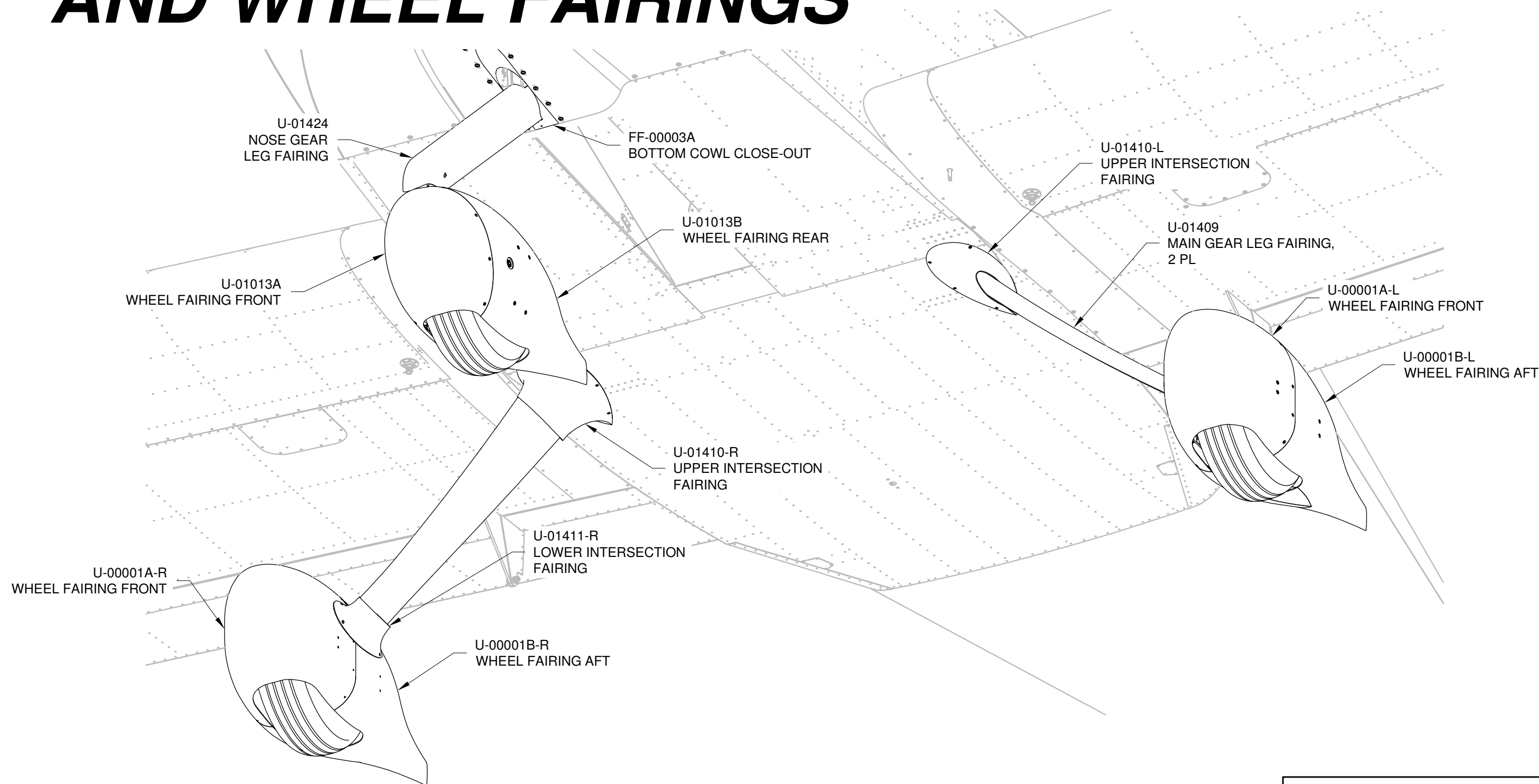
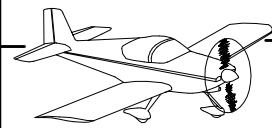


SECTION 46A: TRICYCLE GEAR LEG AND WHEEL FAIRINGS





NOTE: This section provides instruction for the installation of the left wheel only. The right side is a mirror of the left.

The fairings in this section must remain transparent to accomplish the installation. Do not sand or prime either side of the fairings until directed to do so or until installation is complete.

If the fairings are opaque, refer to Section 5.18 MATCH-DRILLING OPAQUE FIBERGLASS PARTS.

Due to the variations in fiberglass molds it is necessary to adjust the parts for the best fit.

Step 1: The U-00001A Wheel Fairing Front has been laid up so that there are overlapping layers of cloth along its centerline. The area of overlap is thicker than the rest of the fairing. Sand down this thicker area so that at least 3/4 inch [19.1 mm] of the aft edge of the wheel fairing front is the same thickness all along its length. See Figure 1 Detail.

Step 2: Trim the tire opening of the U-00001A Wheel Fairing Front to 1/16 [1.6 mm] from the scribe line with hand shears.

Finish to the scribe line using a sanding block. See Figure 1.

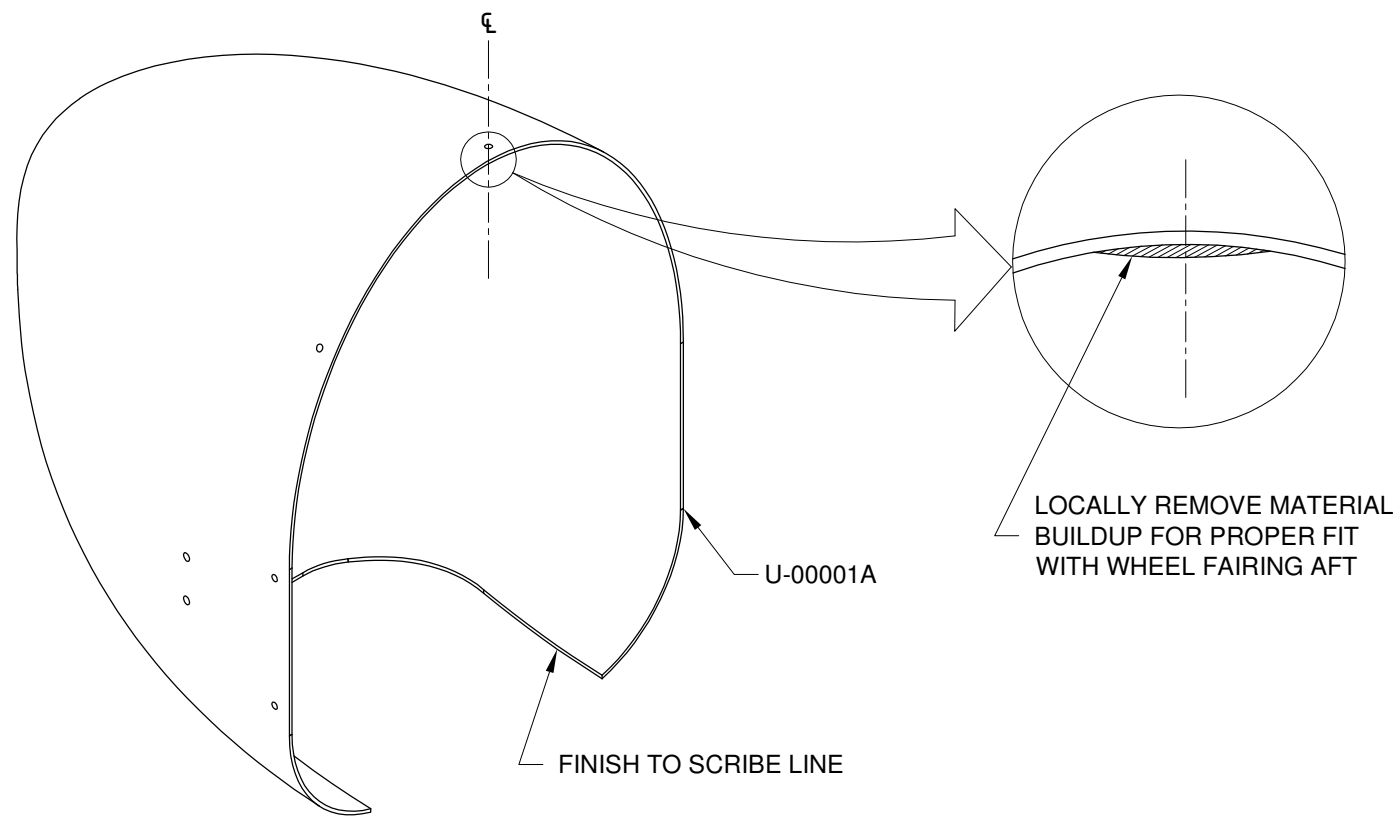


FIGURE 1: PREP FRONT FAIRING

Step 3: Square up the inside corner of molded step in the U-00001B Wheel Fairing Aft as required to allow for a good fit of the fairing halves as shown in Figure 2. A coarse file works well.

Trim the wheel fairing aft flange to 3/4 inch [19.1 mm] from the molded step as shown in Figure 2.

Step 4: Trim the tire opening of the U-00001B Wheel Fairing Aft to 1/16 [1.6 mm] from the scribe line with hand shears. See Figure 2.

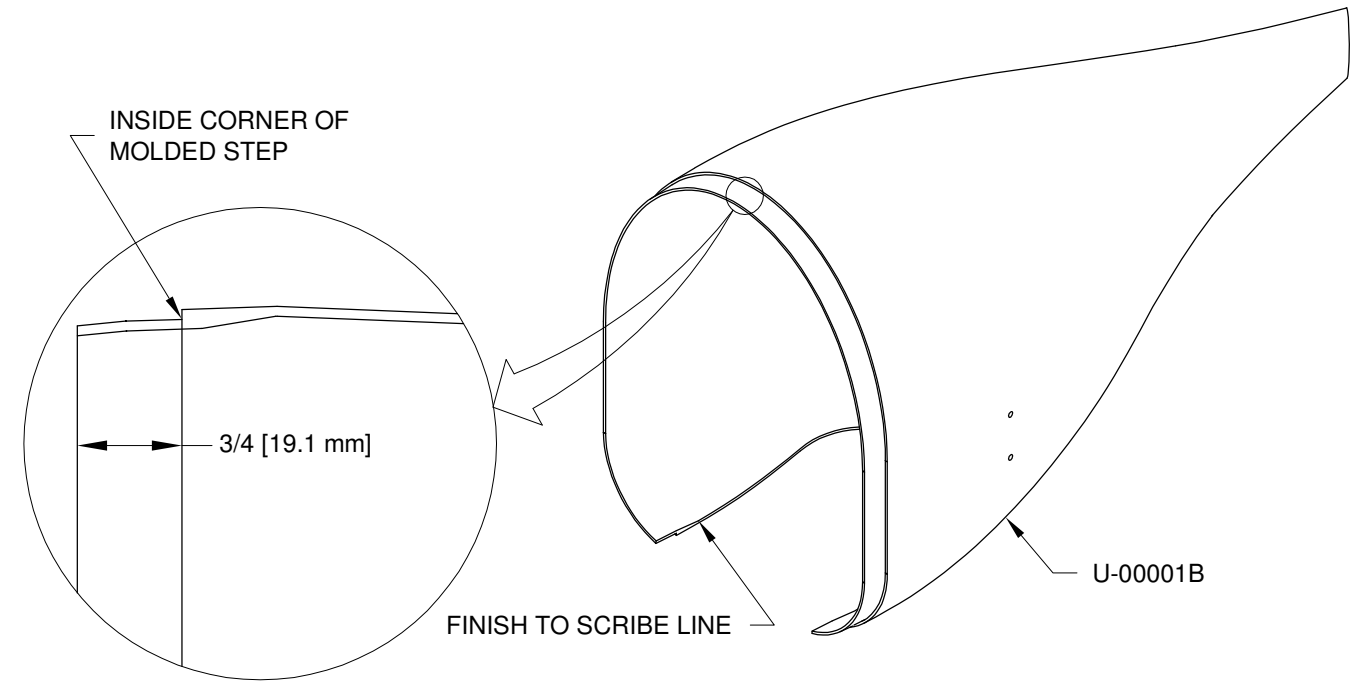


FIGURE 2: PREP REAR FAIRING

Step 5: Use coarse sandpaper glued to a straight stick as a disposable file to remove material up to the scribe line. Remove material that prevents the halves from matching smoothly. Take the time required to precision fit the wheel fairing halves.

Step 6: Assemble the U-00001A Wheel Fairing Front and U-00001B Wheel Fairing Aft and align the wheel hole openings.

Tape them in this position and place a tape reference mark across the seam. Slit the tape on the seam with a razor blade and use this mark to realign the fairings during assembly.

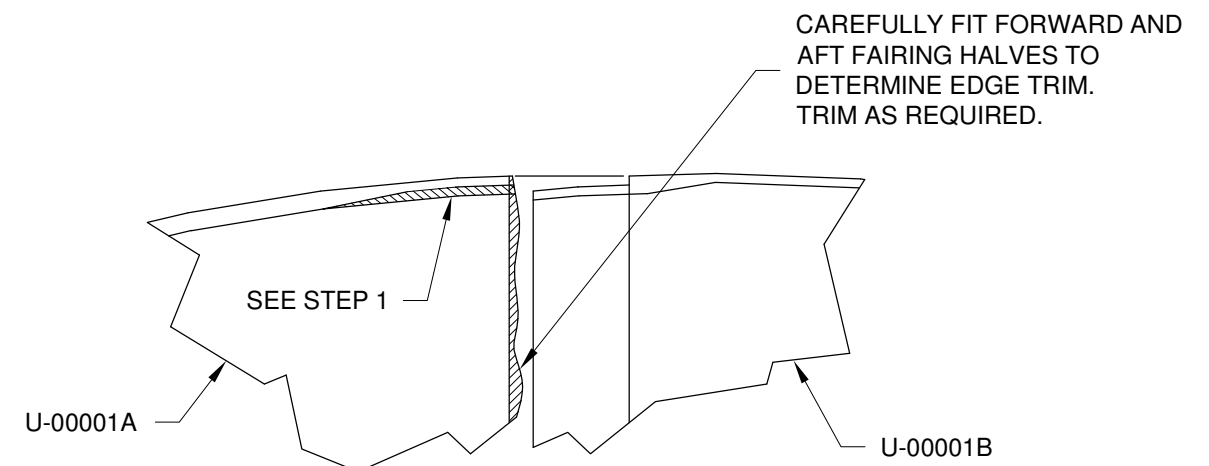
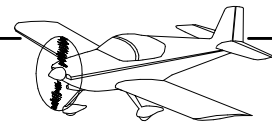


FIGURE 3: FIT AND TRIM FAIRING HALVES



Step 1: Check the length of each of the U-00002 Wheel Fairing Brackets for curve. If the part is curved, straighten as shown in Figure 1.

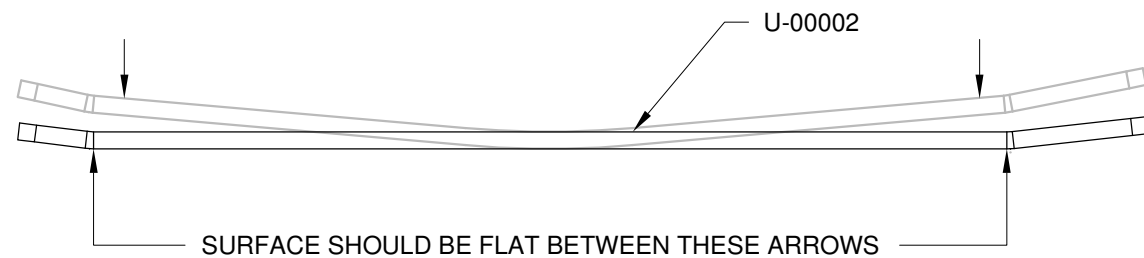


FIGURE 1: STRAIGHTENING THE WHEEL FAIRING BRACKETS

NOTE: Use a bright light shining through the opposite side of the U-00001A Wheel Fairing Front and U-00001B Wheel Fairing Aft to align the holes and dimples in the following step.

Step 2: With the U-00001A Wheel Fairing Front and U-00001B Wheel Fairing Aft joined, place a U-00002 Wheel Fairing Bracket flush on the interior surface of the wheel fairings. Align the holes in the wheel fairing bracket with the dimples in the wheel fairings. Check alignment on both sides of the wheel fairing halves.

If required, sand the wheel fairing front's aft edge until the holes and dimples align properly. See Figure 2.

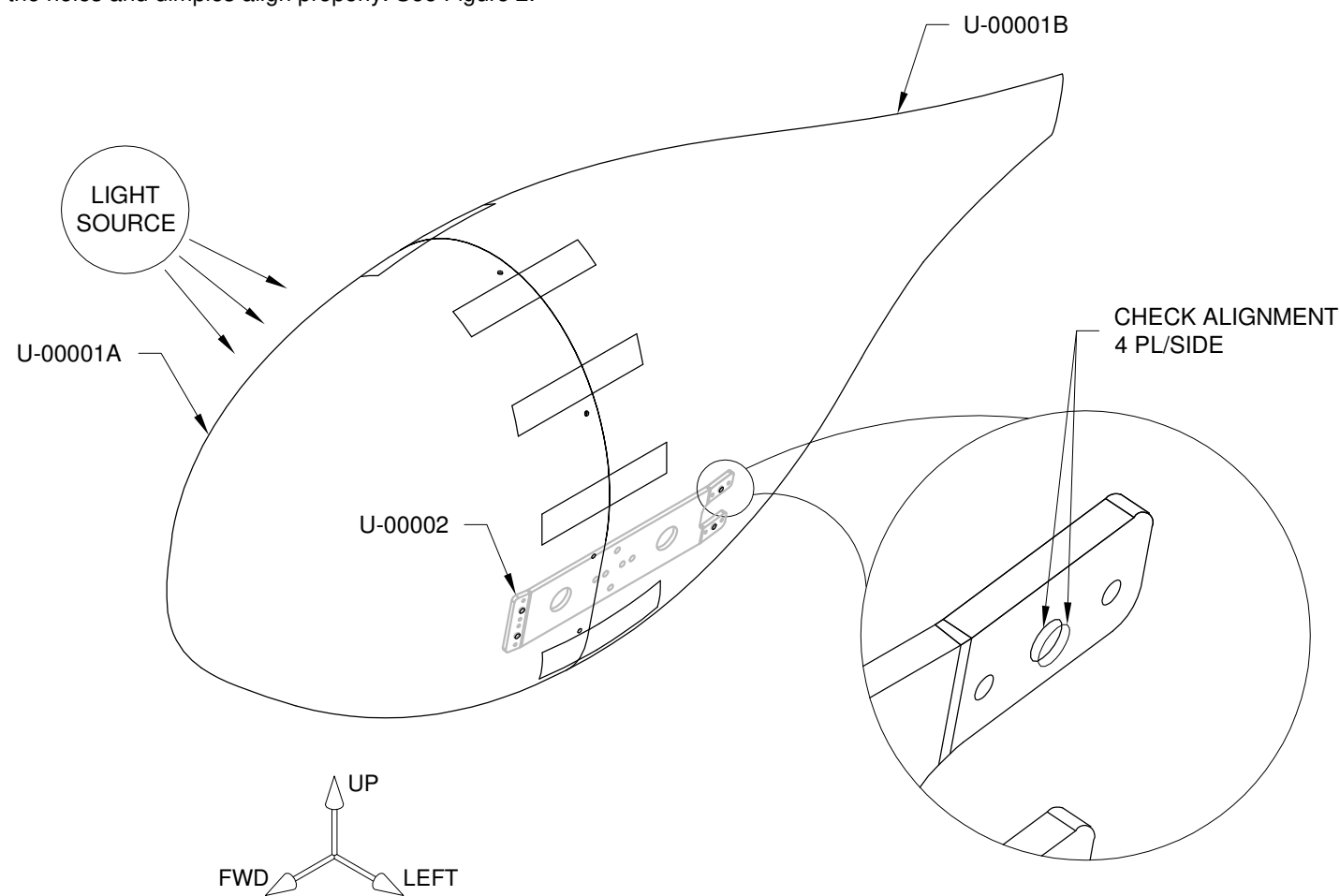


FIGURE 2: ALIGNING THE WHEEL FAIRING HALVES

Step 3: Join the U-00001A Wheel Fairing Front and U-00001B Wheel Fairing Aft as shown in Figure 3. Align the parts until they are fitting as well as possible then use several strips of tape to hold them together.

Step 4: Holding the drill bit perpendicular to the surface, match-drill #40 the wheel fairing front to the wheel fairing aft at seven of the nine "dimples" that are molded into the circumference of the wheel fairing front. Begin at the top center and work downward alternating side to side. Leave one dimple on each side of the fairing un-drilled as shown in Figure 3. Cleco each drilled hole before drilling the next.

Be aware of debris between parts as drilling progresses. Take apart and clean-out as necessary after drilling each hole.

Step 5: Drill #30 the two dimples on each side of the U-00001A Wheel Fairing Front and U-00001B Wheel Fairing Aft as called-out in Figure 3.

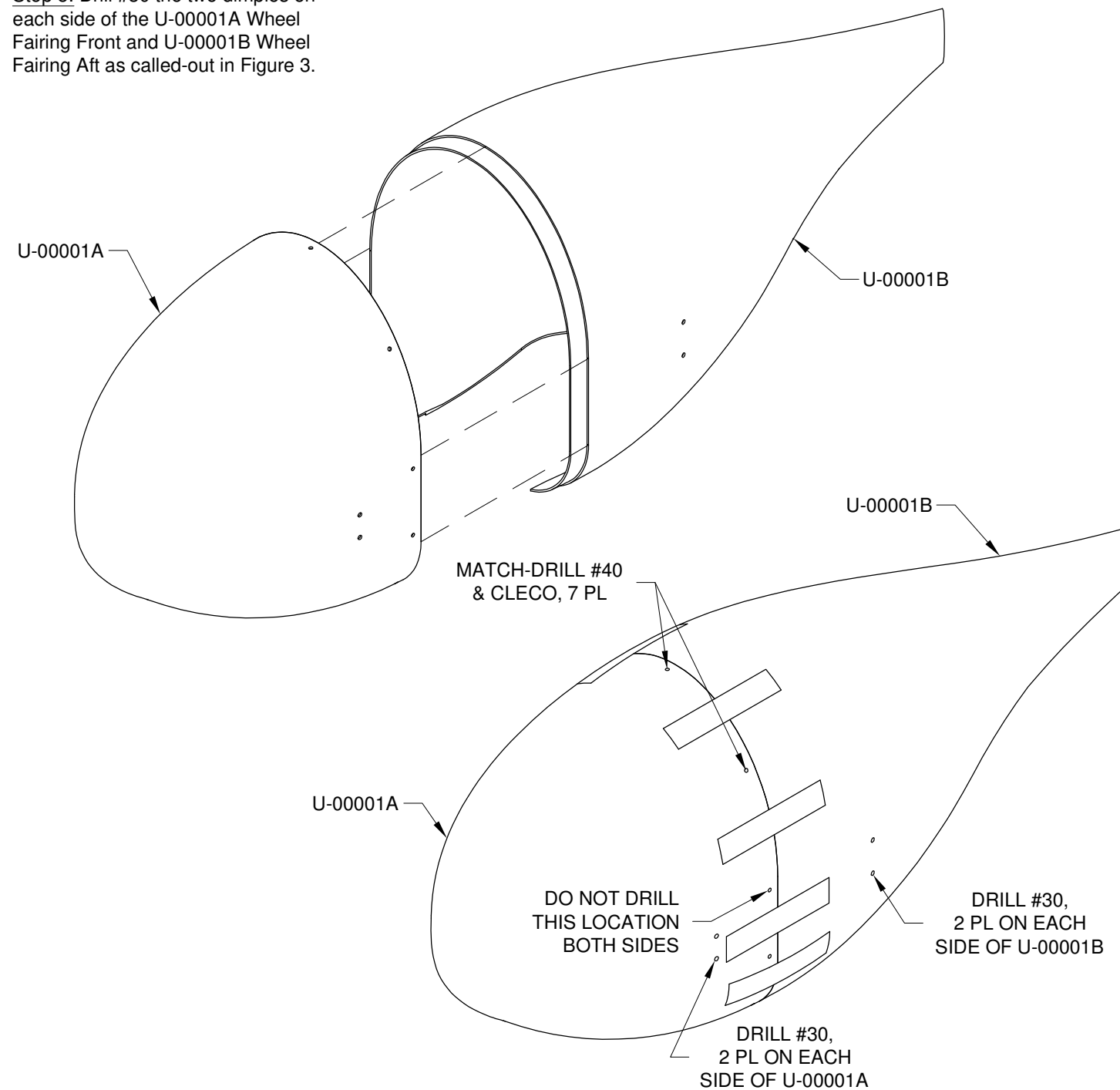
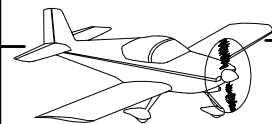


FIGURE 3: JOIN FAIRING HALVES & MATCH-DRILL



NOTE: Illustration shows left side installation only, when modifying the right wheel fairings make the cutout on the opposite side of the fairings.

Step 1: Mark the gear leg opening on the U-00001A Wheel Fairing Front and U-00001B Wheel Fairing Aft as shown in Figure 1 using a fine point felt pen.

Trim to within 1/16 [1.6 mm] of trim line then sand to finish edge.

Add a radius to the wheel fairing aft for brake line clearance as shown in Figure 1.

Step 2: Measure down from the bottom edge of the gear leg opening and place a mark centered in the flange as shown in Figure 1.

Step 3: Match-Drill #40 the wheel fairing front to the wheel fairing aft at the location marked in Step 2.

Match-Drill #40 the remaining dimple located on the opposite side of the wheel fairing assembly.

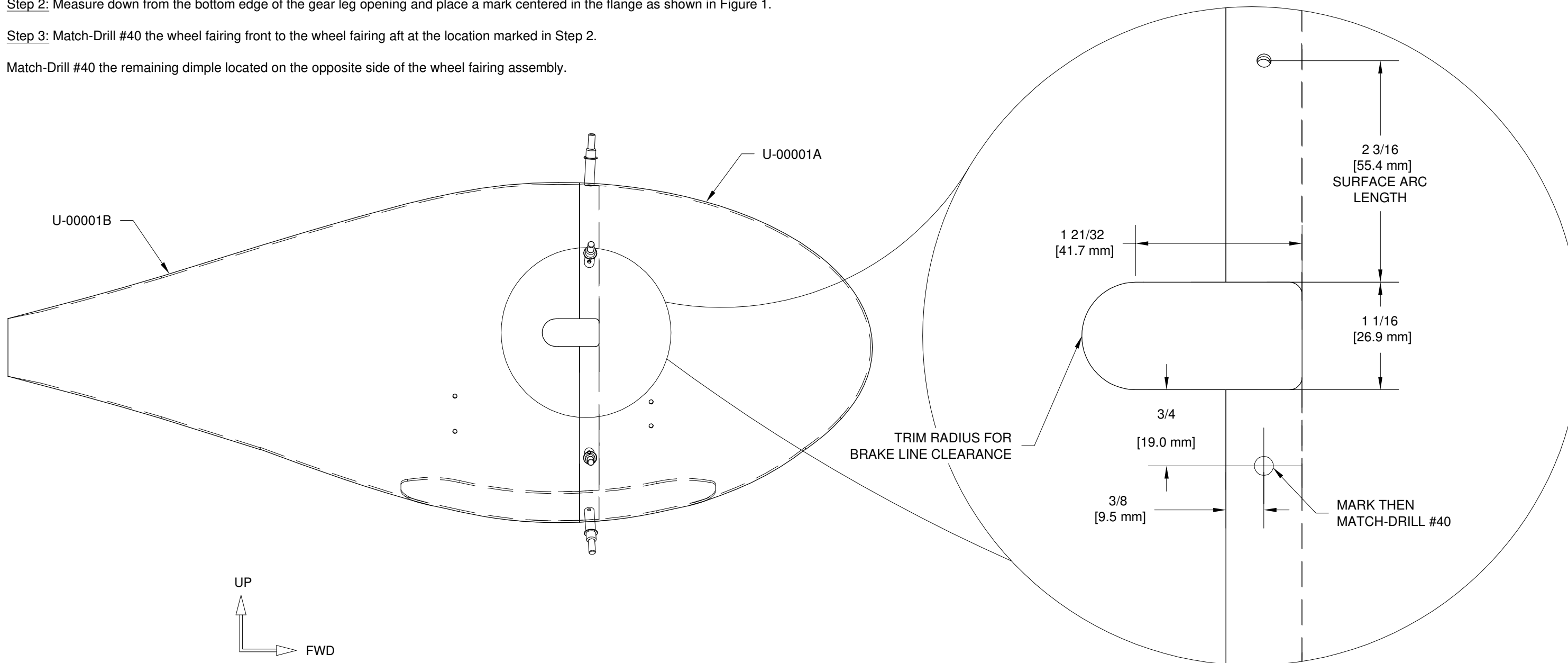
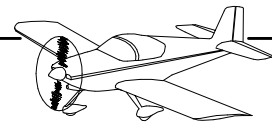


FIGURE 1:
GEAR LEG CLEARANCE HOLE



Step 1: Final-Drill #40 all the 3/32 [2.4 mm] holes in the four U-00002 Wheel Fairing Brackets. See Figure 1.

Machine countersink all the #40 holes in the wheel fairing brackets to fit the head of an AN426AD3 rivet. See Figure 1.

Attach nutplates to the wheel fairing brackets using the rivets called-out in Figure 1.

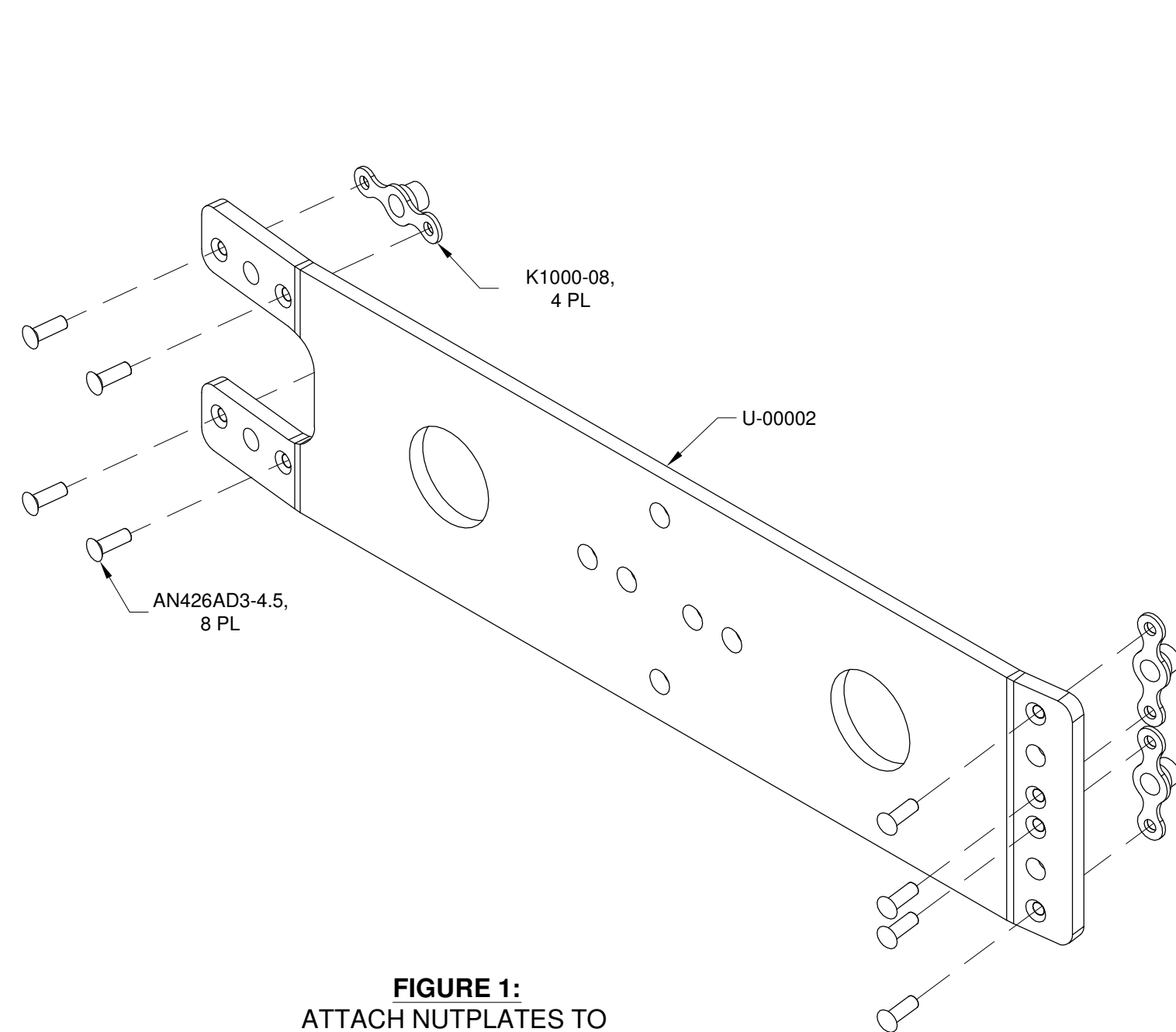


FIGURE 1:
ATTACH NUTPLATES TO
WHEEL FAIRING BRACKETS

Step 2: Attach one of the U-00002 Wheel Fairing Brackets to the U-00003 Bracket Mount as shown in Figure 2.

Safety wire the drilled head attach bolts to secure.

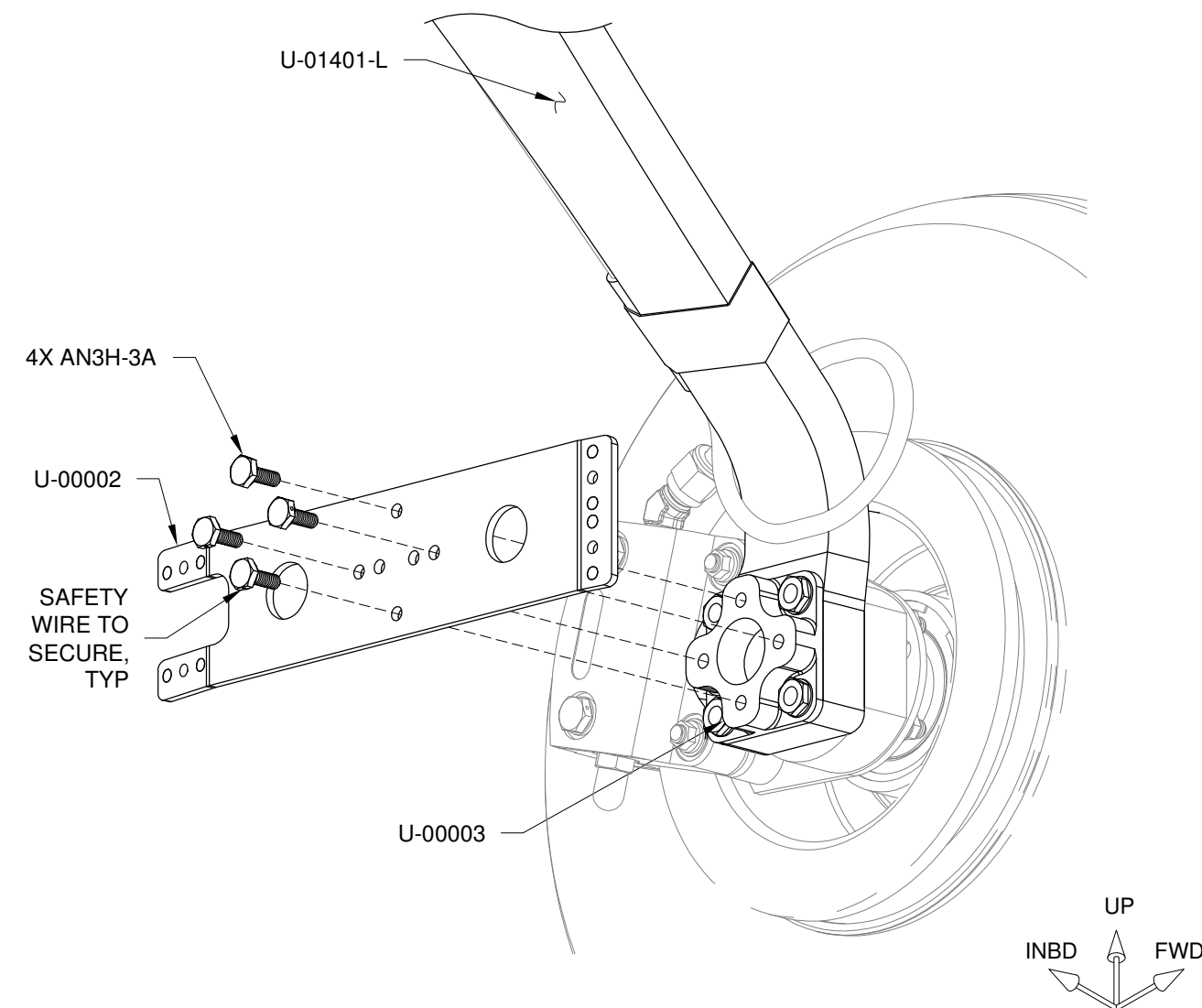
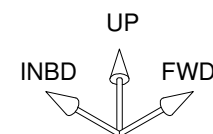


FIGURE 2:
ATTACH BRACKETS TO MAIN GEAR LEG





Step 1: Attach the U-00002 Wheel Fairing Bracket to the U-00009 Axle with the hardware called out in Figure 1.

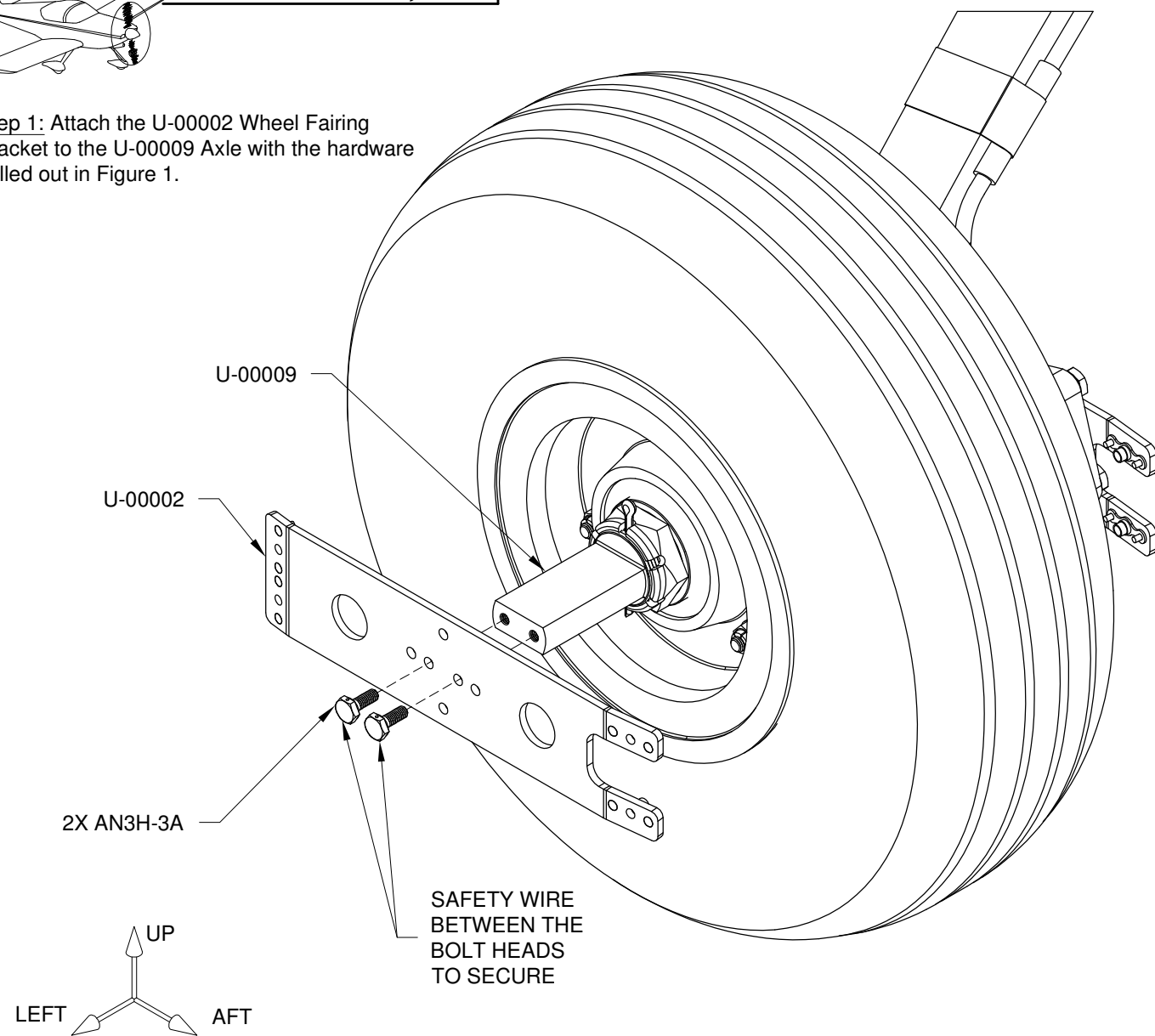


FIGURE 1:
ATTACH WHEEL FAIRING BRACKET

NOTE: The brake line may be gently re-formed by hand to fit inside the wheel fairing.

Step 2: Cleco the U-00001B Wheel Fairing Aft on the U-00002 Wheel Fairing Brackets. The inboard clearance is approximately 5/8 [15.9 mm].

Step 3: Mark the U-00001B Wheel Fairing Aft with a fine point pen 5/8 [15.9 mm] from the tire along the aft and outboard wheel opening so that the distance is the same as that of the inboard wheel opening. See Figure 2.

Check for a minimum clearance of 1/16 [1.6 mm] between the gear leg opening in the wheel fairing and the gear leg and brake line. Mark the fairing with a fine point pen at the proper clearance distance if/as required.

Step 4: Remove the wheel fairing aft and trim to within 1/16 [1.6 mm] of the trim line. Finish to the trim lines by sanding.

Reinstall the wheel fairing aft on the U-00002 Wheel Fairing Brackets.

Step 5: Cleco the U-00001A Wheel Fairing Front to the U-00002 Wheel Fairing Brackets and the U-00001B Wheel Fairing Aft as shown in Figure 2.

Step 6: Mark the wheel fairing front on the outboard side where it meets the wheel fairing aft wheel opening. Continue marking along the outboard side and front of the wheel opening to create the 5/8 [15.9 mm] minimum wheel/tire clearance.

Check for a minimum clearance of 1/16 [1.6 mm] between the gear leg opening in the wheel fairing and the gear leg. Mark the fairing with a fine point pen at the proper clearance distance if/as required.

Step 7: Remove the wheel fairing front and trim to within 1/16 [1.6 mm] of the trim line. Finish to the trim line by sanding. Reinstall wheel fairing front and check that the wheel and leg openings allow proper clearance indicated in Step 6. See Figure 2.

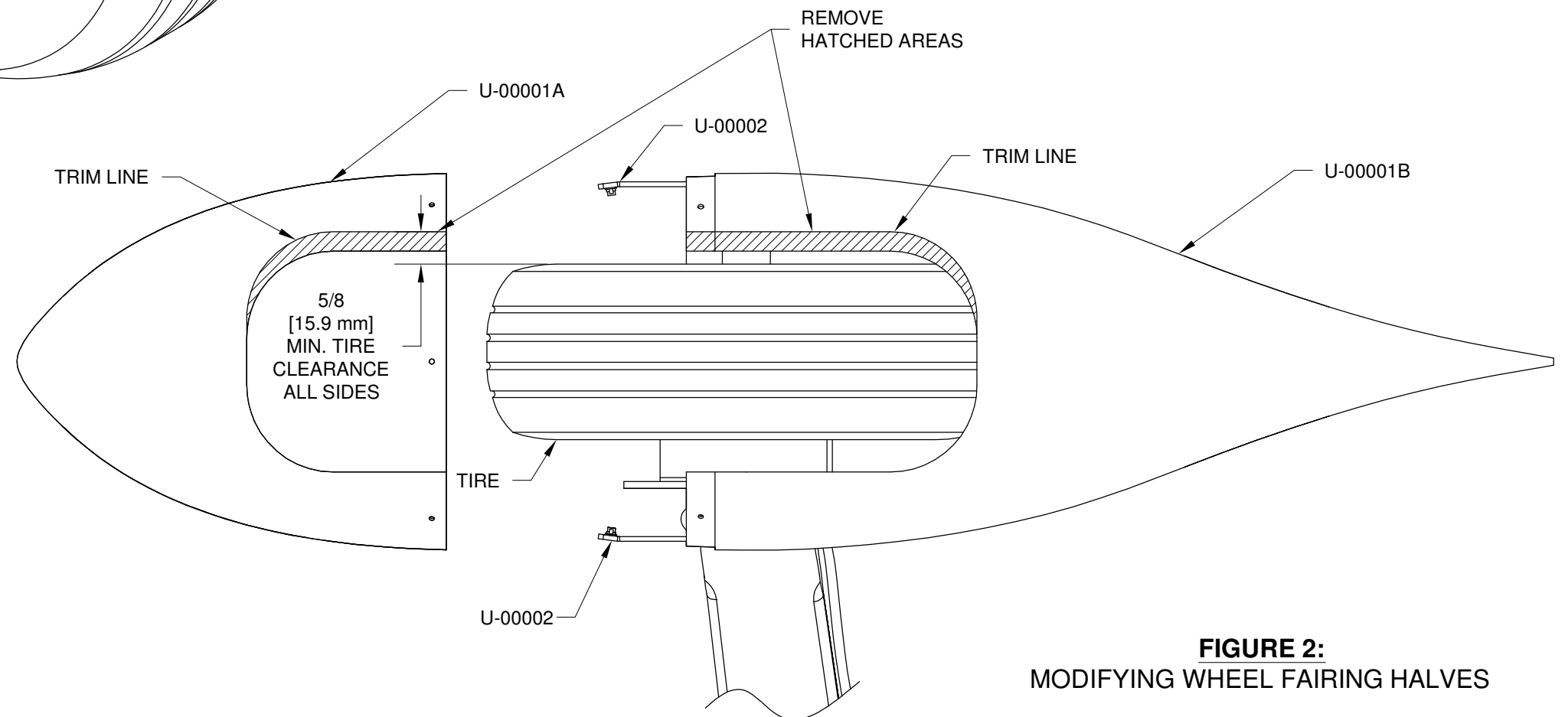
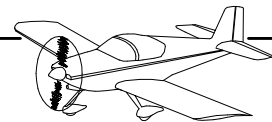


FIGURE 2:
MODIFYING WHEEL FAIRING HALVES



Step 1: Final-Drill #19 the U-00001B Wheel Fairing Aft and the U-00001A Wheel Fairing Front to the U-00002 Wheel Fairing Brackets. Avoid drilling into the nutplates mounted on the wheel fairing brackets. See Figure 1.

Remove clecos and wheel fairings.

Step 2: Aggressively roughen the inside of the U-00001A Wheel Fairing Front and U-00001B Wheel Fairing Aft at the #19 screw locations. Clean wheel fairings.

Step 3: Coat the threads of the 8-32 screws called out in Figure 2 with candle wax to prevent epoxy from bonding to them.

Tape the U-00002 Wheel Fairing Bracket tabs with plastic tape to prevent the epoxy/flox mixture from bonding to them.

Step 4: Mix a flox mixture of epoxy resin and flocked cotton fiber by slowly adding flocked cotton until thick enough that when the cup is turned on its side there is no movement of the mixture.

Use the flox mixture to build up the areas around the four screws on both the forward and aft main wheel fairings. Apply enough mixture (approximately 1/16 [1.6 mm]) to create a recess when the brackets are pressed against them, but not so much that the epoxy will capture the brackets. See Figure 1 Section A-A.

Step 5: Attach the wheel fairings to the brackets and to each other while the mixture is wet. Do not fully tighten the screws. This will allow the flox mixture to fill between the curved surface of the fairing and the flat surface of the bracket.

Step 6: Final-Drill #27 three (of the nine) evenly spaced #40 screw attach holes in the U-00001A Wheel Fairing Front and U-00001B Wheel Fairing Aft as shown in Figure 1.

Step 7: Remove the wheel fairing front and wheel fairing aft when the epoxy has fully cured.

Clean up any excess flox mixture as required and remove the plastic tape from the brackets.

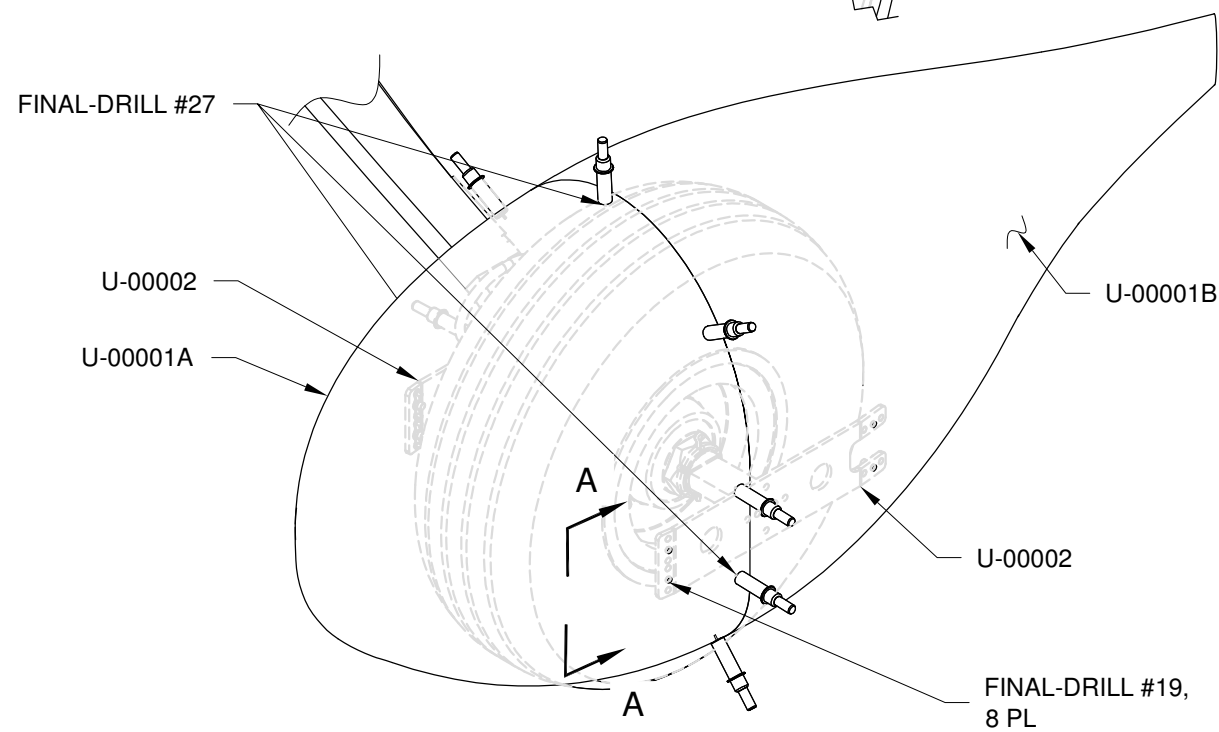
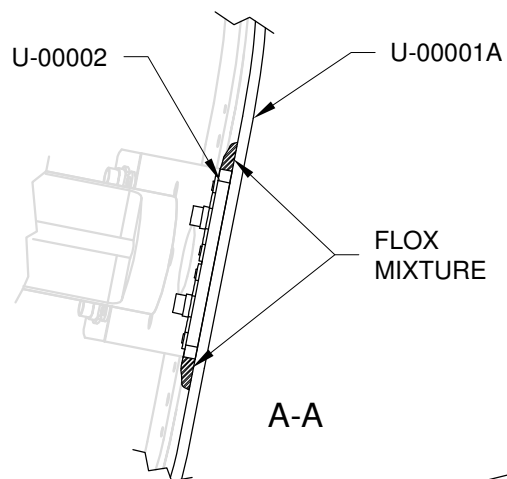


FIGURE 1: ATTACH WHEEL FAIRINGS TO WHEEL FAIRING BRACKETS

NOTE: To locate the nutplate rivet holes the nutplate is held in place with a mounting screw and the nutplate is used as a drill template. Cleco the first rivet hole to prevent the nutplate from rotating while locating the second rivet hole. It is important on curved surfaces that the nutplate is match-drilled from the side of the part on which it will later be installed.

NOTE: Machine countersinks into fiberglass that are up to .005 [.1 mm] too shallow are acceptable, even preferable, to countersinks which are too deep. Rivets should be slightly under set where installed in fiberglass parts.

Step 8: Install nutplates at the three #27 holes drilled in Step 6.

Final-Drill #40 and countersink the U-00001B Wheel Fairing Aft for nutplate rivets as shown in Figure 2. Deburr the holes.

Rivet the nutplates called out in Figure 2 to the wheel fairing aft.

Step 9: Reassemble the U-00001A Wheel Fairing Front and U-00001B Wheel Fairing Aft using three #6 screws and clecos at the rest of the holes.

Final-Drill #27 the remainder of the #40 holes.

Disassemble the wheel fairing halves and install the remaining nutplates.

Step 10: Countersink the #19 holes in the sides of the wheel fairing front and aft to accept AN507C832 screws.

Countersink the #27 holes in the wheel fairing front as called out in Figure 2.

Step 11: Mount the U-00001B Wheel Fairing Aft and U-00001A Wheel Fairing Front to the U-00002 Wheel Fairing Brackets using the hardware called out in Figure 2.

Use the screws called out in Figure 2 to attach the wheel fairing halves together.

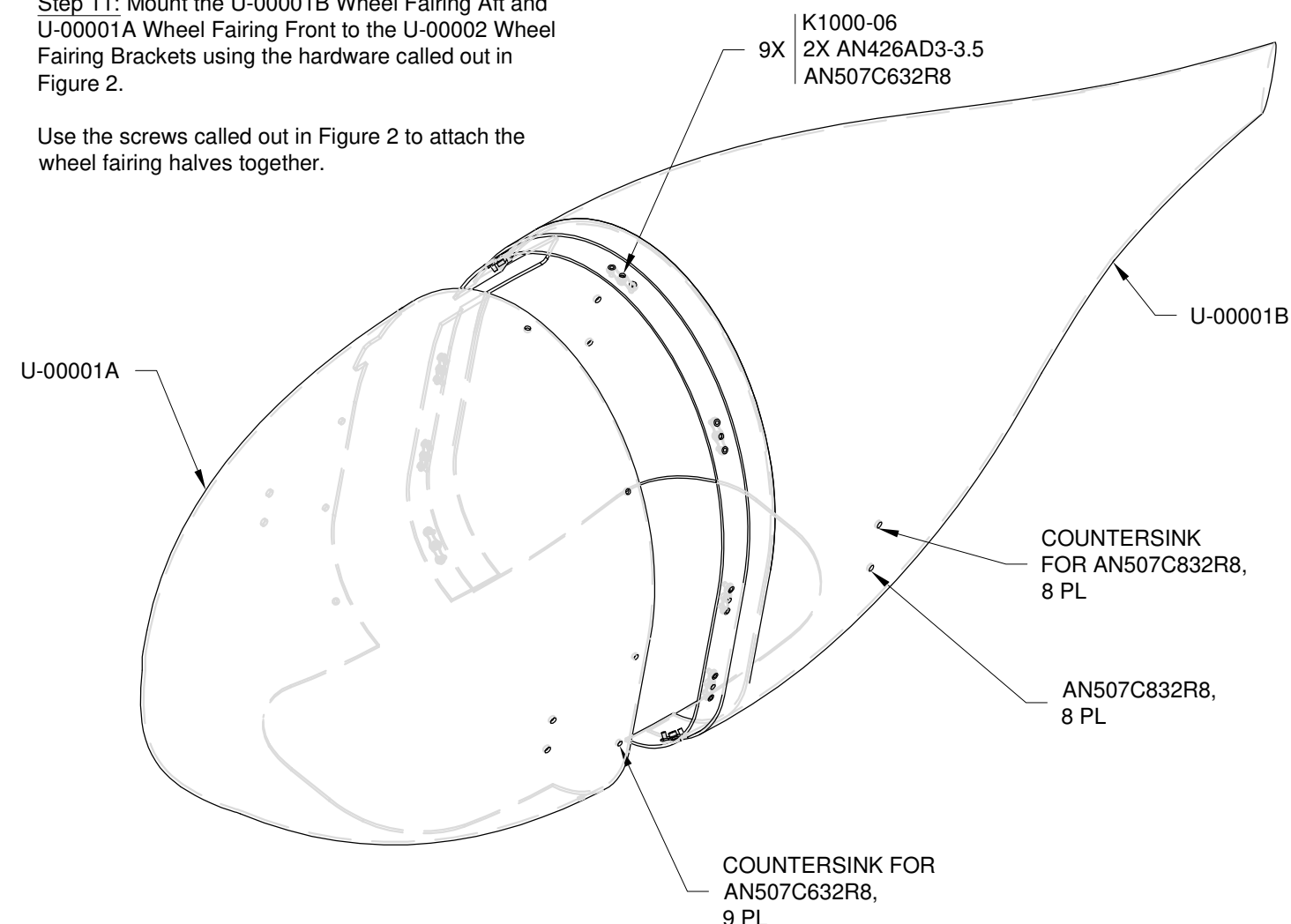


FIGURE 2: ATTACH WHEEL FAIRINGS TO EACH OTHER

NOTE: If transparent, the nose wheel fairings must remain transparent to accomplish the installation. Do not sand or prime their interior or exterior surfaces until directed to or upon the completion of the installation.

If the fairings are opaque, refer to Section 5.18 MATCH-DRILLING OPAQUE FIBERGLASS PARTS.

Step 1: Fit the U-1013A Wheel Fairing Front and U-1013B Wheel Fairing Rear together. The wheel fairing rear has a recessed lip so the smaller wheel fairing front will fit flush. This lip may be uneven. Trim it to a constant width as shown in Figure 1.

Step 2: Fit the U-1013A Wheel Fairing Front over the lip of the U-1013B Wheel Fairing Rear and trim, grind or file either of them as needed to achieve a good fit.

Do not worry about a mismatch at the top center of the fairing halves since this area will be trimmed away later to clear the U-01406-1 Nose Gear Leg Assembly.

Tape them into a best fit position and place a reference mark across the seam. Use this mark to realign the fairings during assembly.

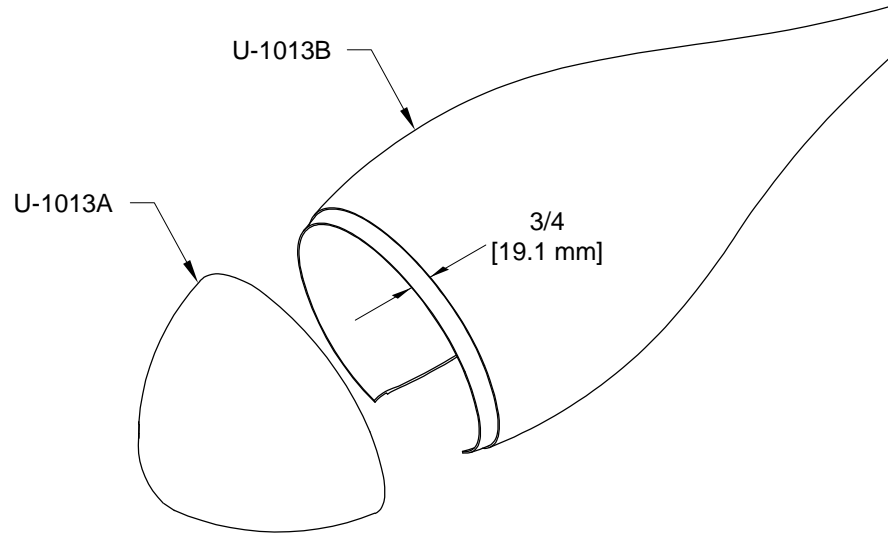


FIGURE 1: FITTING FAIRING HALVES

Step 3: Draw a vertical centerline on the U-1013B Wheel Fairing Rear as shown in Figure 2. Place a mark at the midpoint of the vertical centerline as shown in Figure 2.

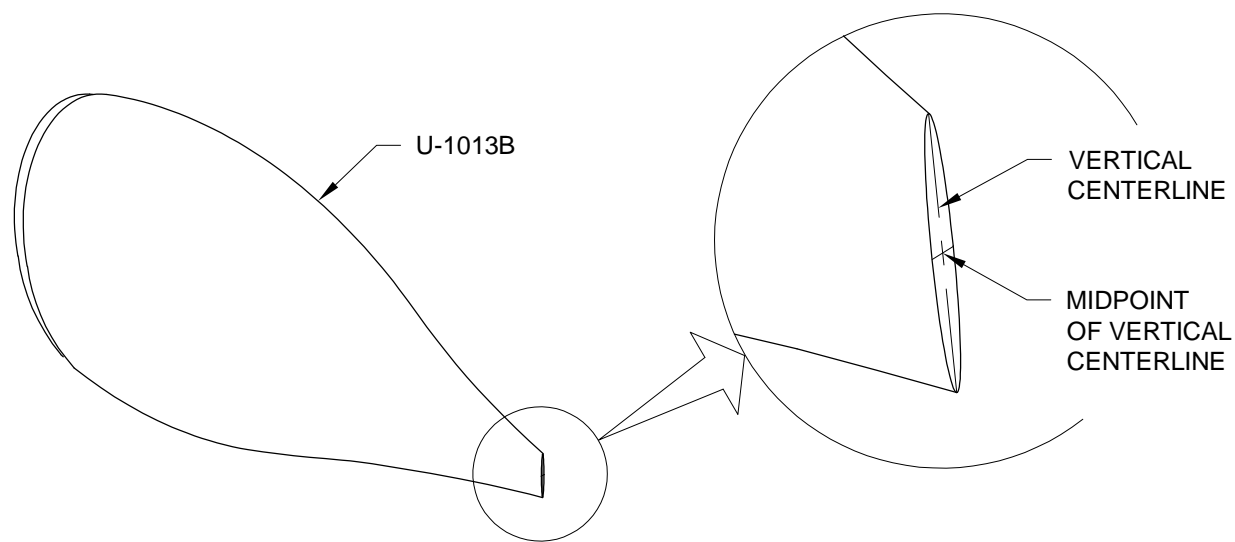


FIGURE 2: DRAW REFERENCE LINES AT AFT END OF FAIRING

Step 4: Make a 'V' block or similar holding fixture from 1/4 [6.4 mm] thick or greater plywood as shown in Figure 3.

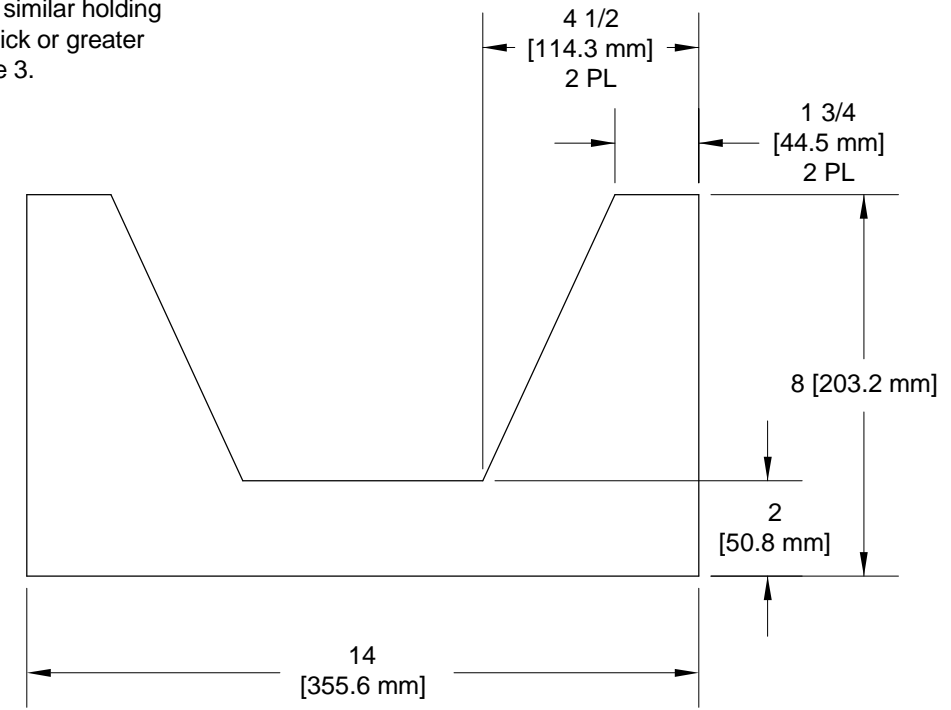


FIGURE 3: FABRICATE 'V' BLOCK

Step 5: Place the U-1013B Wheel Fairing Rear on the bench and make it plumb using a square so that the reference line on the fairing is vertical.

Mark a centerline as shown by measuring horizontally across the forward opening of the fairing as shown in Figure 4.

Position a square at the midpoint of this distance and mark the top of the wheel fairing rear.

Extend the mark 1/2 [12.7 mm] aft of the molded step. This reference mark will serve to align the wheel fairing along its roll axis.

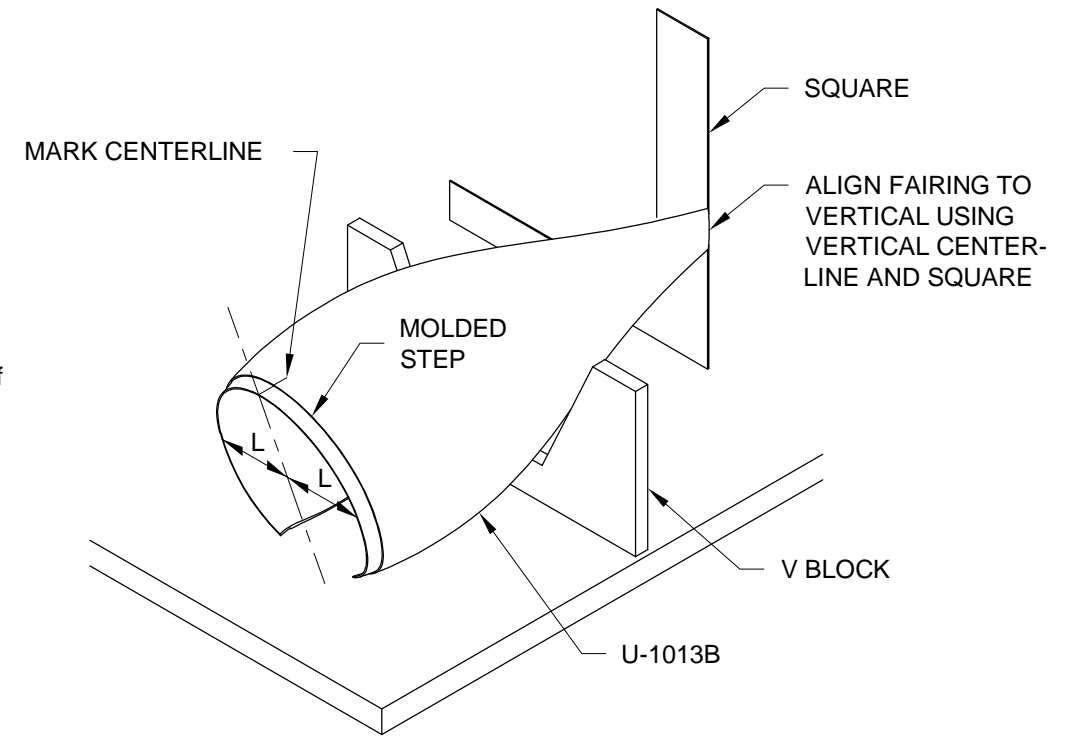
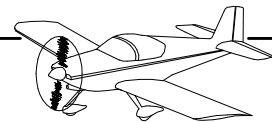


FIGURE 4: MARK FAIRING CENTERLINE



Step 1: Mark the screw locations that will join the U-1013A Wheel Fairing Front and the U-1013B Wheel Fairing Rear as per the dimensions shown in Figure 1 and Section A-A.

Step 2: Rough trim the wheel hole opening in the wheel fairing rear to the scribe lines as noted in Figure 1. The opening will be finished after fitting to the Nose Wheel Assembly.

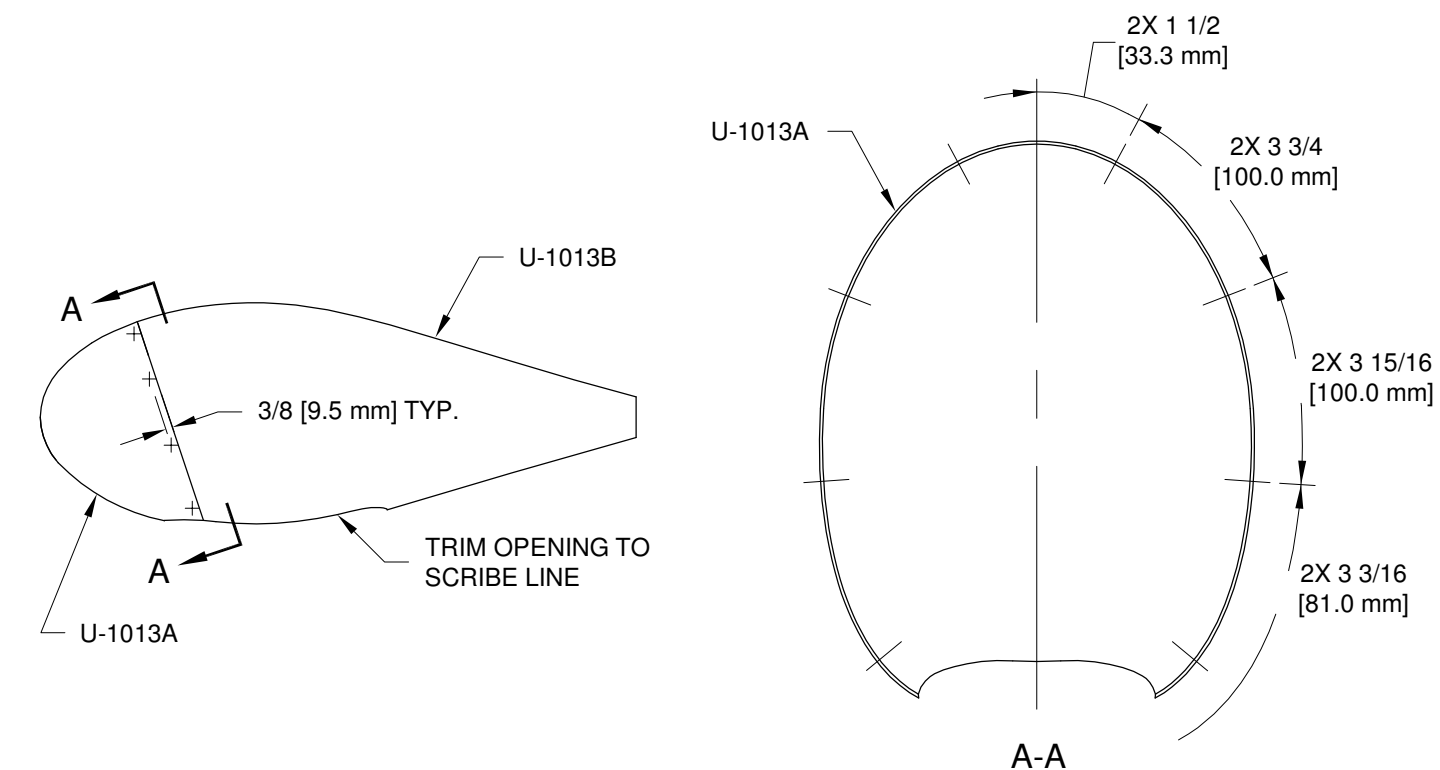


FIGURE 1: MARKING FAIRINGS

Step 3: Drill #40 the U-1013A Wheel Fairing Front and the U-1013B Wheel Fairing Rear screw locations as per the callout in Figure 2 installing clecos along the way. Begin at the top and progress toward the bottom of the fairing. Take apart and clean-out debris as necessary after drilling each hole.

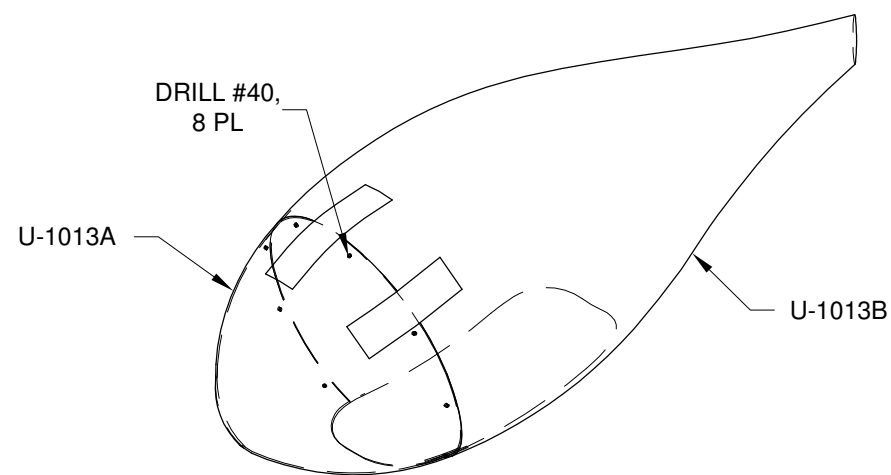


FIGURE 2: DRILLING FAIRINGS

Step 4: Cleco the wheel fairing halves together and place them into the 'V' block with the wheel opening facing upward as shown in the Iso View of Figure 3.

Rotate the assembled fairing about its long axis until the vertical centerline drawn at the back of the wheel fairing rear is vertical and check it with a square.

Level the wheel fairing by measuring from the bench to the midpoint of the vertical centerline at the aft end the distance shown. Mark the forward end of the fairing as shown.

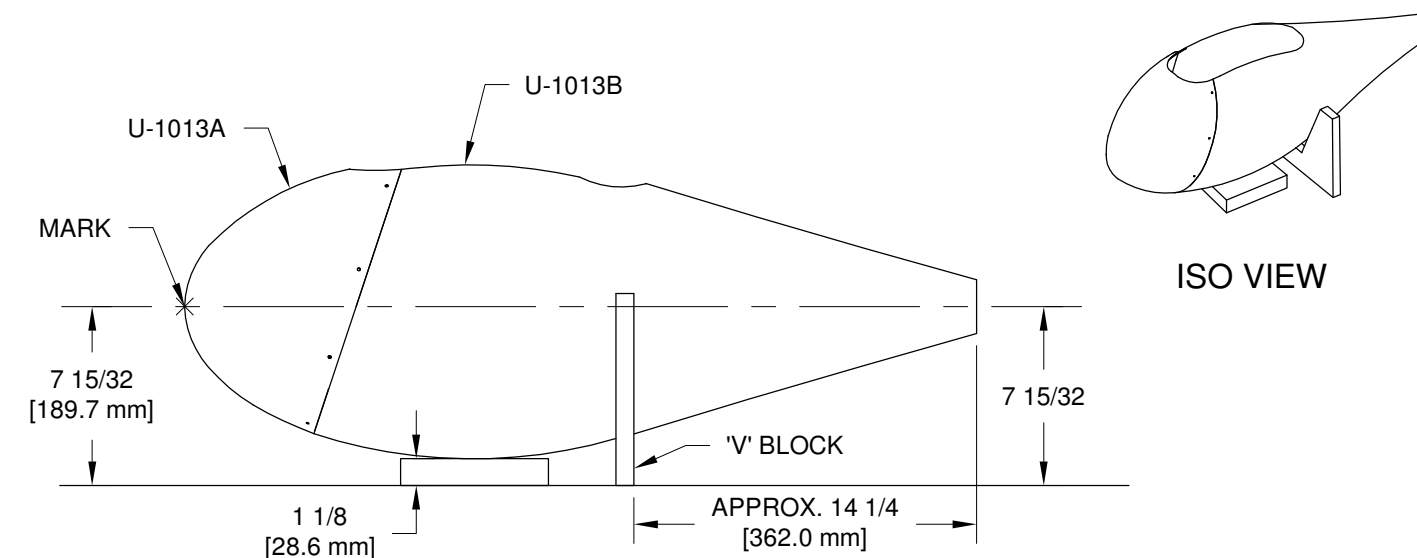


FIGURE 3: MARK FAIRING CENTERLINE AT ITS NOSE

Step 5: Fabricate two U-1024 Standoffs from 3/4 x 1 1/2 x 1 3/16 2024-T351 aluminum block as provided. Cut to the shape depicted and drill as shown in Figure 4.

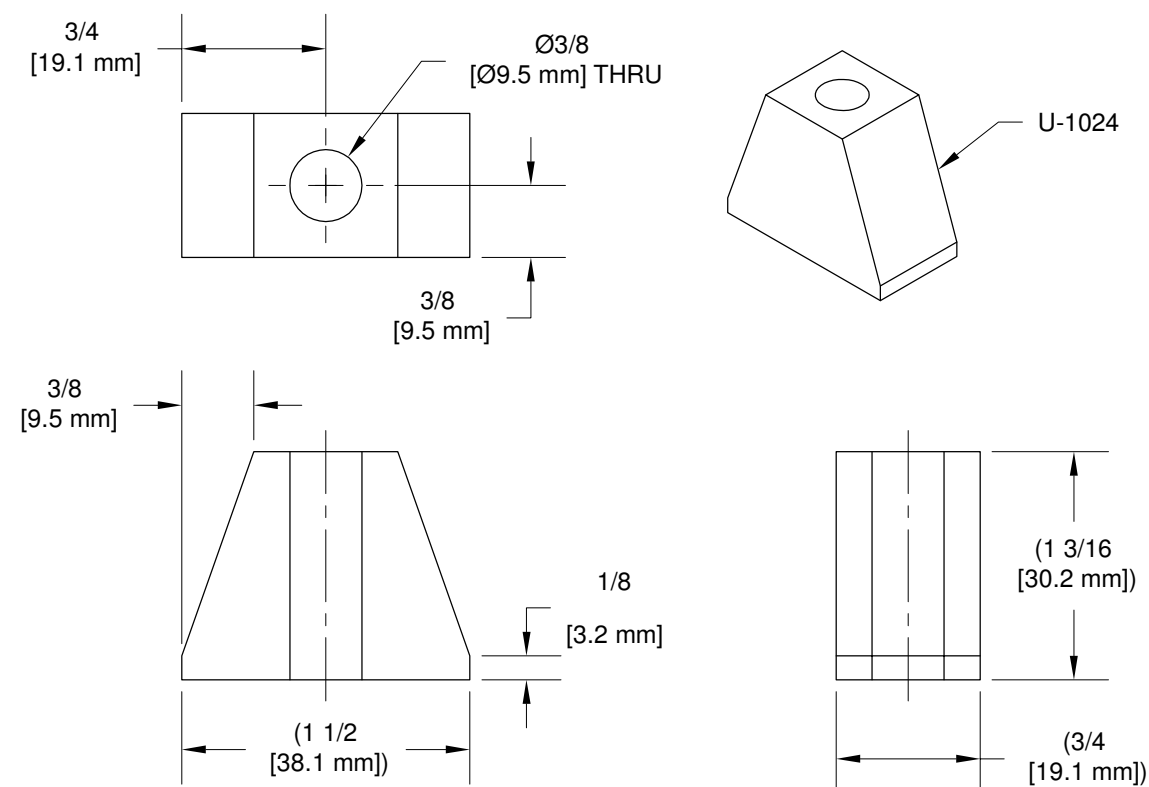


FIGURE 4: FABRICATE STANDOFF

Step 1: Mark screw locations on the U-01431-L & -R Nose Wheel Fairing Bracket flanges as per Figure 1. The marks will be visible through the wheel fairing.

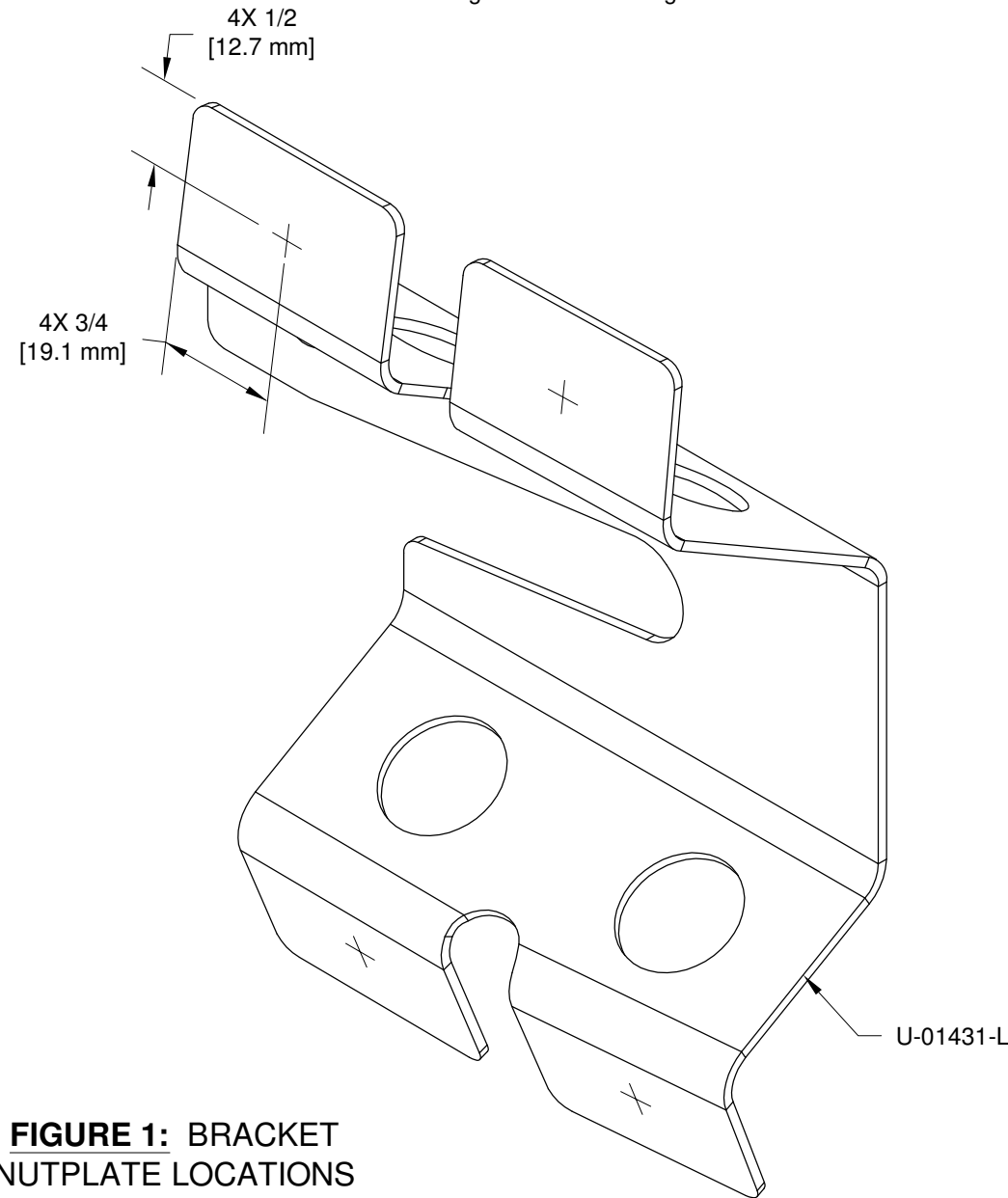


FIGURE 1: BRACKET NUTPLATE LOCATIONS

Step 2: Fabricate a spacer as shown in Figure 2. The dimension of the spacer is based on a 5:00X5-6 Tire.

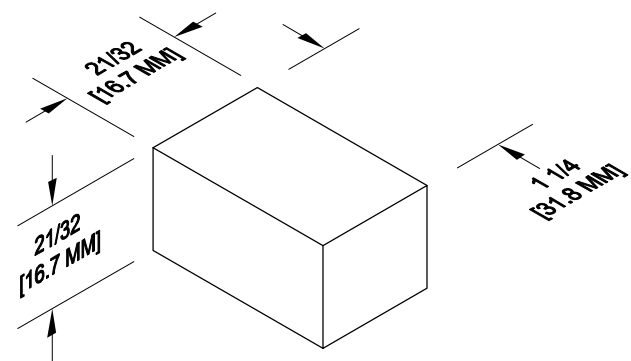


FIGURE 2: FABRICATE SPACER

WARNING: Use caution while the airplane is on jacks. The aircraft must be on a level surface and leveled carefully. Don't let it tip or it will fall off the jacks.

Step 3: Raise the airplane on jacks so the nose tire is just off the ground (zero to 1/16 [1.6 mm] gap) and the aircraft is level. Check that the airplane is level longitudinally and laterally by placing a level on the F-01421B Aft Canopy Deck upper surface.

Step 4: Tape the spacer fabricated in Step 2 to the top of the tire as shown in Figure 4.

Step 5: Align the nose fork/tire with the aircraft center line. Drop a plumb bob from the center of the gear leg and mark the floor at the aft edge of the tire on the center line. Repeat the process and make another mark on the floor along the fuselage center line at the firewall. Draw a center line between these marks and extend it aft at least 15 [381 mm] behind the tire. See Figure 3.

Step 6: Install the U-01431-R Nose Wheel Fairing Bracket onto the axle between the nose fork and the washer as shown in Figure 4.

Step 7: Install the U-1024 Standoff and secure both the fairing bracket and the standoff with the hardware called out in Figure 4. Omit the two washers called out in Figure 4 until the access hole is drilled on Page 46A-12 Step 7.

Step 8: Slide the U-1013B Wheel Fairing Rear into place.

Slide the U-01431-L Nose Wheel Fairing Bracket into place between the wheel fairing rear and the nose fork bolting it to the nose fork as per the callouts in Figure 4.

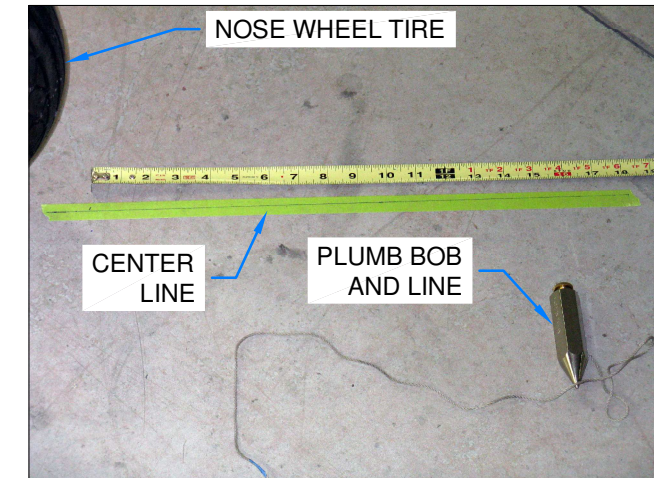


FIGURE 3: ALIGN FRONT FORK AND TIRE

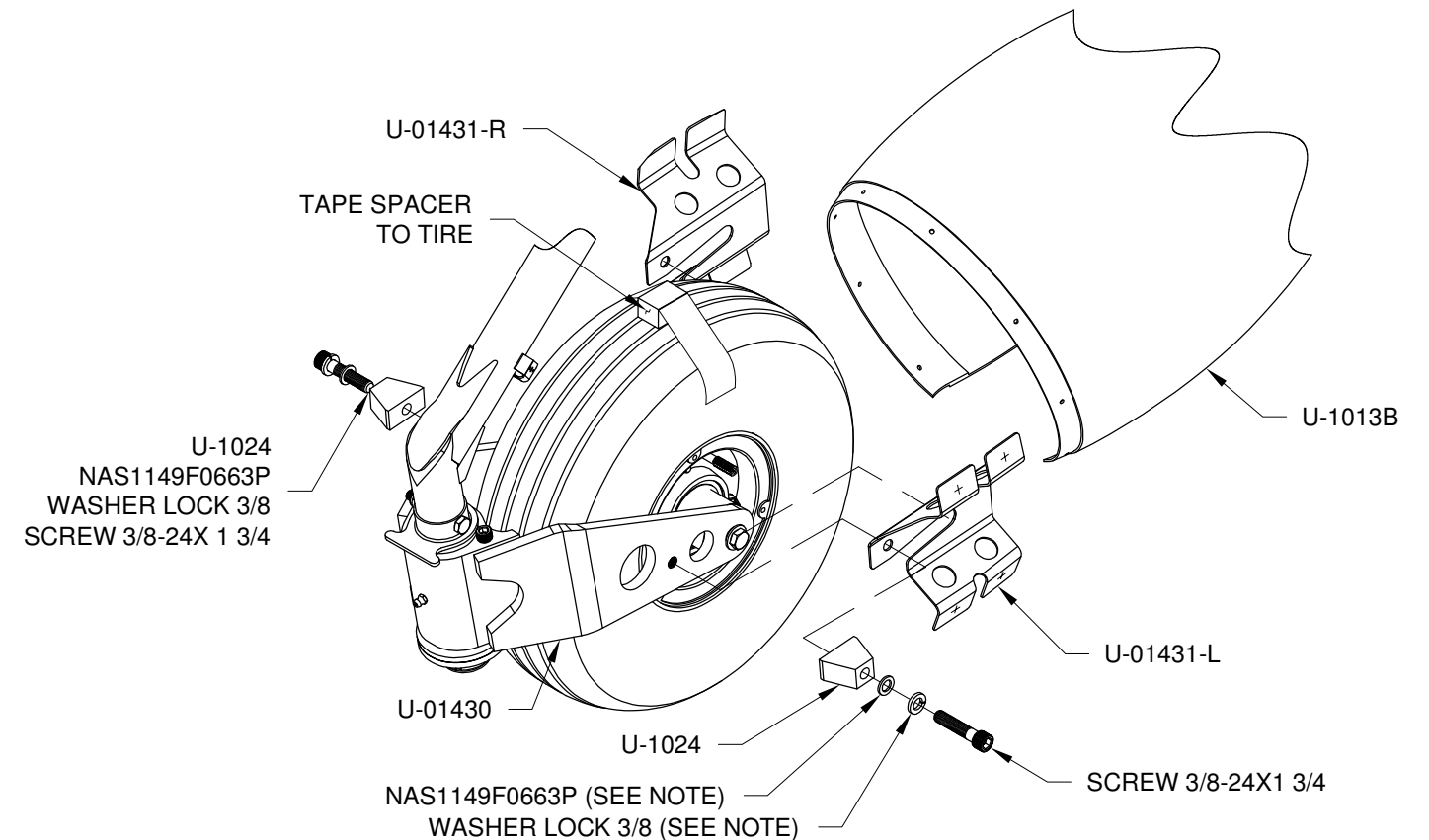
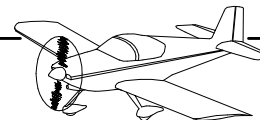


FIGURE 4: BRACKET AND FAIRING INSTALLATION



Step 1: Support the aft end of the U-1013B Wheel Fairing Rear using blocks (or the previously fabricated "V" block) as shown in Figure 1.

Position the wheel fairing rear on the U-01431-L & -R Nose Wheel Fairing Brackets using the dimensions given.

Bend the nose wheel fairing brackets as required to fit to the inside surface of the wheel fairing rear.

Step 2: Remove the wheel fairing rear.

Use a square to locate the position of the center of the U-1024 Standoff as shown in Figure 2.

Place tape on the floor to locate the fore and aft position of the hole center on both sides of the nose wheel.

Measure and note the center height.

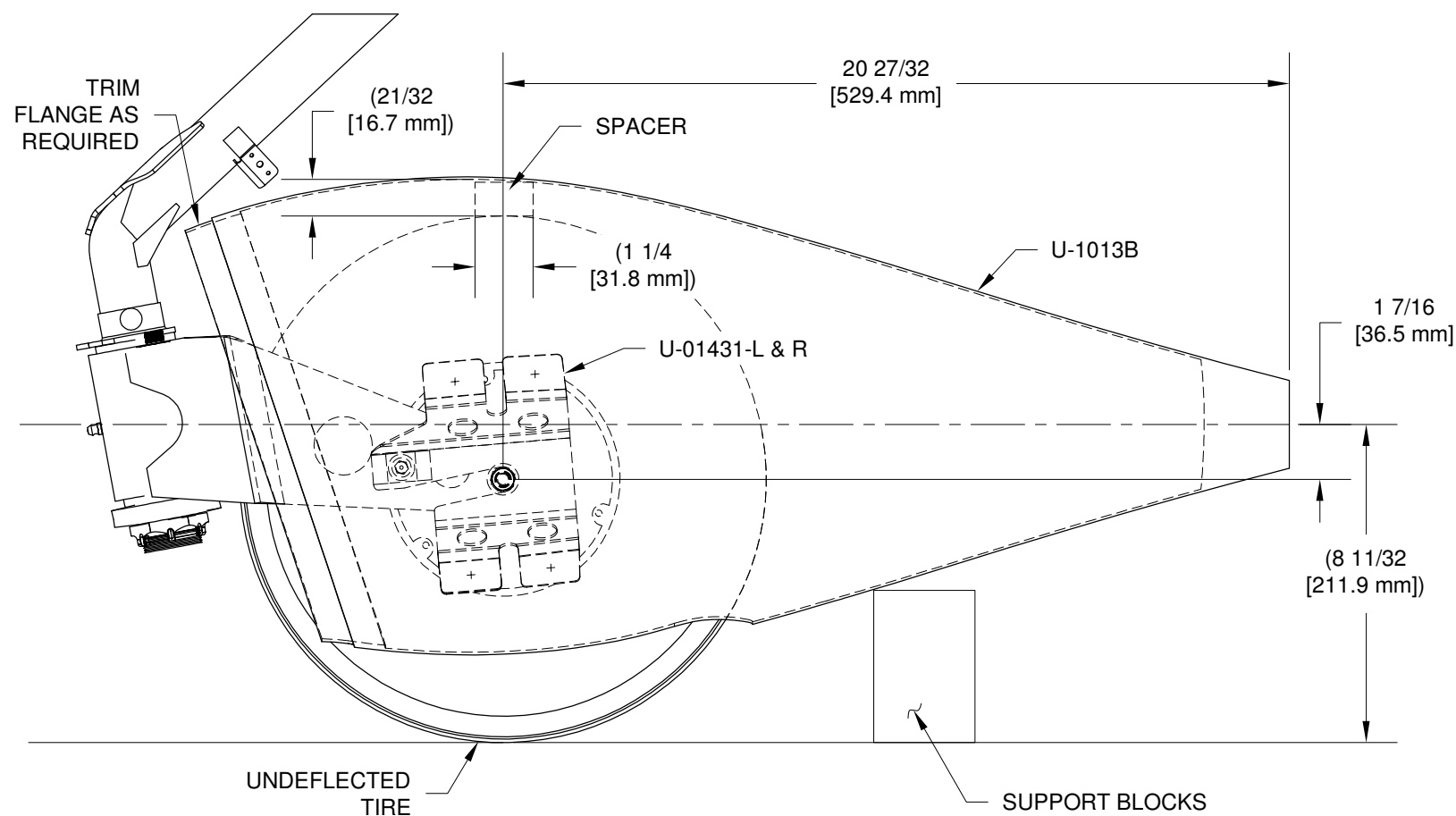


FIGURE 1: ALIGN WHEEL FAIRING

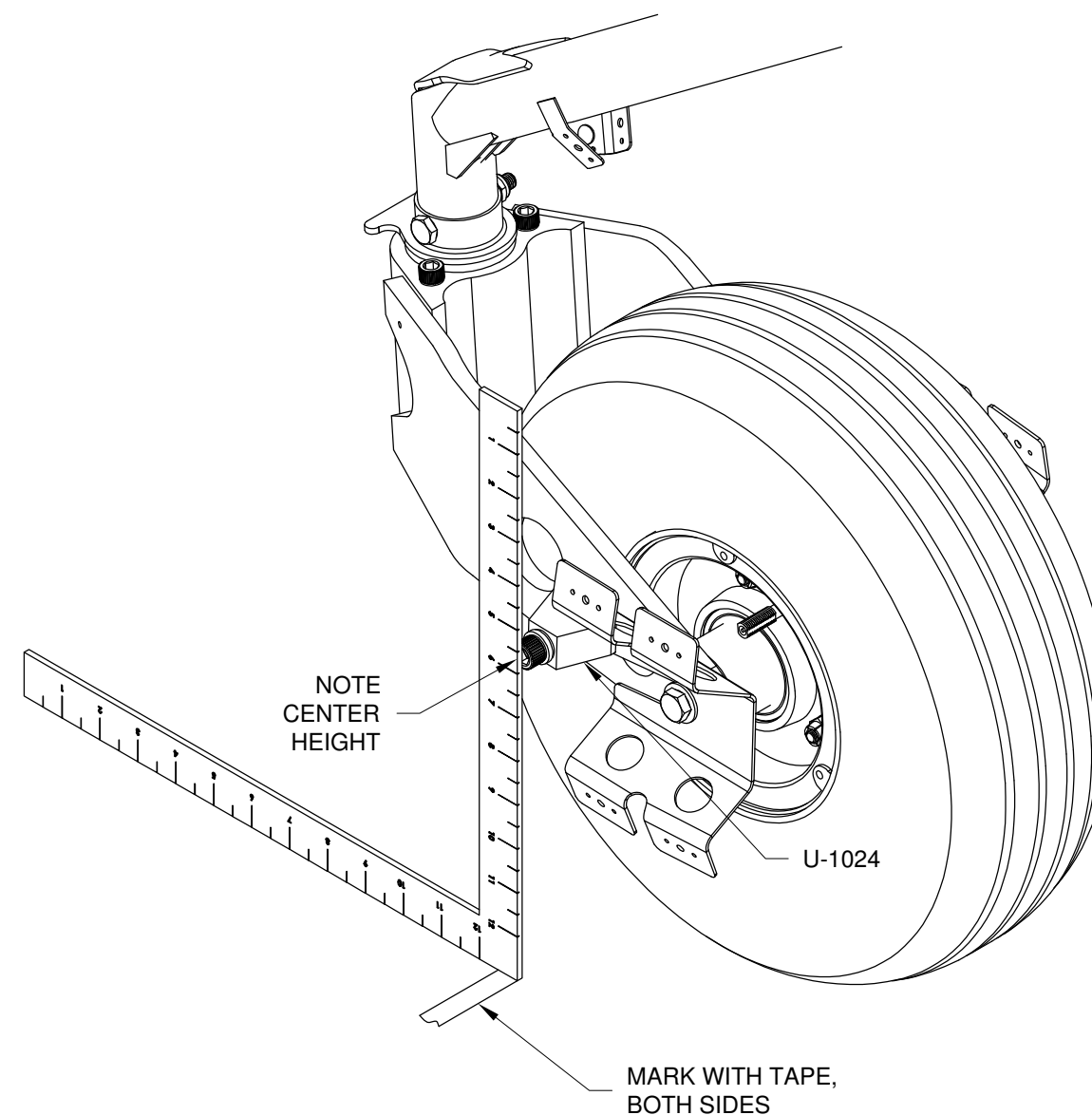


FIGURE 2: STANDOFF LOCATION



Step 1: Measure forward from the aft edge of the U-1013A Wheel Fairing Front the distance shown in Figure 1.

Cut a hole aligned with the center of the wheel fairing front using a Ø1 1/2 hole saw then sand to enlarge the hole to Ø1 5/8 (Use a Ø1 5/8 hole saw if available).

Use a hack saw blade to cut forward from the aft edge of the wheel fairing front to meet the tangent points of the hole. Save the piece cut from the fairing to use as a filler piece for the U-1013B Wheel Fairing Rear.

Step 2: Install the wheel fairing rear on the Nose Wheel Assembly.

Trial fit the wheel fairing front to the wheel fairing rear.

Sand as required to make a minimum 1/16 [1.6 mm] - 3/32 [2.4 mm] clearance gap between the cutout edges and the Nose Gear Leg Assembly. This slot will be visible so take the time required to do a good job.

Cleco the wheel fairing front to the wheel fairing rear.

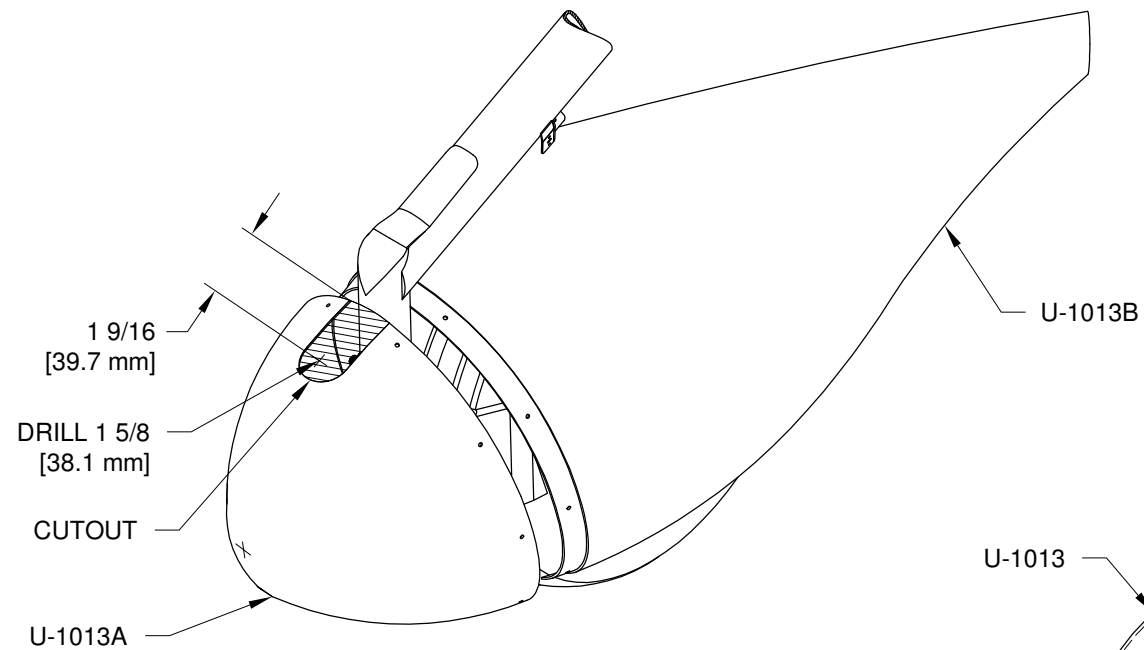


FIGURE 1: CUTTING THE SLOT IN THE WHEEL FAIRING FRONT

Step 3: Recheck the alignment of the U-1013 Wheel Fairing with the floor as shown in Figure 2.

Sight through the U-1013B Wheel Fairing Rear and match-drill #40 through the wheel fairing rear and the U-01431-L &-R Nose Wheel Fairing Brackets. Cleco each hole as drilled.

Step 4: Use the tape placed on the floor to align the square in the proper fore and aft position as described on Page 46A-11, Step 2 and shown in Figure 2. Mark each side of the fairing at the height noted on Page 46A-11, Figure 1.

Step 5: Drill 1/4 a pilot hole in the wheel fairing rear at the marked location.

Sight through the pilot hole to confirm that the hole is centered over the U-1024 Standoff center.

Adjust the center location on the fairing if required.

Step 6: Mark the wheel opening clearance around the entire opening as shown in Figure 2.

Remove the fairings and trim the opening if/as required to achieve minimum clearance.

Step 7: Final-Drill 1 [25.4 mm] the access holes on both sides of the wheel fairing rear as called out in Figure 2.

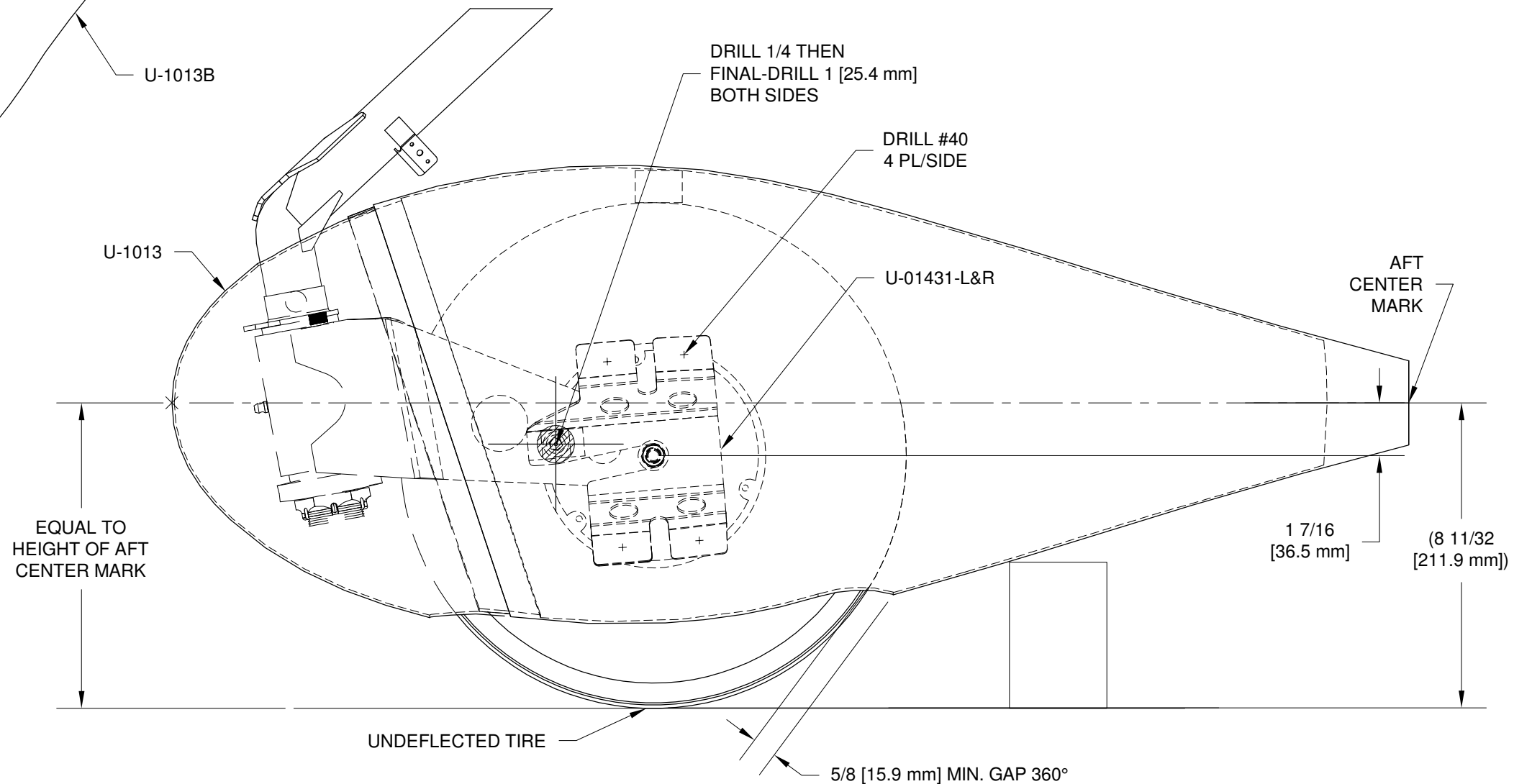
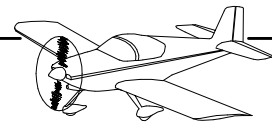


FIGURE 2: ALIGNING FAIRING IN PITCH



Step 1: Drill #36 the #40 holes in the U-01431-L & -R Nose Wheel Fairing Brackets then tap them 6-32. See Figure 1.

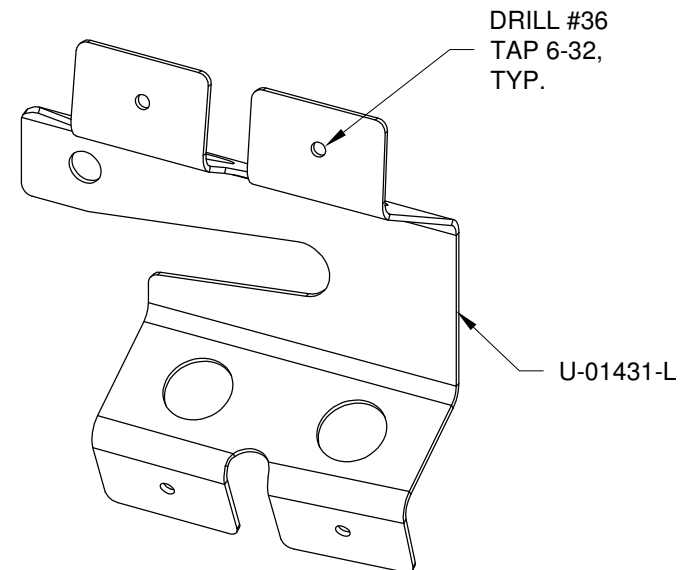


FIGURE 1: ENLARGE AND TAP HOLES IN NOSE WHEEL FAIRING BRACKETS

Step 2: Drill #27 and tap 6-32 the #40 bracket attach holes in the U-1013B Wheel Fairing Rear to allow for #6 screw installation. See Figure 2.

Step 3: Follow the procedure detailed on Page 46A-07 Steps 2-5 for applying flox mixture to the inside of the main wheel fairings for the nose wheel fairing rear.

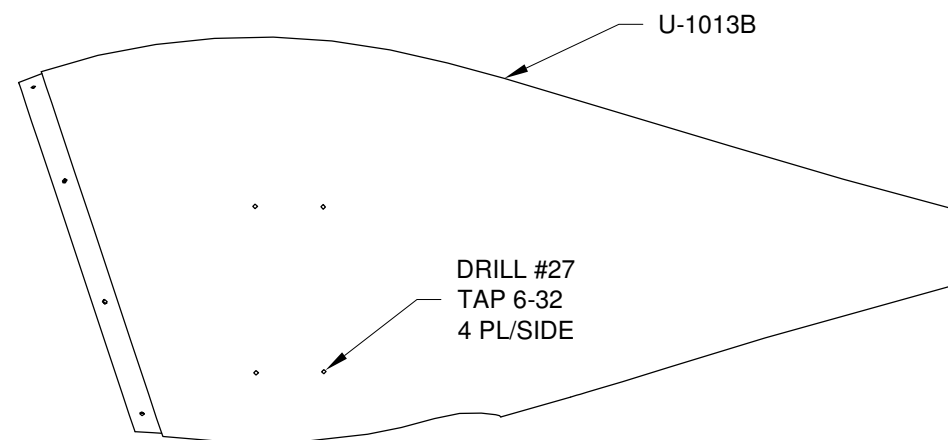


FIGURE 2: ENLARGE HOLES IN NOSE WHEEL FAIRING

Step 4: When the flox mixture has cured remove the screws from the U-1013B Wheel Fairing Rear.

Final-Drill #19 the screw holes in the wheel fairing rear and the brackets. See Figure 3.

Separate parts.

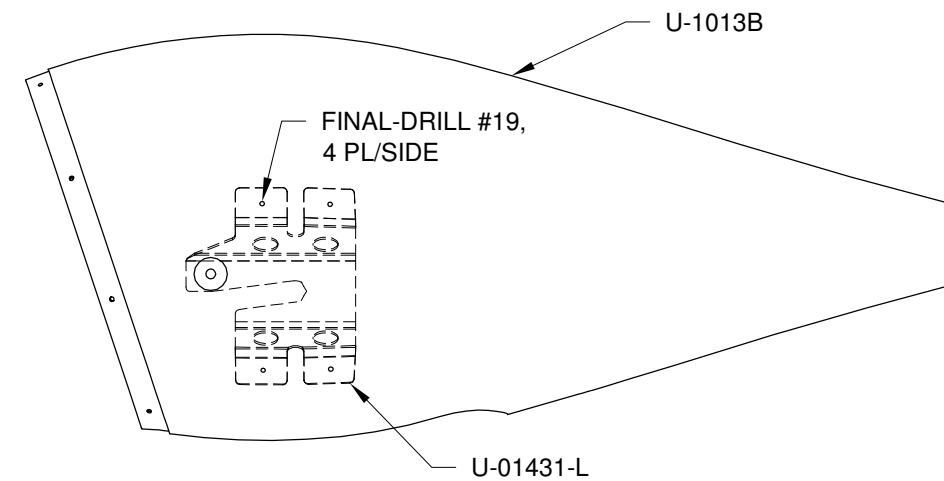


FIGURE 3: FINAL-DRILL WHEEL FAIRING TO BRACKETS

Step 5: Match-Drill #40 the U-01431-L & -R Nose Wheel Fairing Brackets for nutplate rivets as shown in Figure 4. Deburr and countersink the nutplate attach rivet holes for flush rivets.

Install the nutplates with the rivets called out in Figure 4.

Prime the nose wheel fairing brackets and attach the nutplates shown.

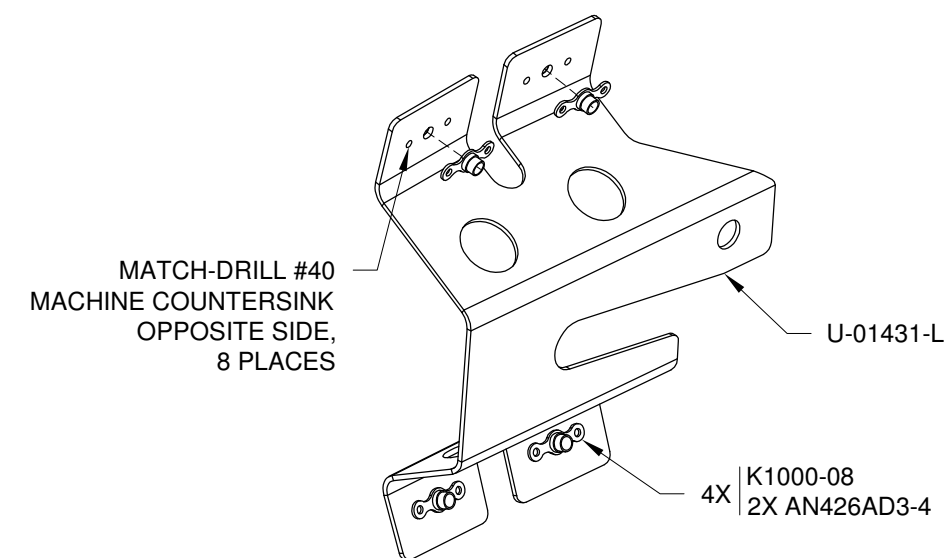


FIGURE 4: ATTACHING NUTPLATES TO BRACKETS



Step 1: Cleco the U-1013A Wheel Fairing Front and the U-1013B Wheel Fairing Rear together as shown in Figure 1.

Final-Drill #27 the wheel fairing front to the wheel fairing rear in three places. Drill one of the top two #40 screw attach holes and then one hole on each side between the fairing halves as shown in Figure 1.

Disassemble and deburr.

Step 2: Use the technique described in the note on Page 46A-07 to final-drill #40 the nutplate attach holes on the wheel fairing rear at the #27 hole locations drilled in Step 1.

Machine countersink and deburr the nutplate attach holes. See Figures 1 & 2.

Step 3: Rivet three of the nutplates called out in Figure 2 to the wheel fairing rear.

Step 4: Reassemble the fairing halves using three #6 screws and clecos at the rest of the holes.

Final-Drill #27 the remaining #40 holes between the fairing halves.

Disassemble the fairing halves.

Step 5: Match-Drill #40 the remaining nutplate rivet holes in the wheel fairing rear.

Install the remaining nutplates called out in Figure 2.

Step 6: Machine countersink the #19 holes in the sides of the wheel fairing rear to accept AN507C832 screws.

Step 7: Cut to fit the piece of fiberglass scrap created earlier to serve as a filler and position it on the wheel fairing rear directly behind the nose gear leg.

Final-Drill #40 as shown in Figure 2. Machine countersink and rivet the filler piece to the wheel fairing rear as shown in the Detail.

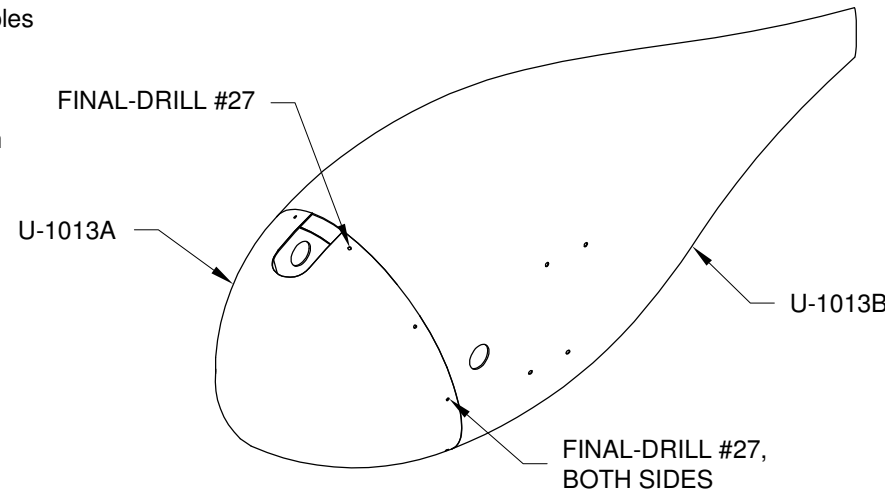


FIGURE 1: FINAL-DRILL THE FAIRINGS

Step 8: Attach the U-01431-L & -R Nose Wheel Fairing Brackets to the U-1013B Wheel Fairing Rear using the hardware called out in Figure 3.

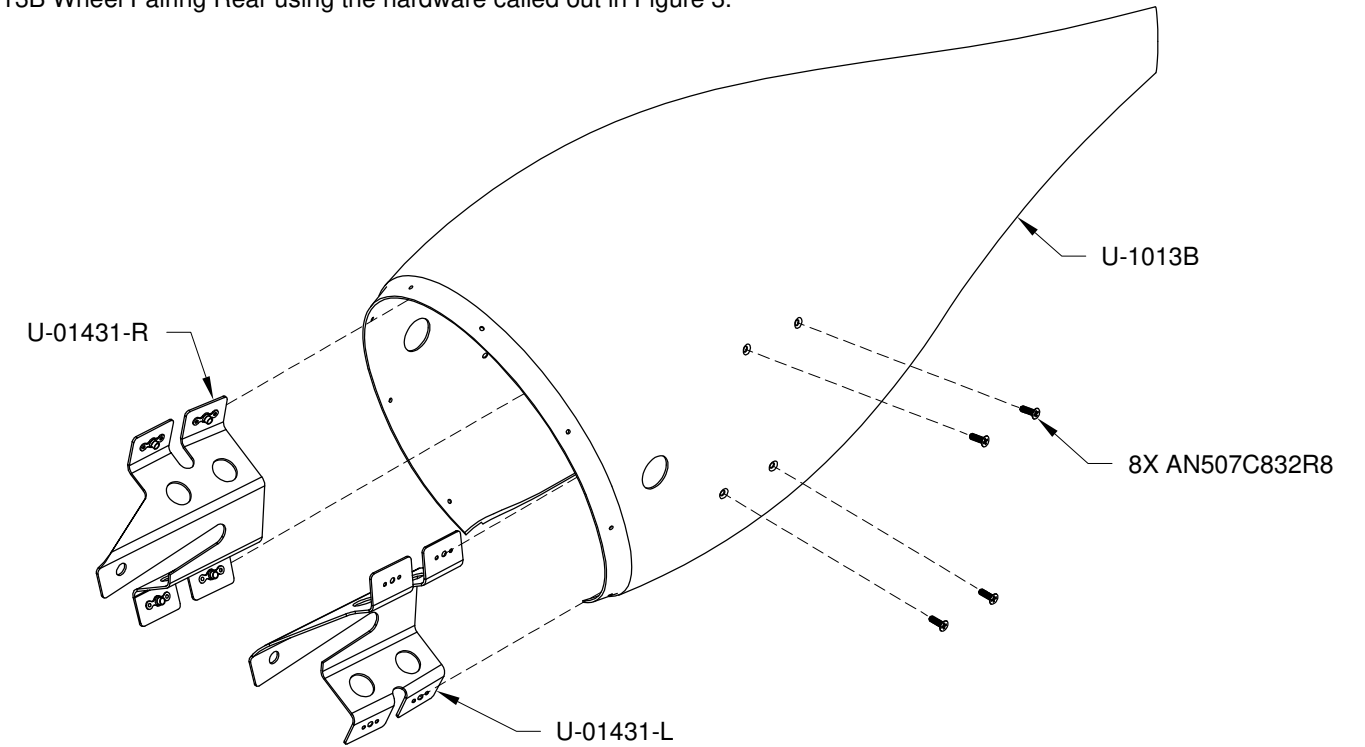


FIGURE 3: ATTACHING NOSE WHEEL - FAIRING BRACKETS

Step 9: Slide the wheel fairing rear with the attached nose wheel fairing brackets onto the axle at the gap in the washer stack-up.

Attach the fairing to the nose fork at the U-01431-L & -R Nose Wheel Fairing Brackets as shown in Figure 4 using the hardware called out on Page 46A-10 Figure 4.

Step 10: Machine countersink the #27 holes in the wheel fairing front for the screws called out in Figure 4.

Attach the wheel fairing front to the wheel fairing rear using the screws called out in Figure 4.

Step 11: Swivel the Nose Wheel Assembly from side to side to ensure that there is clearance through the full range of motion.

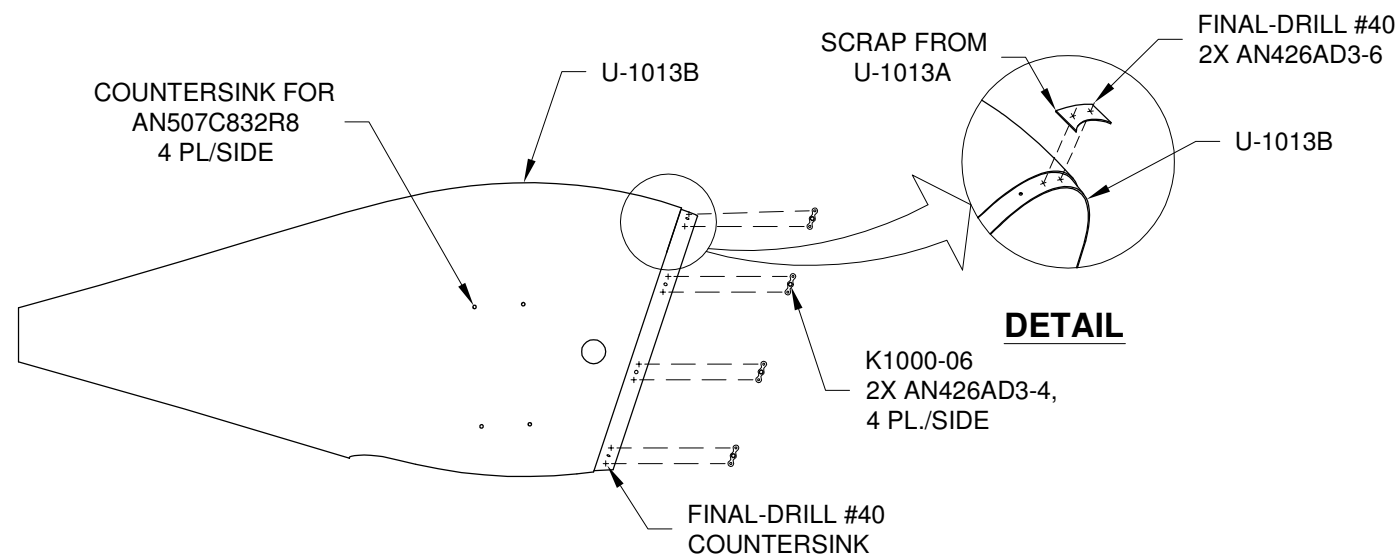


FIGURE 2: RIVETING NUTPLATES TO THE WHEEL FAIRING REAR

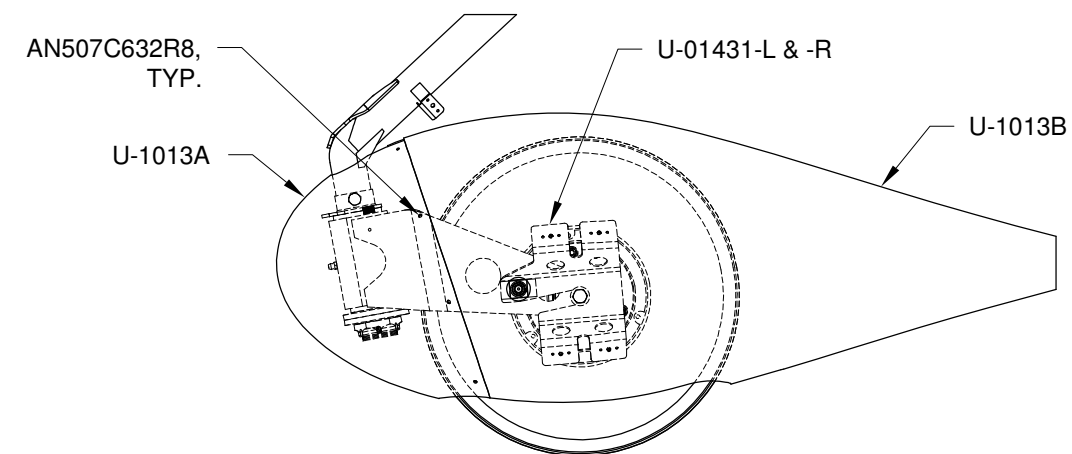
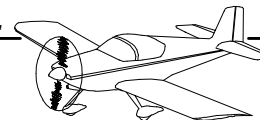


FIGURE 4: FINAL FAIRING ATTACHMENT



NOTE: If transparent, the nose gear leg fairing must remain transparent to accomplish the installation. Do not sand or prime its exterior until installation is complete.

If the fairing is opaque, refer to Section 5.18 MATCH-DRILLING OPAQUE FIBERGLASS PARTS.

Step 1: The U-01424 Nose Gear Leg Fairing needs to be properly aligned for best flight performance.

To check the fairing for twist place the leading edge down on a table or other flat surface and use a square at one end to position the trailing edge exactly above the leading edge.

Make sure that the other end of the fairing also has the trailing edge exactly above the leading edge. This will verify that the fairing was molded without twist. See Page 46A-19 Figures 1 & 2 for similar process.

Step 2: Beginning with the nose gear leg fairing held in the "no-twist" position, place tape on the trailing edge to hold it in the proper alignment as shown in Figure 1.

Step 3: Drill #40 and cleco four holes in the trailing edge flange of the nose gear leg fairing located approximately as shown in Figures 1 & 2.

Step 4: Trim the top and bottom edges of the nose gear leg fairing to within 1/16 [1.6 mm] of the factory marked trim lines. Do not trim the trailing edge flange. See Figure 2.

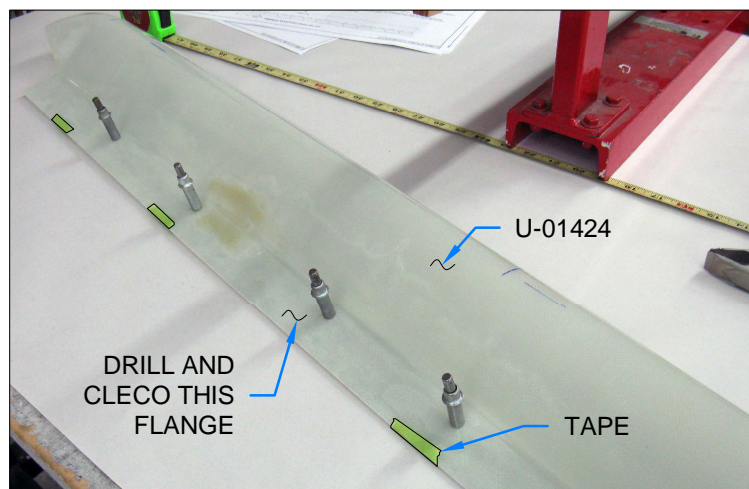


FIGURE 1: SECURE THE NOSE GEAR LEG FAIRING

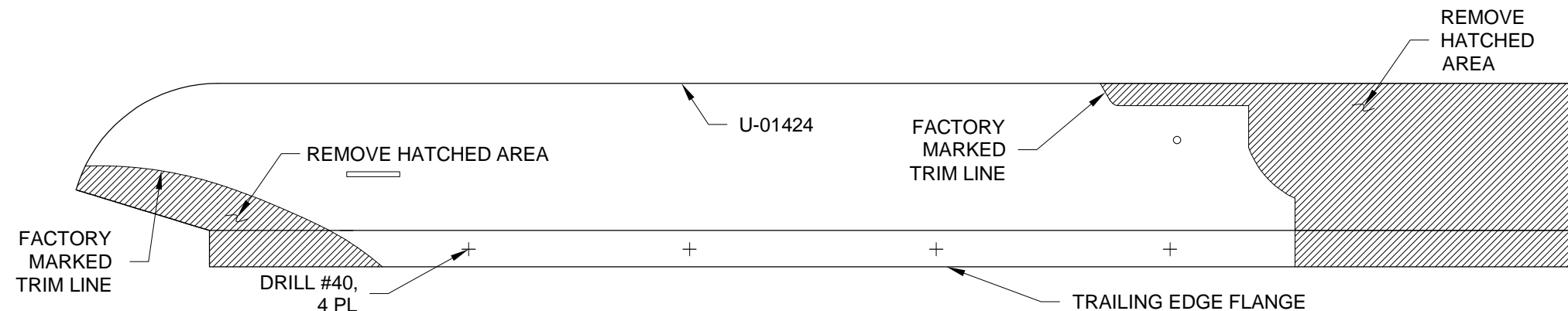


FIGURE 2: TRIMMING THE NOSE GEAR LEG FAIRING

Step 5: With the wheel fairing in place fit the nose gear leg fairing to the U-01406-1 Nose Gear Leg Assembly as shown in Figure 3. Align the gear leg fairing by sliding it forward and aft using the alignment marks on the fairing to assist in properly locating the fairing on the gear leg.

Section A-A depicts the fairing nested onto the nose gear leg assembly.

Step 6: Mark the outline of the fairing brackets onto the nose gear leg fairing by sighting through the fairing as shown in Figure 3 detail. Opaque fairings can be lightly sanded to reveal the fairing brackets underneath.

Remove the nose gear leg fairing.

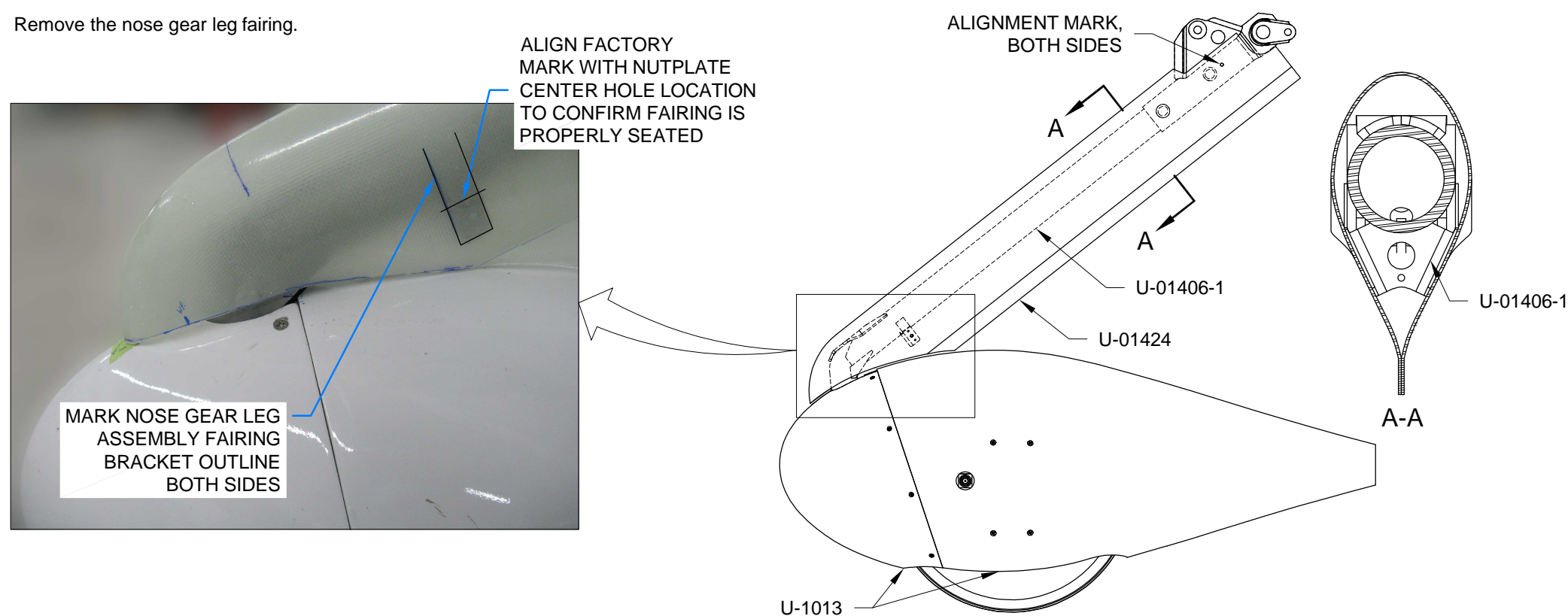


FIGURE 3: ALIGNING THE NOSE GEAR LEG FAIRING



Step 1: Remove the hinge pin from Piano Hinge .063 supplied in the kit. Trim the hinge material to the length shown in Figure 1 to make the U-01408 Nose Gear Leg Fairing Hinge. The hinge will initially overhang the nose gear leg fairing.

Step 2: Draw a rivet centerline the full length of the outside of both halves of the hinge as per the dimensions shown in Figure 1. Mark, but do not drill the hole locations shown in Figure 1.

Trim the hinge pin to the same length as the hinge. Deburr and install the hinge pin.

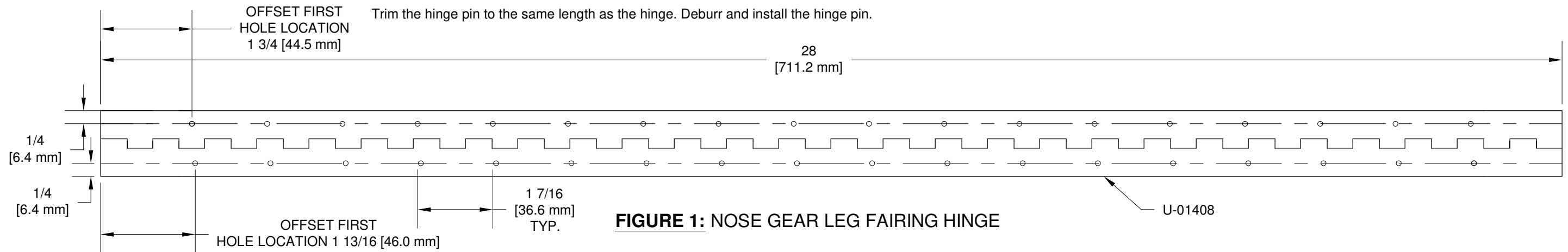


FIGURE 1: NOSE GEAR LEG FAIRING HINGE

Step 3: Sand any resin build up on the inside surface of the U-01424 Nose Gear Leg Fairing where the hinge will lay. It must be smooth so that the hinge will lay flat against the surface as shown in Figure 2 Detail.

Step 4: Cleco the trailing edge flange of the nose gear leg fairing.

Turn the fairing trailing edge down as shown in Figure 2.

Place the hinge in the nose gear leg fairing with the ends extending beyond both ends of the fairing. Allow the hinge to locate itself as shown in Figure 2. Do not force the hinge farther aft (down) into the fairing. When assembled the hinge should be holding the trailing edge closed with a slight amount of pressure.

Step 5: Align the first hole location marked on the hinge as shown in Figure 3 and clamp the hinge to the fairing.

Transfer the centerline mark and hole locations from the hinge to the fairing.

Mark the hinge halves as shown in Figure 3.

Step 6: Remove the U-01408 Nose Gear Leg Hinge from inside the U-01424 Nose Gear Leg Fairing.

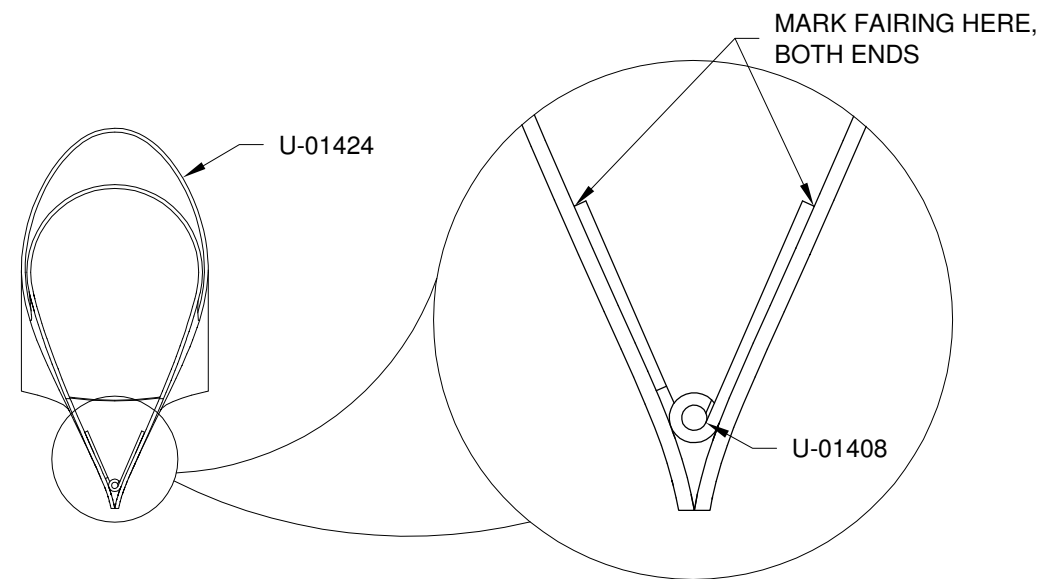


FIGURE 2: ALIGNING PIANO HINGE
FAIRING FLANGE NOT SHOWN

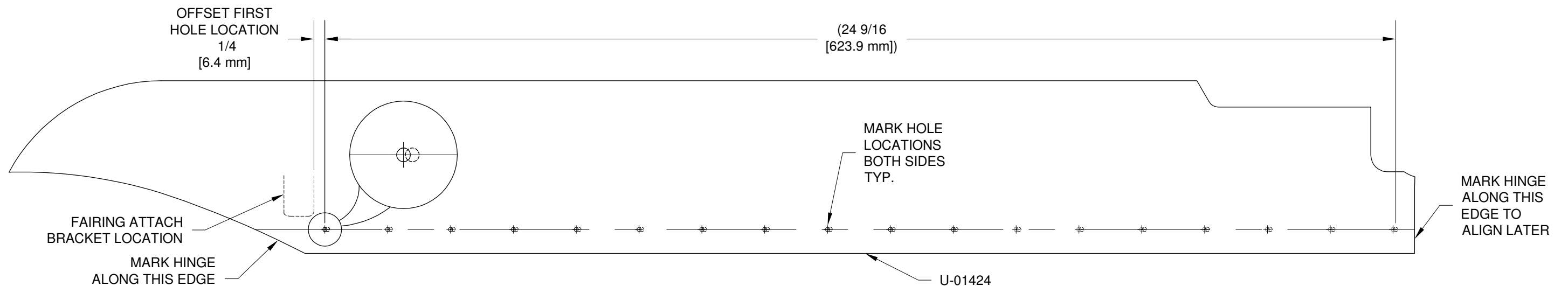


FIGURE 3: NOSE GEAR LEG FAIRING HINGE HOLE LOCATIONS



Step 1: Remove the hinge pin and place one half of the hinge in the U-01424 Nose Gear Leg Fairing aligned with the marks made in 46A-16 Step 5.

Clamp the ends and the middle of the hinge half in place.

Step 2: Add 1X2 [25.4X50.8mm] wood blocks to support the back side of the hinge.

Drill #40 the fairing to the hinge as shown in Figure 1. Start at one end and cleco each hole as you go. Use a new drill bit and high speed, putting as little force on the hinge as possible to avoid pushing it away from the fairing while drilling.

Step 3: Position the second hinge half in the fairing and insert the hinge pin to hold the two halves together.

Cleco the hole locations in the trailing edge flange.

Cleco the drilled hinge half to the fairing.

Clamp the ends of the undrilled hinge half to the fairing.

Remove the clecos, the hinge pin and the drilled hinge half.

Clamp the center of the hinge to the fairing and support with wooden blocks. Drill #40 as described in Step 2.

Step 4: Trim the hinge to the length called out in Figure 1.

Step 5: Remove the clecos from the trailing edge flange and trim flange to within 1/16 [1.6 mm] of the curved portion of the fairing.

Step 6: With the hinge halves clecoed to the fairing, countersink the fairing for AN426AD3 rivets. The holes in the hinge will guide the countersink cutter and keep it from elongating the holes in the fairing.

Remove the hinge, clean out the shavings, and deburr.

Step 7: Install the hinge on the fairing using a hand squeezer and the hardware called out in Figure 1. Do not fully set the rivets as in a metal structure. This would cause the thin composite fairing to crack around the holes.

Repeat for the other hinge half.

Step 8: Insert the hinge pin joining the trailing edge. Use a long sanding block to remove any excess "tail" on the fairing and even up the sides of the trailing edge.

Remove the hinge pin.

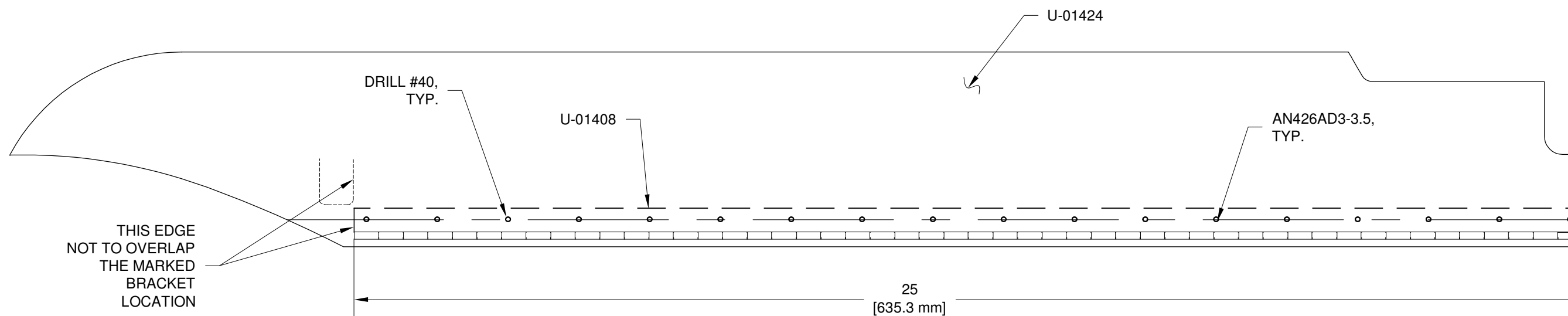


FIGURE 1: DRILLING THE NOSE GEAR LEG FAIRING

Step 1: Bend one end of the pin to approximately 3/4 [19.1 mm] 90° leg to keep the hinge pin from sliding when installed. See Figure 1.

Test fit the pin in the hinge. The bottom end of the pin should not extend beyond the end of the hinge halves.

Trim hinge pin as required.

Step 2: Reinstall the nose gear leg fairing to the Nose Gear Leg Assembly and install the hinge pin. Align the fairing so that the trailing edge follows the centerline of the aircraft as described on Page 46A-10.

Drill #12 the two upper bolt attach holes between the fairing and the Nose Gear Leg Assembly as shown in Figure 1.

Install the bolt in the first hole to hold the fairing in alignment while drilling the second. See Figure 1 for hardware call-outs.

Step 3: Drill #19 the two bracket attach holes in the fairing by sighting through the fairing at the holes in the Nose Gear Leg Assembly fairing brackets as shown in Figure 2.

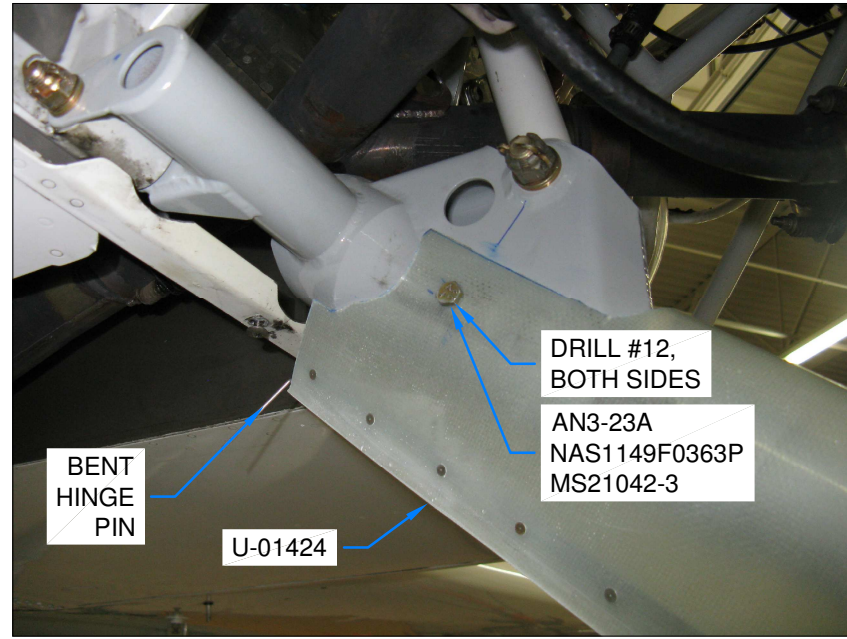


FIGURE 1: DRILLING THE NOSE GEAR LEG FAIRING

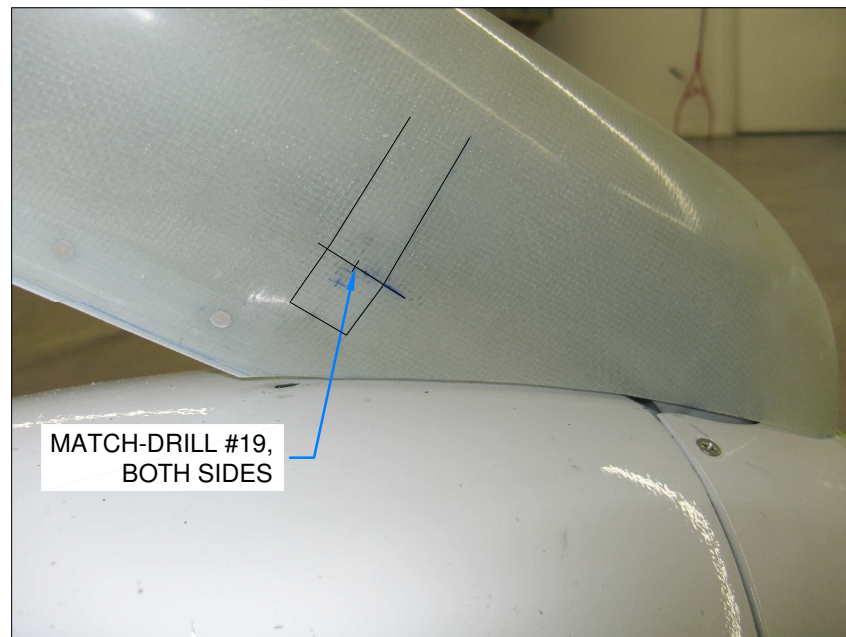


FIGURE 2: DRILL THE NOSE GEAR LEG FAIRING

Step 4: Remove the nose gear leg fairing.

Final-Drill #40 the nutplate rivet attach holes and countersink them for the rivets called out in Figure 3.

Rivet the nutplates called out in Figure 3 to the Nose Gear Leg Assembly.

Reinstall the fairing.

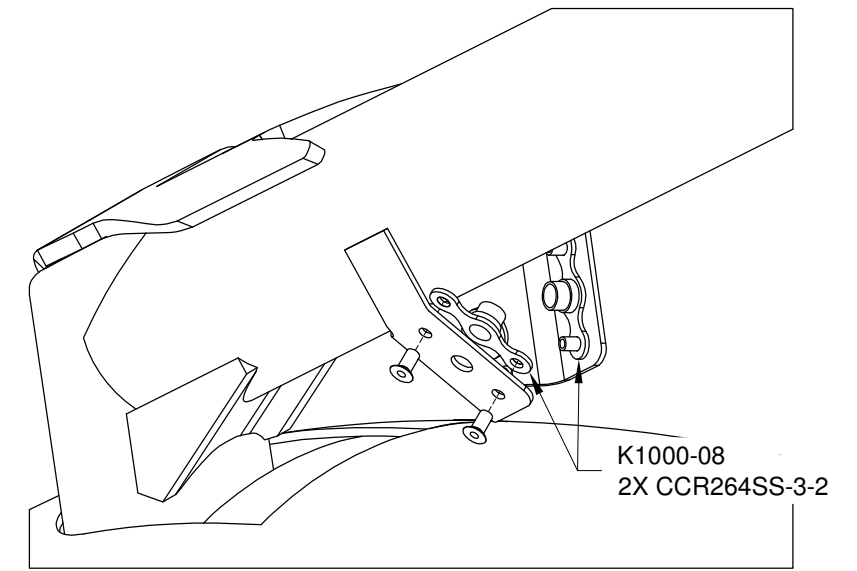


FIGURE 3: RIVETING NUTPLATES TO THE NOSE GEAR LEG ASSEMBLY

Step 5: Rotate the nose wheel from side to side to check for clearance. The minimum clearance must be maintained through the full range of motion.

Trim the nose gear leg fairing as required to achieve the minimum distance between it and the nose wheel fairing. See Figure 4.

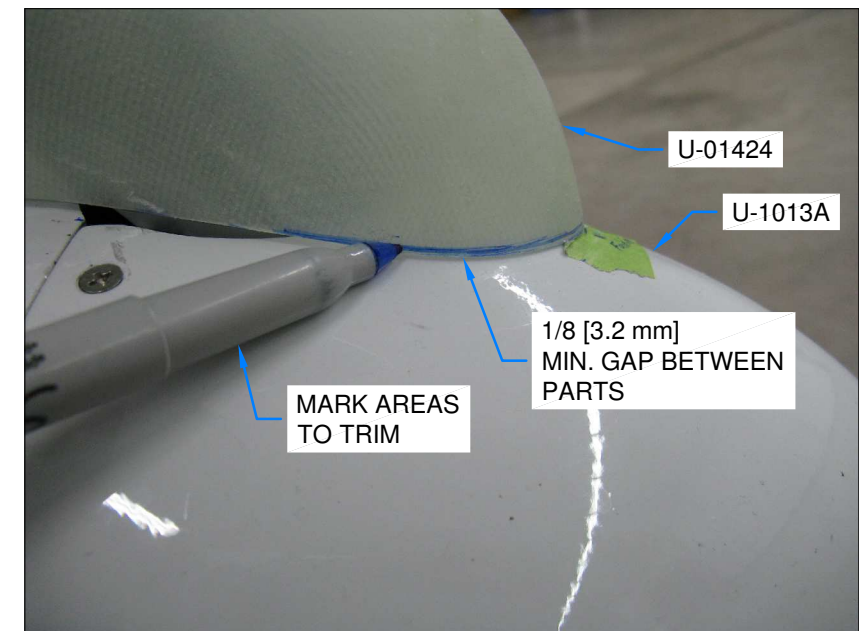


FIGURE 4: FAIRING CLEARANCE

Step 6: Drill a #40 hole through the upper end of the fairing and hinge half so that the hinge pin can be safety wired at final assembly as shown in Figure 5.

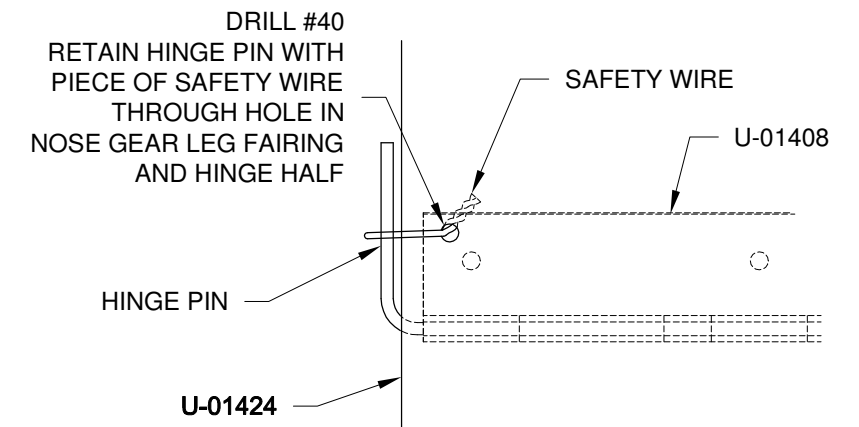
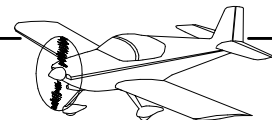


FIGURE 5: SAFETY WIRE HINGE PIN



Step 1: The U-01409 Main Gear Leg Fairing needs to be properly aligned for best flight performance.

To check the fairing for twist place the leading edge down on a table or other flat surface and use a square at one end to position the trailing edge exactly above the leading edge.

Make sure that the other end of the fairing also has the trailing edge exactly above the leading edge. This will verify that the fairing was molded without twist. See Figures 1 & 2.

Step 2: Hold the main gear leg fairing in the "no-twist" position and place tape on the trailing edge to hold it in the proper alignment as shown in Figure 2.

Step 3: Drill #40 and cleco 5 holes in the trailing edge of the main gear leg fairing outside of the scribe line and placed approximately as shown in Figure 3.

Step 4: Trim the top and bottom edges of the U-01409 Main Gear Leg Fairings to within 1/16 [1.6 mm] of the provided scribe lines. Do not trim the trailing edge. See Figure 3.

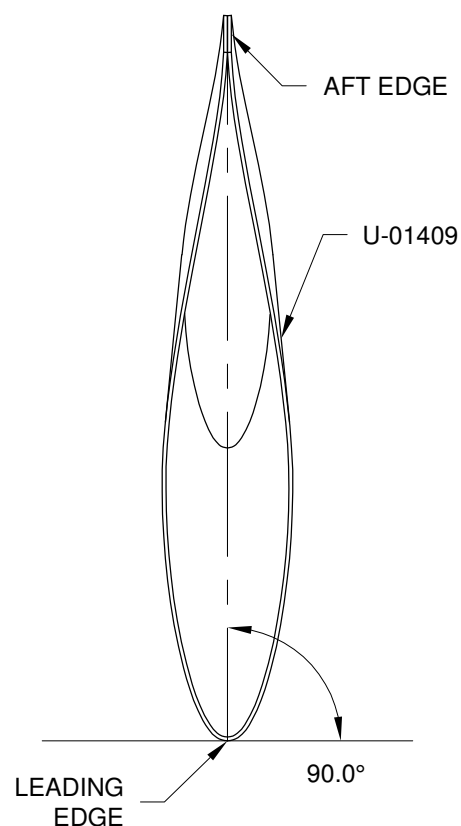


FIGURE 1: CHECK FAIRING FOR TWIST

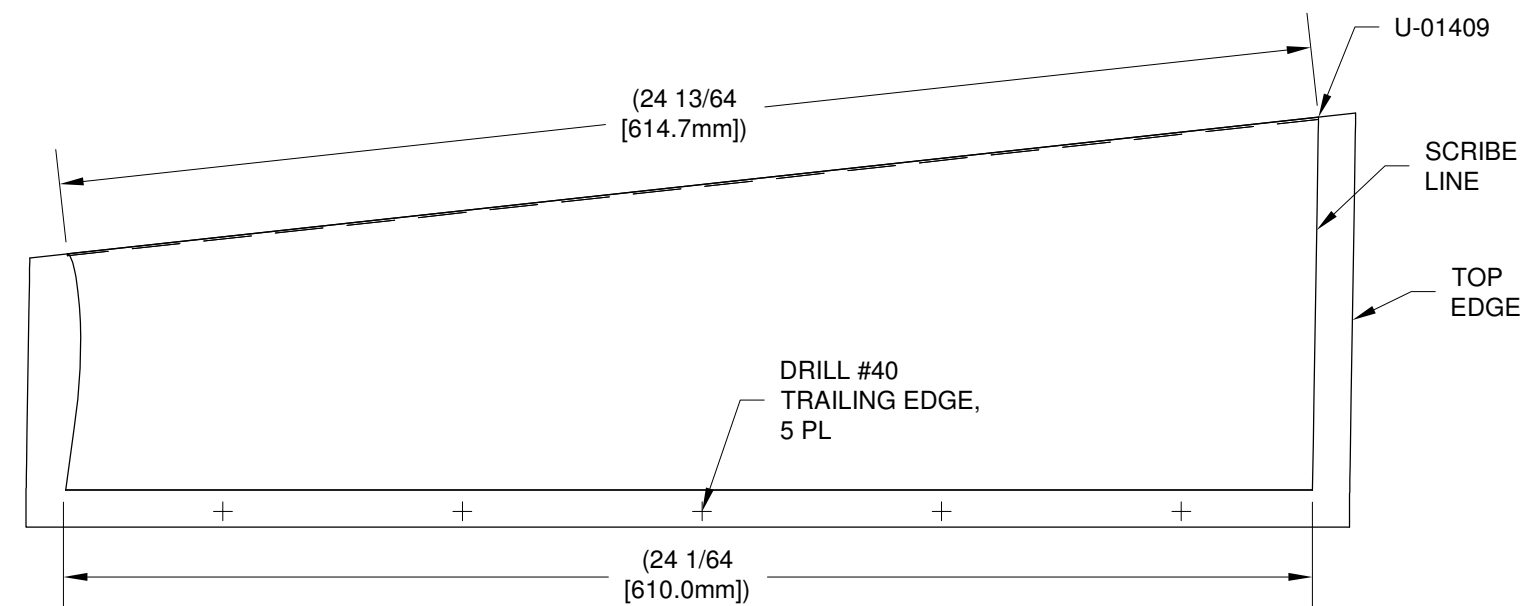


FIGURE 3: SECURING TRAILING EDGE

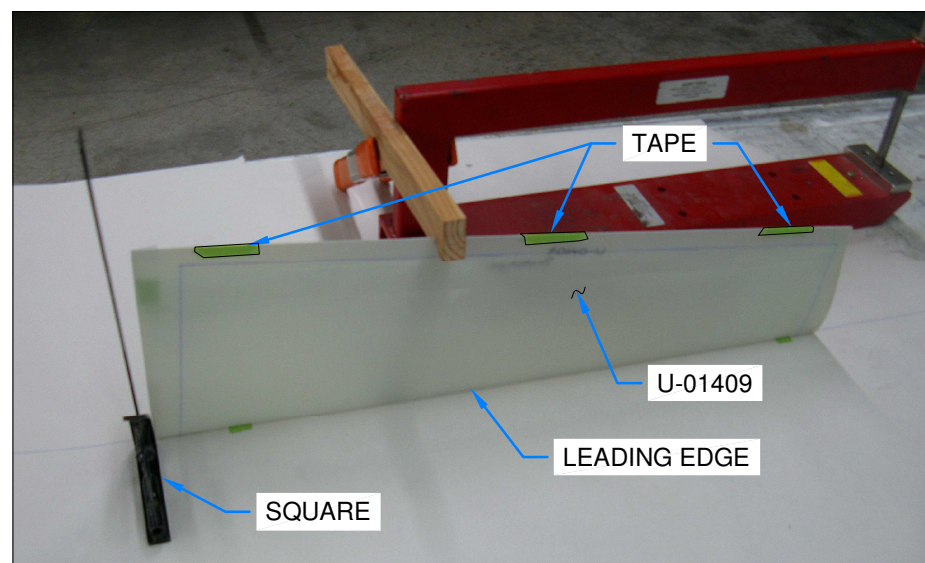


FIGURE 2: CHECK FAIRING FOR TWIST

Step 5: Remove the hinge pin from the Hinge Piano 063 supplied in the kit.

Trim the hinge material to the length shown in Figure 4. The hinge will initially overhang each end of the fairing by about 1 [25.4mm].

Trim the hinge pin to the same length as the piano hinge. Deburr and reinsert the hinge pin.

Step 6: Mark but do not drill the rivet locations on each of the hinge segments as shown in Figure 4. Offset the rivet locations on the opposite hinge by 1/8 [3.2mm] to prevent the clecos from interfering with one-another.

This is now the U-01412 Main Gear Leg Fairing Hinge.

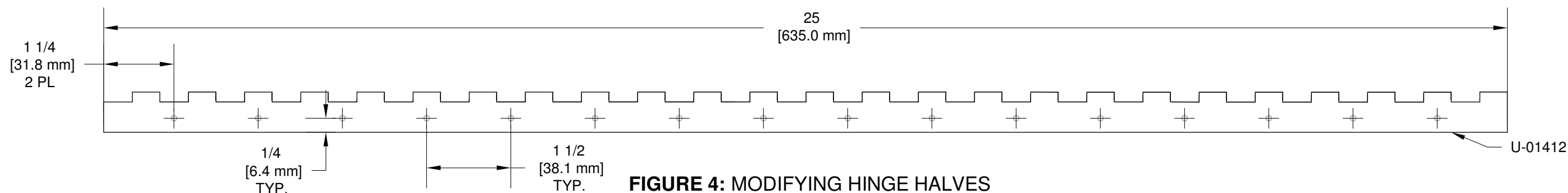


FIGURE 4: MODIFYING HINGE HALVES

Step 1: Position the U-01412 Main Gear Leg Fairing Hinge and hinge pin inside the U-01409 Main Gear Leg Fairing as shown in Figure 1.

With the trailing edge of the fairing clecoed closed turn the fairing trailing edge down to allow the hinge to locate itself.

Do not force the hinge farther aft (down) into the fairing. When assembled the hinge should be holding the trailing edge closed with a slight amount of pressure.

Step 2: Mark the fairing as shown in Figure 1 so that the hinge can be put back in the same place later.

Remove the hinge from the fairing and remove the hinge pin from the hinge.

Step 3: Position one of the marked hinges inside the trailing edge of the fairing with the ends of the hinge loops aligned near the trim lines at each end of the fairing and aligned forward and aft with the marks made in Step 2. See Figures 1 & 2.

Clamp the ends and center of the hinge half in place.

Add 1X2 [25.4 X 50.8 mm] wood blocks to support the back side of the hinge as shown in Figure 2.

Step 4: Drill #40 through the fairing and hinge using the fastener locations marked on the hinge to position the holes. Light pressure and high drill speed allow the bit to cut through without distorting the hinge. Work from one end of the fairing to the other, clecoing each hole before drilling the next.

Mark the final trim locations on the hinge ends before removing it from the fairing.

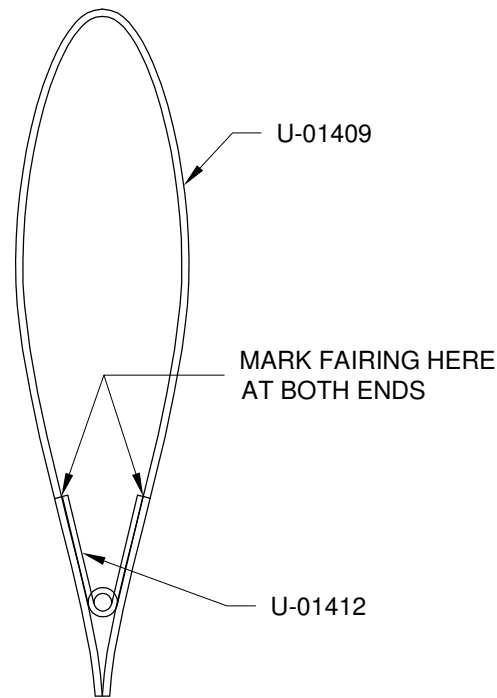


FIGURE 1:
POSITIONING HINGE IN FAIRING
TRAILING EDGE FLANGE NOT SHOWN

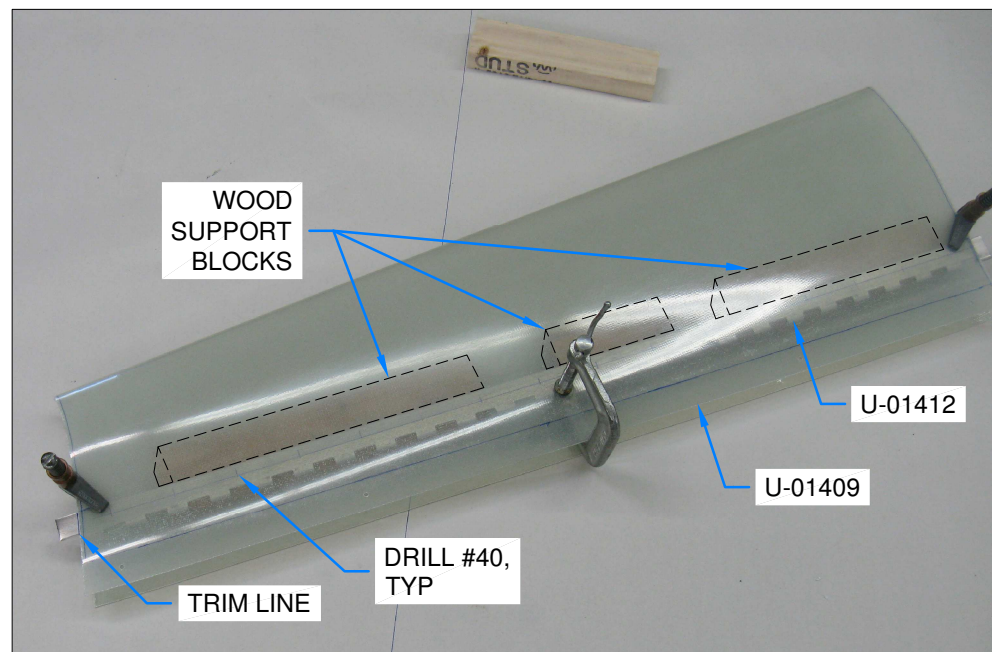


FIGURE 2: LOCATE HINGE HALF AND SPACER BLOCKS

Step 5: Remove clecoes, and hinge half. Remove wooden blocks and clear all debris.

Reassemble the two hinge halves and re-cleco to the U-01409 Main Gear Leg Fairing.

Insert clecoes in the 5 holes drilled in the trailing edge.

Step 6: Drill #40 and cleco the holes marked on the remaining side of the gear leg fairing and hinge half. The cleco tips holding the opposite side hinge half should support the second hinge half while drilling. See Figure 3.

Step 7: Un-cleco the hinge from the fairing and clean out any metal chips.

Deburr holes and trim the excess hinge from each end.

Trim the trailing edge of the fairing to within 1/16 [1.6mm] of the scribe line.

Step 8: Cleco the hinge to the fairing and countersink the fairing for AN426AD3 rivets. The holes in the hinge will guide the countersink cutter and keep it from elongating the holes in the fairing.

Step 9: Rivet the hinge to the fairing using a hand squeezer and the hardware called out in Figure 4. Do not fully set the rivets as in a metal structure. This would cause the thin composite fairing to crack around the holes.

Repeat for the other hinge half.

Step 10: Insert the hinge pin joining the trailing edge. Use a long sanding block to remove any excess "tail" on the fairing and even up the sides of the trailing edge.

Remove the hinge pin and bend the lower 1" to 90°.

Step 11: Drill a #40 hole through the upper surface of the top end of the fairing and hinge half so that the hinge can be safety wired at final assembly as shown in Figure 4.



FIGURE 3: DRILLED & CLECOED HINGE HALVES

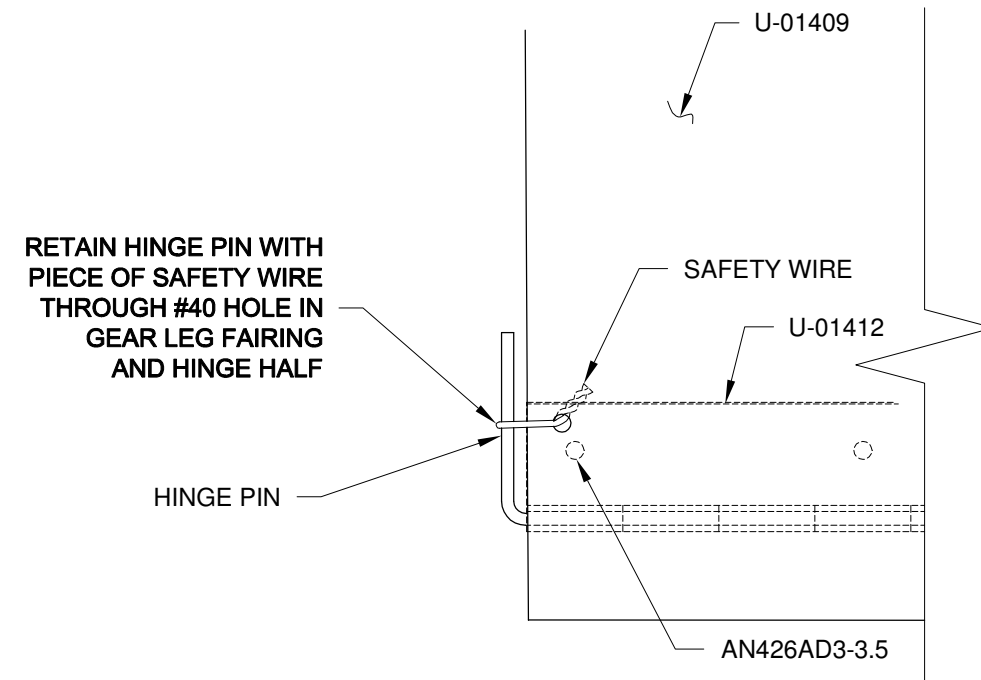
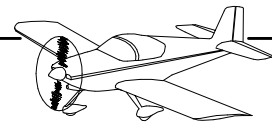


FIGURE 4: HINGE PIN RETENTION DETAIL



Step 1: Align the trailing edges of the U-01410-L & -R Upper Intersection Fairings so the mounting flange around the perimeter will lay flush on the belly of the fuselage. Sand off any excess resin build-up on the surface of the upper intersection fairing that prevents it from laying flush against the fuselage.

Clamp the trailing edge of the fairing to hold it in position and drill two #40 holes in the aft flange, 5/16 [7.9 mm] aft of the molded trailing edge for clecoing during fitting. See Figure 1.

Step 2: Trim the fuselage mating flange of the upper intersection fairings to 1/8 [3.2 mm] outside the scribe line as shown in Figure 2.

Trim the gear leg opening to the scribe line.

Trim the trailing edge flanges of the fairing to approximately 5/8 [15.9 mm] outside the scribe line.

Step 3: Align the trailing edges of the U-01411-L & -R Lower Intersection Fairings so the mounting flange around the perimeter will lay flush on the side of the wheel fairing. Sand off any excess resin build-up on the surface of the lower intersection fairing that prevents it from laying flush against the wheel fairing.

Clamp the trailing edge of the fairings to hold that position and drill one #40 hole in the aft flange, 5/16 [7.9 mm] aft of the molded trailing edge for clecoing during fitting. See Figure 3.

Step 4: Trim the Wheel fairing mating flange of the lower intersection fairings to 1/16 [1.6 mm] outside of the scribe line as shown in Figure 3.

Trim the leg opening to the scribe line.

Trim the trailing edge flanges of the fairing to approximately 5/8 [15.9 mm] outside of the scribe line.

Step 5: Sand to remove excess thickness and/or high spots from molded screw locations or anywhere else on the lower intersection fairing that would interfere with it laying flush on the wheel fairings as shown in Figure 3.

Sand to remove any excess thickness at the leading edge of the leg fairing openings on both the upper and lower intersection fairings as shown in Figures 3 & 4.

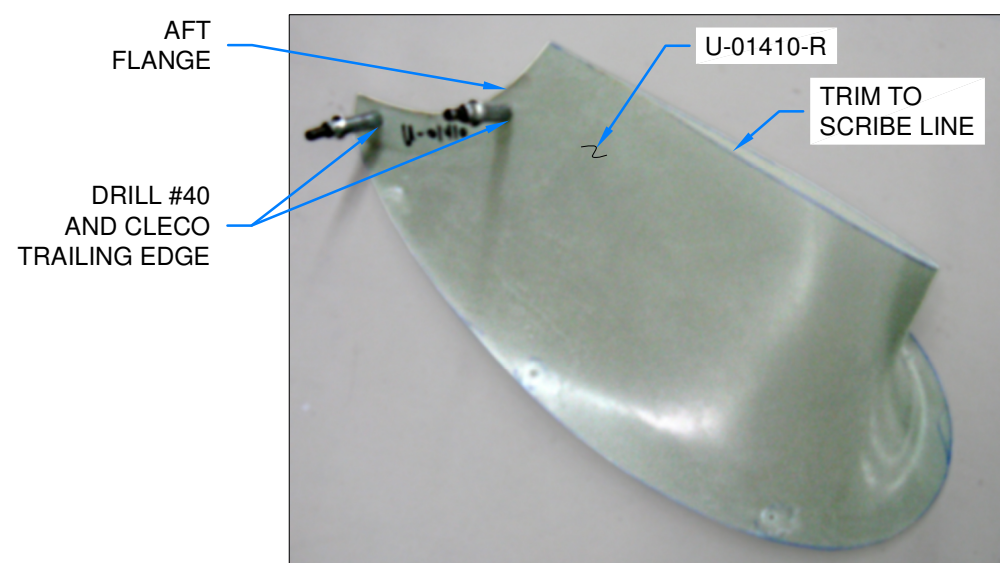


FIGURE 1: ALIGN UPPER INTERSECTION FAIRING

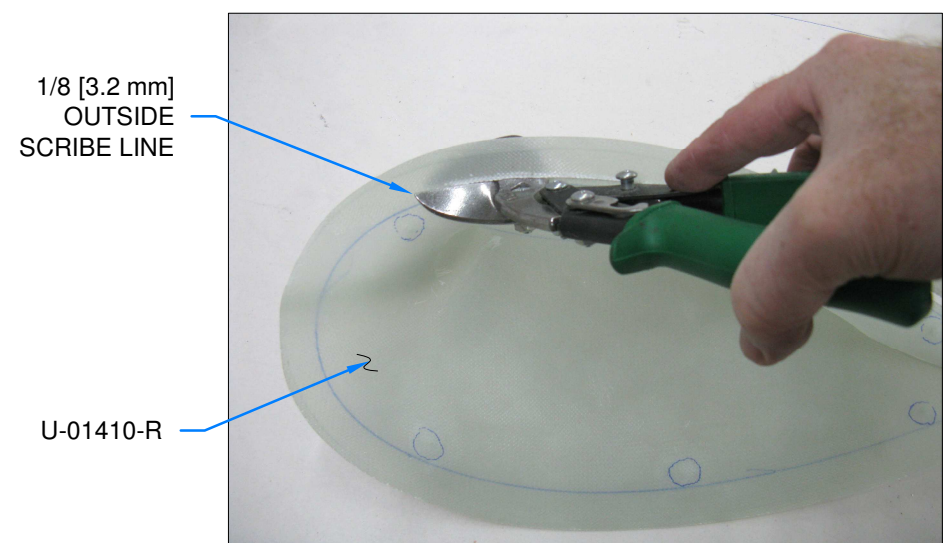


FIGURE 2: TRIM UPPER INTERSECTION FAIRING

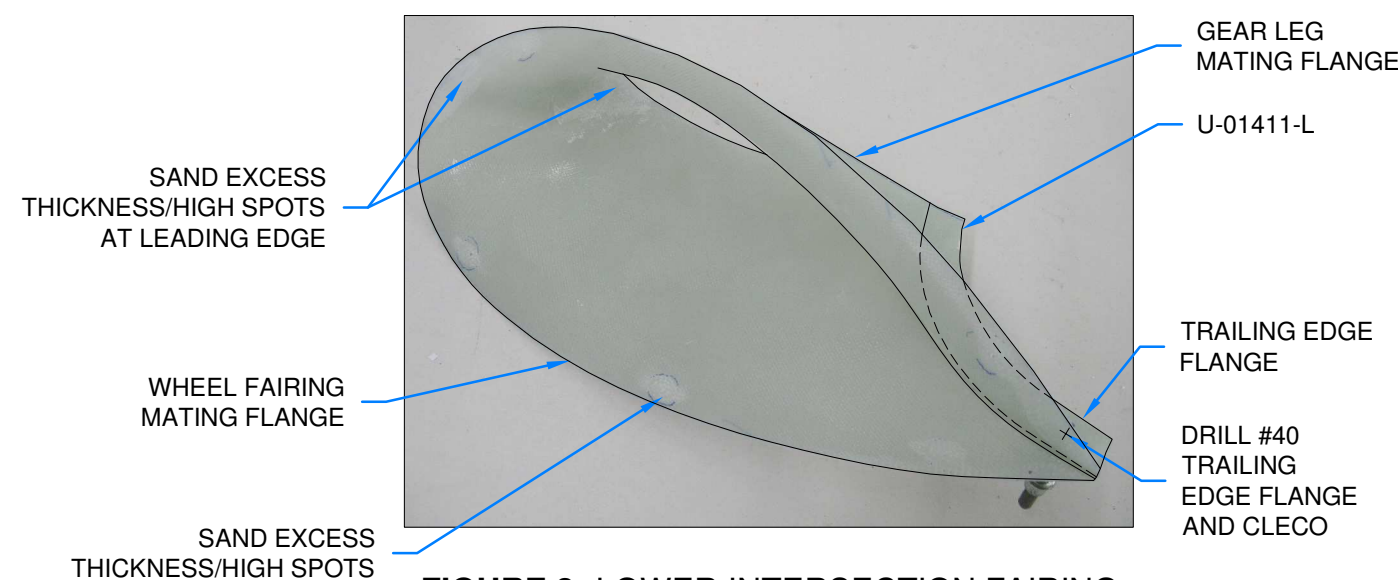


FIGURE 3: LOWER INTERSECTION FAIRING

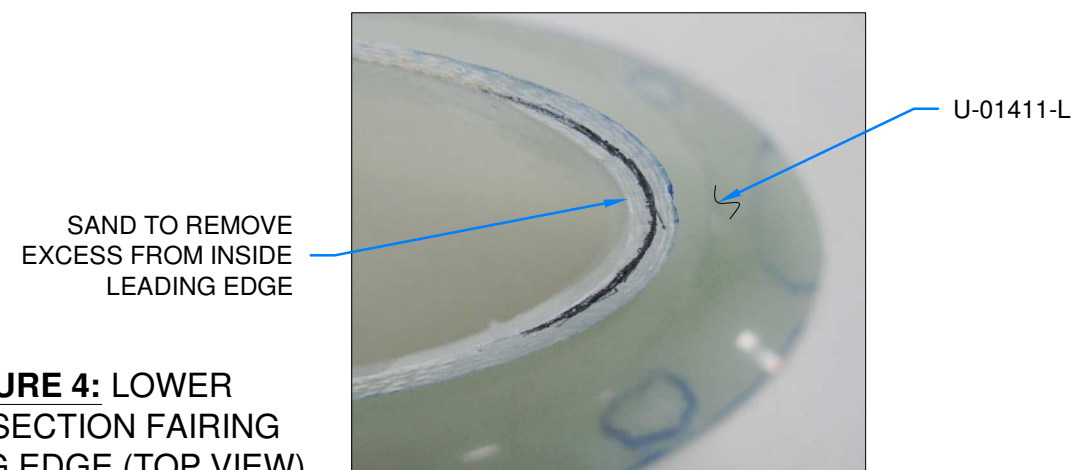


FIGURE 4: LOWER INTERSECTION FAIRING LEADING EDGE (TOP VIEW)

NOTE: There should be no weight on the main wheels during fitting of the intersection fairings.

Step 1: With the main wheel fairings installed, install the U-01409-L & -R Main Gear Leg Fairings on the gear legs and insert the hinge pin in the trailing edge.

Slide each leg fairing down until it just makes contact with the wheel fairing. Gear leg fairings are aligned with space forward and aft of the main gear leg. See Figure 1 for approximate spacing between the leading edge of the gear leg and gear leg fairing.

NOTE: Always install the upper intersection fairings before the lower intersection fairings. This allows the upper intersection fairings to be put in place over the narrowest part of the leg fairing at the bottom.

Step 2: Install the U-01410-L & -R Upper Gear Leg Intersection Fairings in place over the gear leg fairing.

Cleco the trailing edges of the fairings and tape in place against the fuselage bottom skins. Use the dimples in the intersection fairing as a reference for alignment.

Step 3: Install the U-01411-L & -R Lower Gear Leg Intersection Fairings in place over the gear leg fairing.

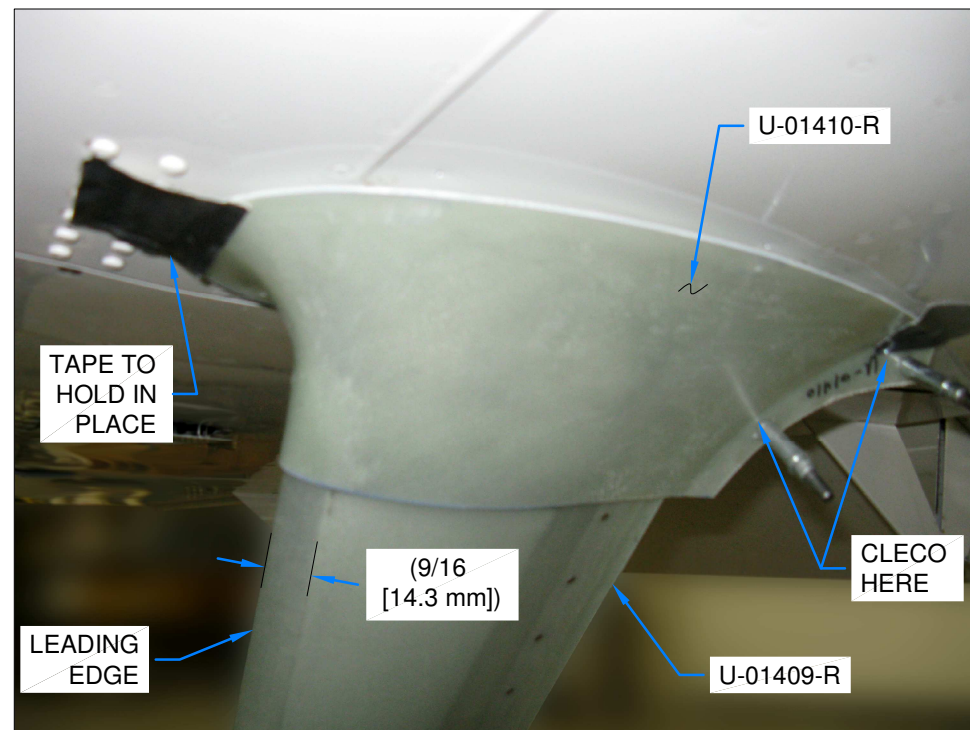


FIGURE 1: ALIGN FAIRINGS

Step 4: Use a pen to mark the location of the upper and lower intersection fairing edges on the gear leg fairing. See Figure 2.

Remove the upper and lower intersection fairings.

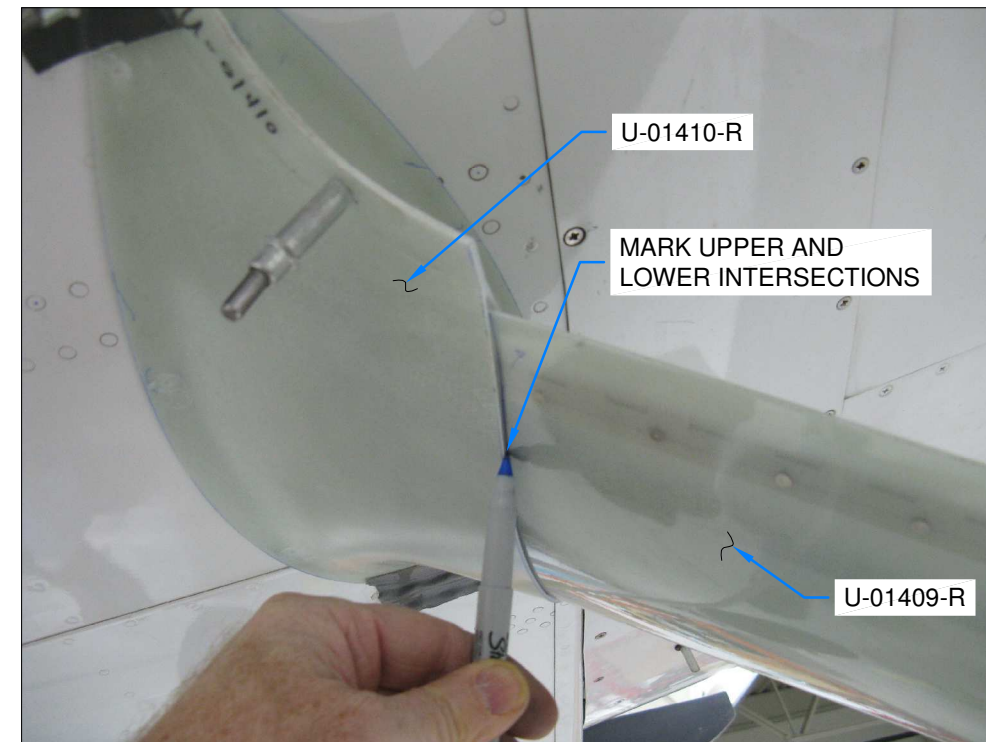


FIGURE 2: MARK UPPER INTERSECTION LOCATION

Step 5: Using the marks made in Step 4, apply wraps of masking tape to the gear leg fairing. Use enough wraps to obtain approximately .063 [1.6 mm] thickness for the upper fairing and .028 [.7 mm] thickness for the lower fairing. This is about 9 layers for the upper and about 4 layers for the lower if using .007 [.2 mm] thick masking tape.

The tape will act as a spacer for the slightly oversized intersection fairings.

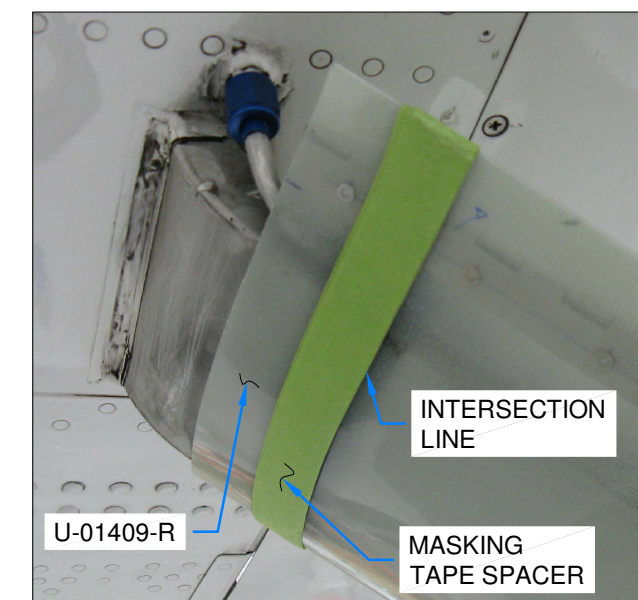
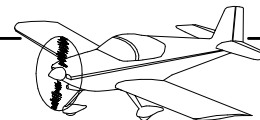


FIGURE 3: WRAP GEAR LEG FAIRING



Step 1: Reinstall the U-01410-L & -R Upper Intersection Fairings. Cleco and tape in place as shown in Figure 1.

Install the U-01411-L & -R Lower Intersection Fairings on the gear legs. Cleco the trailing edges and tape in place. See Figure 2.



FIGURE 1: UPPER INTERSECTION FAIRING



FIGURE 2: LOWER INTERSECTION FAIRING

NOTE: Drill normal (perpendicular) to the belly skin surface and the wheel fairing surface (not the intersection fairing surface), when drilling each hole in the following steps.

Step 2: Match-Drill #27 the upper intersection fairings while shining a bright light down through the fairing attach holes in the fuselage bottom skins. Temporarily insert a #6 screw in each screw hole location as you go. Use a drill stop (masking tape wrapped around the drill bit) to prevent damaging the nutplates.

Do not be concerned if the holes in the fairings get slightly elongated while matching the holes in the belly skin because any voids or irregularities will be filled with a flox mixture later.

Step 3: Match-Drill #40 the four dimple marks on the lower intersection fairing to the wheel fairing. Use caution to avoid drilling a hole in the tire. Cleco each hole as you drill. See Figure 3.

Remove the upper and lower intersection fairings.

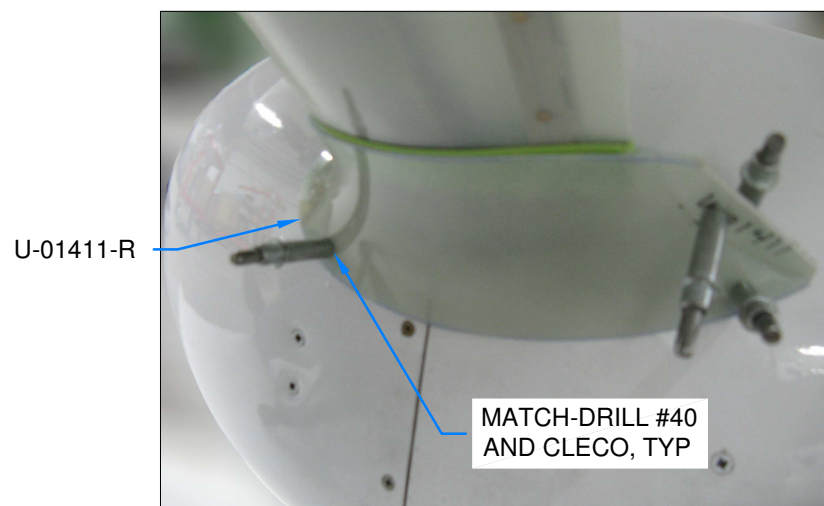


FIGURE 3: DRILLED LOWER INTERSECTION FAIRING

Step 4: Apply release wax or PVA to the belly skin within the footprint area of the intersection fairings to prevent floc from bonding to the surface.

Step 5: Sand the mating surfaces of all four intersection fairings with 80 grit sand paper to promote adhesion of the floc mixture. Blow the sanded surfaces clean in preparation for bonding.

Step 6: Apply a piece of plastic packing tape between the two flanges of each upper intersection fairing at the trailing edge to prevent them from becoming accidentally bonded together.

Step 7: Mix epoxy resin and flocked cotton fiber by slowly adding flocked cotton until thick enough that when the cup is turned on its side there is no movement of the mixture.

Apply approximately a 1/16 [1.6 mm] thick layer of the floc mixture to the mating surface of the U-01410 -L & -R Upper Intersection Fairings. Apply a very minimal amount of floc at the very aft end to prevent excess from bonding the two halves of the trailing edge together. See Figure 4.

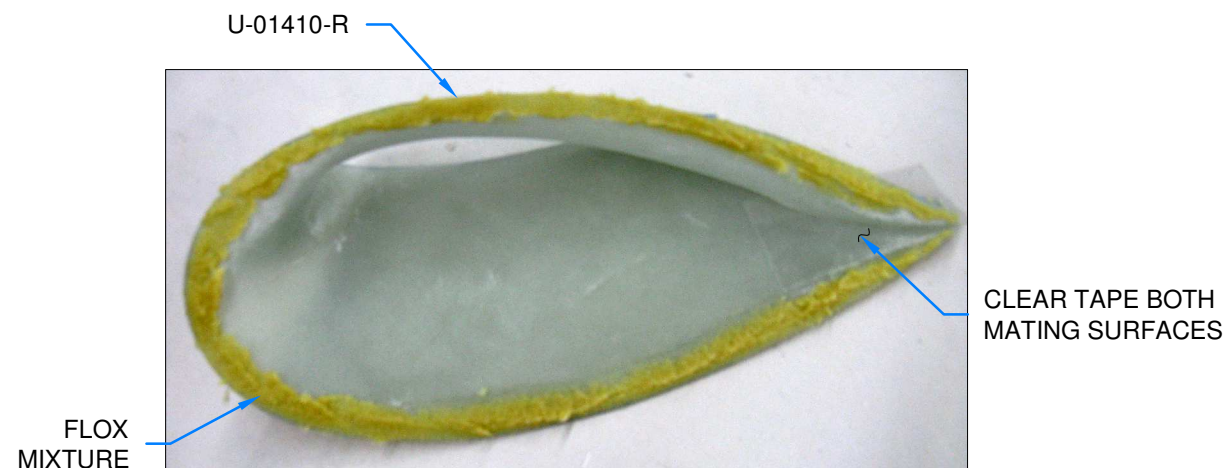


FIGURE 4: UPPER INTERSECTION FAIRING WITH FLOX MIXTURE

Step 8: Put the upper intersection fairings in place on the gear legs, cleco the trailing edges, and carefully attach with #6 screws (not clecos as shown in the photo) that have been coated in release wax. Tighten the screws lightly, just enough to hold the fairing in contact with the belly skin. Leave in position until fully cured.

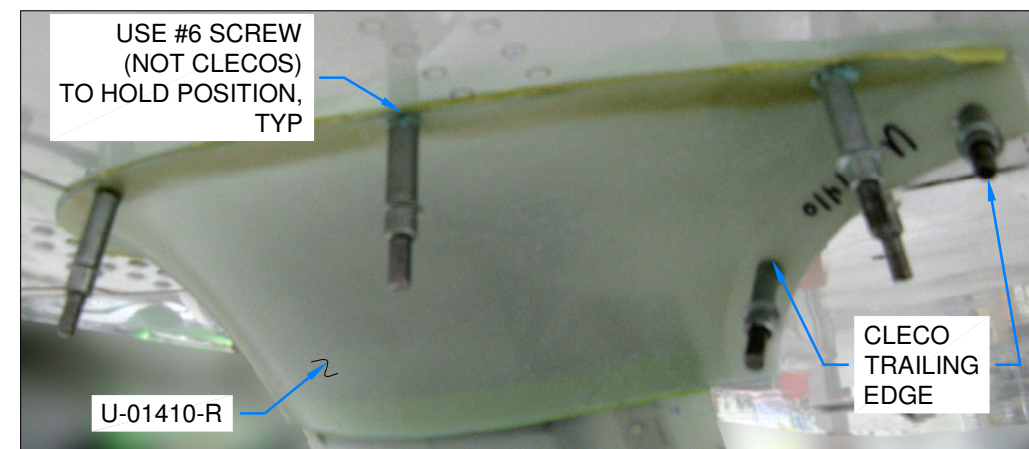


FIGURE 5: INTERSECTION FAIRING WITH FLOX MIXTURE (USE SCREWS, NOT CLECOS AS SHOWN)



Step 1: Apply release wax or PVA to the main wheel fairings within the footprint area of the intersection fairings to prevent floc from bonding to the surface. Be generous with the application of wax or PVA in the joint between the front and back halves of the wheel fairing. See Figure 2.

Apply a piece of plastic packing tape between the two flanges of each U-01411-L & -R Lower Intersection Fairing at the trailing edge to prevent them from becoming accidentally bonded together.

Step 2: Mix epoxy resin and flocked cotton fiber by slowly adding flocked cotton until thick enough that when the cup is turned on its side there is no movement of the mixture.

Apply about a 1/16 [1.6 mm] thick layer of the floc mixture to the mating surface of the lower intersection fairings. Apply a very minimal amount of floc at the very aft end to prevent excess from bonding the two halves of the trailing edge together. Add extra floc in the location of the four screws to cast a boss to allow for a deep machine countersink later. See Figure 1.

NOTE: Upper intersection fairings should be in position before installing lower intersection fairings.

Step 3: Install the lower intersection fairings on the gear legs, cleco the trailing edges, and attach with clecos that have been dipped in release wax. Leave in position until fully cured. See Figure 2.

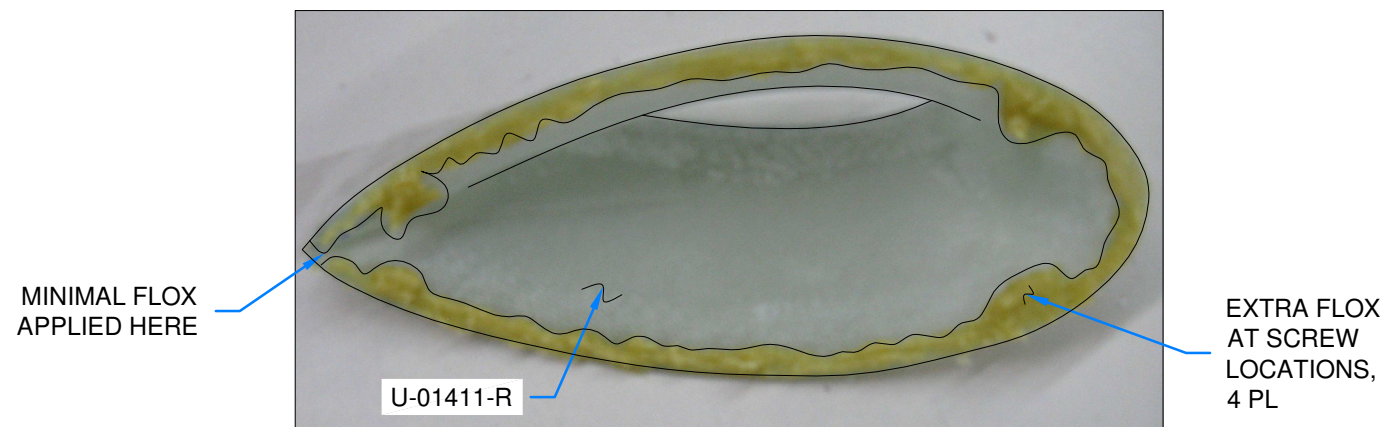


FIGURE 1: LOWER INTERSECTION FAIRING WITH FLOC MIXTURE

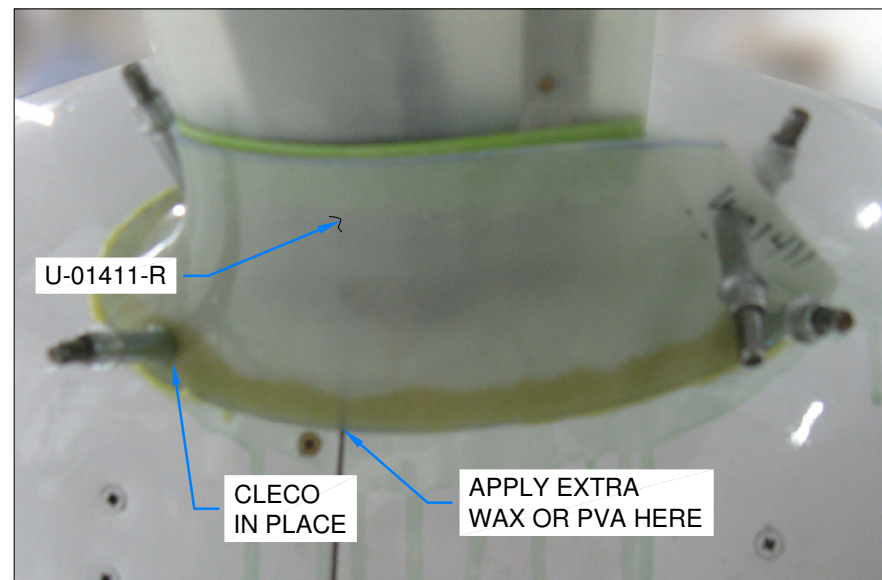


FIGURE 2: LOWER INTERSECTION FAIRING IN POSITION

Step 4: Final-drill # 27 the four screw hole locations in the lower intersection fairing. Use caution to avoid drilling the tire. Drill normal to the surface of the wheel fairing. The fwd upper hole will require the use of an angle drill.

Step 5: Use a straight edge to mark the location of the leg fairing trailing edge on the upper and lower surfaces of the upper intersection fairing as shown in Figure 3.

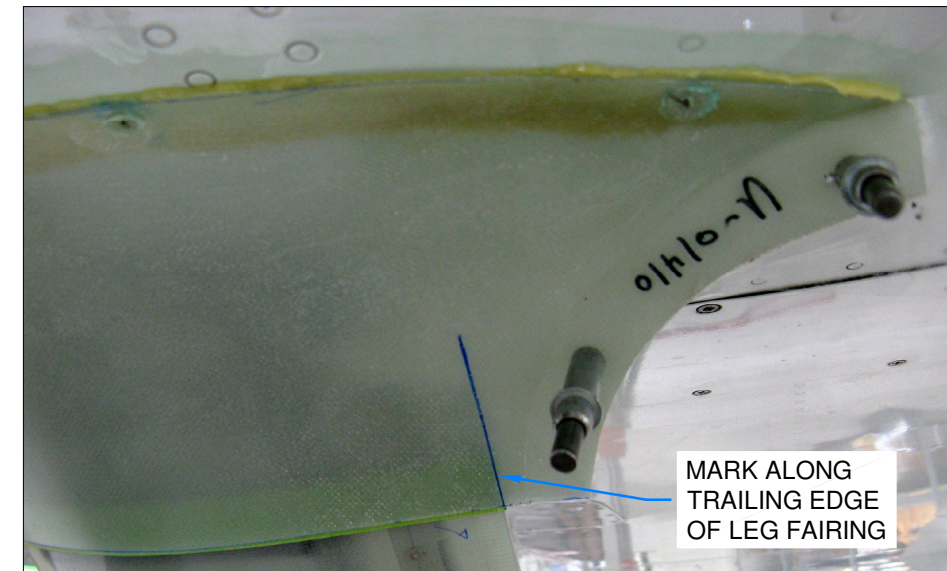


FIGURE 3: UPPER INTERSECTION FAIRING

Step 6: Remove the upper and lower intersection fairings from the leg fairing.

Remove the tape and excess floc mixture from the upper and lower intersection fairings as shown in Figures 4 & 5. Note the extra floc mixture left around the screw holes of the lower (smaller) fairing as shown in Figure 5.

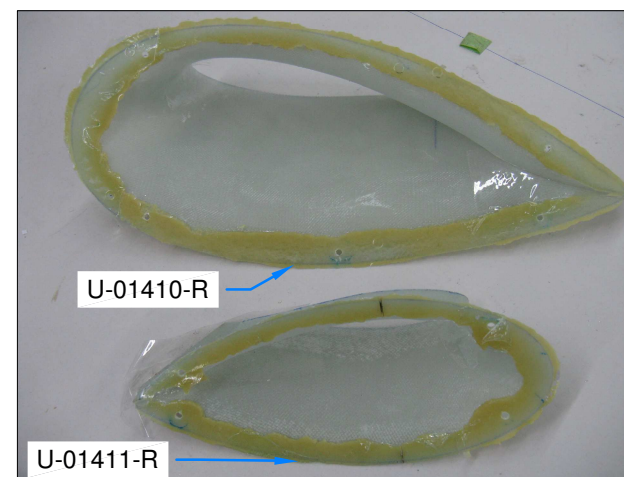


FIGURE 4: INTERSECTION FAIRINGS CURED

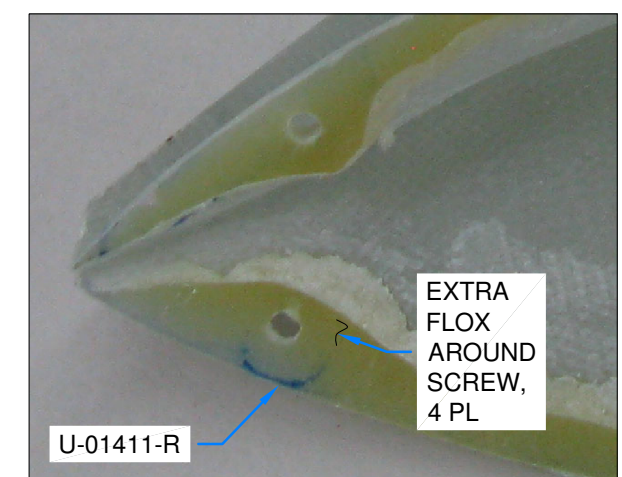
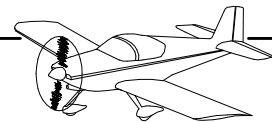


FIGURE 5: INTERSECTION FAIRING CLEANED UP



Step 1: Mark the trailing edge screw location on the lower (inboard) surface of the U-01410-L & -R Upper Intersection Fairings as shown in Figure 1.

Drill #27 through the lower surface of the fairing only.

Step 2: Apply plastic tape to the inside of the fairing on the surface where you just drilled the hole to prevent floc from bonding. See Figure 2.

Sand the inside surface of the fairing opposite where the hole was drilled with 80 grit.

Perforate the tape at the screw hole location.

Step 3: Apply release wax to the threads of the screw called out in Figure 2.

Install the screw and the nut so that when the head of the screw is tight against the outer surface of the fairing there is a 1/16 [1.6 mm] gap between the nut and the inner surface of the fairing. See Figure 2.

Tape over the screw head to keep it held flush to the surface of the intersection fairing.

Step 4: Mark the inside of the fairing for casting a lug that will allow joining the two trailing edges of the fairing together. The forward edge of the lug must be just aft of the lines marked on the outside of the fairing, so that it can act as a back stop for the trailing edge of the leg fairing. The upper edge of the lug must be just above the nut so that the nut is captured inside the lug as shown in Figure 2.

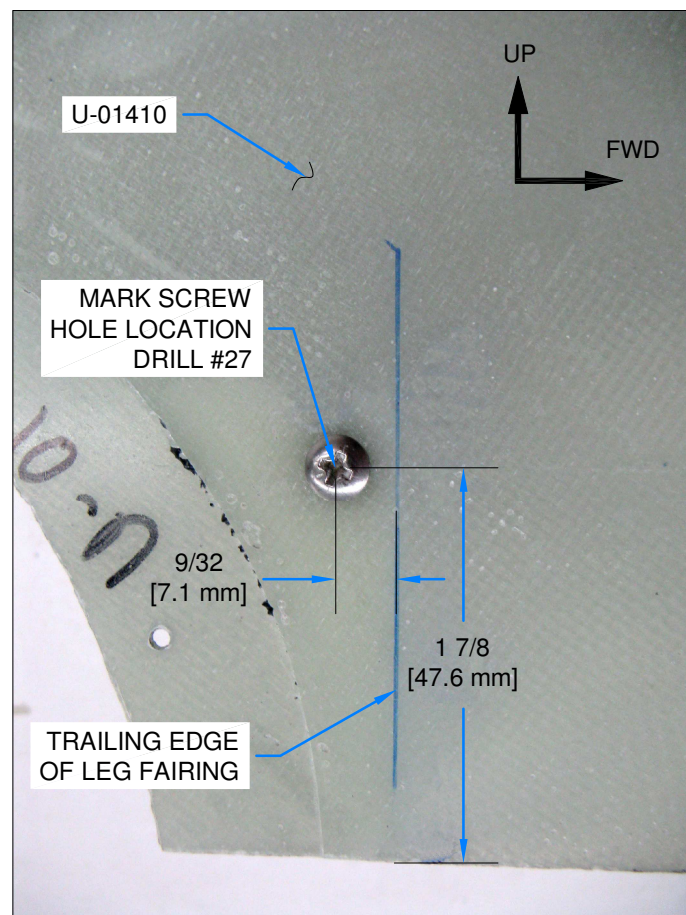


FIGURE 1: SCREW LOCATION INBOARD SIDE OF UPPER INTERSECTION FAIRING

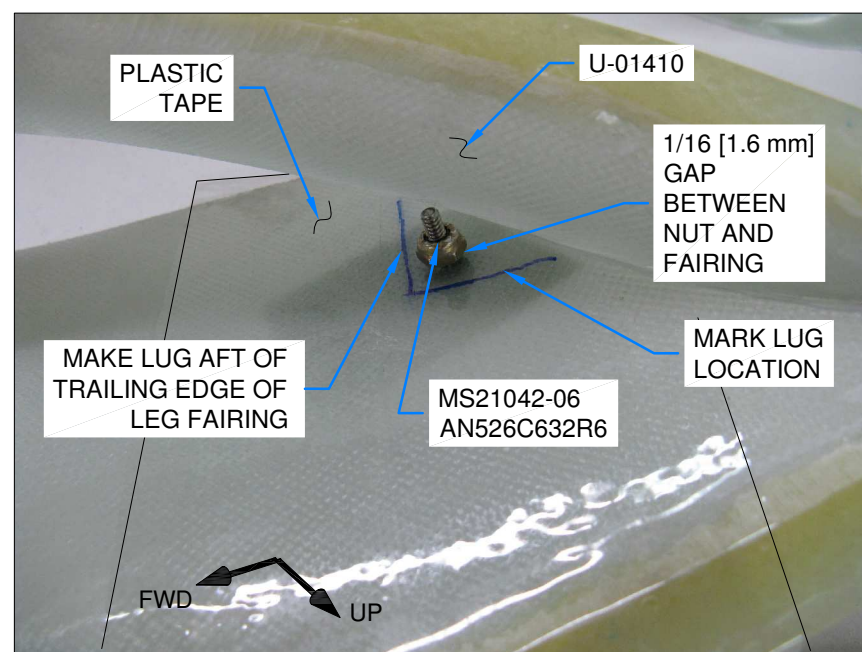


FIGURE 2: SCREW LOCATION PREPARATION

Step 5: Cleco together the trailing edge of the upper intersection fairings.

Prepare a floc mixture in the same way as was done for the mating flanges of the fairings.

Put the mixture into a heavy gauge plastic bag. Cut a corner off the bag to make about a Ø3/16 [4.8 mm] hole and use the bag to apply the floc mixture to form the lug as shown in Figure 3.

Use a small flat stick to shape the floc so that the forward edge is flat and straight where it will interface with the trailing edge of the leg fairing.

Waiting for the resin to stiffen slightly will aid with the shaping process.

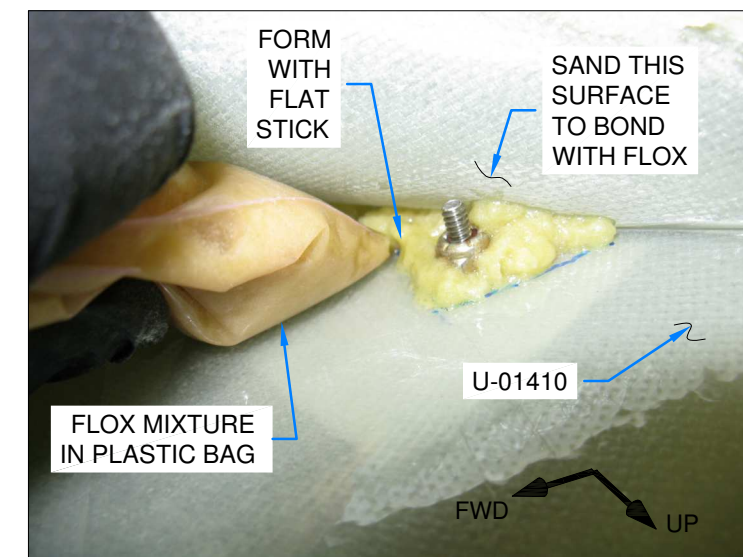


FIGURE 3: FLOC APPLICATION

Step 6: Remove the screw once the floc mixture has cured, separate the trailing edge of the fairing, and remove the plastic tape.

Use a file and or sand paper to finish shaping as necessary. See Figure 4.

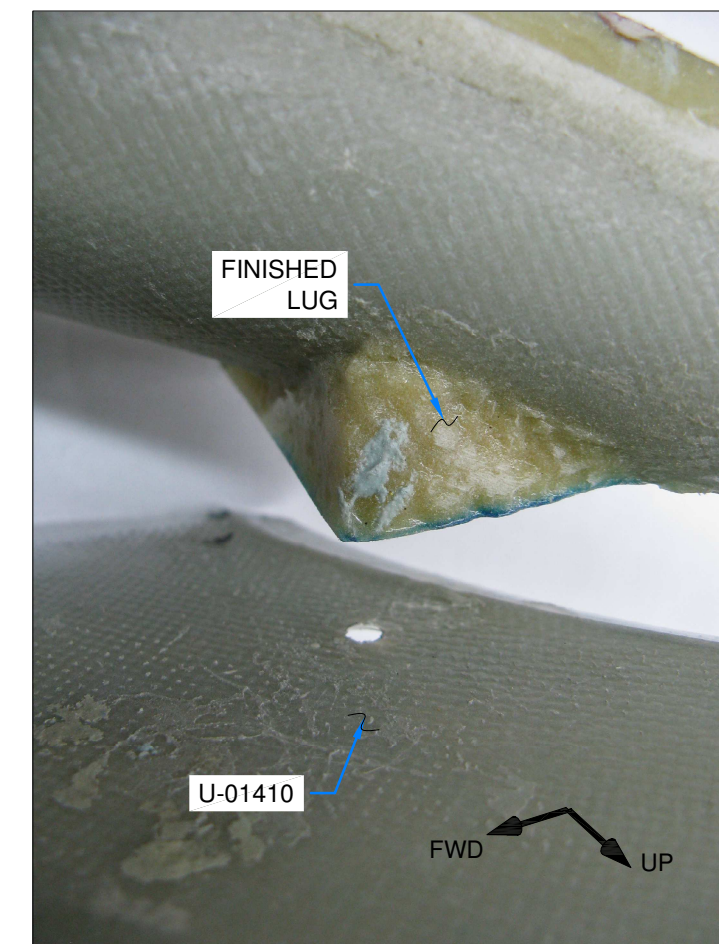


FIGURE 4: COMPLETED LUG ON UPPER INTERSECTION FAIRING



Step 1: Mark the trailing edge flange of the U-01410-L & -R Upper and U-01411-L & -R Lower Intersection Fairings as shown in Figures 1-3.

Step 2: Install the upper intersection fairings on the gear legs using the attachment screws.

One at a time, remove a screw, final-drill #27 normal to the skin surface using care not to damage the nutplate.

Machine countersink the hole using a reduced diameter #40 pilot countersink cutter. Countersink just deep enough for the entire screw head to seat below the surface. Align the cutting tool normal (perpendicular) to the fuselage bottom skin, not the intersection fairing. This will produce a countersink that is deeper on one side than the other to a varying degree depending on the hole location.

Replace the screw, then drill and countersink for the remaining screws in like fashion.

The aircraft can now be returned to the ground and the jacks removed.

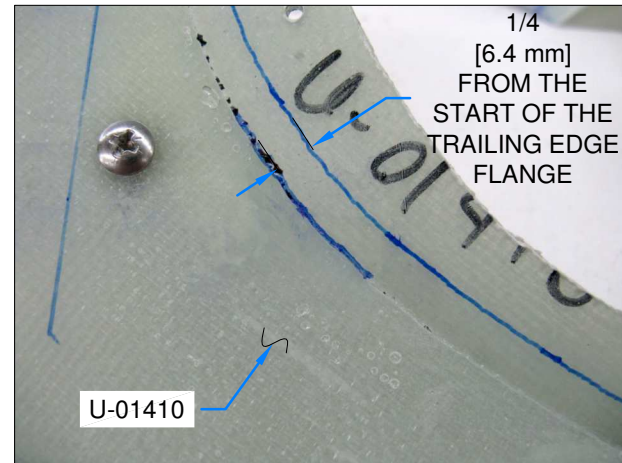


FIGURE 1: UPPER INTERSECTION FAIRING TRIM LINE

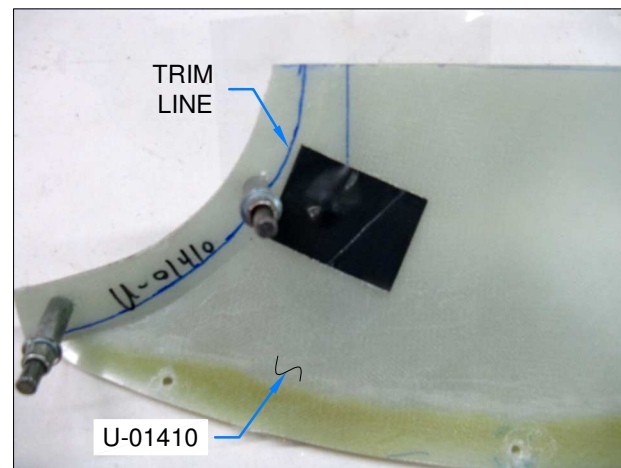


FIGURE 2: AFT TRIM LINE

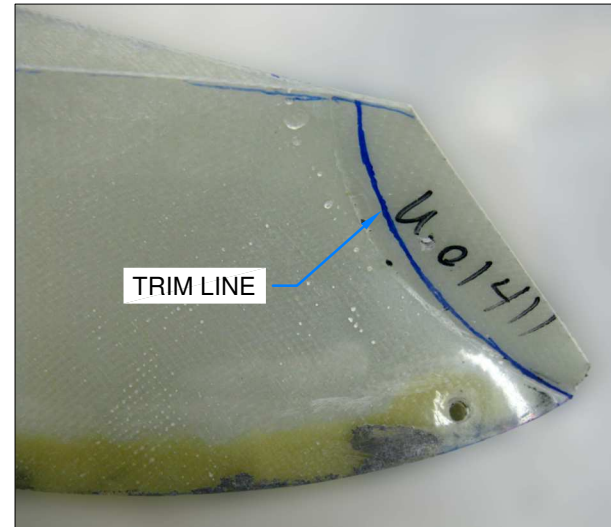


FIGURE 3: LOWER INTERSECTION FAIRING TRIM LINE

Step 3: Remove the main wheel fairings from the airplane.

Temporarily join the front and back halves of each fairing with a few screws as shown in Figure 4.

Position the lower intersection fairings on the wheel fairings and insert screws in the four holes to maintain alignment.

Trace an outline of the intersection fairing onto the wheel fairing with a felt tip pen. See Figures 4 & 5.

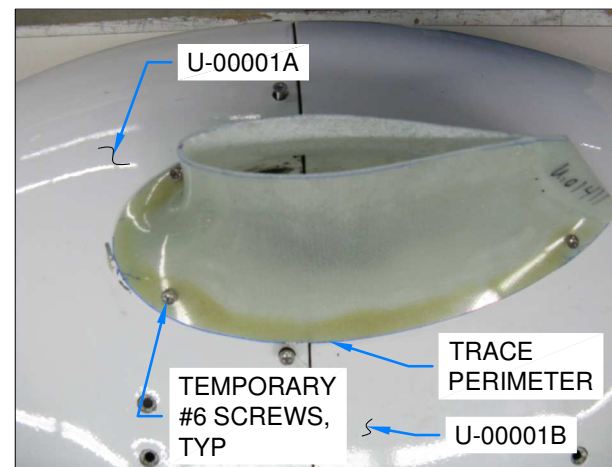


FIGURE 4: TRACE LOWER INTERSECTION FAIRING

Step 4: Disassemble the wheel fairing halves.

Orient the nutplates so that they parallel the previously marked edges of the intersection fairing and match-drill #40 the nutplate rivet locations.

Deburr rivet holes.

Machine countersink for AN426AD3 rivets.

Rivet the nutplates called out in Figure 5 at the four screw hole locations.

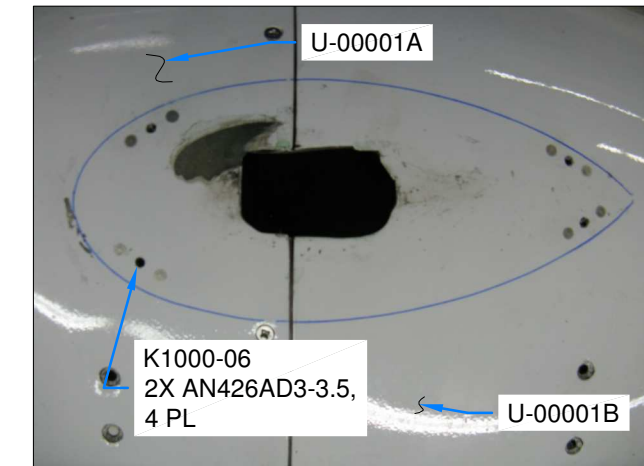


FIGURE 5: MAIN WHEEL FAIRING

Step 5: Join the front and back halves of the wheel fairings with the flush head screws.

Scuff the surface of the wheel fairing in the area 1 [25.4 mm] beyond the traced perimeter of the intersection fairing with 80-100 grit sand paper as shown in Figure 6.

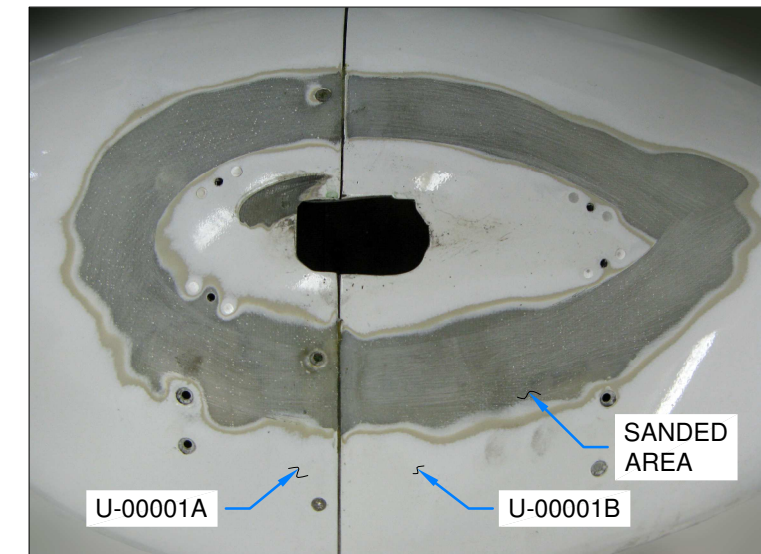
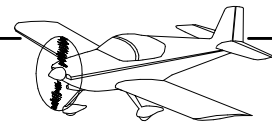


FIGURE 6: SANDED AREA MAIN WHEEL FAIRINGS



Step 1: Fill the cross slots in the heads of the screws and the gap between the front and back halves of the wheel fairings that fall within the sanded area with modeling clay to aid in removal if they get covered with flox mixture. See Figure 1.

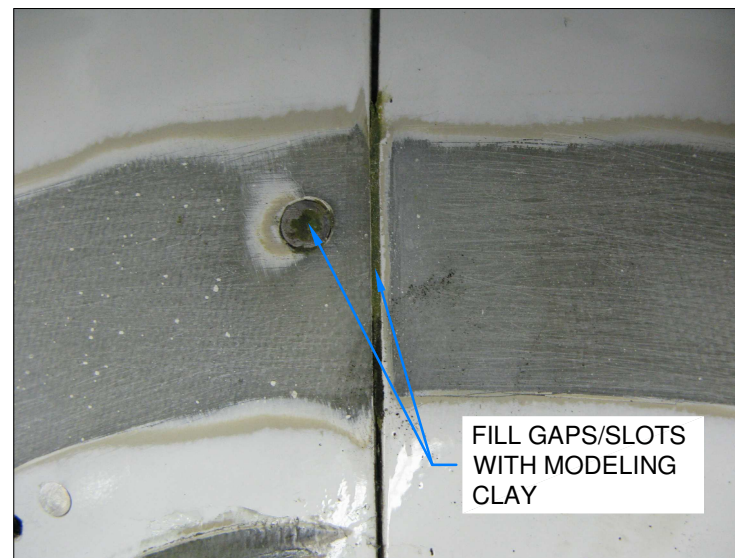


FIGURE 1: FILL GAPS

Step 2: Clean and/or re-sand all of the areas adjacent to any previously applied clay to assure a good bond of the flox mixture.

Blow the sanded surface clean in preparation for bonding. See Figure 1.

Step 3: Apply a strip of quality 3/4 [19.1 mm] wide vinyl electrical tape around the perimeter of the lower intersection fairings. Position the tape so that the majority of its width is located on the outside face of the fairings as shown in Figure 2.

Perforate the tape at the screw hole locations and attach the fairings to the assembled wheel fairings with screws.

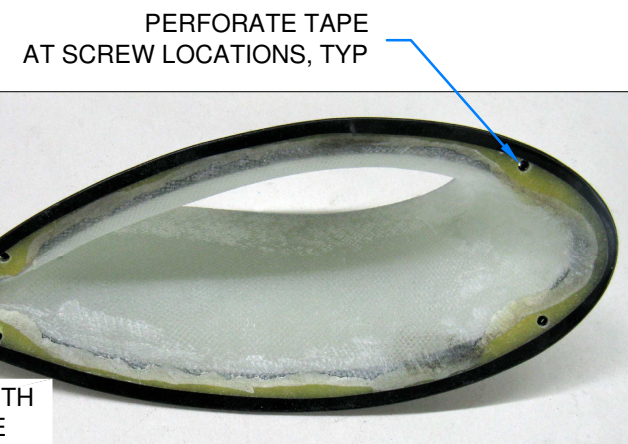


FIGURE 2: LOWER INTERSECTION FAIRINGS MASKED

NOTE: The next 3 steps must be done during one continuous work session.

Step 4: Prepare a flox mixture to the same consistency as used previously on the intersection fairings.

Apply an approximately 1 [25.4 mm] wide layer of flox mixture around the perimeter of the lower intersection fairing as shown in Figure 3. The thickness should be slightly more than the thickness of the intersection fairing edge, tapering to very thin at the furthest point away from the edge of the fairing.



FIGURE 3: APPLY FLOX FILLET

Step 5: While the resin is still wet, apply strips of peel ply and then smooth/shape the flox with a plastic spreader. The closer you can get the wet shape to match the desired finish shape, the less sanding/shaping you will have to do once it has cured. See Figure 4.

Step 6: Monitor the curing process. When the flox has hardened enough to no longer be sticky, but still slightly rubbery (keep the mixing cup of excess flox available so that you monitor its condition), use a razor blade/knife to cut through the peel ply and the flox at the wheel fairing front and back half separation line as shown in Figure 4.

Step 7: After the flox has fully cured, remove the peel ply.

If necessary, sand to expose and then remove the screws attaching the intersection fairing to the wheel fairing.

Step 8: Sand the flox fillet with 60-80 grit sand paper to begin shaping the fillet and until you sand through to expose the tape around the entire perimeter of the lower intersection fairing.

Remove the intersection fairings, and remove the tape from the fairings.

Step 9: Scrape away any flox mixture or resin that flowed under the tape and adhered to the wheel fairings using a sharp tool with a 90 deg corner (an inexpensive wood chisel works well).

Step 10: Install the lower intersection fairings and finish sanding the flox fillet so that it is flush with the outer surface of the lower intersection fairing and blends nicely out onto the surface of the wheel fairing.

Polyester body filler can be used to fill low spots and further define the shape. See Figure 5.

Step 11: Remove the lower intersection fairings from the wheel fairings.

Separate the fwd and aft portions of the wheel fairings from each other.

Use a sanding block to finish the edges of the flox at the split line so that there is a gap between the two that is similar to that on the rest of the wheel fairing as shown in Figure 5.

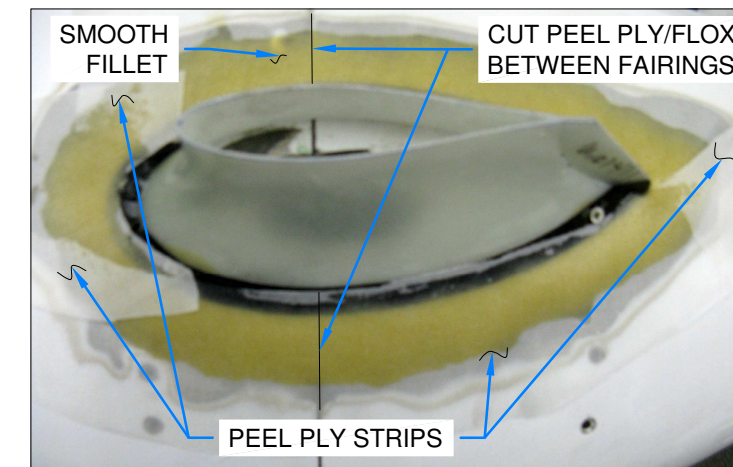


FIGURE 4: PEEL PLY APPLICATION

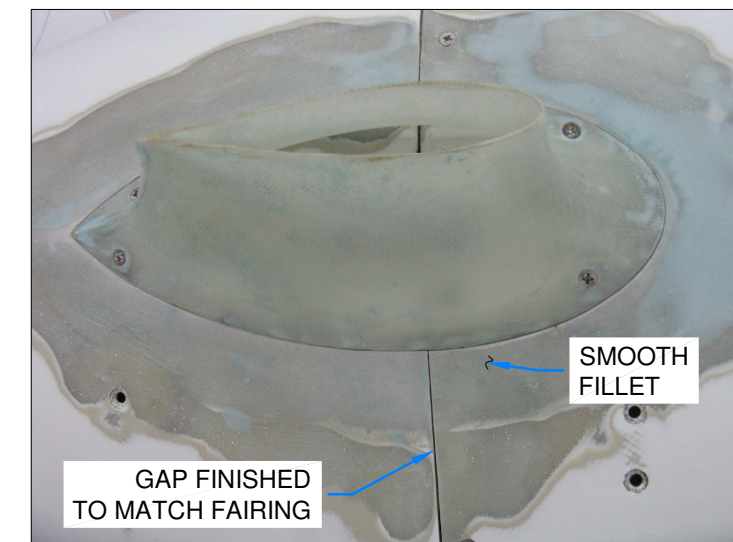


FIGURE 5: FINISHED FILLET

Step 1: Reassemble the U-00001A-L & -R Wheel Fairing Front & U-00001B-L & -R Wheel Fairing Aft.

Install the lower intersection fairings on the wheel fairings with screws.

Remove the screws, one at a time, and use a reduced diameter #40 pilot countersink cutter to countersink the screw holes normal (perpendicular) to the wheel fairing surface. Make the countersink just deep enough for the entire screw head to seat below the surface of the fairing. This will produce a counter sink that is deeper on one side than the other to a varying degree depending on the hole location. See Figure 1.

Remove the intersection fairings.

Step 2: Sand the inside surfaces of the upper and lower intersection fairings where they contact the outer surface of the gear leg fairings. Brush a light coat of epoxy resin on the sanded area and allow to cure to a gloss finish. See Figure 2.

NOTE: The following steps should be delayed until after final finishing and painting of the main wheel fairings, main gear leg fairings, and main gear intersection fairings.

Step 3: Install the main wheel fairings on the aircraft with the hardware called out on Page 46A-07 Figure 2.

Install the U-01409-L & -R Main Gear Leg Fairings and secure with the hinge pins.

Step 4: Apply a piece of UHMW tape to the area of the front and rear main wheel fairing halves contacted by the lower end of the main gear leg fairing. Size the tape so that it is clear of the area that the lower intersection fairing flange contacts on the wheel fairing. See Figure 3.

Step 5: With the upper and lower intersection fairings installed, and the leg fairings touching the wheel fairings at their bottom ends, apply some masking tape to the upper and lower surfaces of the gear leg fairing, to indicate where the edge of the intersection fairings align as shown in Figures 4 & 6.

Step 6: Apply UHMW tape approximately 1 1/2 [38.1 mm] wide to the upper and lower surfaces of the lower end of the leg fairing. Position the tape so that it is just slightly beyond the intersection fairing edge within 1/16 [1.6mm] marked with the masking tape, so it will not be visible with the intersection fairing installed. See Figure 5.

Step 7: Apply the U-01437 Upper Main Gear Intersection Seals to each side of the upper end of the main gear leg fairings. Position the seal so that it is just slightly beyond 1/16 [1.6mm] the upper intersection fairing edge marked with the masking tape. It should not be visible with the intersection fairing installed. See Figure 6.



FIGURE 1: COUNTERSUNK INTERSECTION FAIRING SCREW LOCATION

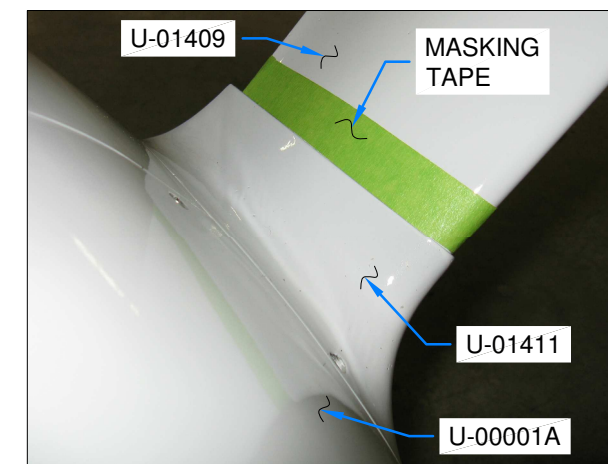


FIGURE 4: MAIN GEAR LEG FAIRING

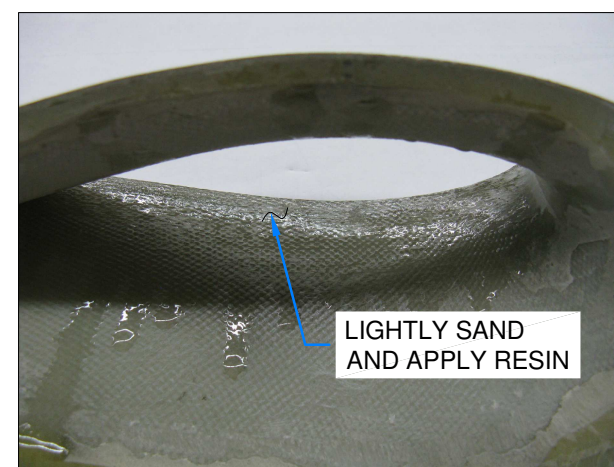


FIGURE 2: SAND INSIDE SURFACE AND APPLY RESIN

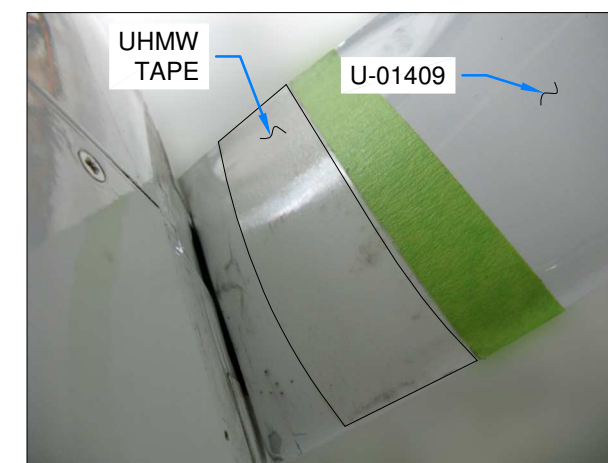


FIGURE 5: UHMW LOCATION

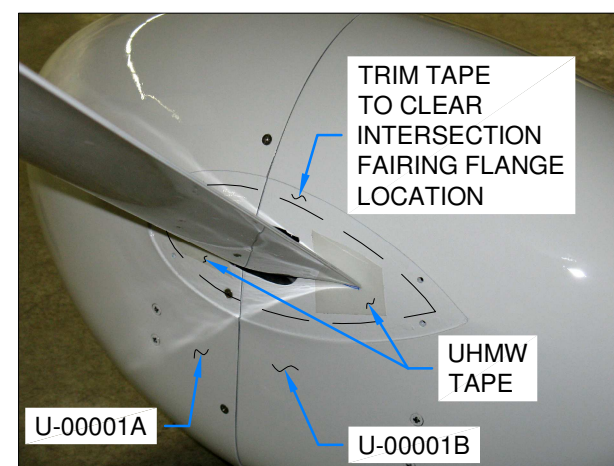


FIGURE 3: UHMW TAPE APPLICATION

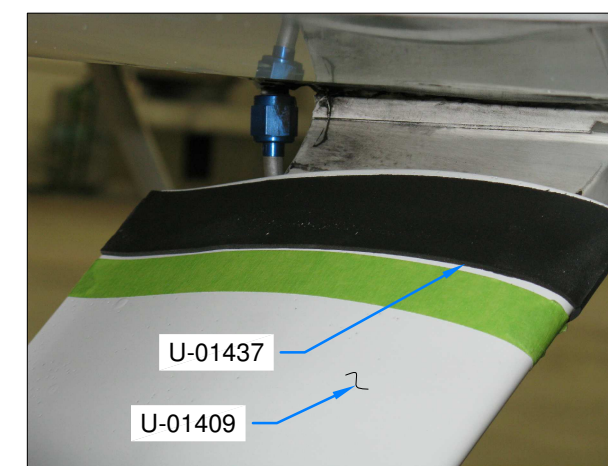
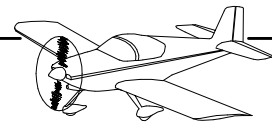


FIGURE 6: UPPER MAIN GEAR FAIRING INTERSECTION



Step 1: Check the edges around the gear leg opening in the U-00001A-L & -R Wheel Fairings Front and the U-00001B-L & -R Wheel Fairings Aft for sharp edges or corners and smooth as shown in Figure 1.

Step 2: With the wheel fairings front and aft installed, use a marker to mark the gear legs on all sides as shown in Figure 2. Remove the wheel fairing halves.

Measure up from the mark 3/8 [9.5 mm] and make a mark on each side of the gear legs.

Step 3: Fabricate the U-01438 Wheel Fairing Seals by cutting two lengths of 10 [254.0 mm] from the SEAL-00007 Foam Poly .5X.75.

Step 4: Clean and dry the main gear legs in the installation area as shown in Figure 3.

Using the upper marks to align the top of the seal on the leg, begin installation of the wheel fairing seal under the brake line as shown in Figure 3 Section A-A. Take care that the seal is not stretched around the corners, but rather folded back on itself and pressed together and against the gear leg as shown in Figure 3. Wrap the end of the foam over the top of the brake line and trim excess if/as required.

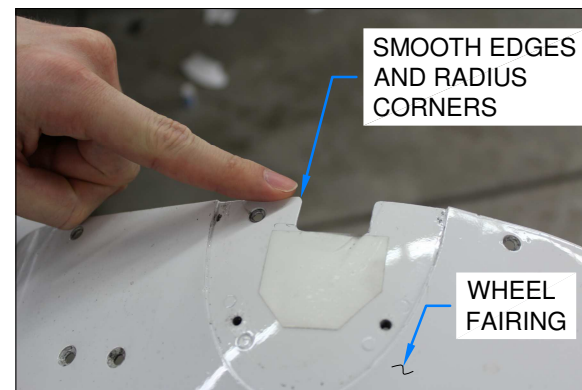


FIGURE 1: SMOOTH GEAR LEG OPENING

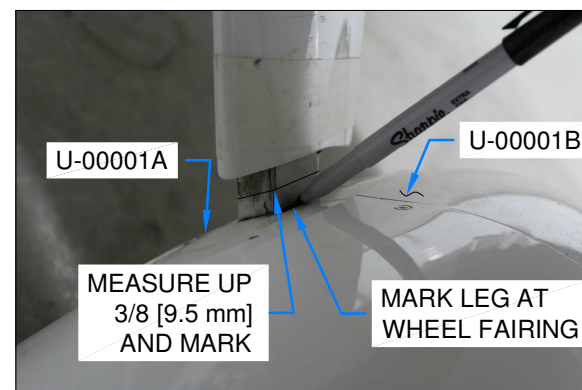


FIGURE 2: MARK GEAR LEG

Step 5: Install the wheel fairings with the wheel fairing seals captured between the wheel fairing halves and the gear leg. The wheel fairing seal should be approximately half way outside and half way inside of the wheel fairings as shown in Figure 4.

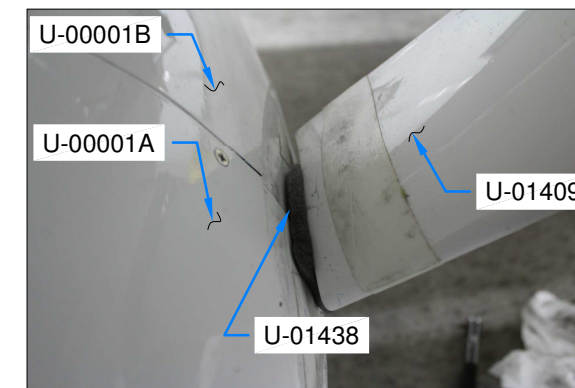


FIGURE 4: WHEEL FAIRING SEAL INSTALLED

Step 6: With the main gear wheel and gear leg fairings installed, install the U-01410-L & -R Upper Intersection Fairings using the hardware called out in Figure 5.

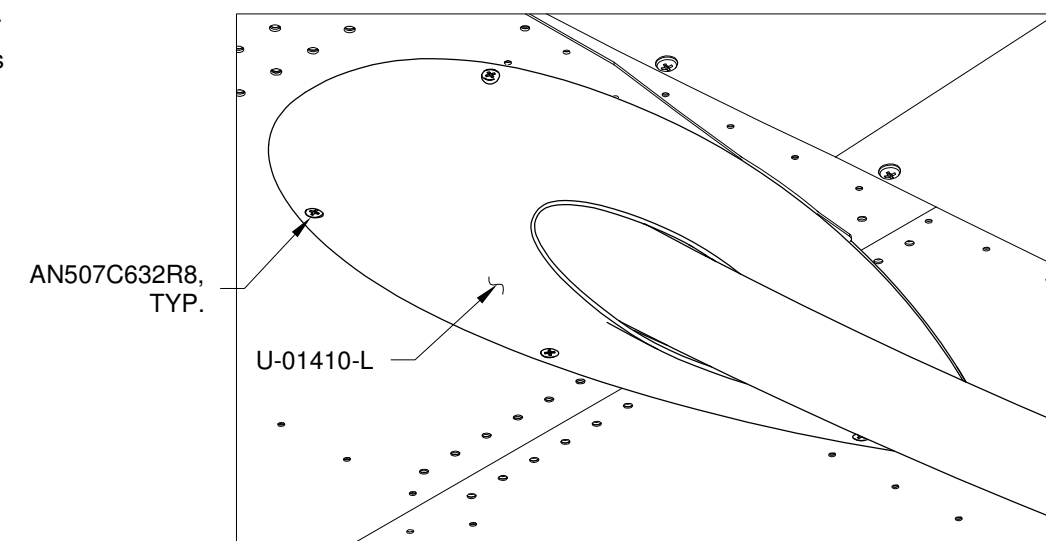


FIGURE 5: UPPER INTERSECTION FAIRING INSTALLATION

Step 7: Install the U-01411-L & -R Lower Intersection Fairings with the hardware called out in Figure 6.

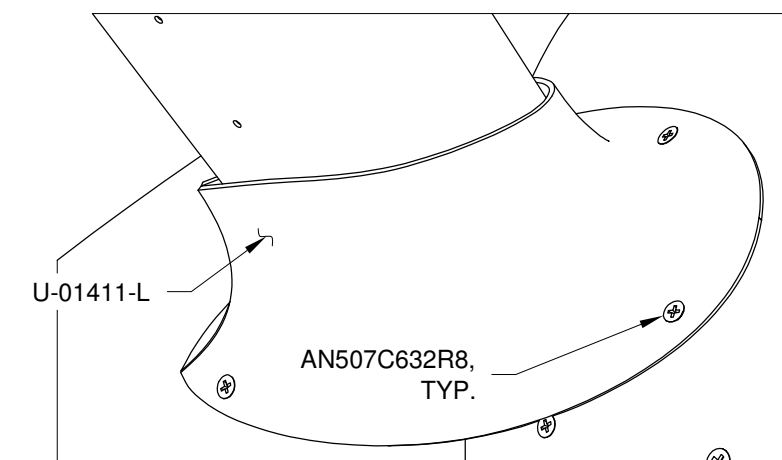


FIGURE 6: LOWER INTERSECTION FAIRING INSTALLATION

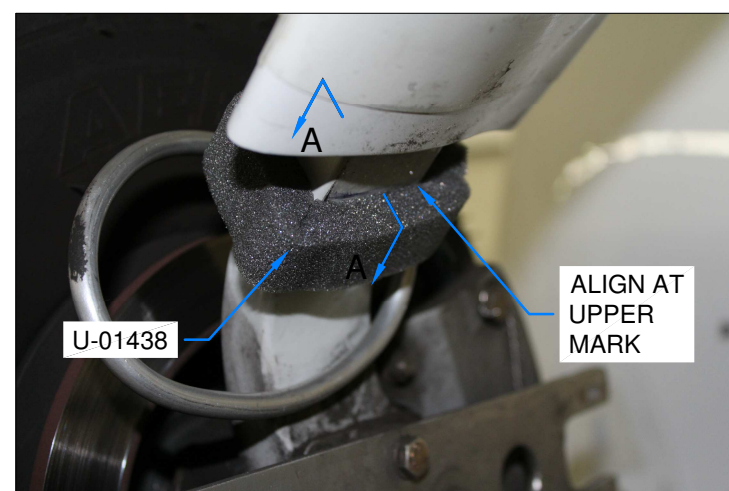
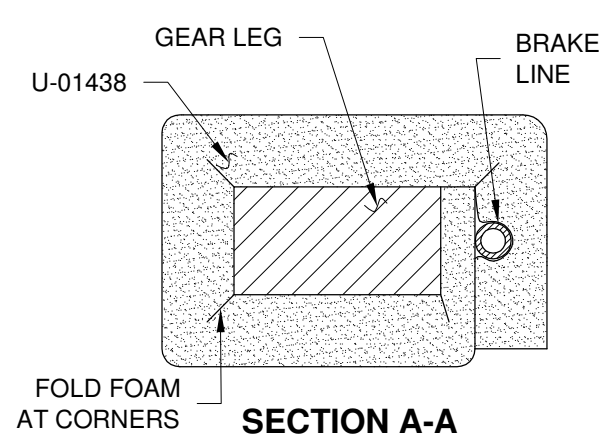
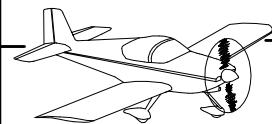


FIGURE 3: WHEEL FAIRING SEAL



NOTE: If installing the IO-390-EXP119 engine, refer to KAI Section OP-62 for alternate instructions pertaining to components on this page.

Step 1: Cut a slit in the FF-00003A Bottom Cowl Close-Out as shown in Figure 1. This will allow the close-out to be installed around the U-01424 Nose Gear Leg Fairing.

Step 2: Mark a centerline on the lower surface of the FF-00003A Bottom Cowl Close-Out with a fine point permanent marker as shown in Figure 1.

Step 3: Cleco the FF-00003A Bottom Cowl Close-Out to the FF-00003B Bottom Cowl Support Bracket.

Step 4: Remove the COWL-00002 Bottom Cowl.

Step 5: Attach the FF-00003B Bottom Cowl Support Bracket to the F-14132 Tunnel Angle using the hardware shown in Figure 2.

Step 6: Install the COWL-00002 Bottom Cowl on the aircraft.

Step 7: Align the FF-00003A Bottom Cowl Close-Out and FF-00003B Bottom Cowl Support Bracket so that the centerline marked on the bottom cowl close-out is centered on the nose gear slot in the COWL-00002 Bottom Cowl at the forward end and on the trailing edge of the U-01424 Nose Gear Leg Fairing at the aft end. Slight adjustments may be made as required to center the nose gear leg fairing within the opening in the bottom cowl closeout.

Step 8: Securely clamp and tape the FF-00003A Bottom Cowl Close-Out to the COWL-00002 Bottom Cowl.

Step 9: Trace the outline of the COWL-00002 Bottom Cowl nose gear slot onto the FF-00003A Bottom Cowl Close-Out with a fine point permanent marker.

Step 10: Remove the clamps and tape from the FF-00003A Bottom Cowl Close-Out.

Step 11: Uninstall the COWL-00002 Bottom Cowl.

Step 12: Detach the FF-00003B Bottom Cowl Support Bracket from the F-14132 Tunnel Angle and FF-00003A Bottom Cowl Close-Out.

Step 13: Secure the FF-00003A Bottom Cowl Close-Out to the inner surface of the COWL-00002 Bottom Cowl with clamps and tape. Use the previously traced line for alignment.

NOTE: For all drilling operations on this page, keep the drill bit perpendicular to the surface of the cowl. Cleco each drilled hole before drilling the next. Be aware of debris between parts as drilling progresses. Disassemble and clean every few holes or as necessary.

Step 14: Match-Drill #19 the screw holes in the COWL-00002 Bottom Cowl using the FF-00003A Bottom Cowl Close-Out as a guide. Instead of clecos #8 screws can be used.

Press a wooden support block against the FF-00003A Bottom Cowl Close-Out during match-drilling to keep the close-out in contact with the inner surface of the COWL-00002 Bottom Cowl if/as required.

Step 15: Remove the FF-00003A Bottom Cowl Close-Out from the COWL-00002 Bottom Cowl.

Step 16: Machine countersink all of the rivet holes in the FF-00003A Bottom Cowl Close-Out as shown in Figure 2.

Step 17: Rivet the nutplates to the FF-00003A Bottom Cowl Close-Out as shown in Figure 2.

Step 18: Rivet the FF-00003A Bottom Cowl Close-Out to the FF-00003B Bottom Cowl Support Bracket.

Step 19: Install the FF-00003A Bottom Cowl Close-Out and FF-00003B Bottom Cowl Support Bracket to the F-14132 Tunnel Angle using the hardware shown in Figure 2.

Step 20: Install the COWL-00002 Bottom Cowl on the aircraft. Attach the FF-00003A Bottom Cowl Close-Out to the bottom cowl using the hardware shown in Figure 2.

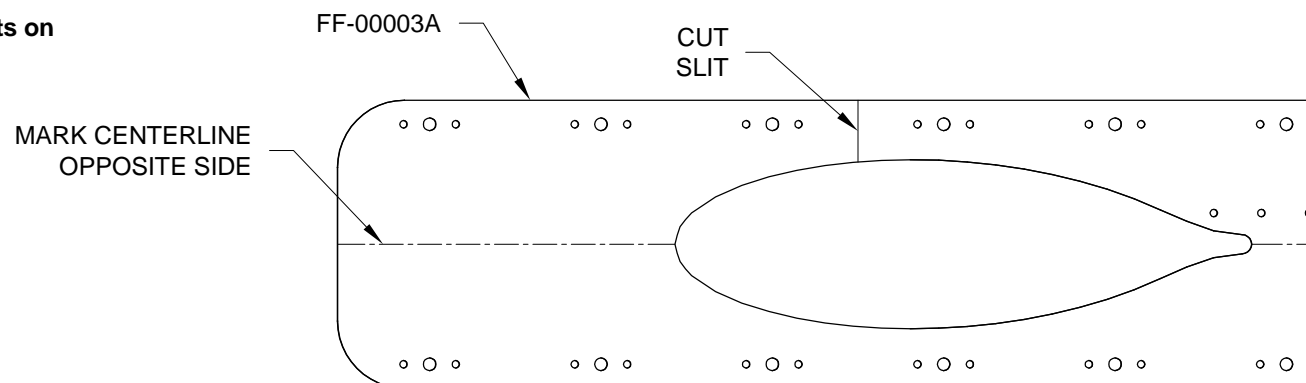


FIGURE 1: BOTTOM COWL CLOSE-OUT

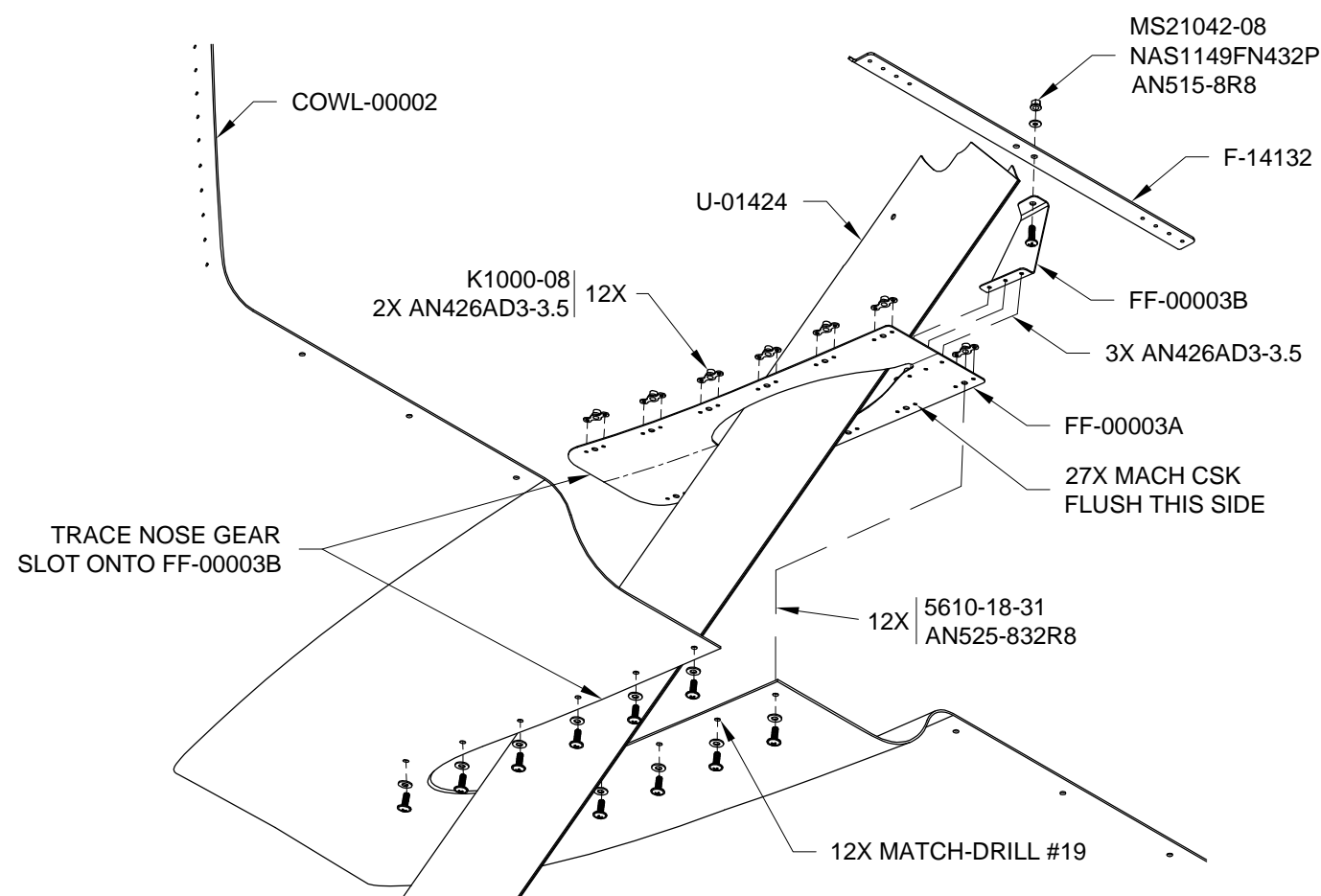


FIGURE 2: INSTALL BOTTOM COWL CLOSE-OUT