

OP-58: COWL LOUVERS

NOTE: See Section 5.18 for tips on working with fiberglass.

NOTE: Louvers can not be installed on top of honeycomb core. For cowlings with core material in the areas shown in Figure 1, begin with Step 1 to remove the core. For cowlings that do not have the core in the areas shown in Figure 1, skip to Step 4.

Step 1: Use a sanding disk (or equivalent) to remove the core material in the areas shown in Figure 1. Taper the edges of the exposed core to roughly match the taper of the existing core edges. Verify that the FF-00101 Louvers will fit in the sanded area as shown in Figure 2; remove additional core material if/as necessary.

Step 2: Individually apply (wet-out with epoxy resin) four plies of 9 oz./square yard [305g/sq. m], plain weave E-Glass fabric to the areas of the cowl where the core was removed. Overlap beyond the edges of the exposed core by approximately one inch.

Step 3: To provide a smooth surface for attaching the louvers, cover the entire area with peel ply. The peel ply should fully wet-out with resin when applied. It will easily pull off after the resin is cured.

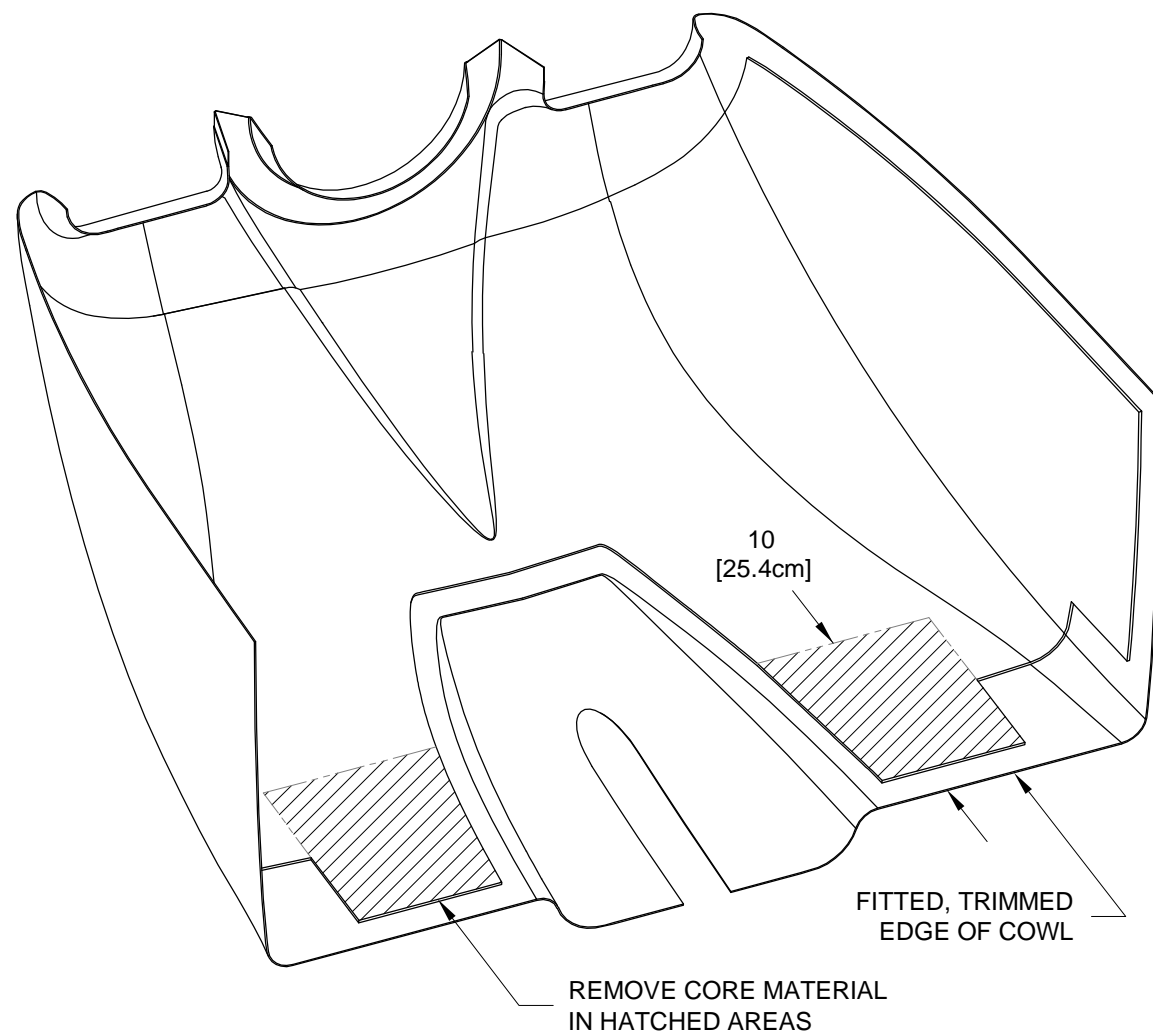


FIGURE 1: PREPARING THE COWL

Step 4: Locate the FF-00101 Louvers on the bottom cowl as shown in Figure 2. Sand any areas of the cowl that prevent the louvers from lying flush against it.

Step 5: Match-Drill #40 and cleco the eighteen .094 [2.4 mm] holes of each louver into the cowl.

Step 6: Match-Drill the ten .063 [1.6 mm] holes of the louvers into the cowl using the same sized (Ø1/16) drill bit. Remove the louvers.

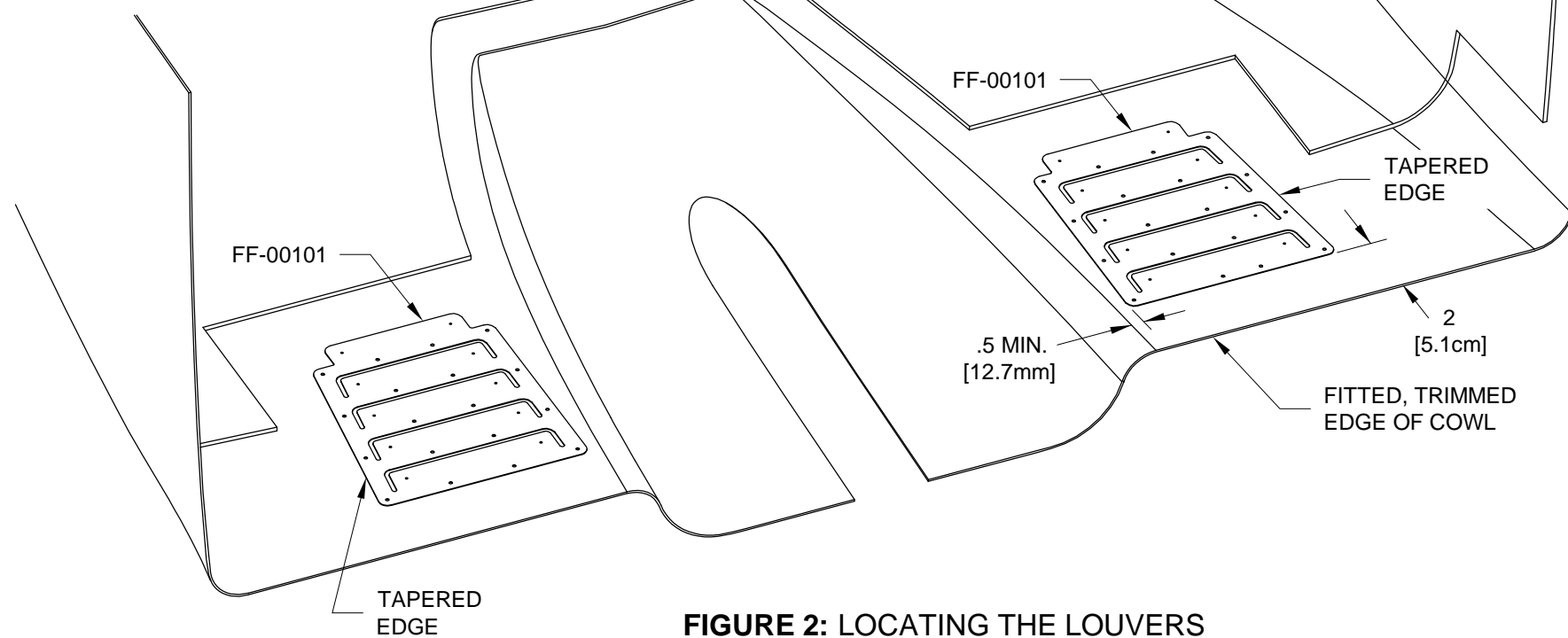


FIGURE 2: LOCATING THE LOUVERS

Step 7: Cut the five slots for each louver into the cowl as shown in Figure 3. Start by drilling the 1/16 hole in the center of the end radius of each slot to 13/16 using a step drill (tracing a few increasingly larger diameter circles centered on each 1/16 hole can serve as a reference to help maintain center while drilling). Trim between the holes to finish the slot.

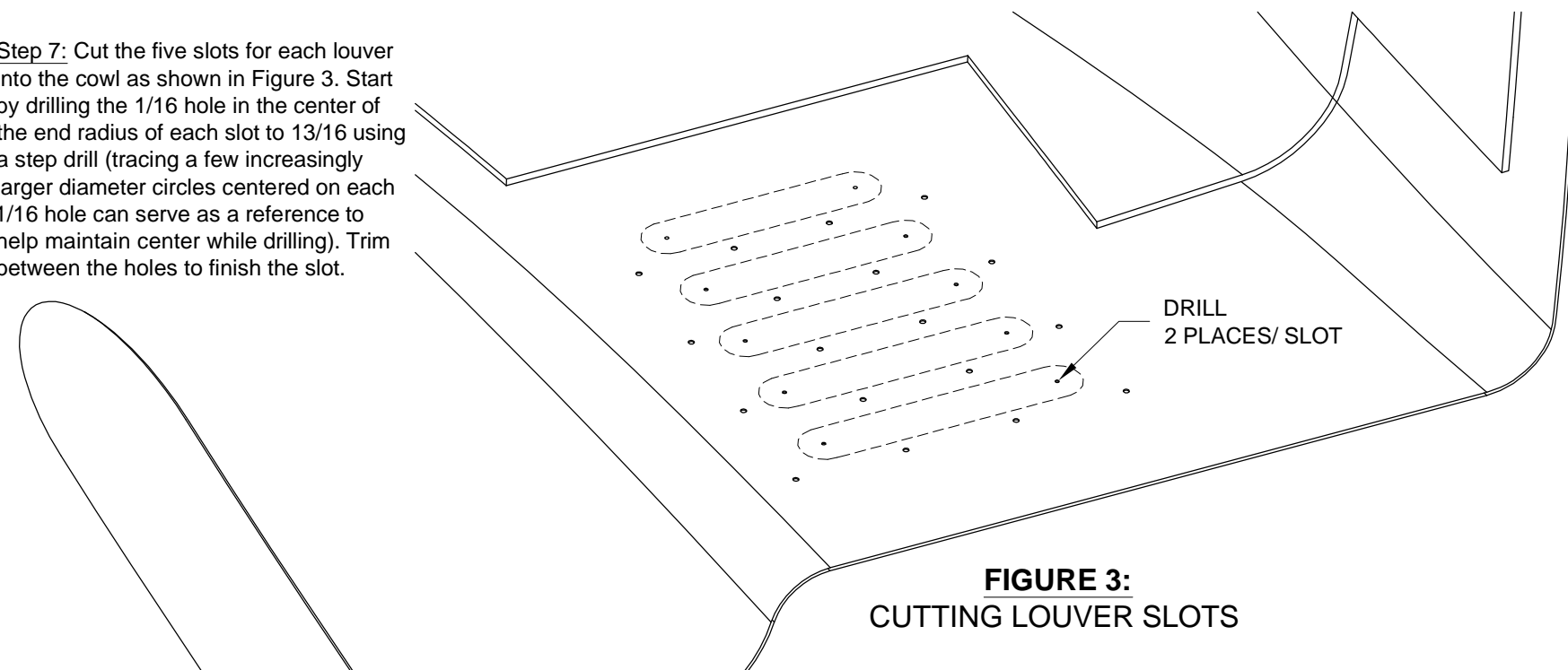
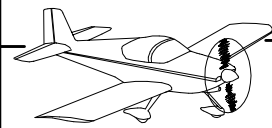


FIGURE 3: CUTTING LOUVER SLOTS



Step 1: Bend the tabs on both FF-00101 Louvers to form the FF-00101-L & -R Louvers. Bend each tab approximately 45° along the bend lines shown in Figure 1.

Step 2: Machine countersink the louver attachment holes in the cowl for the heads of the rivets called out in Figure 2, then rivet the louvers in place.

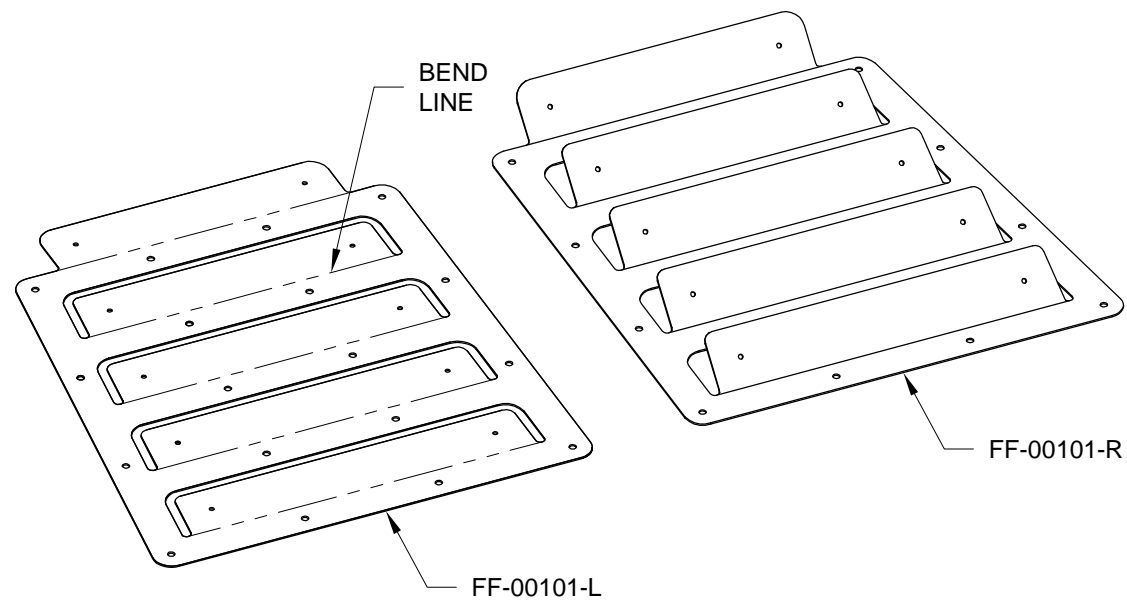


FIGURE 1: BENDING THE LOUVERS

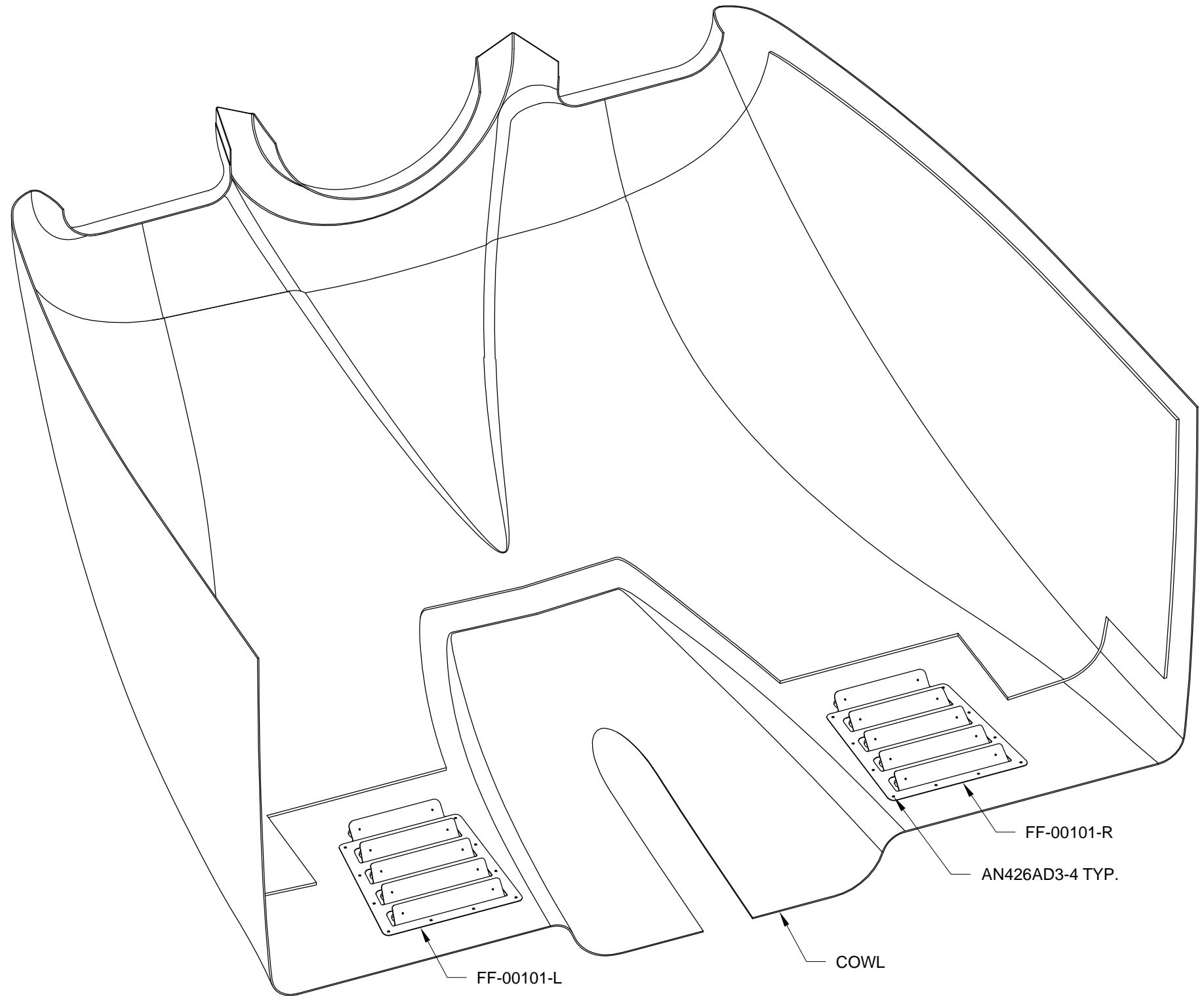


FIGURE 2: RIVETING THE LOUVERS