

TOTAL PERFORMANCE **VAN'S AIRCRAFT**

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REVISION DESCRIPTION:

1) Page: 29A-02 REV 1:

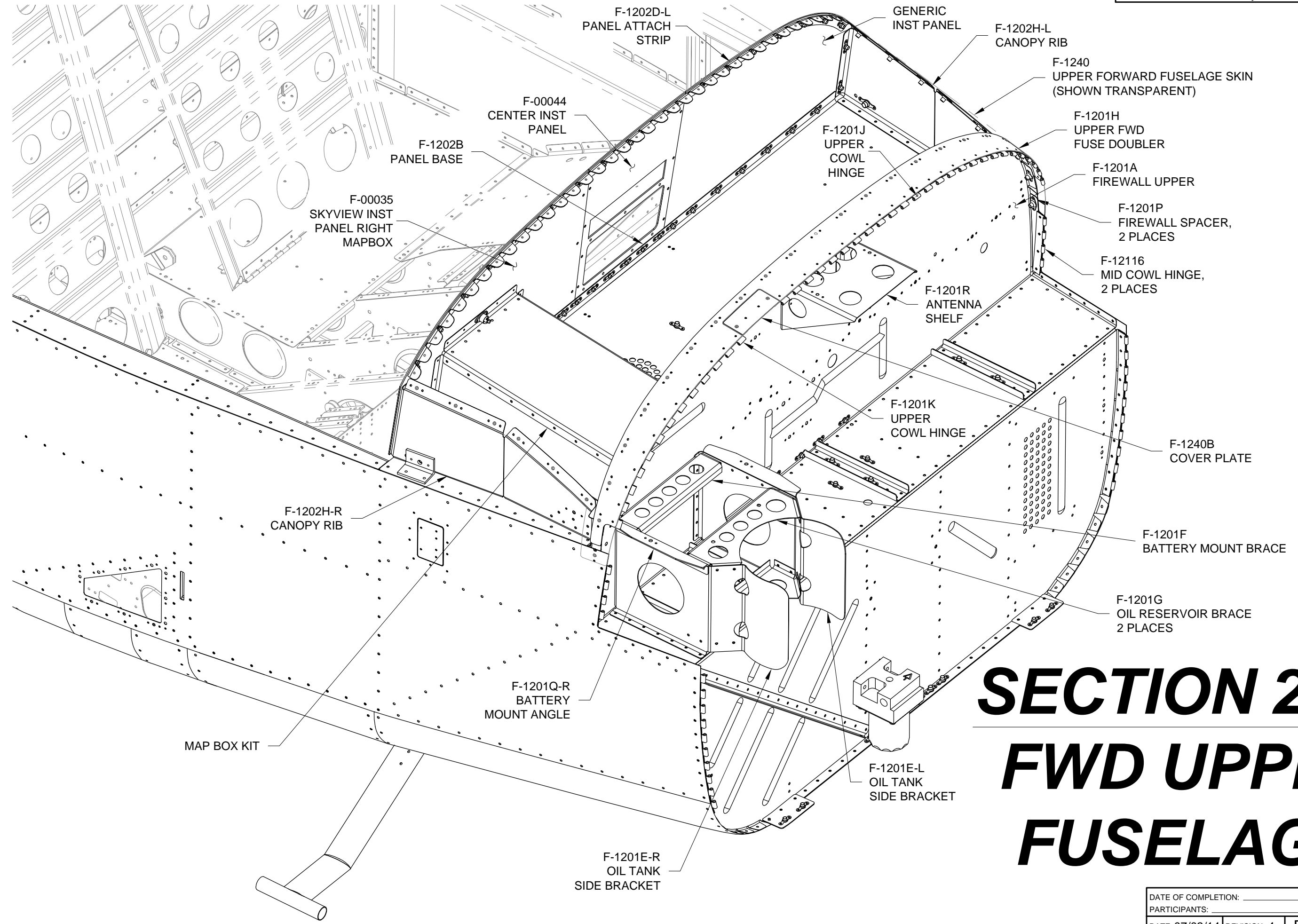
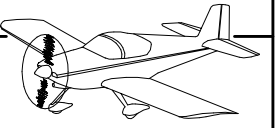
In Step 5, "Align the hinges with the forward edge of the upper fwd fuse doubler as shown in Figure 3, and position the hinges to achieve equal edge distance at the ends." was, "Align the lower edge of the upper cowl hinges per the call out in Figure 3."

In Figure 3, removed the call-out, "ALIGN LOWER END OF F-1201J OR K WITH EDGE OF F-1201H," and moved the location of the F-1201H call-out.

2) Page 29A-05 REV 5:

In Figure 3, the call-out "LP4-3, TYP. THIS FIGURE UNLESS OTHERWISE CALLED OUT" was changed to the form of a note in the figure.

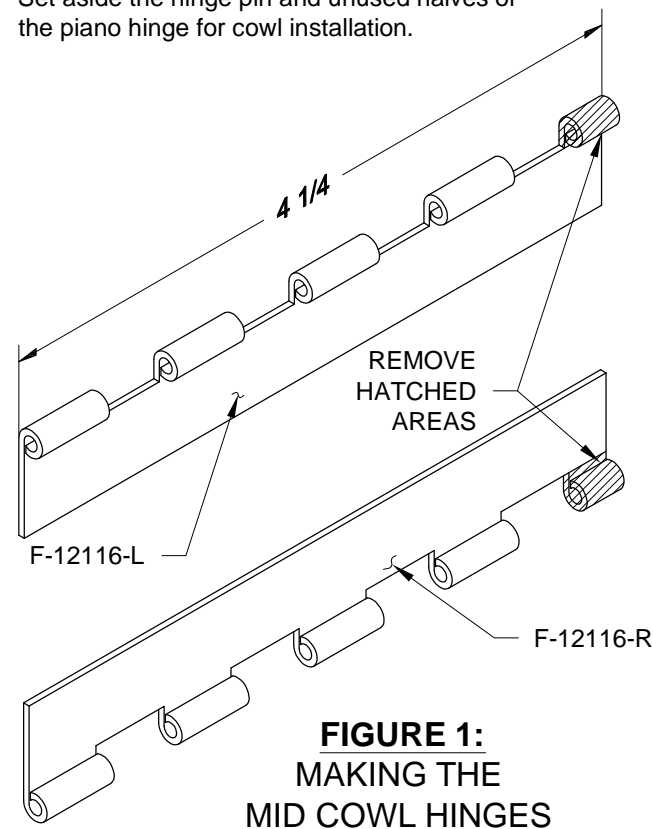
In Figure 3, added a call-out for CR3213-4-02 rivets using grouping boxes around the aft two rows of holes in the WD-1204 Engine Mount Brackets, and moved other call-outs to avoid interference with the new call-out.



SECTION 29A: FWD UPPER FUSELAGE

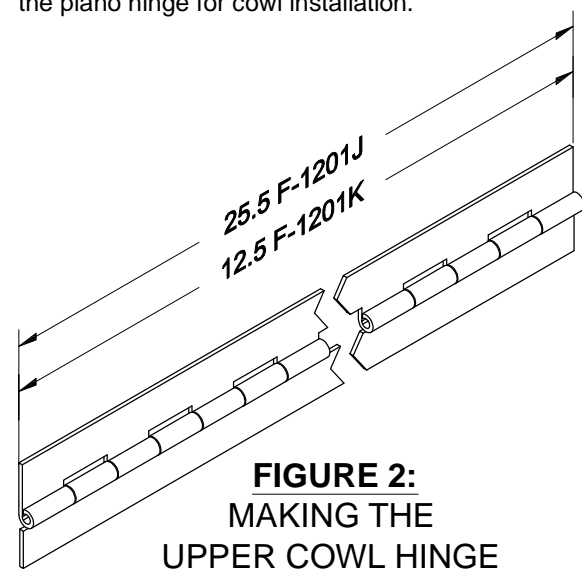
Step 1: Mark two lengths of AN257-P3 piano hinge to make the F-12116-L and F-12116-R Mid Cowl Hinges per the dimensions in Figure 1. Remove the hinge pin then cut the hinge to length.

Set aside the hinge pin and unused halves of the piano hinge for cowl installation.



Step 2: Make the F-1201J and F-1201K Upper Cowl Hinges from AN257-P3 piano hinge per the dimensions in Figure 2. Remove the hinge pin before cutting the parts to length.

Set aside the hinge pin and unused halves of the piano hinge for cowl installation.



Step 3: Dimple the F-1201P Firewall Spacers and corresponding screw and rivet holes in the F-1201A Firewall Upper as shown in Figure 3. Dimple the rivet hole locations in the corresponding nutplates. Cleco the firewall spacers and nutplates to the lower flange of the firewall upper. Rivet the **top rivet only** as shown in Figure 3.

Step 4: Machine countersink the nutplate rivet holes in the F-1201H Upper Fwd Fuse Doubler. Dimple the screw holes in the upper fwd fuse doubler and F-1201A Firewall Upper for #8 screws. Cleco then rivet the upper fwd fuse doubler and nutplates to the firewall upper.

NOTE: The F-1201J and F-1201K Cowl Hinges can be pre-bent by hand to make their installation easier.

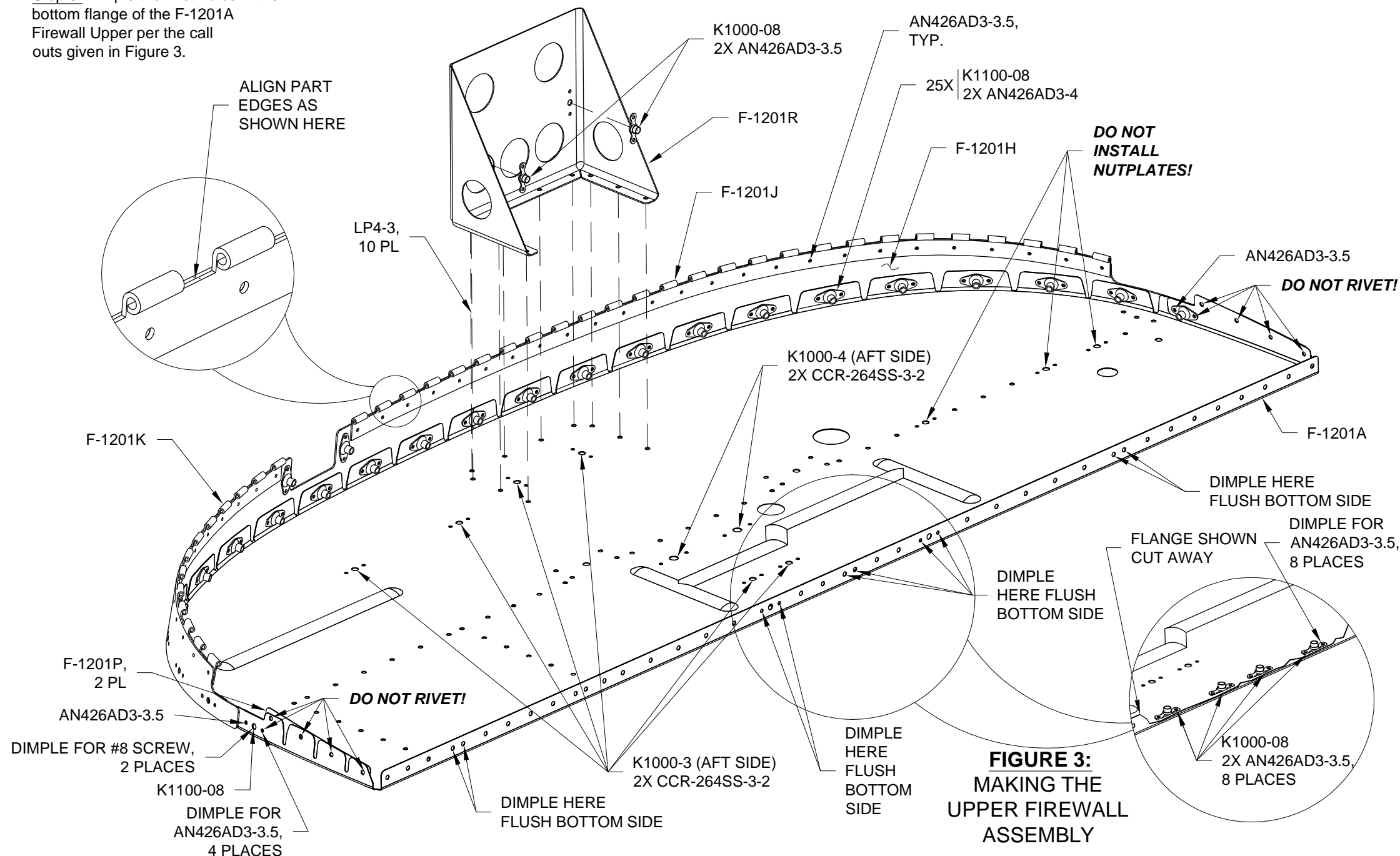
Step 5: Clamp the F-1201J and F-1201K Upper Cowl Hinges to the F-1201H Upper Fwd Fuse Doubler. Align the hinges with the forward edge of the upper fwd fuse doubler as shown in Figure 3, and position the hinges to achieve equal edge distance at the ends. Match-Drill #40 and cleco all the corresponding holes between the upper fwd fuse doubler and the upper cowl hinges. Remove and deburr the parts. Machine countersink the rivet holes in the upper fwd fuse doubler. Cleco then rivet the parts together as shown in Figure 3.

Step 6: Dimple then rivet nutplates to the forward and aft sides of the F-1201A Firewall Upper per the call outs given in Figure 3.

Step 7: Dimple then rivet nutplates to the F-1201R Antenna Shelf per the call outs given in Figure 3.

Step 8: Rivet the F-1201R Antenna Shelf to the F-1201A Firewall Upper per the call outs given in Figure 3.

Step 9: Dimple the rivet holes in the bottom flange of the F-1201A Firewall Upper per the call outs given in Figure 3.





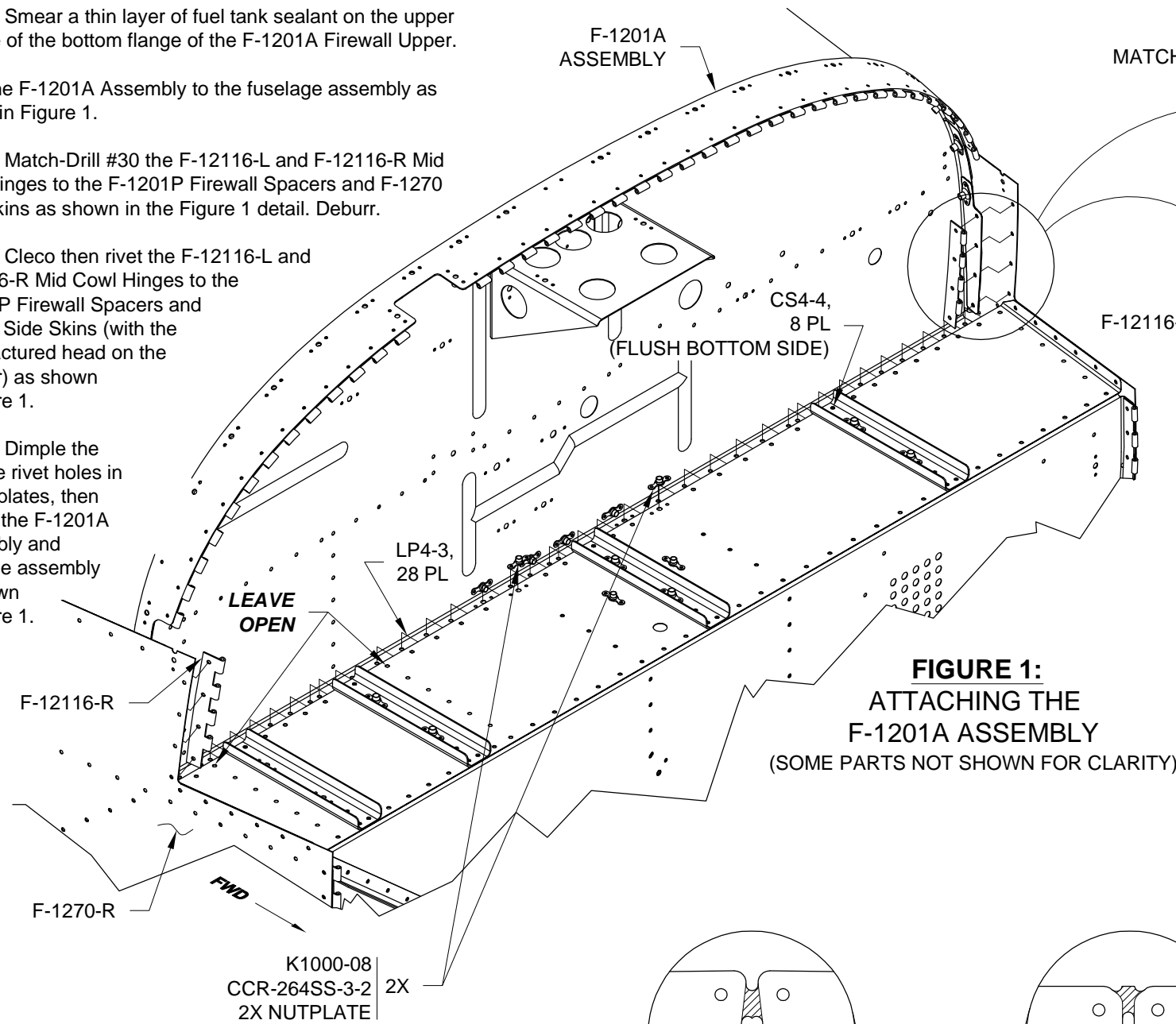
Step 1: Smear a thin layer of fuel tank sealant on the upper surface of the bottom flange of the F-1201A Firewall Upper.

Rivet the F-1201A Assembly to the fuselage assembly as shown in Figure 1.

Step 2: Match-Drill #30 the F-12116-L and F-12116-R Mid Cowl Hinges to the F-1201P Firewall Spacers and F-1270 Side Skins as shown in the Figure 1 detail. Deburr.

Step 3: Cleco then rivet the F-12116-L and F-12116-R Mid Cowl Hinges to the F-1201P Firewall Spacers and F-1270 Side Skins (with the manufactured head on the exterior) as shown in Figure 1.

Step 4: Dimple the nutplate rivet holes in the nutplates, then rivet to the F-1201A Assembly and fuselage assembly as shown in Figure 1.



Step 5: Separate F-1202N-1 Fwd Skin Stiffener into F-1202N-1-L & -R and F-1295 Skin Stiffener into F-1295-L & -R as shown in Figure 2.

Step 6: Cleco then rivet the F-1202N-1-L & -R Fwd Skin Stiffeners to the F-1270-L & -R Fuselage Side Skins per Figure 3 callouts.

Cleco then rivet the F-1295-L & -R Skin Stiffeners to the F-1270-L & -R Side Skins, and F-1201 B Firewall Shelf per Figure 3 callouts.

Step 7: Fill the #11 tooling holes in the F-1201A Firewall Upper with Firewall Sealant as shown in Figure 3. Add a bead of fuel tank sealant around the perimeter of the firewall parts. Use a popsicle stick to form a smooth fillet. Make sure all gaps from the bend relief notches along the flange and in the corners are fully sealed. Use a light on the forward side of the firewall to help verify that the full perimeter of the firewall is fully sealed.

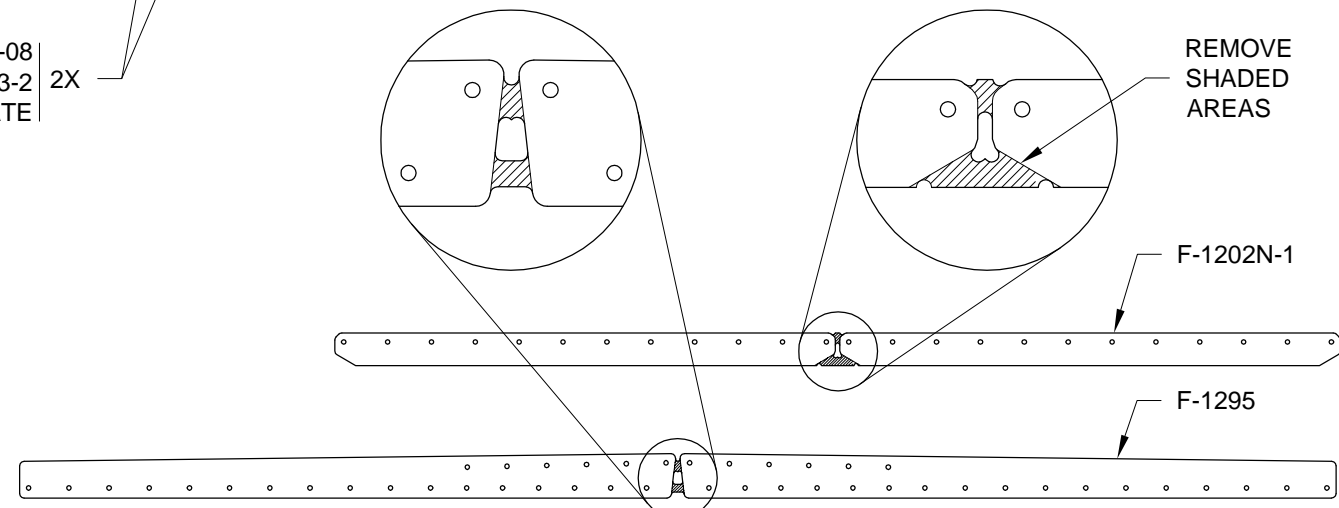


FIGURE 2: SEPARATING STIFFENERS (FLAT PATTERN SHOWN)

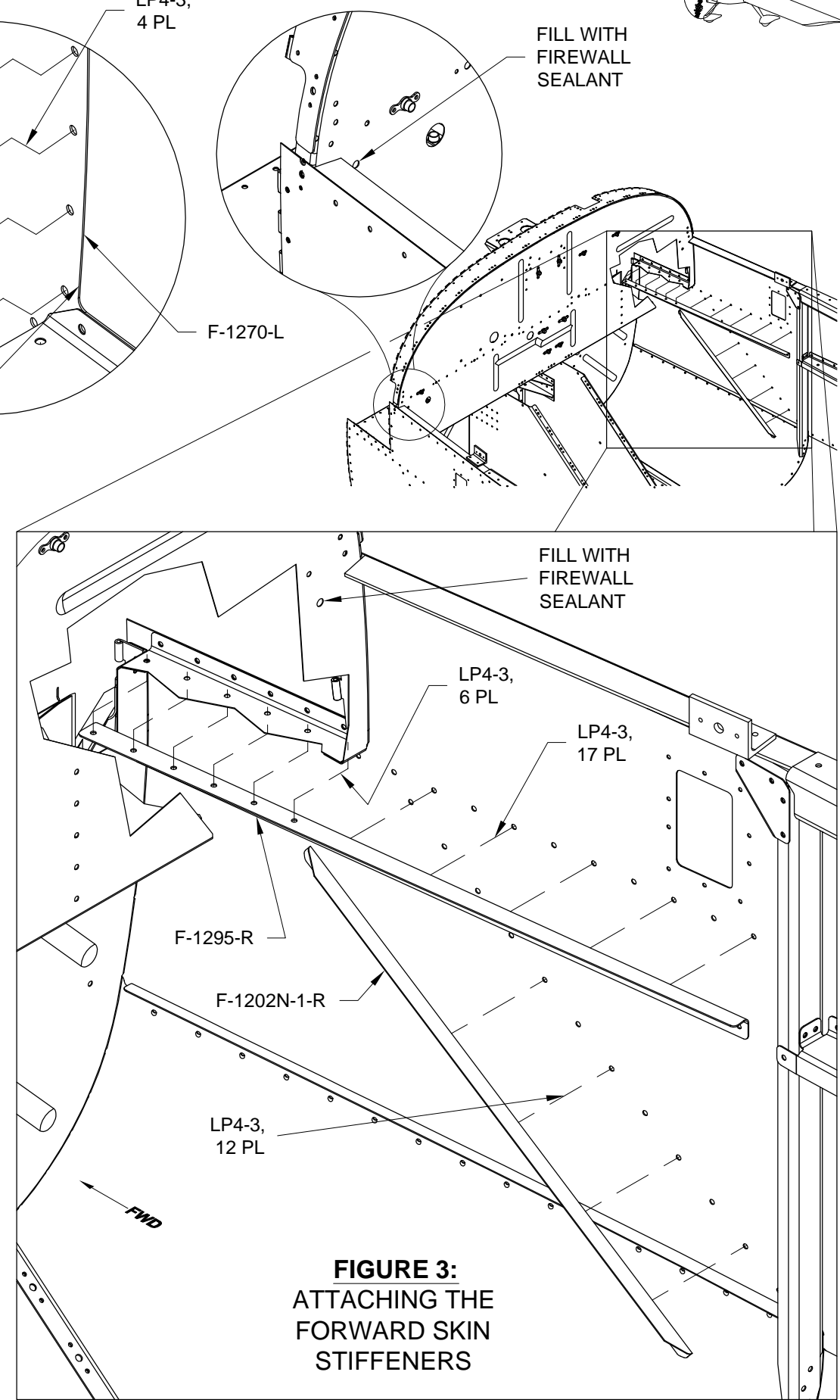


FIGURE 3: ATTACHING THE FORWARD SKIN STIFFENERS



Step 1: Separate the F-1202M Canopy Attach Doubler into left and right parts as shown in Figure 1.

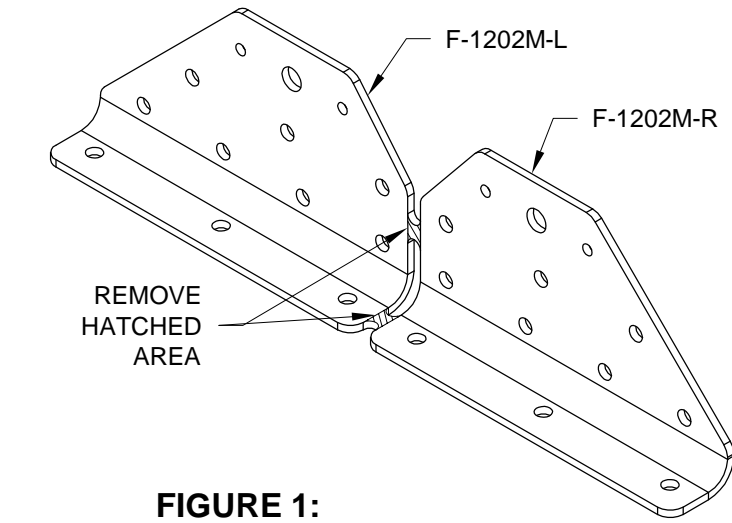
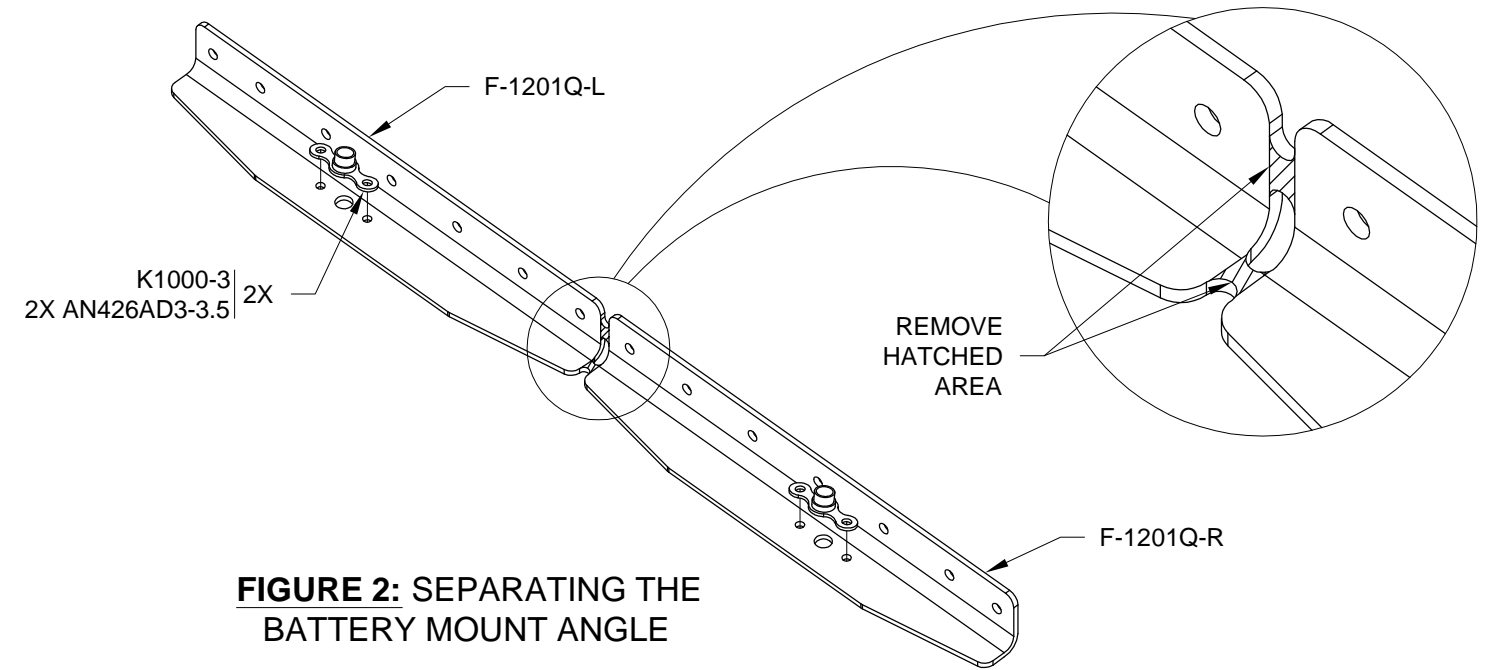


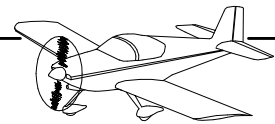
FIGURE 1:
SEPARATING THE CANOPY
ATTACH DOUBLER

Step 2: Separate the F-1201Q Battery Mount Angle into left and right parts as shown in Figure 2.

Step 3: Machine countersink the rivet holes in the F-1201Q-L & -R Battery Mount Angles and attach nutplates as shown in Figure 2.



**FIGURE 2: SEPARATING THE
BATTERY MOUNT ANGLE**



Step 1: Separate the F-1202D Panel Attach Strip into left and right parts as shown in Figure 1.

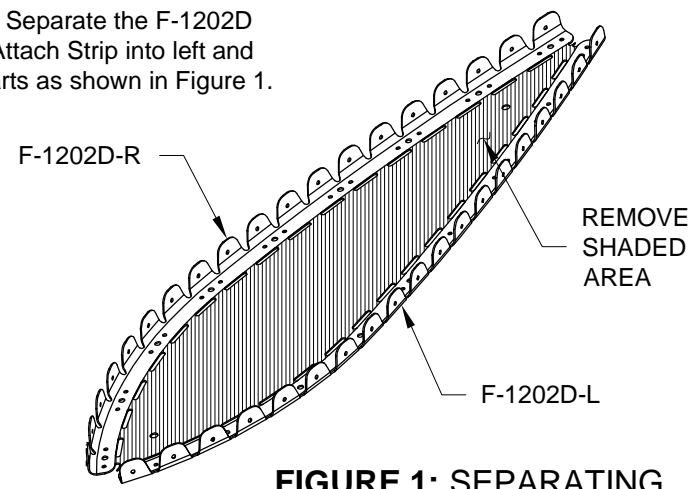


FIGURE 1: SEPARATING THE PANEL ATTACH STRIP

Step 2: Make the F-1202Y Strut Attach Angles by cutting two lengths of AA6-125X1X1 to 1 5/8 inches and drilling as shown in Figure 2. Deburr. Machine countersink the two nutplate attachment holes.

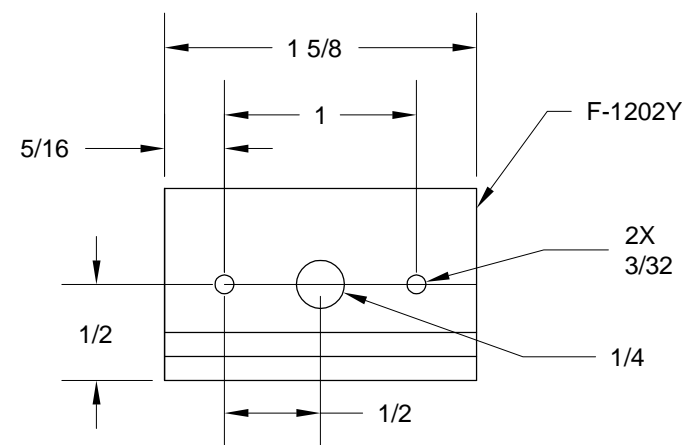


FIGURE 2: MAKING THE STRUT ATTACH ANGLE

Step 3: Machine countersink the F-1202H-L and -R Canopy Rib flanges for nutplate attach rivets.

Dimple the rivet hole locations on the canopy ribs for AN426AD4 rivets and all fastener locations that will use a flush screw.

Machine countersink the F-1202M-L and -R Canopy Attach Doublers for AN426AD4 rivets. See Figure 3.

Step 4: Cleco the F-1202M-L and -R Canopy Attach Doublers and F-1202Y Strut Attach Angles to the F-1202H-L and -R Canopy Ribs.

Final-Drill 1/4 the center fastener locations in the canopy attach doublers and canopy ribs that correspond to the K1000-4 nutplates. Remove and deburr.

Cleco then rivet the canopy attach doublers and strut attach angles to the canopy ribs leaving out the rivets along the bottom flanges.

Rivet on all nutplates shown in Figure 3 that attach to these parts.

Step 5: Dimple the nutplate rivet holes in the aft flange of the F-1202B Panel Base and the corresponding nutplates.

Rivet nutplates to the aft flanges of the panel base. Dimple the rivet holes in the four nutplates that mount to the web of the panel base then rivet to the panel base. See Figure 3.

Step 6: Cleco the F-1202B Panel Base to the F-1201A Firewall Upper. Check that the aft edge of the panel base abuts the forward edge of the F-1234-L and -R Canopy Decks and that the left and right edges are parallel to the F-1255-L & -R Longerons then match-drill #30 the holes common between the panel base and the longerons.

Remove the panel base and deburr the longerons. See Figure 3.

Step 7: Cleco the F-1202H-L & -R Canopy Ribs to the F-1202B Panel Base and match-drill #30 the holes in the panel base to the F-1202Y Strut Attach Angles. Remove and deburr.

Step 8: Final-Drill #30 all rivet holes in the WD-1204 Engine Mount Brackets then rivet them to the web of the F-1202B Panel Base. Install manufactured head of rivets on the lower face of the panel base.

This will create the Panel Base Assembly. See Figure 3.

Step 9: Insert two (non slitted) SB750-10 Snap Bushings in the web of the F-1202B Panel Base as shown in Figure 3.

NOTE: Place the head of the fastener on the forward face of the F-1201A Firewall Upper to aid in cleaning the engine compartment area.

Step 10: Rivet the Panel Base Assembly to the F-1201A Firewall Upper and F-1255-L and -R Longerons. Rivet on the three nutplates common to the Panel Base Assembly and the firewall upper. Rivet the F-1202H-L and -R Canopy Rib Assemblies to the Panel Base Assembly and firewall upper. See Figure 3.

Step 11: Seal the base of the F-1202H-L & -R Canopy Rib Assemblies with Tank Sealant. See Figure 3.

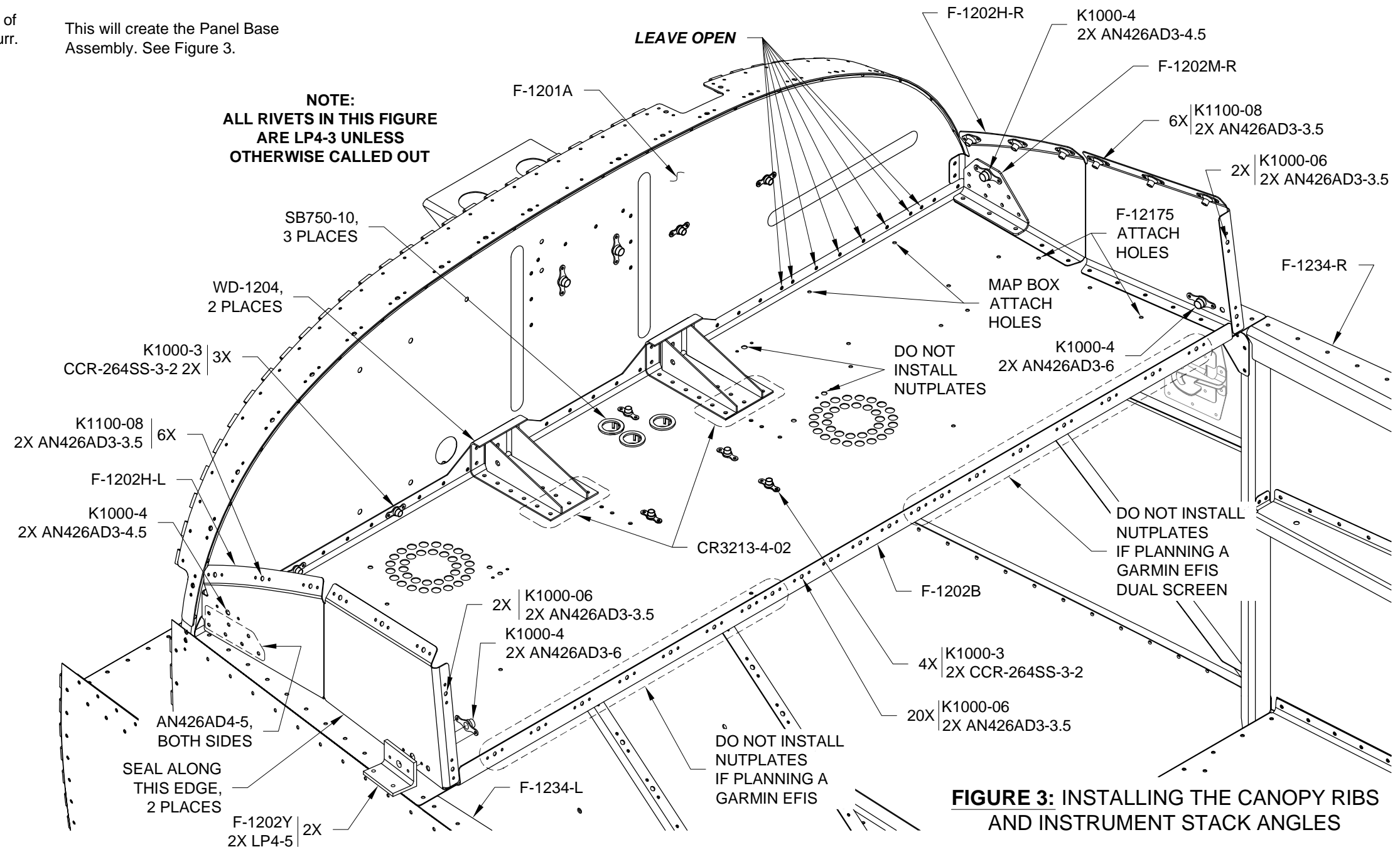


FIGURE 3: INSTALLING THE CANOPY RIBS AND INSTRUMENT STACK ANGLES

Step 1: Dimple the three holes in each F-1201E-L and -R Oil Tank Side Bracket that will receive flush fasteners as called out in Figure 1.

Machine countersink the corresponding holes in the F-1201Q-L and -R Battery Mount Angles.

Step 2: Rivet the F-1201E-L and -R Oil Tank Side Brackets to the F-1201A Firewall Upper. Rivet the F-1201F Battery Mount Brace to the firewall upper. See Figure 1.

Step 3: Rivet the F-1201F Battery Mount Brace, F-1201Q-L & -R Battery Mount Angles and F-1201G Oil Reservoir Brace to the F-1201E-L and -R Oil Tank Side Brackets. Rivet a second oil reservoir brace to the side brackets. See Figure 1.

Step 4: Cover the head of each rivet on the firewall with a thin layer of fuel tank sealant.

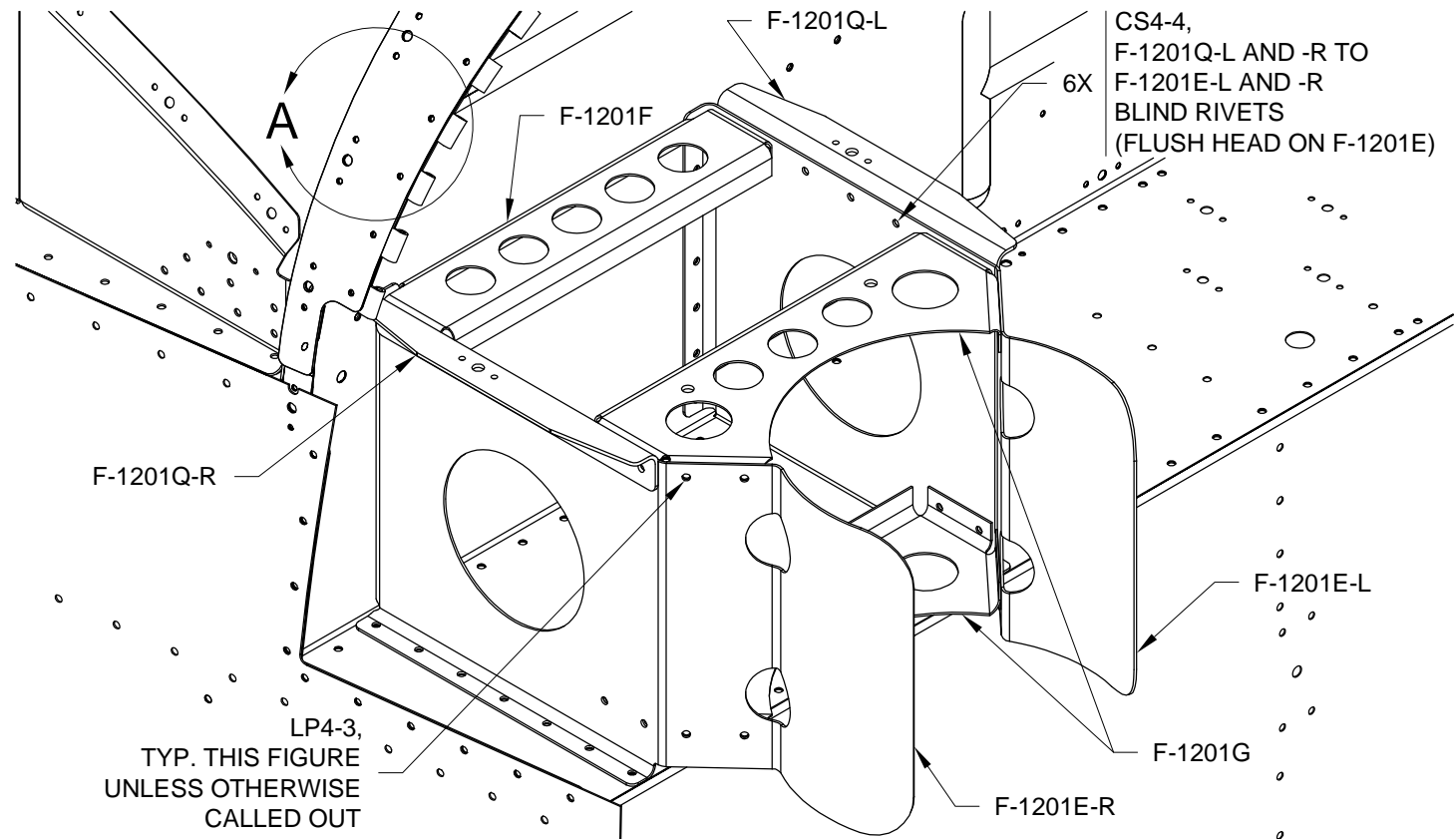


FIGURE 1: ADDING THE OIL TANK BRACES

Step 5: Make the F-1240C Clip from provided AS3-025 as shown in Figure 2. Match-Drill #40 to the F-1240B Cover Plate. Test fit the clip to the fuselage to determine which side goes up then deburr and dimple the rivet and screw holes in the clip and the cover plate then rivet the clip to the cover plate using the rivets called out in Figure 2.

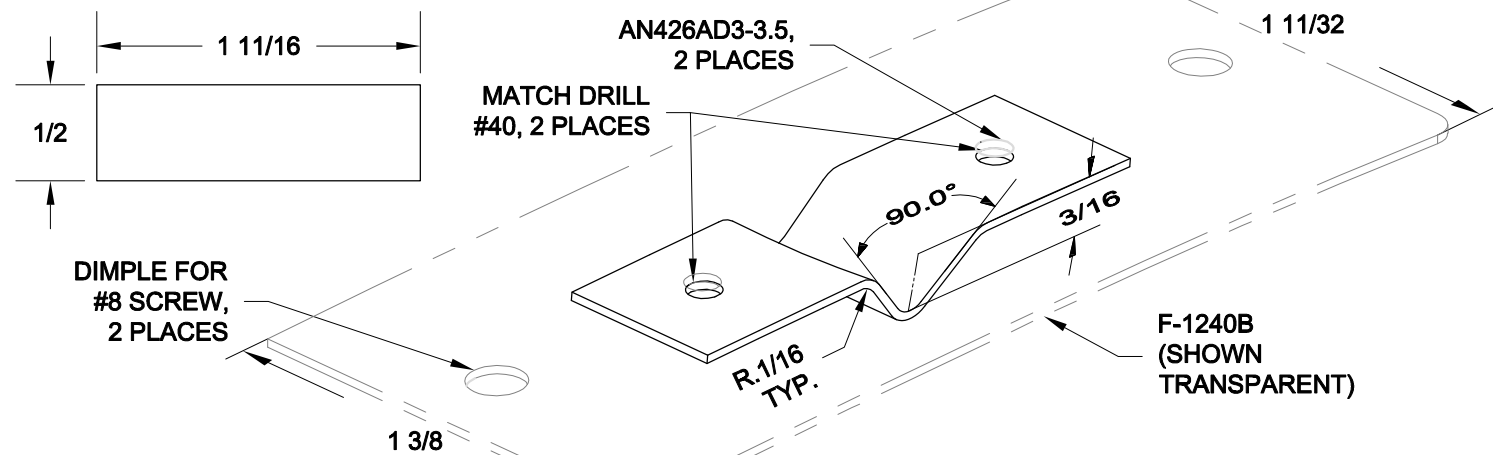


FIGURE 2: MAKING THE F-1240C CLIP

Step 6: Carefully curve the forward edge of the F-1240 Upper Forward Fuselage Skin down by hand. The upper forward fuselage skin can be laid flat on a table and the fwd edge of the skin carefully worked over the edge, taking care not to crease the skin. The upper forward fuselage skin should be curved enough that the forward edge presses against the F-1201H Upper Forward Fuselage Doubler when installed. See Figure 3.

Step 7: Final-Drill #19 then dimple the holes in the F-1240 Upper Forward Fuselage Skin as shown in Figure 3.

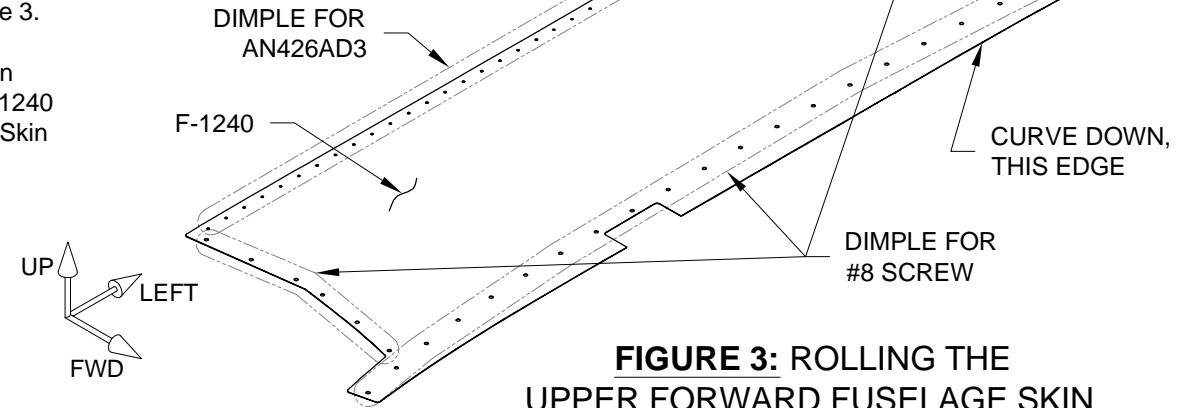


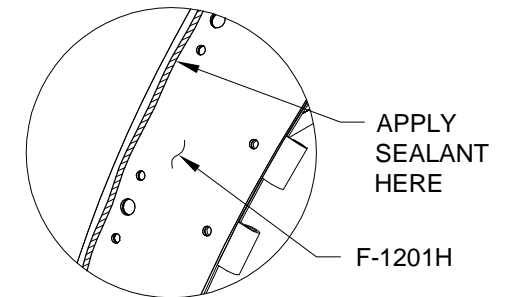
FIGURE 3: ROLLING THE UPPER FORWARD FUSELAGE SKIN

NOTE: Sealant and release agent used must allow for disassembly.

Step 8: Apply a release agent, such as Boelube, to the area of the F-1240 Skin that will mate with the F-1201H Upper Fwd Fuse Doubler. See Detail A. See Figure 1 for location of Detail A.

Clean doubler surface before applying sealant where indicated in Detail A.

Apply approx. 1/16 in. bead of Permatex 16BR Black Silicone Adhesive Sealant #81158 or equivalent per manufacturer's directions along the entire length of the doubler as shown in Detail A.



DETAIL A

Step 9: Screw the F-1240 Upper Forward Fuselage Skin to the F-1201A Assembly, F-1270-L and F-1270-R Fuselage Side Skins and F-1202H-L and F-1202H-R Canopy Ribs.

Screw the F-1240B Assembly to the upper forward fuselage skin. See Figure 4.

Step 10: Dimple the nutplates called out in Figure 4 and the rivet locations in the F-1202D-L and F-1202D-R Panel Attach Strips. Rivet the nutplates to the panel attach strips. See Figure 4.

Step 11: Start from the inboard and work out clecoing then riveting the F-1202D-L and F-1202D-R Panel Attach Strips to the F-1240 Upper Forward Fuselage Skin as shown in Figure 4.

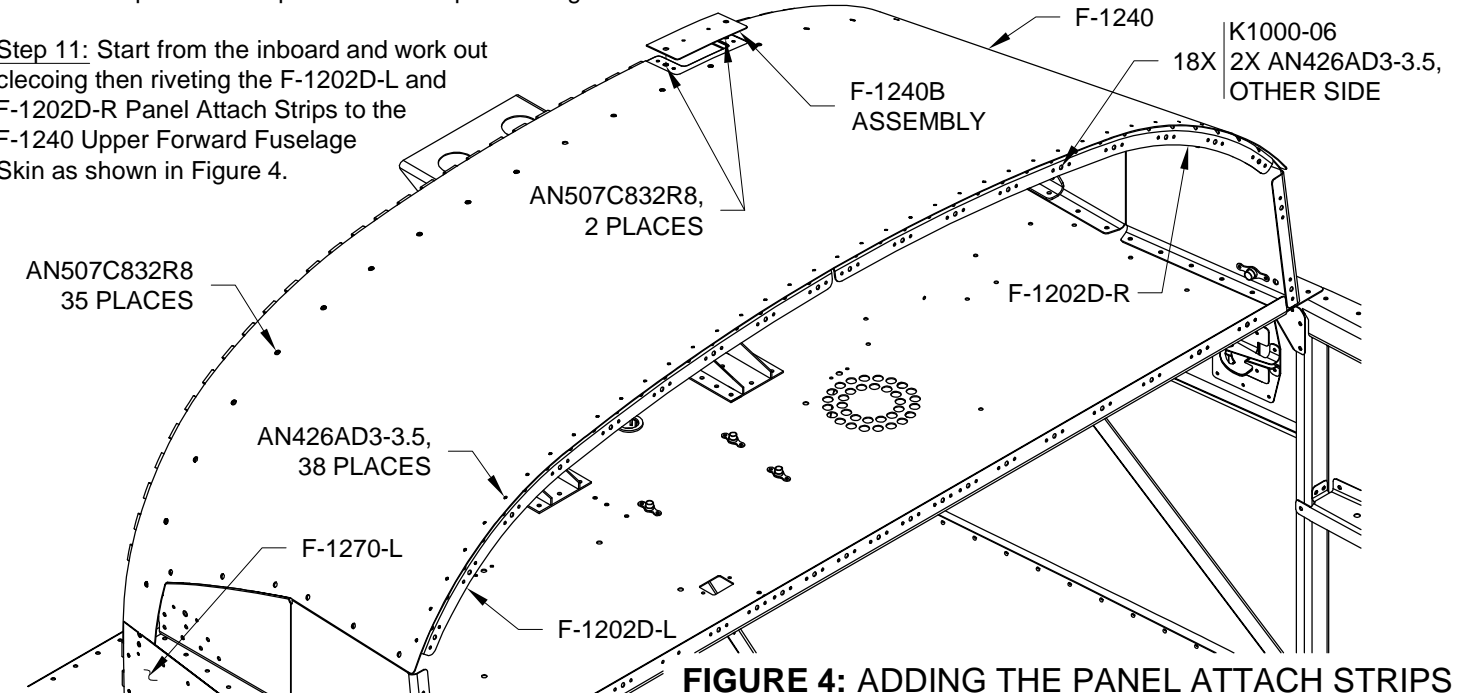
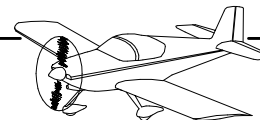


FIGURE 4: ADDING THE PANEL ATTACH STRIPS



NOTE: If a dual EFIS installation is anticipated skip the map box assembly.

Step 1: Cleco a Map Box Half and the F-00021 Map Box Door to the F-00035 SkyView Inst Panel Right Mapbox as shown in Figure 1.

Step 2: Place the F-00021A Map Box Hinge in the corner made by the F-00021 Map Box Door and the Map Box Half as shown in Figure 1.

With the map box hinge held simultaneously against both the map box door and the map box half, match-drill #30 the map box hinge to the map box half. See the call-out "Match-Drill #30, 6 Places" call-out in Figure 1.

Cleco each match-drilled hole before match-drilling the next hole.

Step 3: With the F-00021A Map Box Hinge held against the F-00021 Map Box Door, match-drill #40 the map box hinge to the map box door. See the call-out "Match-Drill #40, 6 Places" in Figure 1.

Cleco each match-drilled hole before match-drilling the next hole.

Step 4: Remove the F-00021 Map Box Door. Re-cleco the lower flange of the Map Box Half to the F-00035 SkyView Inst Panel Right Mapbox.

Cleco the second map box half to the SkyView inst panel right mapbox and the first map box half as shown in Figure 2.

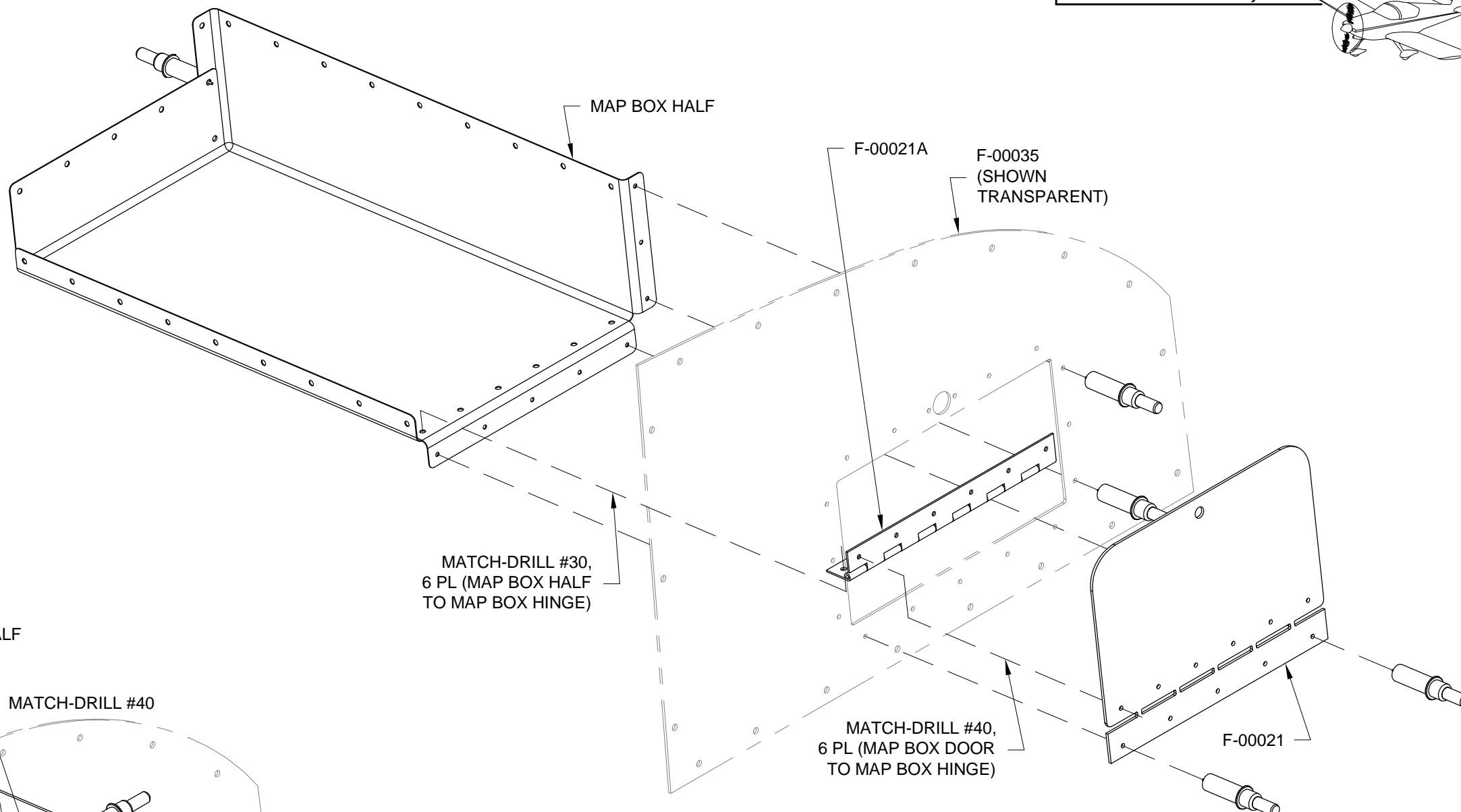


FIGURE 1: MATCH-DRILL THE MAP BOX HINGE

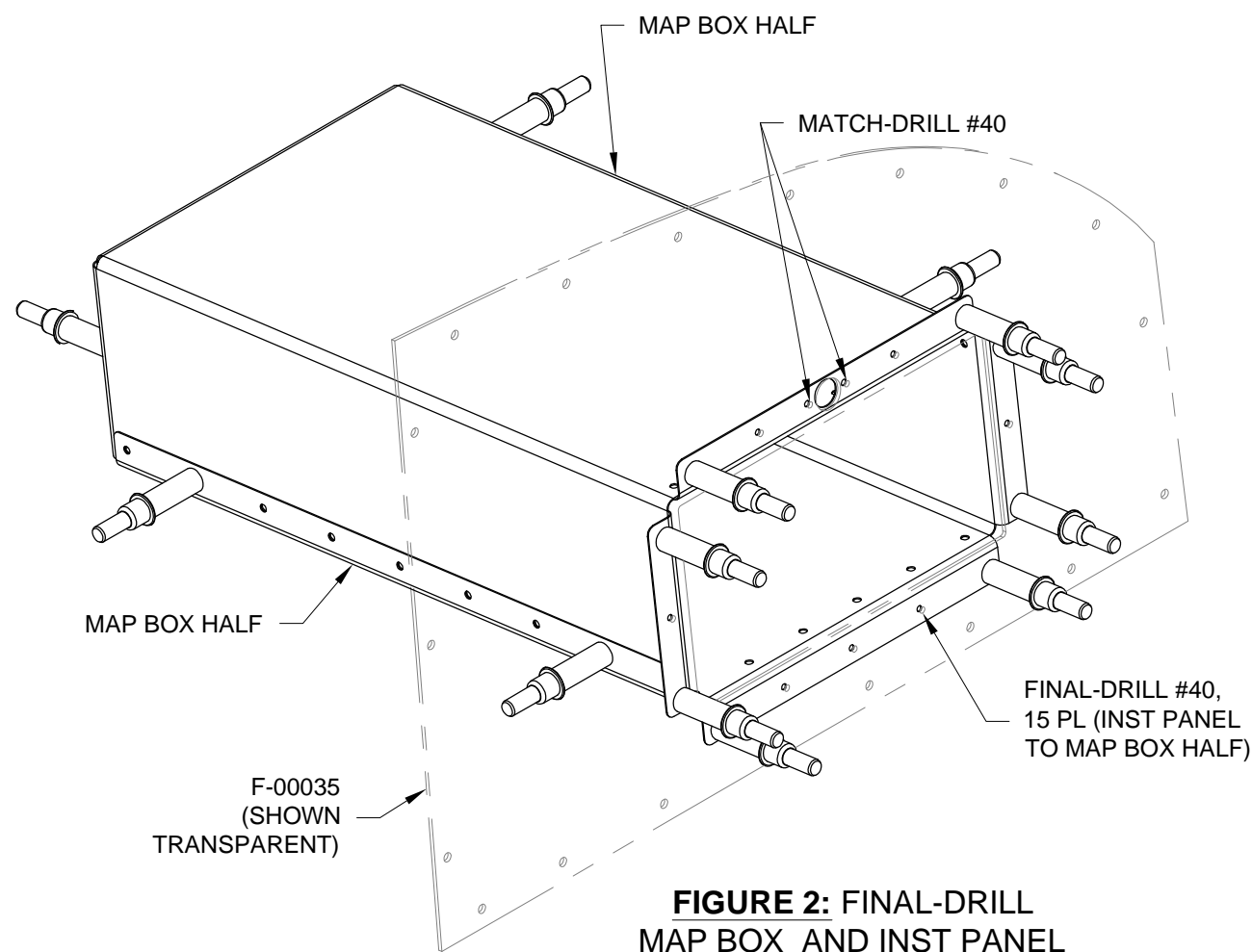


FIGURE 2: FINAL-DRILL MAP BOX AND INST PANEL

Step 5: Final-Drill and match-drill #40 all 3/32 diameter holes in the F-00035 SkyView Inst Panel Right Mapbox and the two Map Box Halves. See Figure 2.

Use a step-drill to enlarge the 3/32 diameter hole in the middle of the top map box half to match the 1/2 diameter hole in the SkyView inst panel right mapbox. See Figure 2.

Step 6: Remove the F-00035 SkyView Inst Panel Right Mapbox leaving the two Map Box Halves clecoed together as shown in Figure 2.

Final-Drill #30 all the mating holes between the two map box halves.



Step 1: Remove the excess material from the F-00021 Map Box Door as shown in Figure 1.

Machine countersink all #40 holes in the map box door to fit the head of an AN426AD3 rivet as shown in Figure 2.

Deburr all holes and all edges.

Chamfer the 1/4 inch hole in the map box door with a drill bit by hand so the HW 2600-4W Camloc Fastener fits flush against the Map Box Door. See Figure 2.

Step 2: Machine countersink all #40 holes in the F-00035 SkyView Inst Panel Right Mapbox to fit the head of an AN426AD3 rivet.

Machine countersink all .144 holes in the SkyView inst panel right mapbox to fit the head of an AN507C632R8 screw.

Deburr all holes and all edges.

Step 3: Deburr all holes in the F-00021A Map Box Hinge.

Step 4: Separate the two Map Box Halves and deburr all holes.

Step 5: Rivet the F-00021A Map Box Hinge to the F-00021 Map Box Door as shown in Figure 2.

Step 6: Blind rivet the two Map Box Halves together as shown in Figure 2.

Step 7: Rivet and blind rivet the Map Box Assembly to the F-00035 SkyView Inst Panel Right Mapbox as shown in Figure 2.

Rivet the HW212-12 Camloc Receptacle to the Inst Panel Right Assembly as shown in Figure 2.

NOTE: Now is the time to apply desired finish (powder coating, paint, etc) to the F-00035 SkyView Inst Panel Right Mapbox and F-00021 Map Box Door.

Step 8: Blind rivet the F-00021A Map Box Hinge to the lower Map Box Half as shown in Figure 2.

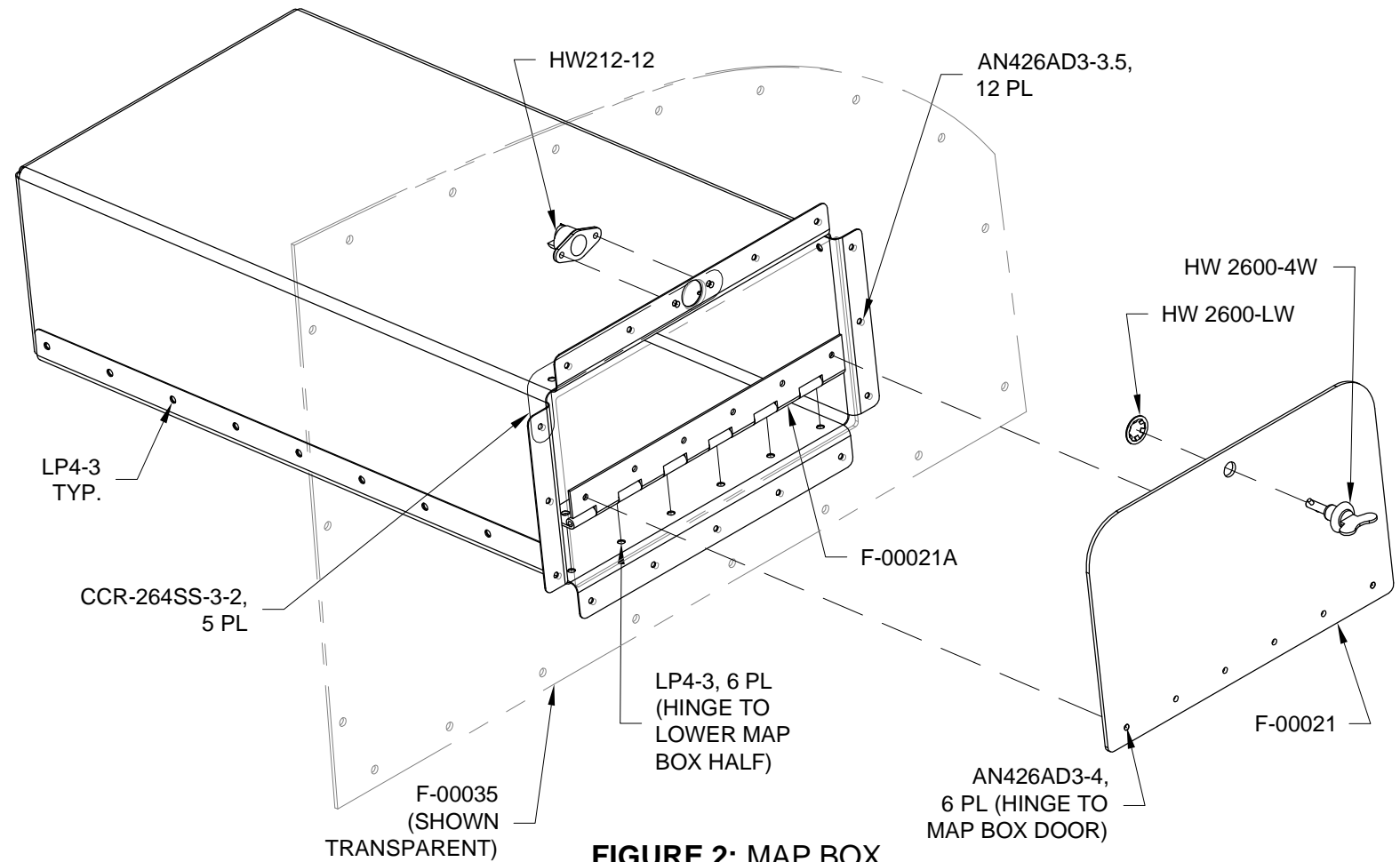


FIGURE 2: MAP BOX ASSEMBLY

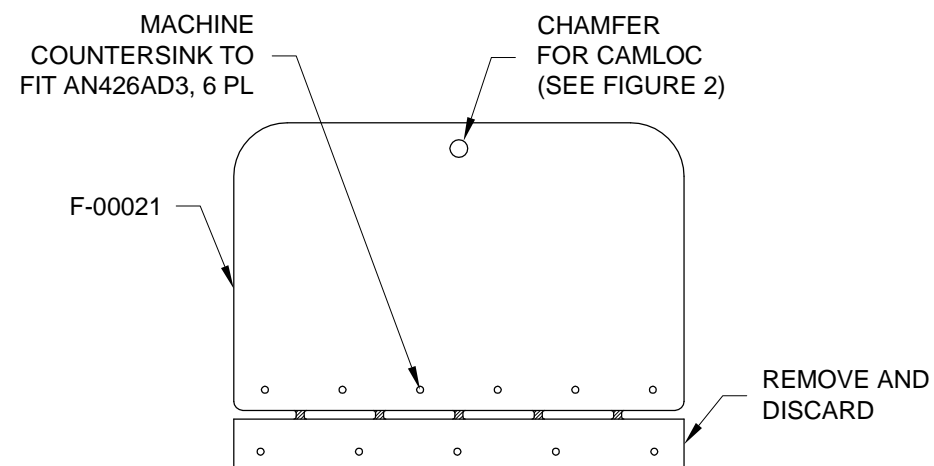
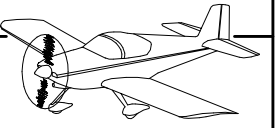
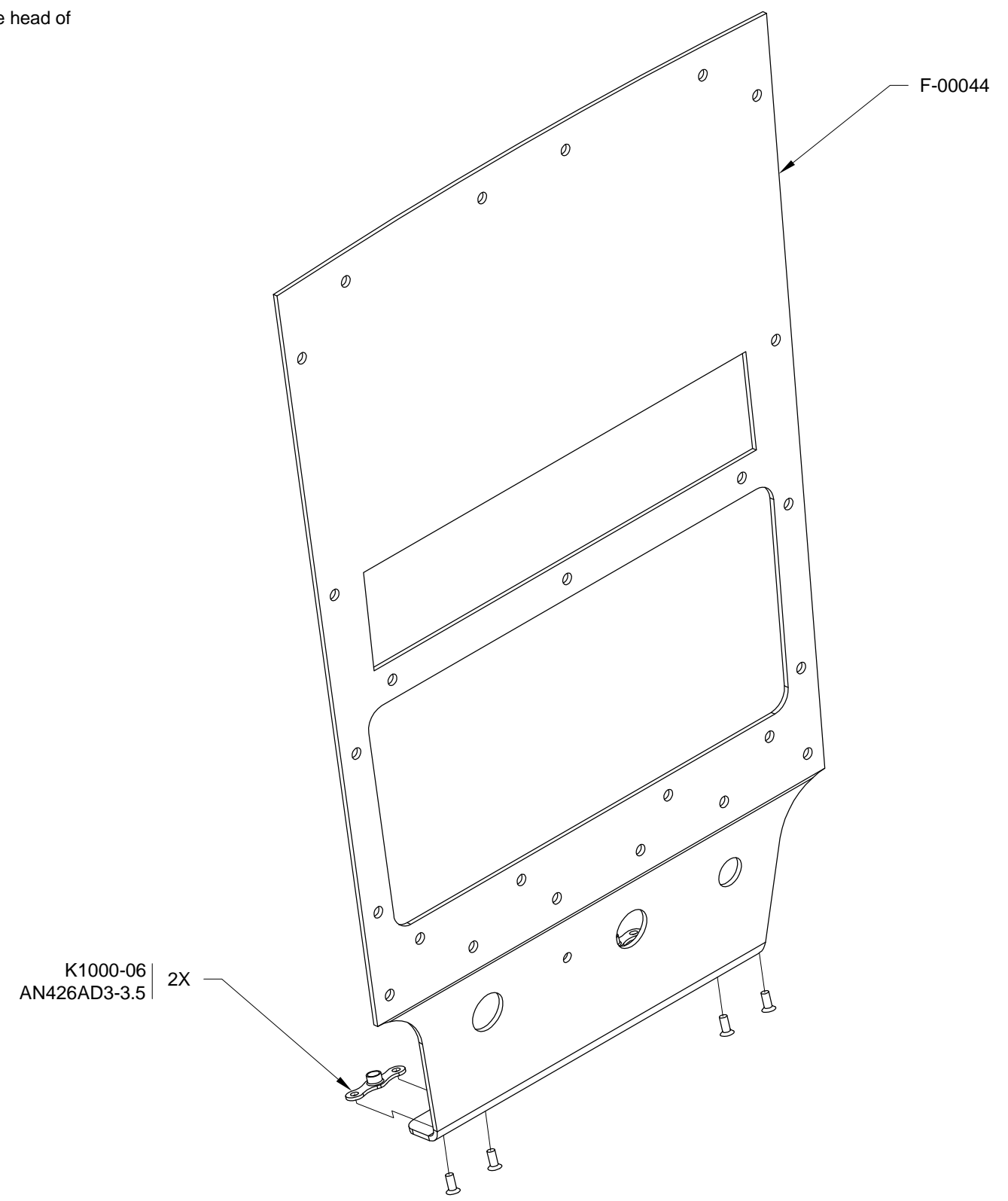


FIGURE 1: MAP BOX DOOR

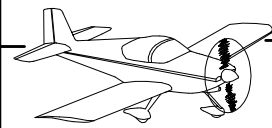


Step 1: Rivet two nutplates to the bottom of the F-00044 Center Inst Panel as shown in Figure 1.

Machine countersink all .144 holes in the center inst panel to fit the head of an AN507C632R8 screw.



**FIGURE 1: CENTER INSTRUMENT
PANEL PREP**



Step 1: Install the F-00044 Center Inst Panel with the hardware called out in Figure 1.

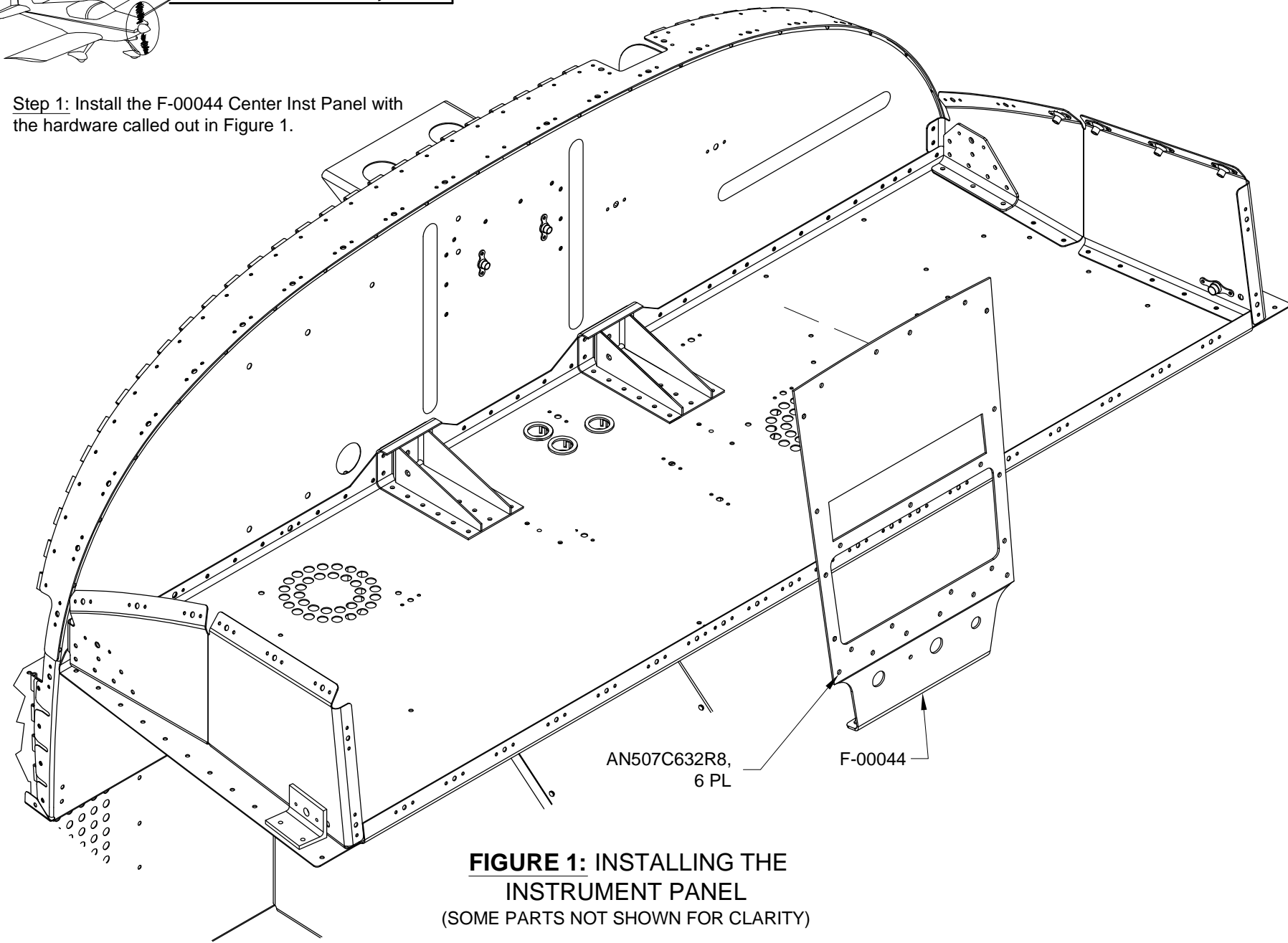


FIGURE 1: INSTALLING THE INSTRUMENT PANEL
(SOME PARTS NOT SHOWN FOR CLARITY)

Step 2: Install the Map Box Assembly to F-1202B Panel Base.

Match-drill #19 through the holes into the F-1202B Panel Base. See Figure 2.

Step 3: Remove the Map Box Assembly and deburr holes. See Figure 2.

Step 4: Install the screws, washers and nuts to anchor the back of the Map Box Assembly as shown in Figure 3.

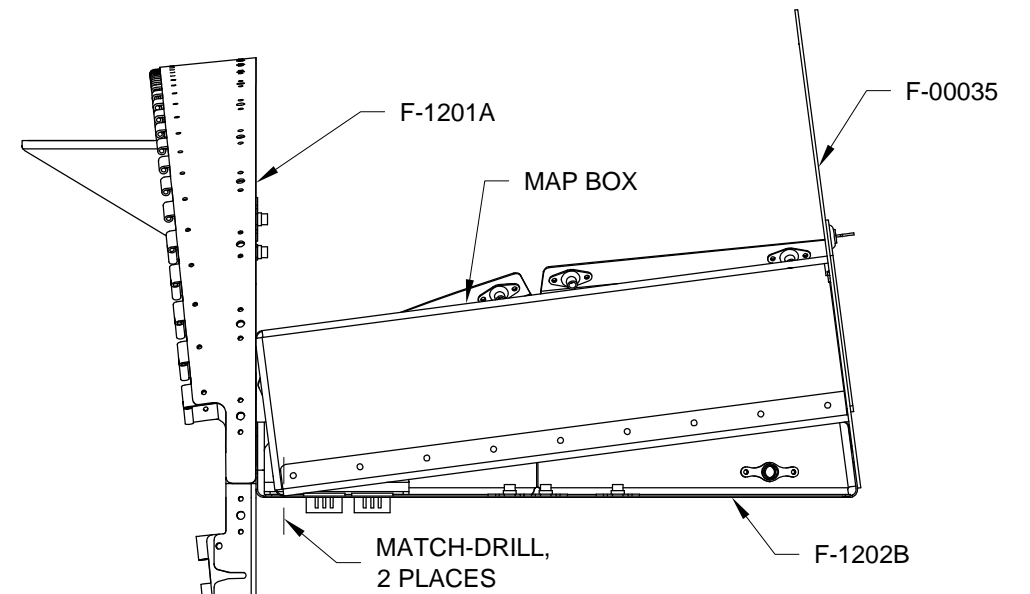


FIGURE 2: MATCH-DRILLING MAP BOX
(SOME PARTS NOT SHOWN FOR CLARITY)

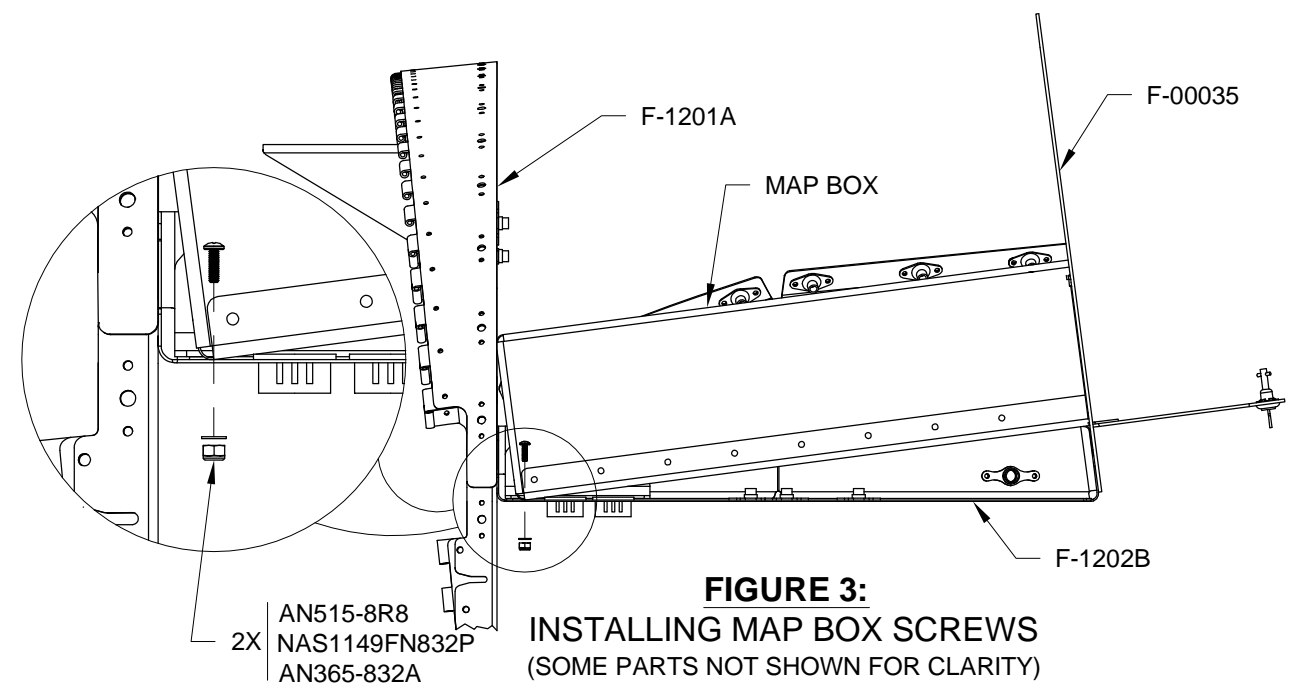


FIGURE 3: INSTALLING MAP BOX SCREWS
(SOME PARTS NOT SHOWN FOR CLARITY)

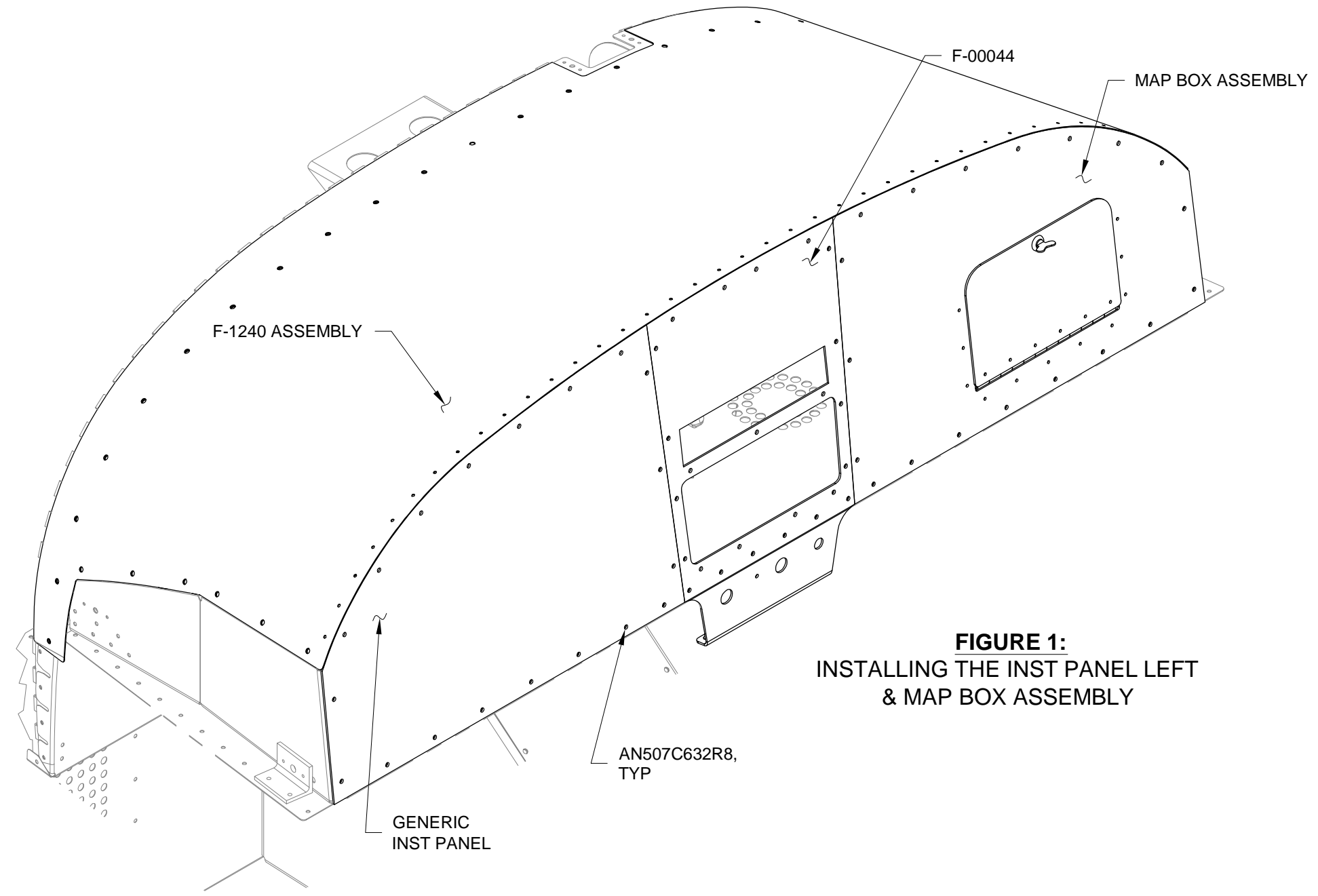
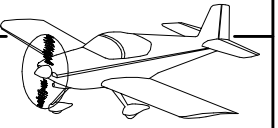


FIGURE 1:
INSTALLING THE INST PANEL LEFT
& MAP BOX ASSEMBLY

NOTE: Left instrument panel matching your EFIS system will be supplied in the avionics kit. Generic instrument panel supplied at this time only serves the purpose of holding the panel shape while fitting the canopy.

Step 1: Install the Generic Inst Panel and Map Box Assembly with the screws called out in Figure 1.



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