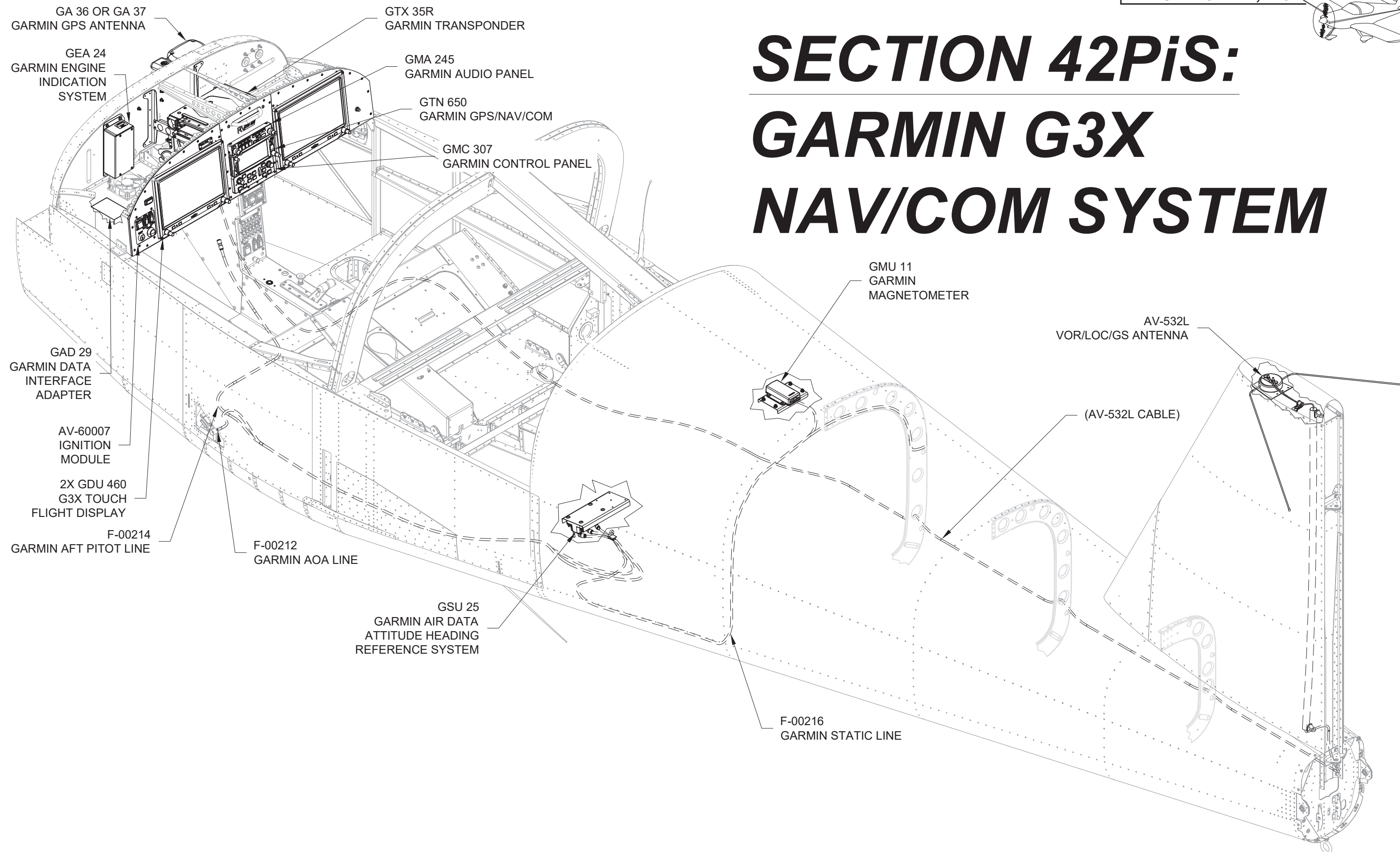


SECTION 42PiS: GARMIN G3X NAV/COM SYSTEM



NOTE: If the VS-1213 V-Stab Tip Fairing has already been riveted to the top of the V-Stab Assembly, it be will necessary to drill out the rivets securing the fairing.

Step 1: Separate the F-00205 Nutplate Spacer into the F-00205 Shim, K1000 Drill Temp, and MS20151 Drill Temp by cutting along the lines shown in Figure 1.

Step 2: Cleco the MS21051 Drill Temp to the aft-most hole in the VS-1213. Match-drill #40 the holes into the VS-1213 as shown in Figure 2.

Repeat for the opposite side.

Step 3: Cleco the K1000 Drill Temp to the remaining #30 holes in the VS-1213, then match-drill #40 the holes into the VS-1213 as shown in Figure 2.

Repeat for the opposite side.

Step 4: Machine countersink (flush outside) all #40 holes just match-drilled into the VS-1213 for an AN426AD3 rivet. See Figure 2.

Step 5: Final-drill #27, then machine-countersink all #30 holes in the VS-1213. See Figure 2.

Step 6: Rivet the nutplates onto the inside of the VS-1213 as shown in Figure 2.

Step 7: Final-drill #27 all holes in the VS-1201 Main Skin which are above the VS-1205 Tip Rib. See Figure 3.

Step 8: Dimple all #27 holes for #6 screws as shown in Figure 3.

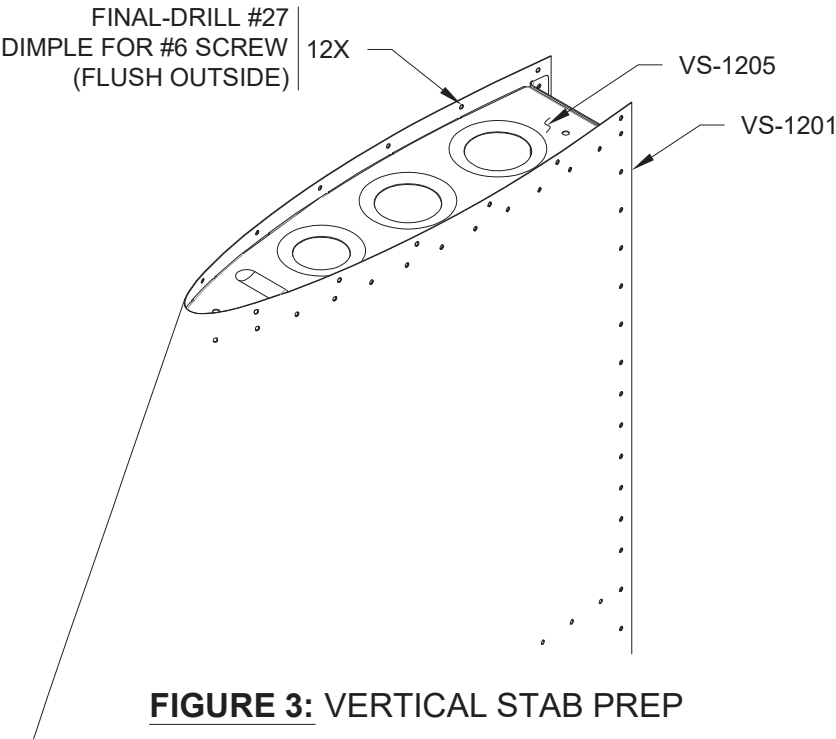


FIGURE 3: VERTICAL STAB PREP

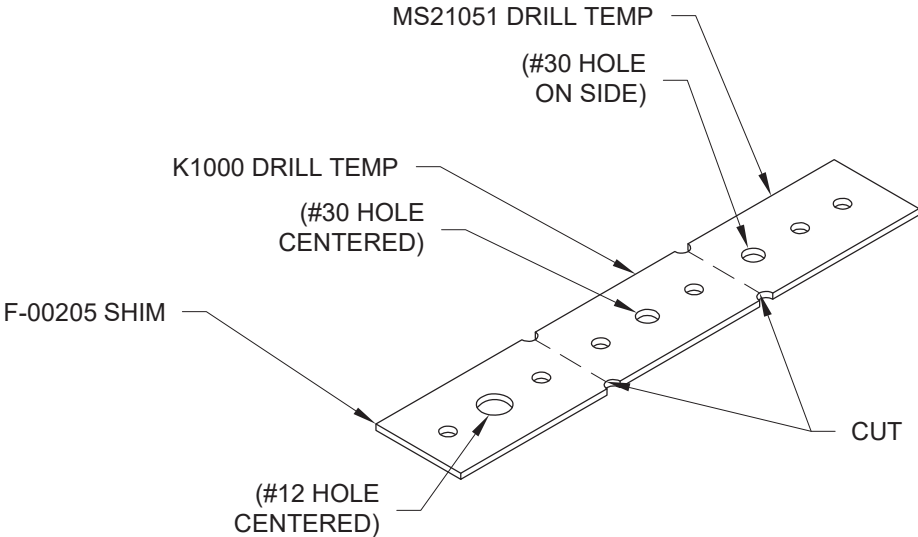


FIGURE 1: SEPARATING THE F-00205

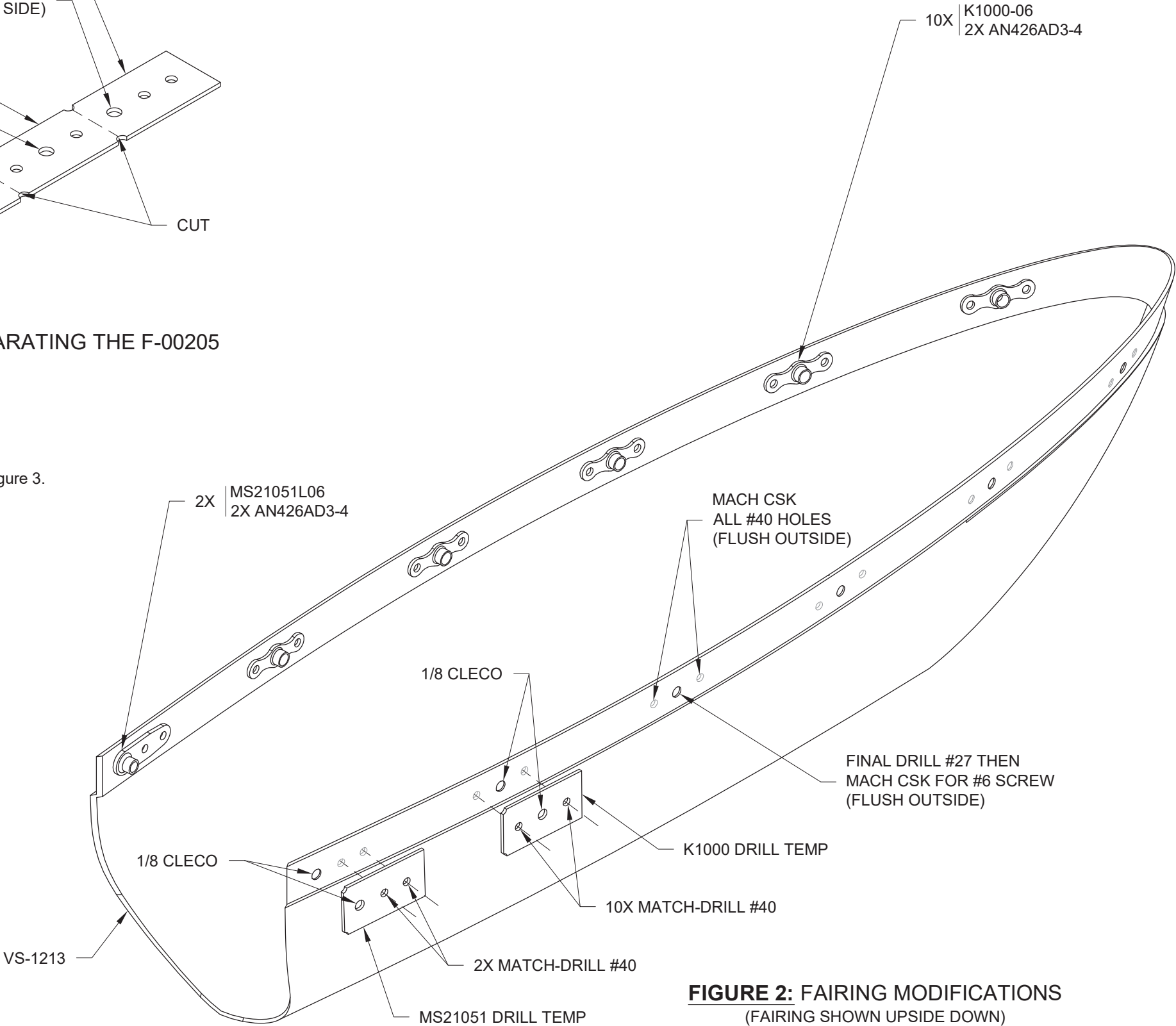


FIGURE 2: FAIRING MODIFICATIONS
(FAIRING SHOWN UPSIDE DOWN)

- Step 1: Locate the F-00203 Nav Antenna Doubler on the VS-1205 as shown in Figure 1.

Step 2: Match-Drill #30 the forward and aft-most holes in the F-00203 into the web of the VS-1205. Cleco each hole before drilling the next. See Figure 1.

Step 3: Use a permanent marker through the #27 holes in the F-00203 to mark the VS-1205 as shown in Figure 1.

Step 4: Remove the clecos and the F-00203 from the VS-1205.

Step 5: Drill #30 a hole near the aft two lightening holes in the VS-1205 as shown in Figure 1.

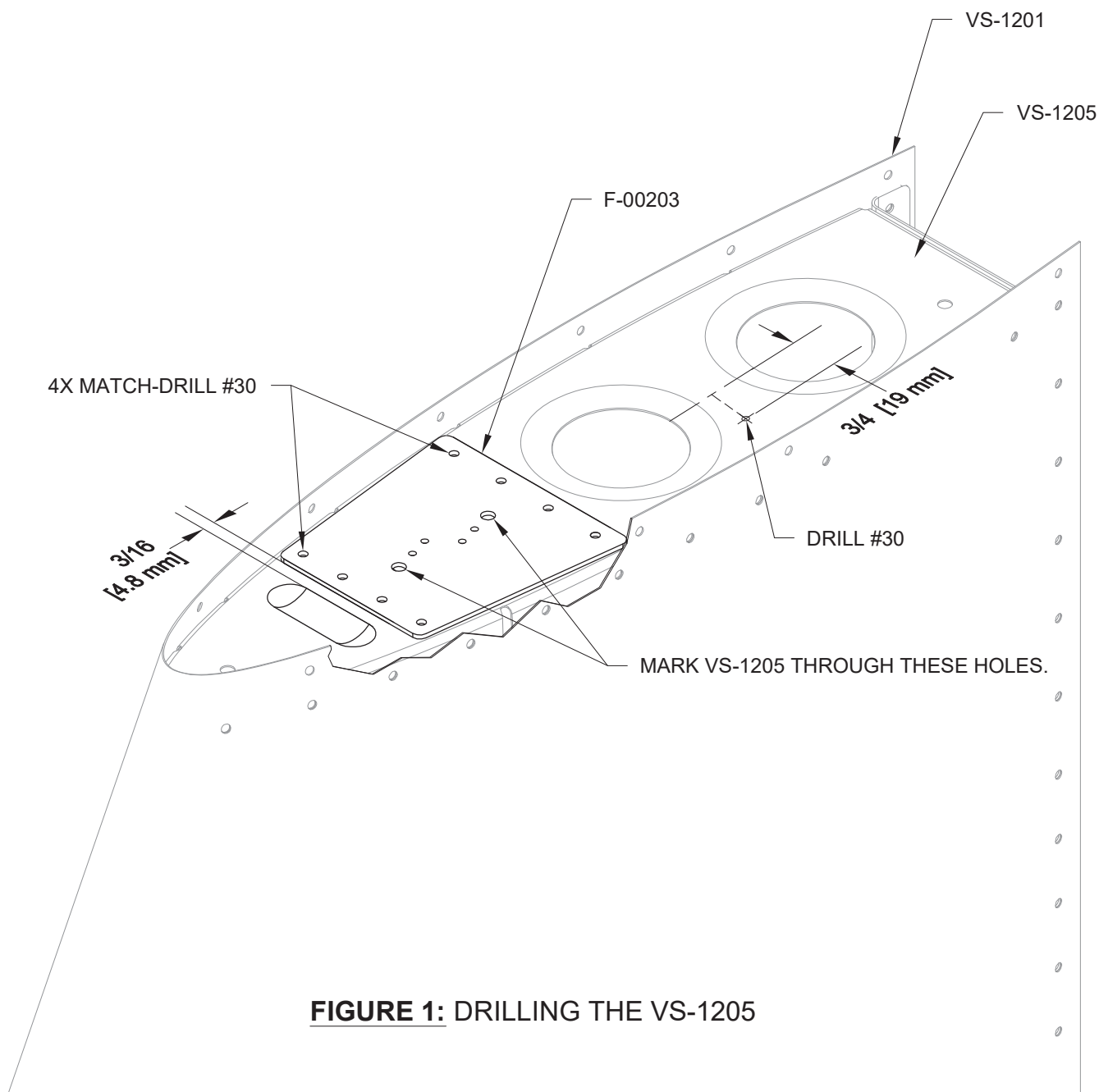


FIGURE 1: DRILLING THE VS-1205

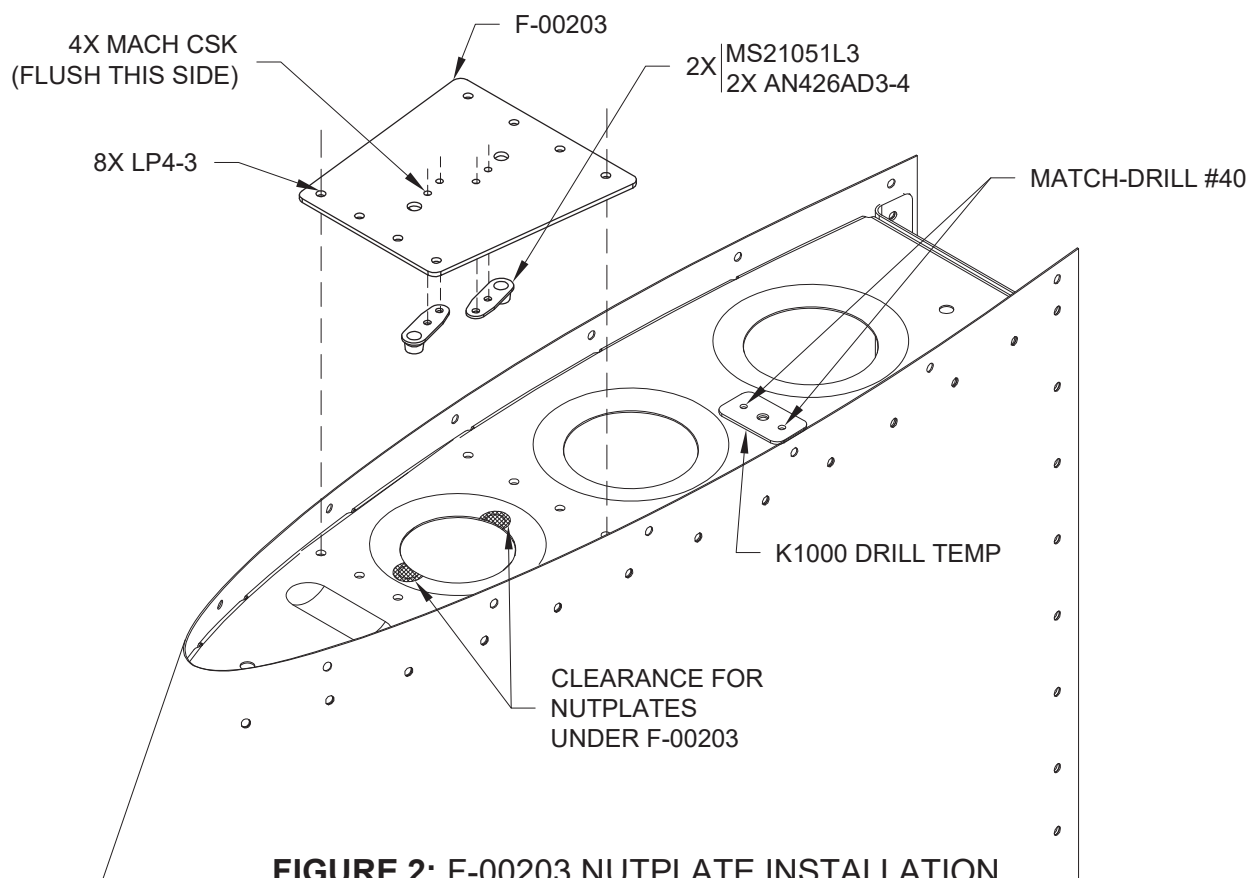


FIGURE 2: F-00203 NUTPLATE INSTALLATION

- Step 6: Machine countersink the #40 holes in the F-00203 as shown in Figure 2.

Step 7: Rivet the nutplates to the bottom of the F-00203 as shown in Figure 2.

Step 8: Using the marks made in Step 3 as a starting point, trim away the inside edge of the lightening hole in the VS-1205 to clear the nutplates installed under the F-00203. See the hatched area in Figure 2.

Thoroughly deburr these notches once they have reached final size.

Step 9: Rivet the F-00203 to the VS-1205 as shown in Figure 2.

Step 10: Cleco the K1000 Drill Temp to the #30 hole in the VS-1205 then match drill #40 the holes as shown in Figure 2.

Step 11: Remove the cleco and K1000 Drill Temp from the VS-1205, then final drill the #30 hole in the VS-1205 to #12. See Figure 1.

Step 12: Machine countersink the #40 holes in the F-00205 Shim as shown in Figure 3.

Step 13: Fabricate the F-00206 AV-532 Spacer as shown in Figure 4.

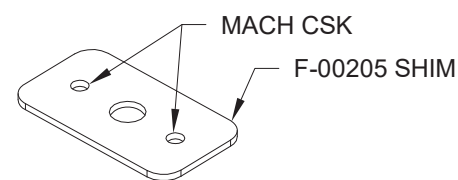


FIGURE 3: F-00205 SHIM PREP

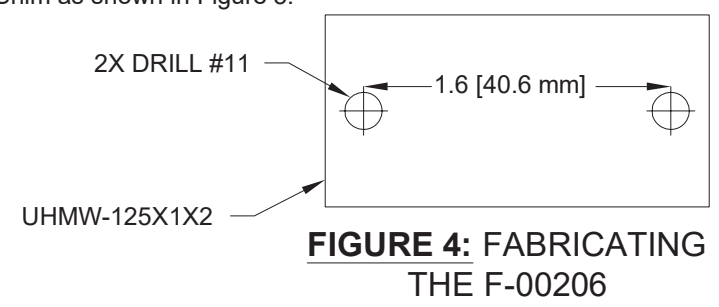


FIGURE 4: FABRICATING THE F-00206



Step 1: Position the ES-00301 on the aft-most lightening hole as shown in Figure 1, then match-drill #30 the rivet hole into the VS-1205.

Step 2: Rivet the ES-00301 to the VS-1205 with the hardware shown in Figure 1. A small dab of superglue can be used to hold the washer to the bottom of the VS-1205 if necessary.

Step 3: Rivet the F-00205 Shim and the nutplate onto the VS-1205 as shown in Figure 1.

Step 4: Temporarily secure the F-00206 and AV-532L Antenna on to the VS-1205 with the fasteners shown in Figure 1.

Step 5: Mark the longitudinal position of the AV-532L Antenna elements on the VS-1201 as shown in Figure 1.

Step 6: Measure the vertical height of the AV-532L Antenna element above the top edge of the VS-1201 as shown in Figure 1 and record the value.

Remove the AV-532L from the V-Stab Assembly.

Step 7: Temporarily install the VS-1213 onto the V-Stab Assembly with #6 screws as shown in Figure 1.

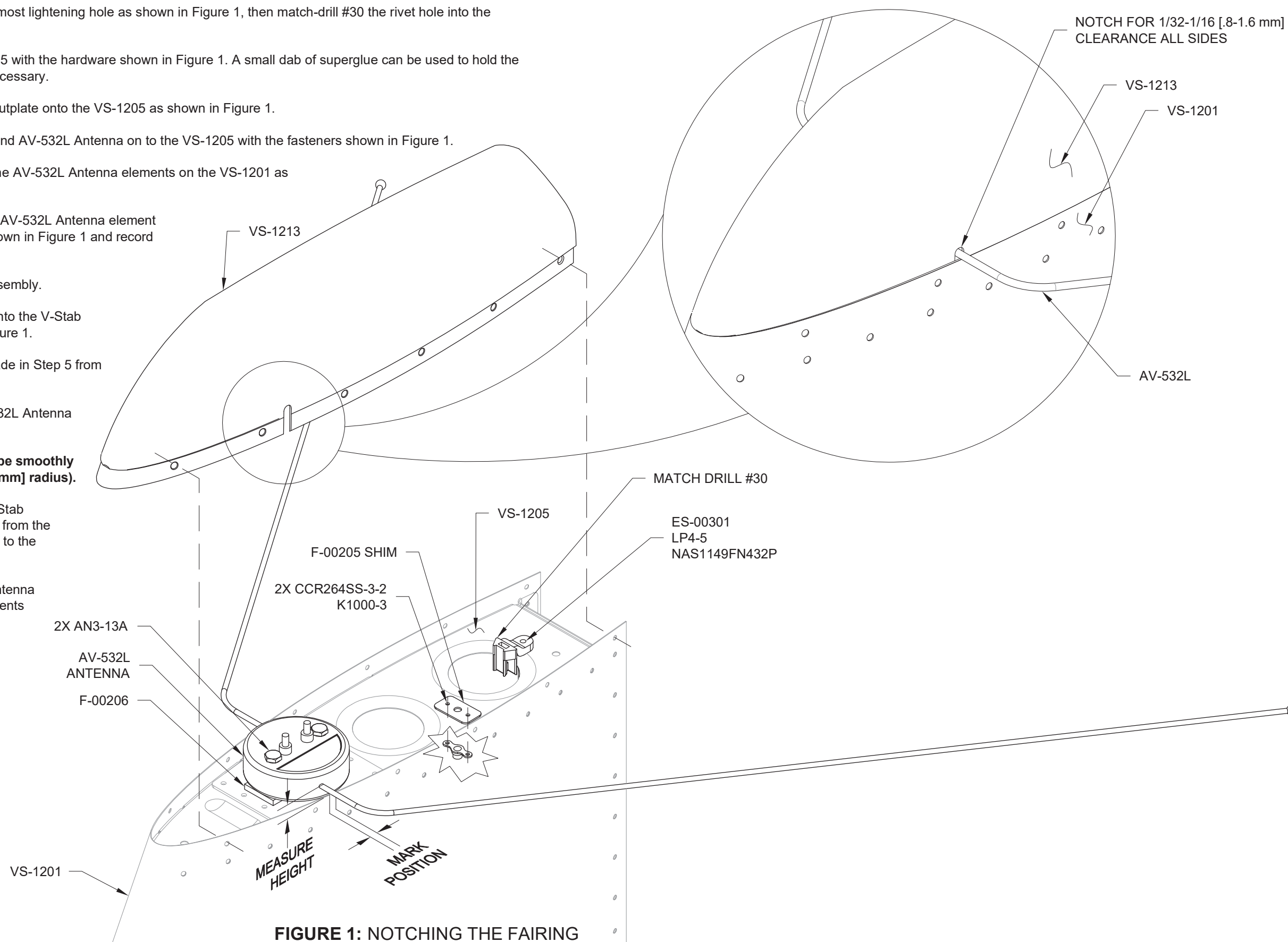
Step 8: Transfer the positioning marks made in Step 5 from the VS-1201 to the VS-1213.

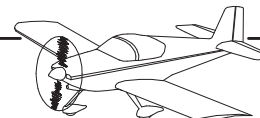
Measure and mark the height of the AV-532L Antenna element onto the VS-1213.

NOTE: The notch cut in Step 9 should be smoothly radiused at the top (approx 1/8 in. [1.6 mm] radius).

Step 9: Remove the VS-1213 from the V-Stab Assembly and cut a notch in the VS-1213 from the antenna element positioning marks, down to the lower edge of the VS-1213.

Ensure adequate clearance around the antenna elements to allow for vibration of the elements as shown in the Detail View in Figure 1.





Step 1: Drill #19 a hole in the VS-1208 Rib at the location shown in Figure 1.

Step 2: Fabricate the F-00204 Nav Antenna Conduit by cutting a piece of NT Duct 5/8 to a length of 44 1/2 in. [113 cm].

Step 3: Route the F-00204 through the aft-most set of lightening holes in the ribs of the V-Stab Assembly. See Figure 2.

Step 4: Secure the F-00204 to the ES-00301 on the top of the V-Stab Assembly.

The F-00204 should extend approximately 1/4 in. [6.4 mm] past the ES-00301. See Figure 2.

Step 5: Secure the bottom of the F-00204 to the VS-1208 using two crossing tie-wraps through the hole in the VS-1208 as shown in Figure 2.

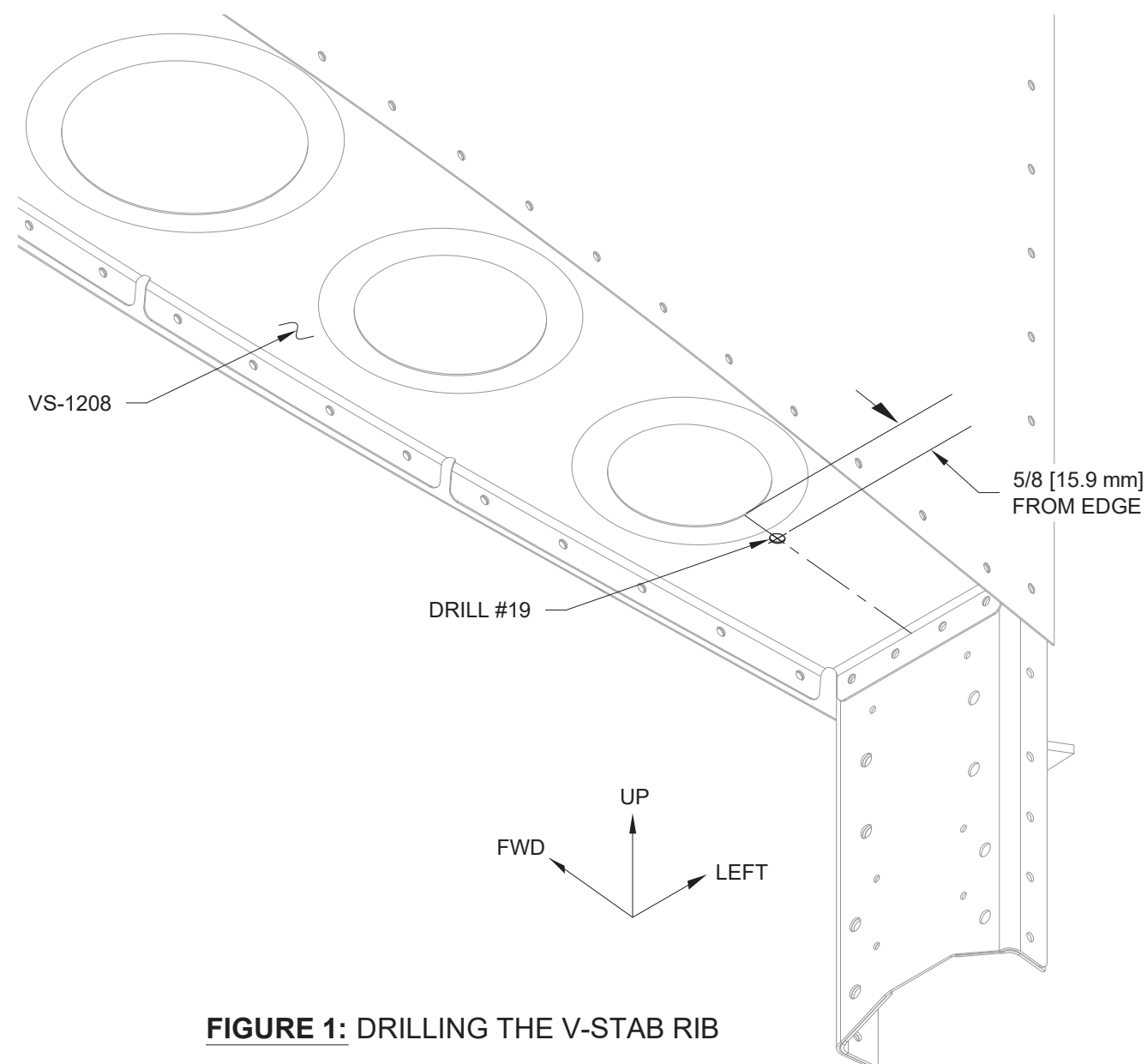


FIGURE 1: DRILLING THE V-STAB RIB

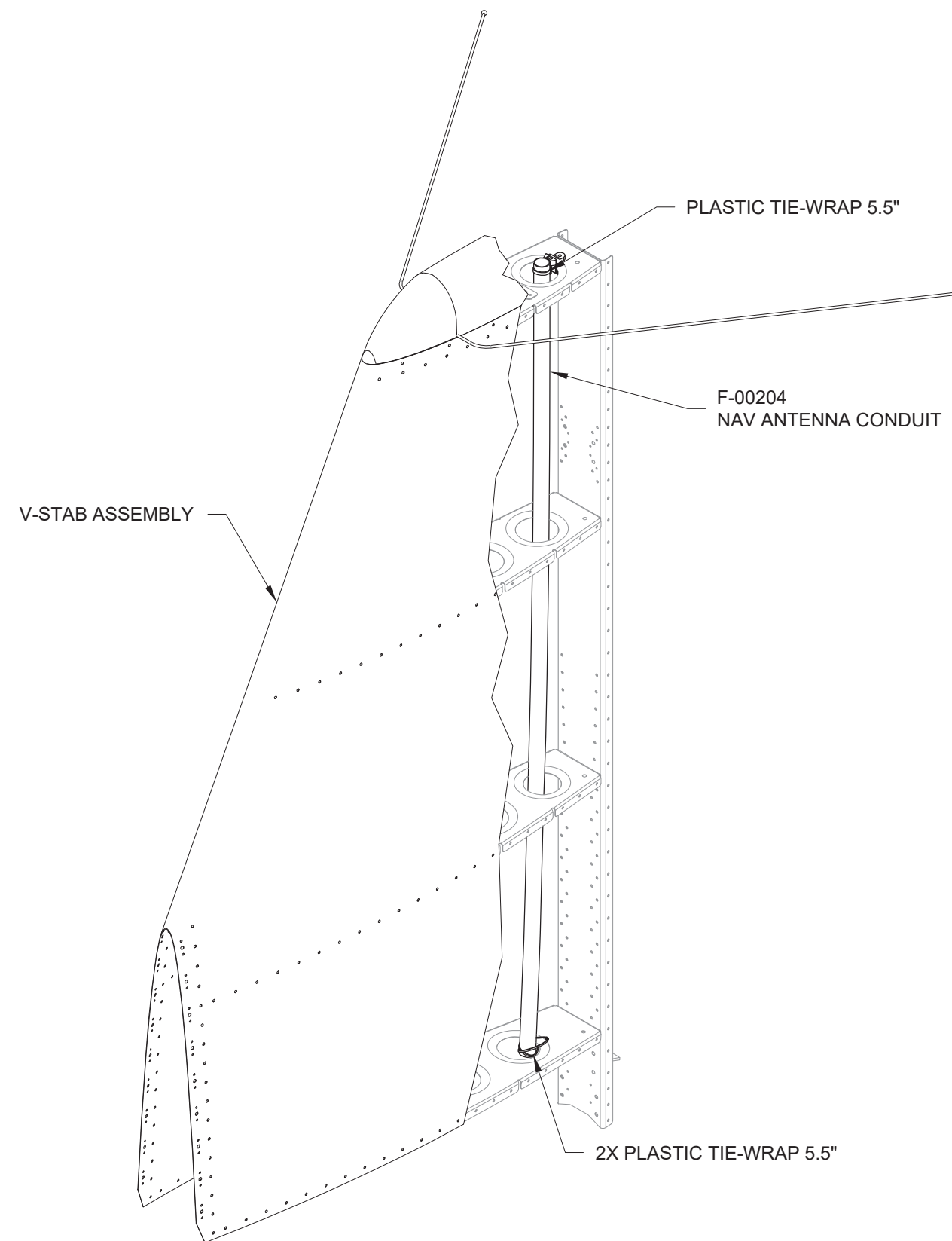


FIGURE 2: INSTALLING THE NAV ANTENNA CONDUIT



- Step 1: Enlarge the #30 hole in the F-1278 to 5/8 using a step drill.
- Step 2: Install the snap bushing into the F-1278 as shown in Figure 1.
- Step 3: Cut strips of MS21266 Grommet to the length shown in Figure 2 to fabricate 8 of the F-1257B Cable Anti-Chafe Strips.

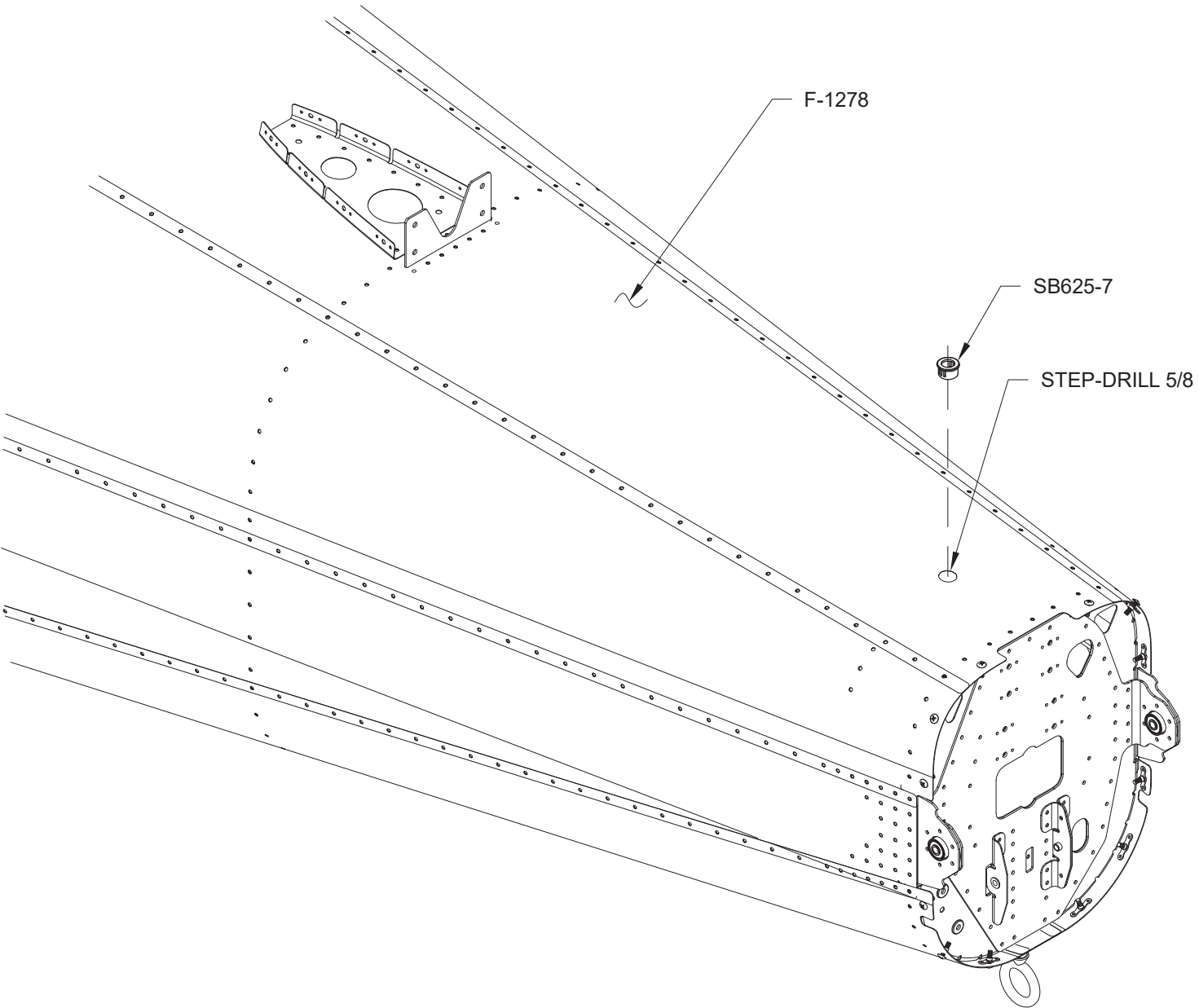


FIGURE 1: DRILLING THE TAILCONE

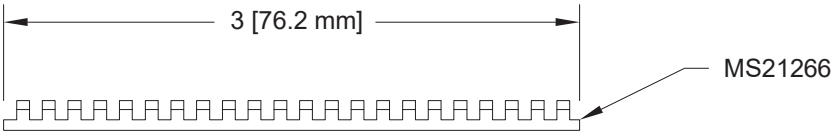
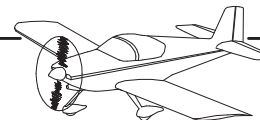


FIGURE 2: FABRICATING THE F-1257B
(QTY 8 REQD)
SCALE 1 TO 1



Step 1: Drill #30 a hole in the center of the inboard flange of the F-1238-R as the location shown in Figure 1.

NOTE: When positioning and securing the AV-532L cable in the following steps, ensure that the AV-532L cable is not rubbing on the sharp edge of of the F-1279-R Upper Right Skin stiffener, and is clear of all control cables.

Step 2: Route the AV-532L cable through the snap bushing in the F-1278.

Step 3: With the AV-532L cable extending outside the tailcone as shown, secure the AV-532L cable to the F-1238-R with a tie-wrap. See Figure 1.

Step 4: Route the AV-532L cable from the F-1238-R to the stiffener of the F-1281-R Lower Skin. Cover the stiffener edge with a F-1257B where the cable enters the stiffener.

Step 5: Secure the AV-532L cable and F-1257B to the stiffener of the F-1281-R with a tie-wrap as shown in Figure 1.

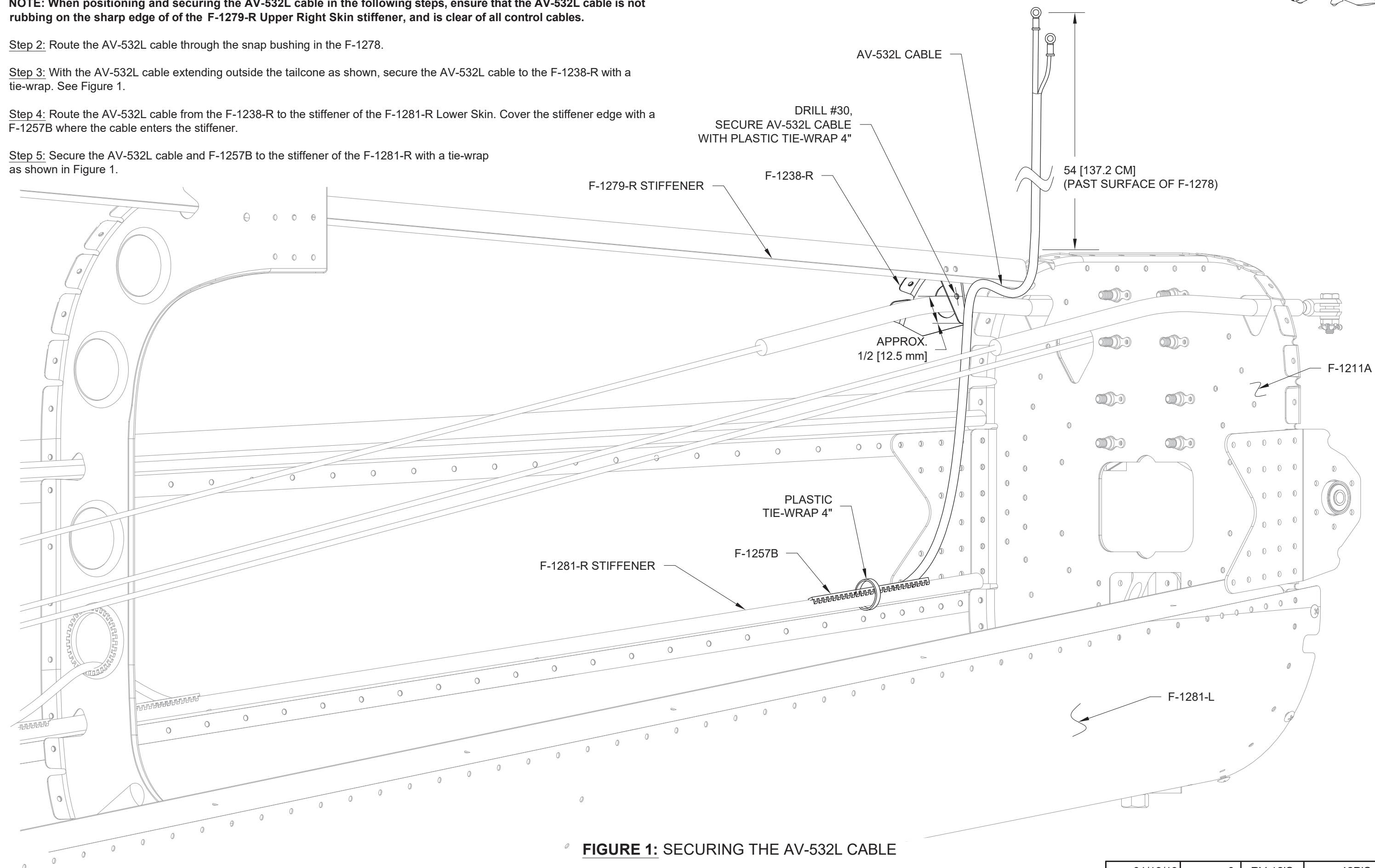
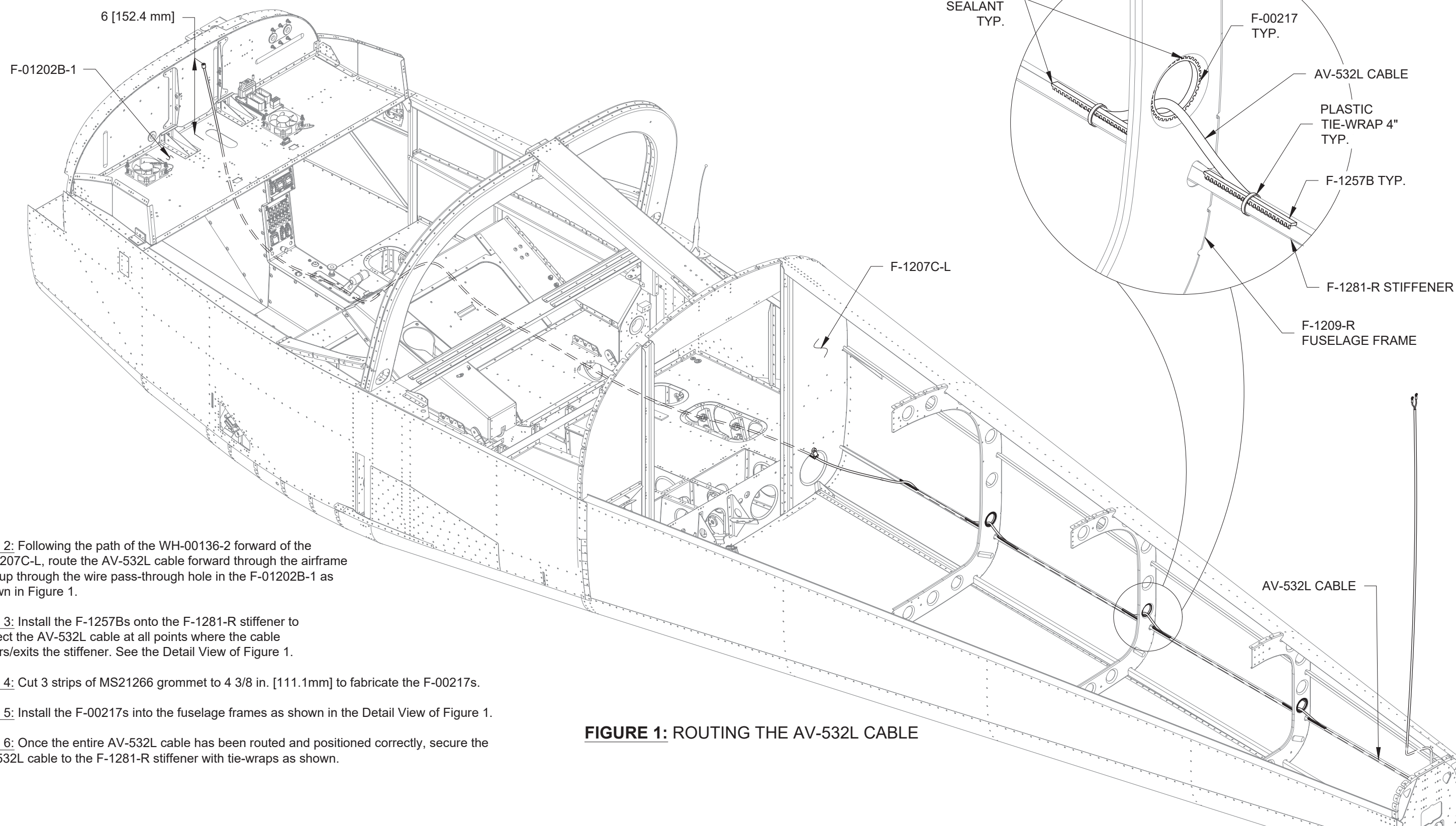


FIGURE 1: SECURING THE AV-532L CABLE



Step 1: Route the AV-532L cable up the F-1281-R stiffener, passing through the lightening holes in each of each fuselage frame as shown in Figure 1.

NOTE: Airframes with dual pass through holes in the F-01202B-1 should route the AV-532L cable through the foremost hole.



Step 2: Following the path of the WH-00136-2 forward of the F-01207C-L, route the AV-532L cable forward through the airframe and up through the wire pass-through hole in the F-01202B-1 as shown in Figure 1.

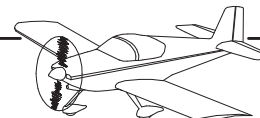
Step 3: Install the F-1257Bs onto the F-1281-R stiffener to protect the AV-532L cable at all points where the cable enters/exits the stiffener. See the Detail View of Figure 1.

Step 4: Cut 3 strips of MS21266 grommet to 4 3/8 in. [111.1mm] to fabricate the F-00217s.

Step 5: Install the F-00217s into the fuselage frames as shown in the Detail View of Figure 1.

Step 6: Once the entire AV-532L cable has been routed and positioned correctly, secure the AV-532L cable to the F-1281-R stiffener with tie-wraps as shown.

FIGURE 1: ROUTING THE AV-532L CABLE



Step 1: Reinstall the V-Stab Assembly to the airframe, while simultaneously routing the AV-532L cable through the F-00204. See Figure 1.

A piece of safety wire passed through the F-00204 prior to reassembly can be used to pull the AV-532L cable up through the F-00204 if necessary.

Step 2: Connect the ring terminals on the end of the AV-532L cable onto the studs of the AV-532L antenna with the included fasteners as shown in Figure 2.

Step 3: Clasp the cushion clamp over the AV-532L cable and secure the cushion clamp to the F-00205 relieving any strain on the ring terminals. See Figure 2.

Step 4: Reinstall the VS-1213 onto the V-stab assembly as shown in Figure 3.

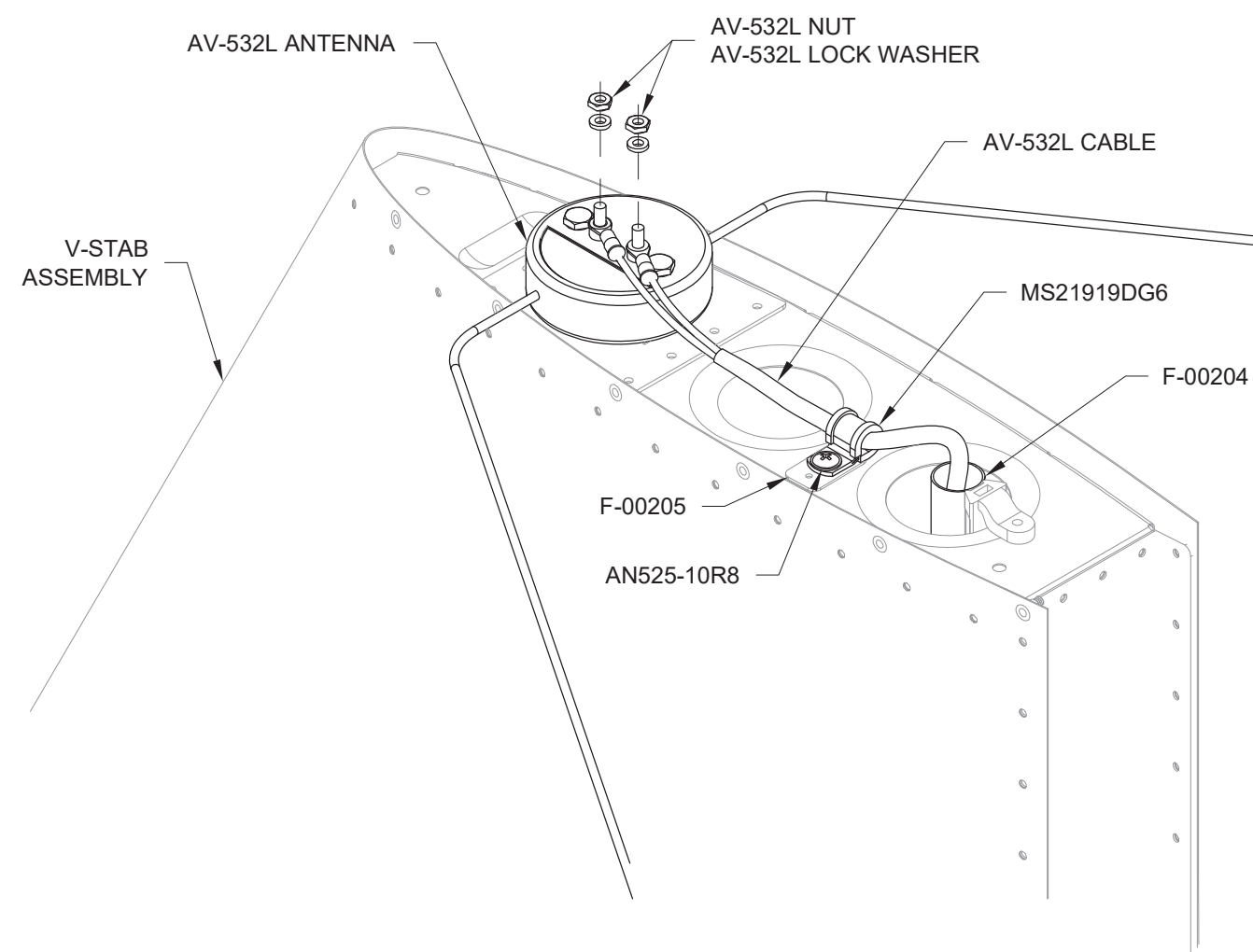


FIGURE 2: CONNECTING THE AV-532L CABLE

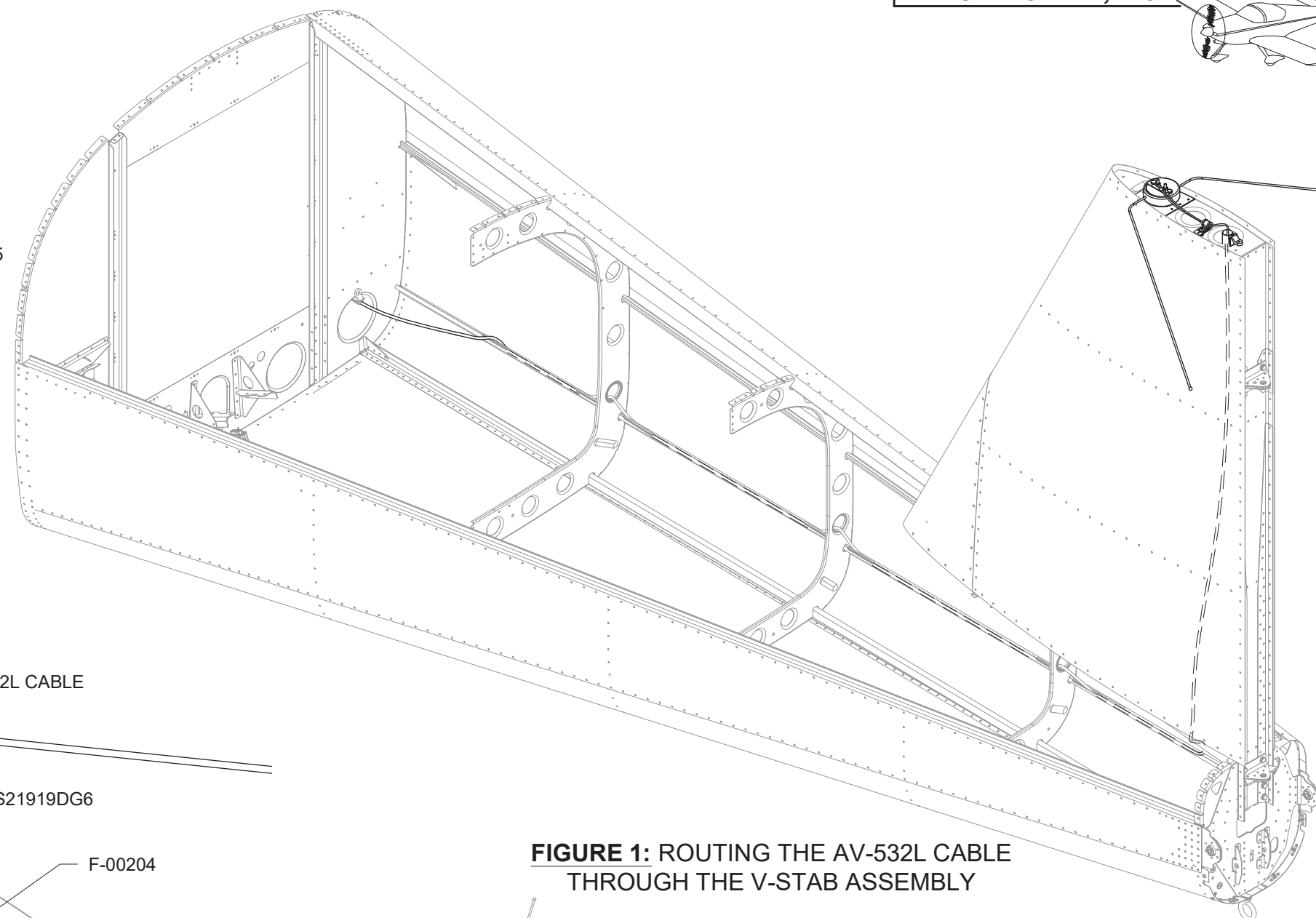


FIGURE 1: ROUTING THE AV-532L CABLE THROUGH THE V-STAB ASSEMBLY

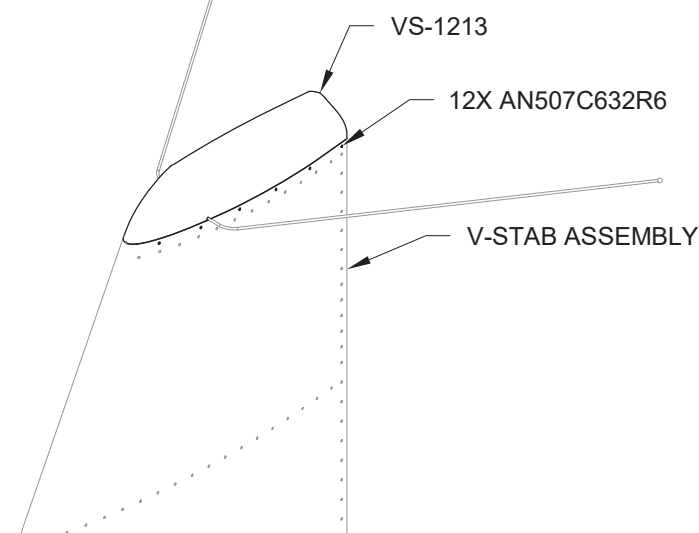


FIGURE 3: INSTALLING THE V-STAB FAIRING

NOTE: Never use magnetic tipped screwdrivers or other magnetic objects when working with hardware near the GMU 11. The GMU 11 is very sensitive and may be influenced by any magnetized hardware.

Step 1: Install the GMU 11 to the F-00142 GMU 11 Attach Plate as shown in Figure 1.

Step 2: Mount the F-00142 to the F-00009-L & -R ADAHRS Brackets in the upper tailcone skins as shown in Figure 2. Ensure the GMU 11 connector is facing aft.

Step 3: Connect the 9-pin d-sub connector labeled "MAGNETOMETER" from the WH-00136-2 to the GMU 11.

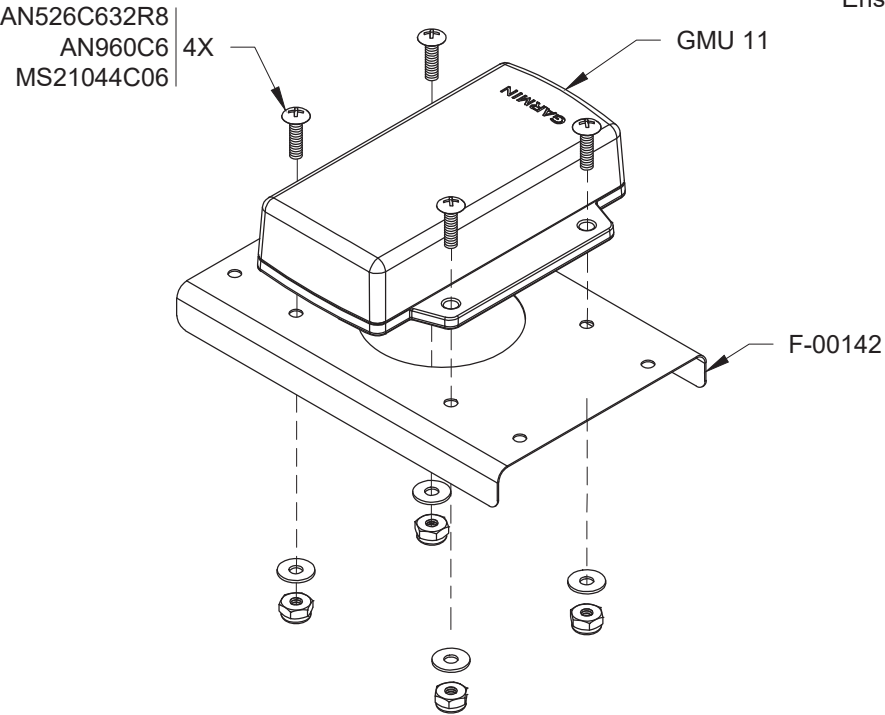


FIGURE 1: GMU 11 INSTALLATION

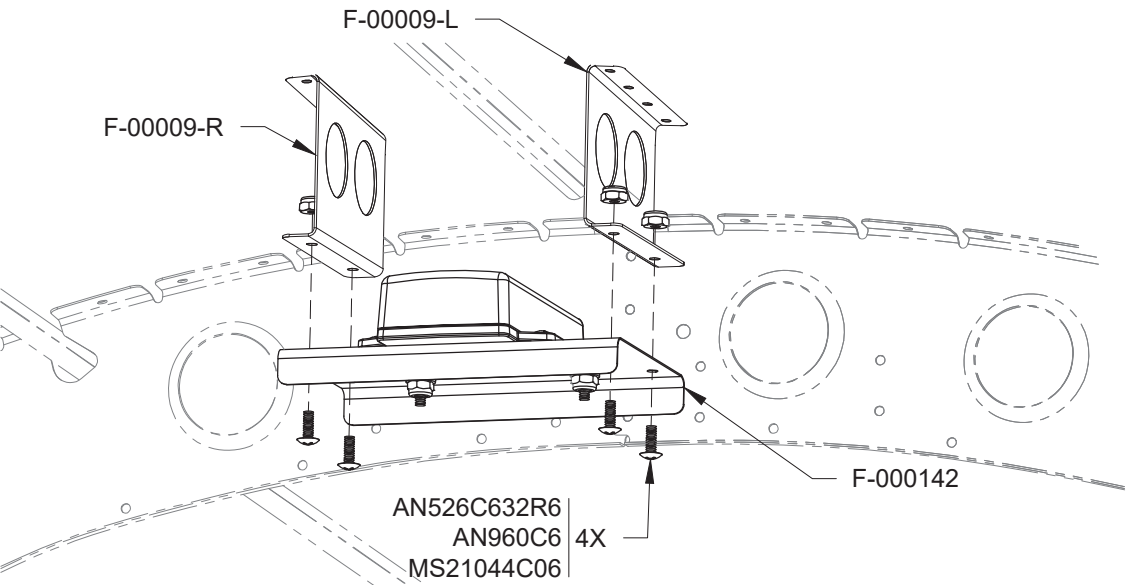


FIGURE 2: MOUNTING THE GMU 11

Step 4: If necessary, disconnect and discard the F-00013 Static Line Tee-ADAHRS from the F Plastic Tee and F-00014 Static Line Tee Upsize. See Section 10iS/U and the detail view in Figure 3.

Step 5: Connect the Aft Pitot Line to the F Plastic Tee using the F-00014 as described in Section 10iS/U. If necessary, trim the Aft Pitot Line as required to prevent interference or chafing on the surrounding structure.

Ensure there are no kinks in the Aft Pitot Line. See Section 10iS/U and the detail view in Figure 3.

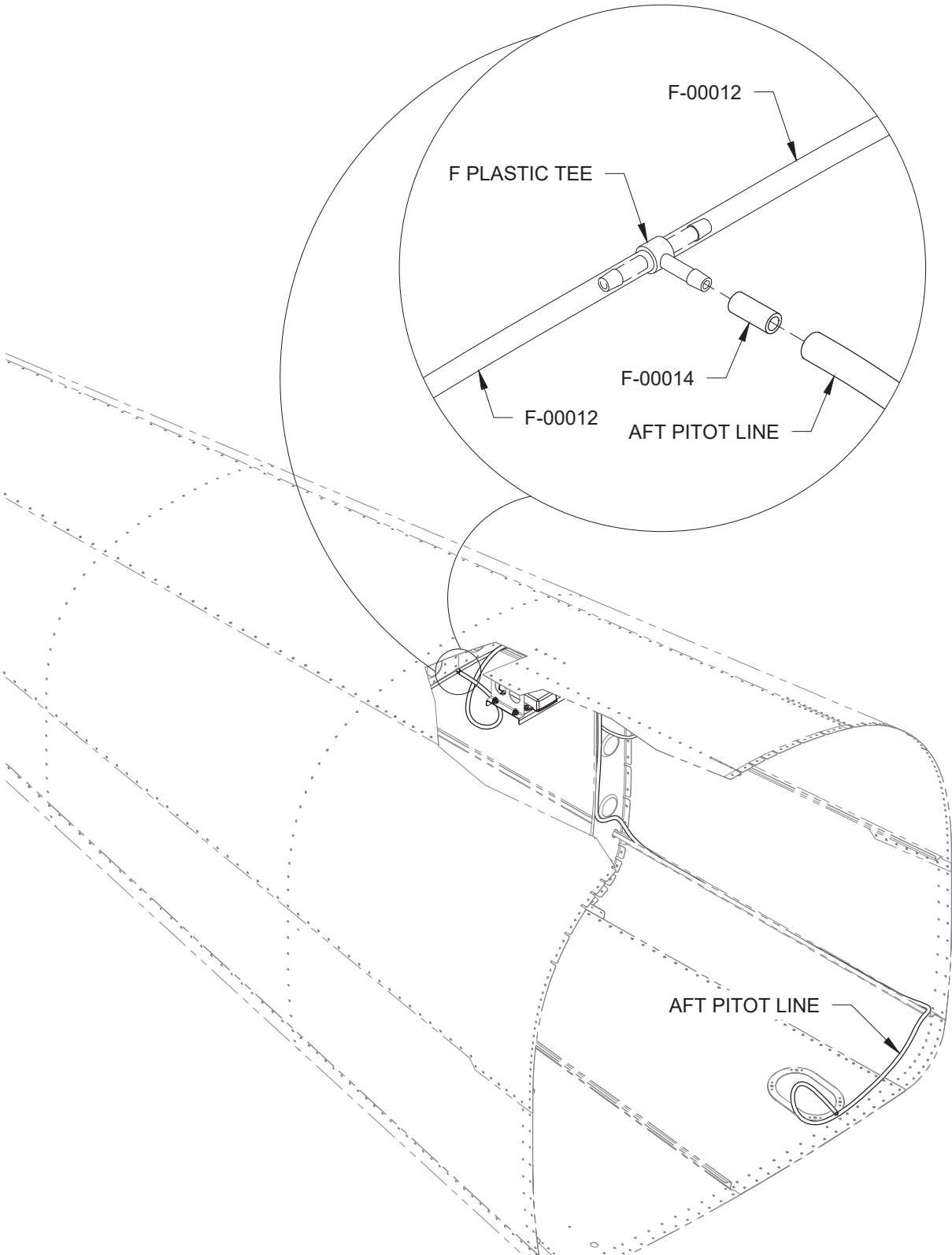
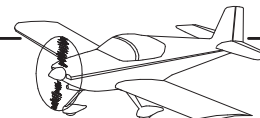


FIGURE 3: CONNECTING THE AFT PITOT LINE



Step 1: Remove the F-01206E-1 Baggage Floor Cover, previously installed in Section 38iS/U.

Step 2: Cleco the F-00082 ADAHRS Stiffener to the F-01206E-1. Final-Drill #11 the four holes indicated in Figure 1. Disassemble and debur.

Step 3: Rivet the F-00082 to the F-01206E-1 as shown in Figure 1. This will form the ADAHRS Baggage Floor Assembly.

Step 4: Bolt the GSU 25 to the ADAHRS Baggage Floor Assembly as shown in Figure 2.

NOTE: See Section 5.27 for detailed fluid fitting assembly instructions.

Step 5: Install the three FLF-00007 fittings into the "Pitot", "AOA", and "Static" ports of the GSU 25 ADAHRS.

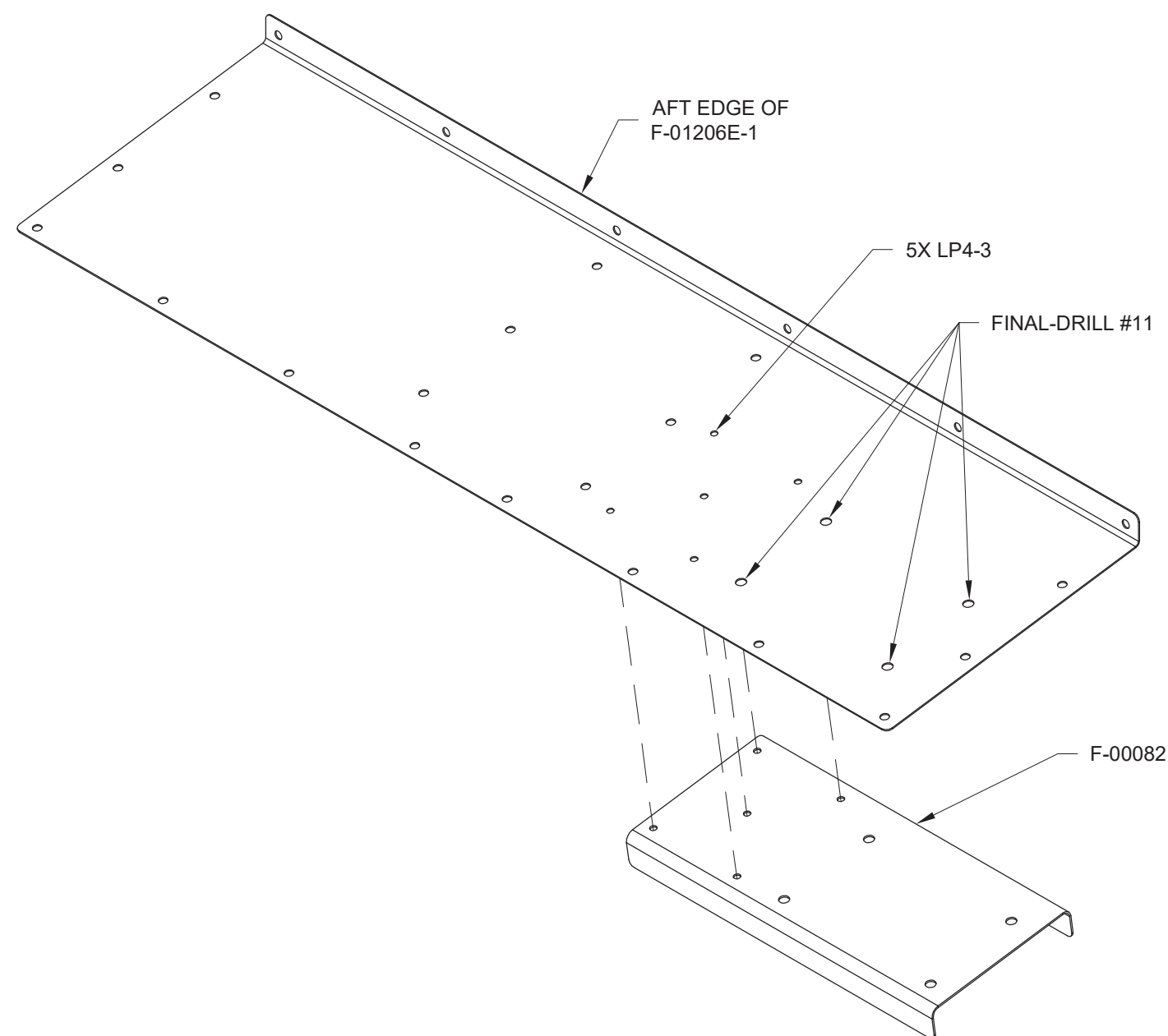


FIGURE 1: ADAHRS BAGGAGE FLOOR ASSEMBLY

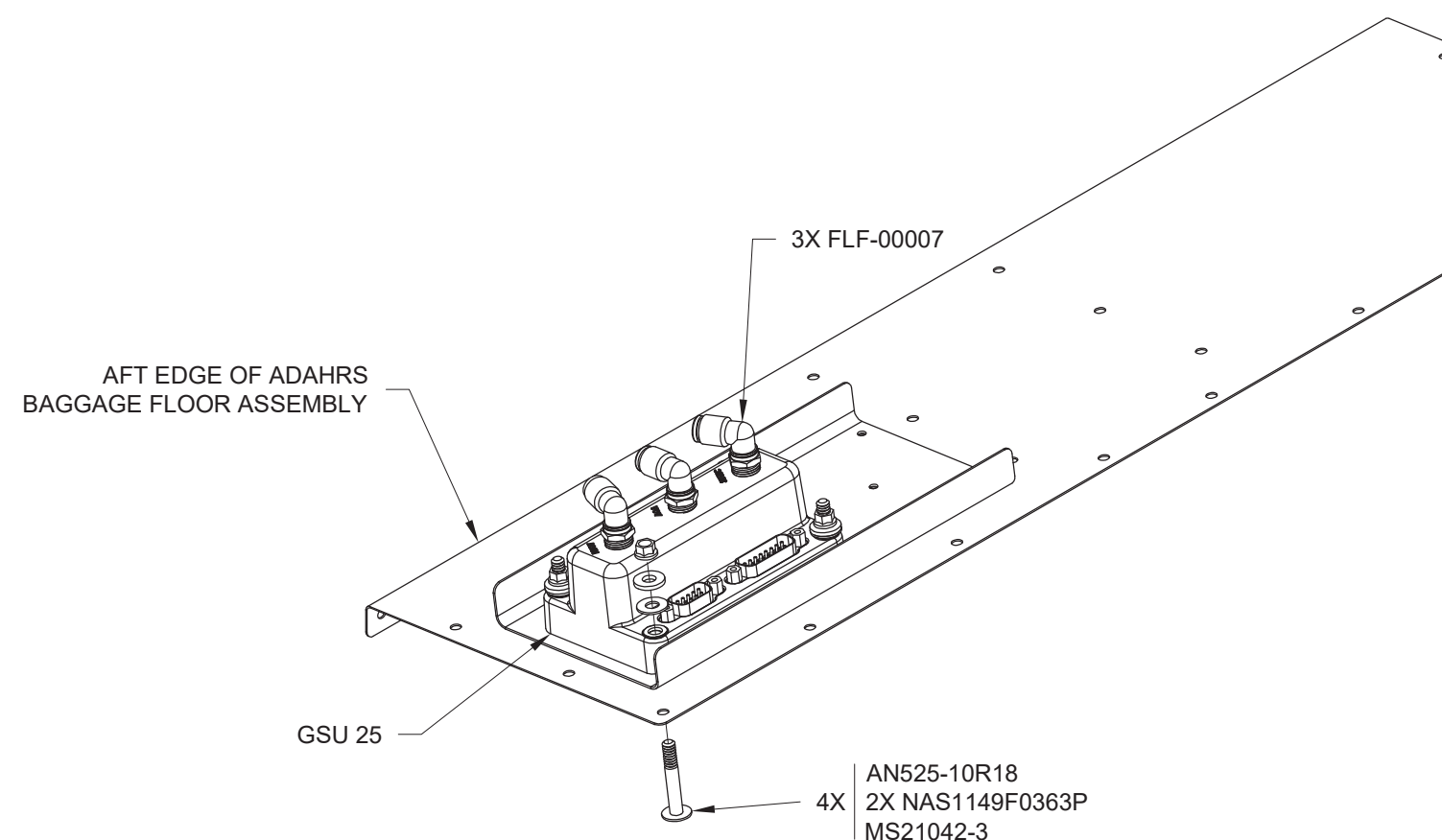


FIGURE 2: INSTALLING THE ADAHRS

Note: Ensure all Pitot-Static and AOA Lines are free from debris before connecting them to the avionics.

Step 1: Locate an ES-00301 above the lightening hole in the F-01207B-1 Baggage Bulkhead as shown in Figure 1. Match-Drill #30 the F-01207B-1.

Step 2: Rivet the ES-00301 to the F-01207B-1 as shown in Figure 1 and Figure 2, using the hardware called out in Figure 1.

Step 3: Measure and cut the Aft Pitot Line so it extends 24 in. [61.0 cm] forward of the forward-most plastic tie wrap installed in the F-1280-L Left Side Skin in Section 10iS/U. This is now the F-00216 Garmin Static Line. Keep the remaining PT 1/4 OD Tube.

Step 4: Route the F-00216 forward through the lightening hole in the F-01207B-1 as shown in Figure 2, then insert the end of the F-00216 into the FLF-00007 in the "Static" port of the GSU 25.

Step 5: Locate the F-00212 Garmin AOA Line (left coiled in the tailcone in Section 42MiS/U).

Step 6: Route the F-00212 forward through the lightening hole in the F-01207B-1 as shown in Figure 2, then insert the end of the F-00212 into the FLF-00007 in the "AOA" port of the GSU 25.

Step 7: Measure, mark, and cut 103.5 in. [262.9 cm] of the remaining PT 1/4 OD Tube to fabricate the F-00214 Garmin Aft Pitot line.

Step 8: Route one end of the F-00214 through the lightening hole in the F-01207B-1 as shown in Figure 2, then insert the end of the F-00214 into the FLF-00007 in the "Pitot" port of the GSU 25.

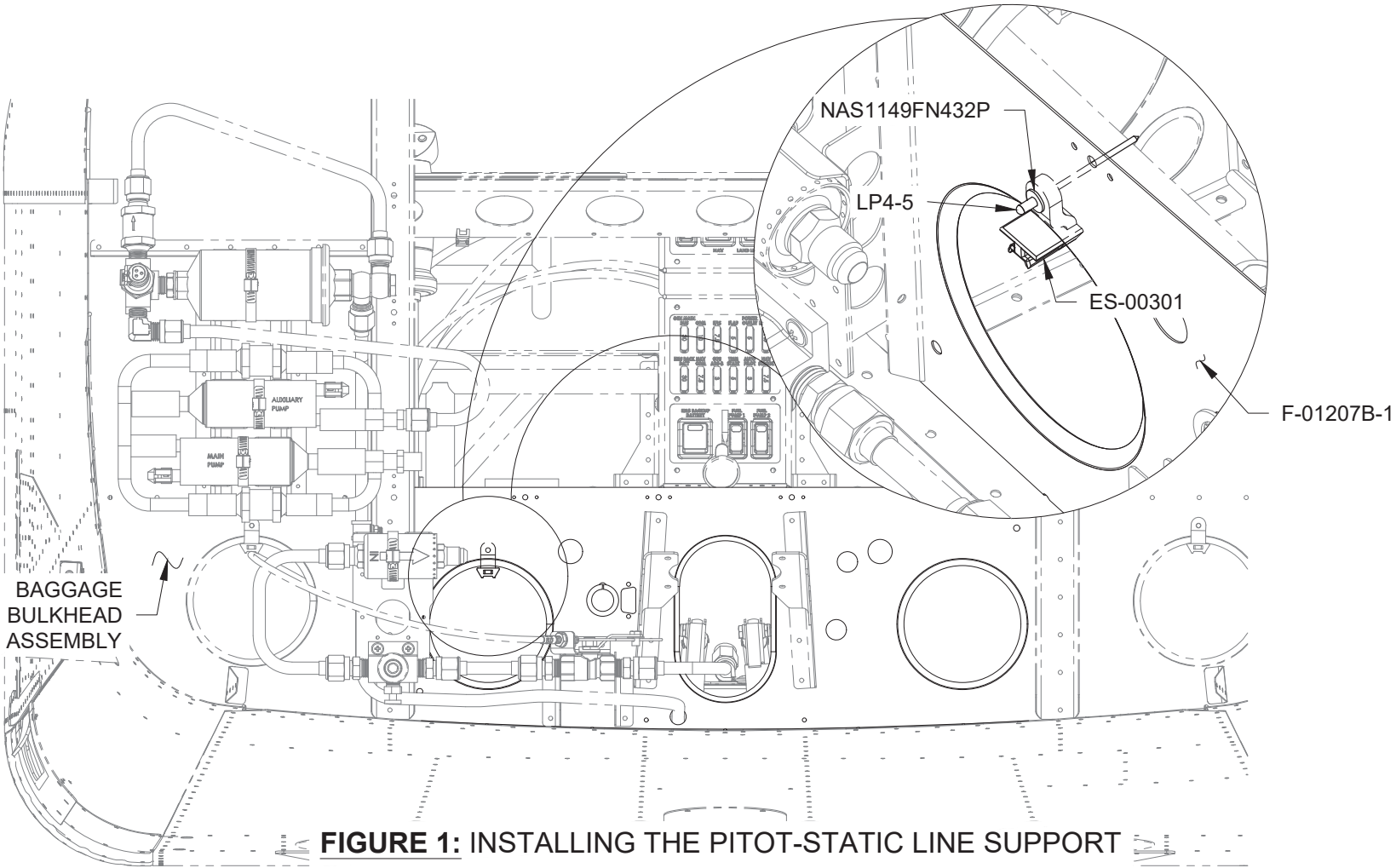


FIGURE 1: INSTALLING THE PITOT-STATIC LINE SUPPORT

Step 9: Loosely secure the F-00212, F-00214, and F-00216 to the ES-00301 using a tie wrap as shown in Figure 2. Leave the tie wrap loose enough to allow the lines to slide through when the ADAHRS Baggage Floor Assembly is removed.

Step 10: Connect the 15-pin d-sub and 9-pin d-sub connectors labeled "ADAHRS" from the WH-00136-2 to the GSU 25 as shown in Figure 2.

Step 11: Loosely secure the wires to the ES-00301 (installed in Section 42MiS/U) using a tie wrap as shown in Figure 2. Leave the tie wrap loose enough to allow the wires to slide through when the ADAHRS Baggage Floor Assembly is removed.

Step 12: Check for F-00212, F-00214, F-00216, and wire bundle chafing or rubbing on the flight control cables, torque tube, or surrounding structure. Reinstall the ADAHRS Baggage Floor Assembly as described in Section 38iS/U.

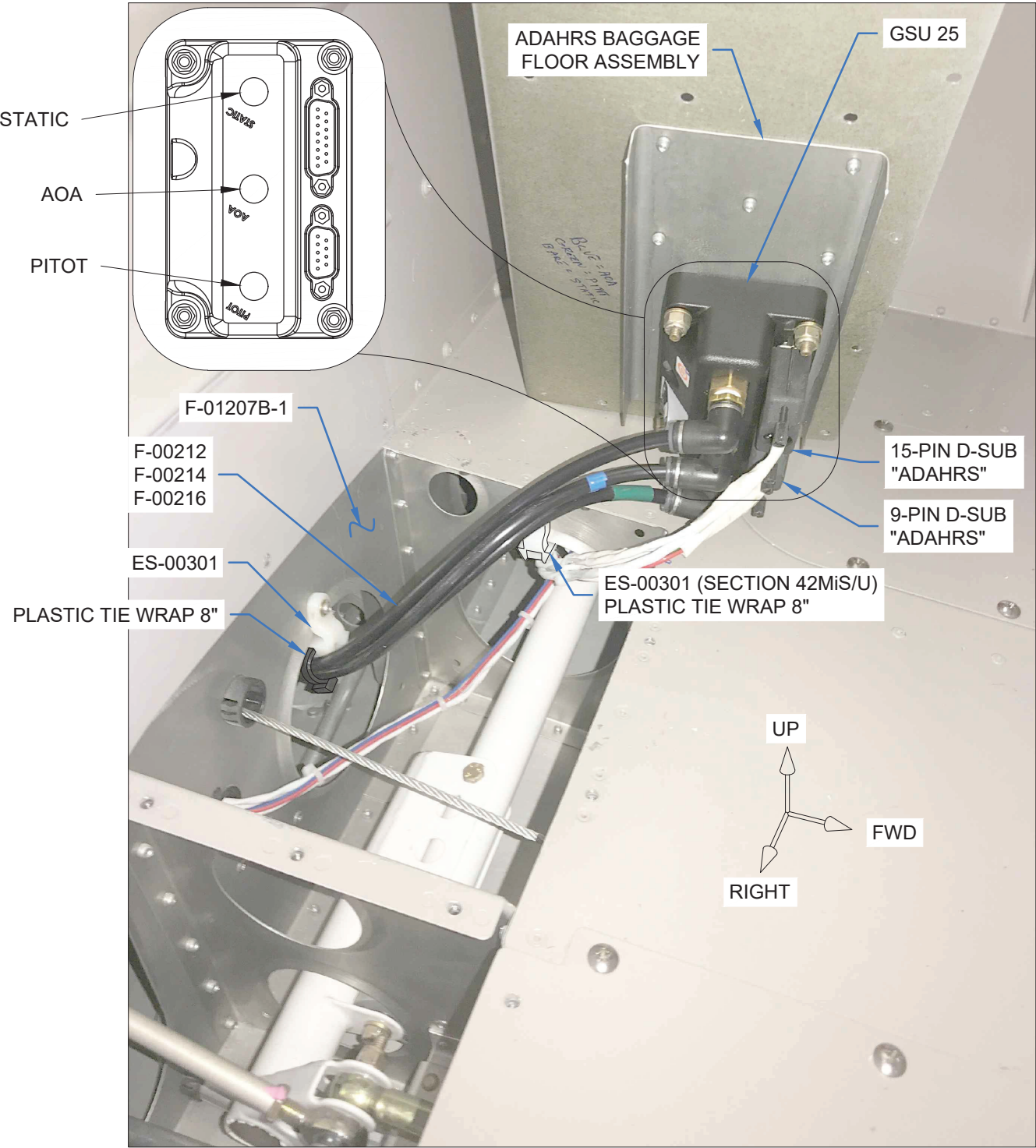
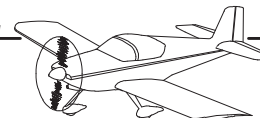


FIGURE 2: WIRING AND PLUMBING THE GSU 25



Step 1: Route the F-00214 forward through the fuselage, following the CT-01204 Fuel Cable Assembly through the snap bushings as shown in Figure 1.

Step 2: Secure the forward end of the F-00214 to the Main Brake Lines and the right-side standoff in the F-12103-1 Tunnel Brace as shown in Detail A in Figure 1. Ensure the F-00214 is free from kinks along its length and does not interfere or chafe against fuel lines, brake lines, engine and fuel control cables, etc.

The F-00214 will be connected to the FF-1216 Pitot Line later in this section.

Step 3: Loosely secure the F-00212 and F-00214 to the ES-00301s with plastic tie wraps as shown in Detail B in Figure 1.

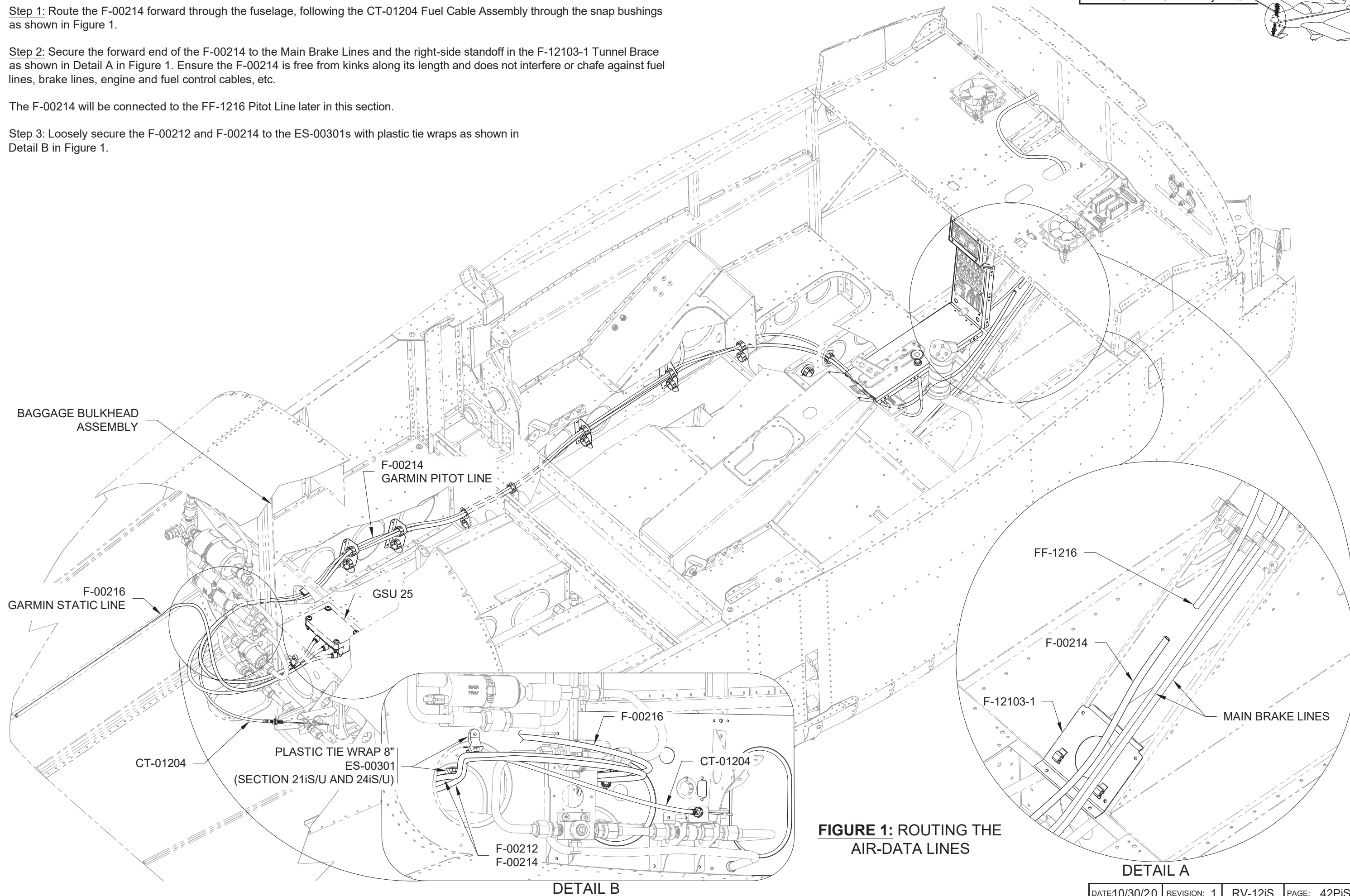


FIGURE 1: ROUTING THE AIR-DATA LINES



Step 1: Cleco the F-00063 Doubler to the aft side of the F-01202B-1 Panel Base flange as shown in Figure 1.

NOTE: Do not match-drill the #27 hole noted in Figure 2 into the F-00063. This hole is not used for the G3X Touch installation.

NOTE: The two upper screw holes in the F-00063 will make notches in the F-01202B-1 flange. See Figures 2 and 3.

Step 2: Match-Drill #27 and #40 all holes not found in the F-01202B-1 using the F-00063 as a guide. See Figure 2.

Step 3: Remove the F-00063 and deburr.

Step 4: Dimple all rivet holes in the F-01202B-1 flange as shown in Figure 3.

Step 5: Machine countersink all rivet holes in the F-00063 as shown in Figure 4. This is now the F-00063-L.

Step 6: Mirror all steps on this page for the right side of the aircraft to fabricate an F-00063-R.

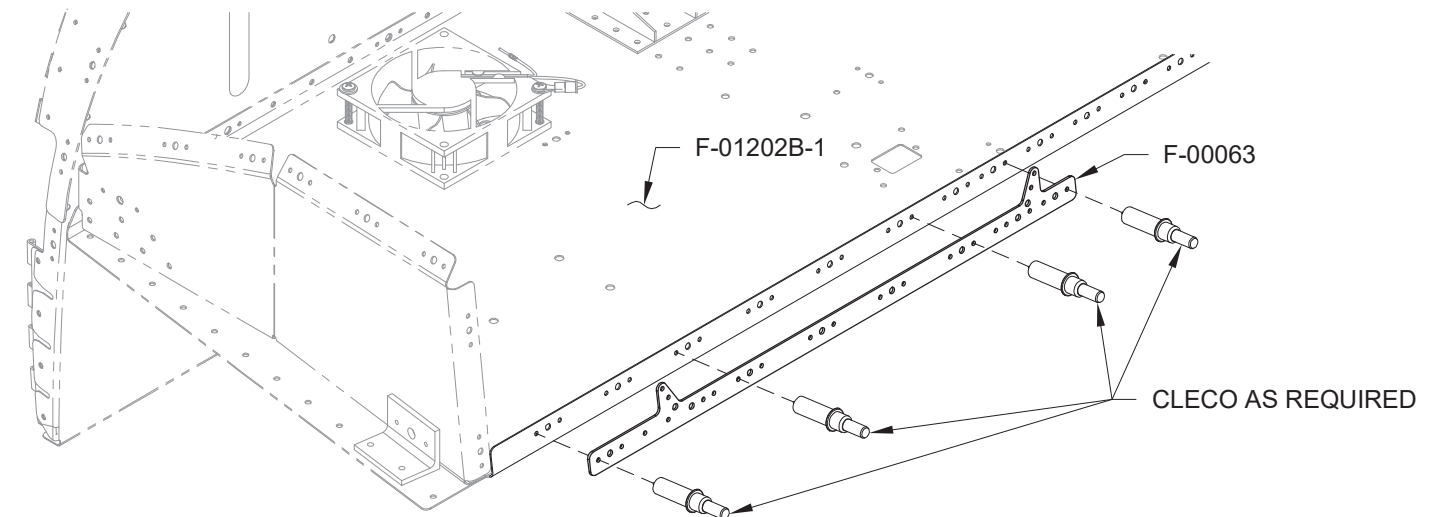


FIGURE 1: LOCATING THE F-00063

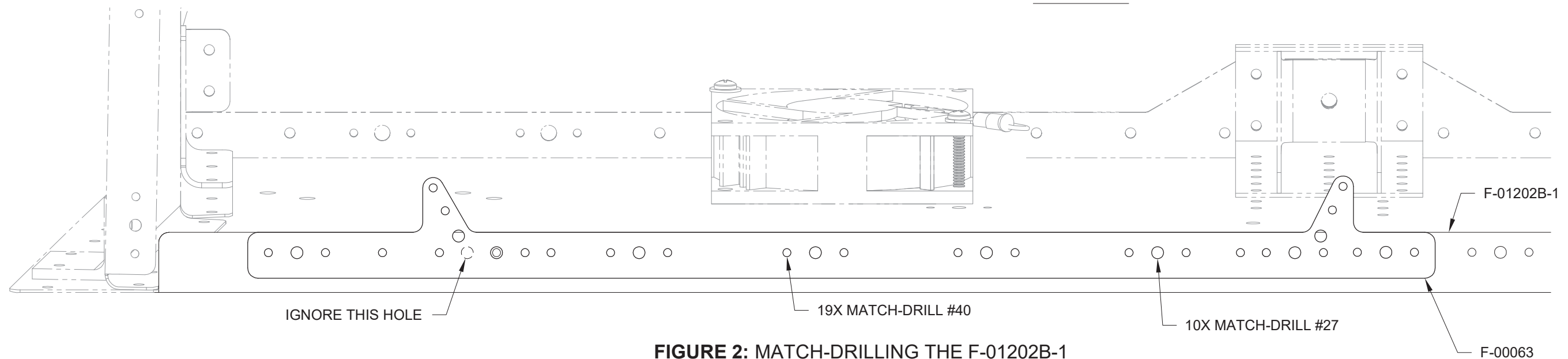


FIGURE 2: MATCH-DRILLING THE F-01202B-1

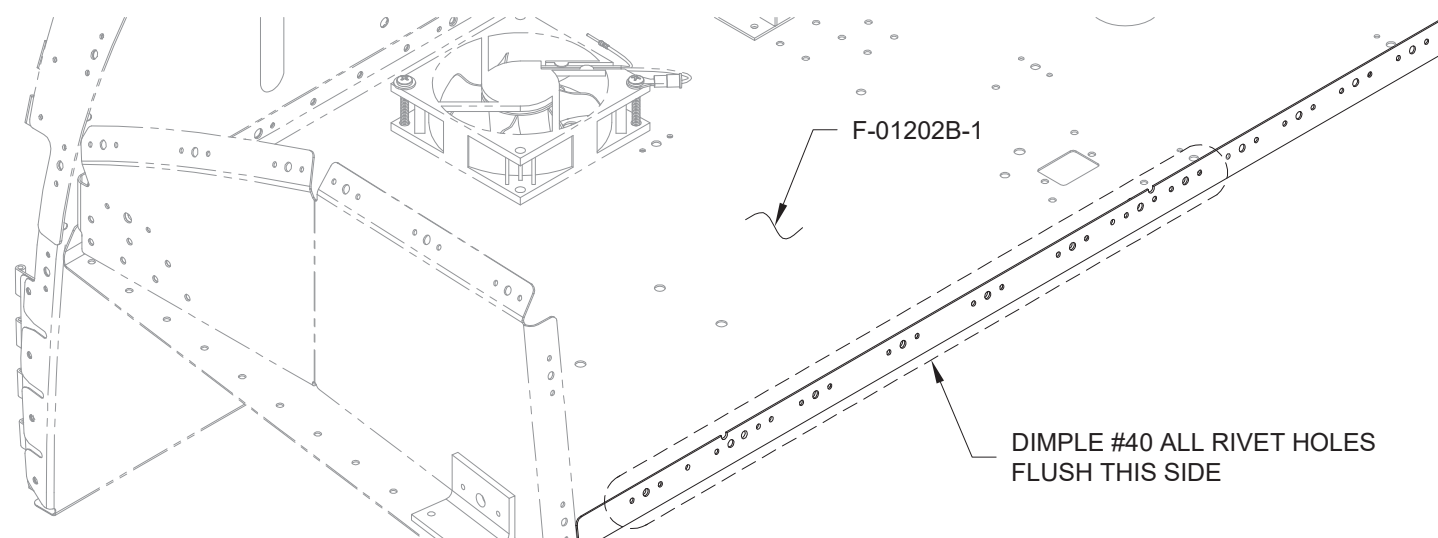
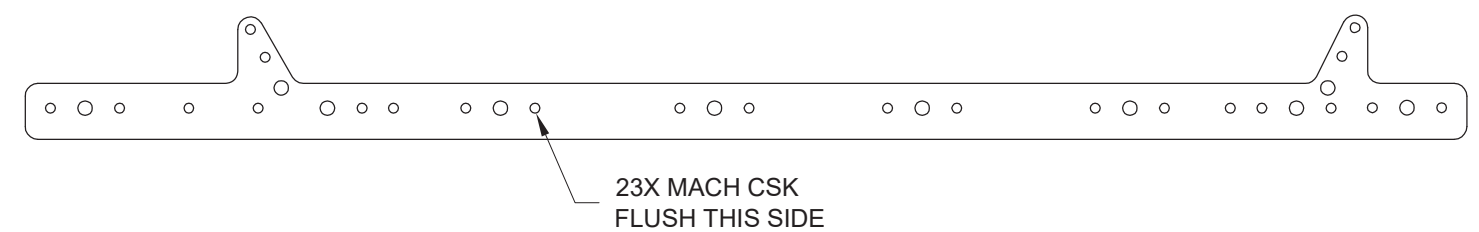


FIGURE 3: PREPARING THE F-01202B-1



**FIGURE 4: COUNTERSINKING THE F-00063-L
(MIRROR FOR F-00063-R)**



Step 1: Rivet the F-00063-L and nutplates to the forward side of the F-01202B-1 Panel Base flange as shown in Figure 1.

Step 2: Mirror Step 1 for the right side of the aircraft to rivet the F-00063-R to the F-01202B-1.

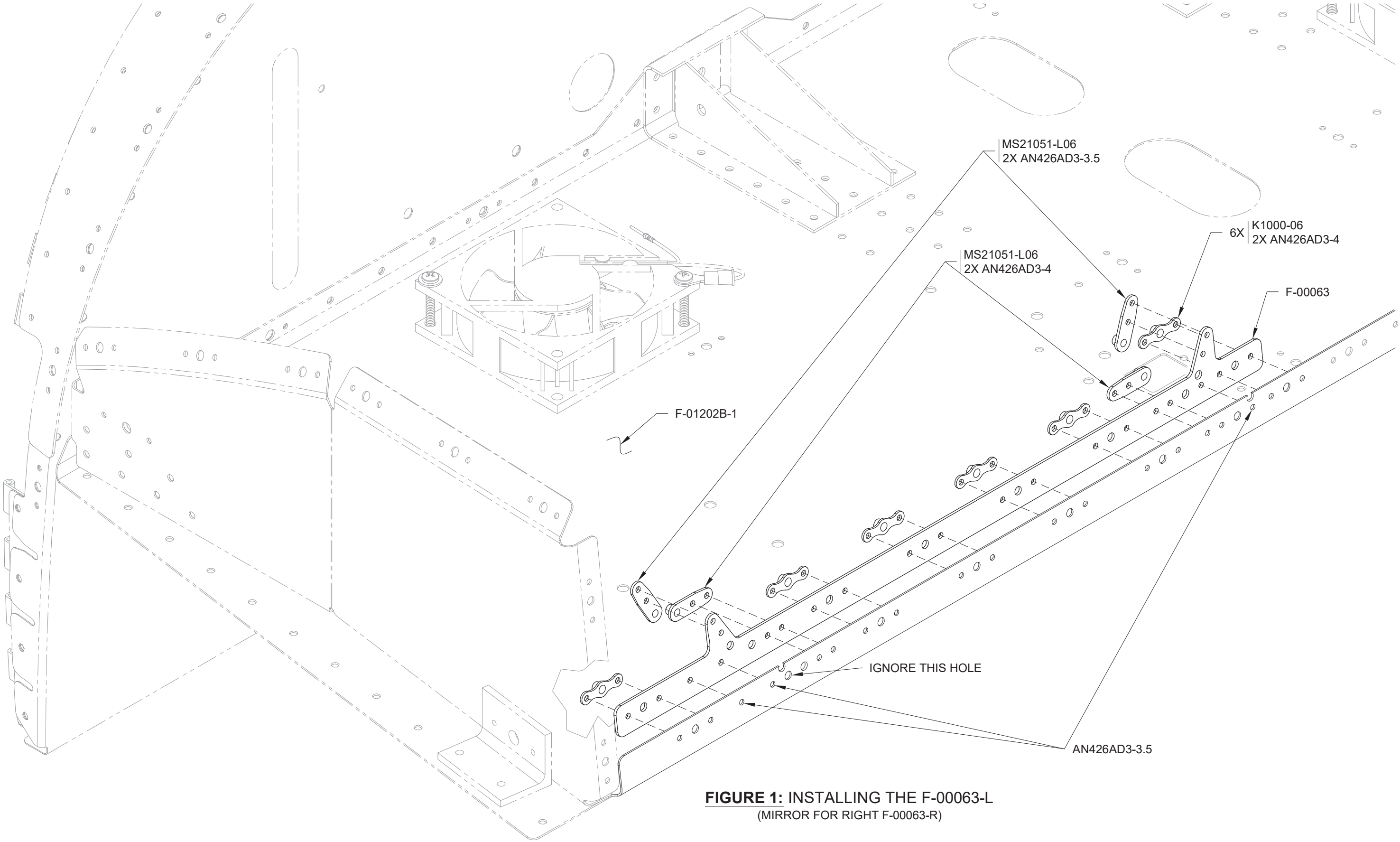


FIGURE 1: INSTALLING THE F-00063-L
(MIRROR FOR RIGHT F-00063-R)

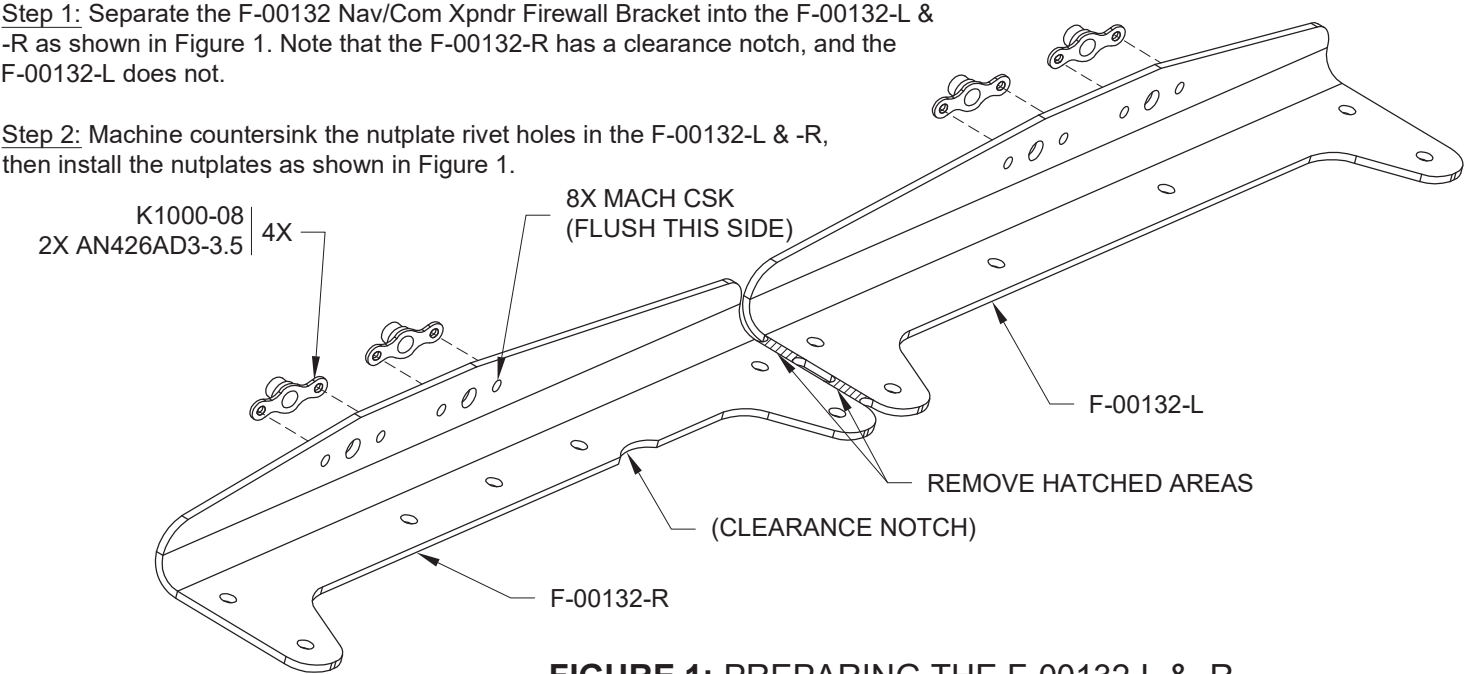


FIGURE 1: PREPARING THE F-00132-L & -R

Step 3: Machine countersink the nutplate rivet holes in the F-00209 Nav/Com Xpndr Bracket Right and F-00210 Nav/Com Xpndr Bracket Left as shown in Figure 2.

Step 4: Install the nutplates onto the F-00209 and F-00210 as shown in Figure 2.

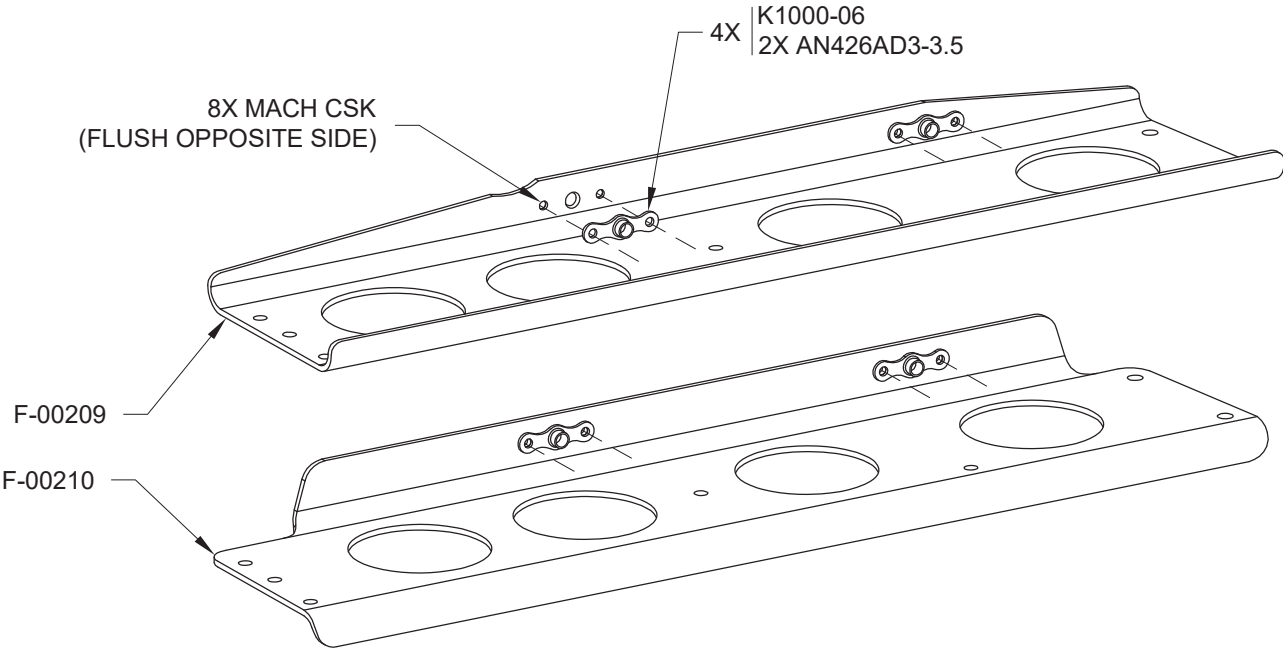


FIGURE 2: INSTALLING THE NUTPLATES ON TO XPNDR BRACKETS

Step 5: Separate the F-00054-1 Inst Stack Angle Nav/Com by removing the hatched areas shown in Figure 3.

Step 6: Machine countersink the nutplate rivet holes in the F-00054-1-L & -1-R, then install the nutplates as shown in Figure 3.

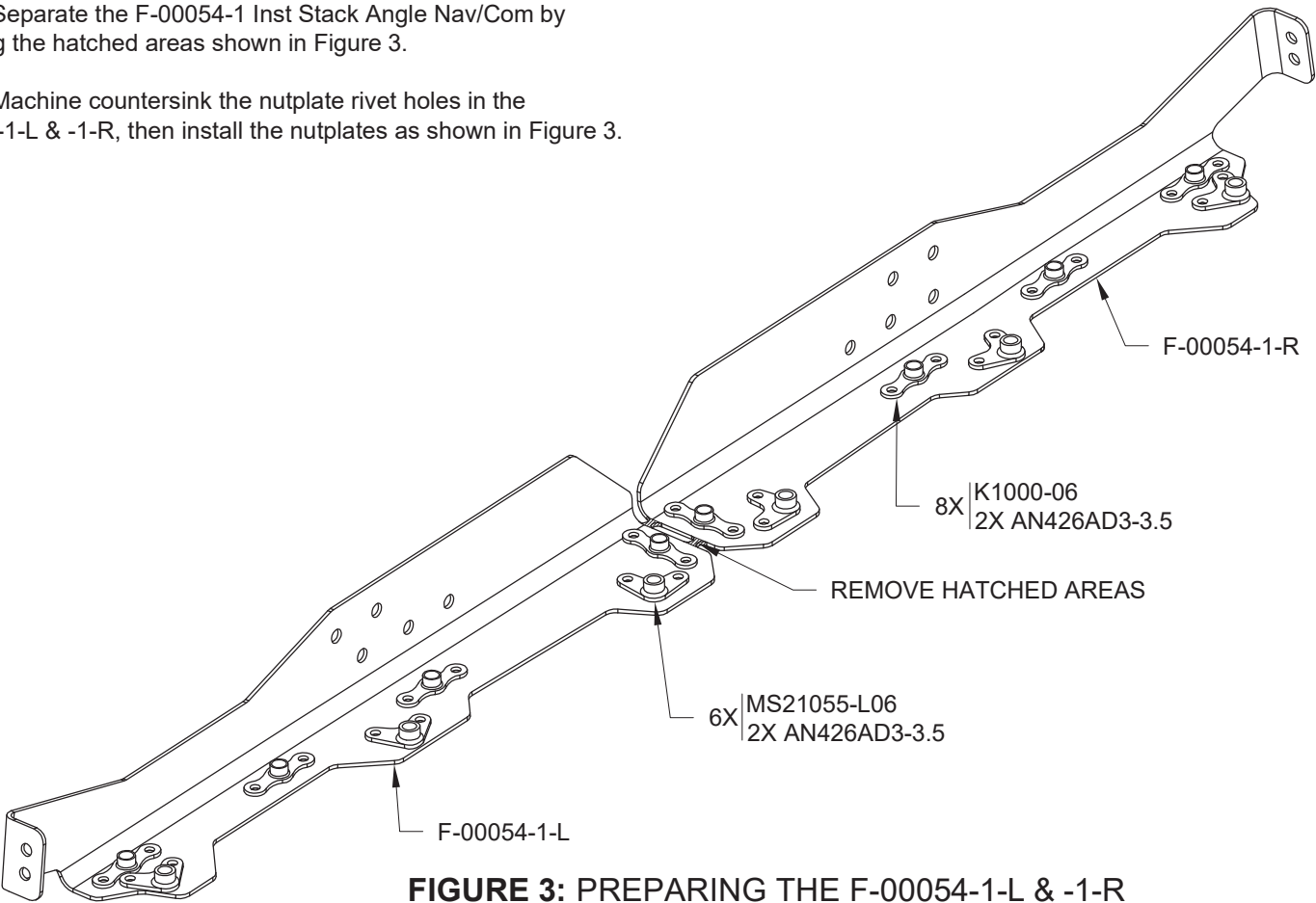


FIGURE 3: PREPARING THE F-00054-1-L & -1-R

Step 7: Separate the TOOL-00004 Garmin RV-12iS Drill Templates into the three drill guides by removing the hatched areas shown in Figure 4.

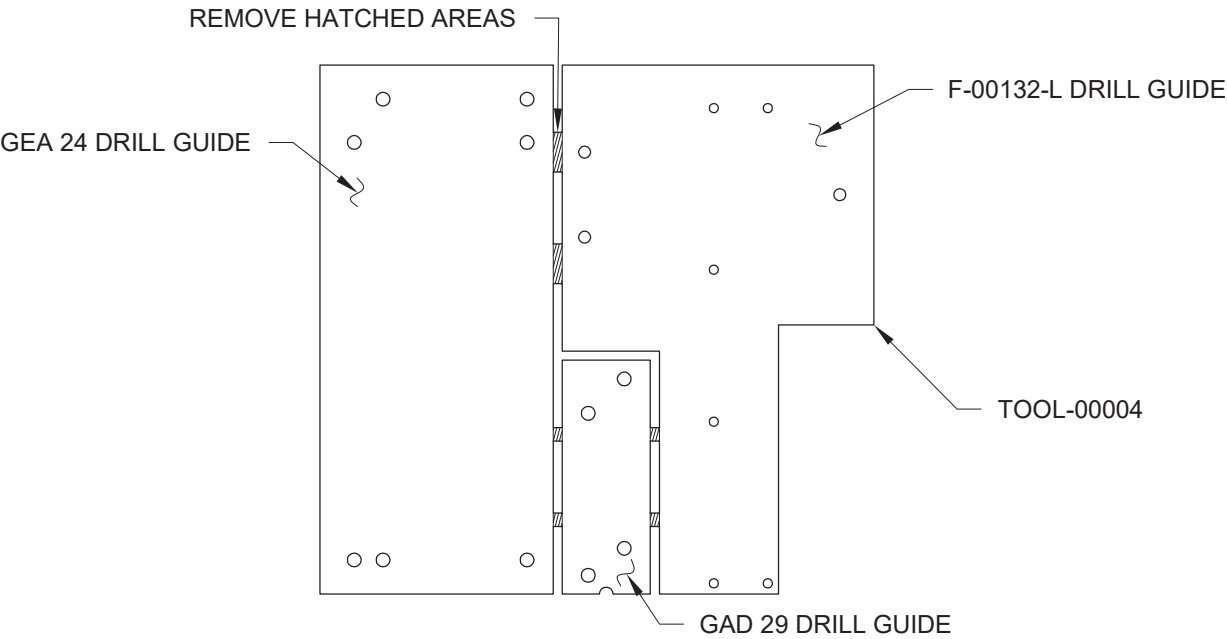
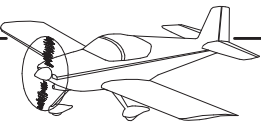


FIGURE 4: SEPARATING THE DRILL GUIDES



NOTE: Check both sides of the firewall for clearance before match-drilling holes to prevent inadvertent damage.

Step 1: Temporarily remove the Rotax Fuse Box from the forward side of the F-01201A-1 Firewall Top. See Section 46iS.

Step 2: Temporarily attach the GEA 24 Drill Guide and the F-00132-L Drill Guide to the F-01201A-1 using screws as shown in Figure 1.

Step 3: Remove the three rivets that will interfere with the F-00132-R. See Figure 1.

Step 4: Cleco the F-00132-R to the F-01201A-1 as shown in Figure 1.

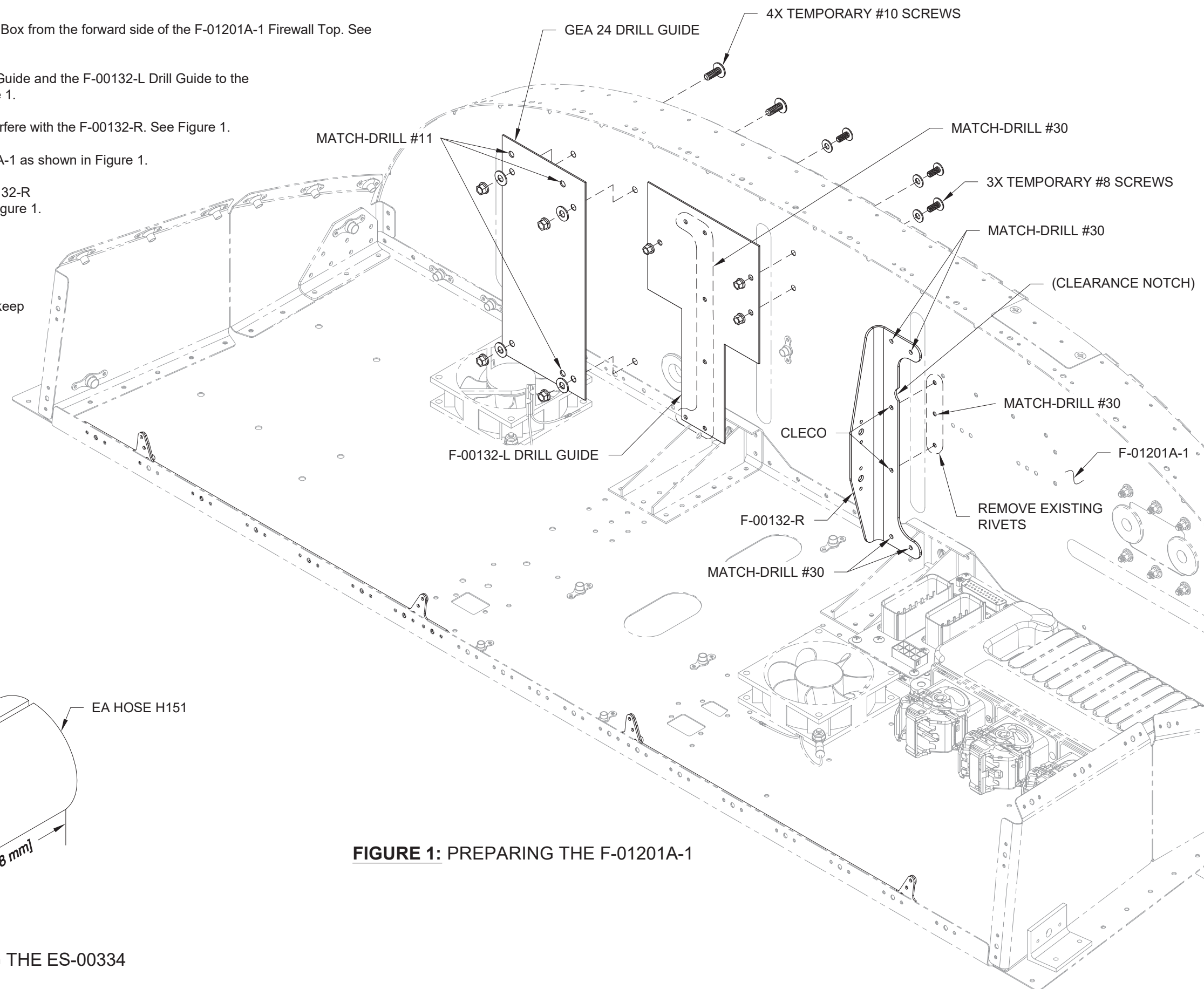
Step 5: Match-drill #30 the holes in the F-00132-R and the F-00132-L Drill Guide as shown in Figure 1.

Step 6: Match-drill #11 the holes in the GEA 24 Drill Guide as shown in Figure 1.

Step 7: Remove the F-00132-R and both drill guides. Discard the two drill guides, but keep the screws, washers, and nuts.

Step 8: Debur the F-00132-R and F-01201A-1.

Step 9: Make two ES-000334 Harness Sheaths from EA HOSE H151 as shown in Figure 2.



SLIT ENTIRE LENGTH,
ONE SIDE

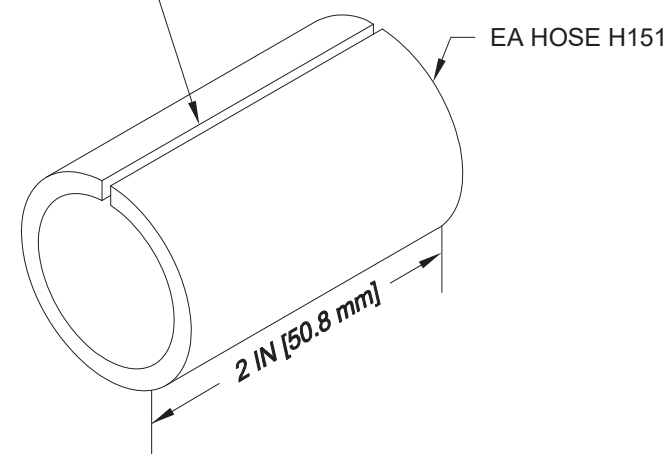
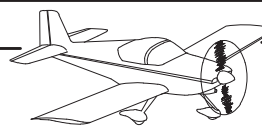


FIGURE 2: FABRICATING THE ES-00334

FIGURE 1: PREPARING THE F-01201A-1



NOTE: Refer to Figure 1 for all steps on this page.

Step 1: Rivet the F-00130-L & -R GTN 650 Support Bracket and the F-00054-1-L & -1-R to the F-01202B-1, placing the manufactured rivet heads below the F-01202B-1.

Step 2: Rivet the F-00132-L & -R to the F-01201A-1, placing the manufactured rivet heads on the forward side of the F-01201A-1.

Step 3: Install the screws, nuts, and washers as shown. These fasteners fill holes in the F-01201A-1 not used for the Garmin installation.

Step 4: On the forward side of the firewall only, cover the end of each rivet and screw with a thin layer of fuel tank sealant.

Step 5: Route the WH-00136-2 main wire harness branches through the slotted holes in the F-00130-L & -R.

Step 6: Split the snap bushings, then place the snap bushings over each branch of the WH-00136-2. Secure the snap bushings in the F-00130-L & -R as shown.

Step 7: Install the snap bushing in the F-00130-L then route the FF-1216 Pitot Line (installed in Section 47iS/U) through the snap bushing as shown and through the wire pass through in the F-01202B-1. F-01202B-1s with dual pass through's may use either for the FF-1216.

Step 8: Wrap one ES-00334 around each branch of the WH-00136-2 just inboard of the F-00130-R & -L.

Place the ES-00334s against the inboard face of the snap bushings, then use two tie-wraps to secure each ES-00334 onto the harness. See Figure 1 and Detail A.

AN525-832R6
NAS1149FN832P
MS21042-08 3X

13X LP4-3

2X SB1250-16
(ROUTE WIRES
THROUGH BUSHINGS)

F-00132-R

F-00132-L

WH-00136-2
(RIGHT BRANCH
SHOWN)

F-00130-L

SB750-10

10X LP4-3

FF-1216

F-01202B-1

2X ES-00334
2X PLASTIC TIE-WRAP 5.5"
(MIRROR FOR LEFT SIDE)

F-00130-R

F-00054-1-R

F-00054-1-L

DETAIL A

GARMIN GTN 650Xi
MOUNTING RACK
(INSTALLED ON
NEXT PAGE)

AUTOPILOT
AND BATT
WIRES

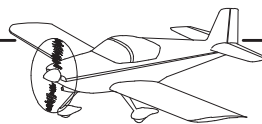
2X ES-00334

WH-00136-2

F-01202B-1

DETAIL A

FIGURE 1: INSTALLING THE AVIONICS BRACKETS



NOTE: The COM, NAV, and GPS coax cables use solid-core conductors which are prone to overstraining. They should be the last cables connected to the GTN 650Xi Backplate, and should not be kinked or bent tighter than 1 in. [25.4 mm] radius.

Step 1: Assemble the Garmin GTN 650Xi backplate with the included hardware as shown in Figure 1 and the Garmin GTN 650Xi Installation Manual.

NOTE: The "P1004" connector is oriented upside down compared to "P1001" and "P1003". Ensure the connector orientation matches the cutout of the backplate.

Step 2: Install the "P1001", "P1003", and "P1004" connectors (part of the WH-00136-2) on to the backplate.

Step 3: Connect the "COM", "NAV", and "GPS" Coaxial cables (part of the WH-00136-2) to the respective connectors on the backplate.

Step 4: Install the Garmin GTN 650Xi mounting rack on to the Garmin GTN 650Xi backplate as shown in the in Garmin GTN 650Xi Installation Manual.

NOTE: While positioning the Garmin GTN 650Xi backplate and mounting rack for final installation, check that no wires or cables are being overstrained or kinked. Adjust the placement or exact routing of the wires and cables if necessary.

Step 5: Secure the F-00209, F-00210, and Garmin GTN 650Xi mounting rack to the F-00130 -L & -R, the F-00132-L & -R, and the F-00054-1-L & -1-R as shown in Figure 2.

Step 6: Ensure that the wires of the left and right branches of the WH-00136-2 are protected by the ES-00334, and will not chafe on the sheet metal edges of the Garmin GTN 650Xi backplate or mounting rack.

Adjust harness positioning as necessary.

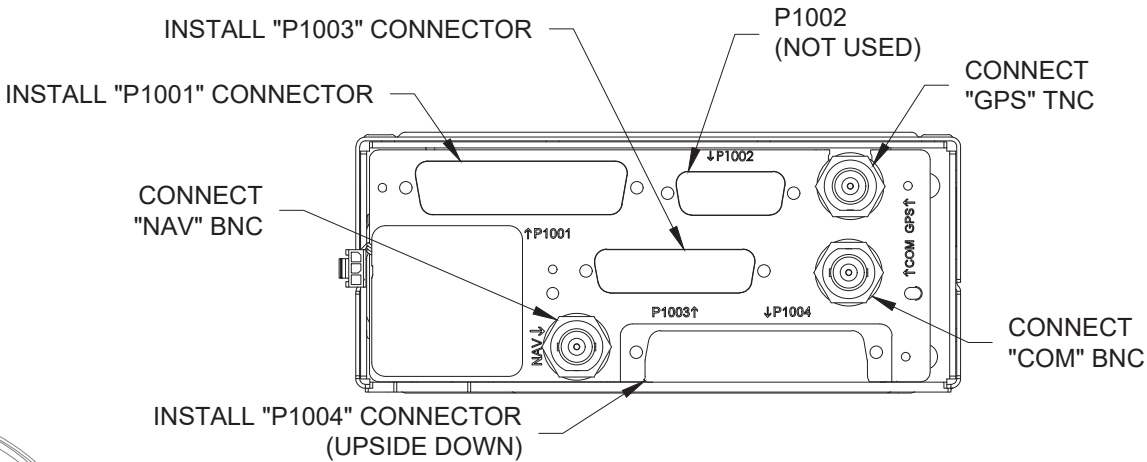


FIGURE 1: GARMIN GTN 650Xi BACKPLATE

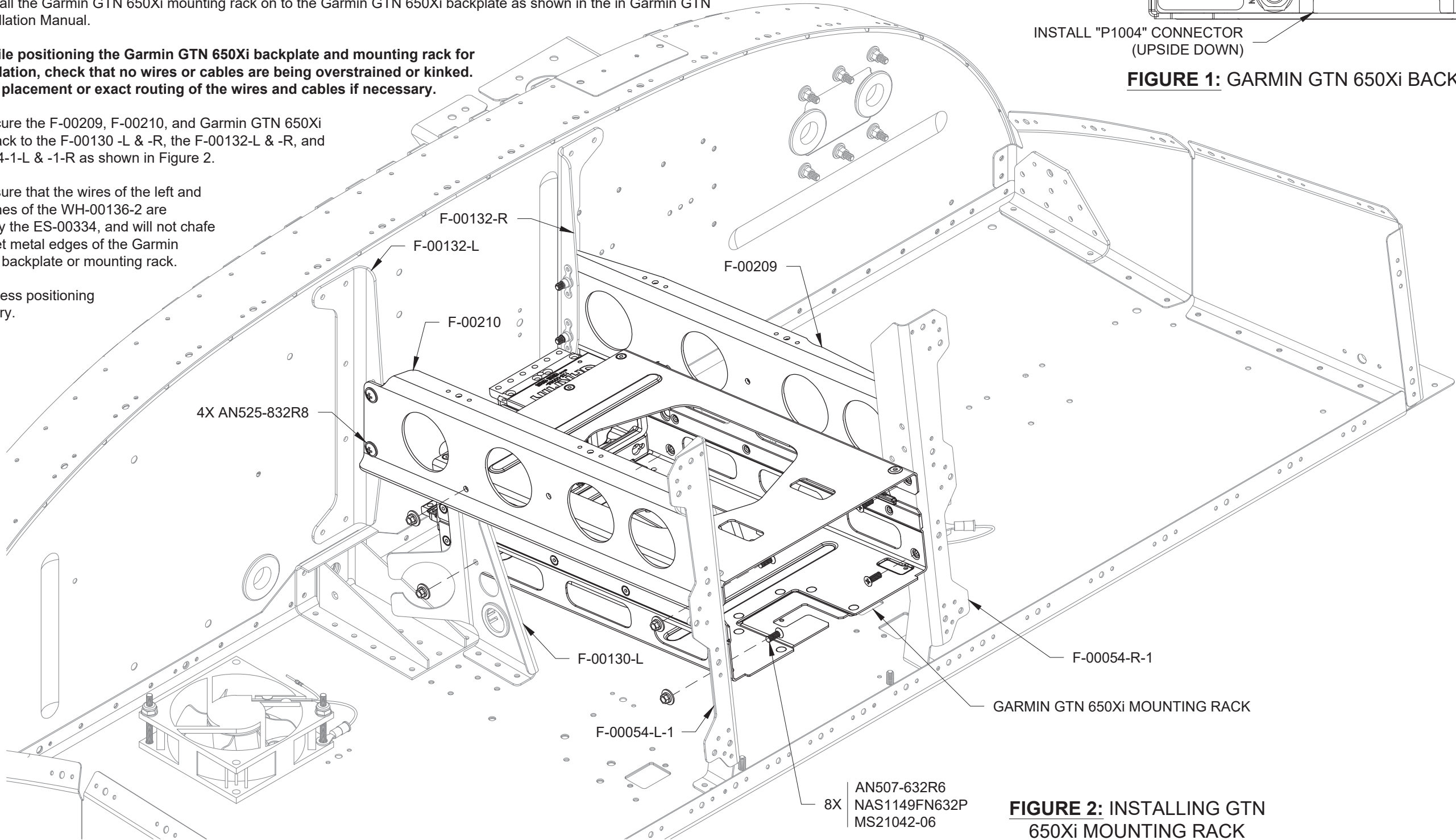


FIGURE 2: INSTALLING GTN 650Xi MOUNTING RACK



Step 1: Assemble the Garmin GMA 245 backplate and the d-sub connectors labeled "J2401" and "J2402" from the WH-00136-2 as shown in the GMA 245 Installation Manual and Figure 1.

Step 2: Install the Garmin GMA 245 backplate in the GMA245 mounting rack as shown in the GMA 245 Installation Manual and Figure 1.

Step 3: Fasten the GMA 245 mounting rack to the F-00054-1-L & -1-R, the F-00209, and the F-00210 as shown in Figure 1.

Step 4: Install the GTX 35R Rack as shown in Figure 1.

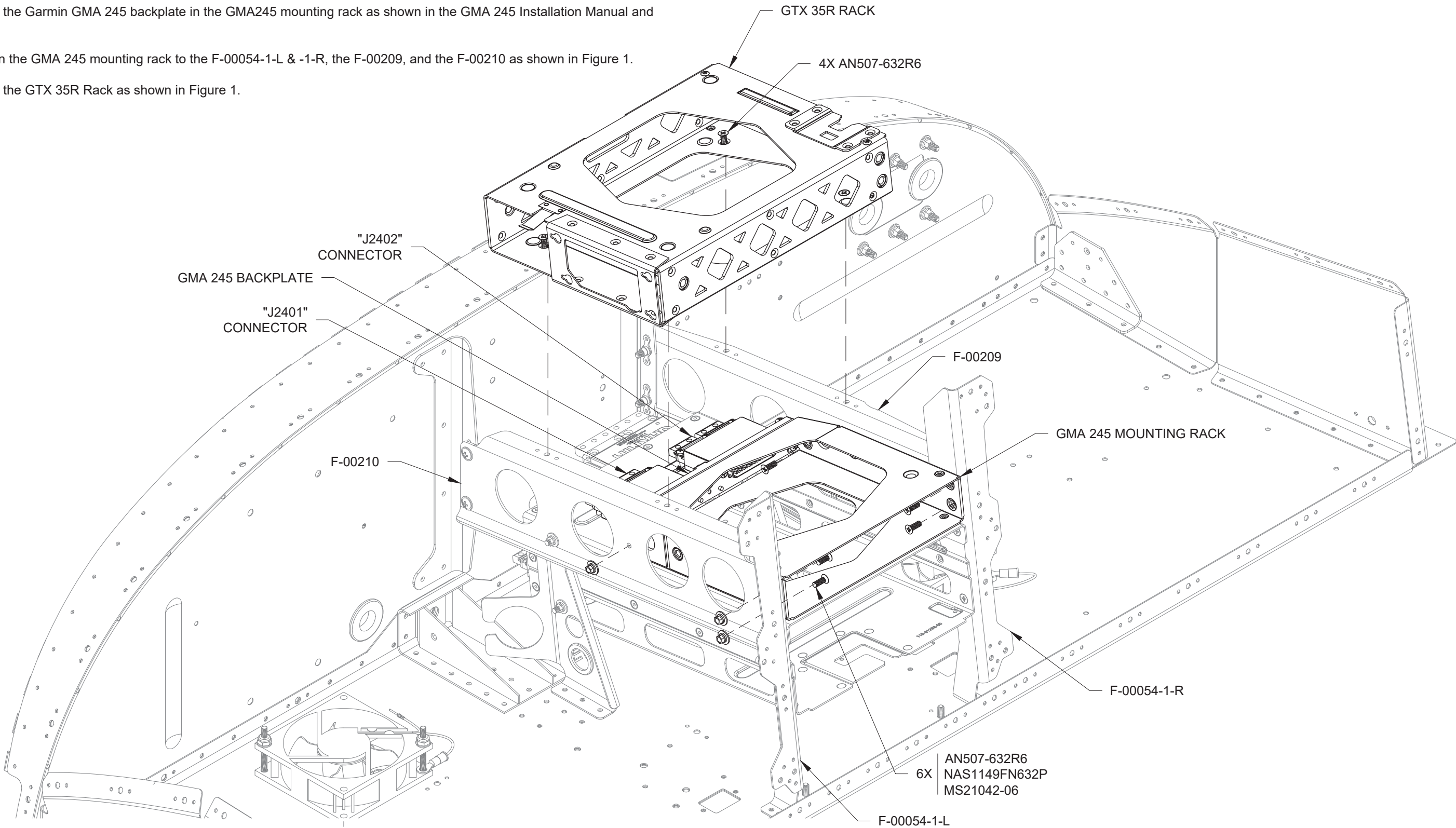


FIGURE 1: INSTALLING THE GMA 245 AND GTX 35R RACKS



Step 1: Apply a thin smear of fuel tank sealant around the three holes called out in Figure 1.

Step 2: Install the GEA 24 Engine Indication System and F-00145 GEA24 Adapter Plate onto the F-01201A-1 Firewall Top with the hardware called out in Figure 1.

Step 3: Apply a thin coating of fuel tank sealant over the heads of the screws on the forward side of the firewall and allow to cure.

Step 4: Reinstall the Rotax Fuse Box on the F-01201A-1. See Section 46iS.

Step 5: Connect the 9-pin, 37-pin, and 50-pin d-sub connectors labeled "EMS" from the WH-00136-2 to the GEA 24. See Figure 2.

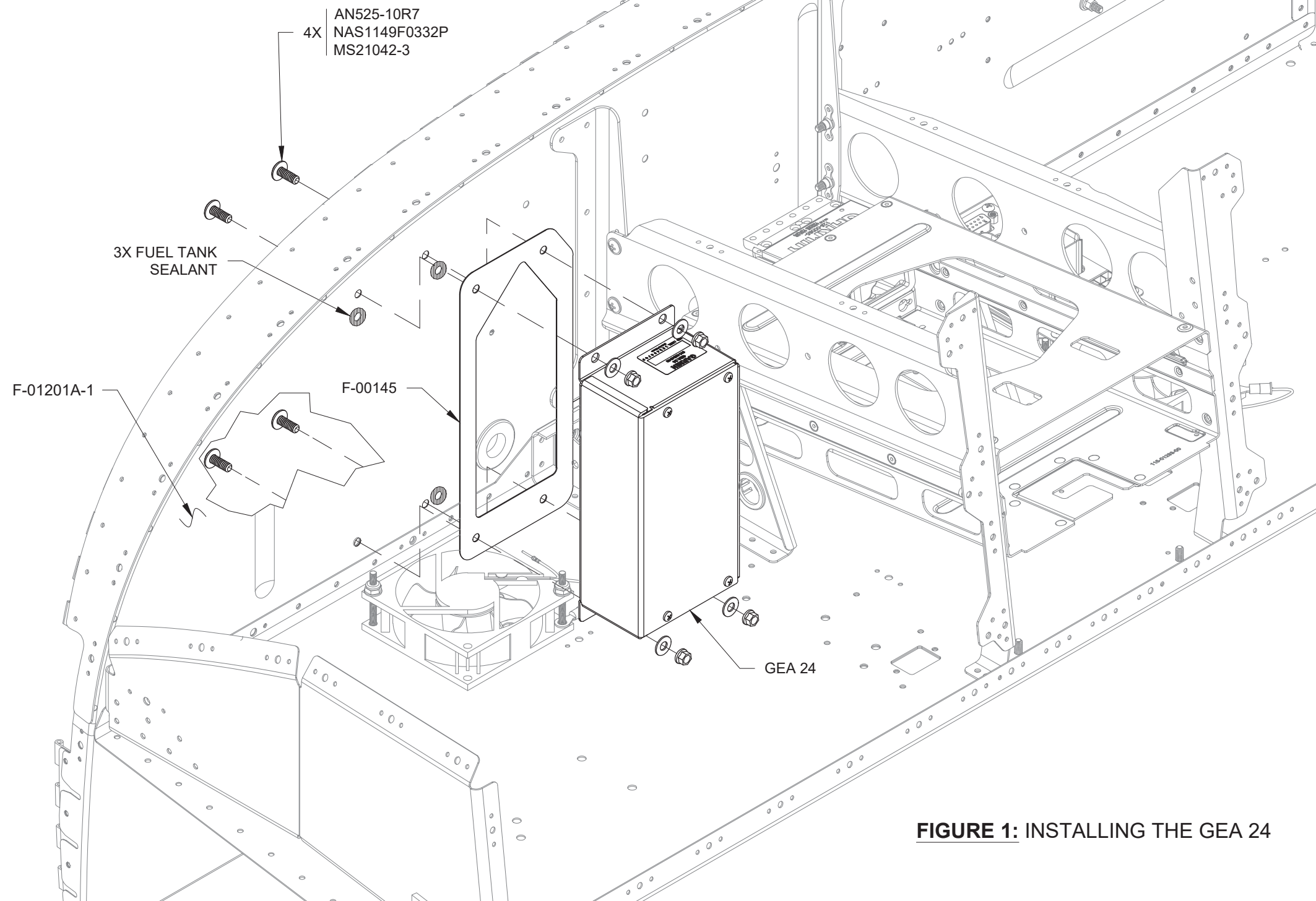


FIGURE 1: INSTALLING THE GEA 24

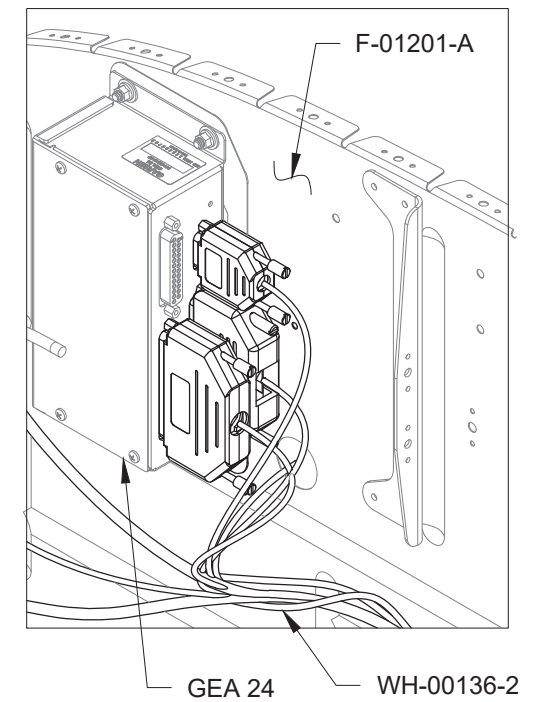


FIGURE 2: CONNECTING THE GEA 24



NOTE: The figures and instructions below show the GA 36 antenna. The GA 37 antenna is optional for customers who plan to use XM data with their G3X system. Installation procedures are the same for both antennas.

Step 1: Machine countersink (120 deg) the two holes in the F-00196 GA 26C Nav/Com Bracket as shown in Figure 1.

Step 2: Install the GA 36 and the F-00196 on the F-01201R-1 Antenna Shelf with the hardware called out in Figure 1.

Step 3: Connect the TNC connector labeled "GPS" from the WH-00136-2 to the port labeled "GPS" on the GA 36.

Step 4: Secure the GA 26C Garmin GPS Antenna to the F-00196 with the included fasteners as shown in Figure 2.

Step 5 (XM Only): Connect the TNC Connector labeled "XM" from the WH-00136-2 to the port labeled "XM" on the GA 37.

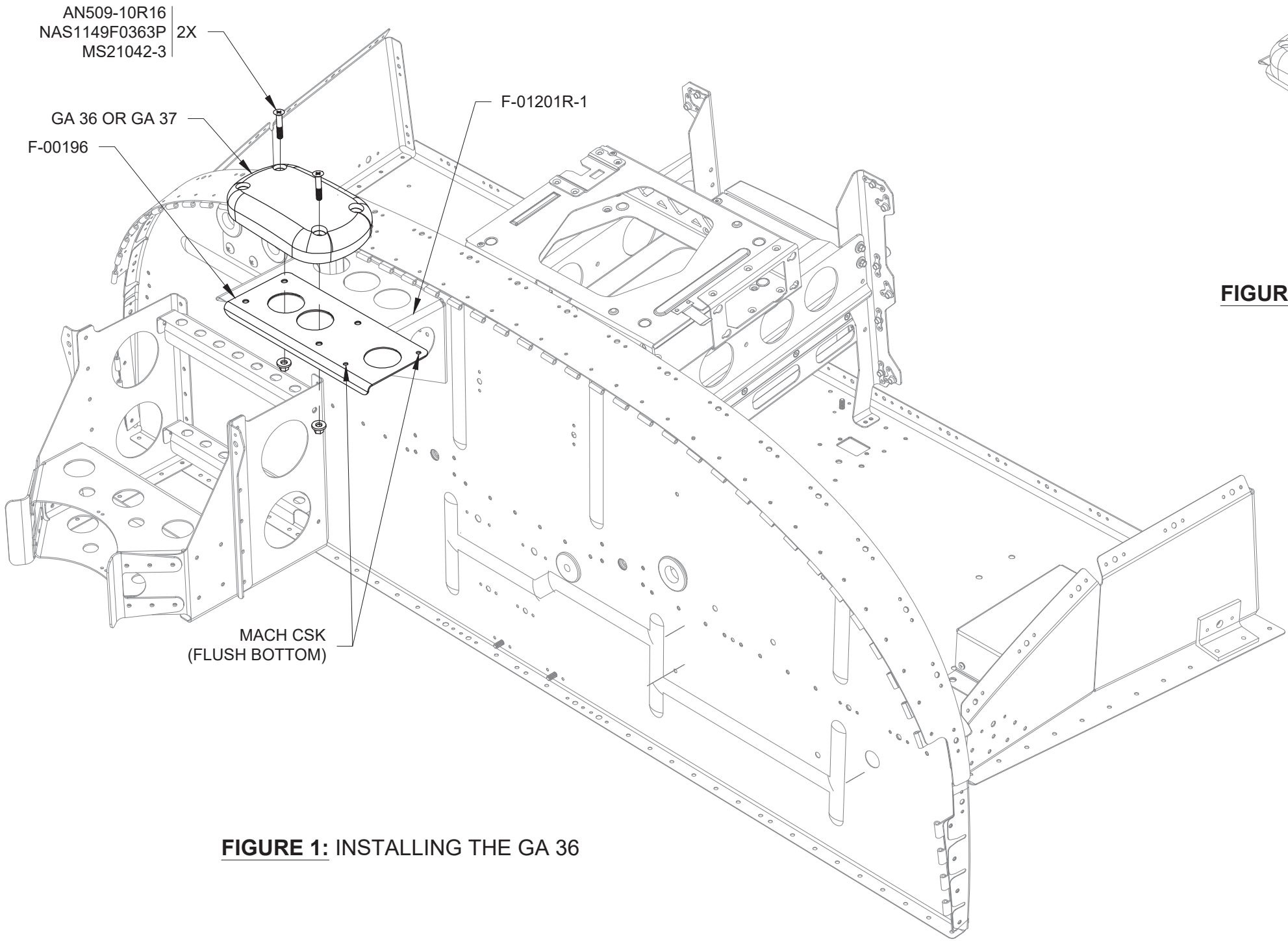


FIGURE 1: INSTALLING THE GA 36

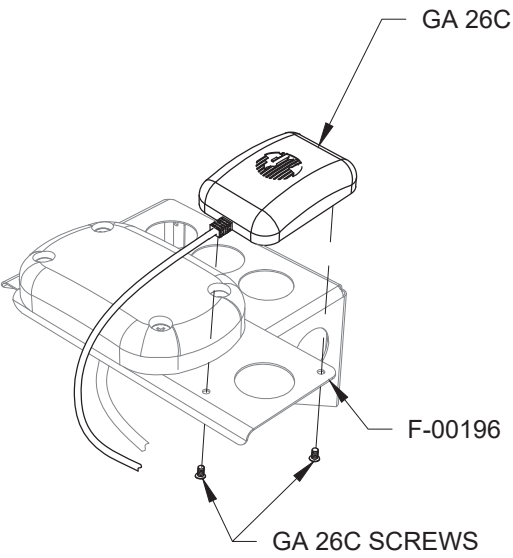
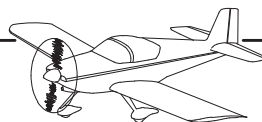


FIGURE 2: INSTALLING THE GA 26C



NOTE: Refer to Figure 1 for all steps on this page.

Step 1: Install the GAD 29 onto the F-01202B-1 using screws, washers, and nuts as shown.

Step 2: Install the IBBS-12V-3AH Back-Up Battery onto the F-01202B-1 using screws, washers, and nuts. Connect the P7211, P7213, and P7251 ground terminals from the WH-000136-2 to the corners of the IBBS-12V-3AH as shown.

Step 3: Connect the d-sub connector labeled "XPNDR" and the BNC connector labeled "XPNDR" from the WH-00136-2 to the GTX 35R Backplate Assembly as described in the GTX 35R Installation Manual. See the detail view.

Step 4: Install the GTX 35R Backplate Assembly and GTX 35R into the GTX 35R Rack as described in the GTX 35R Installation Manual.

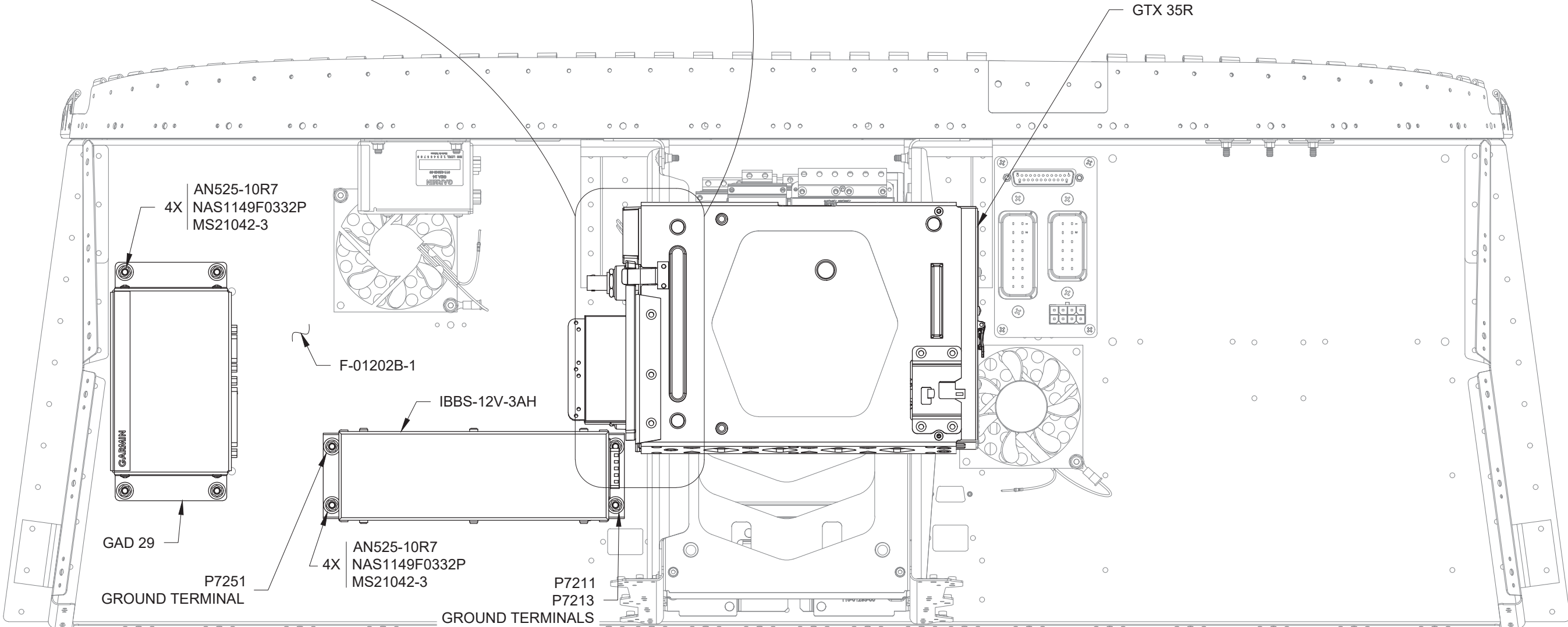
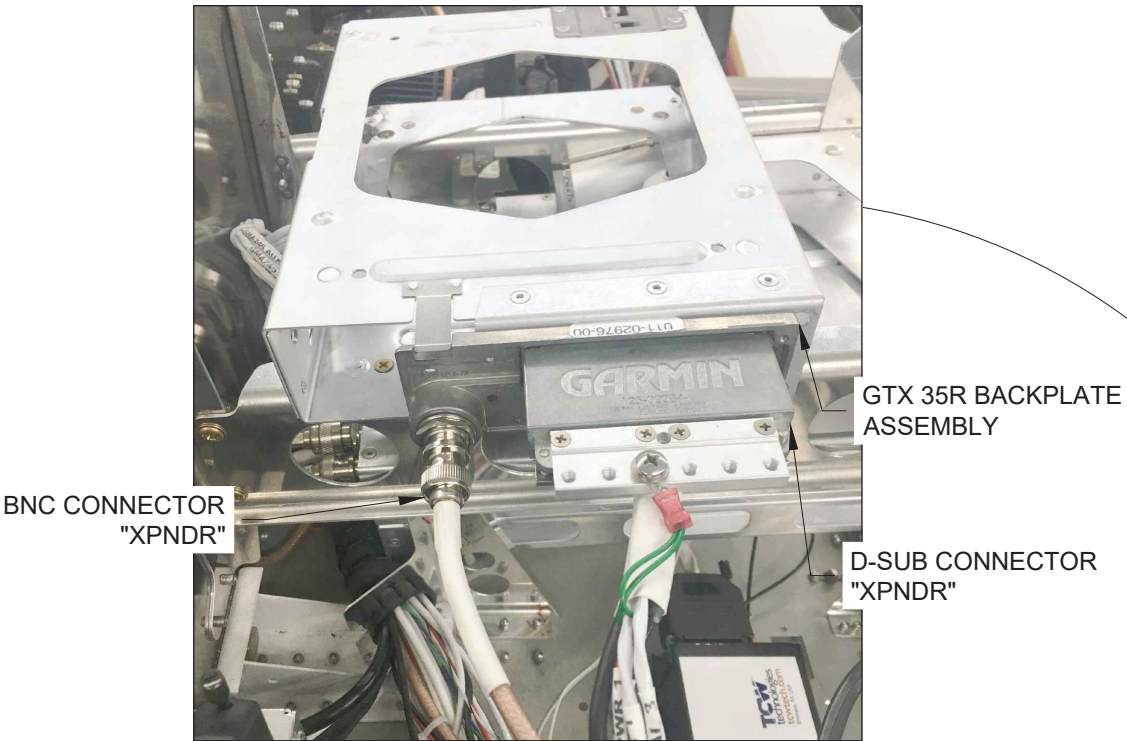


FIGURE 1: INSTALLING THE GAD 29, GTX 35R, & BACK-UP BATTERY



Step 1: Connect the 9-pin and 25-pin d-sub connectors labeled "GAD 29" from the WH-00136-2 to the GAD 29 as shown in Figure 1.

Step 2: Connect the 15-pin d-sub connector labeled "BATT" from the WH-00136-2 to the IBBS-12V-3AH. See Figure 1.

Step 3: Gather the WH-00136-2 near the inboard aft corner of the ES CPU Fan using the clamp as shown and install the clamp onto the F-01202B-1 using the screw called out in Figure 1.

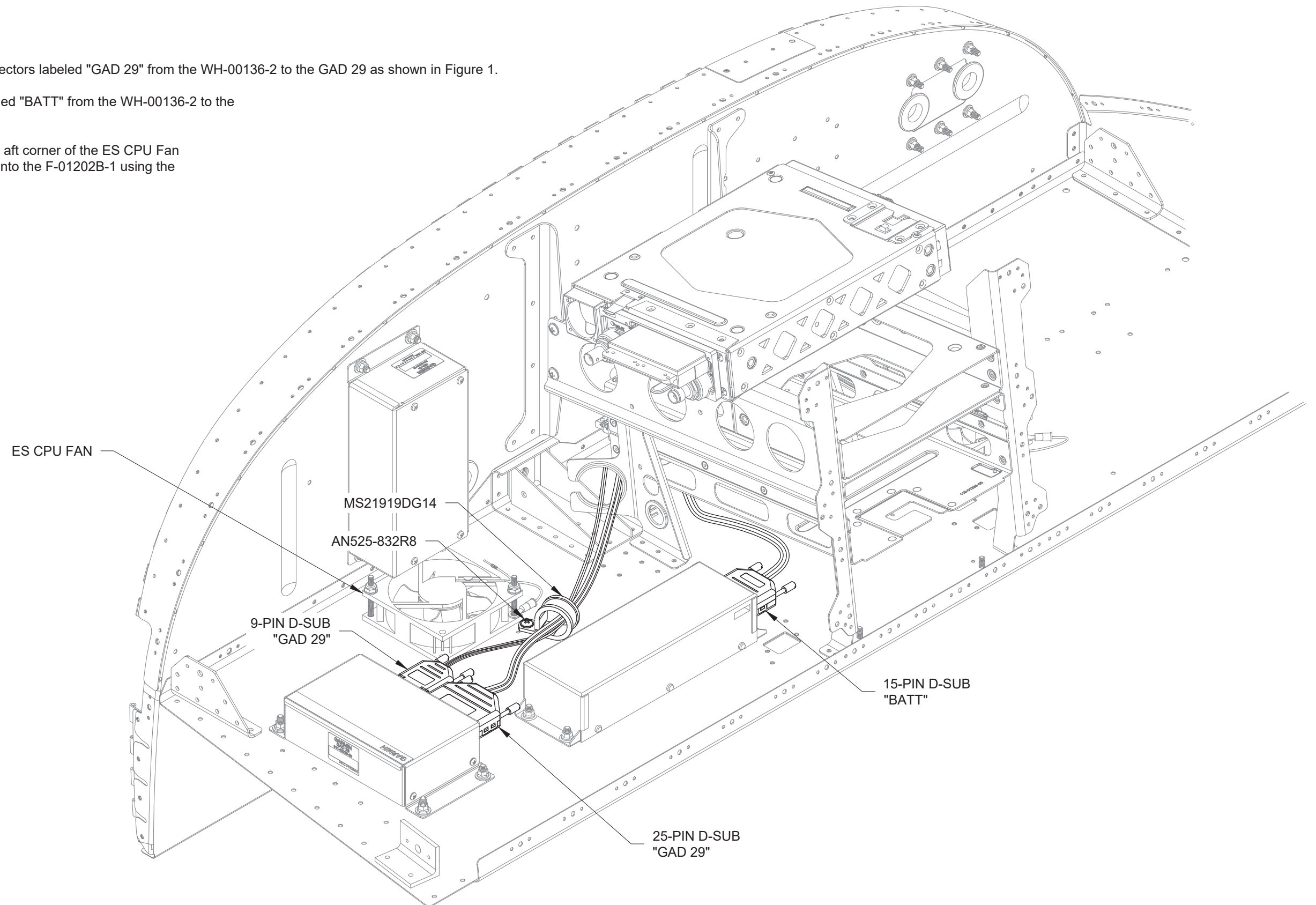
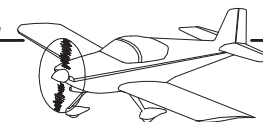


FIGURE 1: CONNECTING THE GAD 29 AND BACKUP BATTERY



Step 1: Temporarily install the F-00043S onto the Upper Forward Fuselage Skin Assembly. See Section 29iS/U and Figure 1.

Step 2: Match-drill #27 the hole indicated in Figure 1 into the F-1202D-L Panel Attach Strip.

Step 3: Mark the area to be removed from the F-1202D-L as shown in Figure 1.

Remove the F-00043S.

Step 4: Remove material from the F-1202D-L using the marks made in Step 3.

Step 5: Remove the nutplate from the F-1202D-L as shown in the detail view in Figure 1.

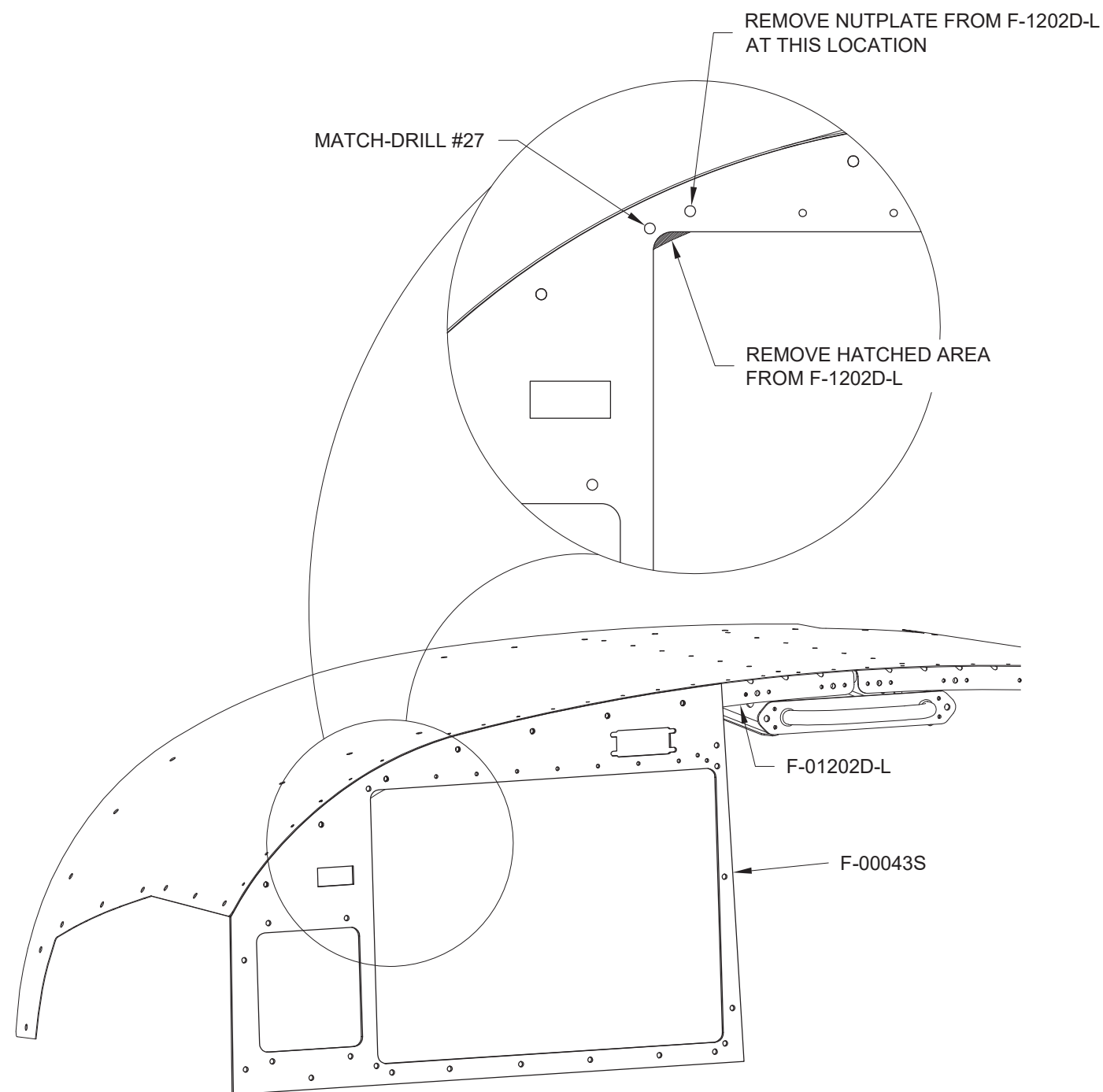


FIGURE 1: PREPARING THE F-1202D-L

Step 6: Use two screws to temporarily attach nutplates to the aft side of the F-1202D-L as shown in Figure 2. Use the hole drilled in Step 2 to locate the left nutplate. Use the preexisting hole to locate the right nutplate. Center the nutplates on the flange of the strip.

Step 7: Match-drill #40 the nutplate attach holes into the F-1202D-L using the nutplates as shown in Figure 2.

Step 8: Dimple the nutplates and #40 holes drilled in the previous step.

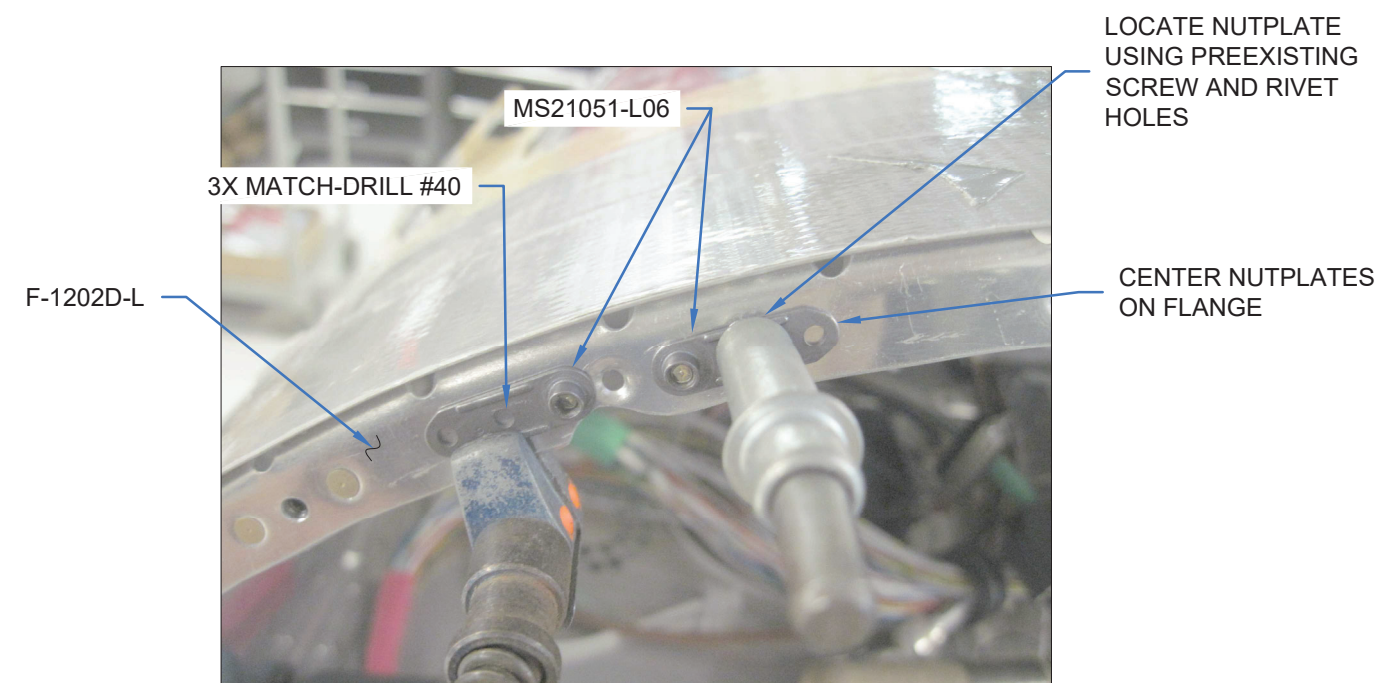


FIGURE 2: NOTCH FOR DISPLAY & NEW NUTPLATES

Step 9: Rivet the nutplates to the forward side of the F-1202D-L. See Figure 3.

Step 10: Repeat and mirror Steps 1 through 9 with the F-00065S for the right side of the aircraft.



FIGURE 3: RIVETING THE NEW NUTPLATES

Step 1: Attach the AV-60007 Ignition Module Assembly to the F-00043S with screws as shown in Figure 1.

Step 2: Remove the ES SW K1-AABAAAAA switch from the WH-00136-2, then install the switch and ES-807039-1 Gasket into the F-00043S. Ensure the switch orientation matches the detail view in Figure 1.

Step 3: Purchase, then install the internal battery in the E-04.5 Cockpit Remote. Refer to the instructions provided with the AV-E-04 ACK 406 Mhz ELT. Record the battery expiration date in the aircraft log book.

Step 4: Attach the E-04.5 Cockpit Remote to the F-00043S with screws and nuts as shown in Figure 1.

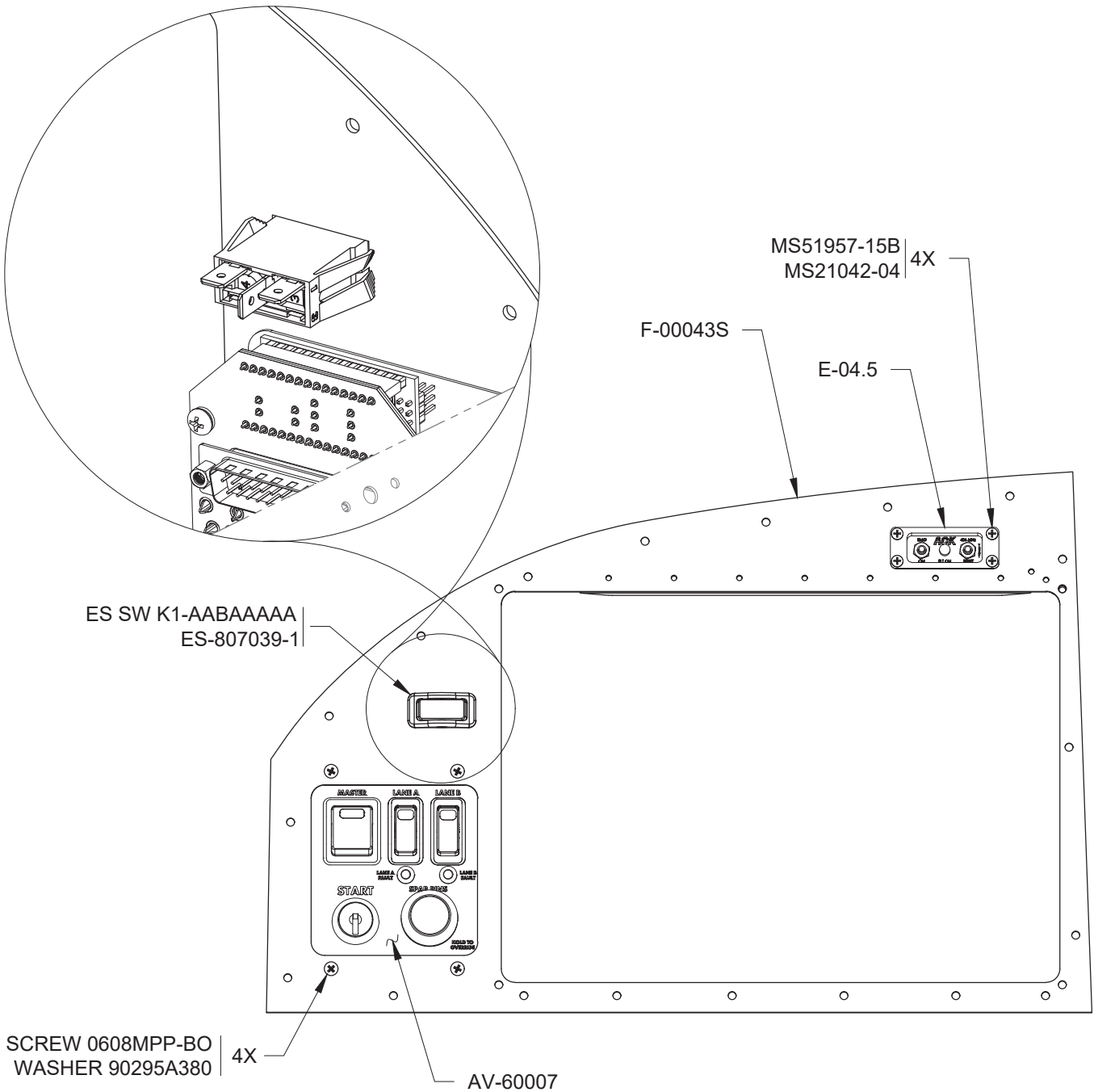
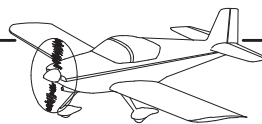


FIGURE 1: PREPARING THE F-00043S



NOTE: Refer to Figure 1 for all of the steps on this page.

NOTE: Some of the fasteners used to install the instrument panels are not shown on this page. Replace fasteners previously used in Section 29iS/U (to install the F-12133 Instrument Panel Jig) with fasteners called out on this page.

Step 1: Install the F-00043S, F-00129, and F-00065S with screws.

Step 2: Locate the co-pilot push-to-talk switch labeled "PTT" from the WH-00136-2.

Discard the hex nut and star washer included with the switch, then attach the switch to the F-00065S as shown.

Step 3: Install the Garmin GMA 245, GTN 650Xi, and GMC 507 into the cutouts in the F-00129 in accordance with the respective installation manuals.

Step 4: Connect the 15-pin d-sub labeled "GMC 507" to the GMC 507.

Step 5: Install both of the GDU 460s with screws.

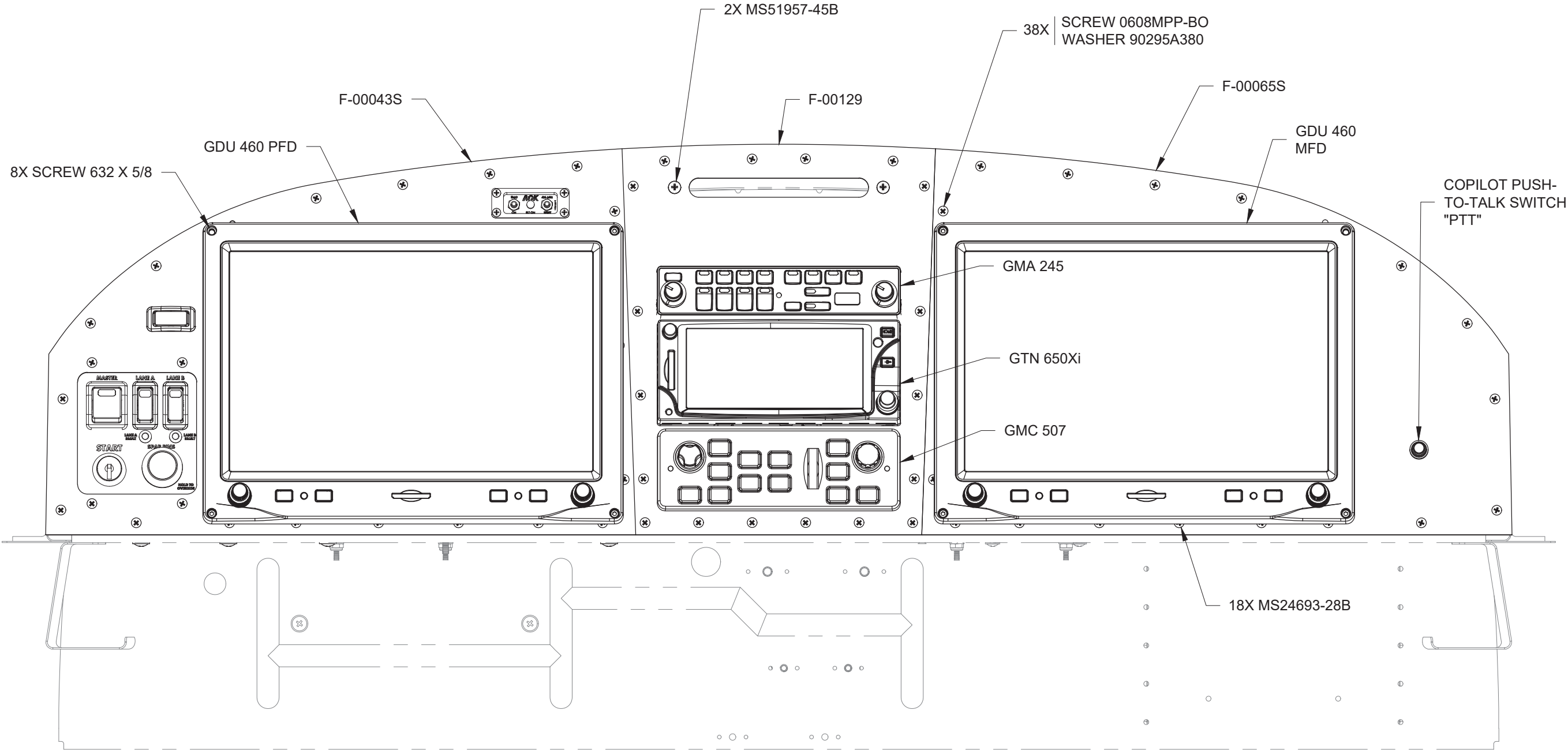


FIGURE 1: INSTALLING THE INSTRUMENT PANELS

NOTE: Refer to Figure 1 for the following steps.

- Step 1: Connect the 25-pin d-sub connector labeled "IGNITION" from the WH-00136-2 to the AV-60007.
- Step 2: Connect the three ES-421-0108 connectors from the WH-00136-2 to the ES SW K1-AABAAAAA as shown.
- Step 3: Connect the 50-pin d-sub connector labeled "PFD" from the WH-00136-2 to the GDU 460 PFD.
- Step 4: Connect the 50-pin d-sub connector labeled "MFD" from the WH-00136-2 to the GDU 460 MFD.
- Step 5: Route the BNC connector from the GA 26 Garmin GPS Antenna to the GDU 460 MFD and connect it as shown in Figure 1.
- Step 6: Connect the phone jack connector labeled "ELT" from the WH-00136-2 to E-04.5 Cockpit Remote as shown.
- Step 7: Gather the excess wire and stow with plastic tie-wraps as shown.
- Step 8: Complete any further instructions supplied with the AV-E-04 ACK 406 Mhz ELT.
- Step 9: Install the Garmin autopilot servos and pushrods as shown in Section 44BiS.

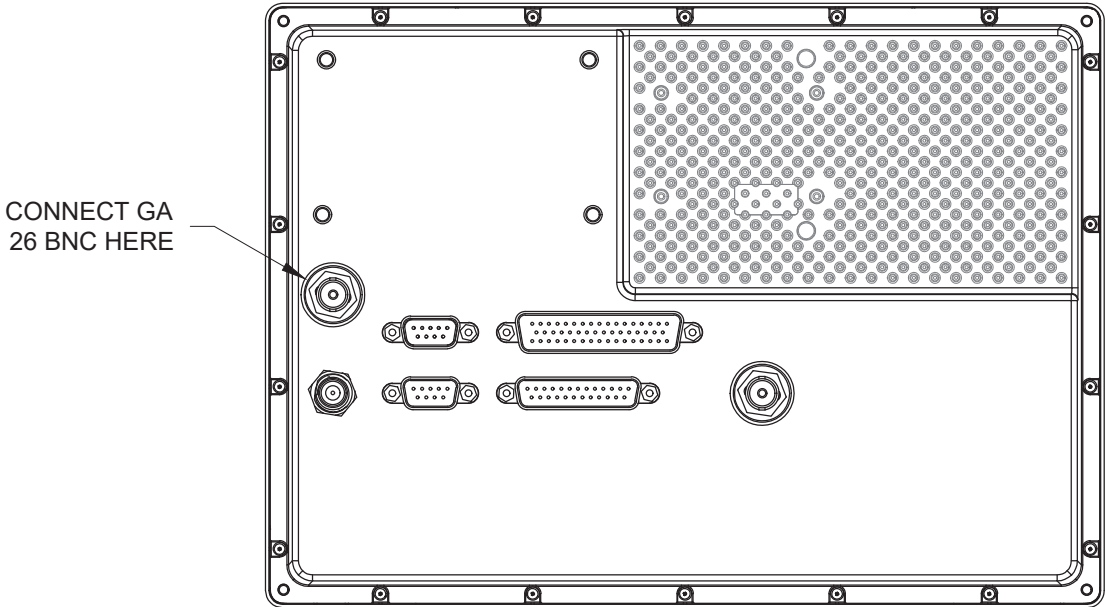


FIGURE 1: FORWARD FACE OF MFD
(GDU 4XX SHOWN)

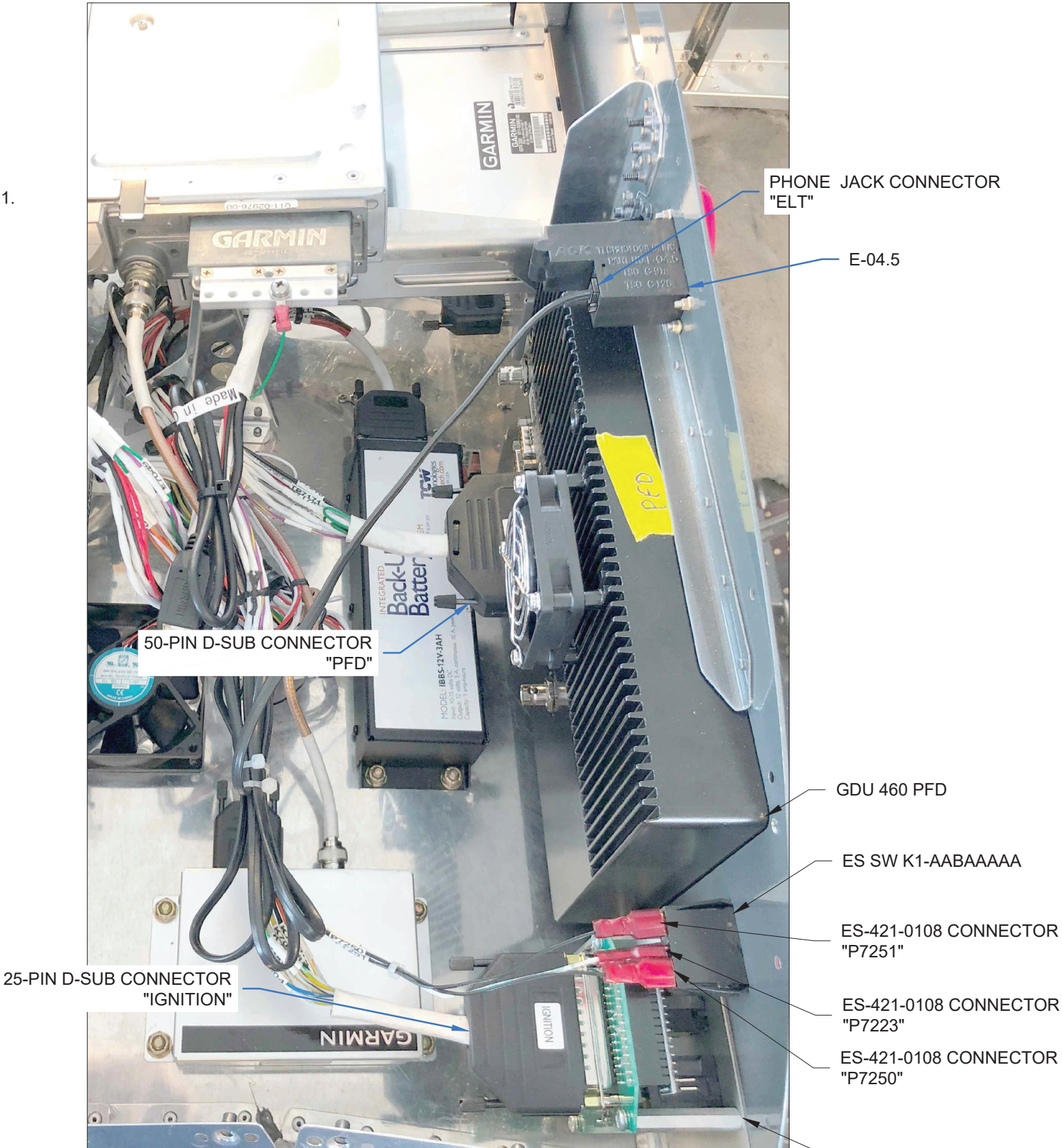
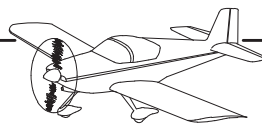


FIGURE 2: INSTRUMENT PANEL CONNECTIONS



NOTE: Refer to Figure 1 for the following steps.

Step 1: Locate the F-00214 and FF-1216 Pitot Line where they meet as shown. Mark the lines in a convenient location between the F-12103 Tunnel Brace and the F-01230-1 Tunnel Brace.

Step 2: Cut the lines near your marks, leaving a 1 in. [25.4 mm] overlap.

Step 3: Ensure the lines are free of debris, then connect the lines by installing the FLF-00023.

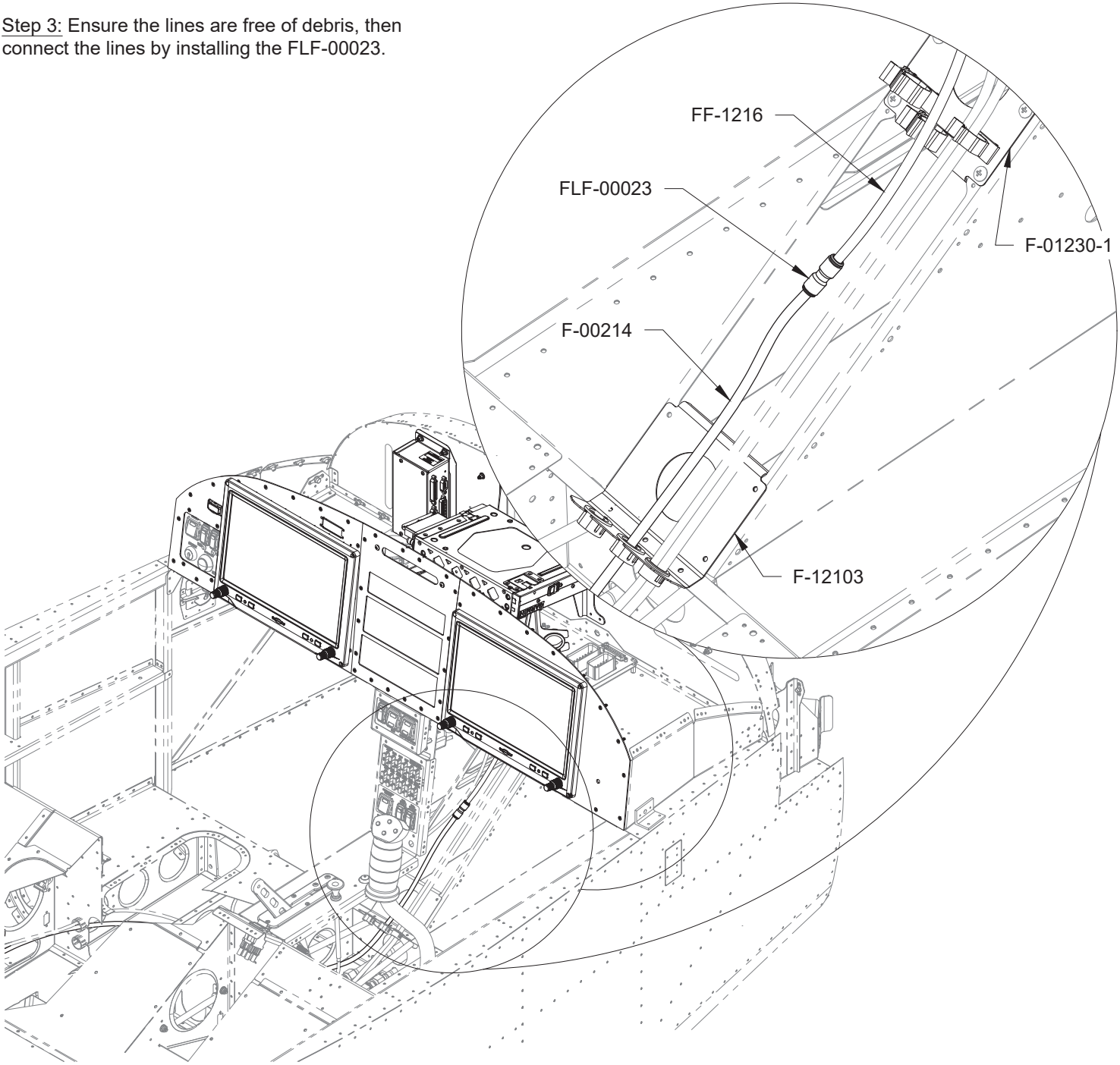


FIGURE 1: CONNECTING THE PITOT LINES

Step 4: Reinstall the Upper Forward Fuselage Skin Assembly. See Section 29iS/U.

Step 5: Make a final check of the entire electrical system and WH-00136-2. Ensure there are no potential spots where wires may chafe on surrounding structure or interfere with flight controls or engine controls. Secure wires as necessary to prevent chafing or interference.

Ensure all unused optional connectors from the Main Wire harness are securely stowed and restrained from movement.

Step 6: After you have completed all remaining sections of the KAI, download the RV-12iS G3X configuration files from the Van's website and update the software configuration as described in the README file.

NOTE: Functional checks of the system will be conducted as a part of the Production Acceptance Procedures.

NOTE: Completion of the avionics installation is a good time to start gathering the required documentation to register your RV-12iS. Complete and return the Documentation Request Form included with your avionics kit to order your RV-12iS Documentation Kit containing the necessary placards, manuals, and required FAA forms.

END OF SECTION



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