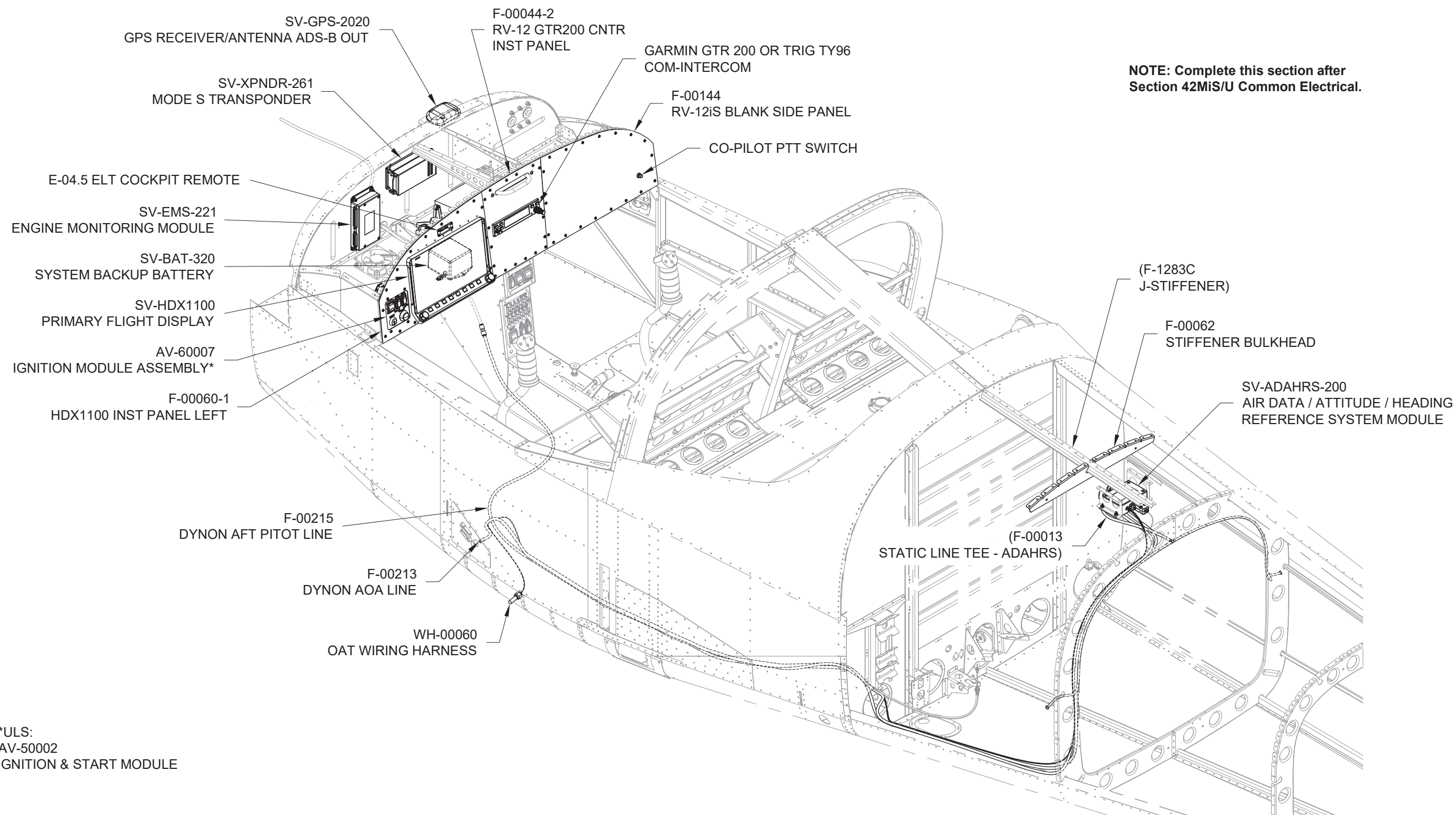




SECTION 42CiS/U: DYNON AVIONICS



*ULS:
AV-50002
IGNITION & START MODULE

NOTE: Throughout this section, cut pre-installed tie wraps as required to facilitate routing of wiring. Secure loose wiring with tie wraps at the end of this section.

NOTE (ULS): Wherever the WH-00133-1 RV-12iS Dynon Common Harness is referenced, use the WH-00139 RV-12iS ULS Dynon Common Harness instead.

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

Step 1: Remove the F-12133 Instrument Panel Jig and F-01240-1 Upper Forward Fuselage Skin from the aircraft.

Step 2 (iS): Temporarily remove the Rotax Fuse Box from the forward side of the F-01201A-1 Firewall Top. Refer to Section 46iS as required.

Step 3 (ULS): As part of the following two steps, remove and then reattach the EA-XB100-1 B&C AVC1 Voltage Regulator and FF-00123 Regulator Adapter Plate using the EMS and XPNDR hardware. See Section 46U.

Step 4: Attach the SV-EMS-221 to the F-01201A-1 Firewall Top as shown. Bolt heads must be on the engine side of the firewall.

Step 5: Attach the SV-XPNDR-261 to the F-01201A-1 Firewall Top using the mount plate as shown.

Step 6 (iS): Reinstall the Rotax Fuse Box on the foward side of the F-01201A-1. Refer to Section 46iS as required.

Step 7: Connect the 9-pin d-sub labeled "EMS" and the 37-pin d-sub labeled "EMS" on the WH-00133-1 RV-12iS Dynon Common Harness to the SV-EMS-221 as shown.

Step 8 (ULS): Connect the 25-pin d-sub labeled "EMS" on the WH-00139 RV-12iS ULS Dynon Common Harness to the SV-EMS-221 as shown.

Step 9: Connect the 25-pin d-sub labeled "XPNDR" on the WH-00133-1 and the TNC connector labeled "XPNDR" to the SV-XPNDR-261 as shown.

Step 10: Attach the SV-BAT-320 to the F-01202B-1 Panel Base as shown.

Step 11: Connect the 3-pin Molex connector on the WH-00133-1 (P6001 & P6002) to the SV-BAT-320 as shown.

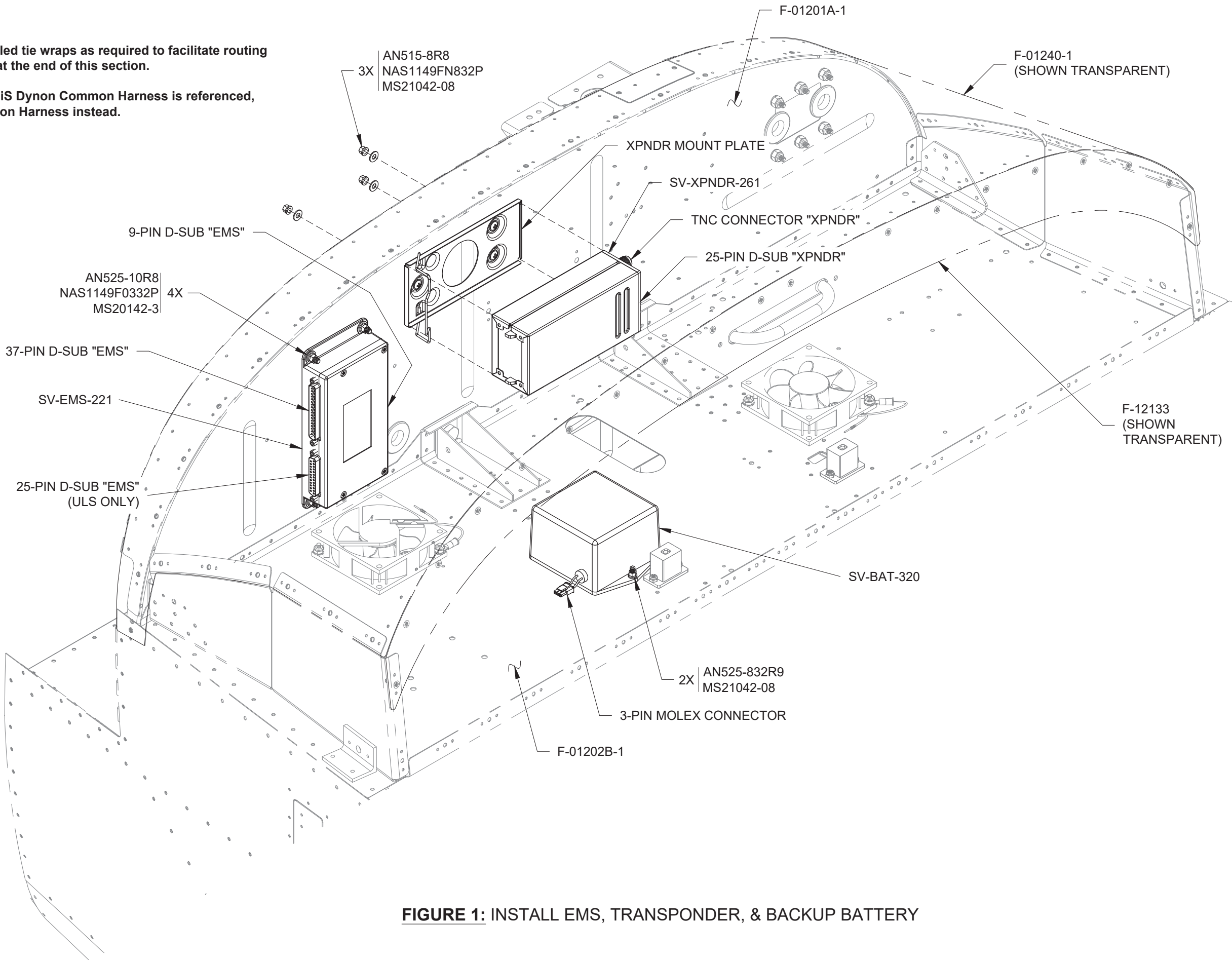
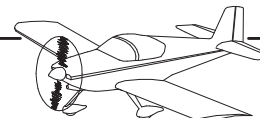


FIGURE 1: INSTALL EMS, TRANSPONDER, & BACKUP BATTERY



Step 1: Machine countersink, separate, then rivet nutplates to the F-00054-L & -R Inst Stack Angle GTR200s as shown in Figure 1.

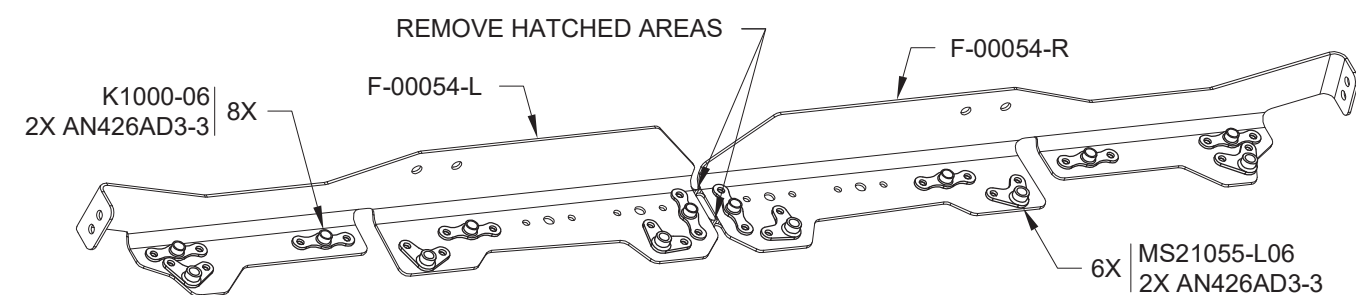


FIGURE 1: PREP THE INSTRUMENT STACK ANGLES

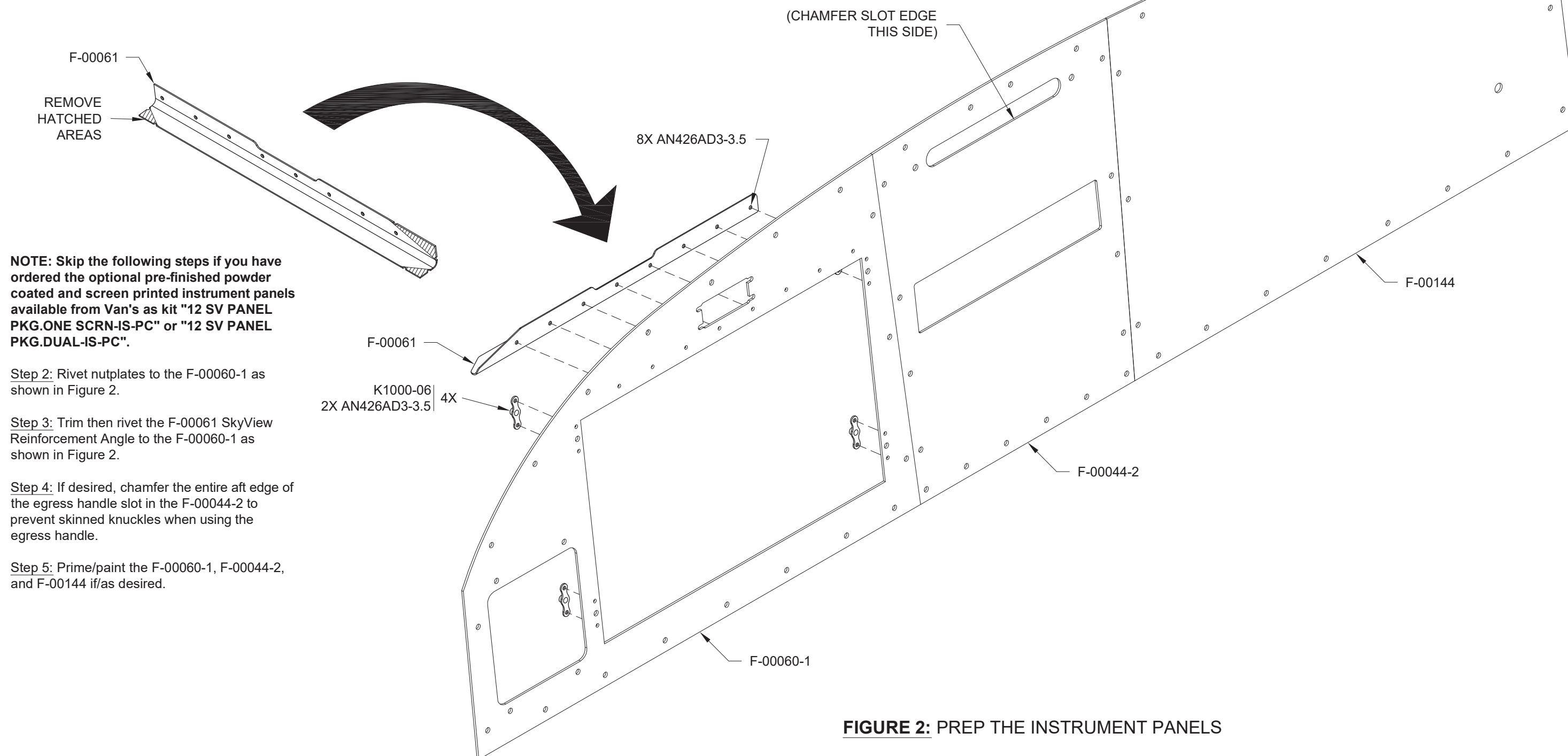


FIGURE 2: PREP THE INSTRUMENT PANELS

NOTE: Skip the following steps if you have ordered the optional pre-finished powder coated and screen printed instrument panels available from Van's as kit "12 SV PANEL PKG.ONE SCRIN-IS-PC" or "12 SV PANEL PKG.DUAL-IS-PC".

Step 2: Rivet nutplates to the F-00060-1 as shown in Figure 2.

Step 3: Trim then rivet the F-00061 SkyView Reinforcement Angle to the F-00060-1 as shown in Figure 2.

Step 4: If desired, chamfer the entire aft edge of the egress handle slot in the F-00044-2 to prevent skinned knuckles when using the egress handle.

Step 5: Prime/paint the F-00060-1, F-00044-2, and F-00144 if/as desired.



NOTE: The steps on this page apply to builders installing the Garmin GTR 200 COM radio. Builders installing the Trig TY96 COM radio may skip to page 42CiS/U-05.

NOTE: Review the assembly and installation drawings in the Garmin GTR 200 Installation Manual.

Step 1: Locate the 37-pin d-sub connector labeled "COM" on the WH-00133-1 RV-12iS Dynon Common Harness and place it inside the backshell provided with the GTR 200.

Step 2: Use the hardware provided with the Garmin GTR 200 to attach the Garmin backshell and BNC connector to the backplate. Verify proper orientation of the backshell on the backplate.

Step 3: Rivet the F-00055-L-1 & -R-1 GTR 200 Support Brackets and F-00054-L & -R Inst Stack Angle GTR 200s to the F-01202B-1 Panel Base as shown in Figure 1. Place the manufactured rivet heads on the bottom side of the F-01202B-1 (F-01202C-L & -R).

Step 4: Attach the 115-01878-00 GTR 200 Installation Rack to the F-00055-L-1 & -R-1 and F-00054-L & -R as shown in Figure 1.

Step 5: Install the backplate assembly into the 115-01878-00 GTR 200 Installation Rack.

Step 6: Connect the BNC connector labeled "COM" to the backplate assembly as shown in Figure 1.

Step 7: Insert the Garmin GTR 200 into the 115-01878-00 and secure it with the 3/32 hex drive tool in accordance with the Garmin GTR 200 Installation Manual. See Figure 1.

Step 8: Split, then install the snap bushings shown in Figure 1.

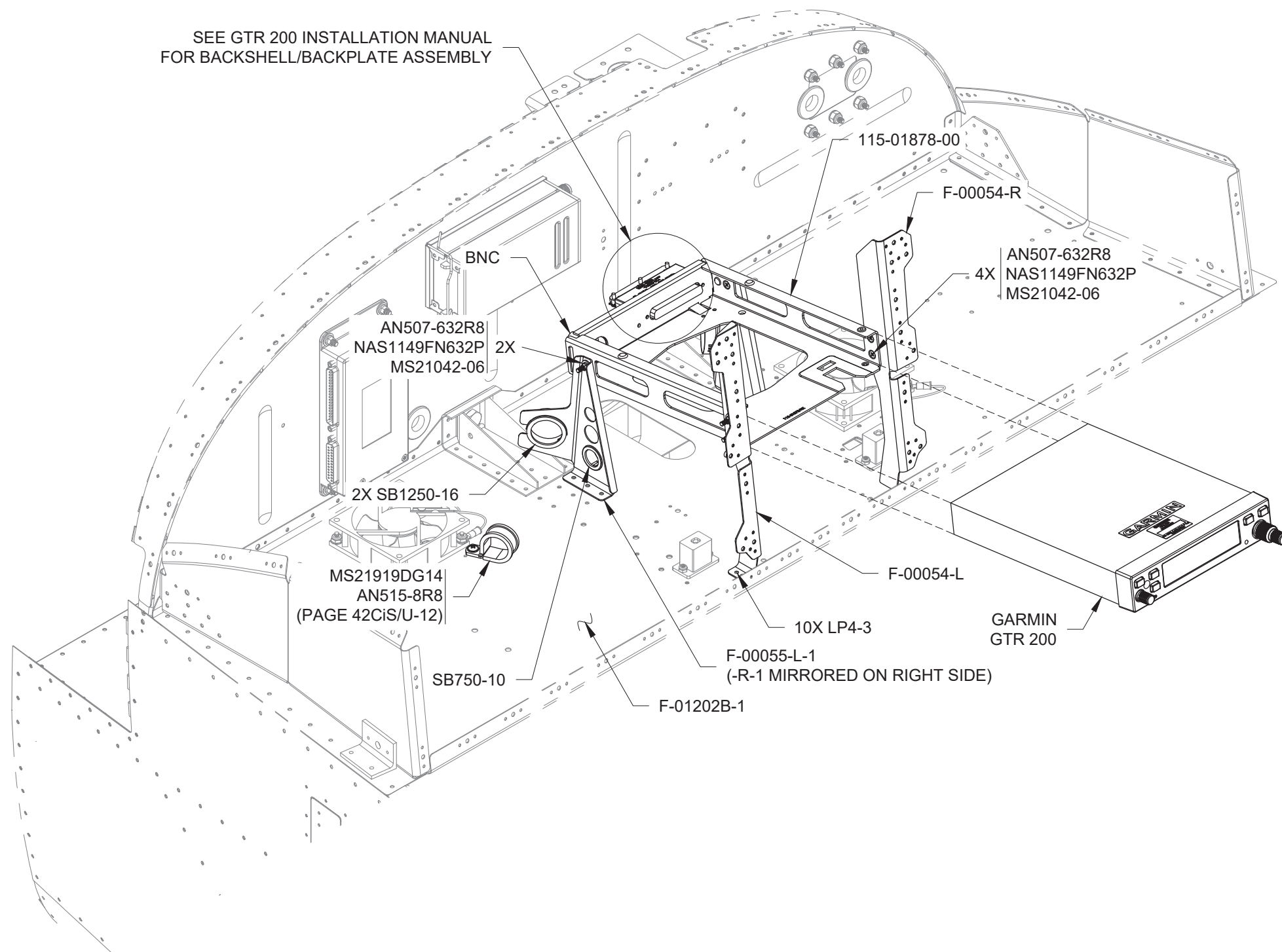
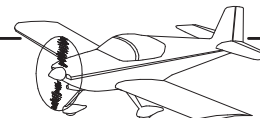


FIGURE 1: GARMIN GTR 200 INSTALLATION



NOTE: The steps on this page apply to builders installing a Trig TY96 Com Radio only. Builders installing the Garmin GTR 200 Com Radio may skip to page 42CiS/U-07.

Step 1: Cut the hatched area to separate the Trig Drill Guide from the F-00201-L and F-00201-R Trig TY96 Support Brackets as shown in Figure 1. Both drill guides are identical.

Step 2: Being mindful of the orientation chamfer, locate the Trig Drill Guide on the F-00054-L and F-00054-R with temporary fasteners as shown in Figure 2.

Step 3: Match-drill #27 the two holes from the Trig Drill Guide into the F-00054-L and F-00054-R as shown in Figure 2. Remove and discard the Trig Drill Guide when finished.

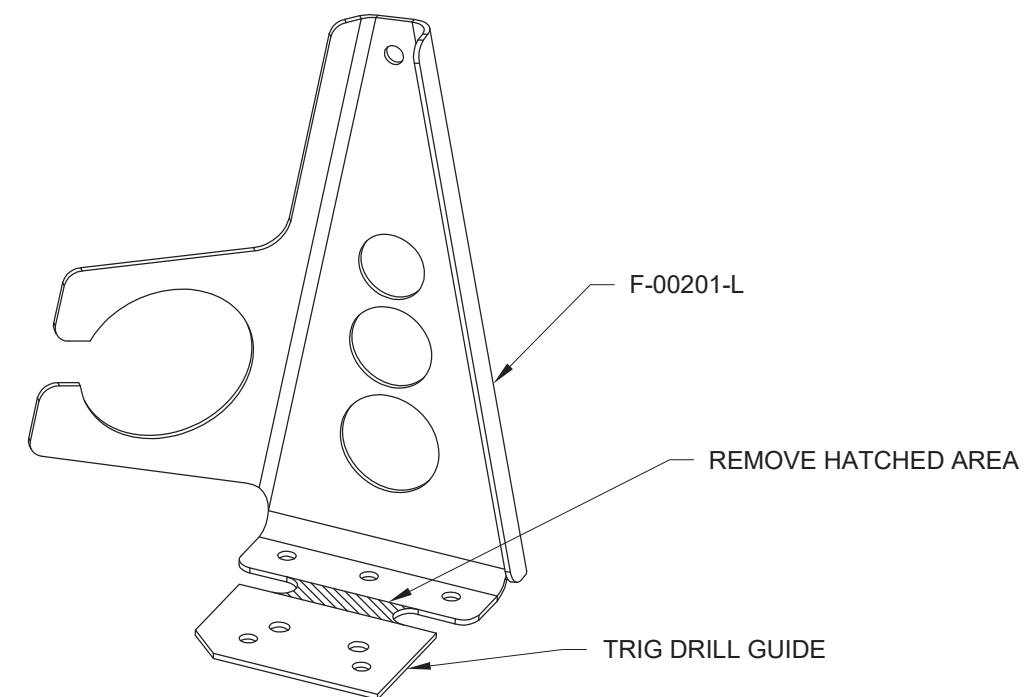


FIGURE 1: SEPARATING F-00201

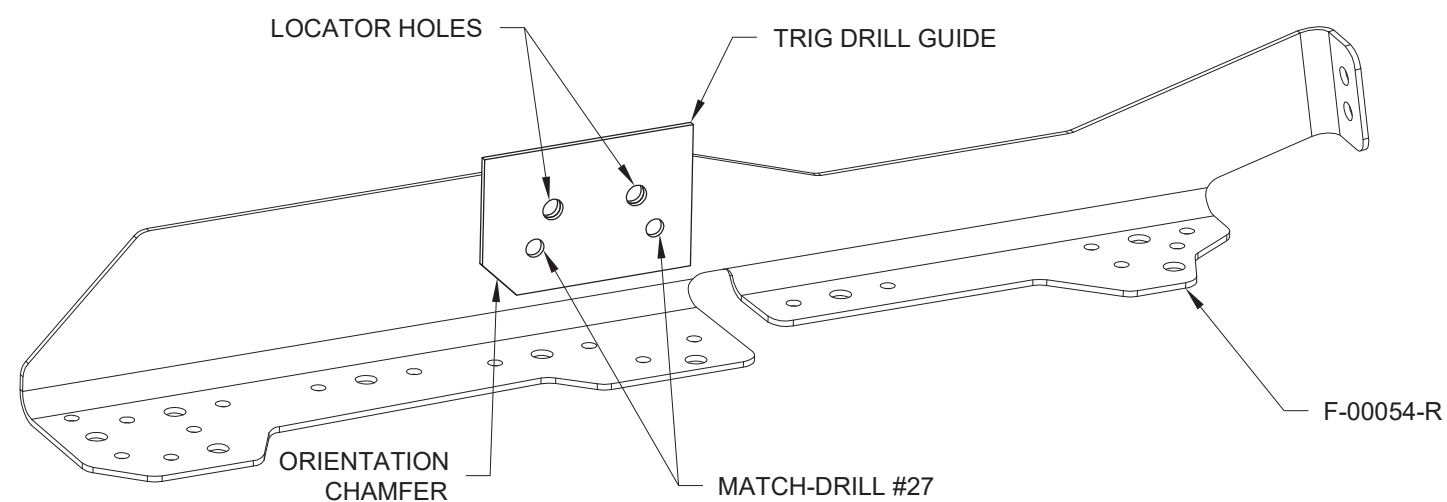


FIGURE 2: MATCH-DRILLING F-00054-R & -L



NOTE: The steps on this page apply to builders installing a Trig TY96 Com Radio only. Builders installing the Garmin GTR 200 Com Radio may skip to page 42CiS/U-07.

NOTE: Review the assembly and installation drawings in the Trig TY96 Installation Manual.

Step 1: Locate the 25-pin d-sub connector labeled "COM" on the WH-00133-1 RV-12iS Dynon Common Harness and place it inside the backshell provided with the Trig TY96.

Step 2: Use the hardware provided with the Trig TY96 to attach the Trig backshell and BNC connector to the backplate. Verify proper orientation of the backshell on the backplate.

Step 3: Secure all signal ground and shield ground ring terminals to the backplate as shown in the Trig TY96 Installation Manual.

Step 4: Rivet the F-00201-L & -R TY96 Support Brackets and F-00054-L & -R to the F-01202B-1 Panel Base as shown in Figure 1. Place the manufactured rivet heads on the bottom side of the F-01202B-1 (F-01202C-L & -R).

Step 5: Attach the TY96 Mounting Tray to the F-00201-L & -R and F-00054-L & -R as shown in Figure 1.

Step 6: Install the backplate assembly into the TY96 Mounting Tray as per the Trig TY96 Installation Manual.

Step 7: Connect the BNC connector labeled "COM" to the backplate assembly as shown in Figure 1.

Step 8: Insert and secure the Trig TY96 into the TY96 Mounting Tray in accordance with the Trig TY96 Installation Manual. See Figure 1.

Step 9: Split, then install the snap bushings shown in Figure 1.

Note: Throughout the rest of this section, all Com Radio and Support Bracket references and depictions refer to a GTR 200 and F-00055-L & -R. However, installation of further components is identical for the GTR 200 or Trig TY96 Systems.

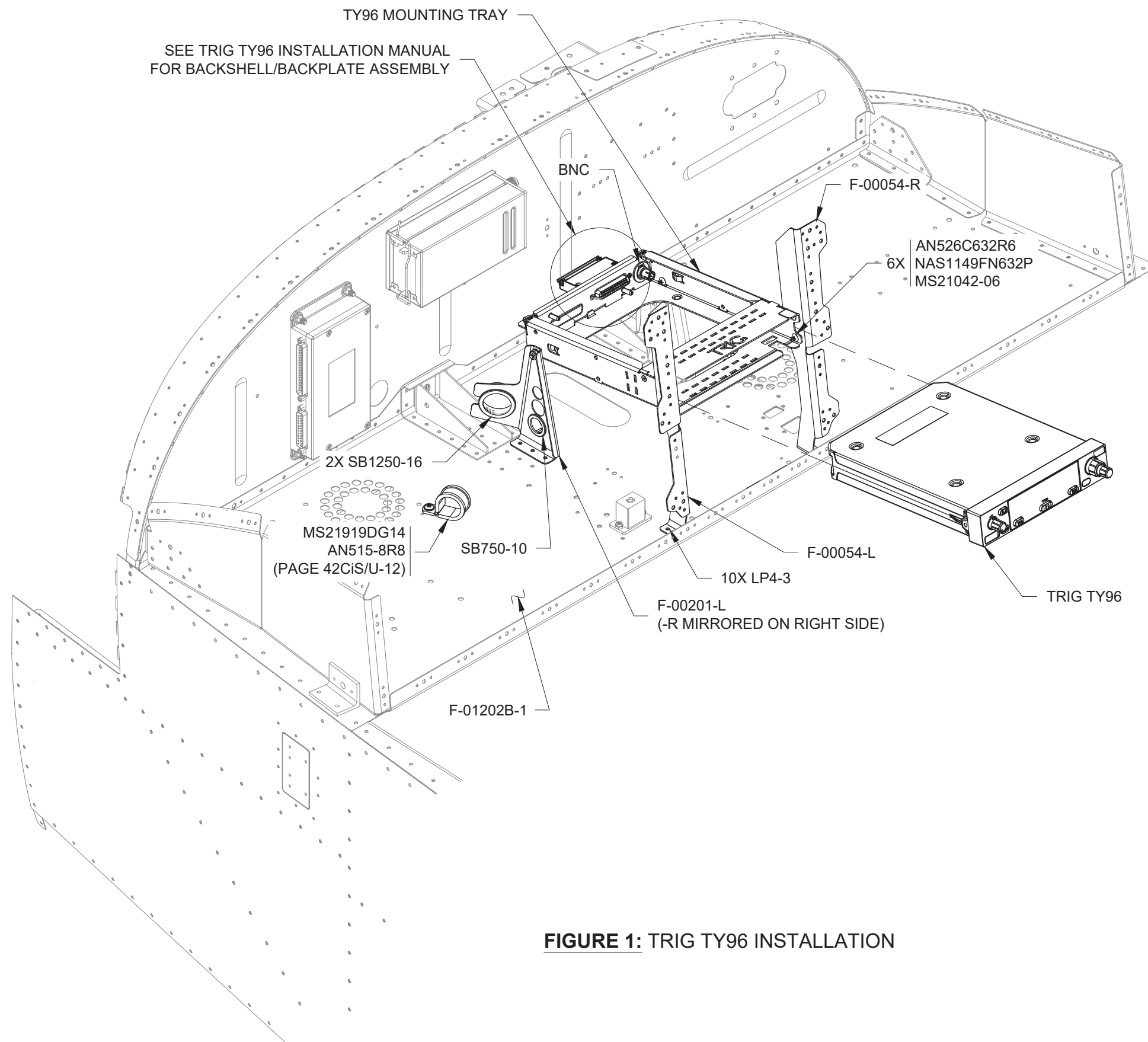


FIGURE 1: TRIG TY96 INSTALLATION

Step 1: Complete any further instructions supplied with the AV-E-04 ACK 406 Mhz ELT (e.g. E-04.5 ELT Cockpit Remote battery and E-04.7 Audio Alert Indicator installation).

Step 2: Attach the E-04.5 ELT Cockpit Remote, AV-60007 (ULS: AV-50002), and SV-HDX1100 to the F-00060-1 as shown in Figure 1.

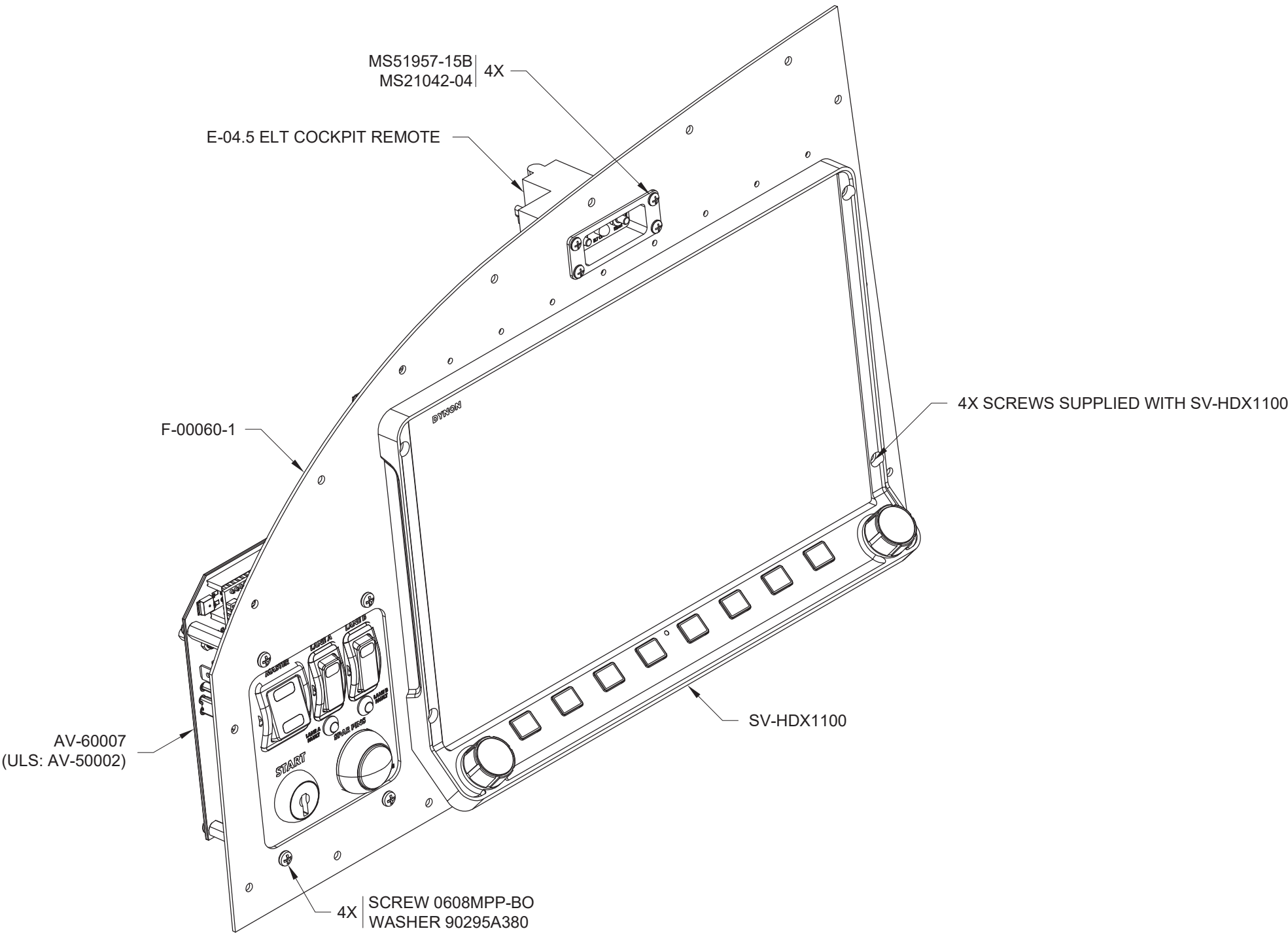


FIGURE 1: ATTACH AVIONICS TO LEFT INSTRUMENT PANEL

Step 1: Connect the 25-pin d-sub labeled "IGN MOD" on the WH-00133-1 RV-12iS Dynon Common Harness to the AV-60007 (ULS: AV-50002). See Figure 1.

Step 2: Connect the 37-pin d-sub and 9-pin d-sub labeled "PFD" to the SV-HDX1100. See Figure 1.

Step 3: Connect the E-04.10.3 ELT audio alert cable to the E-04.5 ELT Cockpit Remote. See Figure 1.

Step 4: Attach the SV-GPS-2020 to the F-01201R-1 Antenna Shelf as shown in Figure 1.

Step 5 ULS: Modify the F-00117 ECU Penetration Block Off to accommodate an AN931-4-12 grommet. Split the grommet and slip it over the SV-GPS-2020 wiring. Install the F-00117 with grommet on the F-01201A-1 Firewall Top using the hardware shown in Figure 1. Seal the grommet with fuel tank sealant.

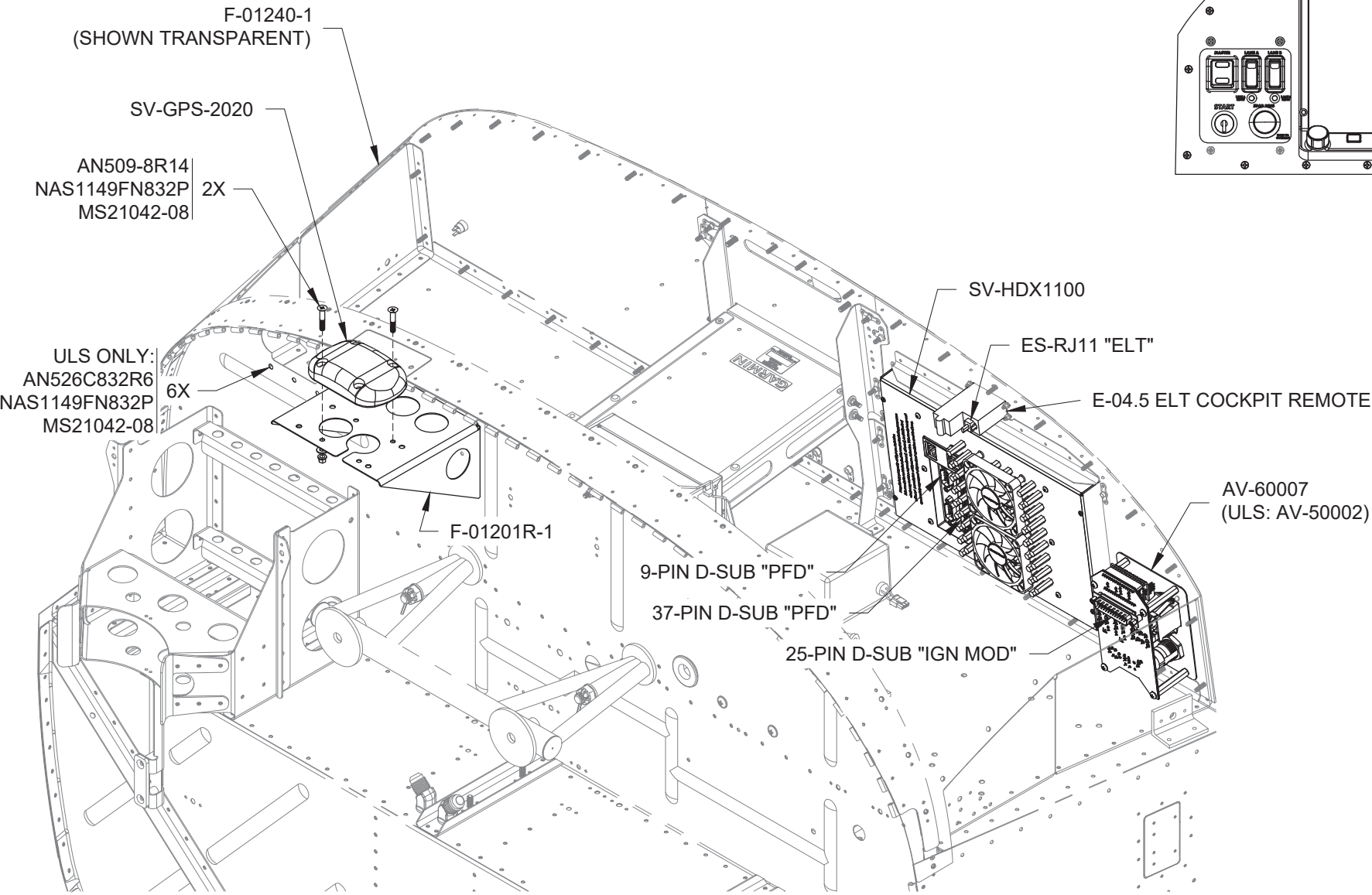


FIGURE 1: CONNECT AVIONICS

Step 6: Attach the co-pilot push-to-talk switch labeled "PTT" on the WH-00133-1 to the F-00144 as shown in Figure 2. Discard the included metal nut and star washer prior to installation. Skip this step if you will be installing the optional dual display kit.

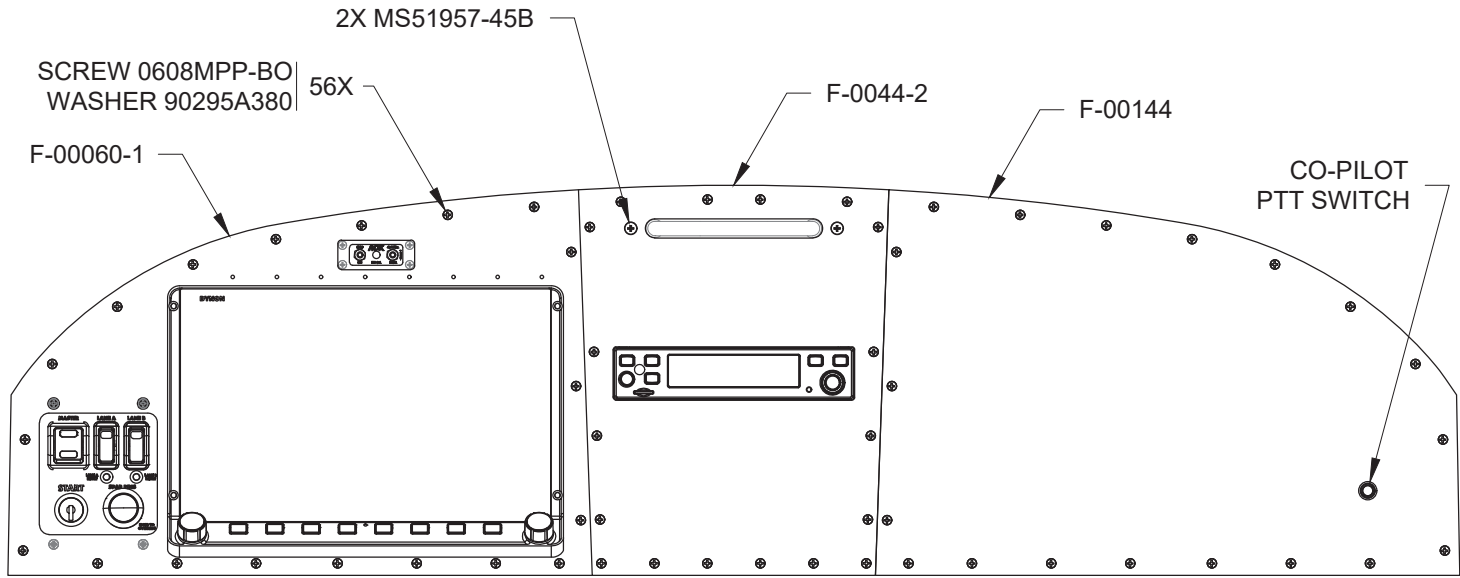


FIGURE 2: ATTACH INSTRUMENT PANELS



Step 1: Counting forward from the aft most rivet, remove the tenth rivet from the F-1283C J-Stiffener. See Figure 1 and Page 42CiS/U-01.

Cleco the F-00062 to the F-1283C where the rivet was just removed.

Step 2: Align the F-00062 perpendicular to the F-1283C.

Step 3: Match-Drill #30 the holes in the F-00062 into the F-1278 Top Skin. See Figure 1. Deburr all of the holes.

Step 4: Rivet the F-00062 to the F-1283C and F-1278 from the outside of the fuselage. See Figure 1.

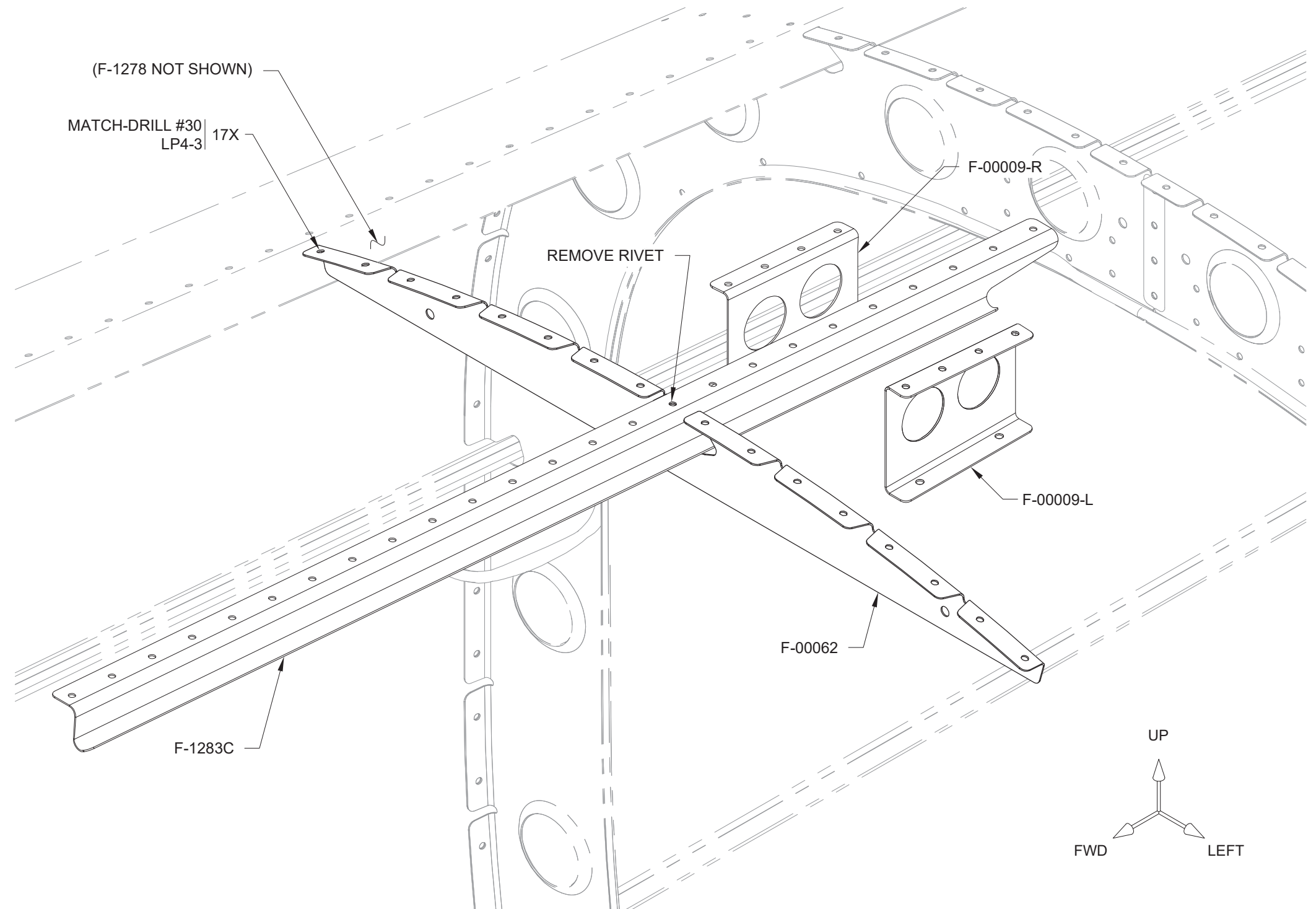


FIGURE 1: INSTALLING THE ADAHRS STIFFENER

Step 1: Install the FLF-00007 into the SV-ADAHRS-200 as shown in Figure 1.

Step 2: Attach the SV-ADAHRS-200 to the F-00009-L & -R ADAHRS Brackets as shown in Figure 1. **DO NOT** use a magnetic driver. Doing so has the potential to affect the factory magnetic calibration.

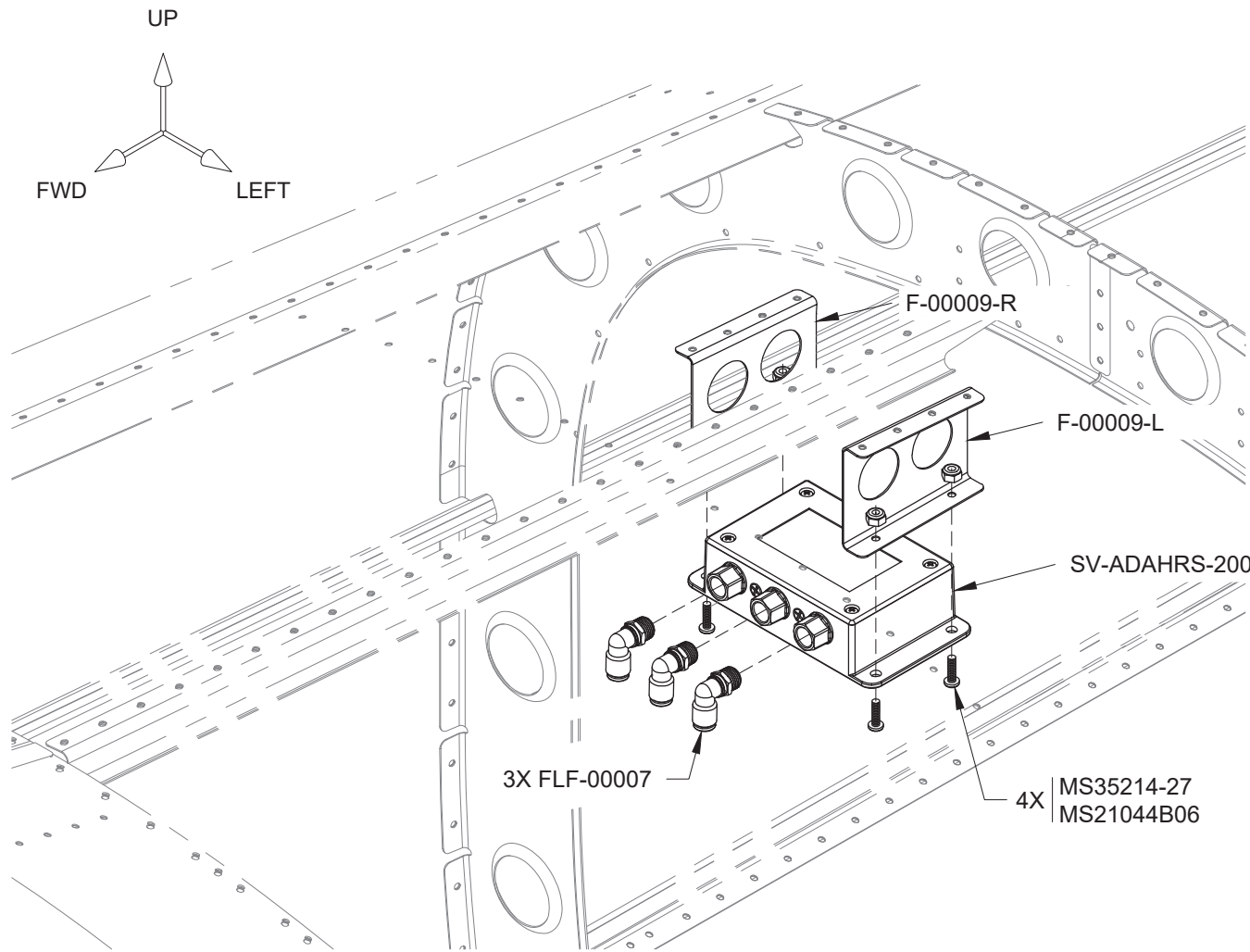


FIGURE 1: ADAHRS INSTALLATION

Step 3: Connect the 9-pin d-sub labeled "ADAHRS" on the WH-00133-1 RV-12iS Dynon Common Harness to the SV-ADAHRS-200 as shown in Figure 2.

Step 4: Locate the F-00213 Dynon AOA Line that was coiled in the aft fuselage in Section 42MiS/U. Identify the Aft Pitot Line that was installed in Section 10iS/U.

Step 5: Route the F-00213 aft, up, and inboard along the Aft Pitot Line until it reaches the SV-ADAHRS-200. See Figure 2.

Step 6: Mark the F-00013, F-00213, and Aft Pitot Line 7/16 in. [11.1 mm] from their ends.

NOTE: Ensure that the F-00013, Aft Pitot Line, and F-00213 are free from debris before connecting them to the SV-ADAHRS-200.

Step 7: Insert the marked ends of the lines into their corresponding FLF-00007 until the marks align with the end of each FLF-00007. See Figure 2.

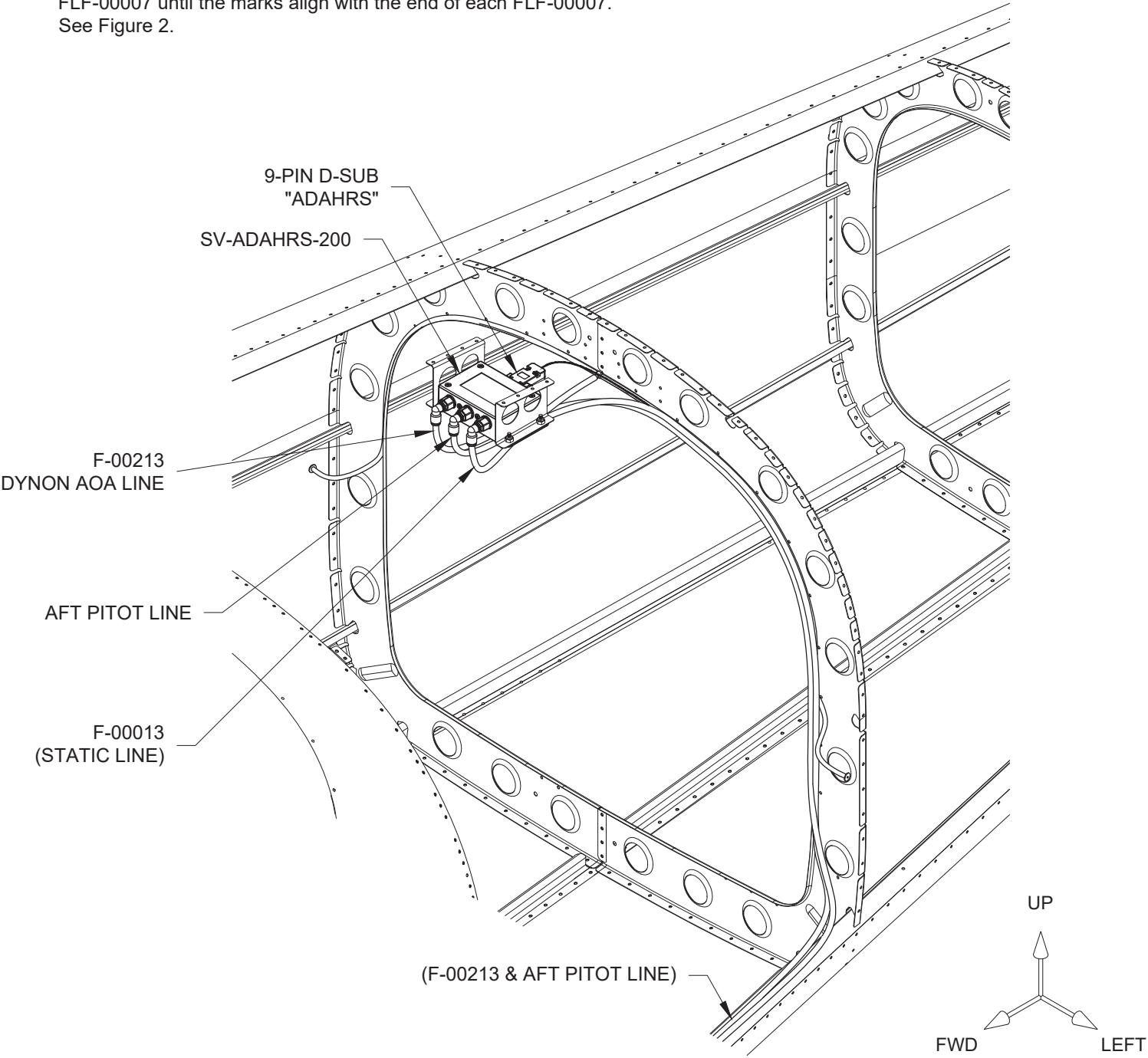
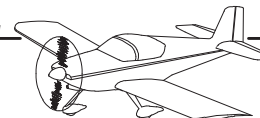


FIGURE 2: ADAHRS CONNECTIONS



Step 1: Locate the free end of the Aft Pitot Line (installed in Section 10iS/U). Locate the free end of the FF-1216 Pitot Line (installed in Section 47iS/U).

Step 2: Route the free end of the Aft Pitot Line forward through the snap bushings to just under the F-01202B-1 Panel Base as shown in Figure 1. Follow the same routing as the CT-01204 Fuel Shutoff Cable Assembly (upper snap bushings) and then secure with a cable tie using the left side standoff in F-12103-1.

Step 3: Route the FF-1216 through the SB750-10 snap bushing installed in the F-00055-L-1 GTR 200 Support Bracket and down through the F-01202B-1 Panel Base. See Figure 1 and Page 42CiS/U-04.

Step 4: Ensure that the entire length of the Aft Pitot Line is free of kinks, interference, and potential chafing.

Step 5: Trim the free ends of the FF-1216 and Aft Pitot Line so that their lengths overlap by 1 in. [25.4 mm]. The trimmed Aft Pitot Line is now the F-00215 Dynon Aft Pitot Line.

Step 6: Ensure that the F-00215 and FF-1216 are free from debris and then connect them as shown in Figure 1.

Step 7: Feed the WH-00060 OAT Wiring Harness first through the hole in the F-1275C-L Fuselage Corner Skin and then through the nylon washer and nut supplied with the OAT probe. Twist the wires together to facilitate installation. See the detail view in Figure 1.

Step 8: Route the WH-00060 forward through the ES-00301 Lightening Hole Tie-Wrap Clip and then aft along the F-00213 as shown in Figure 1.

Step 9: Connect the 2-pin Molex connector on the WH-00060 to the SV-ADAHRS-200.

Step 10: Finish installation of the OAT probe by carefully tightening the nylon nut.

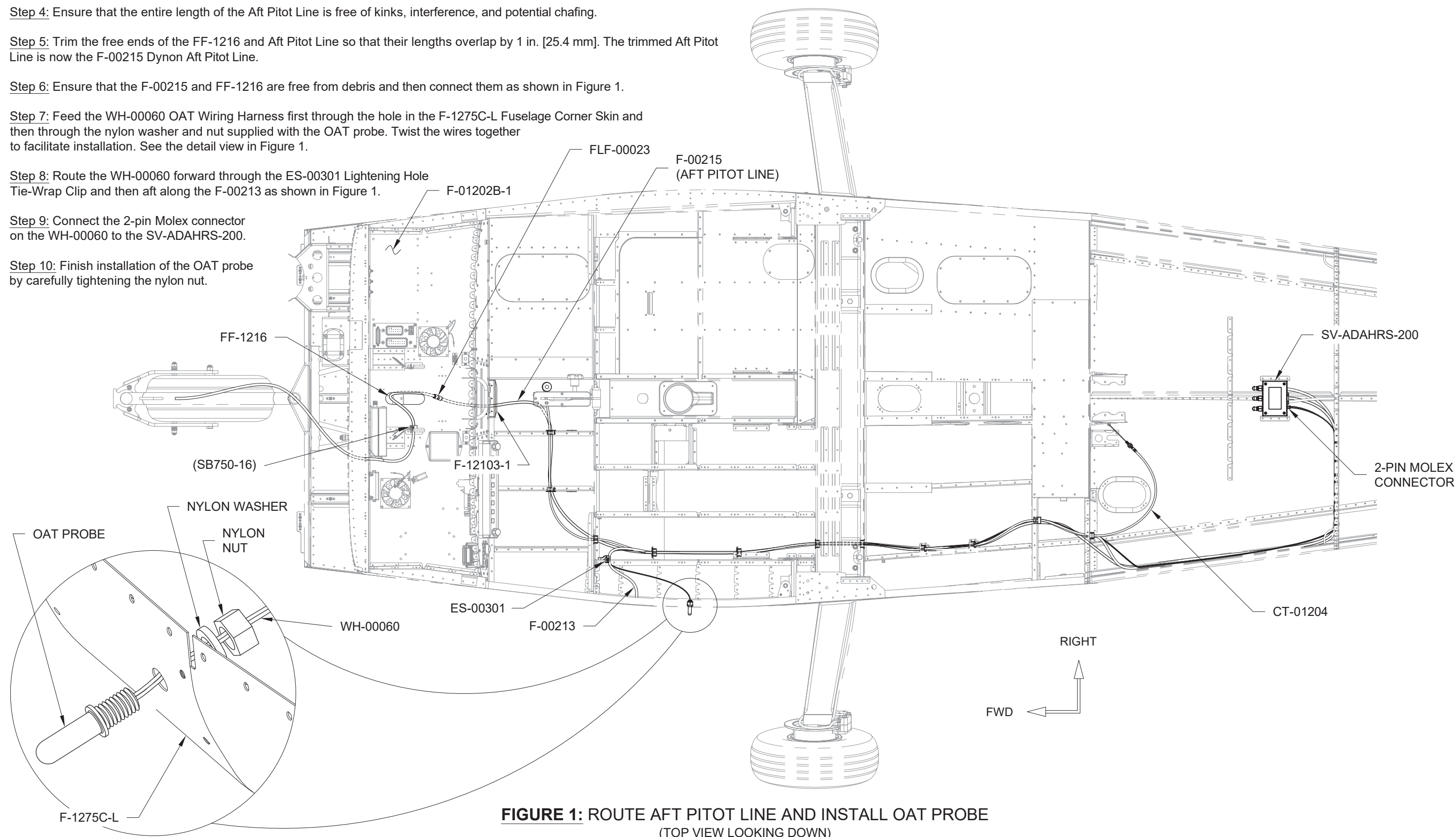


FIGURE 1: ROUTE AFT PITOT LINE AND INSTALL OAT PROBE
(TOP VIEW LOOKING DOWN)



Step 1: Attach a cushioned clamp to the F-01202B-1 Panel Base just aft of the fan as shown in Figure 1 on Page 42CiS/U-04.

Step 2: Gather the unsecured portions of the WH-00133 that lie forward of the instrument panels and route them through the larger snap bushings installed in the F-00055-L-1 & -R-1 GTR 200 Support Brackets. See Figure 1 on Page 42CiS/U-04.

Step 3 (iS): If not installing a dual display, secure the 37-pin d-sub and 9-pin d-sub labeled "MFD" to the ECU cables using plastic tie wraps. See Figure 1 on Page 42CiS/U-14.

Step 4 (ULS): If not installing a dual display, secure the 37-pin d-sub and 9-pin d-sub labeled "MFD" to the F-00055-L-1 & -R-1 GTR 200 Support Brackets, or similar, using plastic tie wraps.

Step 5: Examine all wiring for potential movement and/or chafing. Adjust and tie wrap wiring as required to secure wires and eliminate chafing. Refer to the figures on this and the following pages for suggested tie wrap locations forward of the instrument panels.

Step 6: Reinstall the F-01240-1 Forward Upper Fuselage Skin. Refer to Section 29iS/U as required.

Step 7: If not installing a dual display, attach the F-00060-1, F-00044-2, and F-00144 to the aircraft as shown in Figure 2.

NOTE: Final setup of the Dynon Avionics will occur as part of the Production Acceptance Procedures.

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

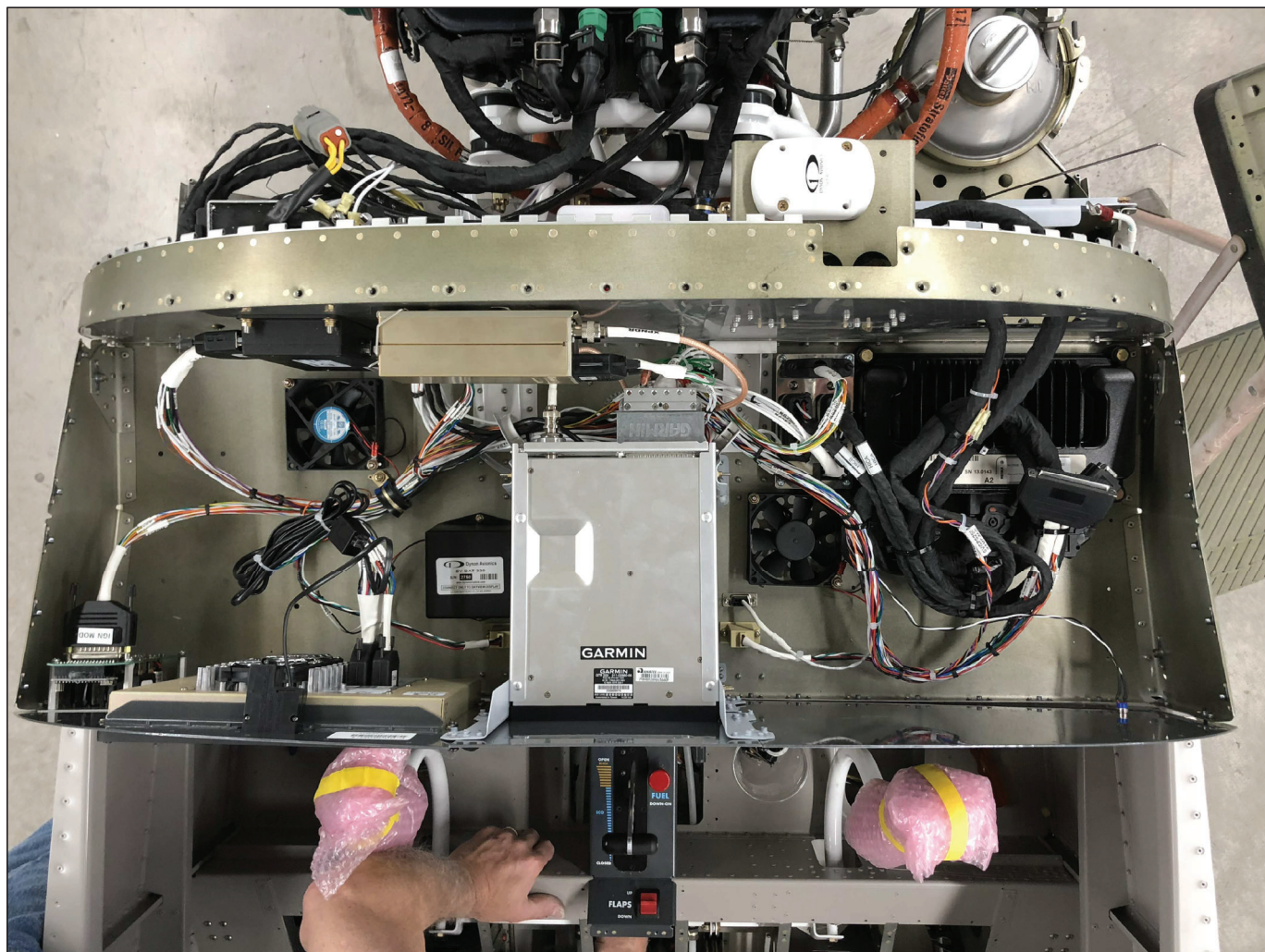


FIGURE 1: WIRE ROUTING - TOP VIEW

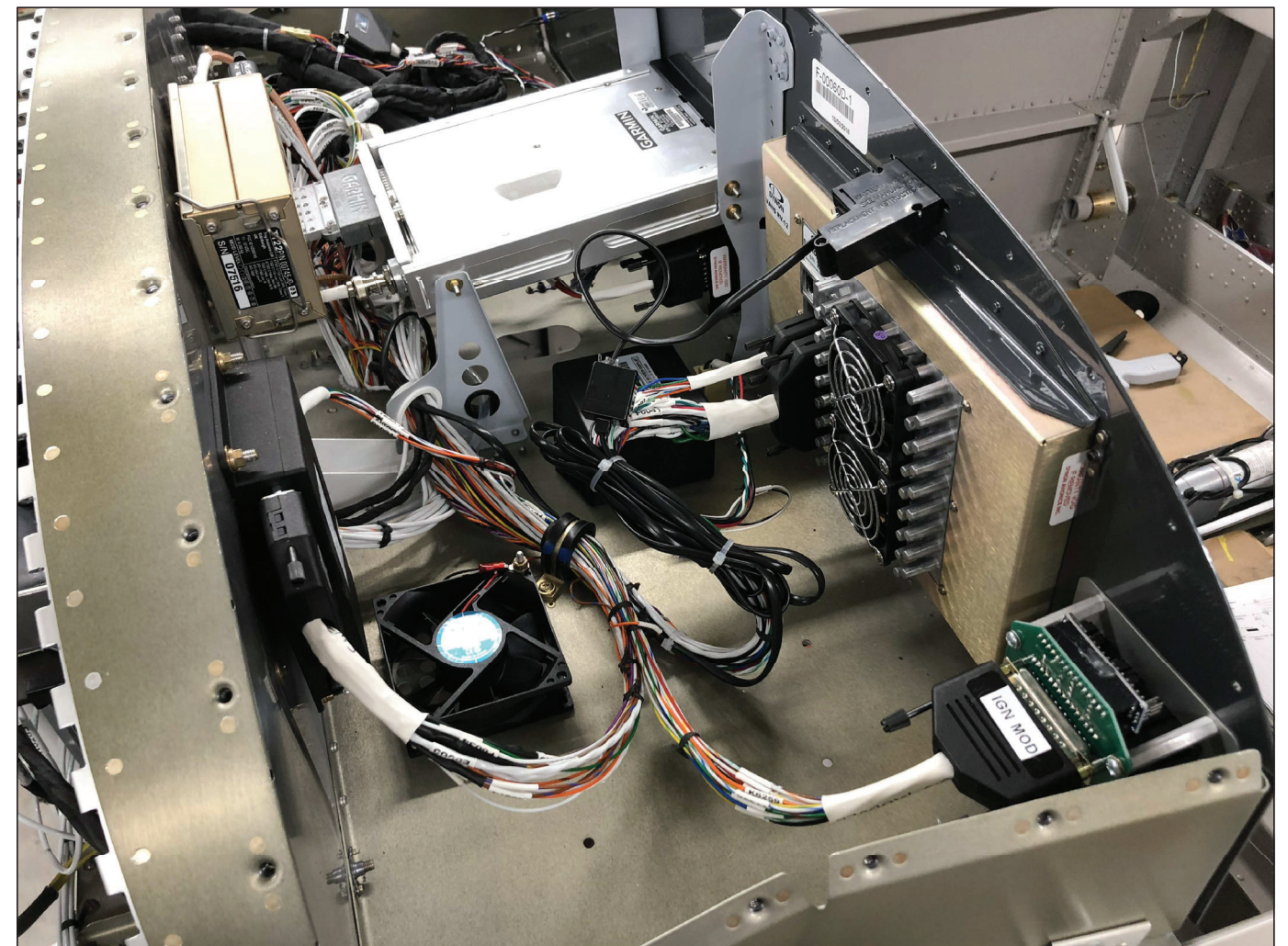


FIGURE 2: WIRE ROUTING - LEFT SIDE



FIGURE 1: WIRE ROUTING - RIGHT SIDE

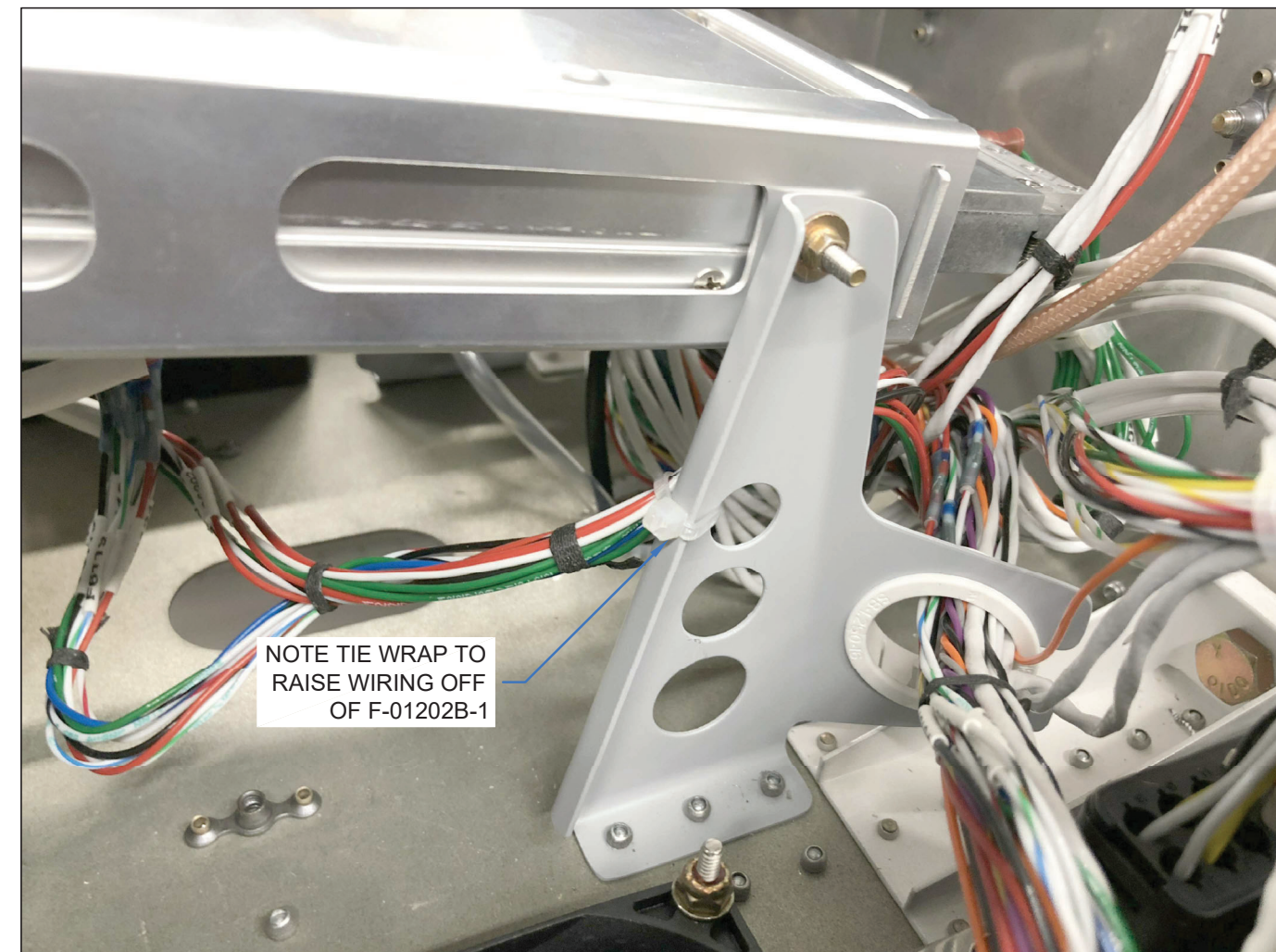
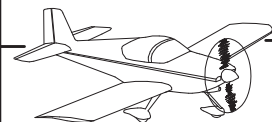


FIGURE 2: WIRE ROUTING - RIGHT SIDE & GTR 200 SUPPORT BRACKET



END OF SECTION

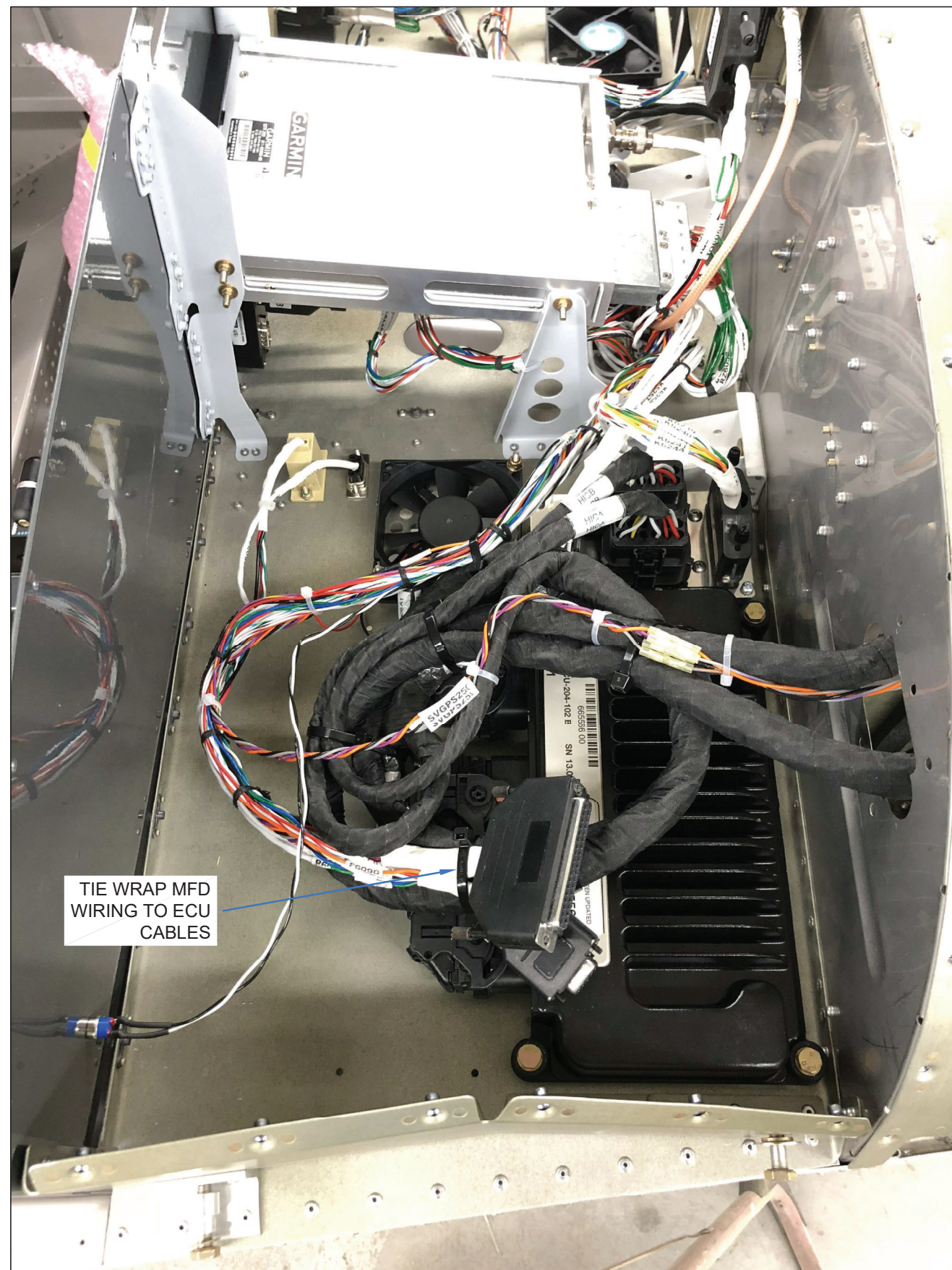


FIGURE 1: WIRE ROUTING - RIGHT SIDE & MFD WIRING