

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-00134-2 RV-12iS Garmin Common Harness (VFR) to the GMU 11.

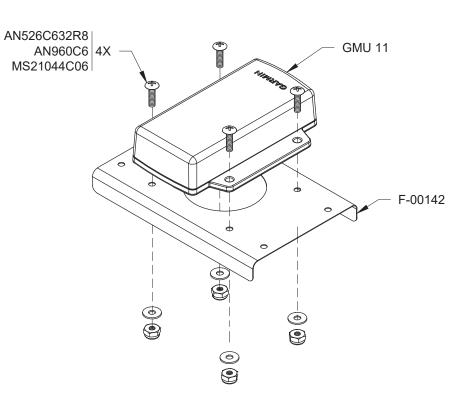


FIGURE 1: GMU 11 INSTALLATION

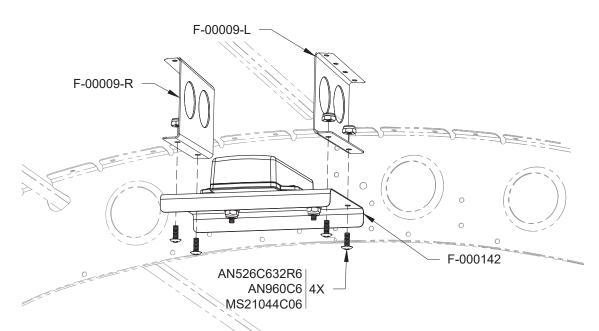
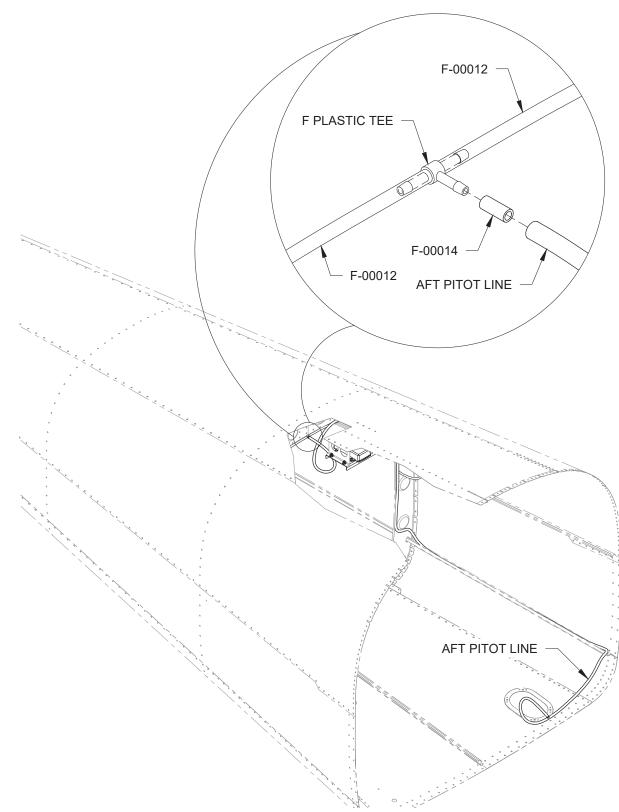


FIGURE 2: MOUNTING THE GMU 11

<u>Step 4:</u> 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.



<u>...</u>

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

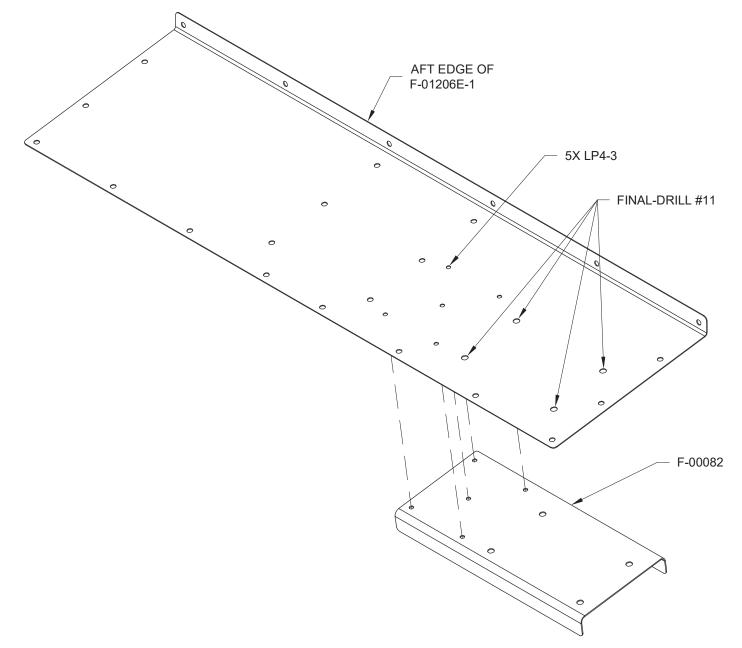
Step 2: Cleco the F-00082 ADAHRS Stiffener to the F-01206E-1. Final-Drill #11 the four holes indicated in Figure 1. Disassemble and debur.

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.



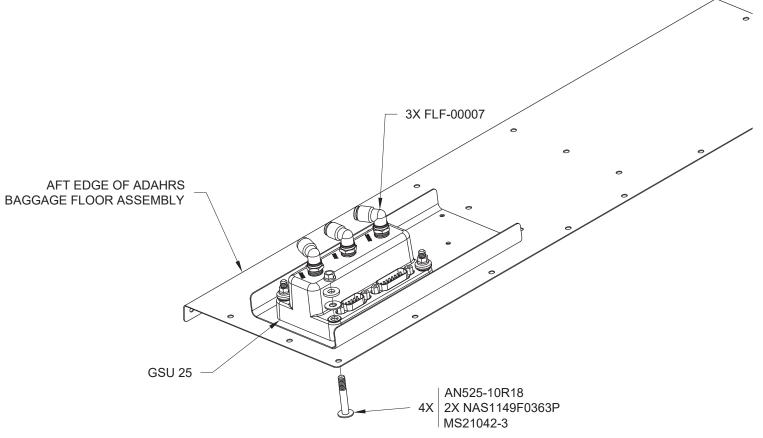


FIGURE 2: INSTALLING THE ADAHRS

FIGURE 1: ADAHRS BAGGAGE FLOOR ASSEMBLY

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.

<u>Step 9:</u> 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.

<u>Step 10:</u> Connect the 15-pin d-sub and 9-pin d-sub connectors labeled "ADAHRS" from the WH-00134-2 RV-12iS Garmin Common Harness (VFR) 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.

<u>Step 12:</u> 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.

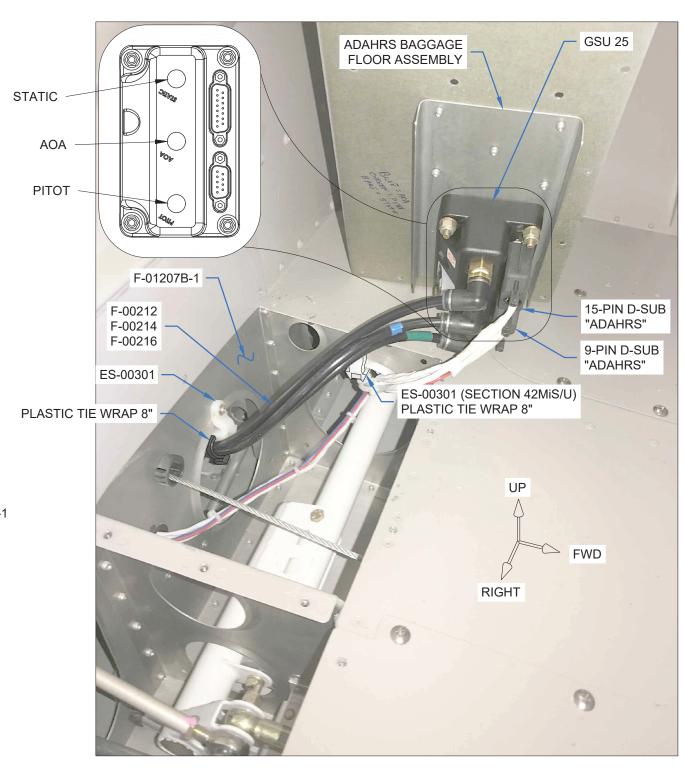
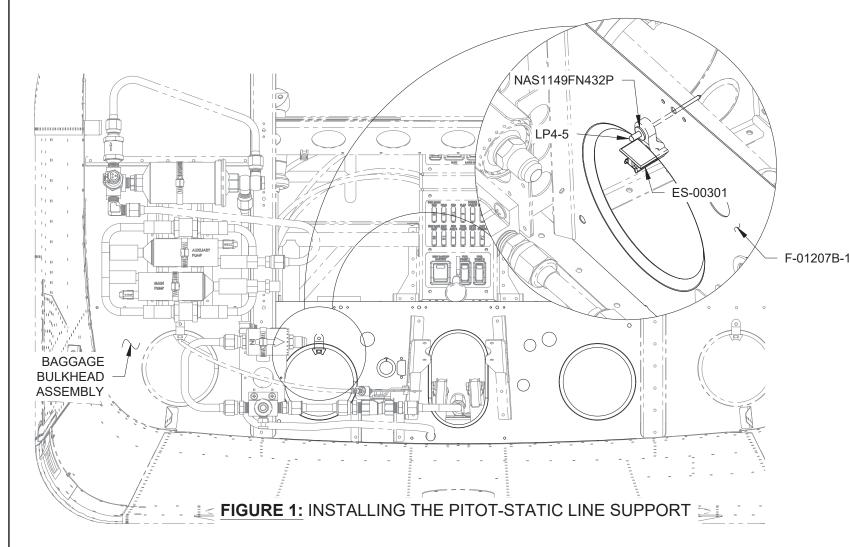
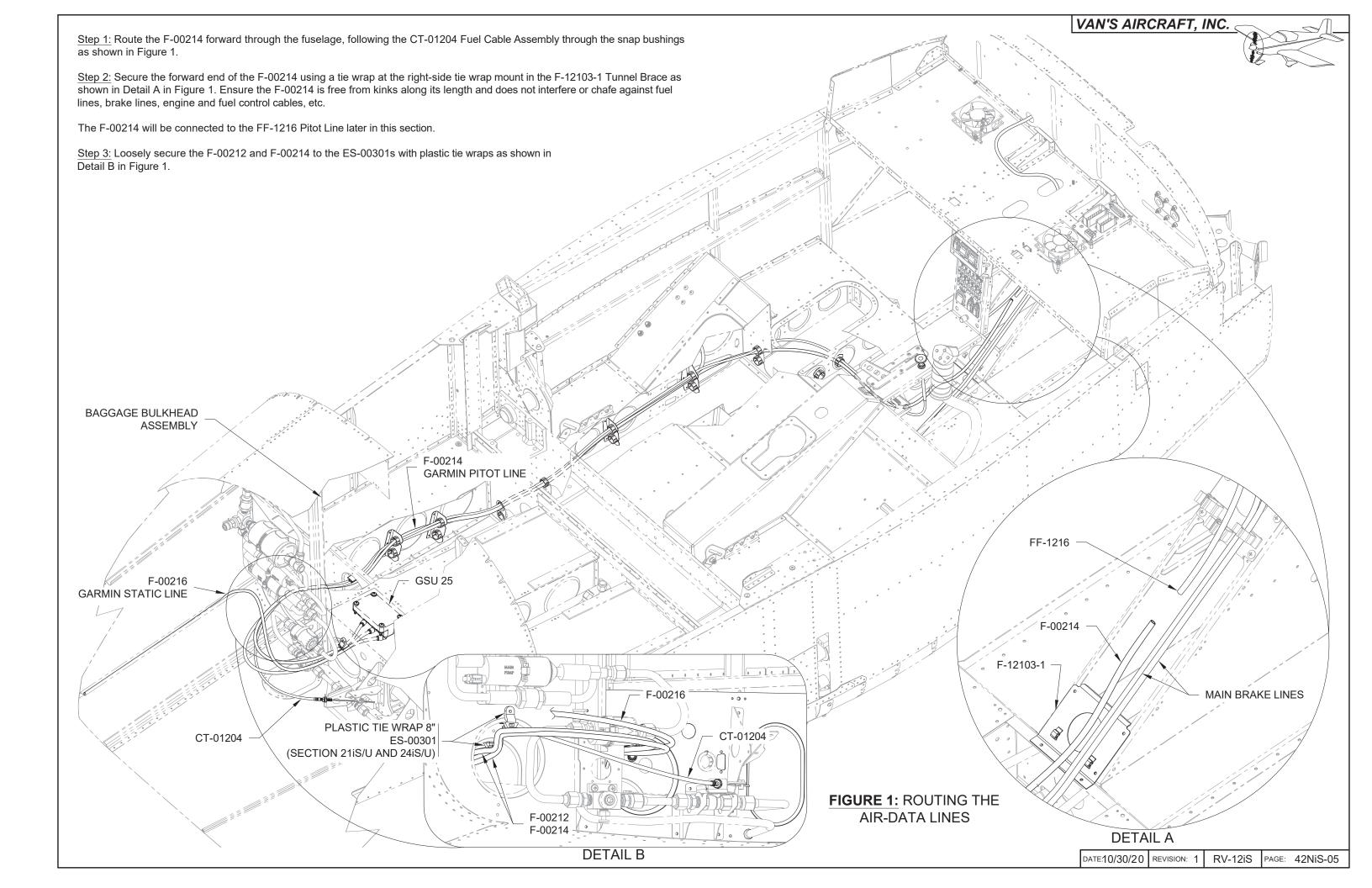
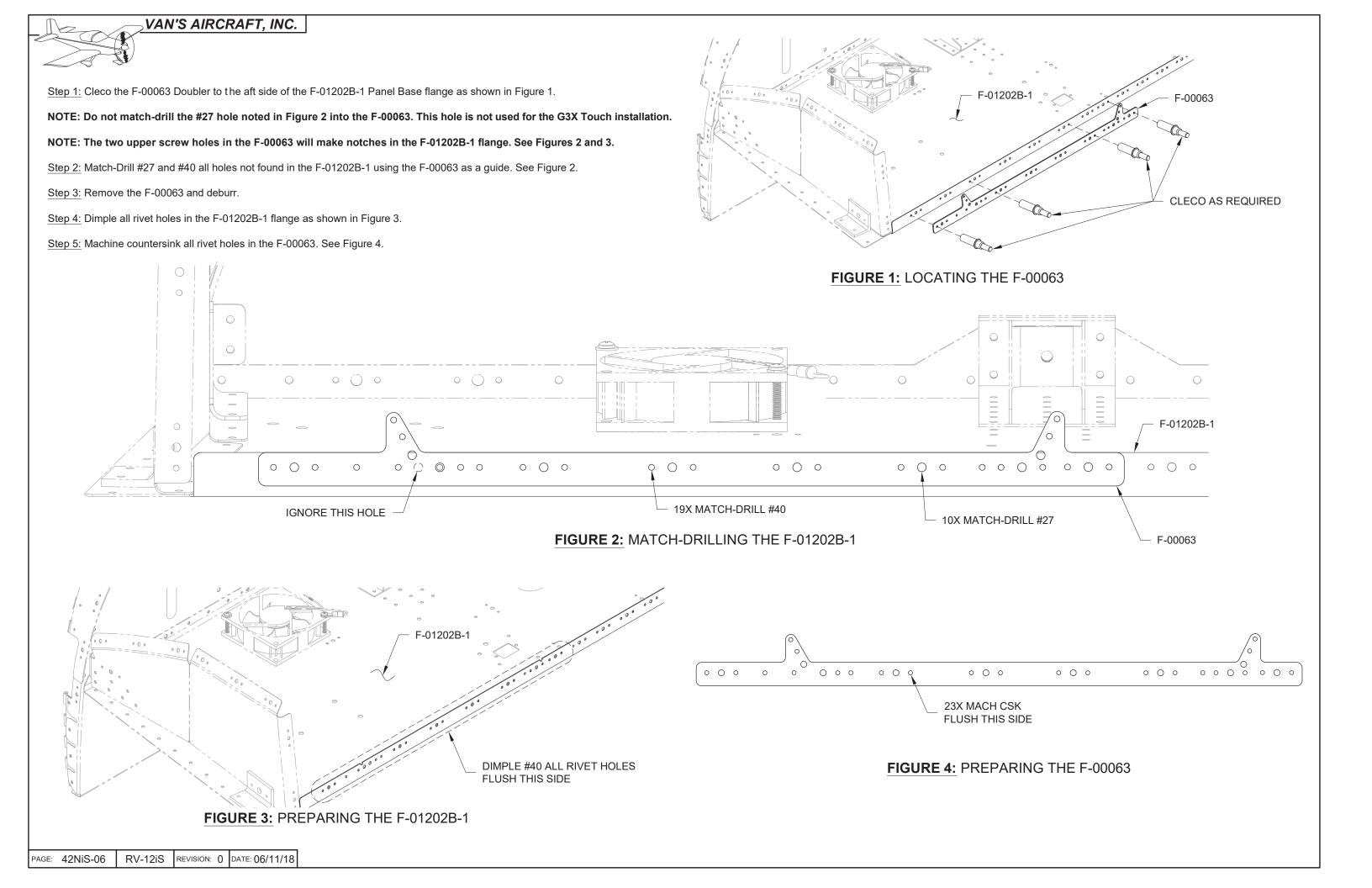


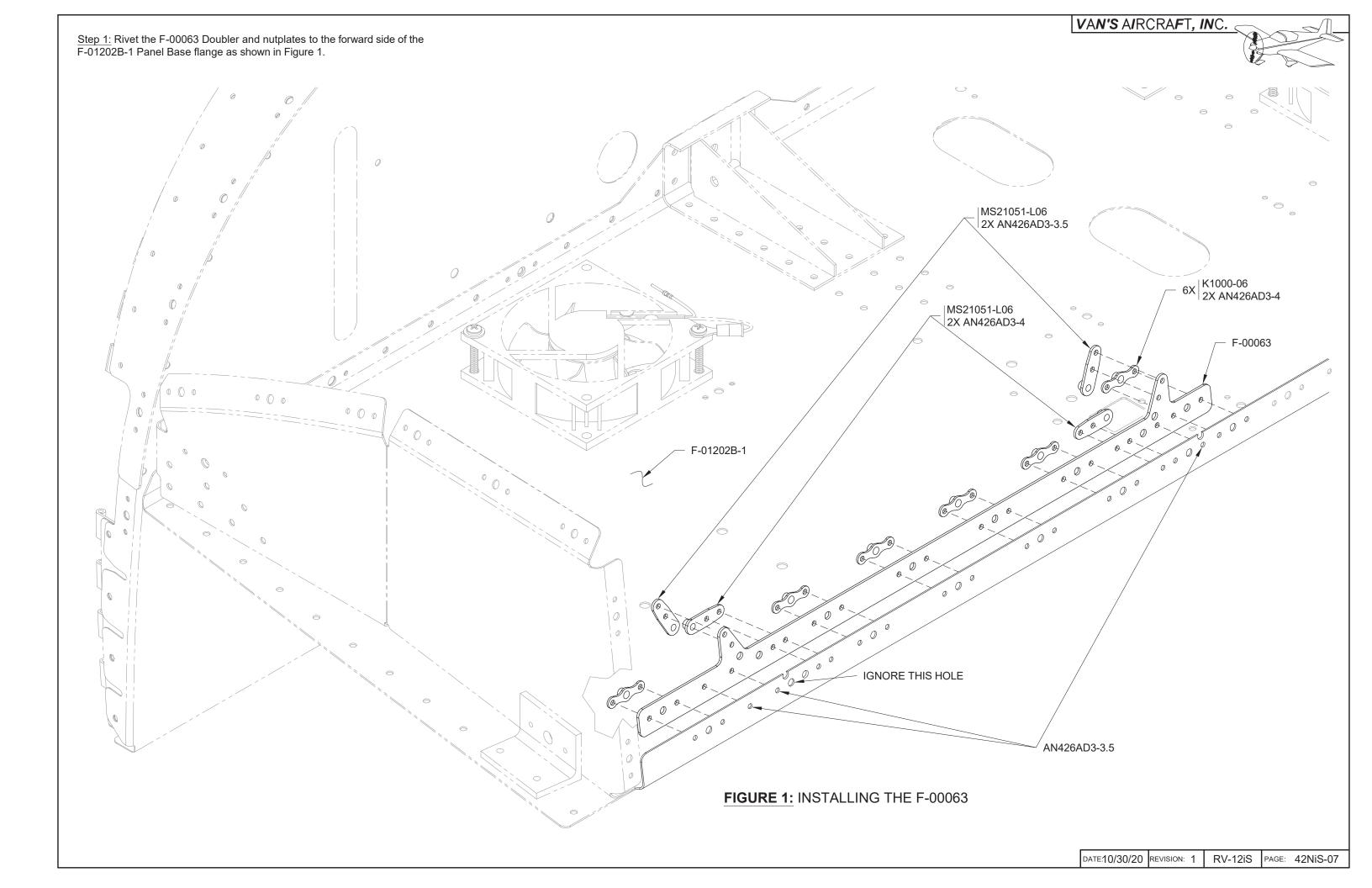
FIGURE 2: WIRING AND PLUMBING THE GSU 25



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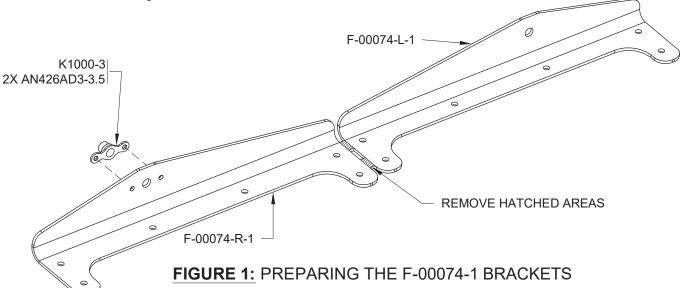






Step 1: Separate the F-00074-1 Garmin Xpndr Firewall Brackets as shown in Figure 1.

Step 2: Machine countersink the nutplate rivet holes in the F-00074-R-1, then install the nutplate as shown in Figure 1.



NOTE: Steps 3 and 4 apply to builders installing a Garmin GTR 200 Com Radio Only. Builders installing a Trig TY96 Com Radio may skip to Step 5.

Step 3: Machine countersink the nutplate rivet holes in one F-00076 Garmin Xpndr Brkt Left, then install the nutplates as shown in Figure 2. This is now the Left Garmin Xpndr Bracket.

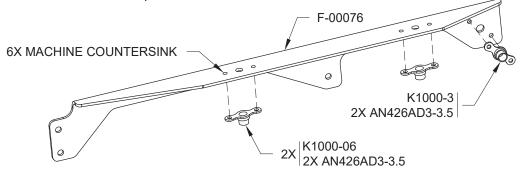


FIGURE 2: PREPARING THE LEFT GARMIN XPNDR BRACKET

Step 4: Machine countersink the nutplate rivet holes in the other F-00076, then install the nutplates as shown in Figure 3. This is now the Right Garmin Xpndr Bracket.

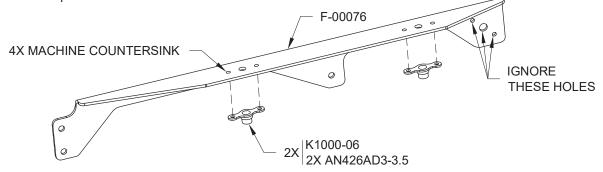


FIGURE 3: PREPARING THE RIGHT GARMIN XPNDR BRACKET

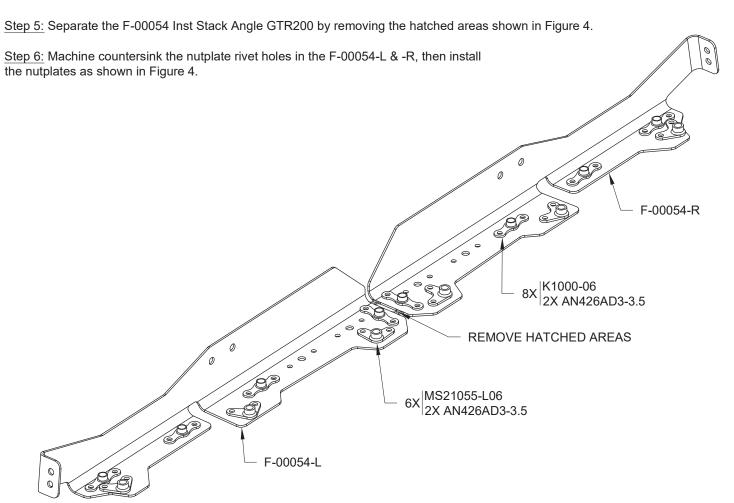


FIGURE 4: PREPARING THE F-00054 BRACKETS

<u>Step 7:</u> Separate the TOOL-00004 Garmin RV-12iS Drill Templates into the three drill guides by removing the hatched areas shown in Figure 5.

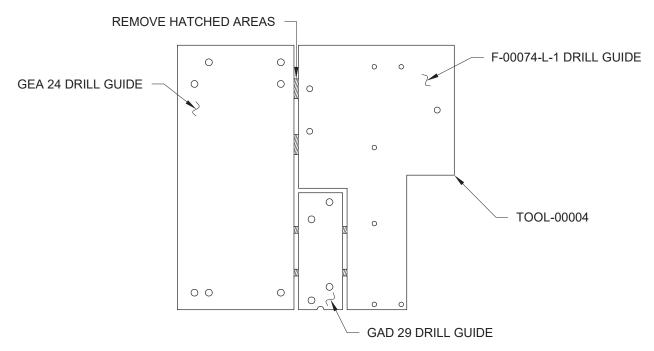
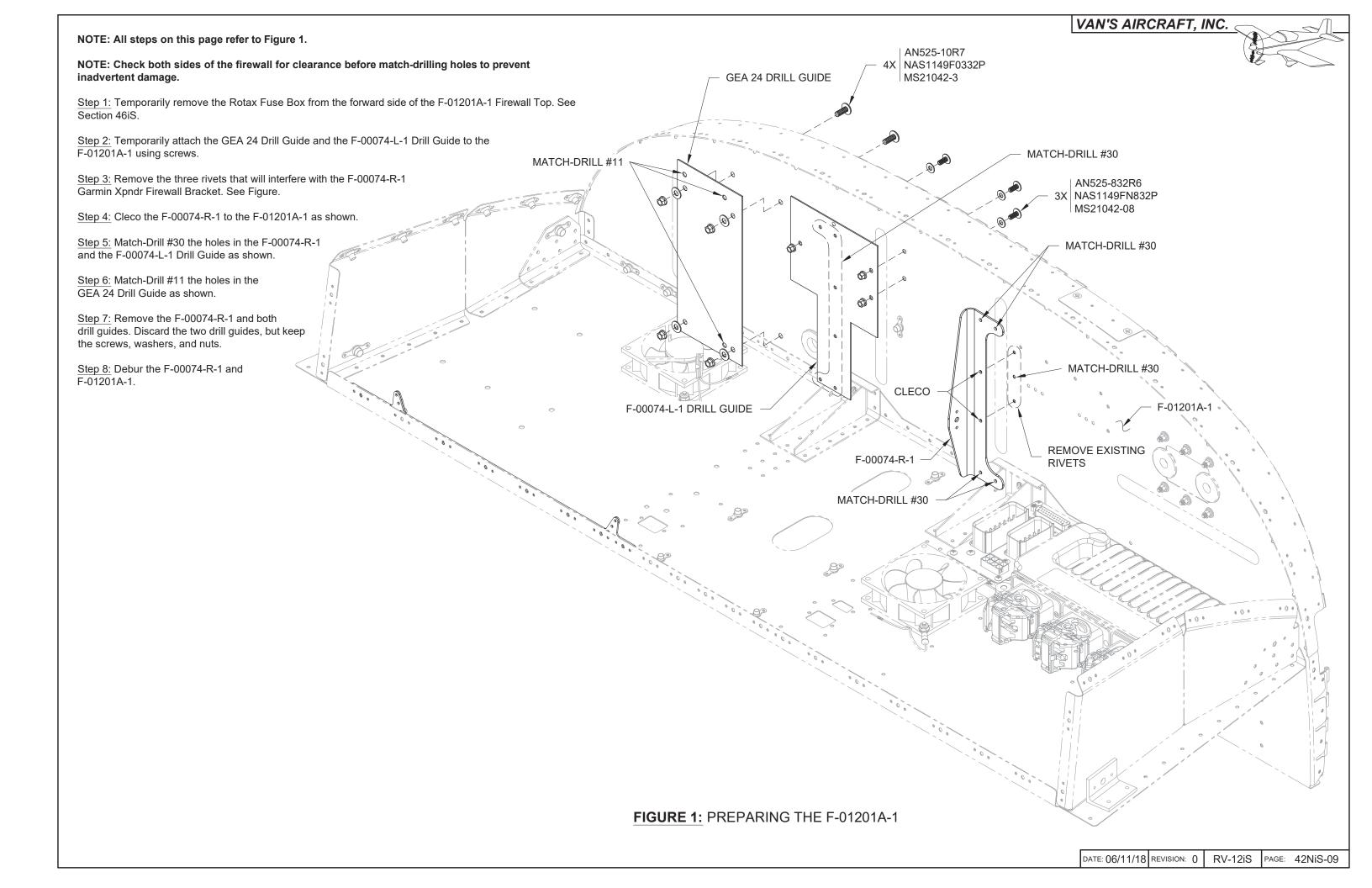


FIGURE 5: SEPARATING THE DRILL GUIDES





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 42NiS-11.

Step 1: Remove 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.

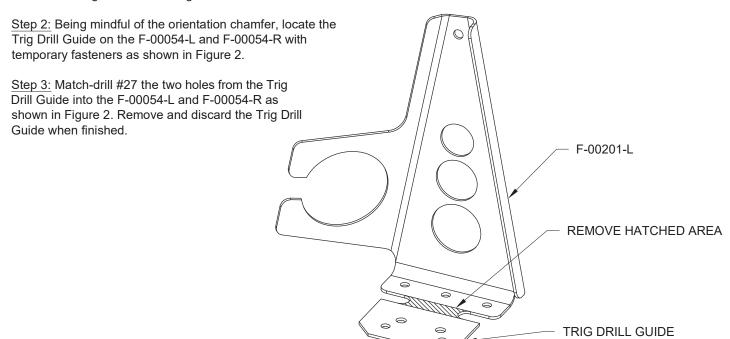


FIGURE 1: SEPARATING F-00201

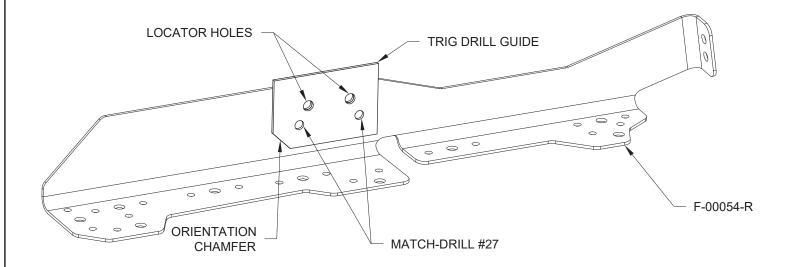


FIGURE 2: MATCH-DRILLING F-00054-R & -L

<u>Step 4:</u> Machine countersink the nutplate rivet holes in one F-00202 Trig/Garmin Xpndr Bracket, then install the nutplates as shown in Figure 3. This is now the Left Garmin Xpndr Bracket.

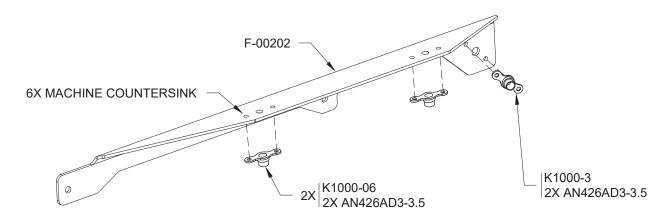


FIGURE 3: LEFT GARMIN XPNDR BRACKET

<u>Step 5:</u> Machine countersink the nutplate rivet holes in the other F-00202, then install the nutplates as shown in Figure 4. This is now the Right Garmin Xpndr Bracket.

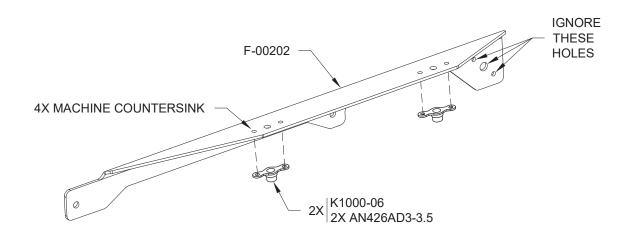
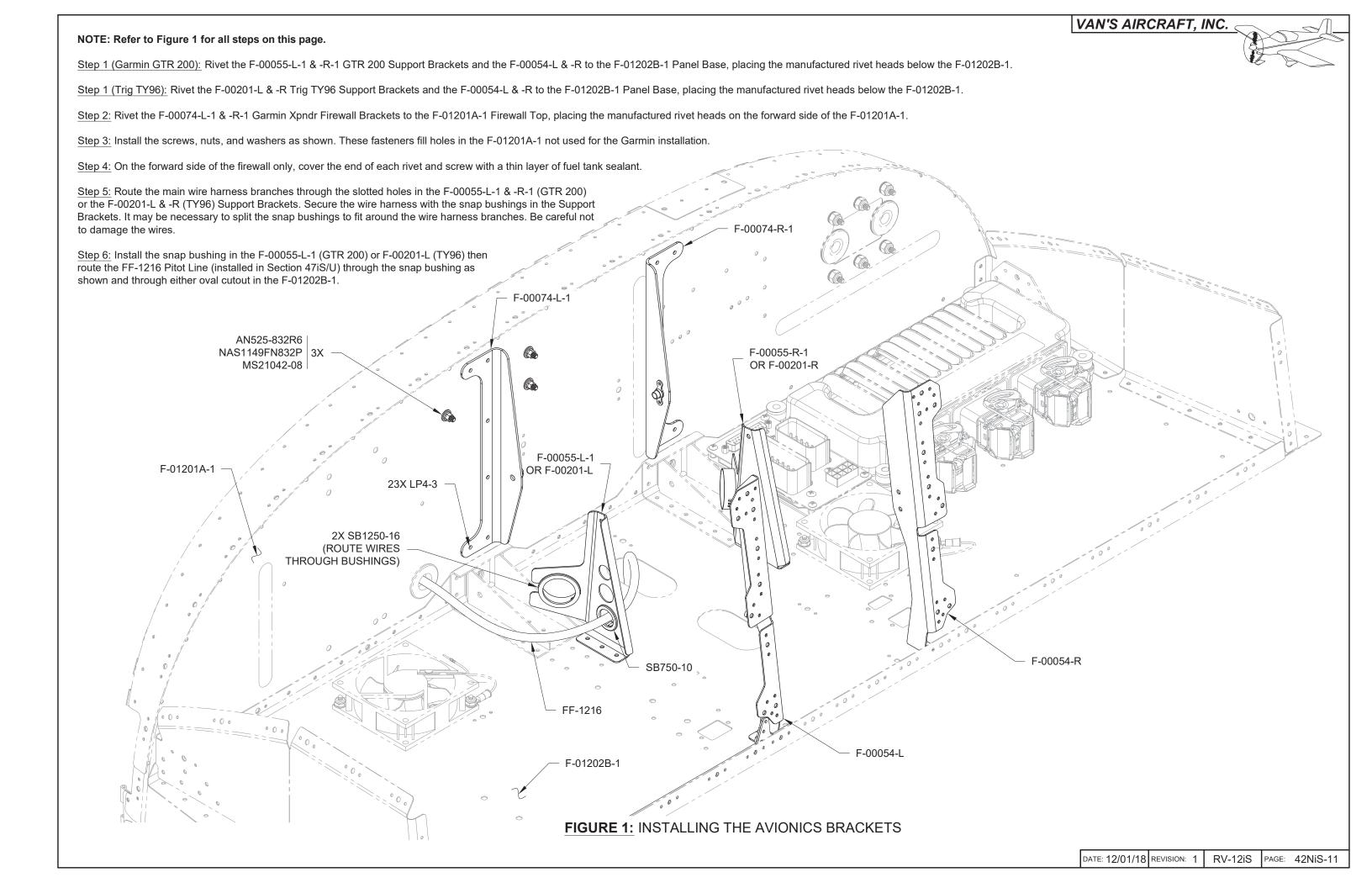
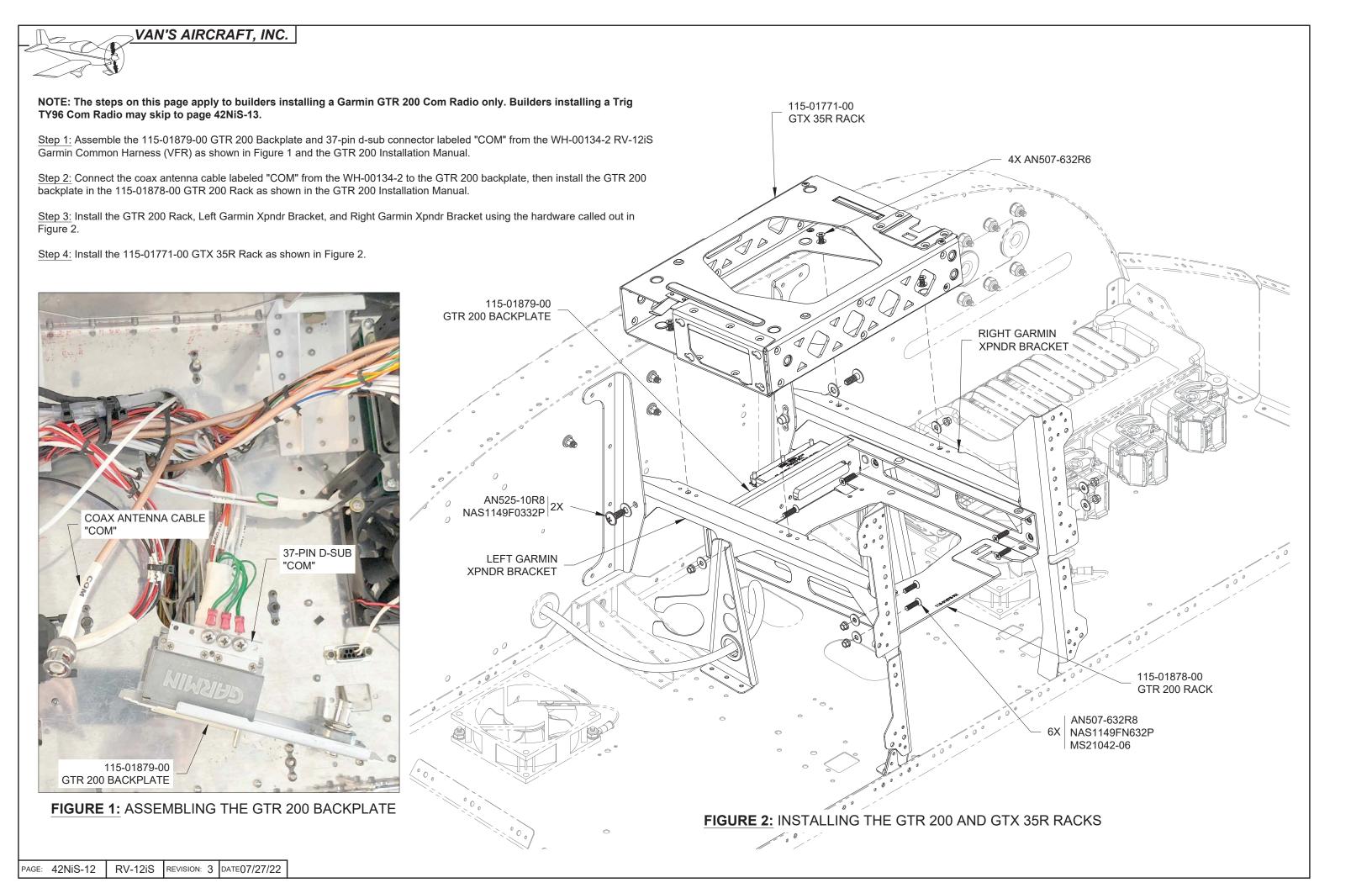
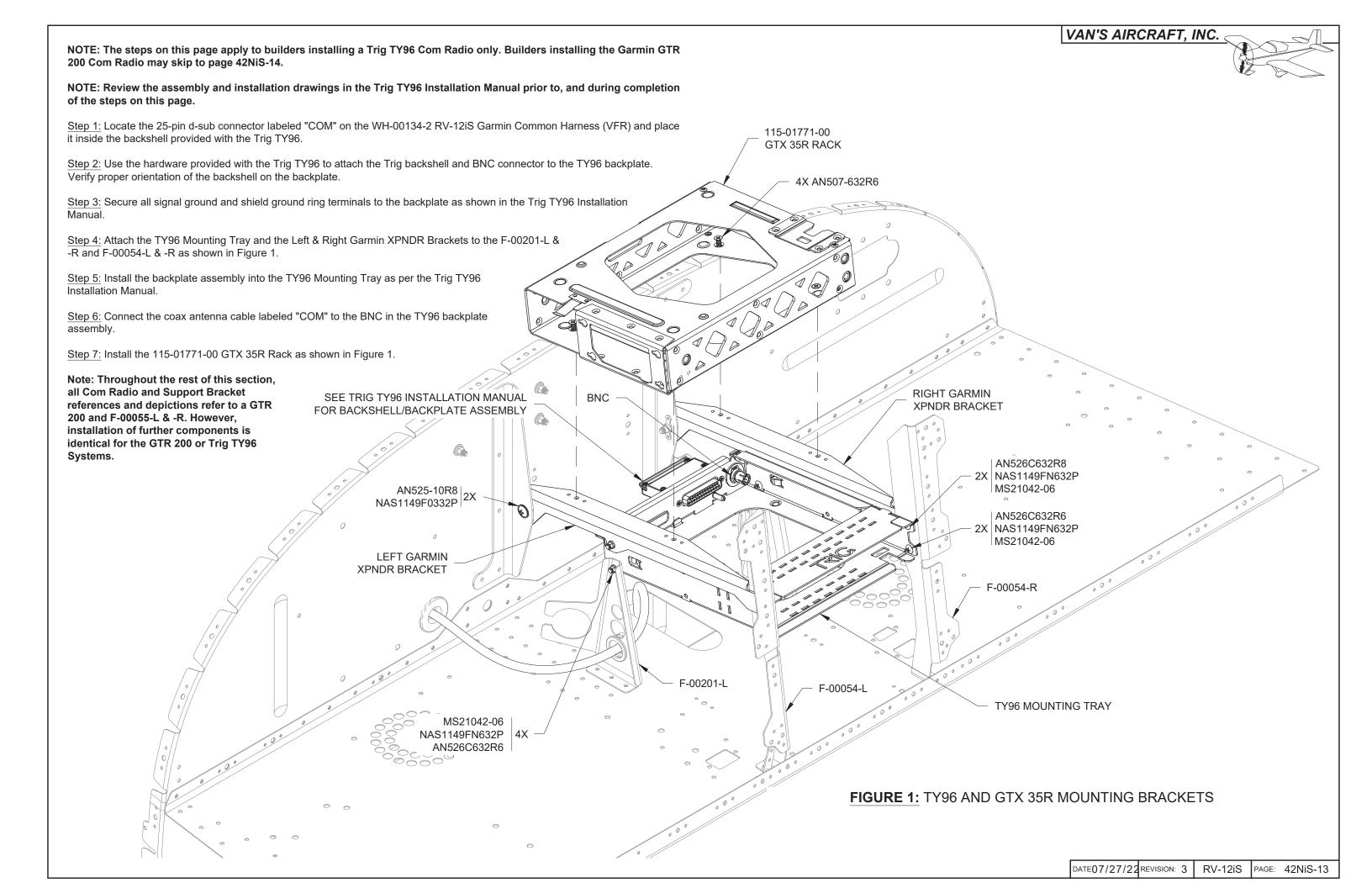


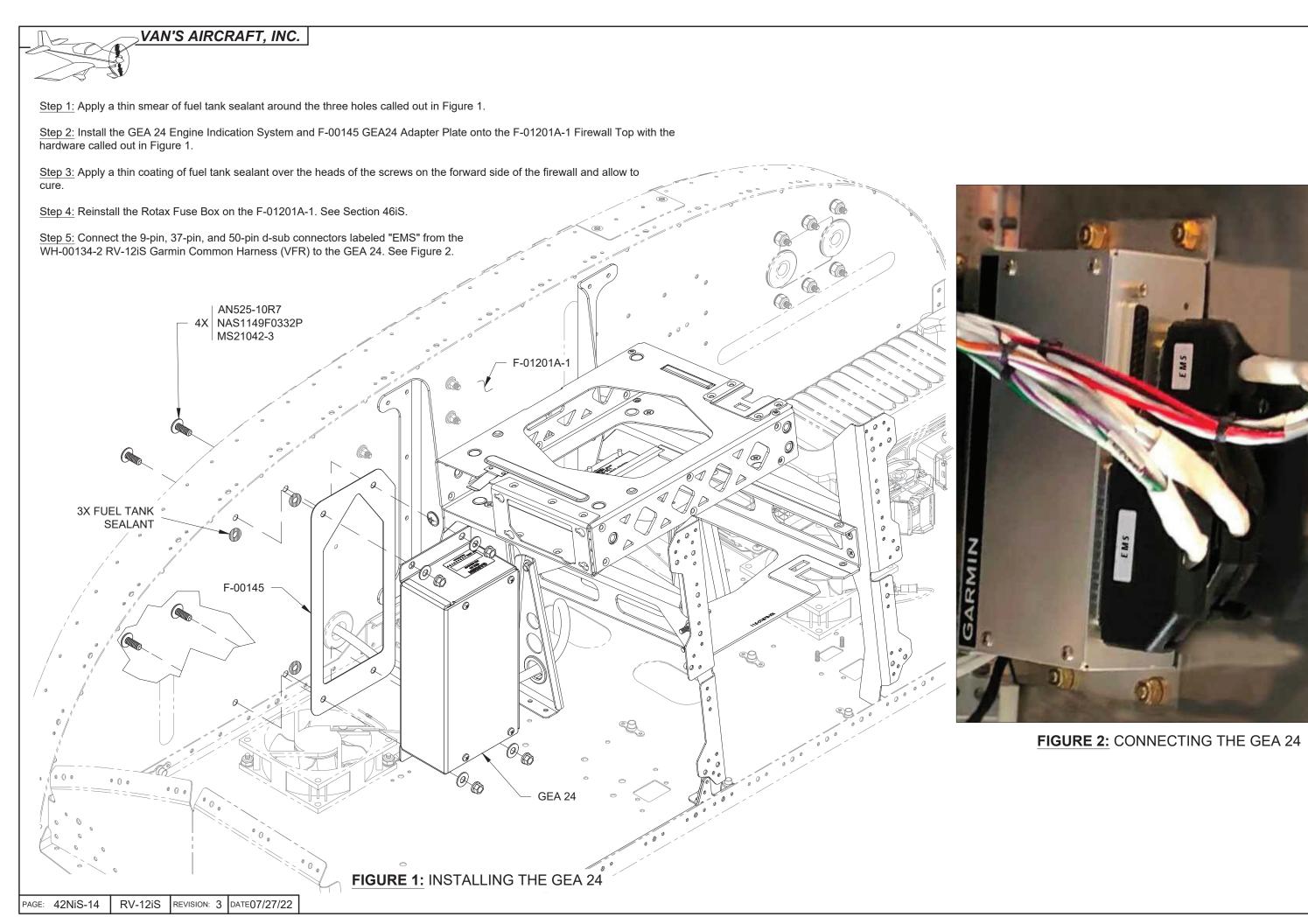
FIGURE 4: RIGHT GARMIN XPNDR BRACKET

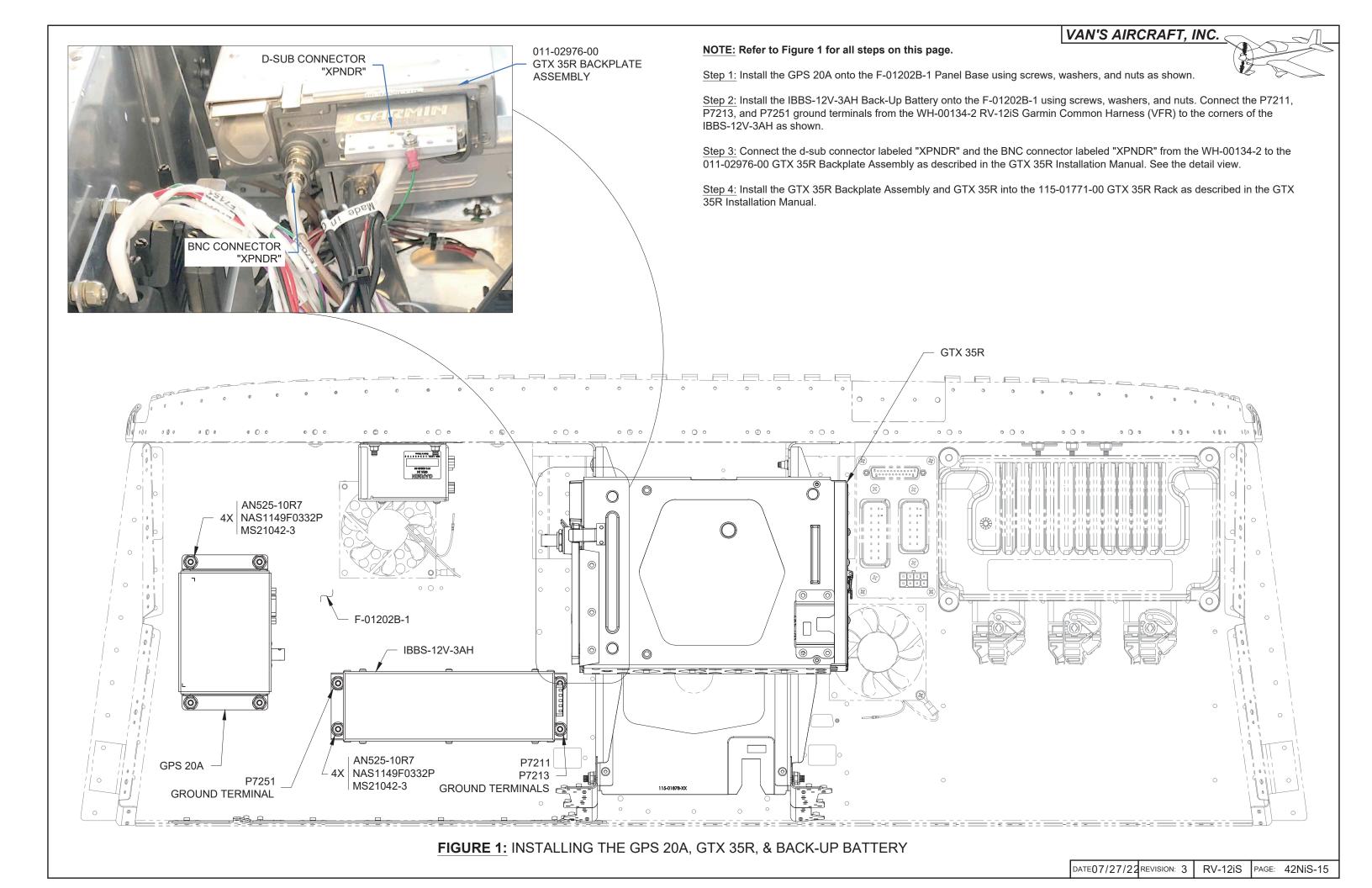
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Step 1: Connect the 9-pin d-sub and BNC connectors labeled "GPS" from the WH-00134-2 RV-12iS Garmin Common Harness (VFR) to the GPS 20A as shown in Figure 1.

Step 2: Connect the 15-pin d-sub connector labeled "BATT" from the WH-00134-2 to the IBBS-12V-3AH. See Figure 1.

Step 3: Gather the WH-00134-2 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.

Step 4: Route and stow the 50-pin d-sub connector labeled "MFD" from the WH-00134-2 as shown in Figure 2.

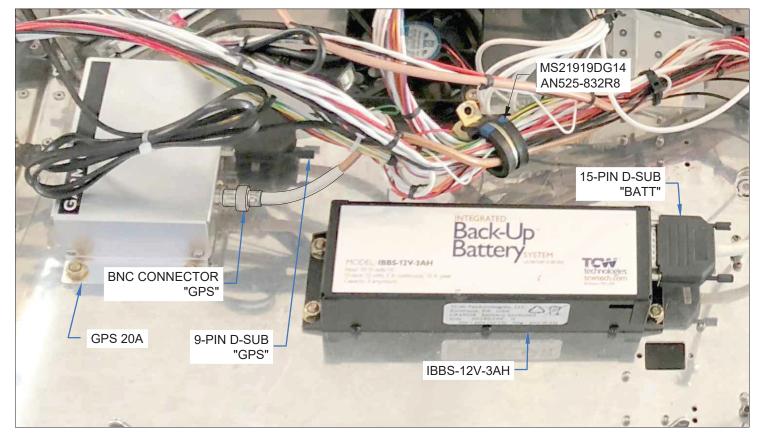


FIGURE 1: CONNECTING THE GPS 20A & BACK-UP BATTERY



FIGURE 2: SECURING THE 50-PIN D-SUB CONNECTOR "MFD"

Step 1: Temporarily install the F-00043-1 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-00043-1.

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.

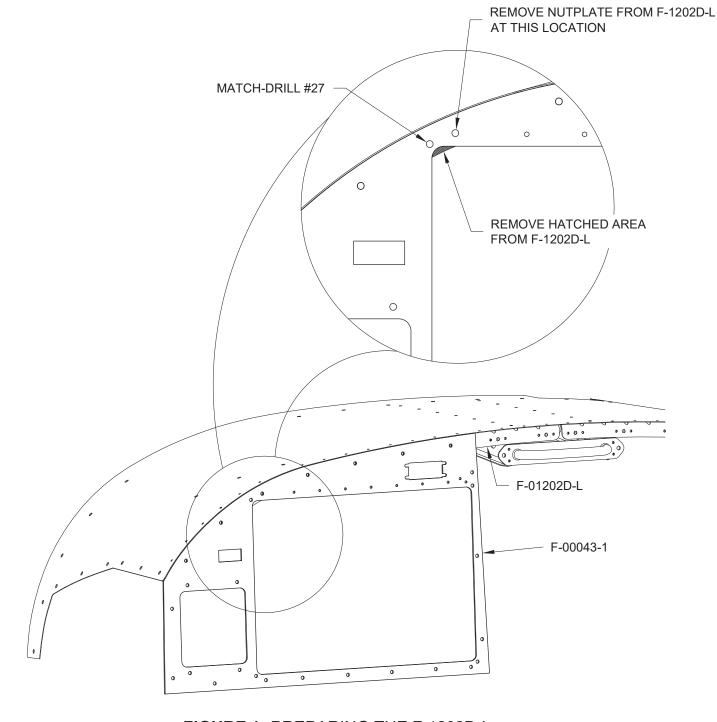


FIGURE 1: PREPARING THE F-1202D-L

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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.

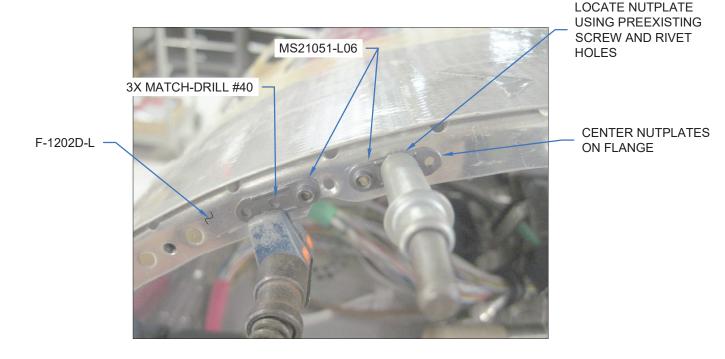


FIGURE 2: NOTCH FOR DISPLAY & NEW NUTPLATES

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



FIGURE 3: RIVETING THE NEW NUTPLATES

4X AN426AD3-3.5



NOTE: An optional powdercoated and screen printed panel kit is available for RV-12iS single-screen G3X Touch systems. Order the 12 G3X PANEL PKG.SINGLE-IS-PC kit from Van's aircraft.

NOTE: If you are using the 12 G3X PANEL PKG.SINGLE-IS-PC kit, skip the steps on this page.

Step 1: Remove the hatched areas shown in Figure 1 from the F-00064 Stiffener.

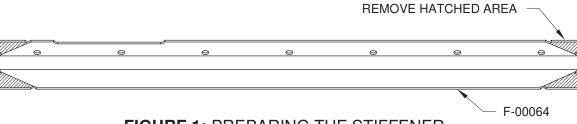


FIGURE 1: PREPARING THE STIFFENER

Step 2: Machine countersink the aft (pilot) side of the F-00043-1 as shown in Figure 2.

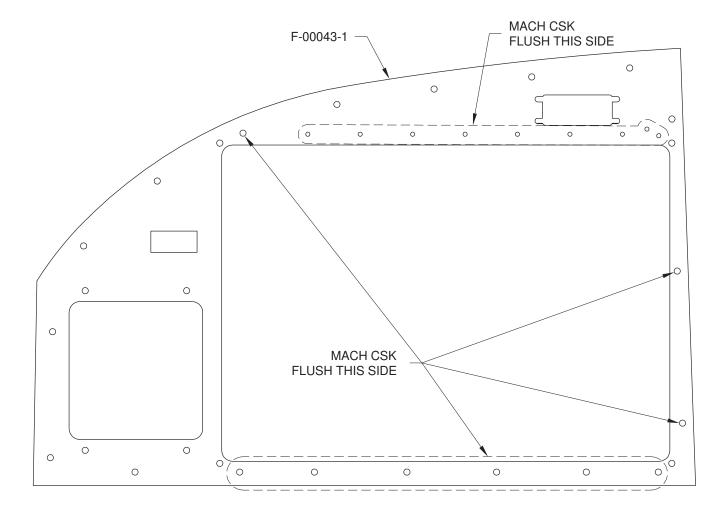


FIGURE 2: COUNTERSINKING THE F-00043-1

Step 3: Rivet the F-00064 and the nutplate to the F-00043-1. See Figure 3.

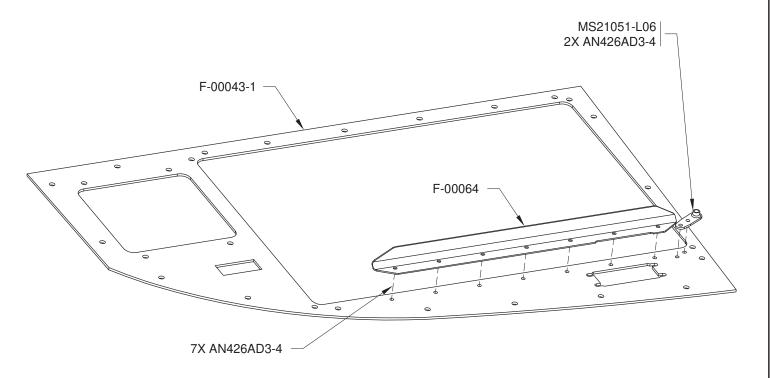


FIGURE 3: ASSEMBLING THE G3X PANEL

Step 4: Now would be a good time to prime/paint the F-00043-1, F-00044-2, and F-00144 as desired. See Figures 3, 4, and 5.

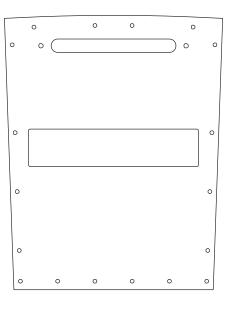


FIGURE 4: F-00044-2

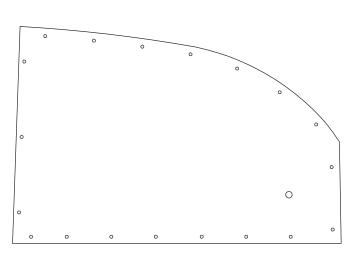


FIGURE 5: F-00144

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Step 1: Attach the AV-60007 Ignition Module Assembly to the F-00043-1 with screws. See Figure 1.

Step 2: Remove the ES SW K1-AABAAAAA Switch from the WH-00134-2 RV-12iS Garmin Common Harness (VFR), then install the switch and ES-807039-1 Gasket into the F-00043-1. 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-00043-1 with screws and nuts as shown in Figure 1.

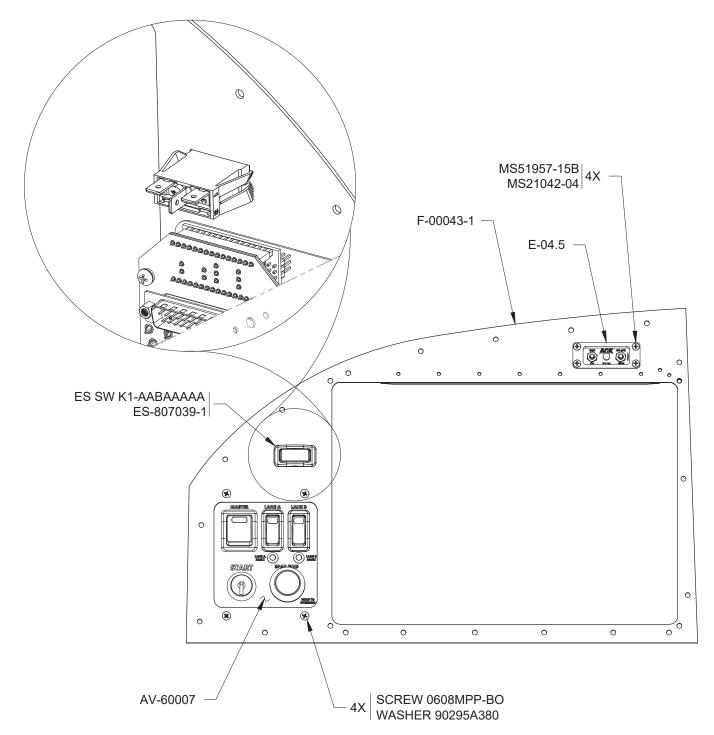


FIGURE 1: PREPARING THE F-00043-1

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.

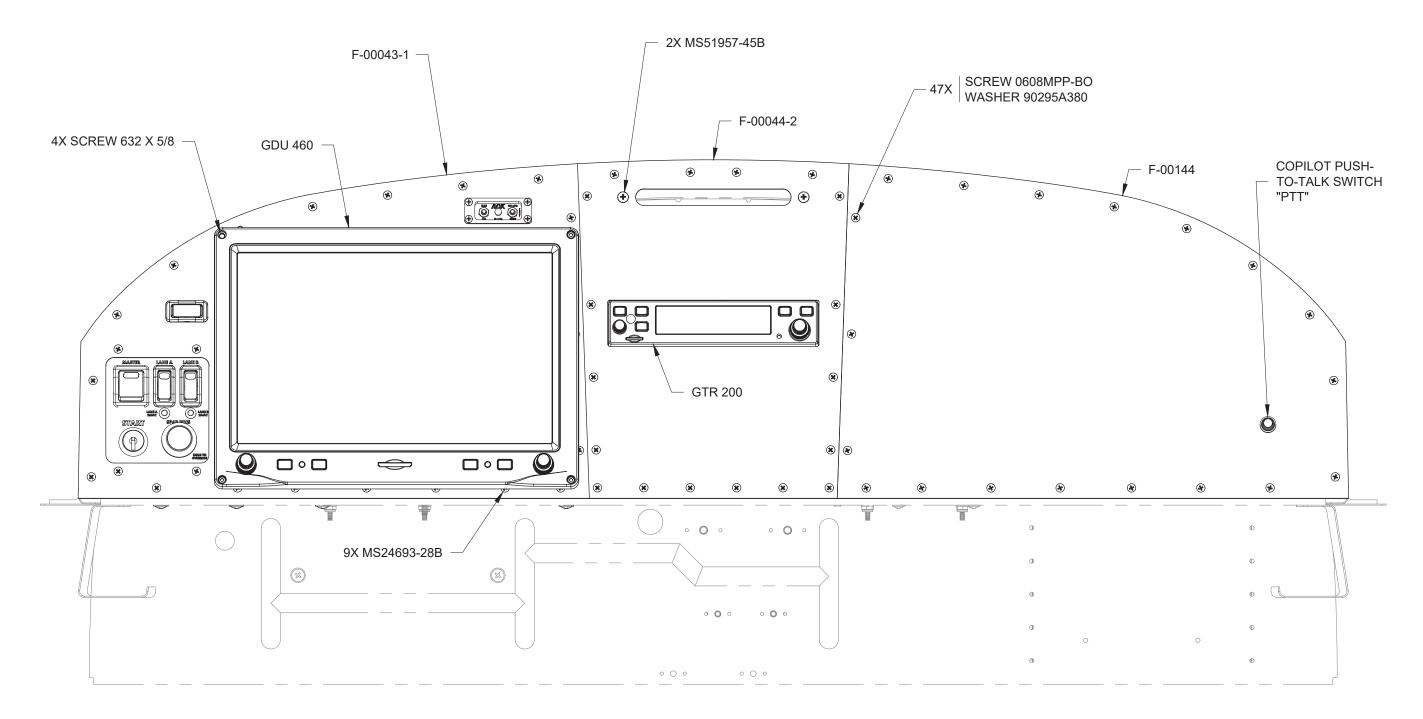
Step 1: Install the F-00043-1, F-00044-2, and F-00144 with screws.

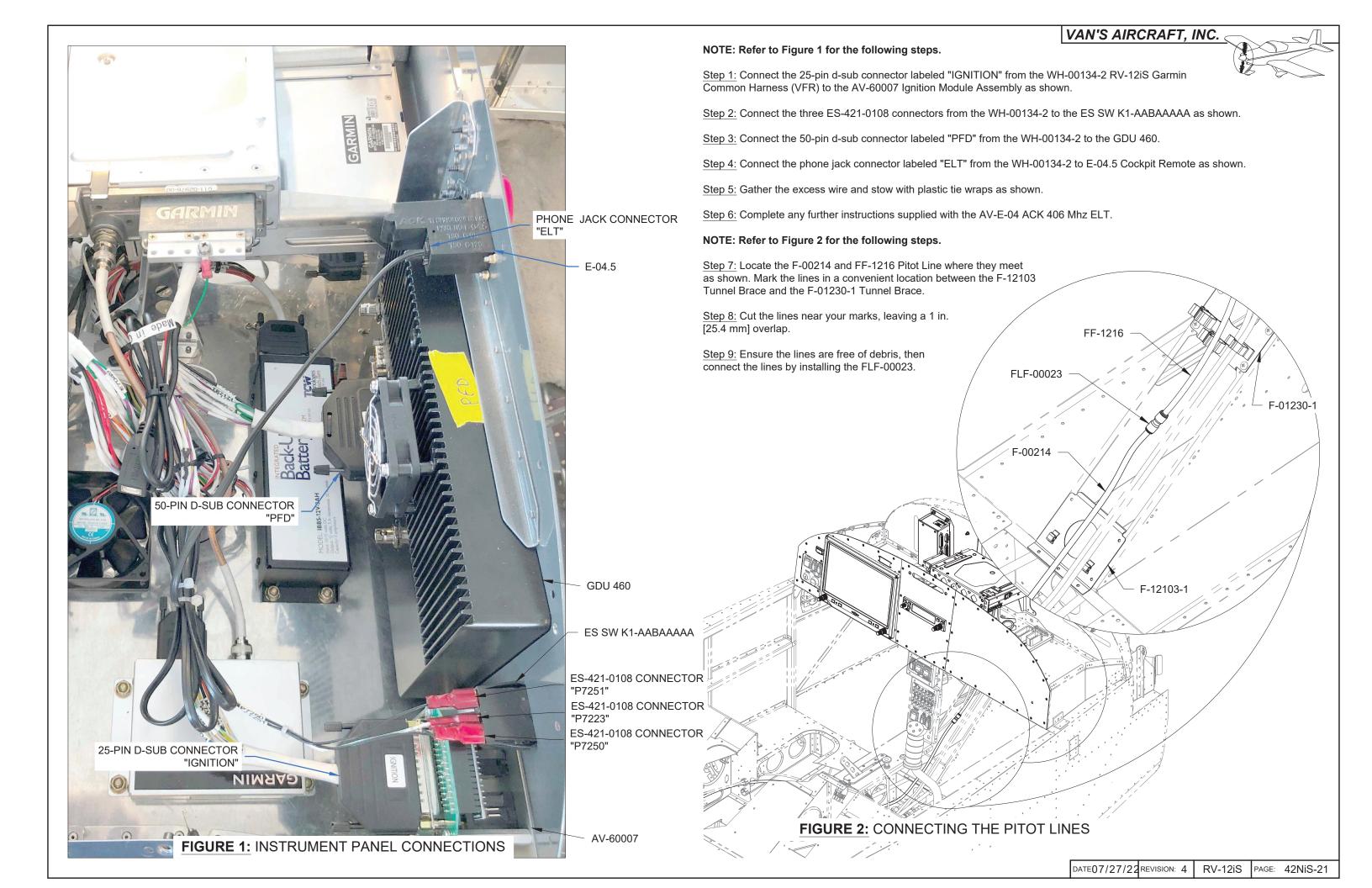
Step 2: Locate the co-pilot push-to-talk switch labeled "PTT" from the WH-00134-2 RV-12iS Garmin Common Harness (VFR).

Discard the hex nut and star washer included with the switch, then attach the switch to the F-00144 as shown.

Step 3: Install the GDU 460 with screws.

Step 4: Install the GTR 200 per the GTR 200 Installation Manual.





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 of both antennas is identical. Step 1: Install the GA 36 on the F0.1201R-1 Antenna Shelf with the hardware called out in Figure 1. Step 2: Connect the TNC connector labeled "GPS" from the WH-00134-2 RV-12iS Garmin Common Harness (VFR) to the GA 36. Step 3: Reinstall the Upper Forward Fuselage Skin Assembly. See Section 29IS/U. AN509-10R16 NAS1149F0363P 2X MS21042-3 GA 36

FIGURE 1: INSTALLING THE GA 36

<u>Step 4:</u> Make a final check of the entire electrical system and WH-00134-2 Wire Harness. Ensure there are not 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.

F-01201R-1

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

Step 5: 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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