

TOTAL PERFORMANCE VAN'S AIRCRAFT

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REVISION DESCRIPTION:

Since all the KAI pages regarding W&B and the Installed Equipment list are similar, only a general description of the two types of changes made to various sections is provided below. These changes resulted from relocating the Weight and Balance Worksheet and the Installed Equipment List.

- a. The Installed Equipment List was moved to the Maintenance Manual from the POH.
- b. The Weight and Balance Worksheet and W&B-2 (the blank page that followed) were moved to the Maintenance Manual (Rev 9) from the Production Acceptance Procedure. The "WEIGHT AND BALANCE RECORD" page was page W&B-2 of the RV-12 Production Acceptance Procedures.

Example: Following is an example of how this change affected *Section 44A Skyview Autopilot Servos*.

"Step 6: In the RV-12 Maintenance Manual (MM) "INSTALLED EQUIPMENT LIST" table, mark the "DYNON AUTOPILOT SERVO" as installed in the "INSTALLED" column.

Enter 4.6 lb for "Weight" , 101.5 in for "Location/Arm" and 467 in-lb "Moment" onto the same line as "DYNON AUTOPILOT SERVO".

NOTE: The remaining steps on this page are only applicable to a flying aircraft.

Step 7: In the RV-12 Pilot Operating Handbook (POH) "YOUR AIRPLANE" table, enter the new total values for the arm, weight, and moment of the installed equipment.

Step 8: In the RV-12 POH "YOUR AIRPLANE" table, recalculate and enter new values for the Empty Weight, Empty Moment, and Empty Arm.

Step 9: Make an entry, as calculated in the previous step, on the WEIGHT AND BALANCE RECORD page of the RV-12 Maintenance Manual as follows:

As of this date: ____/____/____"
was

"Step 6: On Page 4-2 SkyView and 4-4 of the RV-12 Pilot Operating Handbook: Enter the text "AUTOPILOT" onto a blank line under the "ITEM" column in both tables.

Enter 4.6 lb for "Weight" , 101.5 in for "Location/Arm" and 467 in-lb "Moment" onto the same line as "AUTOPILOT" in both tables.

Recalculate and enter new values for the Empty Weight, Empty Moment and Empty Arm on Page 4-4 of the POH.

Step 7: Make an entry on page W&B-2 of the RV-12 Production Acceptance Procedures as follows:

As of this date: ____/____/____"

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The changes described above were applied to the following pages. The updated Rev level is listed:

40-15 (Rev 2)
43-11 (Rev 2)
43B-08 (Rev 2)
43C-07 (Rev 1)
44A-05 (Rev 4)
44B-10 (Rev 1)
53-12 (Rev 3)
53B-06 (Rev 1)
58-06 (Rev 1)
61-08 (Rev 1)

Additional changes were also made and are described below in the usual manner.

Page 44A-04 REV 3: Add "(WITH FLAPS UP AND WITH FLAPS DOWN)" to the WARNING.

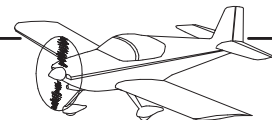
Page: 44B-03 REV 1: Add: "Step 4: Insert the bolt that will attach the Pitch Servo Pushrod Assembly to the arm of the Garmin GSA 28 Autopilot Servo. See Figure 2." Repaginate remaining steps.

Page 44B-06 REV 1: Add "(WITH FLAPS UP AND WITH FLAPS DOWN)" to the WARNING.

Page 44B-07 REV 2: Show additional cut lines for GMC 307 in Figure 2. Add "(GMC 305)" after hardware callouts in Figure 2.

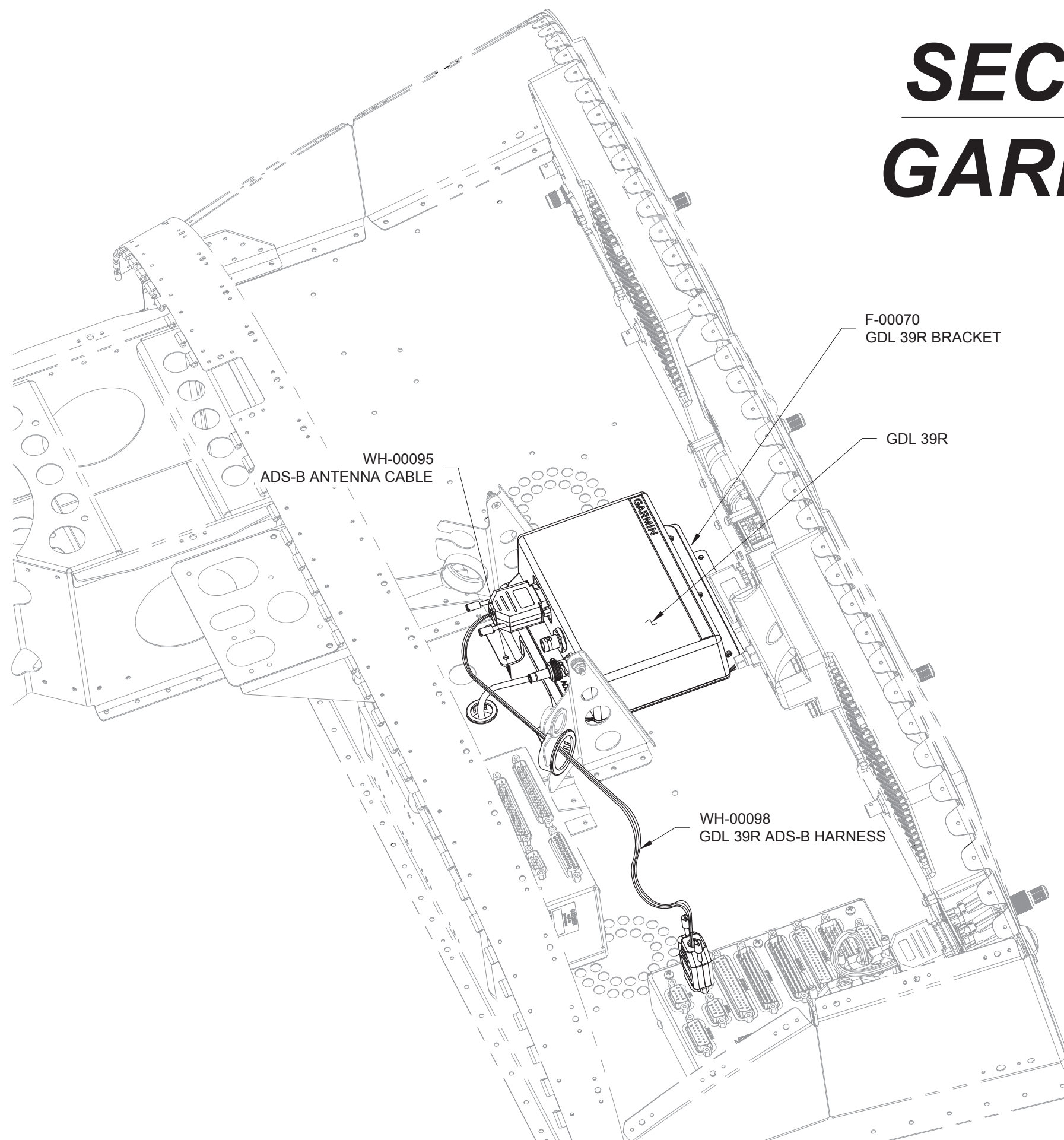
Page: 53-10 REV 2: Deleted fuse amperage values shown in Figure 2, except for GPS ADSB, "2" AMP.

Page: 53B-05 REV 1: Deleted AMP values from fuses in Figure 2, except for GPS ADSB, "2" AMP.



SECTION 53B:

GARMIN ADS-B





Step 1: Place the F-00070 GDL 39R Bracket on the upper face of the F-1202B Panel Base. See Figure 1.

Step 2: Draw a reference line on the F-1202B Panel Base connecting two rivets as shown in Figure 1.

Position the forward edge of the bracket on the reference line. Center the bracket between the WD-1204 Engine Mount Brackets.

Step 3: Match-Drill #30 the panel base using the bracket as a drill guide. Cleco each hole after drilling to maintain proper alignment.

Step 4: Remove the bracket from the panel base and deburr the holes just drilled in the panel base.

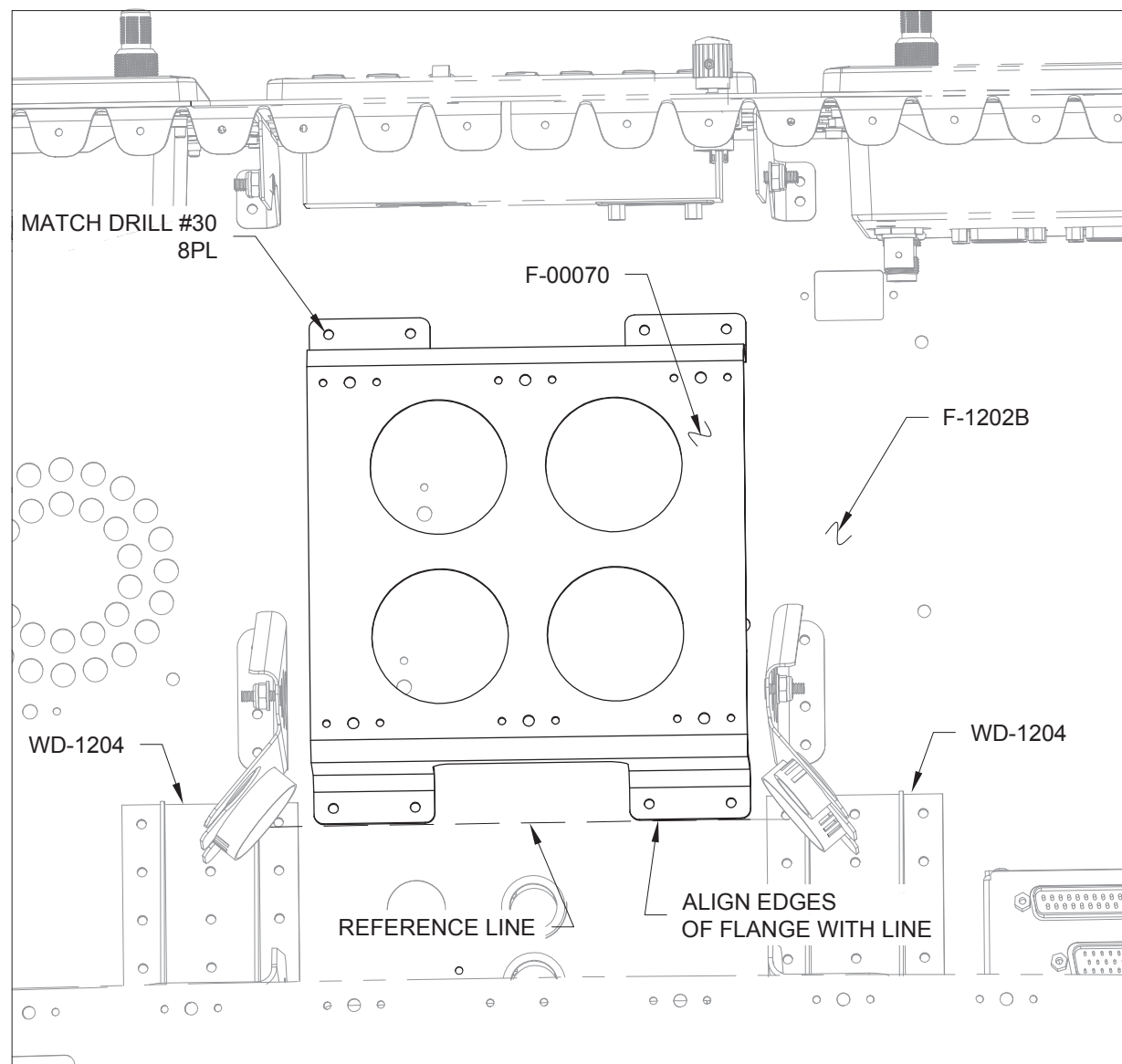


FIGURE 1: MATCH DRILLING THE PANEL BASE
(SOME PARTS NOT SHOWN FOR CLARITY)

Step 5: Machine countersink the upper face of the bracket to accept the head of an AN426AD3 rivet. See Figure 2.

Step 6: Install nutplates to the bottom face of the bracket. See Figure 2.

Step 7: Remove material from the bracket where indicated in Figure 2.

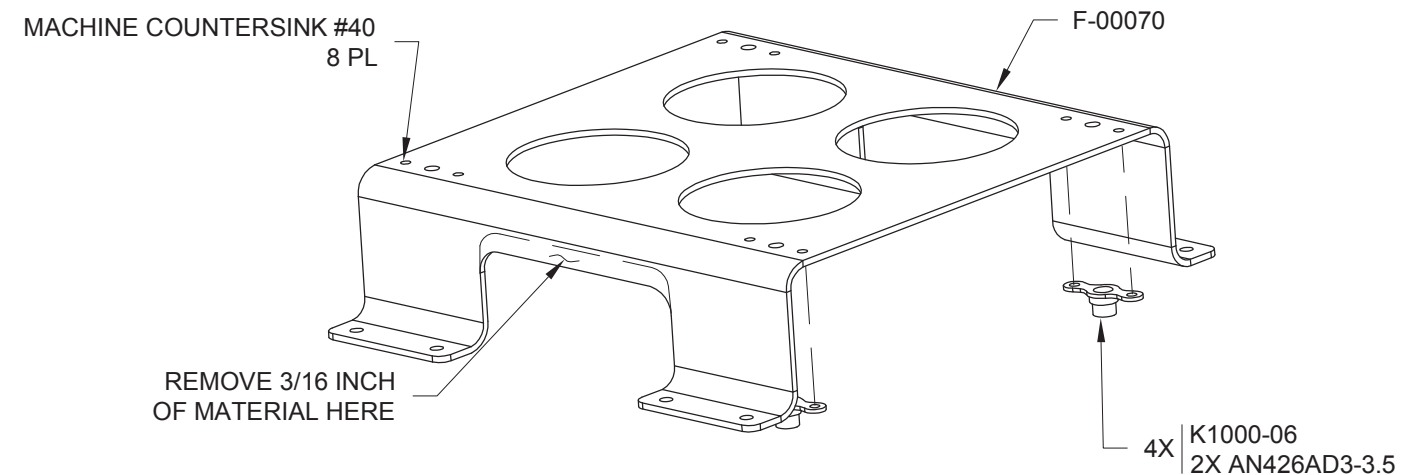


FIGURE 2: RIVETING NUTPLATES TO THE GDL 39R BRACKET

Step 8: Rivet the GDL 39R Bracket to the panel base. See Figure 3.

Step 9: Attach the GDL 39R to the bracket with screws. See Figure 3.

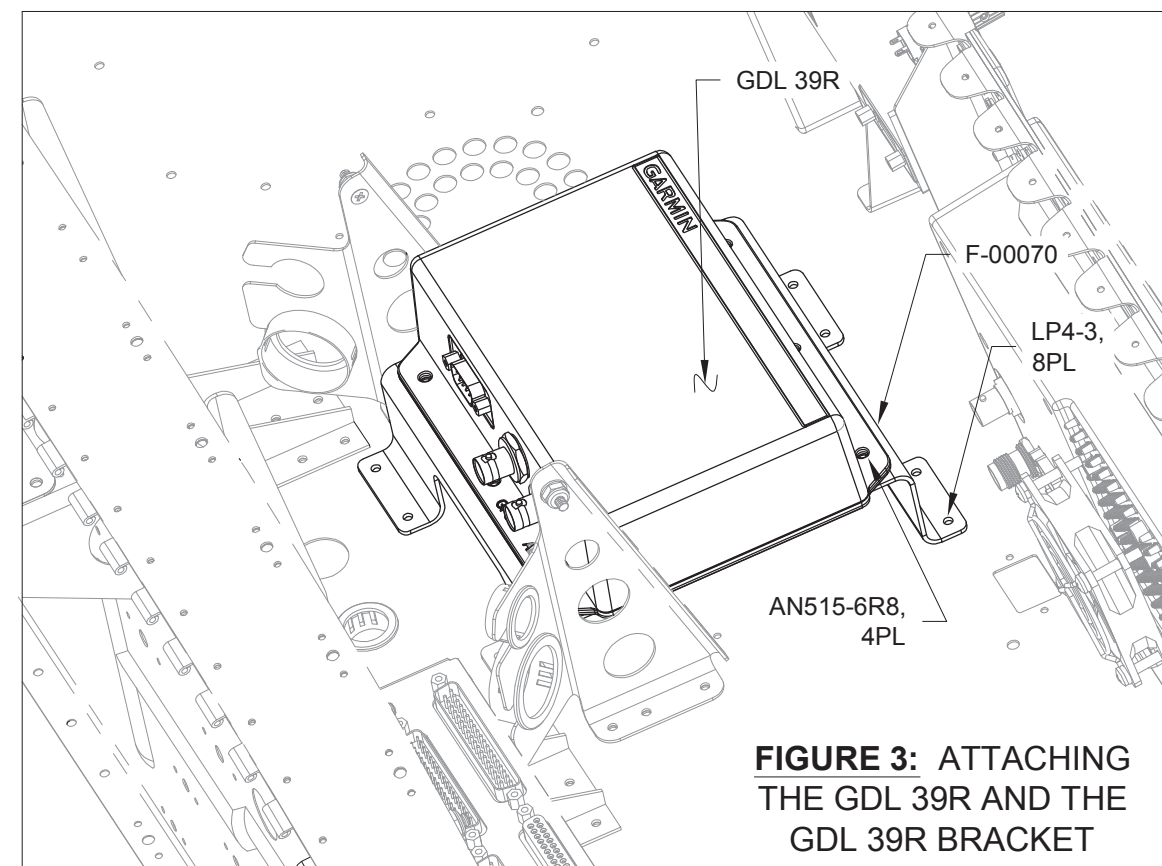
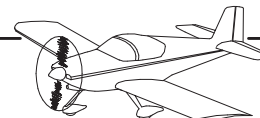


FIGURE 3: ATTACHING THE GDL 39R AND THE GDL 39R BRACKET



NOTE: If your aircraft does not have a WH-00095 ADS-B Antenna Cable routed through the fuselage, contact Vans about ordering the required parts and hardware. Refer to Section 53 for installation instructions.

Step 1: Locate the WH-00095 ADS-B Antenna Cable. Attach the BNC connector to the port on the forward side of the GDL 39R labeled "ADS-B". See Figure 1.

Step 2: Connect the WH-00098 GDL 39R ADS-B Harness 9-pin D-Sub labeled "GDL 39R" to the GDL 39R. See Figure 1.

Route the harness through a snap bushing in the F-00055-L Support Bracket GTR 200 and Cushioned Clamp near the left ES CPU FAN (not shown in Figure 1).

Connect the remaining 9-pin D-Sub labeled "ADS-B" to the ADS-B Connector location on the AV-50000A RV-12 Control Module.

Step 3: Drill #30 three holes in the web of the F-1208 Fuselage Frame for tie wraps (if not already punched in part). See Figure 2.

Deburr the three holes just drilled.

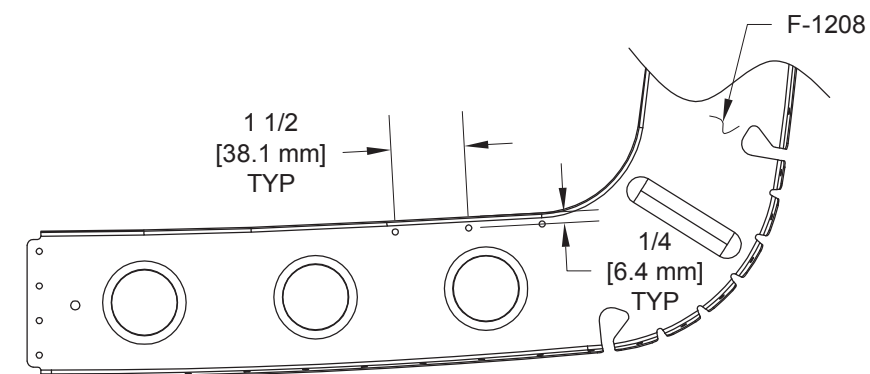


FIGURE 2: FUSELAGE FRAME TIE WRAP LOCATIONS

Step 4: Separate the F-00020 Antenna Doublers by removing the hatched area shown in Figure 3. Discard one part (or make it into a Christmas tree ornament).

Deburr the edges of the remaining doubler.

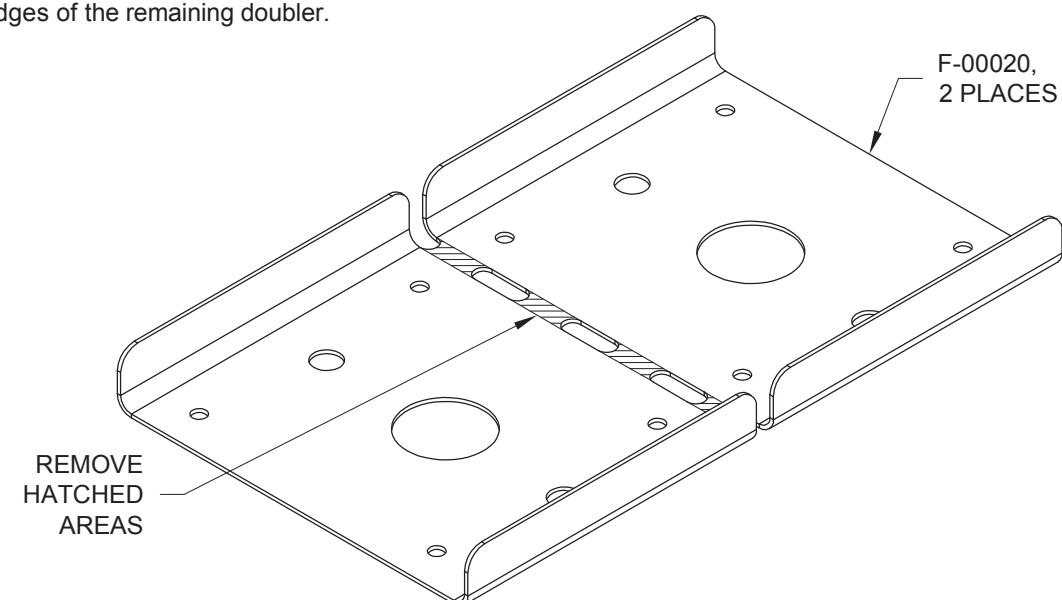


FIGURE 3: SEPARATING THE ANTENNA DOUBLERS

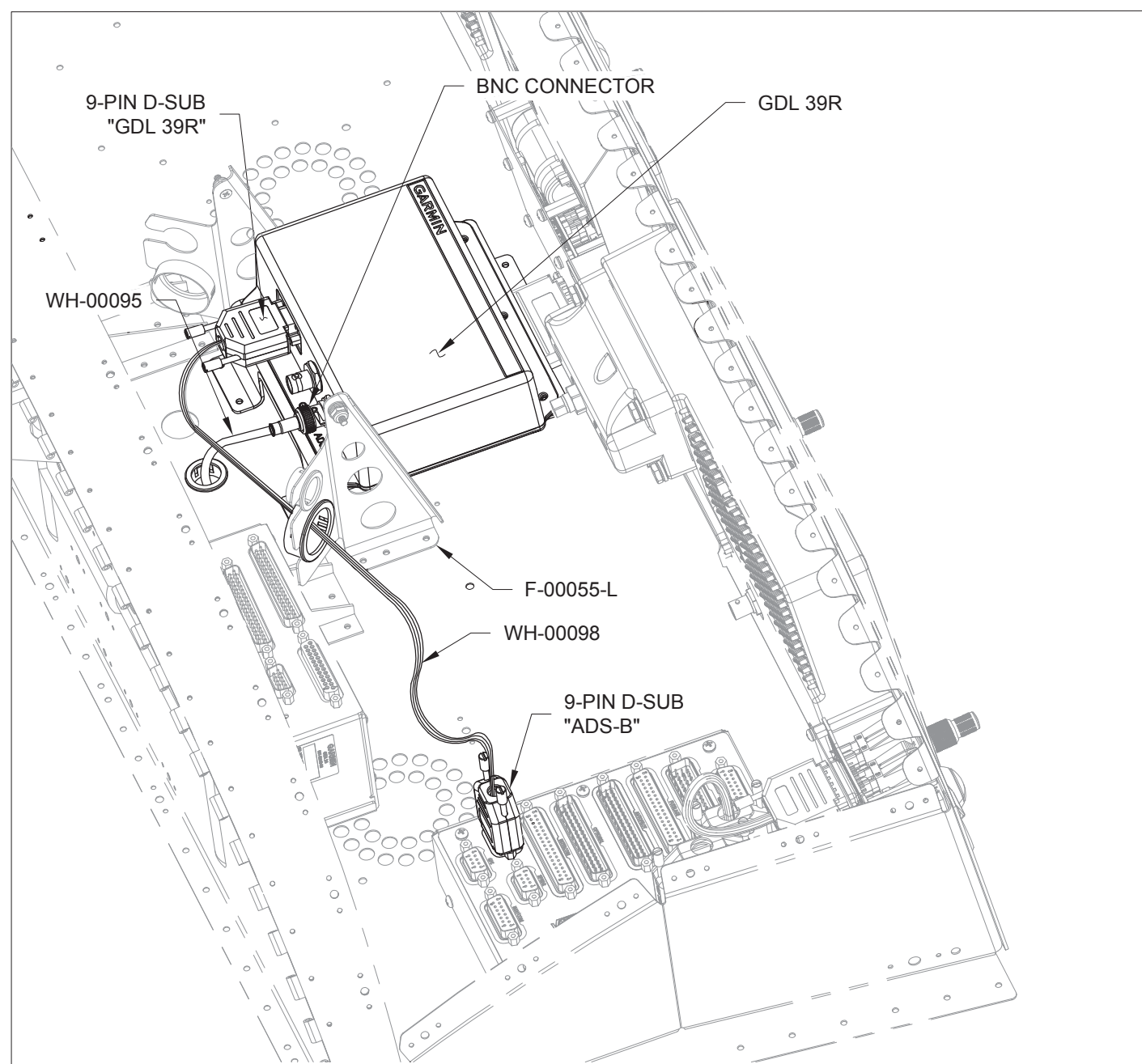
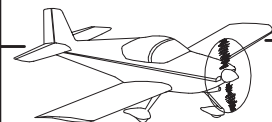


FIGURE 1: WIRING THE GDL 39R



Step 1: Position the F-00020 Antenna Doubler on the F-1282-L Bottom Left Skin as shown in Figure 1.

Match-Drill #30 and cleco the four .098 holes in the doubler into the skin.

Match-Drill 3/16 the two holes in the doubler into the skin.

Drill #30 the center of the middle hole as shown in Figure 1. Final-Drill 9/16 the center hole in the skin.

Remove the doubler and deburr the holes in both the doubler and skin.

Step 2: Rivet the F-00020 Antenna Doubler to the F-1282-L Bottom Left Skin using the rivets called out in Figure 1.

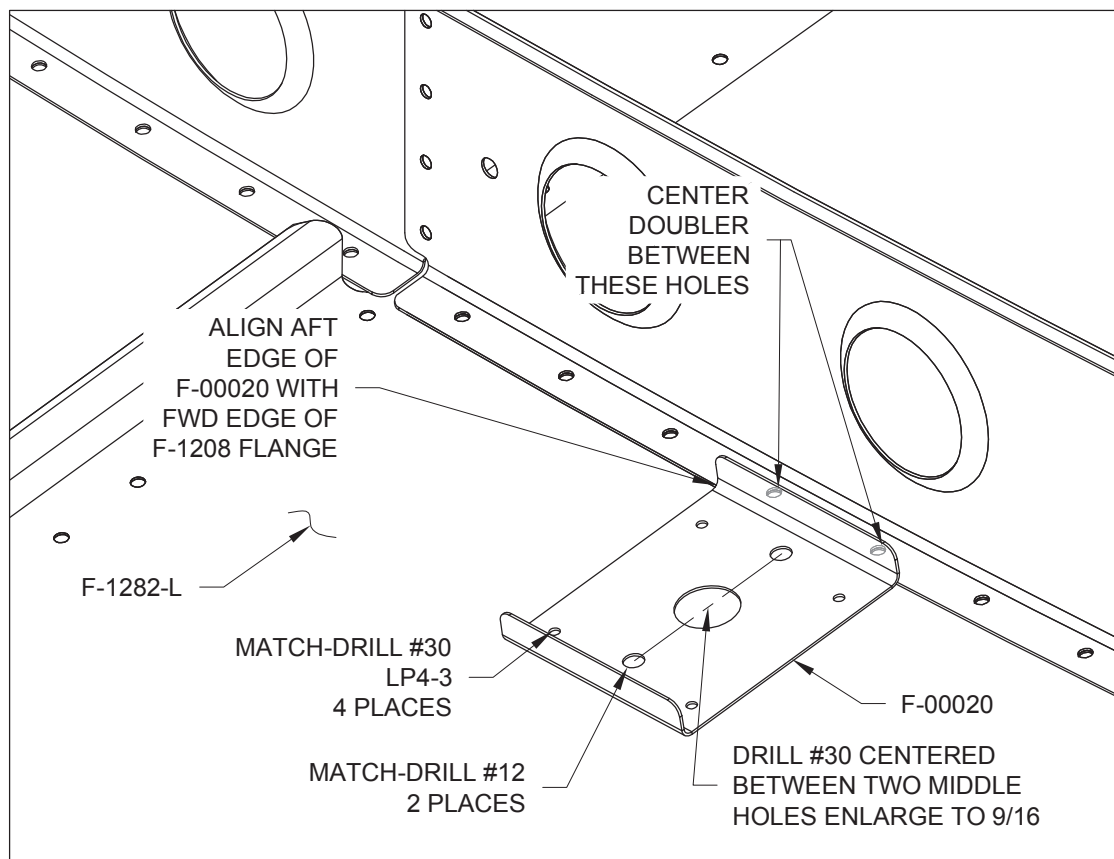
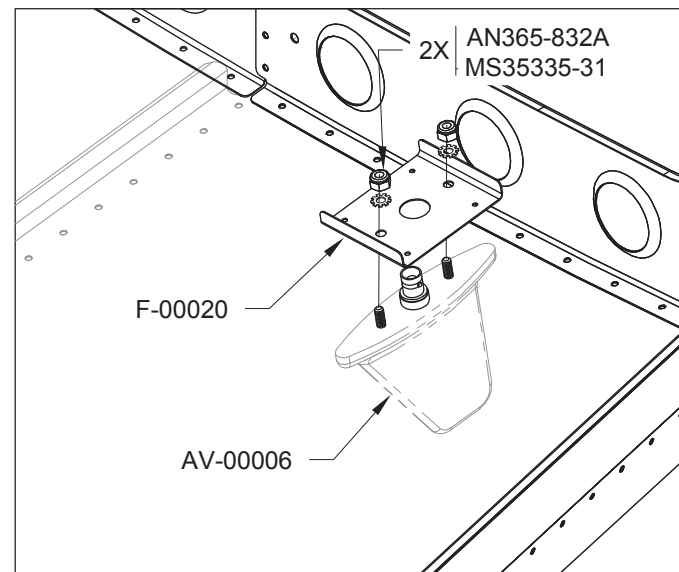


FIGURE 1: INSTALLING THE ANTENNA DOUBLER

Step 3: Install the AV-00006 Blade ADS-B Antenna to the F-00020 Antenna Doubler and F-1282-L Bottom Left Skin using the instructions and hardware supplied with the antenna. See Figure 2.



**FIGURE 2: INSTALLING THE UAT ANTENNA
(BOTTOM SKIN SHOWN TRANSPARENT)**

Step 4: Connect the WH-00095 ADS-B Antenna Cable to the AV-00006 Blade ADS-B Antenna as shown in Figure 3.

Tie-wrap the cable to the F-1208 Fuselage Frame as shown in Figure 3.

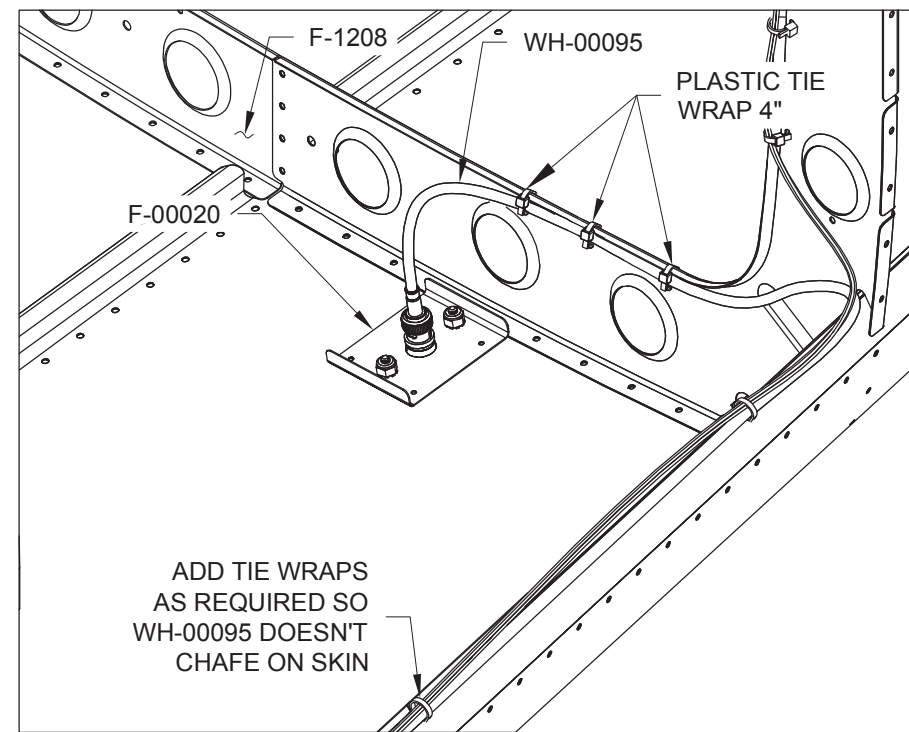


FIGURE 3: ROUTING THE ANTENNA CABLE

NOTE: Depending on routing, the WH-00095 ADS-B Antenna Cable may be slightly too long. If the antenna cable is too long at the antenna, continue with step 1. If the antenna cable is not too long, proceed to step 2.

Step 1: Coil the excess WH-00095 ADS-B Antenna Cable and secure the coil to the F-1208 Fuselage Frame with a tie-wrap as shown in Figure 1.

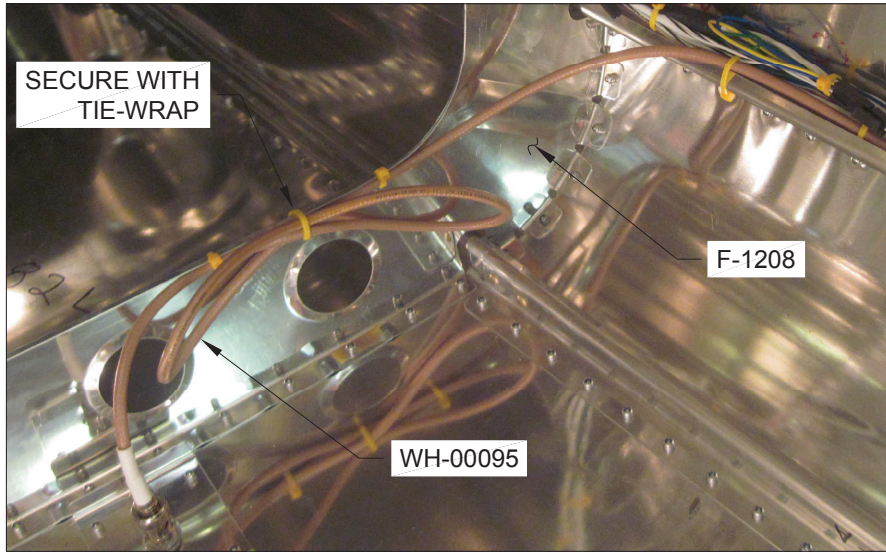


FIGURE 1: COILING EXCESS ANTENNA CABLE

Step 2: Install fuse called out in the AV-50001 Power & Switch Module as shown in Figure 2.

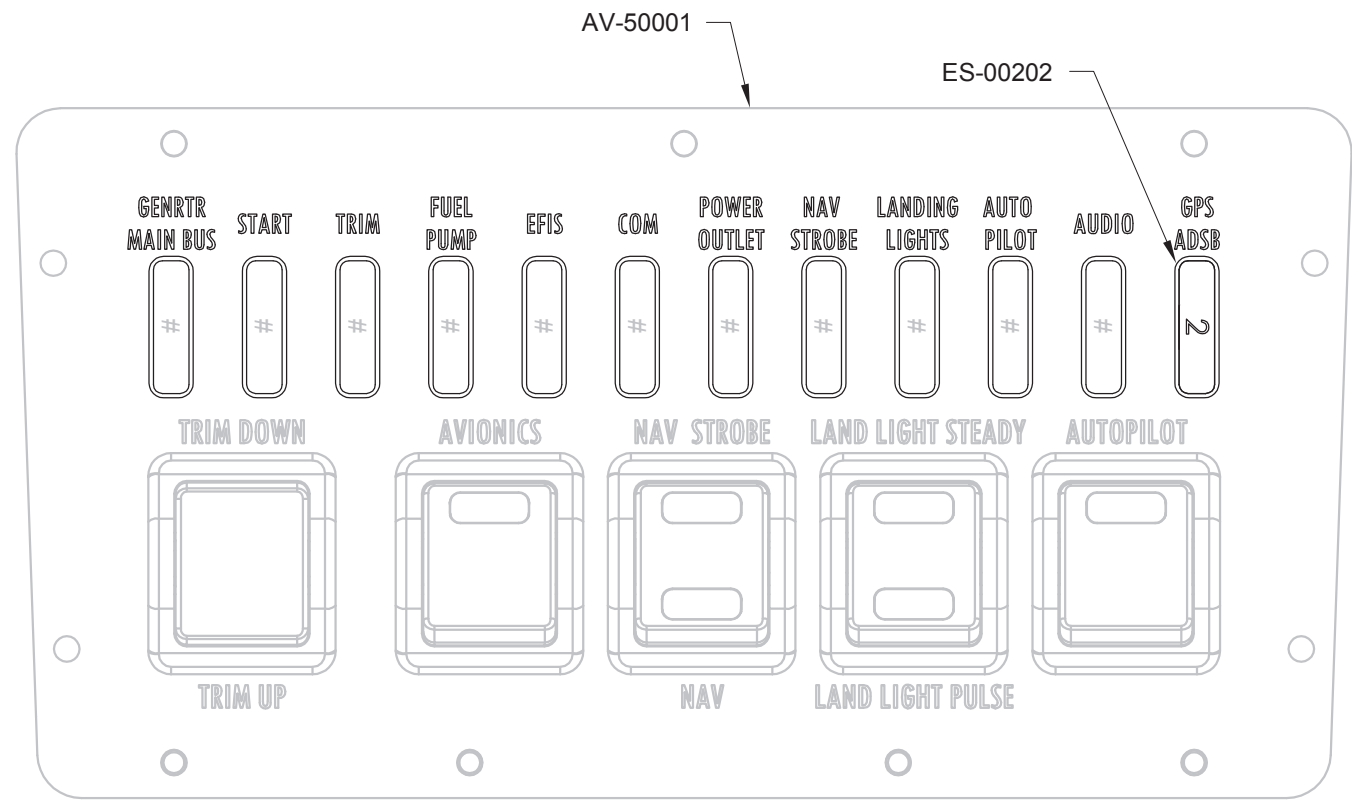


FIGURE 2: INSTALLING THE FUSE

Step 3: Install a second fuse in the F-12123 Fuse Holder Assembly pertaining to the same fuse value shown in Figure 3.

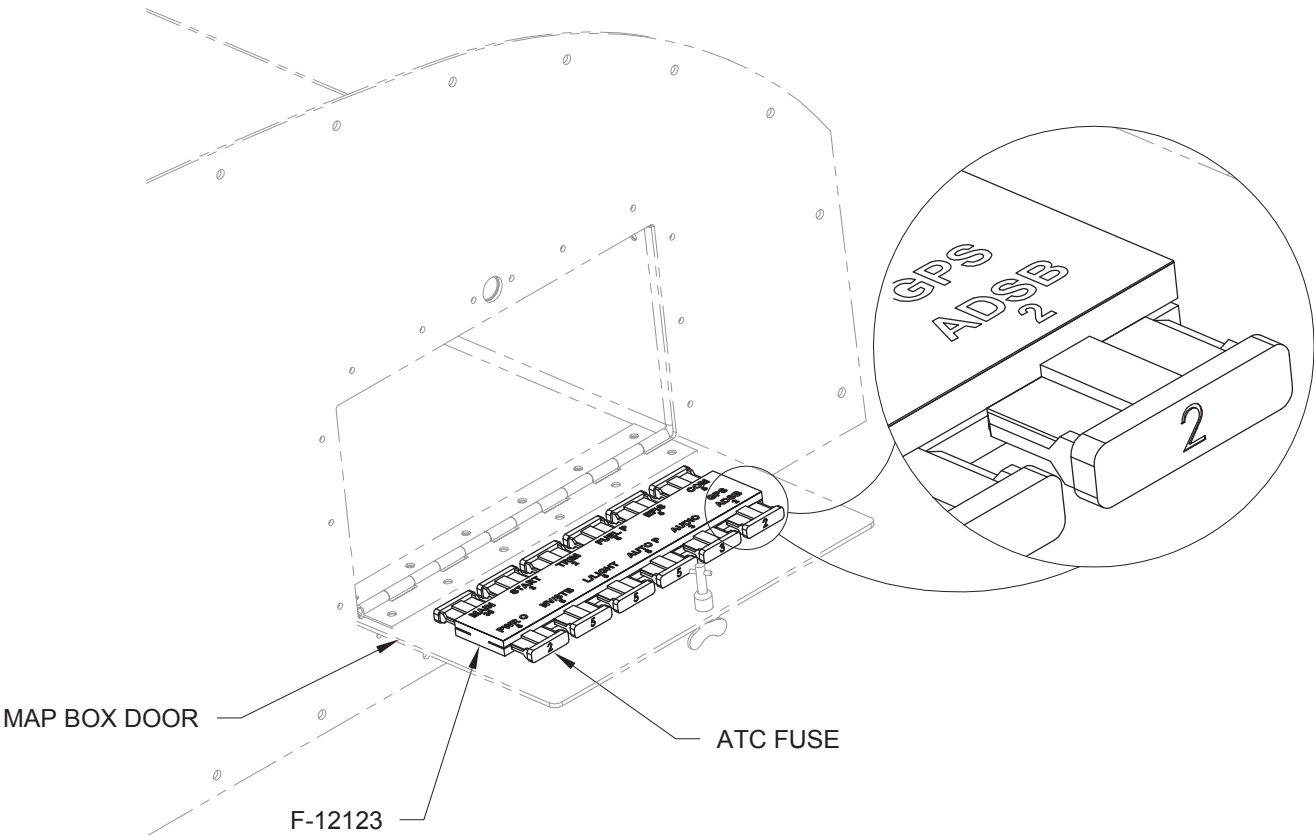


FIGURE 3: ADDING TO THE FUSE HOLDER



NOTE: Any weight and balance information recorded for the aircraft must be updated. Depending on the state of your kit some steps may not be applicable.

Enter 1.5 lb for "Weight", 53.4 in for "Location/Arm" and 80.1 in-lb "Moment" onto the same line as "G3X ADS-B".

NOTE: Steps 3-5 on this page are only applicable if a final weight and balance as specified in the PAP has been completed.

Step 3: In the RV-12 Pilot Operating Handbook (POH) "YOUR AIRPLANE" table, enter the new total values for the arm, weight, and moment of the installed equipment.

Step 4: In the RV-12 POH "YOUR AIRPLANE" table, recalculate and enter new values for the Empty Weight, Empty Moment, and Empty Arm.

Step 5: Make an entry, as calculated in the previous step, on the WEIGHT AND BALANCE RECORD page of the RV-12 Maintenance Manual as follows:

As of this date: ____/____/____ the following values represent current Weight and Balance calculations resulting from the installation of the G3X ADS-B Optional Kit.

Revised Empty Weight: _____ lbs
 Revised Empty Moment: _____ in-lbs
 Revised Empty Arm: _____ in

Signed: _____

NOTE: The remaining steps on this page are only applicable for aircraft which have passed a final airworthiness inspection.

Step 6 (ELSA): Make an appropriate entry in the airframe logbook. See example below:

Installed the G3X ADS-B option in accordance with Van's Aircraft KAI Section 53B and confirmed proper operation.

Signature _____ Certificate # _____

Step 6 (SLSA): Complete the notification N 16-07-29 (available from the Van's Aircraft web site) corresponding to the G3X ADS-B installation.

Step 7: Section complete.