SECTION 42M:
CONTROL
MODULES
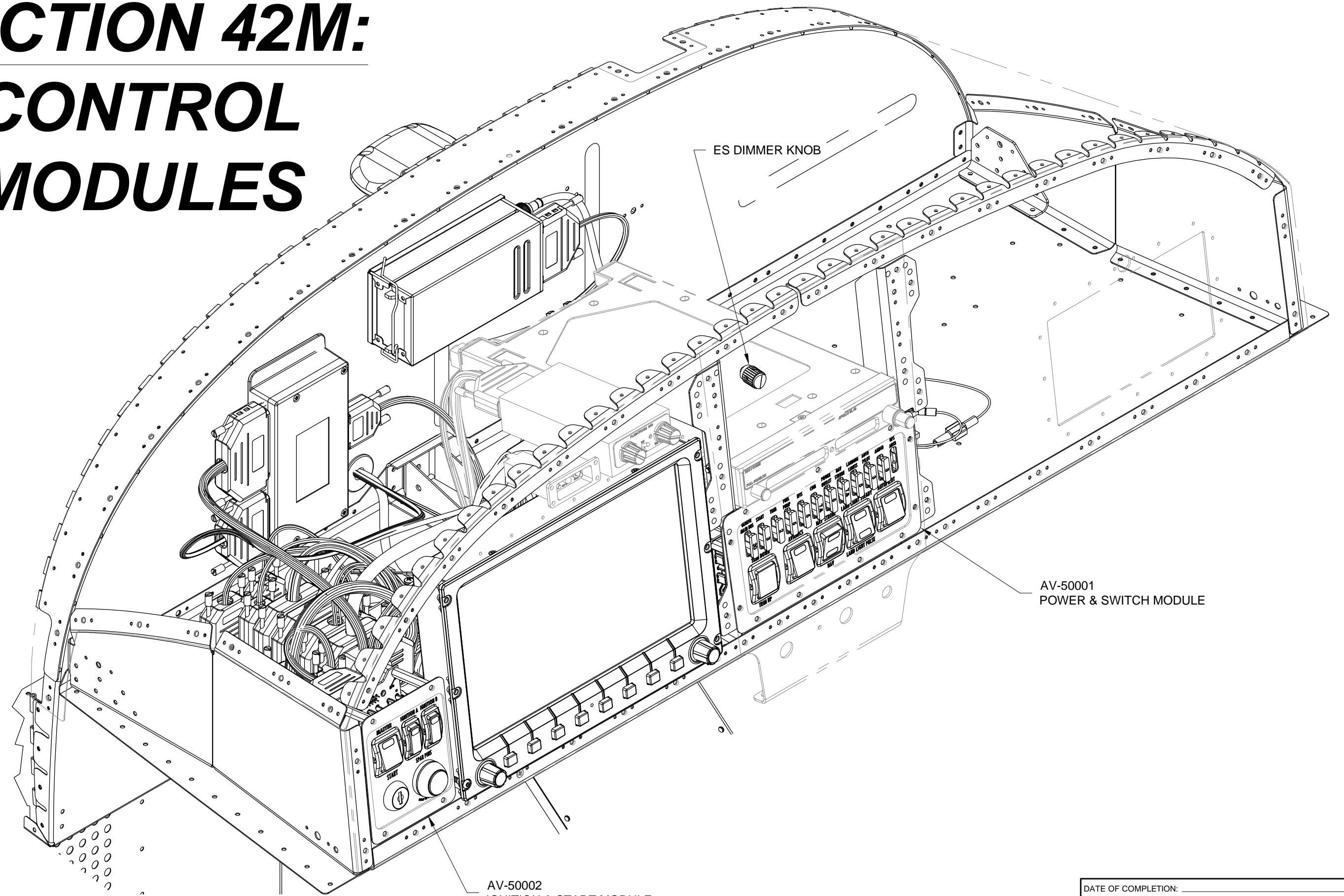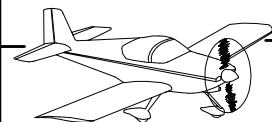
ES DIMMER KNOB

AV-50001
POWER & SWITCH MODULE

AV-50002
IGNITION & START MODULE

NOTE: If the date of purchase of the empennage, wing, fuselage or finish kit was prior to September 2011 download and read the Section 42D SkyView Update Instructions and check that your kit has all of the updates before starting this section. The download is available from the RV-12 service information web page.

Only new wiring harness part numbers supplied after September 2011 are referred to in this section. To find the equivalent part number for harnesses shipped prior to this date refer to Section 42D SkyView Update Instructions. For example this page refers to the WH-00046 Fuselage Harness which is the equivalent in an older kit to the WH-RV12-TUNNEL harness attached to the WH-00036 Tunnel Conversion Harness.

Some parts are not shown for clarity throughout this section.

Step 1: Install the AV-50000A RV-12 Control Module to the F-1202B Panel Base using blue Loctite and the hardware called out in Figure 1. Be careful not to cross thread or over torque the fasteners.
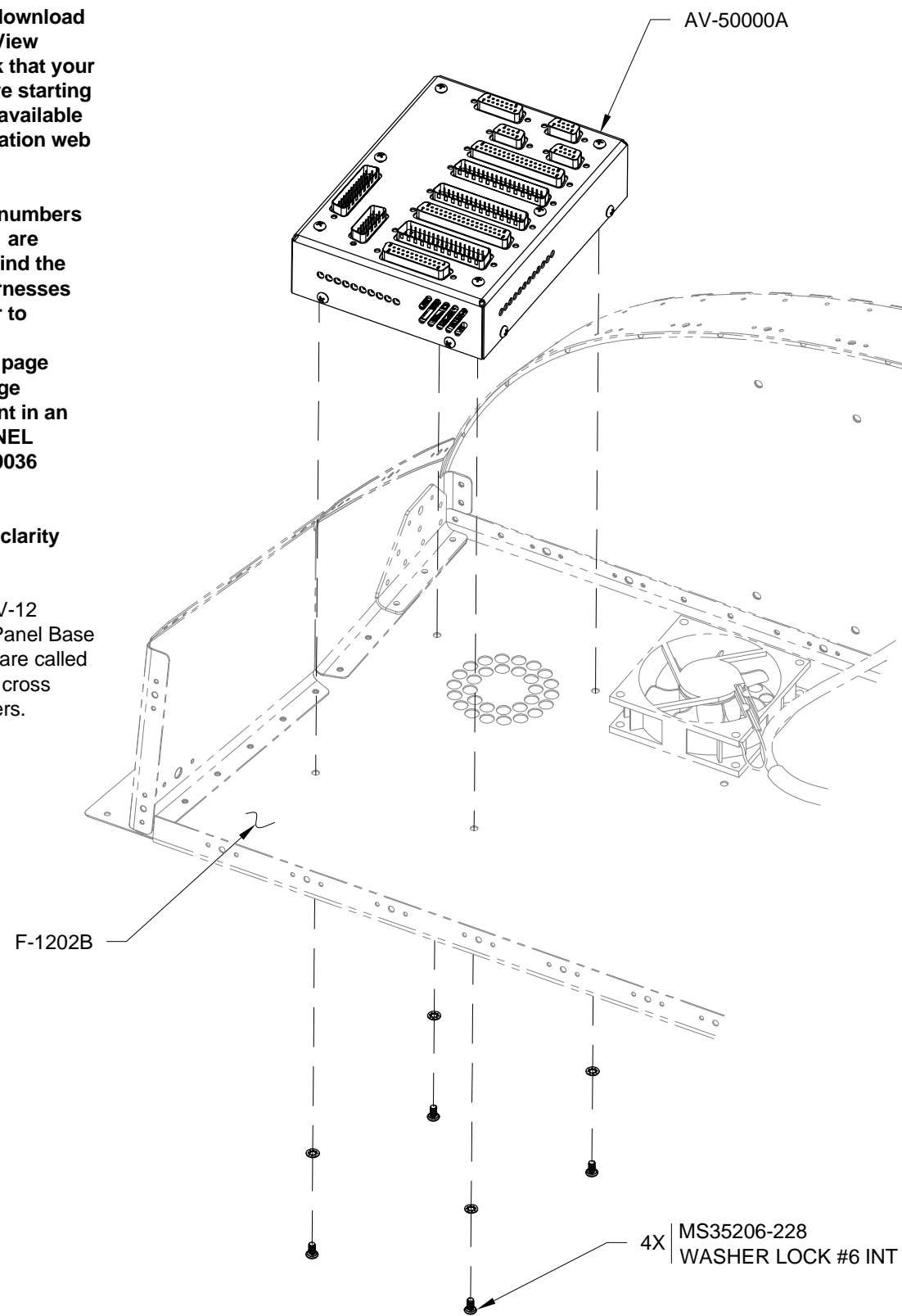
CAUTION: When making harness connections to the AV-50000A RV-12 Control Module double check that the label name and color on the backshell and heat shrink color on the harness matches the label name and color on the control module. Van's Aircraft in the design of the control module has tried to minimize the consequences of incorrectly connected harnesses. This is no guarantee that damages to components, harnesses or the control module will not occur. Van's Aircraft is not responsible for damages caused by incorrectly connected harnesses.

NOTE: Backshells and corresponding labels if not preinstalled are provided in the bag with the harness that they pertain to.

Step 2: Connect the WH-00046 Fuselage Harness labeled "FUSELAGE" to the AV-50000A Control Module. See Figure 2.

Step 3: Connect the WH-00045 Options Harness labeled "OPTIONS" to the AV-50000A Control Module. See Figure 2.
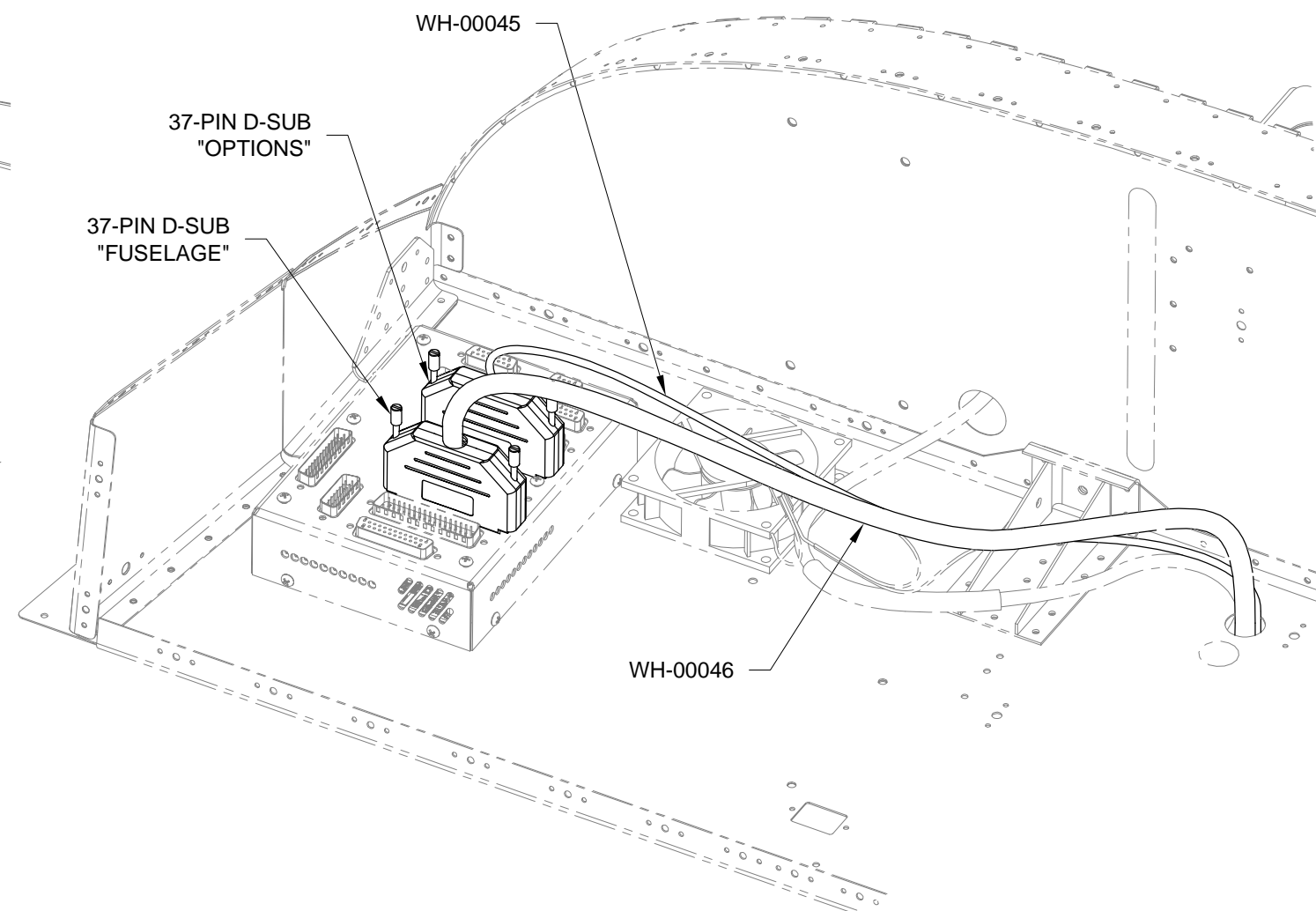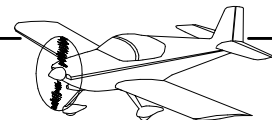
AV-50000A

WH-00045

37-PIN D-SUB "OPTIONS"

37-PIN D-SUB "FUSELAGE"

WH-00046

FIGURE 2: INSTALLING THE FUSELAGE AND OPTIONS HARNESS

F-1202B

4X | MS35206-228
WASHER LOCK #6 INT

FIGURE 1: INSTALLING THE CONTROL MODULE
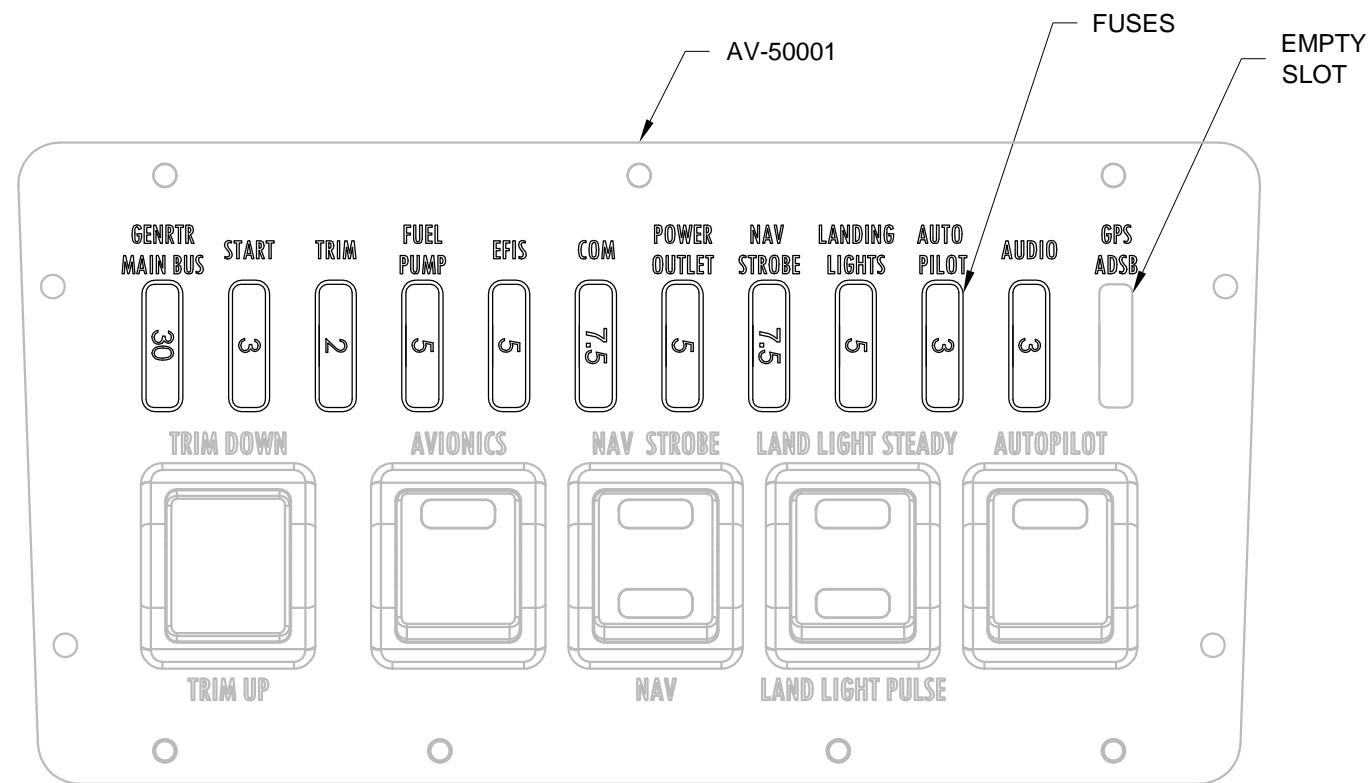
Step 1: Install fuses in the AV-50001 Power & Switch Module as shown in Figure 1.
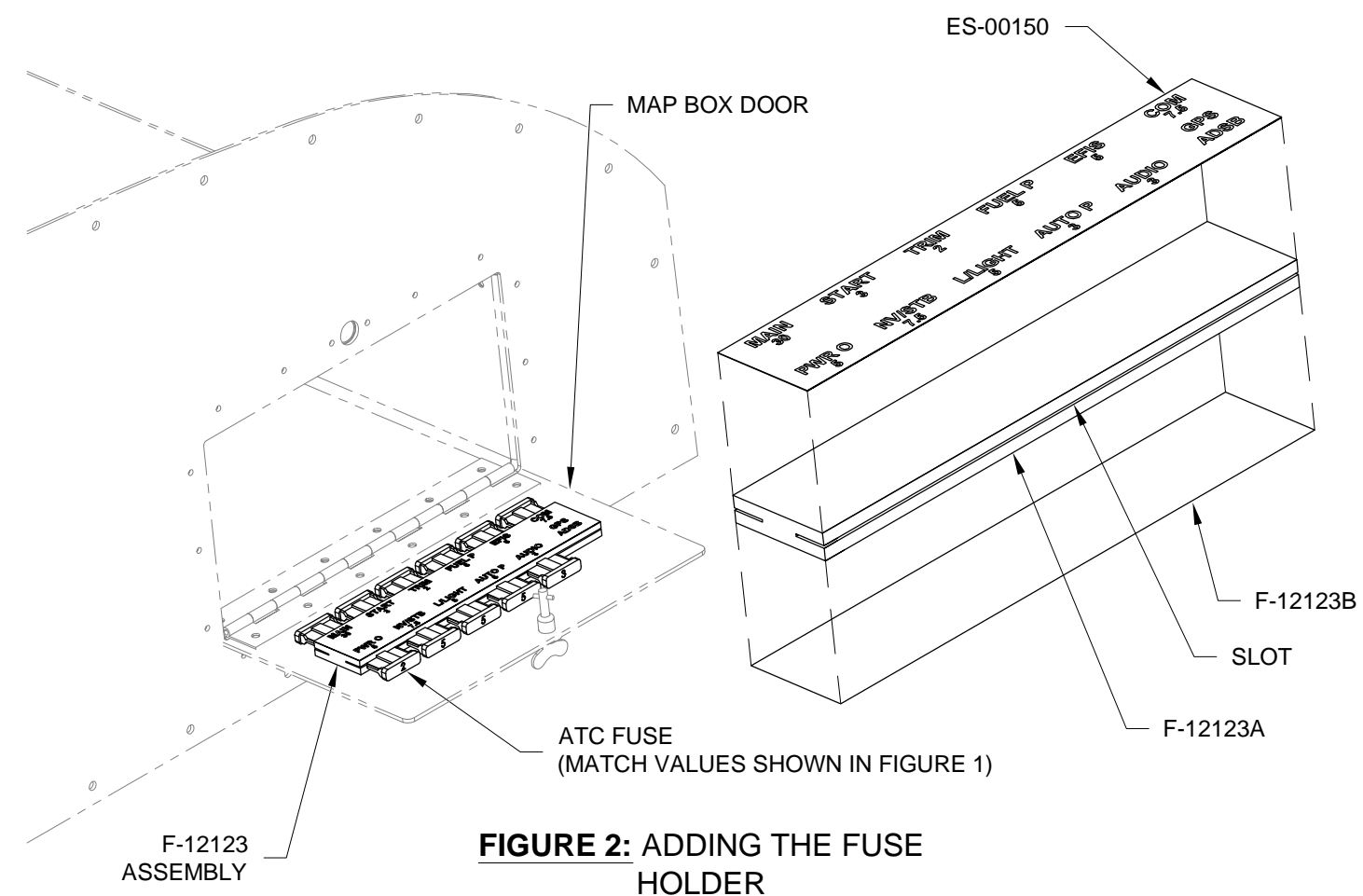
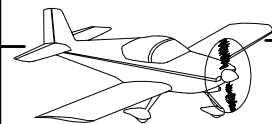Step 2: Peel the back off the ES-00150 Fuse Holder Label.

Stick the label to the top of the F-12123A Fuse Holder.

Peel one side of the F-12123B Double Sided Velcro Tape off and place it on the bottom of the assembly.

Step 3: Peel the remaining side of the F-12123B Double Sided Velcro Tape off and adhere the assembly onto the inside of the Map Box Door as shown in Figure 2.

Step 4: Install a second set of fuses in the F-12123 Fuse Holder Assembly pertaining to the same fuse values shown on the ES-00150 Fuse Holder Label.

AV-50001

FUSES

EMPTY SLOT

GENRTR MAIN BUS	START	TRIM	FUEL PUMP	EFIS	COM	POWER OUTLET	NAV STROBE	LANDING LIGHTS	AUTO PILOT	AUDIO	GPS ADSB
30	3	2	5	5	7.5	5	7.5	5	3	3	

TRIM DOWN   AVIONICS   NAV STROBE   LAND LIGHT STEADY   AUTOPILOT

TRIM UP   NAV   LAND LIGHT PULSE

FIGURE 1: INSTALLING FUSES

ES-00150

MAP BOX DOOR

F-12123B

SLOT

F-12123A

ATC FUSE
(MATCH VALUES SHOWN IN FIGURE 1)

F-12123 ASSEMBLY

FIGURE 2: ADDING THE FUSE HOLDER

NOTE: Parts on this page may not correspond to the parts supplied with your com radio. Use this page as a guide in combination with the instructions supplied with your com radio to install the AV-50001 Power Switch Module.

NOTE: Before completing the remaining steps on this page now is the time to make an additional cutout for an optional Garmin X96 GPS (See 42D), PM-3000RV when using a Garmin G3X Touch system in Europe (See 42L), Garmin GMC305 Autopilot Controller (See 44B) or SkyView AP-KNOBS Panels (See 58) in the upper center of the panel.

If finishing the panel with a powder coat or other finish of significant thickness deburr mating edges of each panel piece to leave room for the thickness of the coating material on each part.

Step 1: Machine countersink the center panel for the screws that will attach the AV-50001 Power & Switch Module.

Step 2: Install the three screws along the top and four screws along the bottom edge attaching the AV-50001 Power & Switch Module to the back of the center inst panel as shown in Figure 1.

Step 3: Attach the center inst panel to the F-1202B Panel Base, inst stack angles as shown in Figure 1.
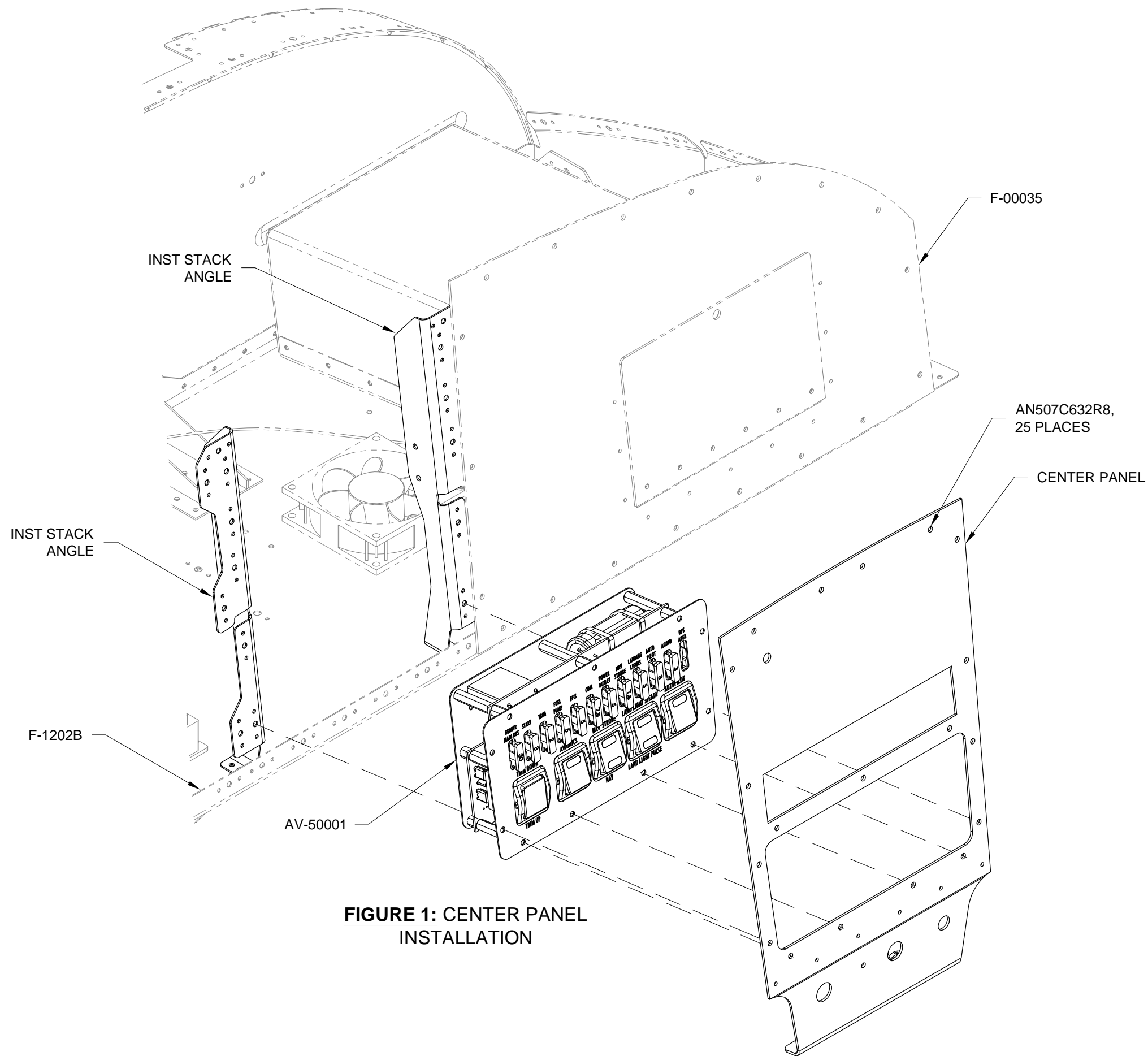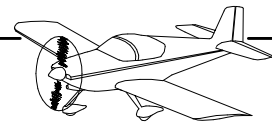
F-00035

INST STACK ANGLE

AN507C632R8, 25 PLACES

CENTER PANEL

INST STACK ANGLE

F-1202B

AV-50001

FIGURE 1: CENTER PANEL INSTALLATION

Step 1: Remove the backshell from the WH-00031 Switch Module Harness 25-pin D-Sub connector labeled "SWITCHES" with a yellow heat-shrink band as shown in Figure 3.

Install the D-Sub pins connected to the WH-L1128 (WHT) and WH-L1129 (WHT) wires coming from the WH-00111 Dimmer Potentiometer Harness into the open receptacles in the D-Sub connector. Either wire may go into pin 6 or 7. See Figure 1.

Re-install the backshell, then attach the connector to the back of the AV-50001 Power & Switch Module. See Figure 3.

Step 2: Route the WH-00111 Dimmer Potentiometer Harness from the back of the AV-50001 Power & Switch Module to the location on the center panel as shown in Figure 3. if no hole exists for the dimmer in the center panel complete Step 3, otherwise skip to Step 4.

For Garmin G3X route the potentiometer harness along the switch harness back towards the AV-50000A Control Module. Just before the cushioned clamp near the left ES CPU FAN follow up the wires going to the transponder then to the panel location of the potentiometer. See Section 42N.

For SkyView route the potentiometer harness back toward the firewall then follow the wires going to the back of the COM radio then overtop of the radio to the panel location of the potentiometer. See Section 42C and Section 42G.
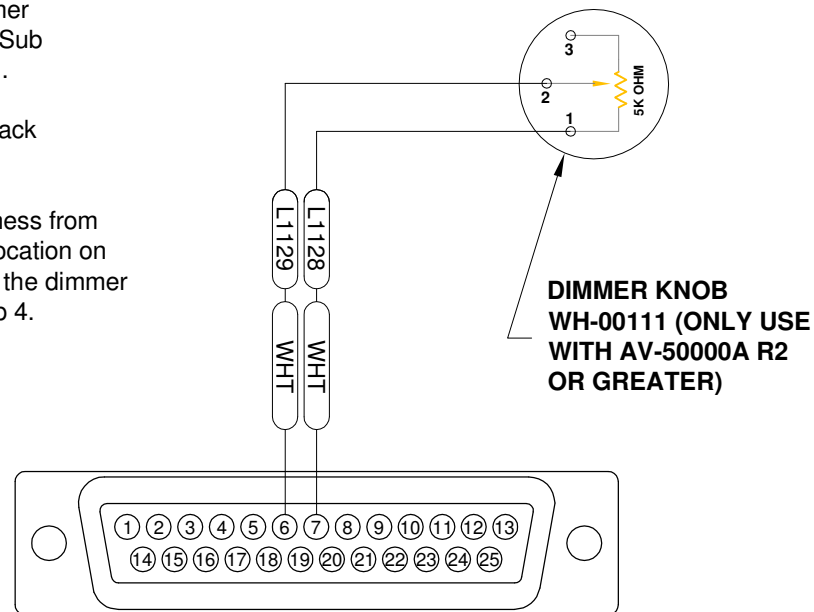
Step 4: Shorten the potentiometer shaft end by 1/8 to remove excessive gap between the panel and the dimmer knob. Note the slit on the end of the shaft serves no function and may be removed.

Step 5: Install the potentiometer on the WH-00031 Switch Module Harness to the panel as shown in Figure 3. Do not fully tighten the nut at this time as the knob will be removed to add a label in Section 51A.

Install the ES Dimmer Knob to the shaft protruding from the potentiometer using the set screw(s) in the knob

DIMMER KNOB WH-00111 (ONLY USE WITH AV-50000A R2 OR GREATER)

FIGURE 1: INSTALLING THE DIMMER POTENTIOMETER HARNESS
(VIEW FROM WIRE INSERTION SIDE)

Step 3: Drill 1/4 the dimmer hole in the center panel if not already present as shown in Figure 2.
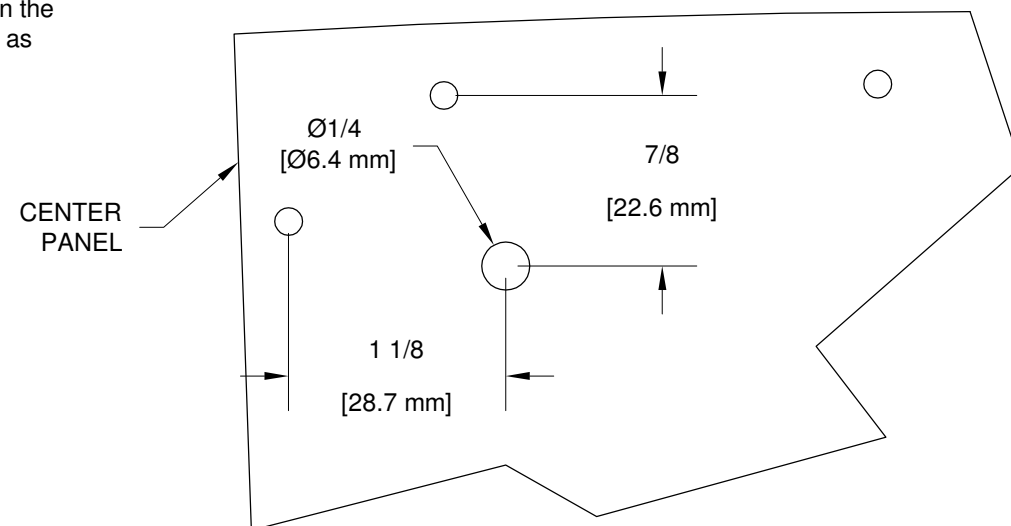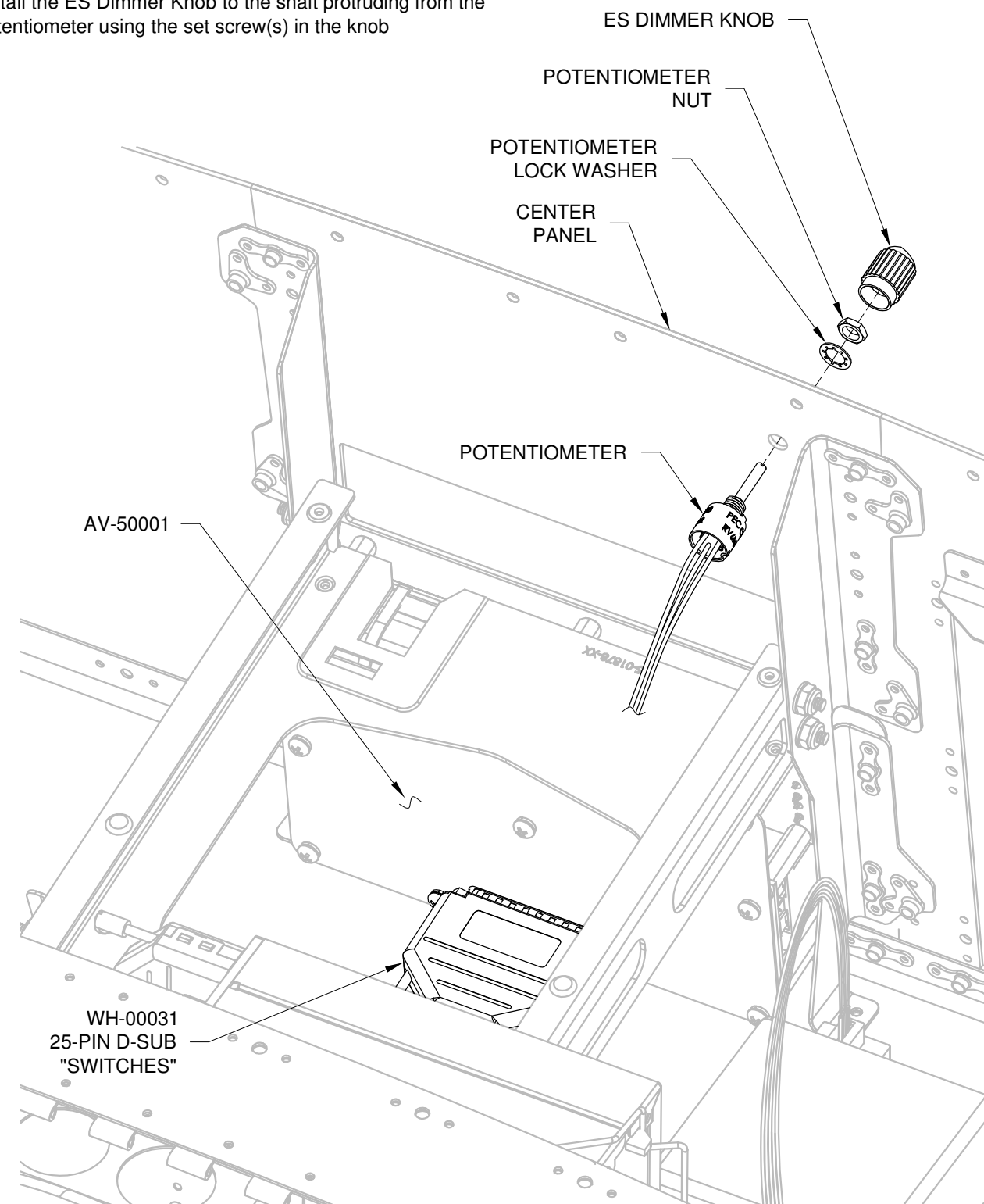
CENTER PANEL

Ø1/4 [Ø6.4 mm]

7/8 [22.6 mm]

1 1/8 [28.7 mm]

FIGURE 2: DIMMER HOLE

ES DIMMER KNOB

POTENTIOMETER NUT

POTENTIOMETER LOCK WASHER

CENTER PANEL

POTENTIOMETER

AV-50001

WH-00031 25-PIN D-SUB "SWITCHES"

FIGURE 3: INSTALLING THE POTENTIOMETER

Step 1: Route the WH-00031 Switch Module Harness through a snap bushing in the com support and through the cushioned clamp near the left ES-CPU FAN. See Figure 1.

Connect the switch module harness 25-pin d-sub to the AV-50000A RV-12 Control Module as shown in Figure 1.
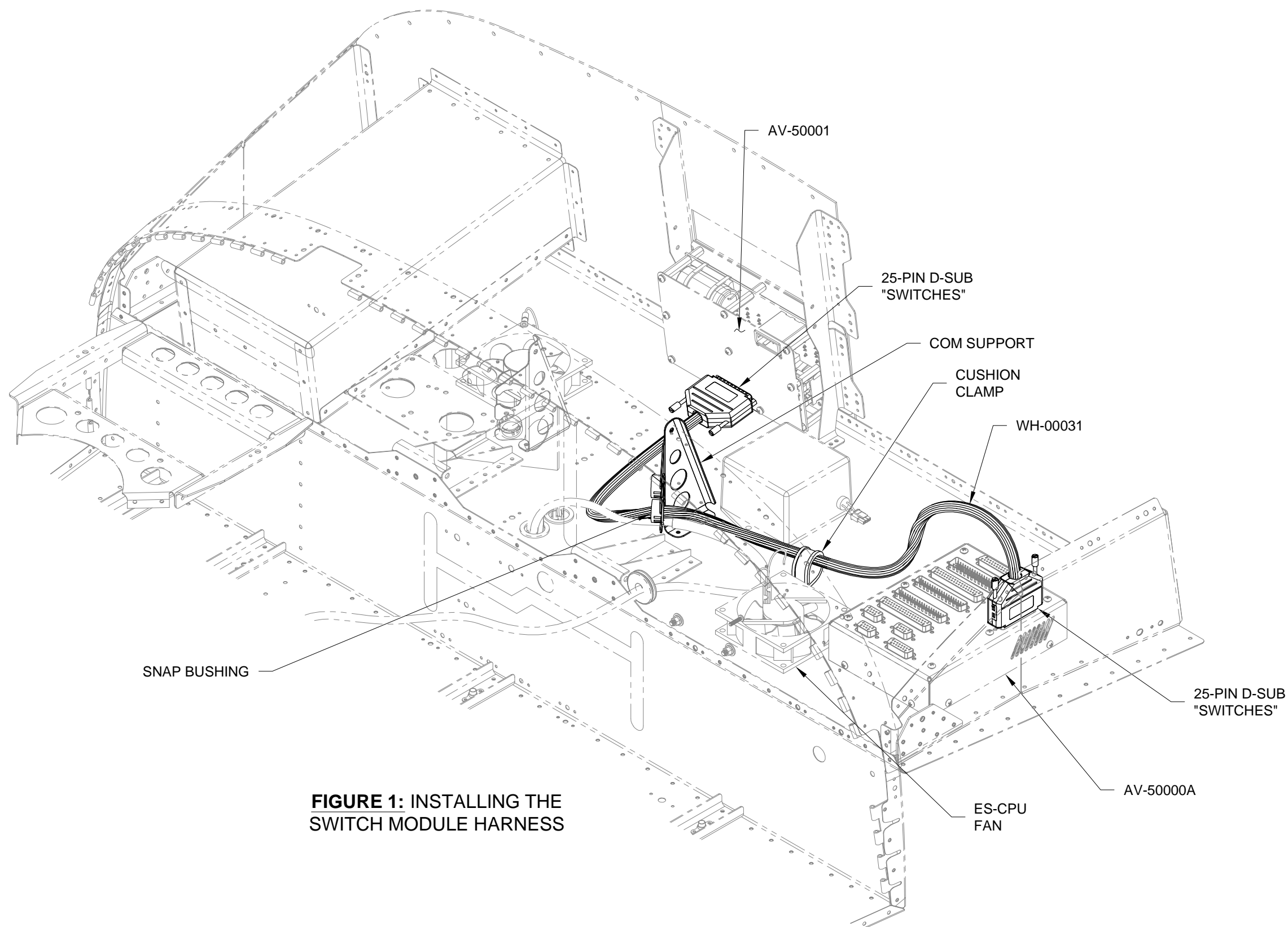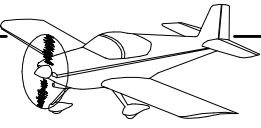

AV-50001

25-PIN D-SUB "SWITCHES"

COM SUPPORT

CUSHION CLAMP

WH-00031

SNAP BUSHING

25-PIN D-SUB "SWITCHES"

AV-50000A

ES-CPU FAN

FIGURE 1: INSTALLING THE SWITCH MODULE HARNESS

Step 1: Attach the AV AV-17 Com Antenna Bent to the F-1276 Bottom Skin using the hardware called out in Figure 1.

Step 2: Attach the WH-00051-1 Com Antenna Cable to the AV AV-17 Com Antenna as shown in Figure 1.
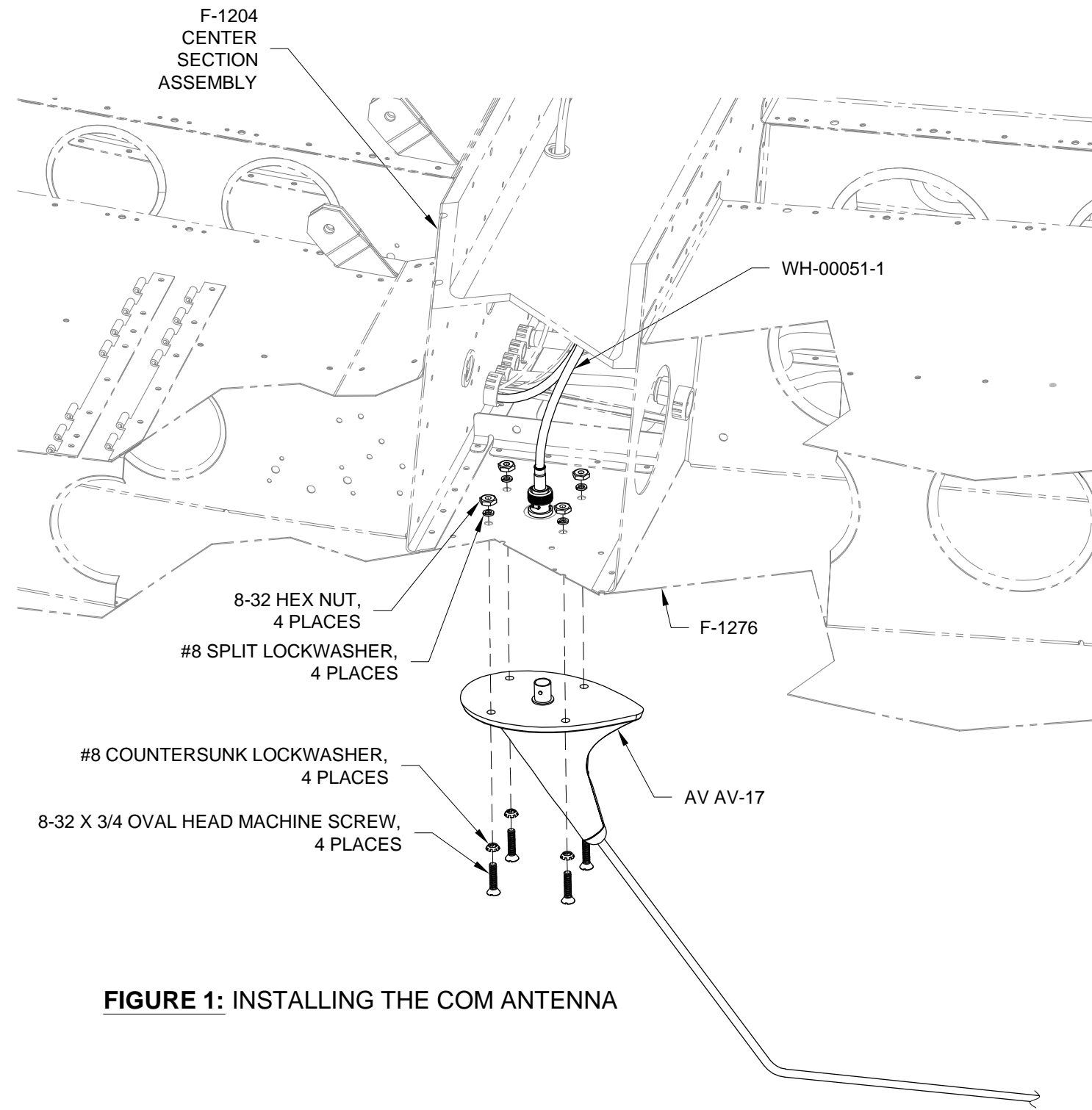
Step 2: Attach the AV AV-22 Transponder Antenna to the F-1272 Fwd Fuse Floor Skin using the hardware called out in Figure 2.

Step 3: Attach the WH-00050 Transponder Antenna Cable to the AV AV-22 Transponder Antenna as shown in Figure 2.
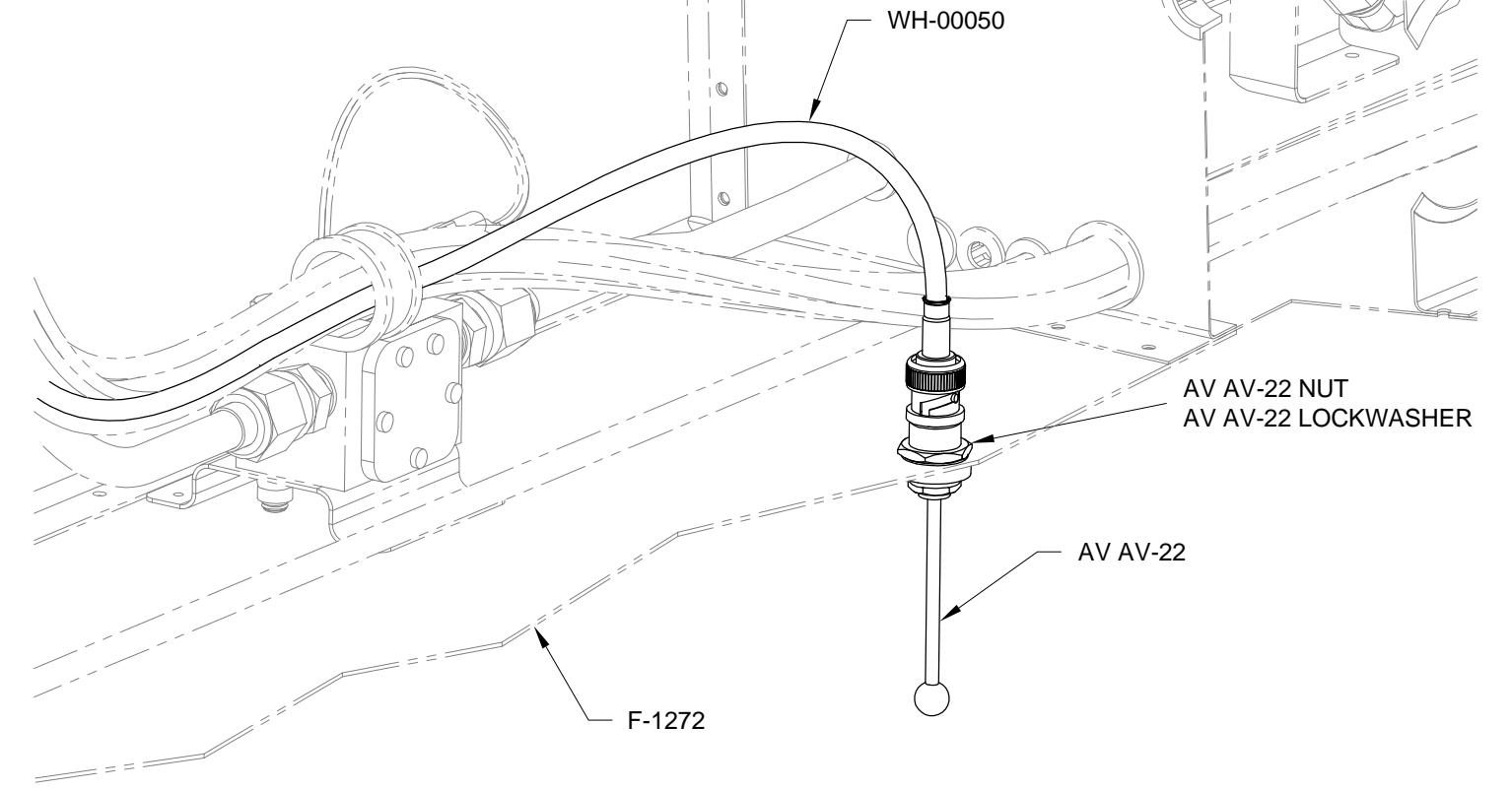
F-1204 CENTER SECTION ASSEMBLY

WH-00051-1

8-32 HEX NUT, 4 PLACES

#8 SPLIT LOCKWASHER, 4 PLACES

F-1276

#8 COUNTERSUNK LOCKWASHER, 4 PLACES

AV AV-17

8-32 X 3/4 OVAL HEAD MACHINE SCREW, 4 PLACES

FIGURE 1: INSTALLING THE COM ANTENNA

WH-00050

AV AV-22 NUT
AV AV-22 LOCKWASHER

AV AV-22

F-1272

FIGURE 2: INSTALLING THE TRANSPONDER ANTENNA

Step 1: Machine countersink the #27 holes of the Instrument Panel Left
used to mount the AV-50002 Ignition & Start Module. See Figure 1.

Step 2: Attach the AV-50002 Ignition & Start Module to the F-00060 SV1000 Inst Panel Left as shown in
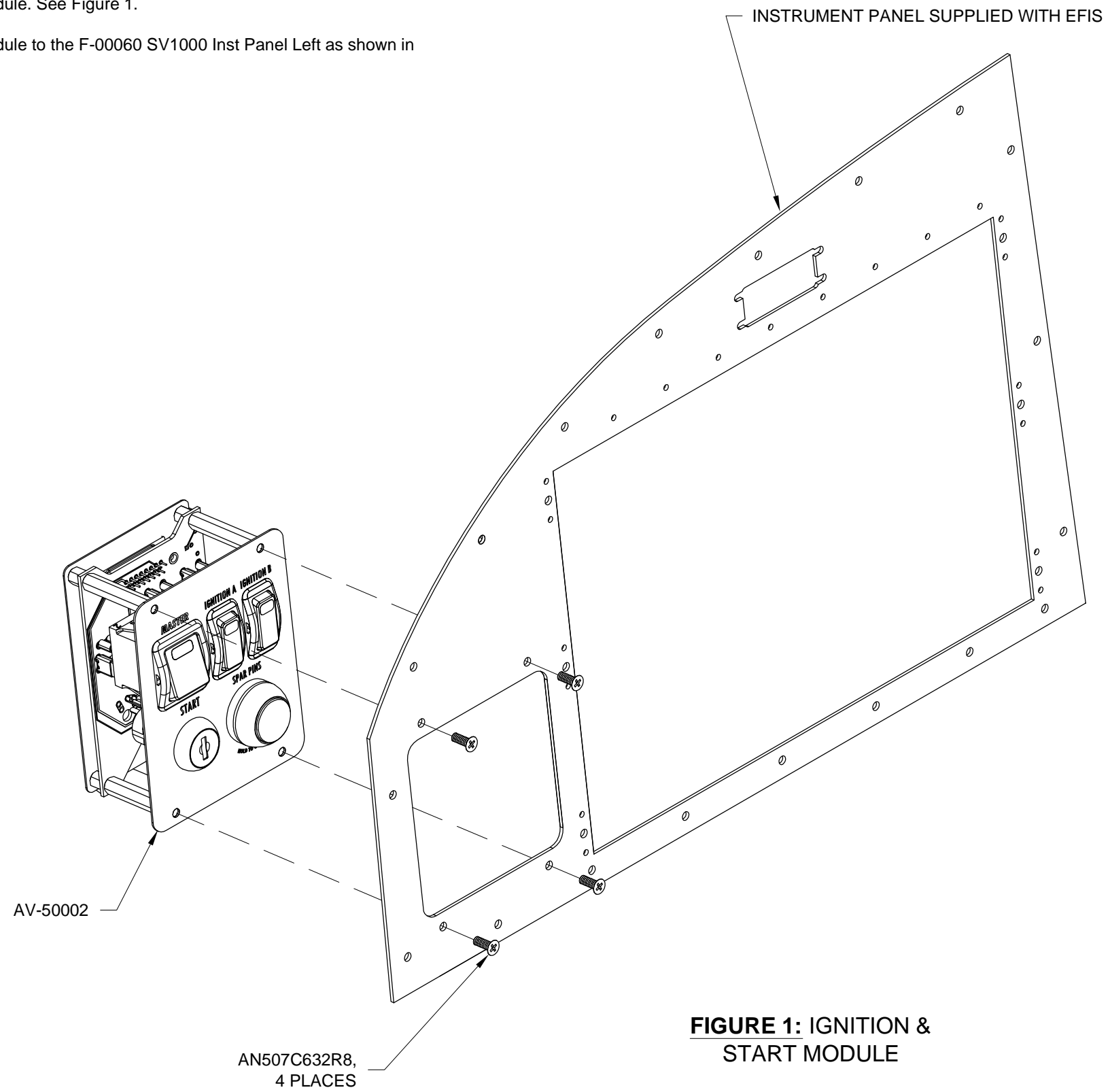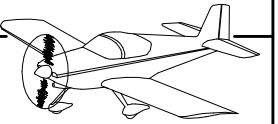Figure 1.

INSTRUMENT PANEL SUPPLIED WITH EFIS

AV-50002

AN507C632R8,
4 PLACES

FIGURE 1: IGNITION &
START MODULE

NOTE: The WH-00030 Ignition Harness has identical 15-pin d-subs on each end. It does not matter which end is plugged in to a specific location.

Step 1: Install one of the 15-pin d-subs from the WH-00030 Ignition Harness to the back of the AV-50002 Ignition & Start Module. Install the other ignition harness d-sub to the AV-50000A RV-12 Control Module. See Figure 1.

WH-00030

AV-50002

1202H-L

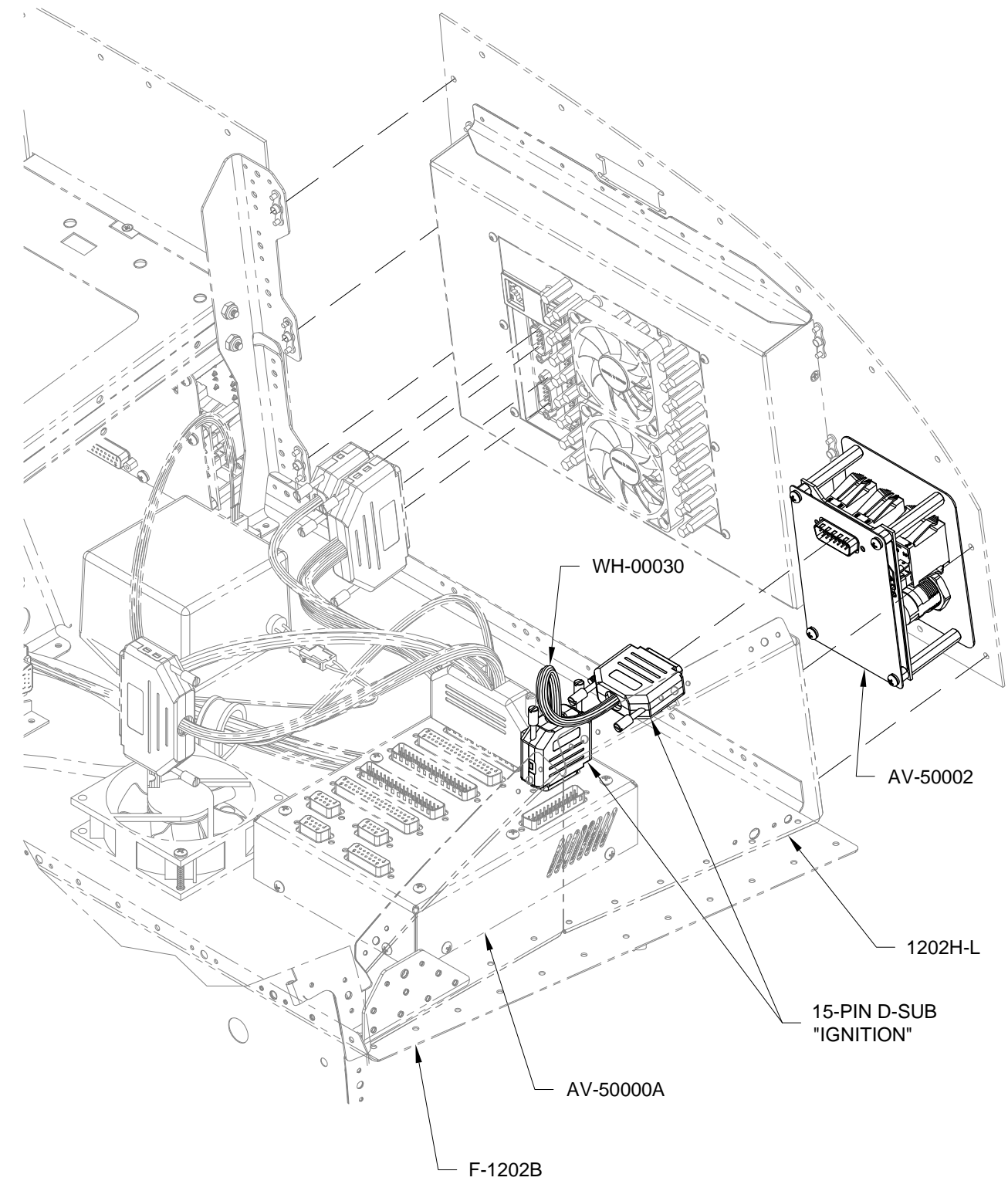15-PIN D-SUB "IGNITION"

AV-50000A

F-1202B

FIGURE 1: INSTALLING THE
IGNITION HARNESSES
(INSTRUMENT PANEL SHOWN NOT INSTALLED
FOR CLARITY)

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