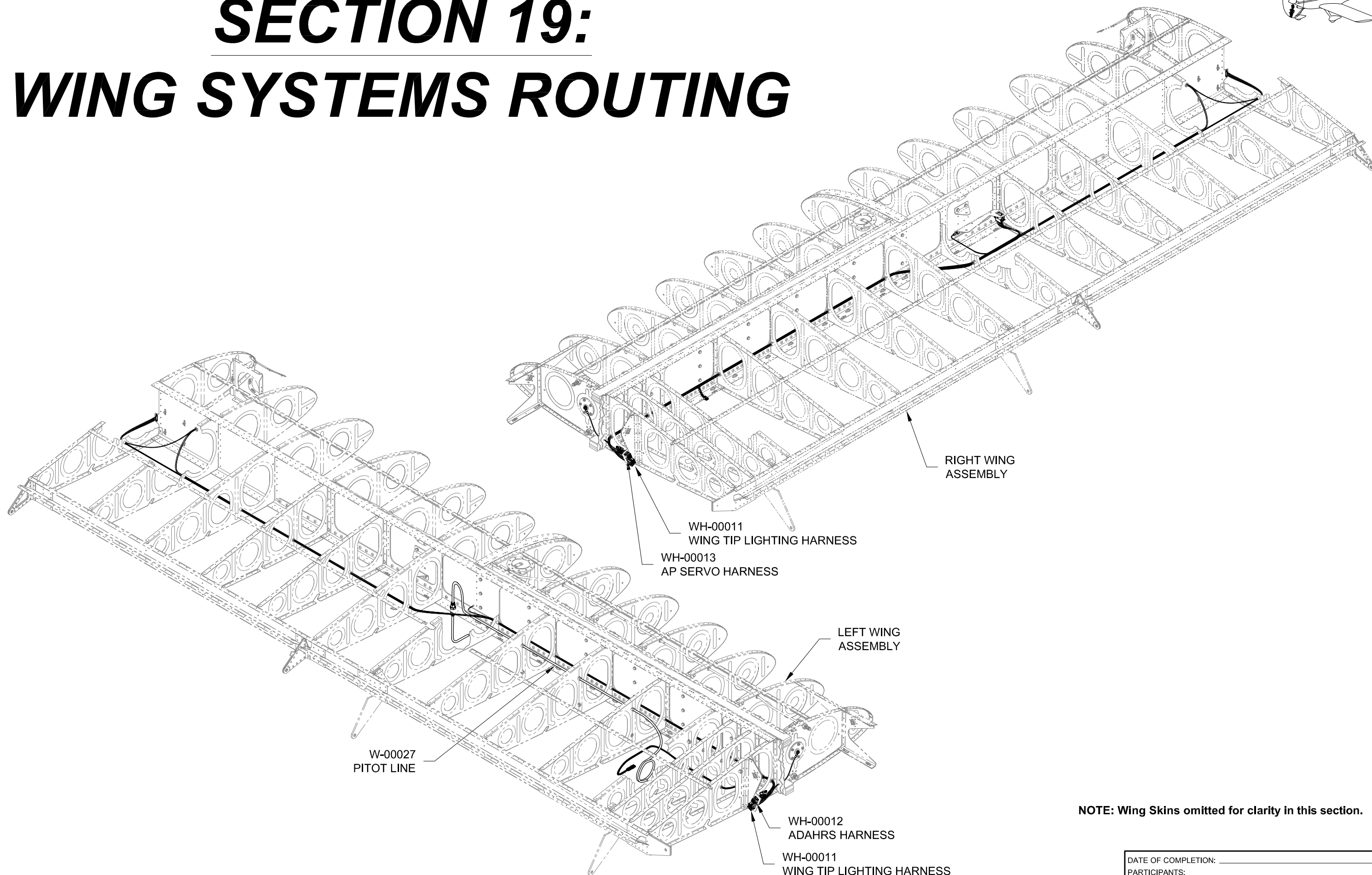
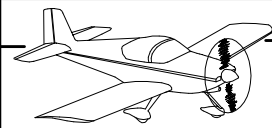


SECTION 19: WING SYSTEMS ROUTING



NOTE: Wing Skins omitted for clarity in this section.



NOTE: See Section 5.21 for wire color callouts. Keep wire chases as neat, tight and straight as possible, with a maximum of dis-enslackenment. It may be desirable, in certain cases, to route one wire at a time. Use tie wraps between support points where wires are not grouped tightly. Cut off any trailing ends on the tie wraps, and ensure they are flush. When installing ground connections make sure to remove paint/primer around screw holes on both sides to ensure good continuity.

Step 1: Label the WH-00011 Wing Tip Lighting Harnesses as shown in Figure 1.

Install the C400P into the lower opening in the W-1029D-L Spacer as shown in Detail A.

Step 2: Route the Q427 (WHT) wire from the WH-00011 Wing Tip Lighting Harness through the snap bushing located on the Main Spar Assembly as shown in Detail A.

Strip the Q427 (WHT) wire and crimp on a ring terminal as shown in Detail A.

Connect the Q427 (WHT) wire to the IE-F385 Fuel Level Sender on the Fuel Tank Assembly as shown in Detail A.

Step 3: Route the L423 (GRN), L424 (YEL) and L425 (RED) wires from the WH-00011 Wing Tip Lighting Harness outboard through the snap bushings in the wing ribs as shown in Figure 2.

Insert these wires into C401J as shown in Figure 1.

Install C401J into the opening in the W-0006-L Main Spar Assembly as shown in Detail B.

Route the L422 (BLK) wire from the C401J through the snap bushing in the outboard rib then through the Main Spar Assembly.

Step 4: Route the L417 (RED), L418 (YEL) and L419 (WHT) wires from the WH-00011 Wing Tip Lighting Harness through the snap bushings in the wing ribs, then through the W-00006-L Main Spar Assembly as shown in Figure 2.

Coil and stow the L417 (RED), L418 (YEL), L419 (WHT) and L422 (BLK) wires together forward of the Main Spar Assembly. See OP-52A for future use of these wires.

Step 5: Repeat these steps for the right wing, but install the WH-00013 AP Servo Harness first See Page 19-06.

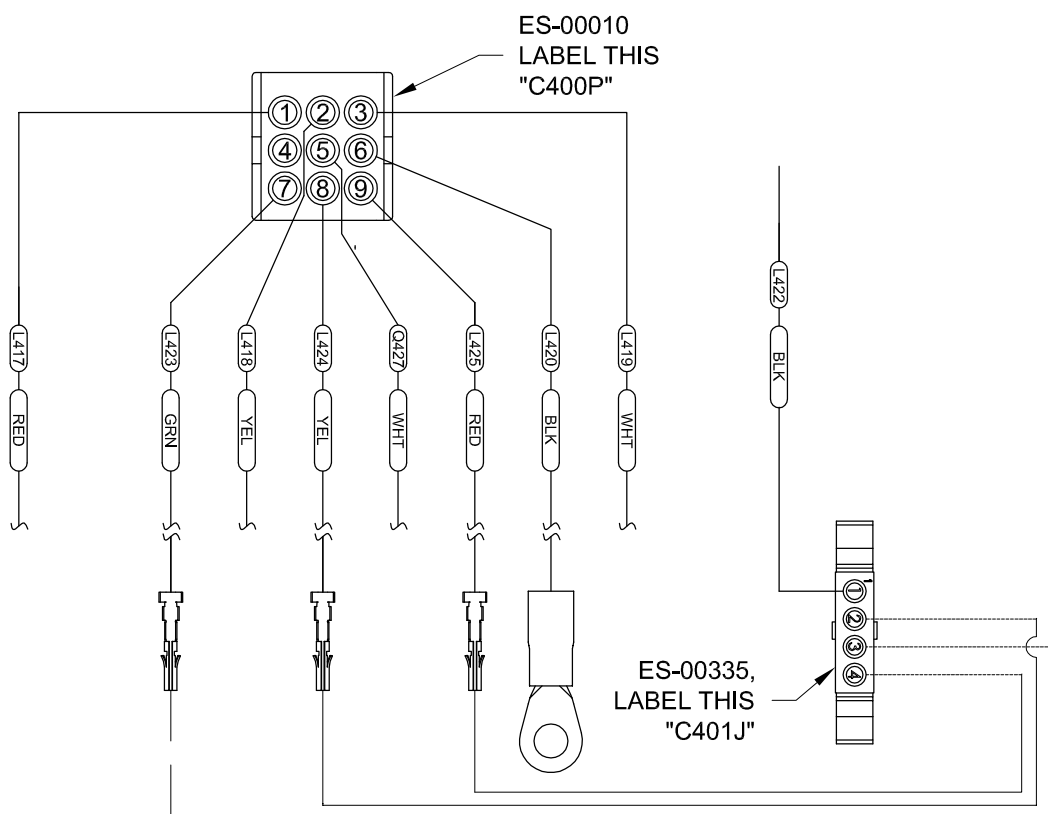
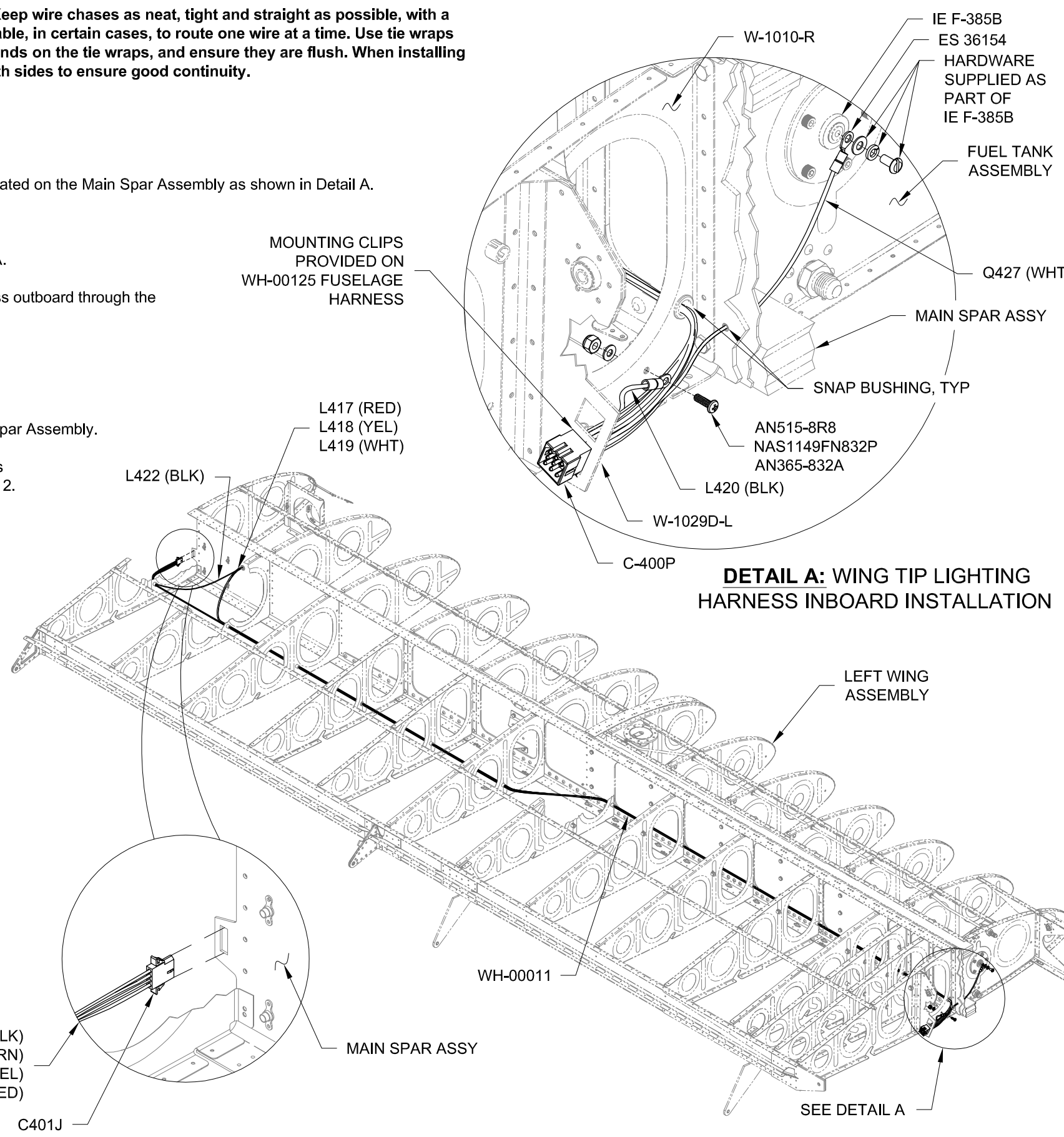


FIGURE 1: WH-00011 WING TIP LIGHTING HARNESS



DETAIL A: WING TIP LIGHTING HARNESS INBOARD INSTALLATION

DETAIL B: WING TIP LIGHTING HARNESS OUTBOARD INSTALLATION

FIGURE 2: WING TIP LIGHTING HARNESS INSTALLATION OVERVIEW



Step 1: Label the ADAHRS harness as shown in Figure 1.

Install C403J into the upper opening in W-1029D-L Spacer as shown in Detail A.

Step 2: Route the W401 (BRN/YEL) wire through the snap bushings in the wing ribs and WH-00006-L Main Spar Assembly as shown in Figure 2 and Detail B.

Step 3: Route the F402 (GRN), F403 (BLU), F404 (WHT/GRN), F405 (WHT/BLU), F406 (WHT) wires through the snap bushings in the wing ribs as shown in Figure 2 and Detail A.

Coil and stow these wires for later installation into the ADAHRS Assembly.

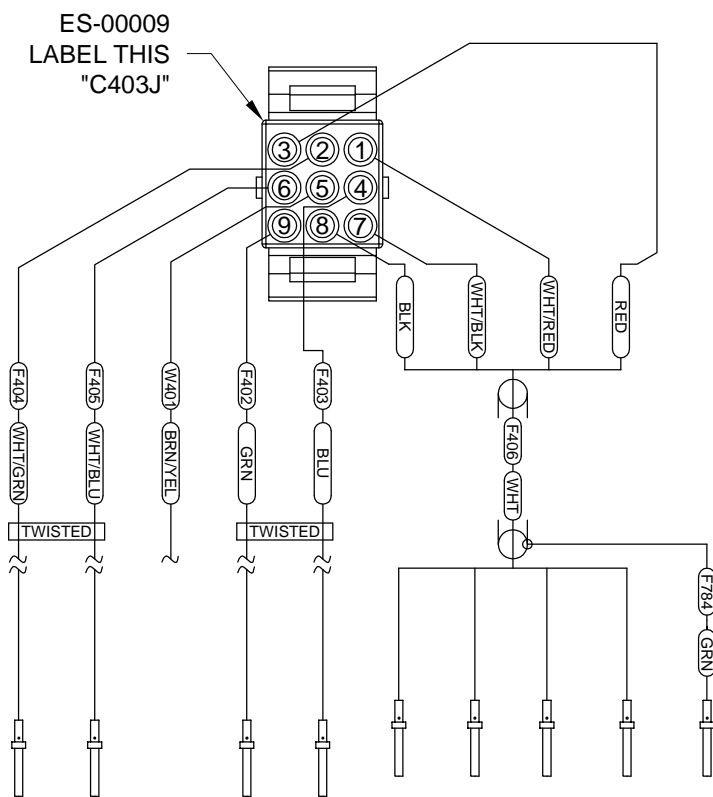
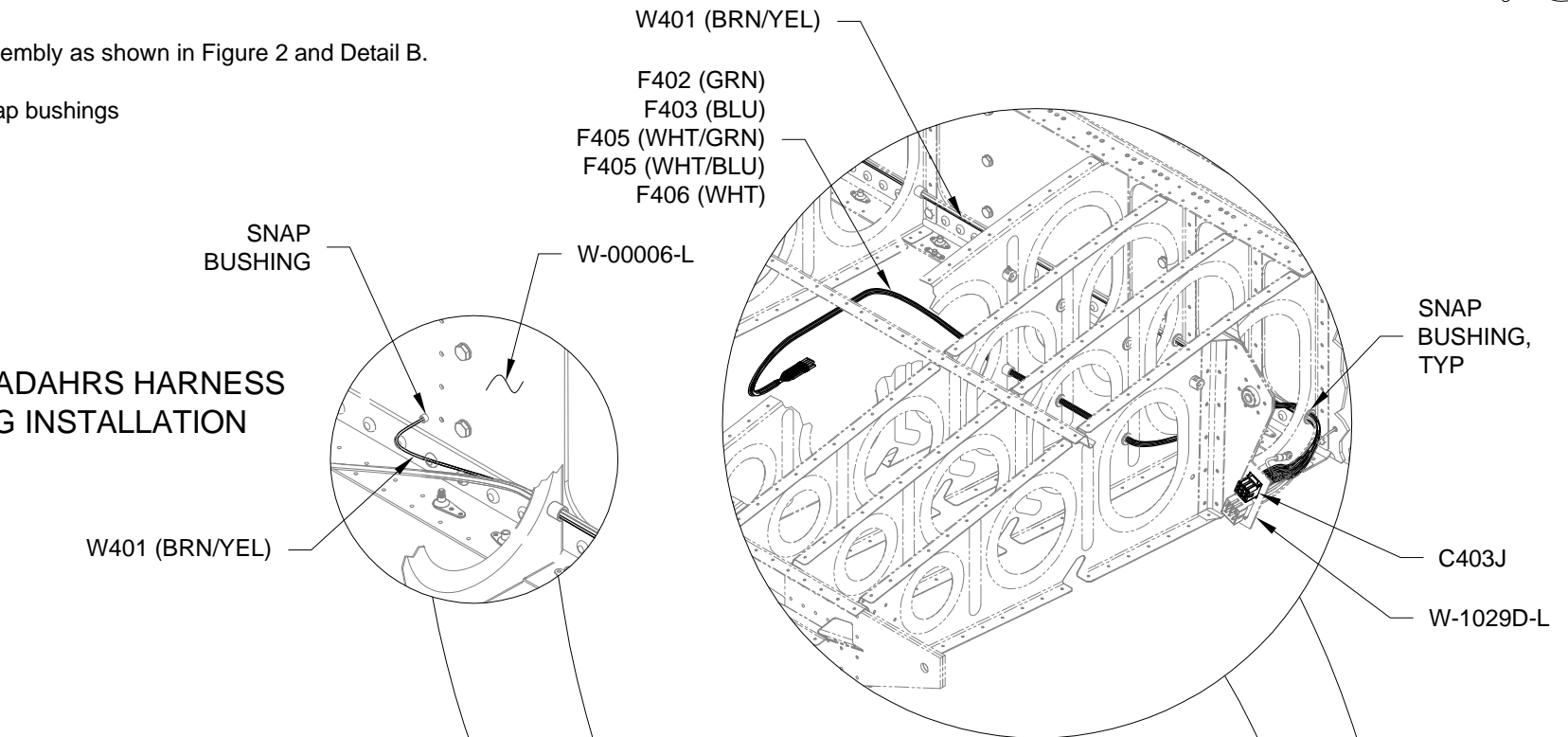


FIGURE 1: WH-00012 ADAHRS HARNESS

DETAIL B: ADAHRS HARNESS MID-WING INSTALLATION



DETAIL A: ADAHRS HARNESS INBOARD INSTALLATION

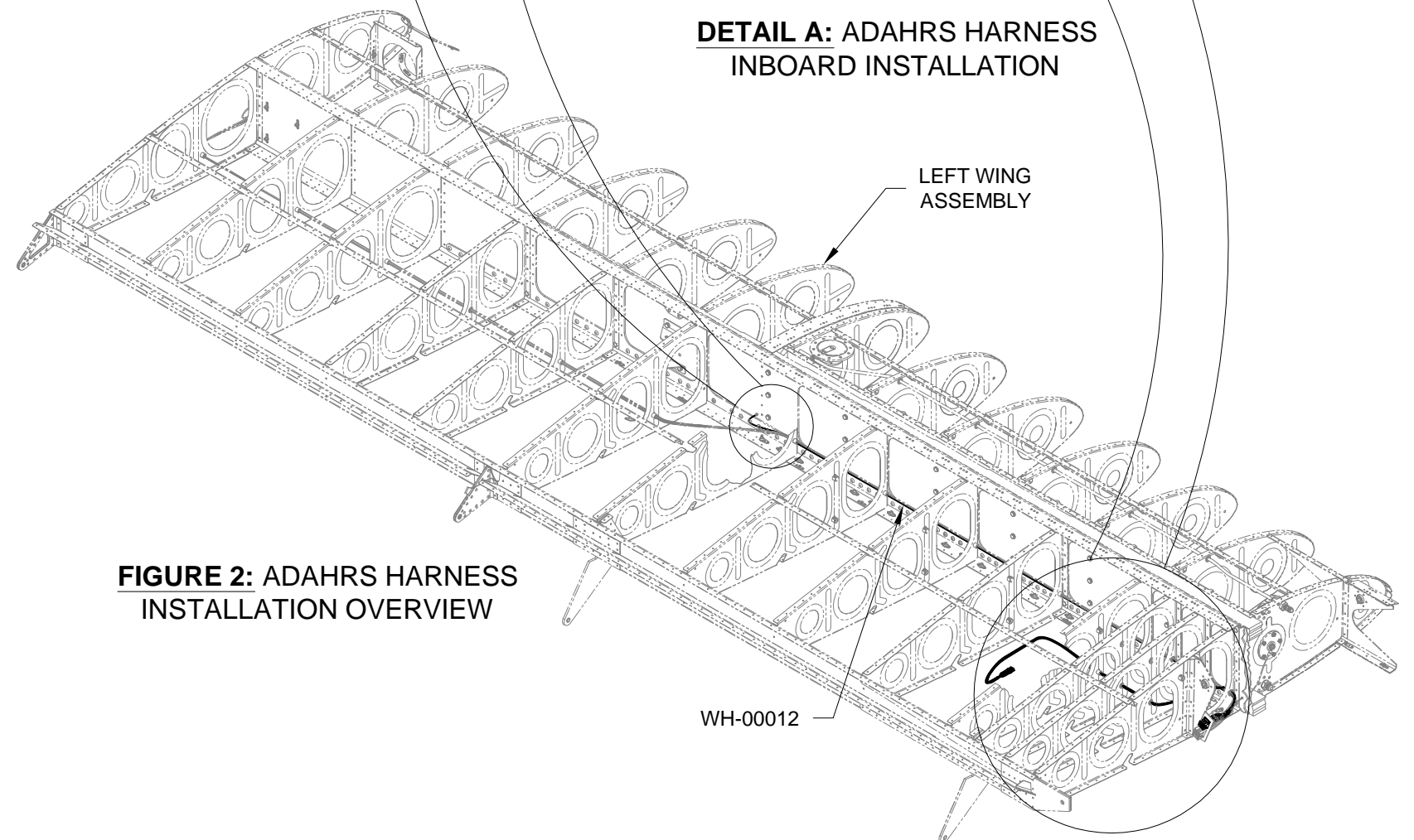
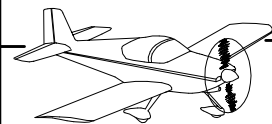


FIGURE 2: ADAHRS HARNESS INSTALLATION OVERVIEW



NOTE: A stainless steel pitot tube with cover (VENT P-100) is available from the VAN'S ACCESSORIES CATALOG. If installing a mast mounted pitot head follow installation instructions provided with mast and pitot head. See Section 5.14 for more information on aluminum tubing. The lower aft snap bushings in the ribs are provided for the option to route an AOA line.

Step 1: Make the Pitot Tube by cutting a piece of AT0-035X1/4 Tube to at least 8 [203.2 mm] long.

Bend the tube and then trim to match the dimensions shown in Figure 1.

Step 2: Place a nut and sleeve on to the long leg of the Pitot Tube as shown in Detail A.

Flare the end of the pitot tube called out in Figure 1 as described in Section 5.14 to retain the sleeve and nut.

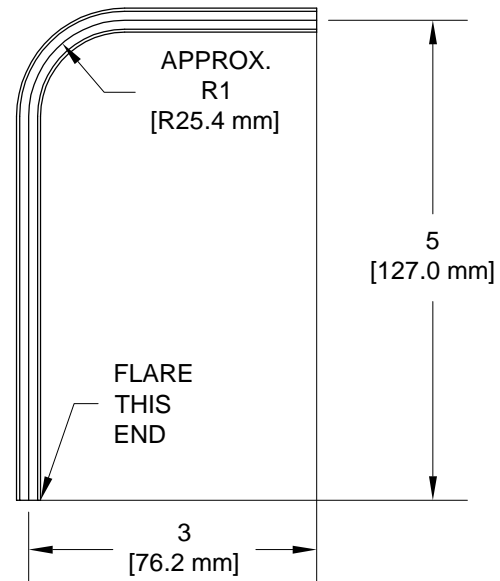


FIGURE 1: PITOT TUBE

Step 3: Final Drill 7/16 [11.1 mm] the single hole in the bottom aft row of rivet holes left open from the instructions on Page 17-08 in the W-00001-L Leading Edge Skin and W-00006-L Main Spar Assembly.

Deburr the hole in the leading edge skin and Main Spar Assembly.

NOTE: The Pitot Tube can be final installed later to avoid damage during wing storage.

Step 4: Install the VA-170A Adapter Fitting, nut and FLF-00005 1/4 Dia Instant Connect Fitting into the W-00001-L Leading Edge Skin and W-00006-L Main Spar Assembly as shown in Detail A.

NOTE: The length of the W-00027 Pitot Line (PT 1/4 OD Plastic Tube) is dependent on your choice in avionics.

Step 5: Insert the outboard end of the W-00027 Pitot line into the FLF-00005 1/4 Dia. Instant Connect Fitting.

Route the inboard end of the pitot line through the snap bushings in the wing ribs to the location as shown in Figure 2.

Coil and stow excess pitot line for later use.

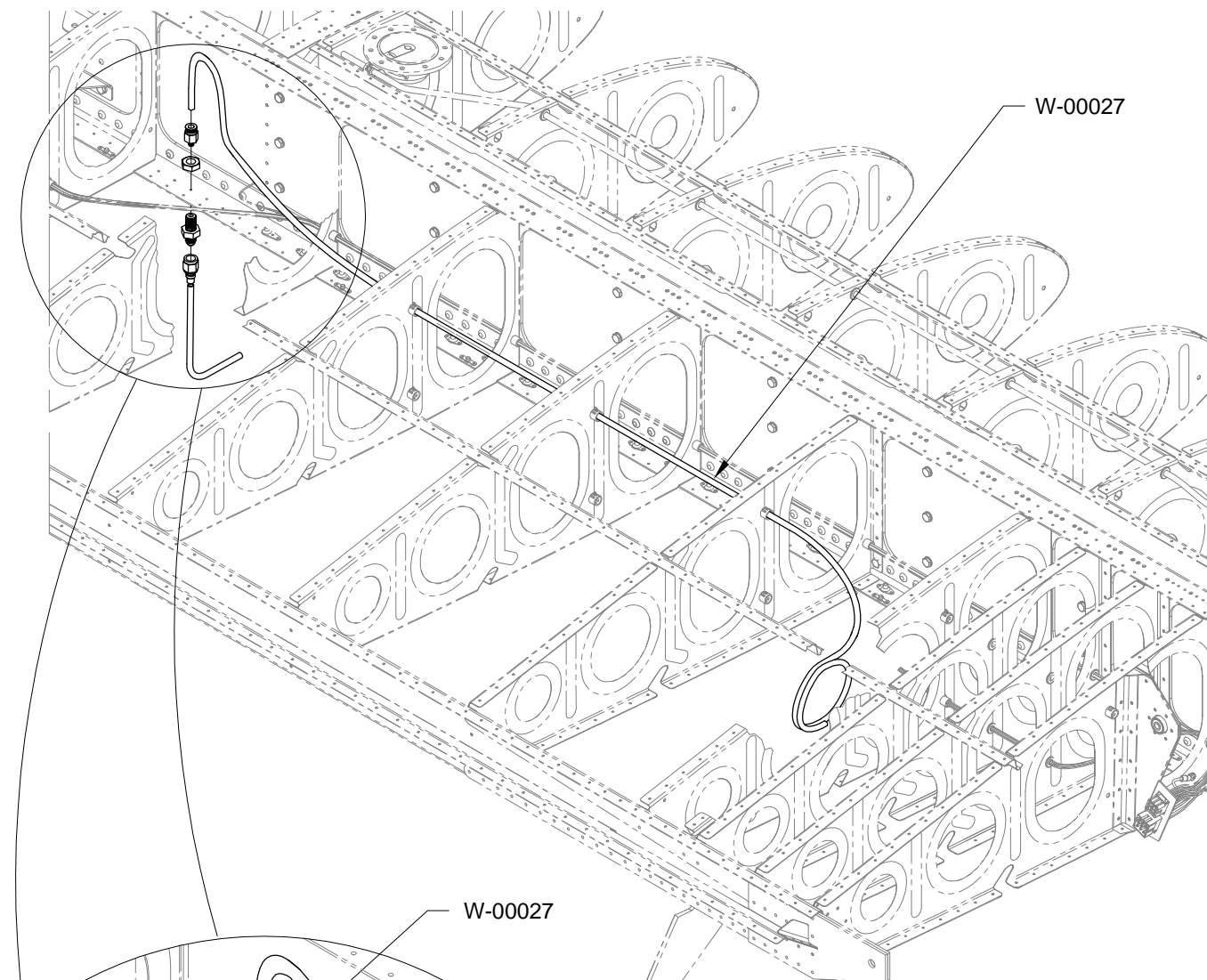
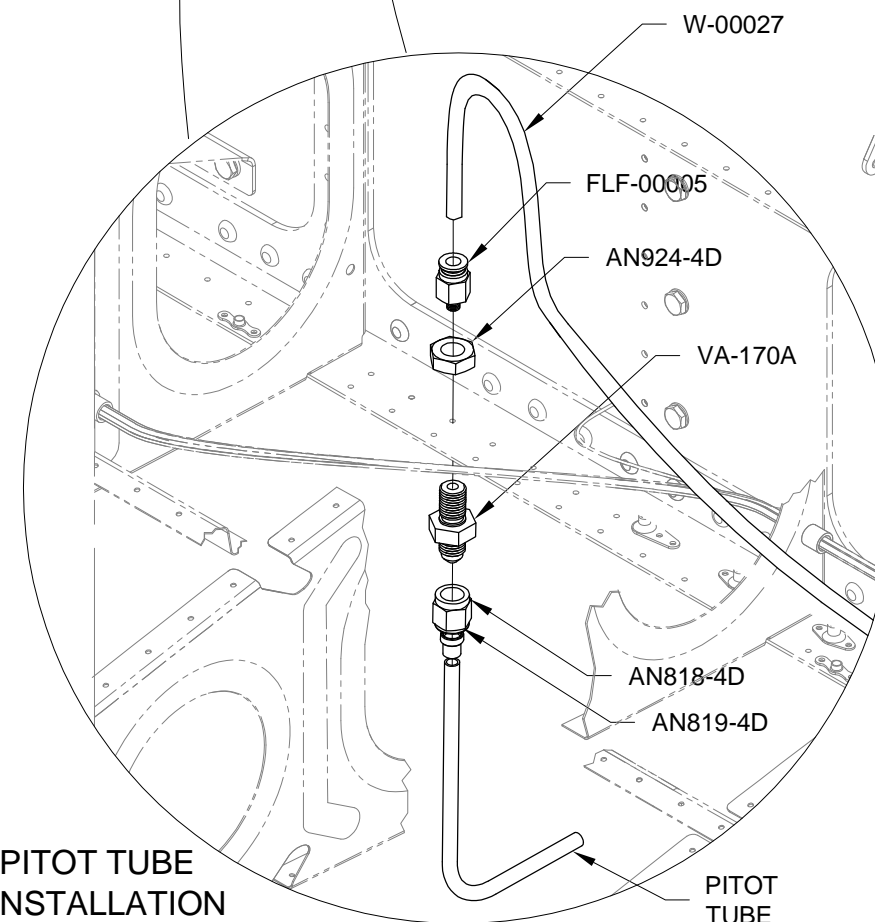
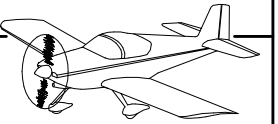


FIGURE 2: PITOT TUBE & LINE INSTALLATION OVERVIEW



DETAIL A: PITOT TUBE OUTBOARD INSTALLATION



Step 1: Strip the W401 (BRN/YEL) wire (routed, coiled and stowed per Page 19-03, Step 2) then crimp on the ES DV18-188M female spade terminal as shown in Figure 1.

See Section 5.21 for wire strip length.

Connect the W401 (BRN/YEL) wire to the COM (Common) terminal of the Stall Warning Subassembly as shown in Figure 1.

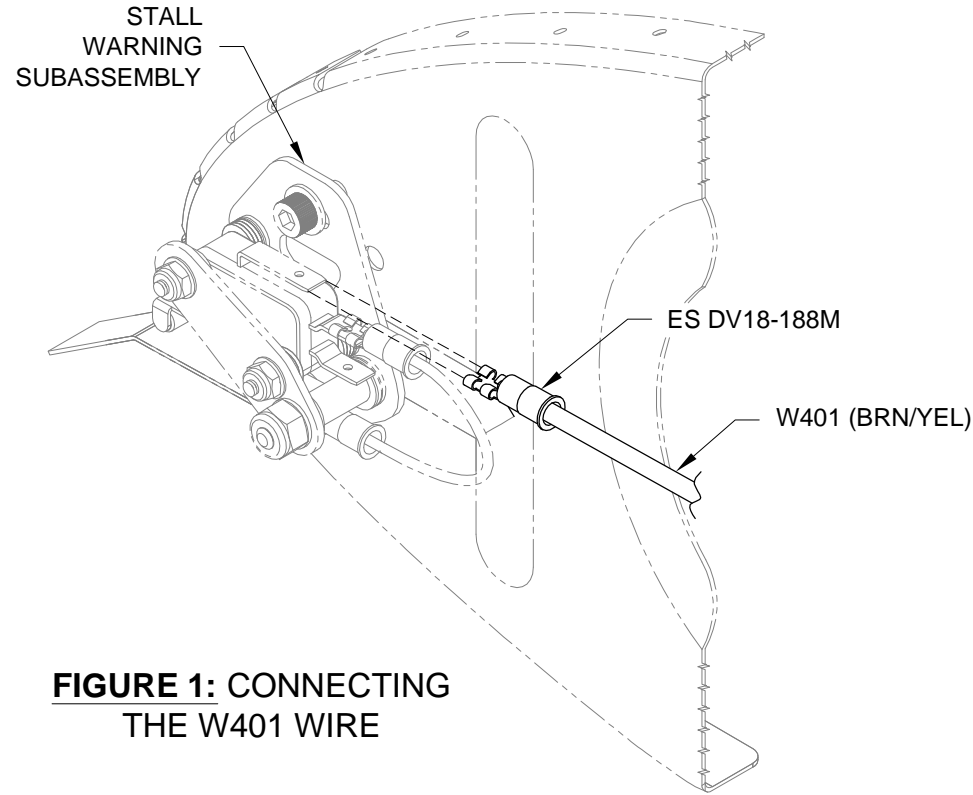


FIGURE 1: CONNECTING THE W401 WIRE

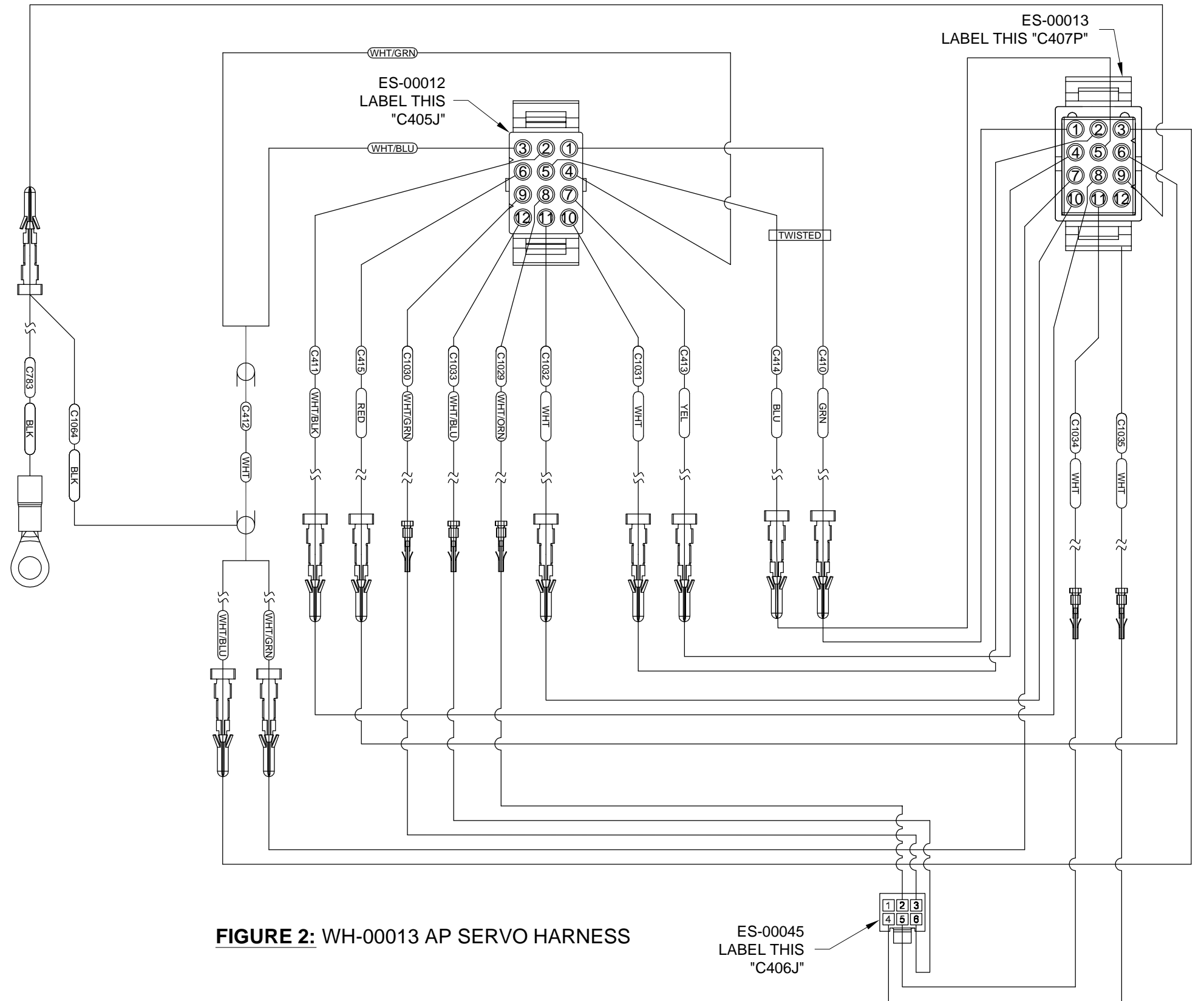
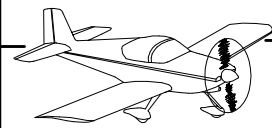


FIGURE 2: WH-00013 AP SERVO HARNESS

ES-00045
LABEL THIS
"C406J"



Step 1: Label the AP Servo Harness, Molex Connectors and the ES-00045 Molex Receptacle, Position Micro-Fit as shown on Page 19-05, Figure 1.

Install C405J into the top opening of the W-1029D-R Spacer as shown in Detail A.

Step 2: Route all wires from the WH-00013 AP Servo Harness outboard through the wing ribs as shown in Figure 1 and Detail A.

The C1029 (WHT/ORN), C1030 (WHT/GRN) and C1033 (WHT/BLU) wires will only reach as far as the mid-wing region shown in Detail B. This is perfectly natural and nothing to be ashamed of.

Step 3: Place C407P and attached C1034 (WHT) and C1035 (WHT) wires from the WH-00013 AP Servo Harness into the region shown in Detail C.

Route the C1034 (WHT) and C1035 (WHT) wires inboard to the mid-wing region shown in Detail B.

Insert the C1029 (WHT/ORN), C1030 (WHT/GRN) C1033 (WHT/BLU), C1034 (WHT) and C1035 (WHT) wires into C406J as shown on Page 19-05, Figure 2 and Detail B. Stow the hanging Molex connector for later use.

Step 4: Insert the C410 (GRN), C411 (WHT/BLK), both C412 (WHT/BLU & WHT/GRN) wires, C413 (YEL), C414 (BLU), C415 (RED), C783/C1064 (BLK), C1031 (WHT), C1032 (WHT) wires into C407P as shown on Page 19-05, Figure 2 and Detail C.

Step 5: Install the WH-00077 Autopilot Termination into the W-00006-R Main Spar Assembly as shown in Detail C.

Connect C407P to the autopilot termination, as shown in Detail C.

Connect the C783 (BLK) Wire to the W-0006-R Main Spar Assembly as shown in Detail C.

Step 6: Install a WH-00011 Wing Tip Lighting Harness into the right wing assembly as shown on Page 19-02.

AN3-6A,
NAS1149-F0363P
(SUPPLIED AS PART OF
SPAR ASSEMBLY)

WH-00077

C407P
C1034 (WHT)
C1035 (WHT)

C410 (GRN)
C411 (WHT/BLK)
C412 (WHT/BLU)
C412 (WHT/GRN)
C413 (YEL)
C414 (BLU)
C415 (RED,
C1031 (WHT)
C1032 (WHT)
C783/C1064 (BLK)

C783 (BLK)

**DETAIL C: AP SERVO HARNESS
OUTBOARD INSTALLATION**

C410 (GRN)
C411 (WHT/BLK)
C412 (WHT)
C413 (YEL)
C414 (BLU)
C415 (RED)
C783/C1064 (BLK)
C1029 (WHT/ORN)
C1030 (WHT/GRN)
C1031 (WHT)
C1032 (WHT)
C1033 (WHT/BLU)

C1029 (WHT/ORN)
C1030 (WHT/GRN)
C1033 (WHT/BLU)
C1034 (WHT)
C1035 (WHT)

**DETAIL B: TRIM SERVO HARNESS
MID-WING INSTALLATION**

C406J

WH-00013

RIGHT WING
ASSEMBLY

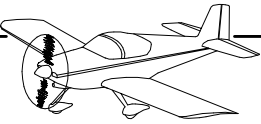
SNAP BUSHING,
TYP

C405J

W-1029D-R

**DETAIL A: AP SERVO HARNESS
INBOARD INSTALLATION**

**FIGURE 1: AP SERVO
HARNESS INSTALLATION**



NOTE: Additional wing systems are covered under separate sections, or by builder specific design.

Use the string to route the wing systems subsequent to bottom wing skin installation.

Step 1: Cut two 12 foot lengths of string or fishing line (not supplied in kit).

Step 2: Starting from the outboard most Wing Rib, route a length of string or fishing line inboard through any unused snap bushings.

Tape the ends of the string or fishing line on the outboard most and inboard most rib. See Figure 1.

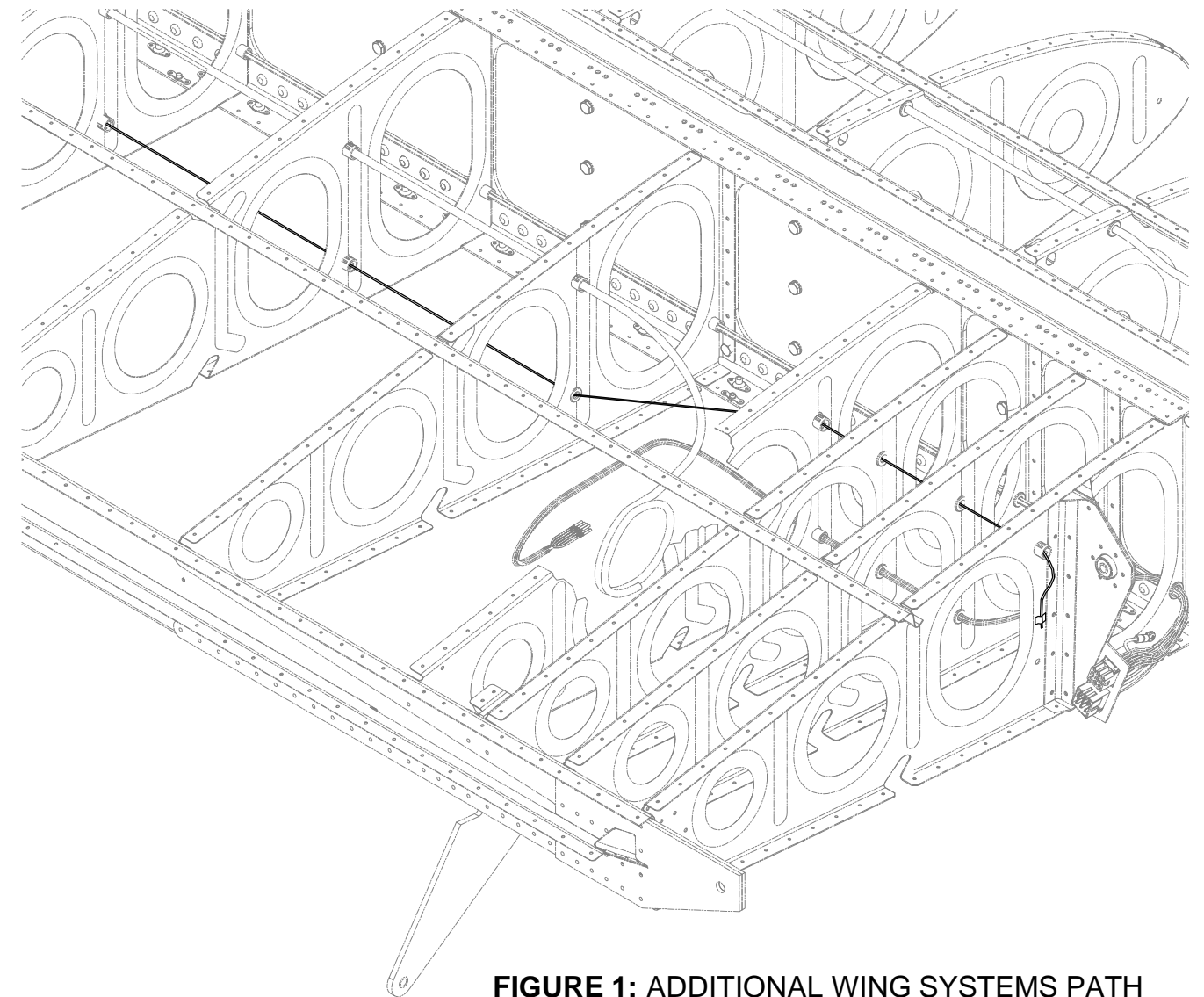


FIGURE 1: ADDITIONAL WING SYSTEMS PATH RESERVATION



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