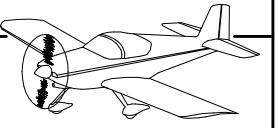


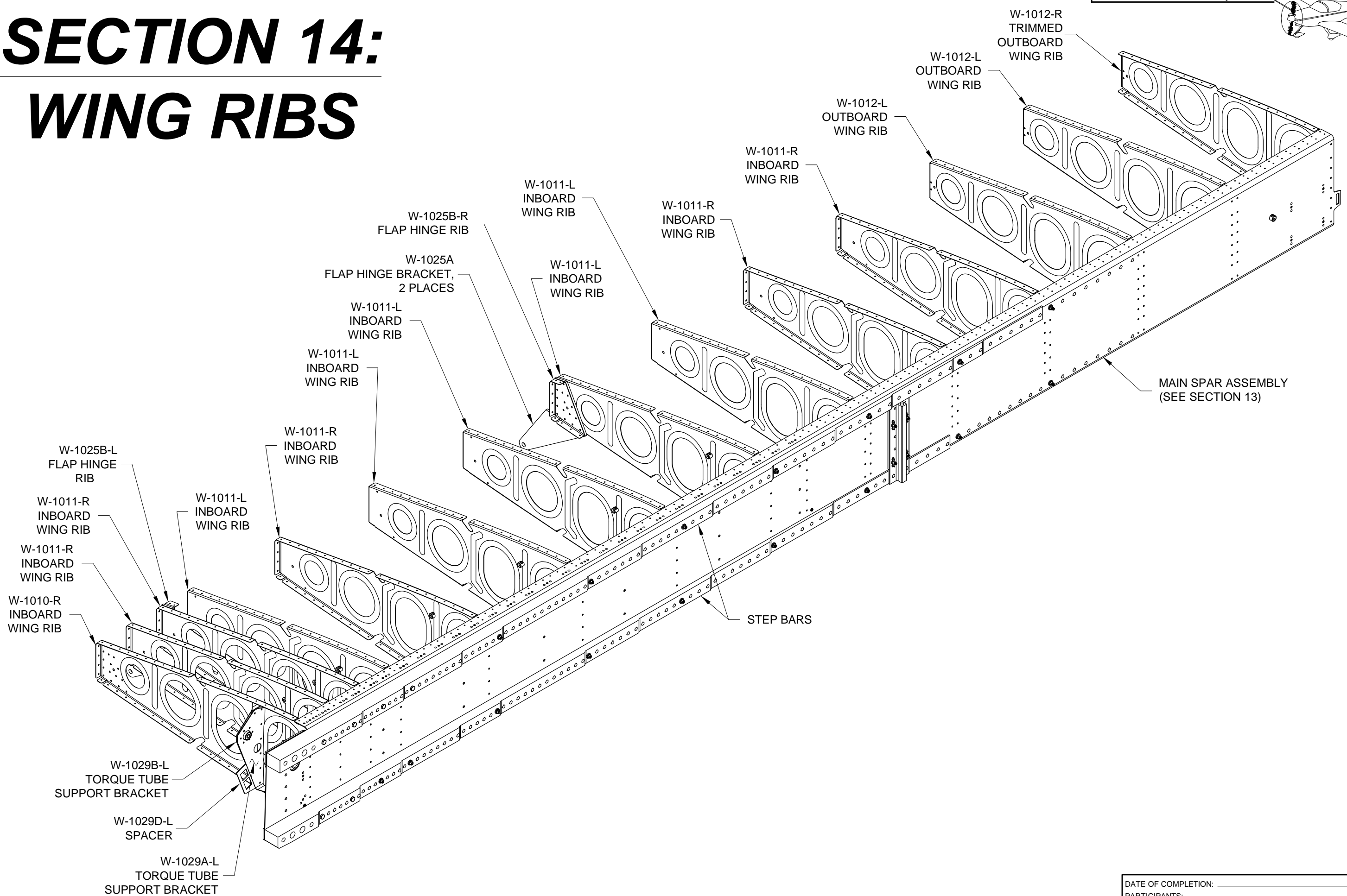
REVISION DESCRIPTION:

14-04 REV 2: Steps re-written for clarity.

14-05 REV 2: Steps re-written for clarity.



SECTION 14: WING RIBS





NOTE: Except where separate instructions and/or figures exist for both left and right sides of the aircraft, only the left side parts, assemblies, or installations will be shown.

It is the builder's choice as to whether to complete all steps for the left side before repeating those steps for the right side or to complete each step for both left and right sides before moving to the next step.

File edges smooth after cutting. See Section 5.2 for more information on edge finishing and deburring.

Step 1: Separate the W-1025B Flap Hinge Ribs into W-1025B-L & -R Flap Hinge Ribs as shown in Figure 1.

Step 2: Adjust the angle of all flanges of the W-1010 Inboard Wing Ribs, W-1011 Inboard Wing Ribs, and W-1012 Outboard Wing Ribs to be 90° to the web.

Flute the upper and lower flanges of all wing ribs. See Section 5.13.

NOTE: For all inboard wing ribs and outboard wing ribs, do not dimple or final-drill either of the two holes in the forward upper and forward lower tabs that fit under the spar flanges. See Figure 5.

Step 3: Final-Drill #40 all remaining holes in the upper and lower flanges of all inboard wing ribs, outboard wing ribs, and W-1025B Flap Hinge Ribs then deburr the holes.

Dimple all holes (except those called out in Figure 5) in the lower flanges of all wing ribs and flap hinge ribs. This includes the single hole in each rib's lower aft tab.

NOTE: Label the W-1029C Angles and W-1029D Spacers before separating.

Step 4: Separate the W-1029C Angles and W-1029D Spacers as shown in Figure 2.

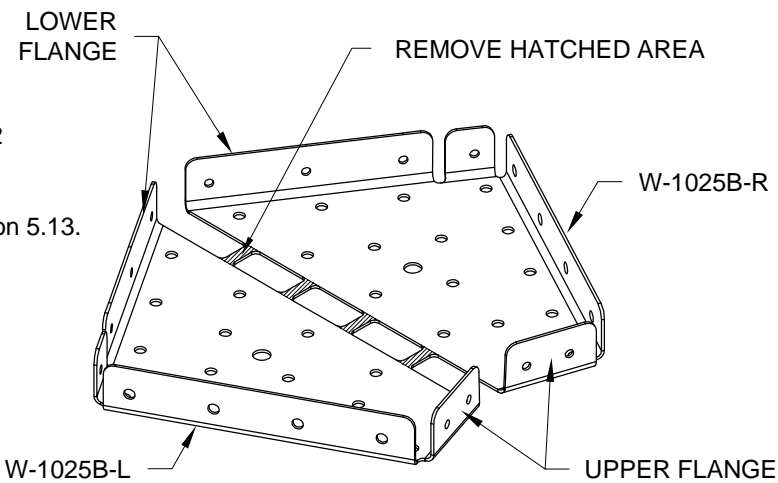


FIGURE 1:
SEPARATING THE FLAP HINGE RIBS

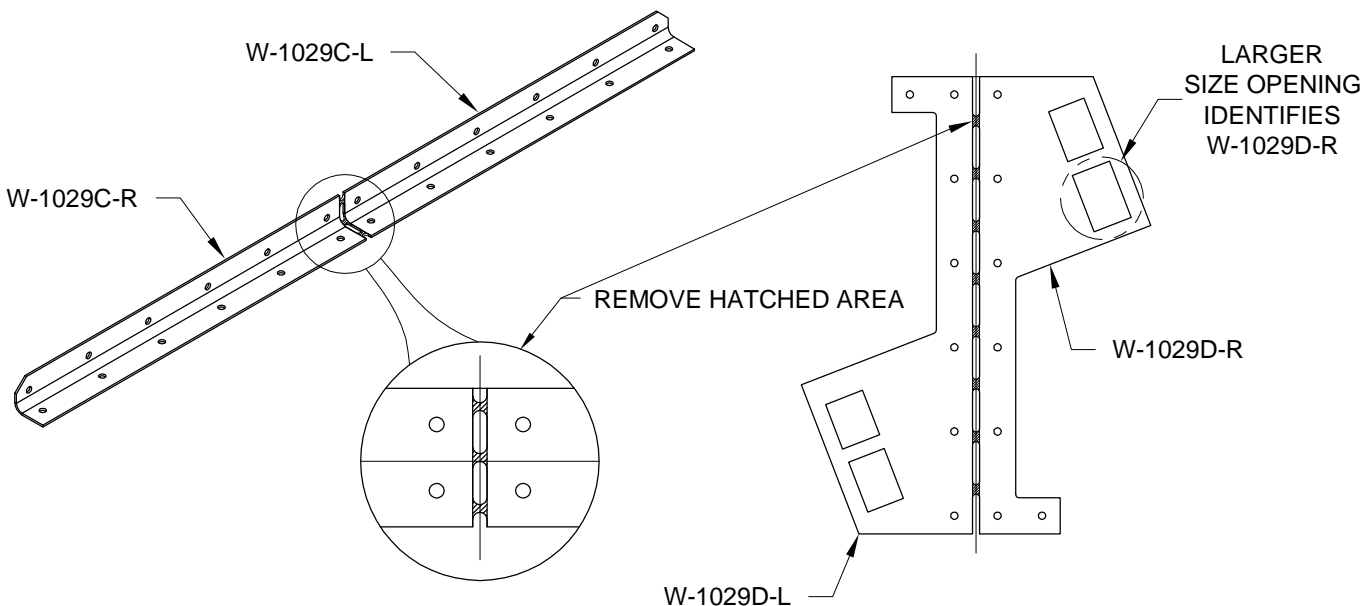


FIGURE 2: SEPARATING THE W-1029C ANGLES AND THE W-1029D SPACERS
(W-1029C ANGLE SHOWN "FLAT" IN DETAIL VIEW FOR CLARITY)

Step 5: Final-Drill #40 the single .094 [2.4mm] hole in the bottom tab of each W-1029A-L and W-1029B-L Torque Tube Support Bracket. See call-out in Figure 3. Deburr the #40 holes and dimple.

Cleco the torque tube support brackets, W-1029C-L Angle, W-1029D-L Spacer and VA-146 Flange Bearing together as shown in Figure 3. Final-Drill #30 all common holes.

File a radius on the upper and lower edges of both torque tube support brackets. See call-out in Figure 3. This will allow them to "nest" inside the flanges of the W-1010-R Inboard Wing Rib as shown in Figure 4.

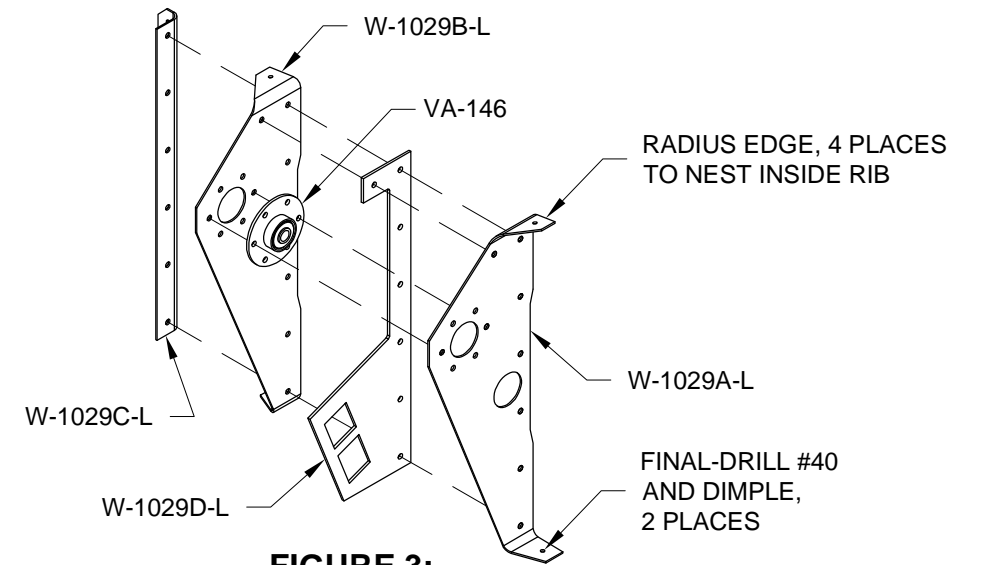


FIGURE 3:
TORQUE TUBE SUPPORT SUBASSEMBLY

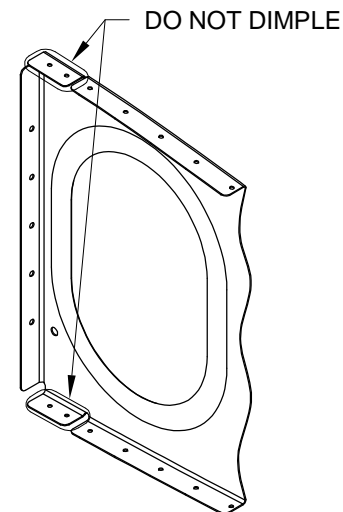


FIGURE 5:
GENERIC WING RIB

Step 6: Cleco the Torque Tube Support Assembly to the upper and lower flanges of the W-1010-R Inboard Wing Rib as shown in Figure 4. The support brackets cleco into the fourth and fifth holes back from the front of the main flange (not counting the tab). Final-Drill #30 the W-1029C-L Angle to the inboard wing rib.

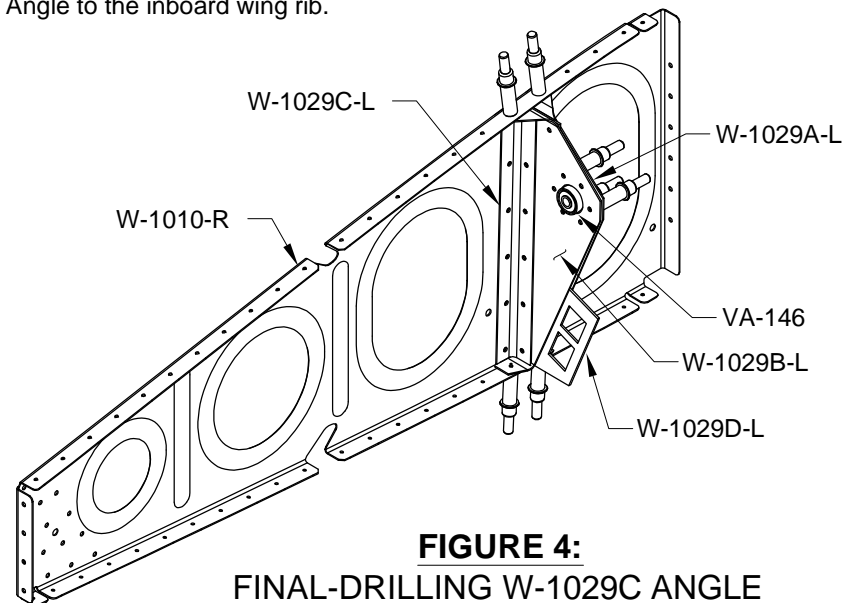
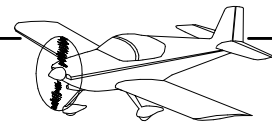


FIGURE 4:
FINAL-DRILLING W-1029C ANGLE



Step 1: Straighten the W-1025A Flap Hinge Brackets until they are flat. Use a straight edge for reference.

Step 2: Cleco the W-1025B-R Flap Hinge Rib and W-1025A Flap Hinge Bracket to the two alignment holes in the W-1011-L Inboard Wing Rib as shown in Figure 1.

Cleco the W-1025B-L Flap Hinge Rib and W-1025A Flap Hinge Bracket to the two alignment holes in the W-1011-R Inboard Wing Rib as shown in Figure 1.

Match-Drill #30 the inboard wing ribs using the holes in the flap hinge ribs and brackets as a drill guide. Final-Drill #30 the two alignment holes in each inboard wing rib. See Figure 1.

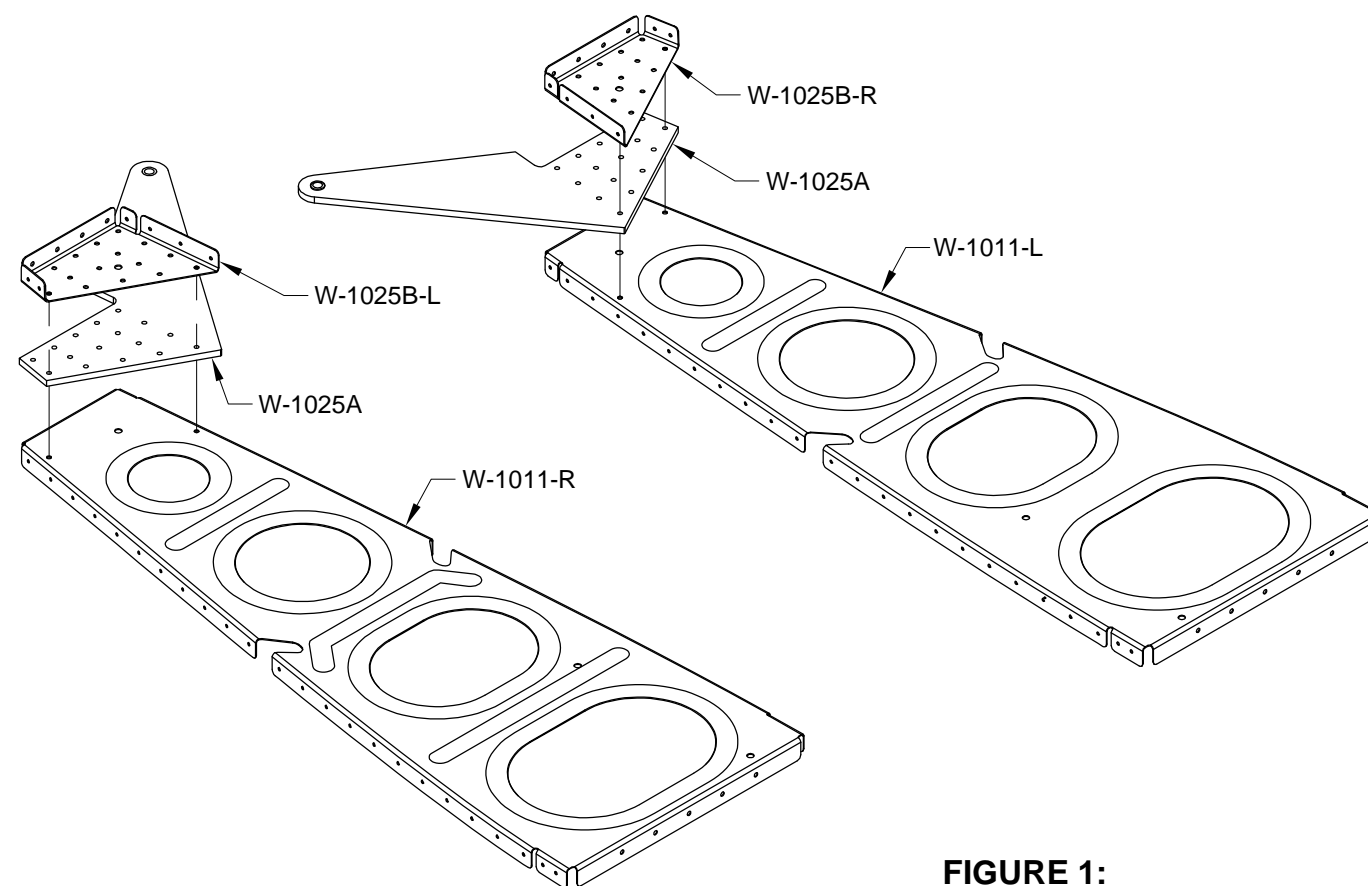


FIGURE 1:
DRILL INBOARD & OUTBOARD
FLAP HINGE ASSEMBLIES

Step 3: Remove the aft flange but not the flange radius from one W-1012-R Outboard Wing Rib as shown in Figure 2.

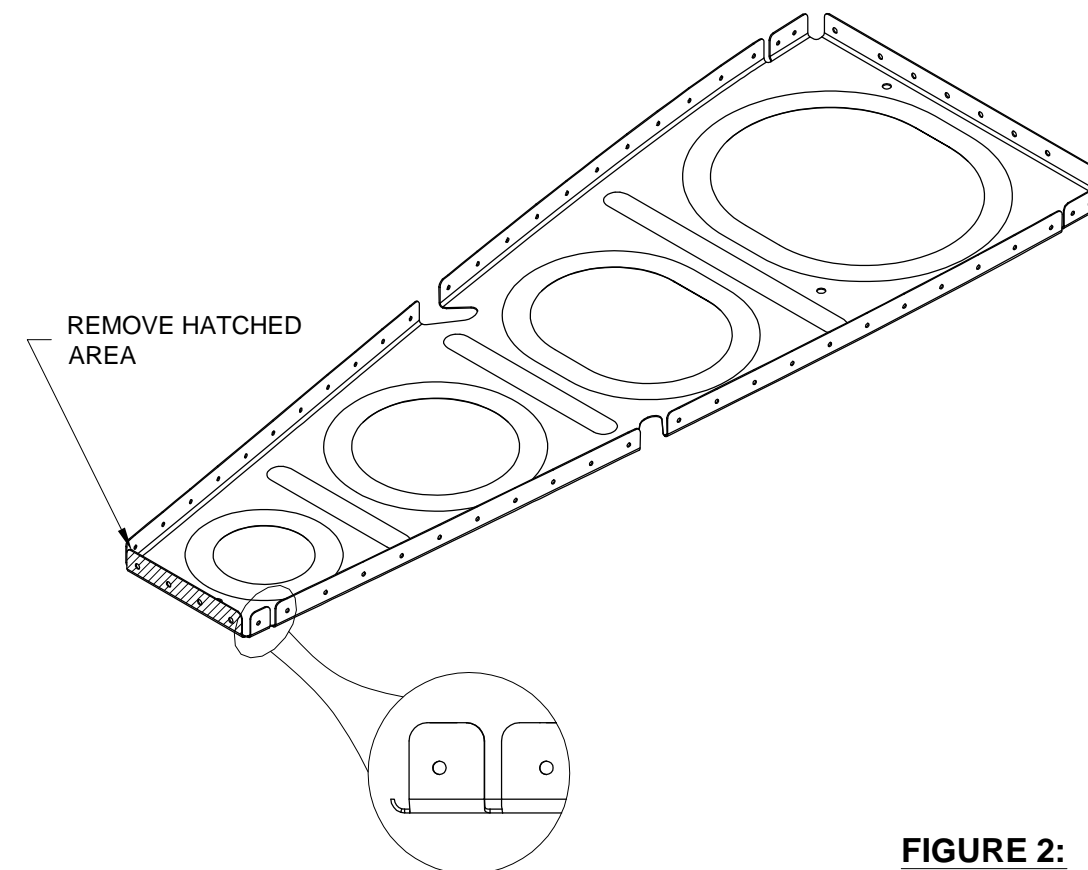


FIGURE 2:
REMOVING THE AFT FLANGE
OF THE OUTBOARD-MOST WING RIB

Step 4: Remove bolts, nuts, and washers from the Main Spar Assembly and set aside for subsequent re-installation. See Page 14-08, Figure 1.

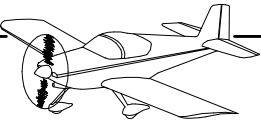
Cleco the W-1010-R Inboard Wing Rib, W-1011-L & -R Inboard Wing Ribs and W-1012-L & -R Outboard Wing Ribs to the Main Spar Assembly as shown in the isometric view on Page 14-01.

Match-Drill #12 the upper and lower attach points on the W-1010-R Inboard Wing Rib and all the W-1011-L & R Inboard Wing Ribs that will be attached with bolts to the Main Spar Assembly, see Page 14-08, Figure 1. Use the holes in the Main Spar Assembly as a drill guide. Use a wood block to support the forward flange of each rib while drilling.

Final-Drill #30 all the remaining common attach holes in the forward flange of the ribs and web of the Main Spar Assembly.

Final-Drill #40 all the common attach holes in the upper and lower rib tabs and the flanges of the Main Spar Assembly.

Mark the wing ribs for location on the Main Spar Assembly and remove. Deburr all freshly drilled holes.



SB500-6, 28 PL
ALL SYSTEMS HOLES

W-1010-L

W-1011-L

W-1011-R

W-1011-L

W-1011-R

W-1011-R

W-1011-L

W-1011-L

W-1012-R

W-1012-L TRIMMED

NOTE: Figure 1 and steps 1 and 2 apply to the RIGHT WING ONLY. If priming wing ribs, install snap bushings after priming.

Step 1: Use a step drill to enlarge the systems holes in the ribs as shown in Figure 1 and Page 14-05, Figure 1.

Step 2: Install the snap bushings as shown in Figure 1.

FIGURE 1: INSTALLING SNAP BUSHINGS - RIGHT WING
(RIBS ARE DEPICTED AS INSTALLED IN THE AIRCRAFT)

Step 1: Mark the W-1025A Flap Hinge Brackets, W-1025B-L & -R Flap Hinge Ribs, and W-1011-L & -R Inboard Wing Ribs so they can be re-assembled exactly as when they were drilled.

Disassemble the flap hinge brackets and flap hinge ribs from the inboard wing ribs.

Remove the Torque Tube Support Assembly from the W-1010-R Inboard Wing Rib then disassemble the Torque Tube Support Assembly.

Deburr the edges of the W-1025A Flap Hinge Brackets.

Deburr all holes in all parts. Prime all parts if/as desired.

Step 2: Cleco the W-1025B-R Flap Hinge Rib and W-1025A Flap Hinge Bracket to the W-1011-L Inboard Wing Rib.

Cleco the W-1025B-L Flap Hinge Rib and W-1025A Flap Hinge Bracket to the W-1011-R Inboard Wing Rib.

Rivet the flap hinge ribs and flap hinge brackets to the inboard wing ribs as shown in Figure 1.

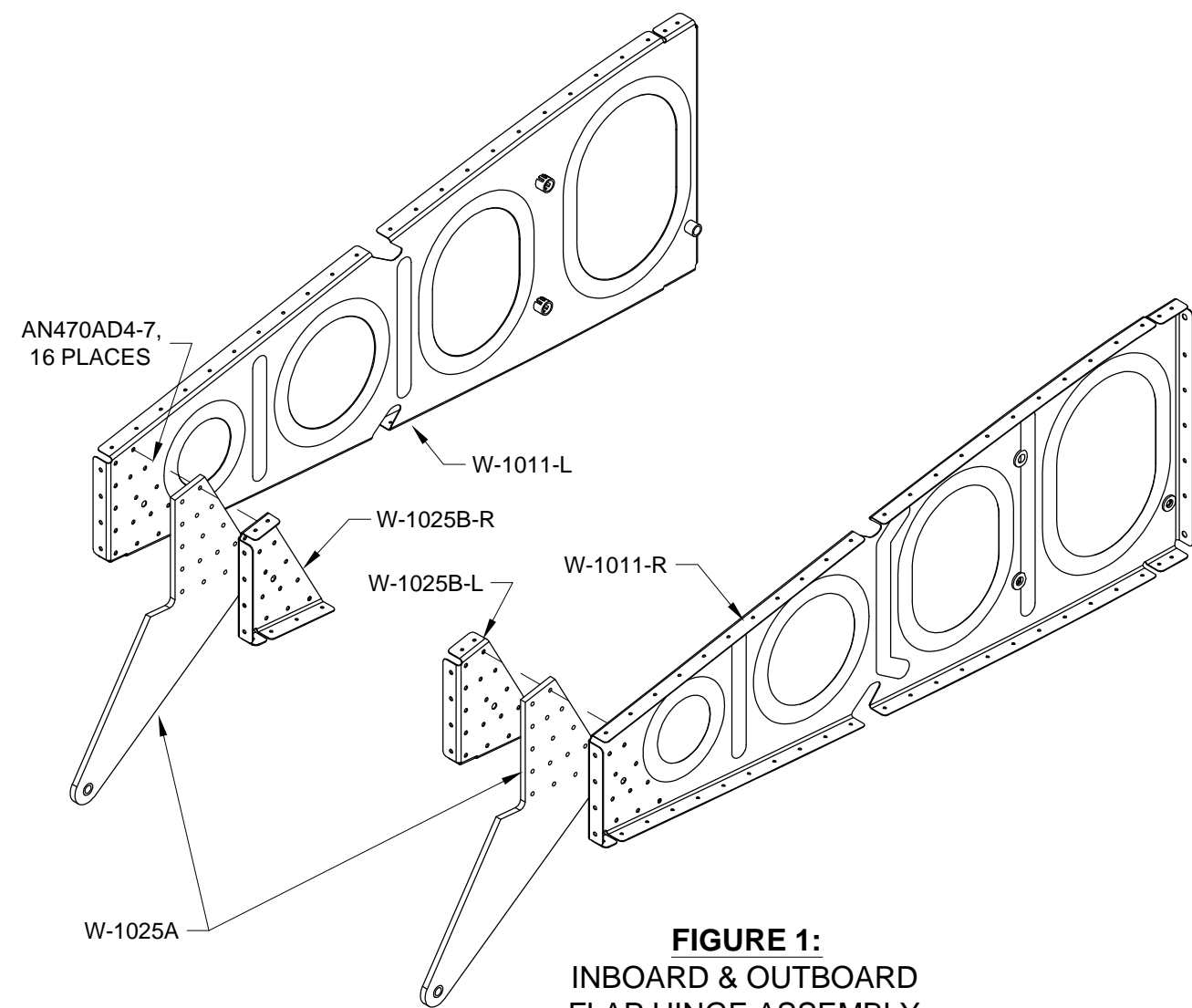


FIGURE 1:
INBOARD & OUTBOARD
FLAP HINGE ASSEMBLY

Step 3: Cleco then rivet the VA-146 Flange Bearing, W-1029A-L and W-1029B-L Torque Tube Support Brackets, W-1029C-L Angle, and W-1029D-L Spacer together as shown in Figure 2.

Step 4: Cleco then rivet the W-1029C-L Angle and support bracket assembly to the web of the W-1010-R Inboard Wing Rib as shown in Figure 2.

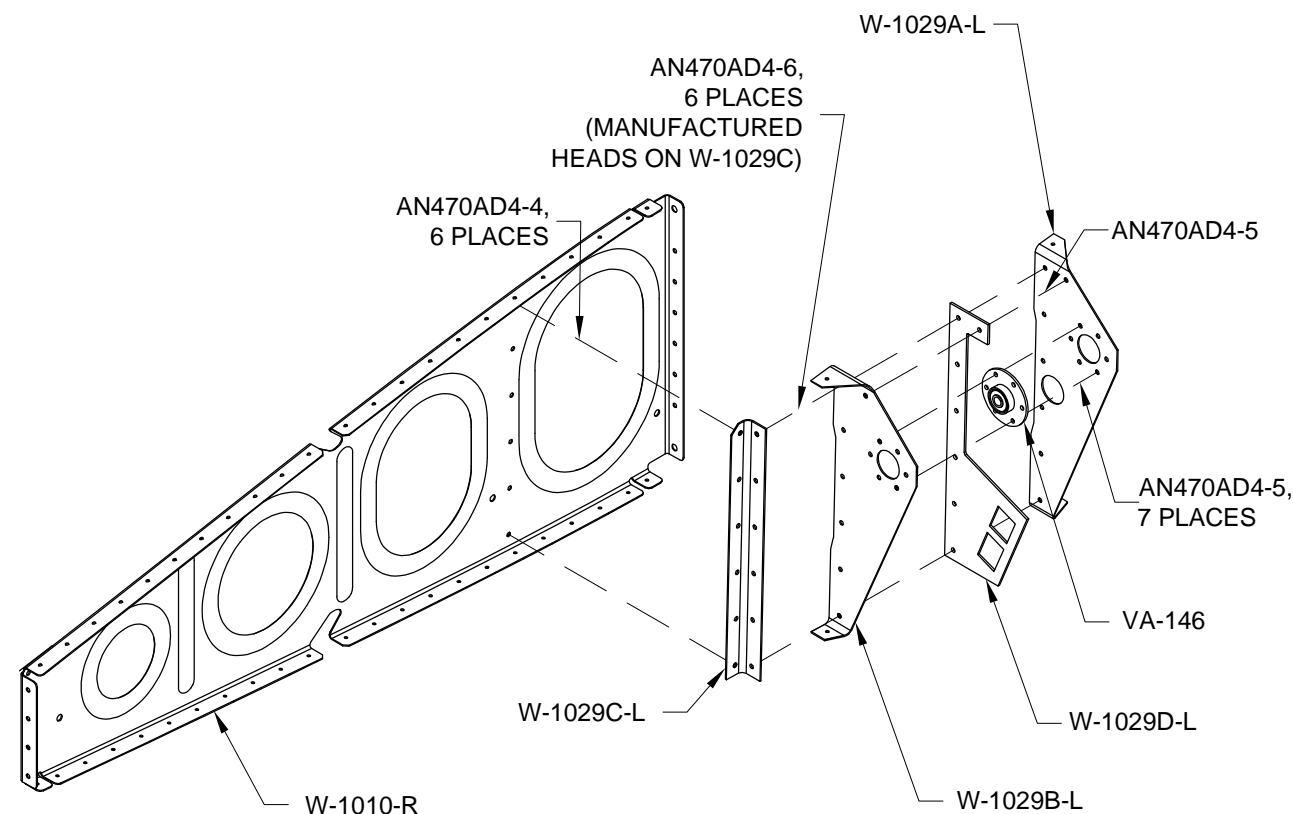
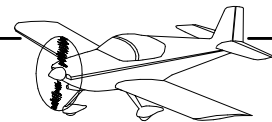


FIGURE 2:
TORQUE TUBE SUPPORT
BRACKET ASSEMBLY



Step 1: Cleco the W-1012-L & -R Outboard Wing Ribs and all W-1011-L & -R Inboard Wing Ribs (except the inboard most W-1011-R) to the Main Spar Assembly as shown in Figure 1 and the isometric view on Page 14-01.

NOTE: Do not install the nuts and washers on the three most inboard Inboard Wing Ribs at this time.

Step 2: Install bolts through the upper and lower attach holes on the W-1011-L & -R Inboard Wing Ribs as shown on Page 14-08, Figure 1. Bolts MUST be installed oriented exactly as shown.

Except on the three most inboard wing ribs, install nuts and washers as called out on Page 14-08, Figure 1. Torque nuts per values given in Section 5.19.

Step 3: Rivet the forward flange of all the wing ribs except the W-1012-R Trimmed Outboard Wing Rib to the Main Spar Assembly as shown in Figure 1. The outboard most wing rib will be riveted in assembly with the W-1009-R Leading Edge Rib in Section 17.

For the three most inboard wing ribs, it will be necessary to push the bolt out of the way to set the rivets.

For the three most inboard wing ribs, install nuts and washers as called out on Page 14-08, Figure 1. Torque nuts per values given in Section 5.20.

Step 4: Repeat steps 1, 2, and 3 for the most inboard W-1011-R Inboard Wing Rib.

Repeat steps 1, 2, and 3 for the W-1010 Inboard Wing Rib.

Step 5: Rivet the forward most hole in the forward tabs of the seven inboard most W-1011-L & -R Inboard Wing Ribs to the Main Spar Assembly.

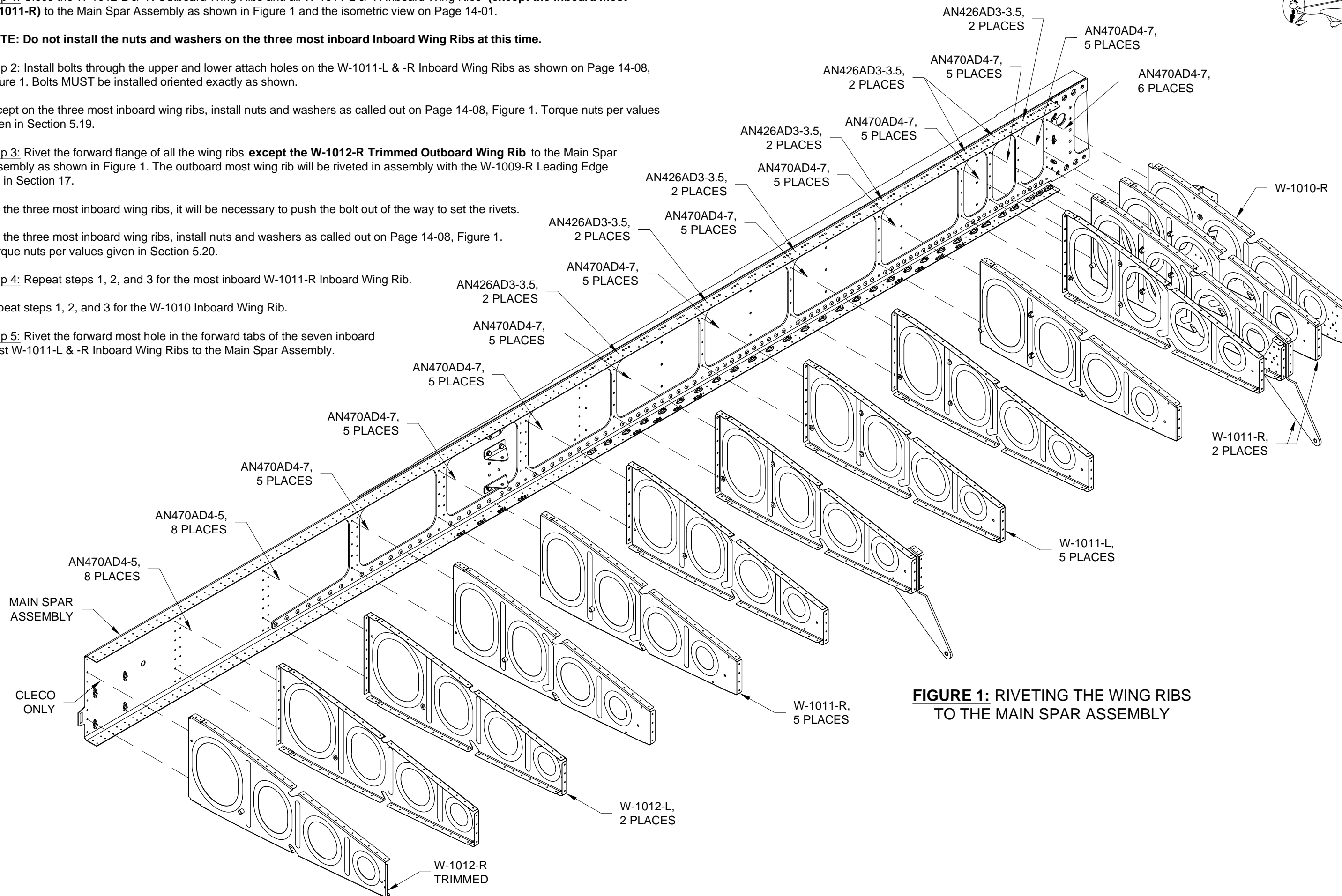


FIGURE 1: RIVETING THE WING RIBS TO THE MAIN SPAR ASSEMBLY



NOTE: ALL HARDWARE CALLED-OUT ON THIS PAGE IS SUPPLIED AS PART OF THE MAIN SPAR ASSEMBLY

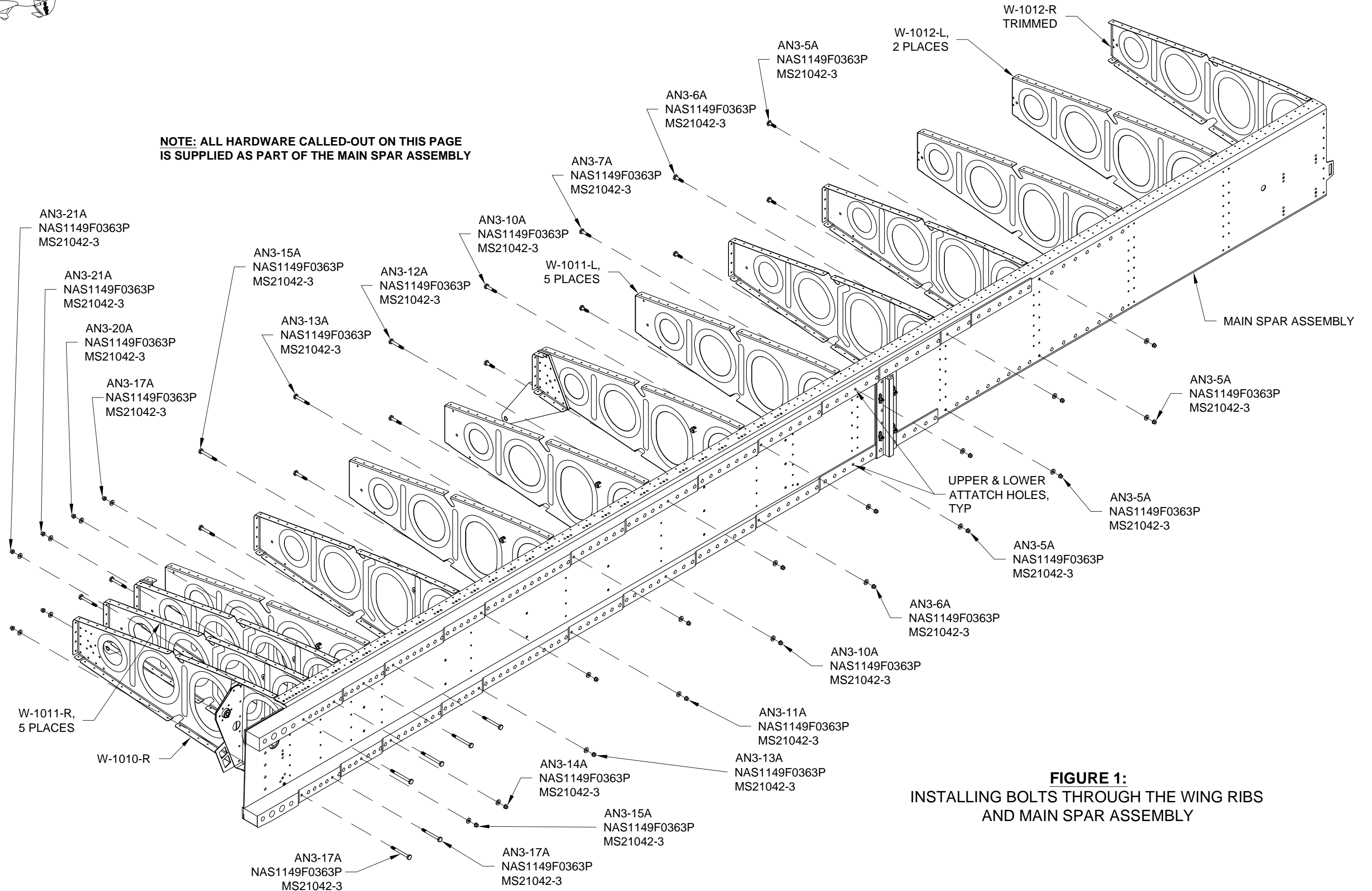


FIGURE 1:
INSTALLING BOLTS THROUGH THE WING RIBS
AND MAIN SPAR ASSEMBLY