

TOTAL PERFORMANCE **VAN'S AIRCRAFT**

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REVISION DESCRIPTION: 07-06-15

Page: 32-01 REV 1: Updated overall figure with depiction of new VA-110 Detent Bracket configuration

Page 32-07 REV 1: Updated Figure 5 and Figure 6 with depiction of new F-1266AD configuration

New Step 7

New Step 13 Note will be added to Maintenance Manual at next rev change regarding F-1266AD greasing at annual inspection.

Page: 32-08 REV 2: Updated Figure 1 and Figure 2 with depiction of new F-1266AD configuration

Page: 32-09 REV 2: Updated Figure 2 with depiction of new F-1266AD and VA-110 configuration

REVISION DESCRIPTION: 09-29-14

1) Page: 32-03 MEMO: Step 4 should not be bold.
Fix WD-1213 callout in Figure 3.

Page: 32-04 REV 3: Add drill and tap information to Figure 4 "DRILL #3, TAP 1/4-28 BOTH ENDS".
Add make from material "AT6-058X5/16" to Step 4.

Page: 32-05 REV 1: Remove make from material from Figure 1.

2) Page 32-14 REV 3: Add a note before Step 6 "**NOTE: Cable tension will change significantly with changing temperature. The cable tensions given below are for an aircraft inside a 70 OF hanger.**"
In Figure 2 "GROOVE AROUND BARREL TOWARD AFT..." was "GROOVE AROUND BARREL TOWARD FWD..."

3) Page 32-08 REV 1: Added Step 10.

Page: 32-09 REV1:

In Step 1, changed grommet cut length from 3-3/16 to 3-11/16.

In Step 4, changed:

"Install the wings. During installation, slide the A-1211 Pivot Guides into the WD-1214-L & -R Flaperon Torque Tubes and the A-1207-L & -R Actuation Brackets between the F-1261 Spacers as shown in Figure 4."

To:

"Install the wings. During installation, use axle grease to lubricate the A-1211 Pivot Guides and A-1207-L & -R Actuation Brackets. The pivot guides slide into the WD-1214-L & -R Flaperon Torque Tubes and the actuation brackets slide between the F-1261 Spacers as shown in Figure 3."

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Lubrication of the pivot guides and actuation brackets are added to the RV-12 Maintenance Manual in 12CN 01-01-15-1.

REVISION DESCRIPTION: 08-12-13

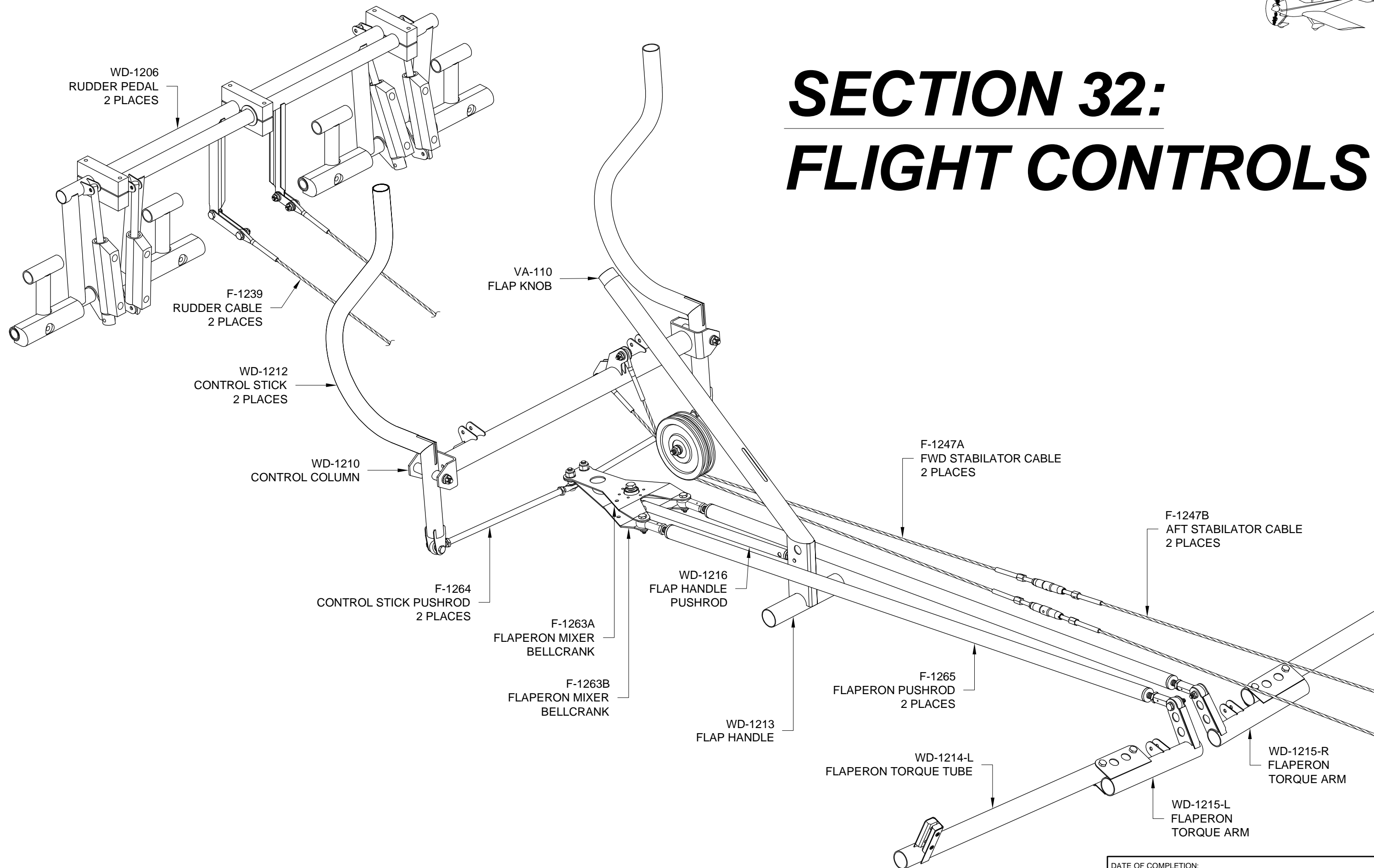
32-2 REV 2: Step 2 revised to describe FLF-00004 Male Nylon Tee installation (vice F 271-N-04X02) installation.

32-10 REV 1: Step 1 updated to describe shimming and clamping the flaperons prior to drilling the torque tubes.

Figure 1 updated to show shims and clamps.



SECTION 32: FLIGHT CONTROLS



Step 2: Secure the F-1289A-L & -R Reservoir Brake lines to the VA-107 Brake Reservoir as shown in Figure 2. Use thread sealant for the connection between the FLF-00004 Push-To-Connect Tee and the brake reservoir.

Step 3: Secure the F-1289A-L & -R Reservoir Brake Lines and F-1289B-L & -R Cross-Over Brake lines (the four brake lines attached to the right side master cylinders) to the bottom of the F-1202B Panel Base using the hardware called out in Figure 2.

NOTE: Before proceeding with this section return to page 12-04 Step 4 and complete the remainder of Section 12 leaving the empennage attached.

Step 1: Bolt the VA-107 Brake Reservoir to the F-1201A Firewall Upper using the hardware called out in Figure 1.

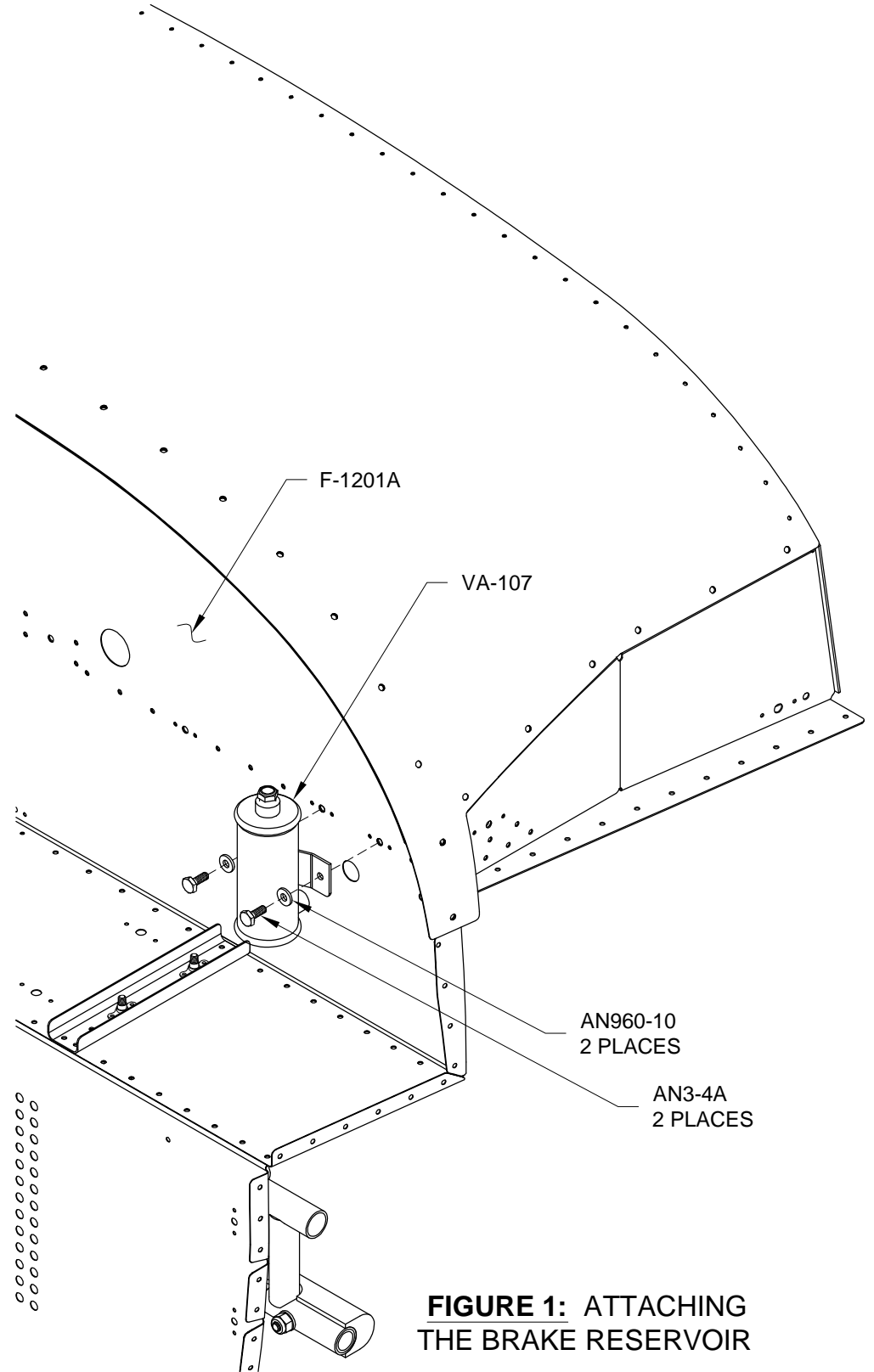


FIGURE 1: ATTACHING THE BRAKE RESERVOIR

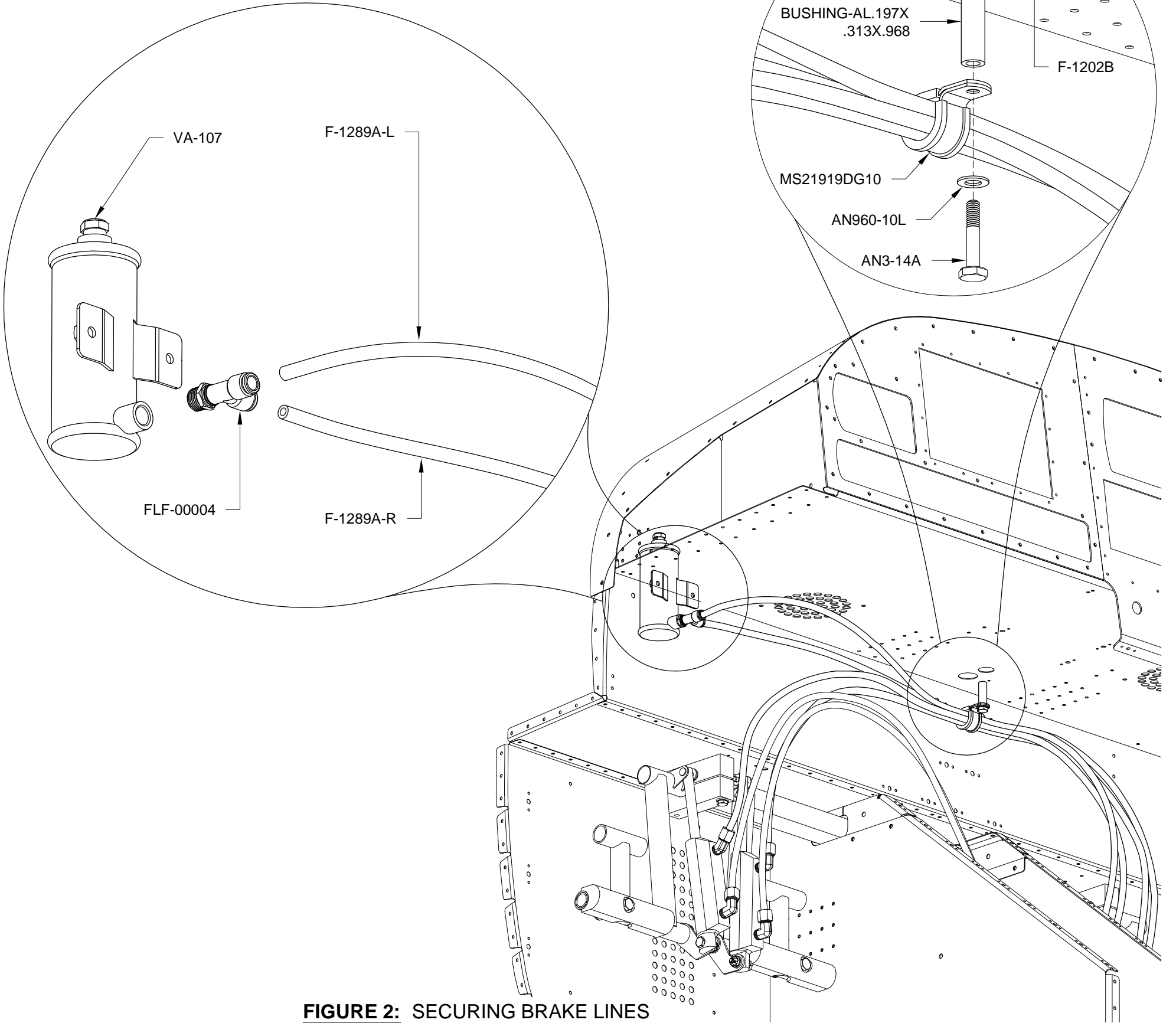


FIGURE 2: SECURING BRAKE LINES



Step 1: Separate the F-1263 Flaperon Mixer Bellcrank into individual parts by removing the shaded areas shown in Figure 1.

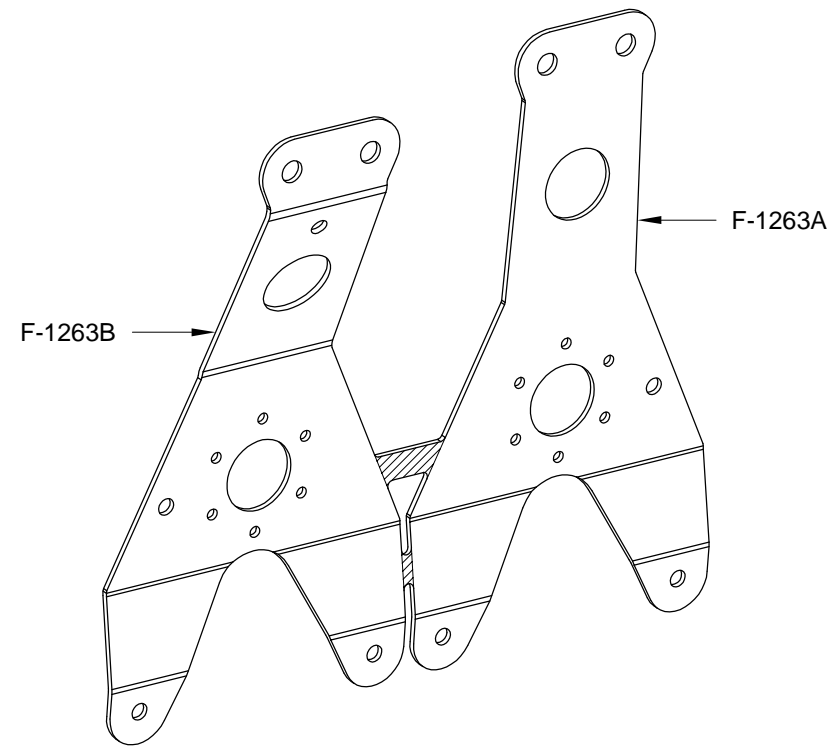


FIGURE 1: SEPARATING THE F-1263 FLAPERON MIXER BELLCRANK

Step 2: Rivet the VA-146 Flange Bearings to the F-1263A & B Flaperon Mixer Bellcranks using the rivets called out in Figure 2.

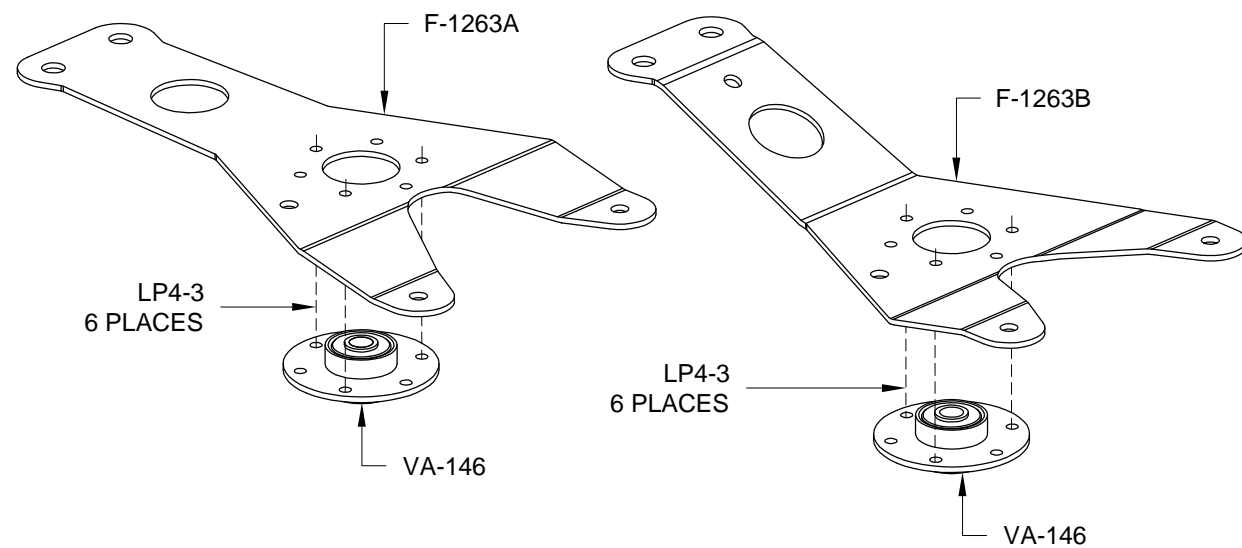


FIGURE 2: ATTACHING THE FLANGE BEARINGS

Step 3: Make the Flap Handle/ Pushrod Assembly using the parts and hardware shown in Figure 3. Thread in the rod-end bearings to attain the dimension given in the figure (note that the dimension is from the centerline of the rod-end bearing to the edge of the WD-1213 Flap Handle).

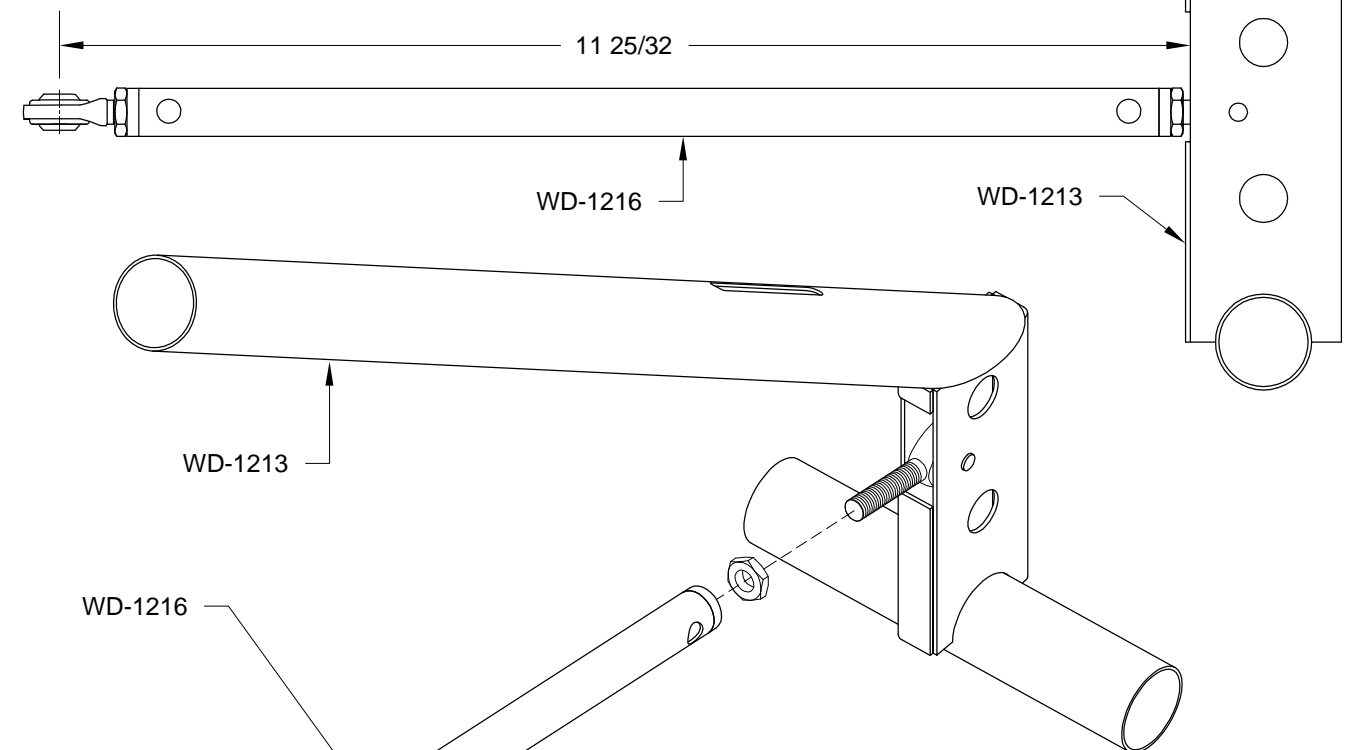
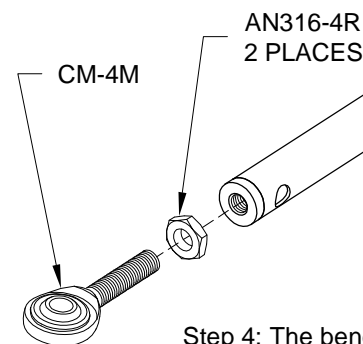


FIGURE 3: FLAP HANDLE/ PUSHROD ASSEMBLY



Step 4: The bend near the radius cut on the F-00050 Wire Routing Bracket may need to be adjusted using a vice and a plastic hammer or with a hand seamer as called out in Figure 1. This bend affects the placement of the attachment holes.

Use a vice grip and bend by hand the F-00050 Wire Routing Bracket as shown in Figure 4.

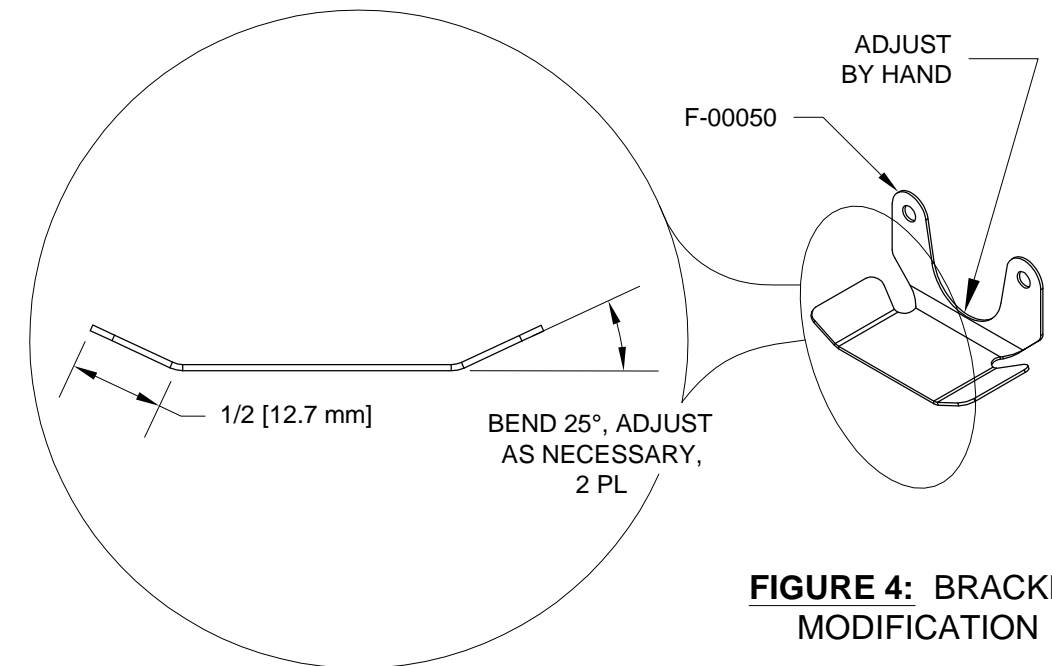


FIGURE 4: BRACKET MODIFICATION

Step 1: Trim the corners from the two F-1262 Flap Handle Blocks as shown in Figure 1.

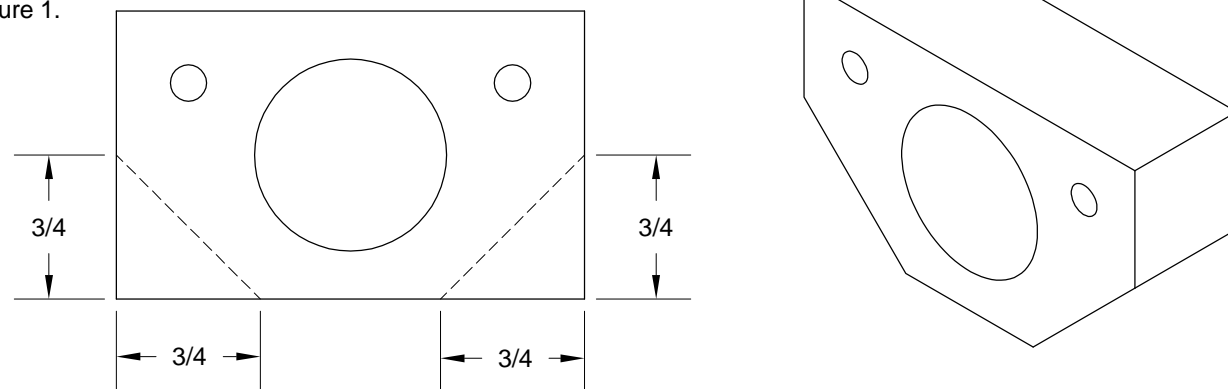


FIGURE 1: TRIMMING THE F-1262 FLAP HANDLE BLOCKS

NOTE: Check for interference between the F-1259E Fuel Line Pump - Valve and the WD-1213 Flap Handle or F-1276 Bottom Skin by slipping a piece of paper freely between them. It is permissible to bow the fuel line pump - valve down slightly if necessary.

Step 2: Secure the Flap Handle/ Pushrod Assembly and F-00050 Wire Routing Bracket to the inboard F-1215-L & -R Seat Ribs using the F-1262 Flap Handle Blocks and the hardware called out in Figure 2.

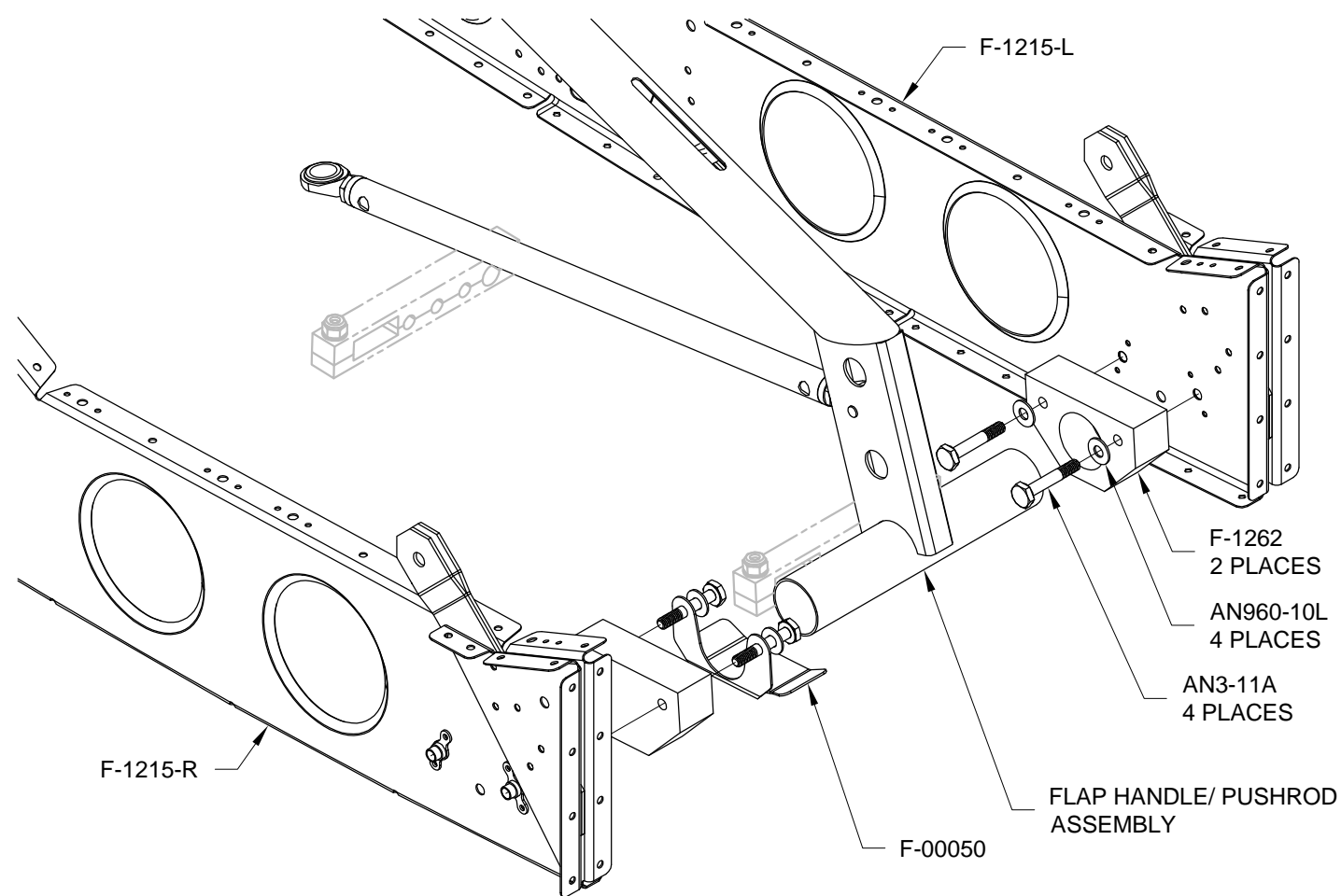


FIGURE 2: INSTALLING THE FLAP HANDLE/ PUSHROD ASSEMBLY

Step 3: Bolt together the F-1219A & B Flaperon Mixer Arms (installed previously, see Page 21-04, Figure 2), the F-1263A & B Flaperon Mixer Bellcranks, and the WD-1216 Flap Handle Pushrod using the hardware shown in Figure 3.

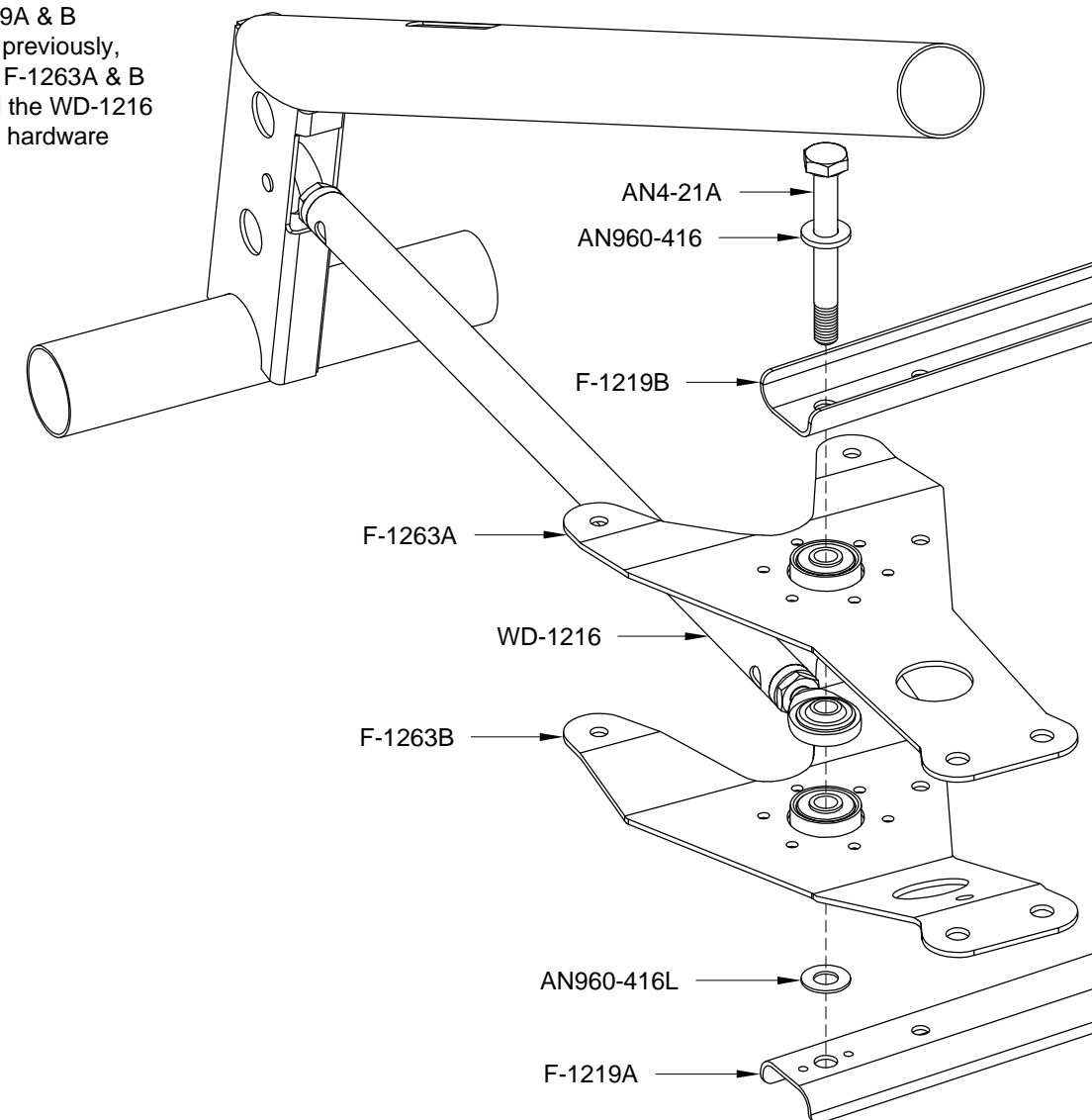


FIGURE 3: ATTACHING THE FLAPERON MIXER BELLCRANKS

Step 4: Make two F-1264 Control Stick Pushrods from AT6-058X5/16 according to the dimensions given in Figure 4.

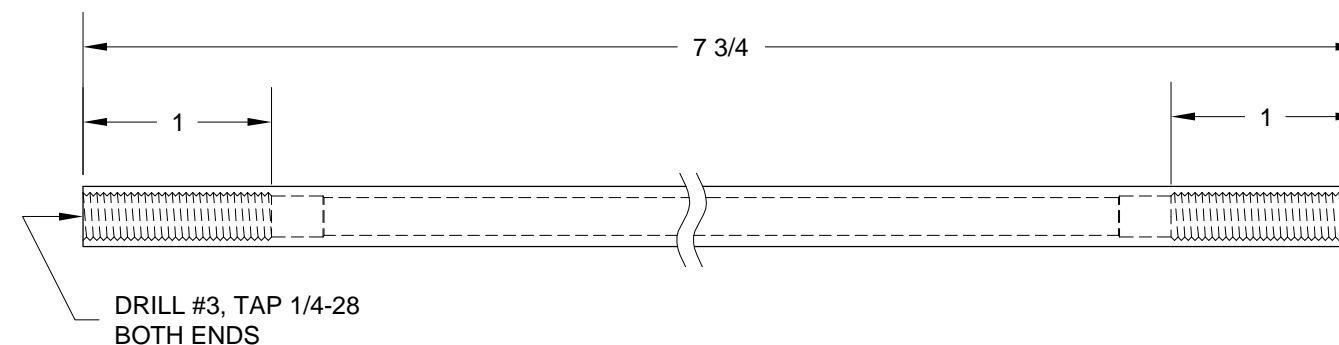


FIGURE 4: F-1264 CONTROL STICK PUSHROD



Step 1: Make two Control Stick Pushrod Assemblies from F-1264 Control Stick Pushrods and the hardware called out in Figure 1.

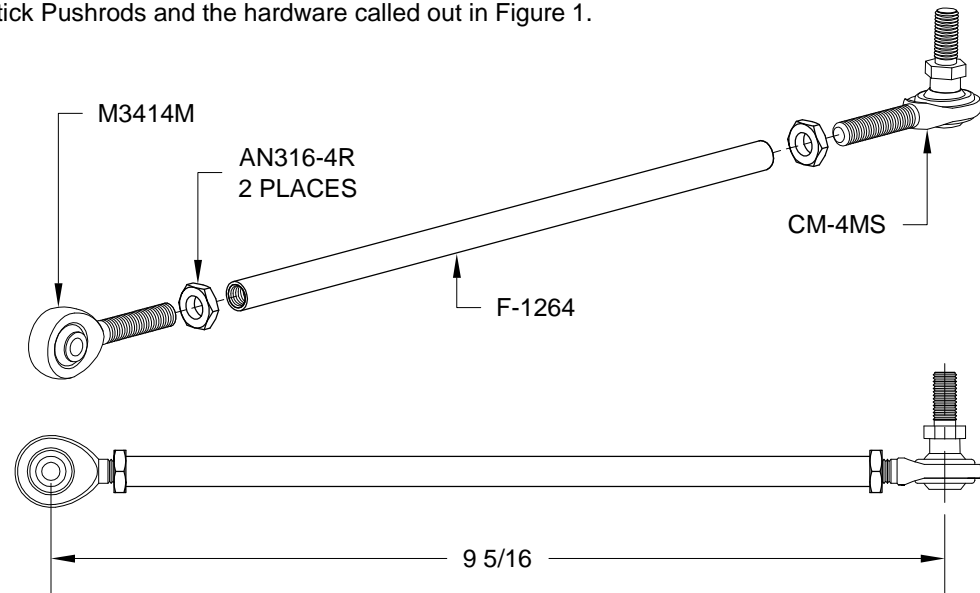


FIGURE 1: CONTROL STICK PUSHROD ASSEMBLY
2 REQUIRED

Step 2: Clamp the BUSHING BS .245 X .375 X 2 Brass Bushings in a bench vise (be careful not to over tighten or gouge the bushing), then drill the inside diameter using a 1/4 bit.

Step 3: Use a file to progressively remove material from the ends of both BUSHING BS .245 X .375 X 2 Brass Bushings until they closely fit between the flanges of the brackets on both ends of the WD-1210 Control Column. See Figure 2.

Step 4: Use a file to progressively remove material from the ends of the tubes in the WD-1212 Control Sticks which sleeve the BUSHING BS .245 X .375 X 2 Brass Bushings. Remove material until, when bolted in place, the brackets on the WD-1210 Control Column clamp on the brass bushings and just clear the tubes. See Figure 2.

Step 5: Attach the WD-1212 Control Sticks to the WD-1210 Control Column using the hardware called out in Figure 2.

Step 6: Attach the outboard ends of the Control Stick Pushrod Assemblies to the WD-1212 Control Sticks as shown in Figure 2.

Step 7: Attach the inboard ends of the Control Stick Pushrod Assemblies to the F-1263A & B Flaperon Mixer Bellcranks as shown in Figure 2.

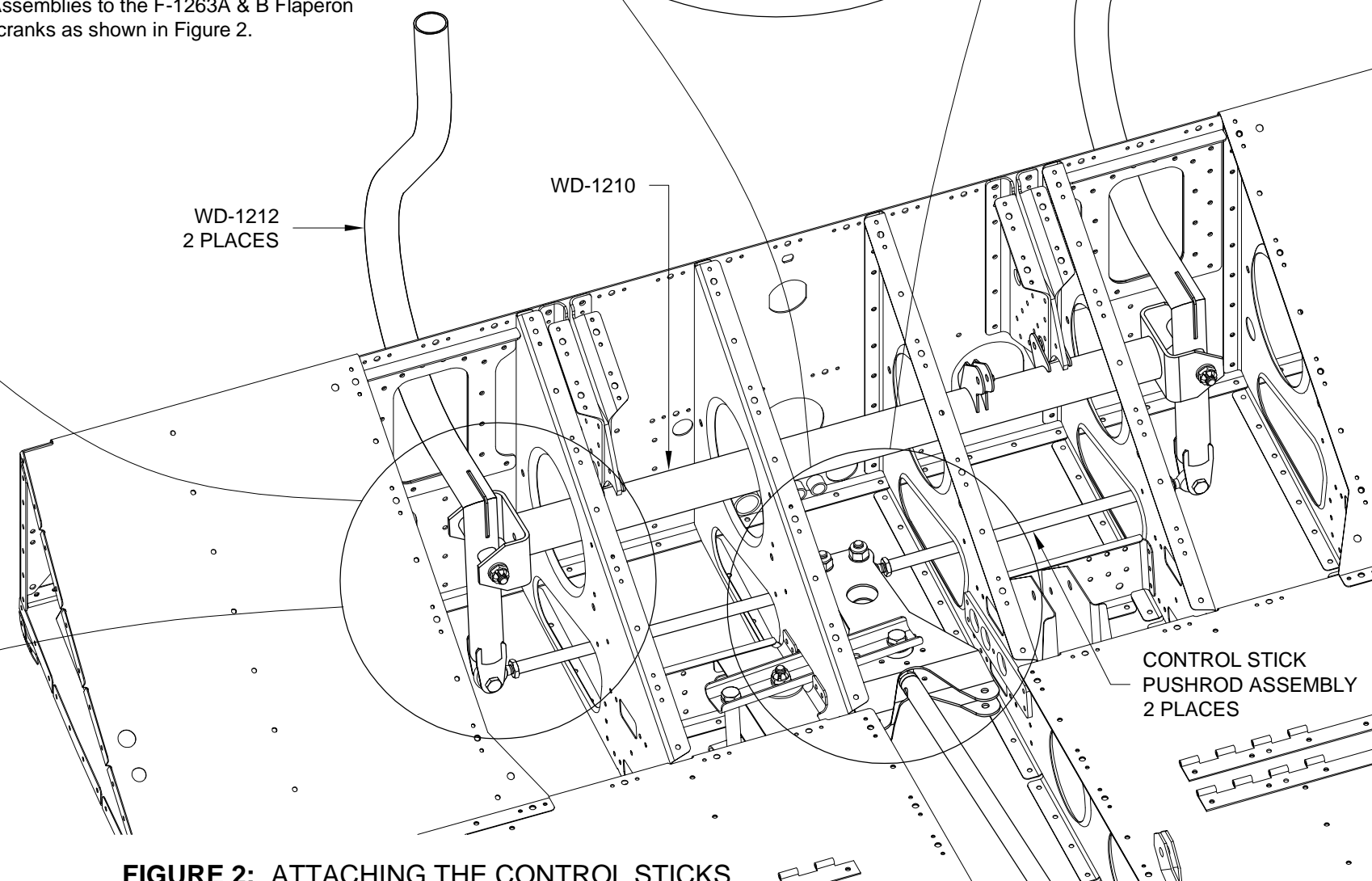
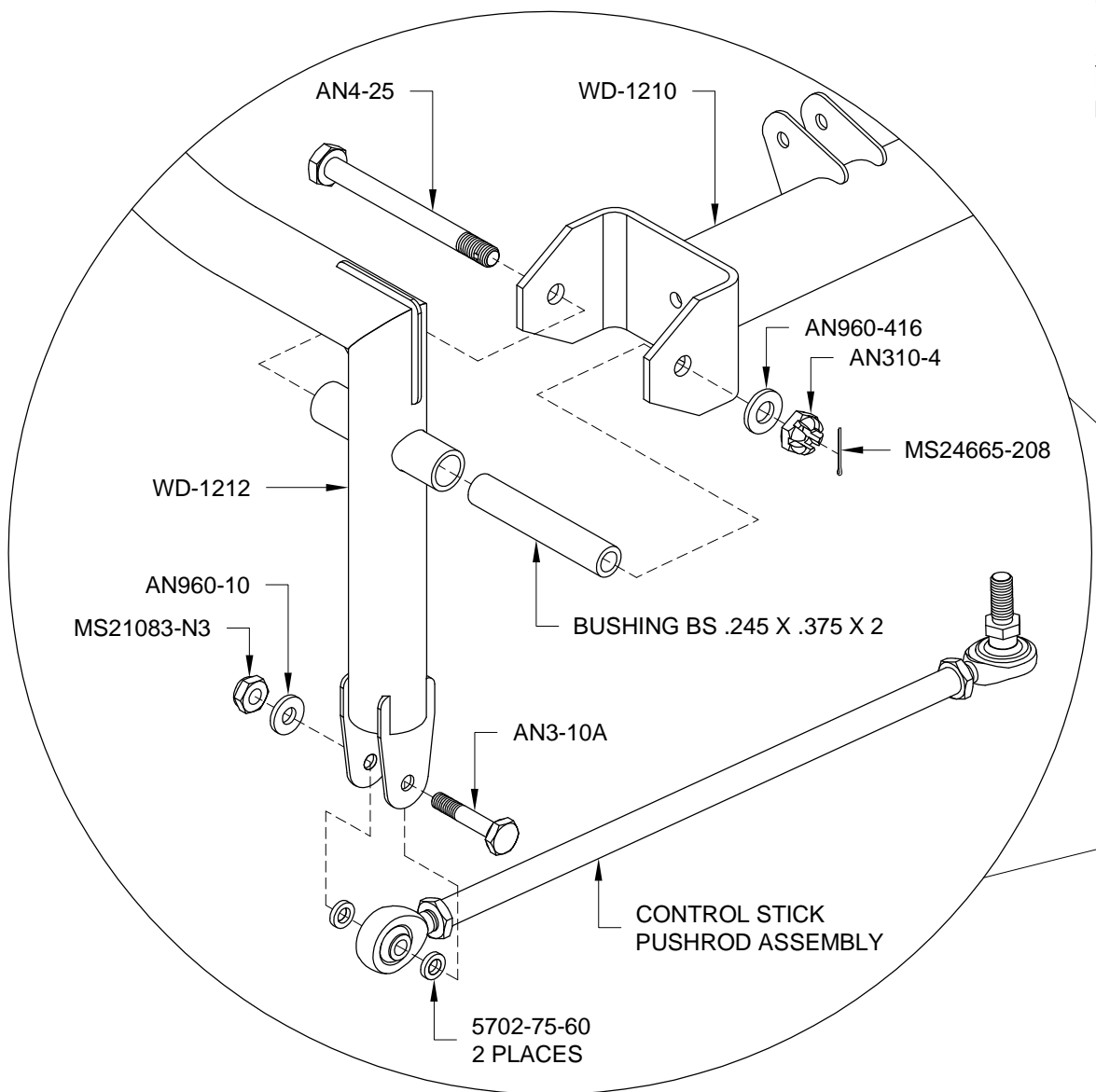
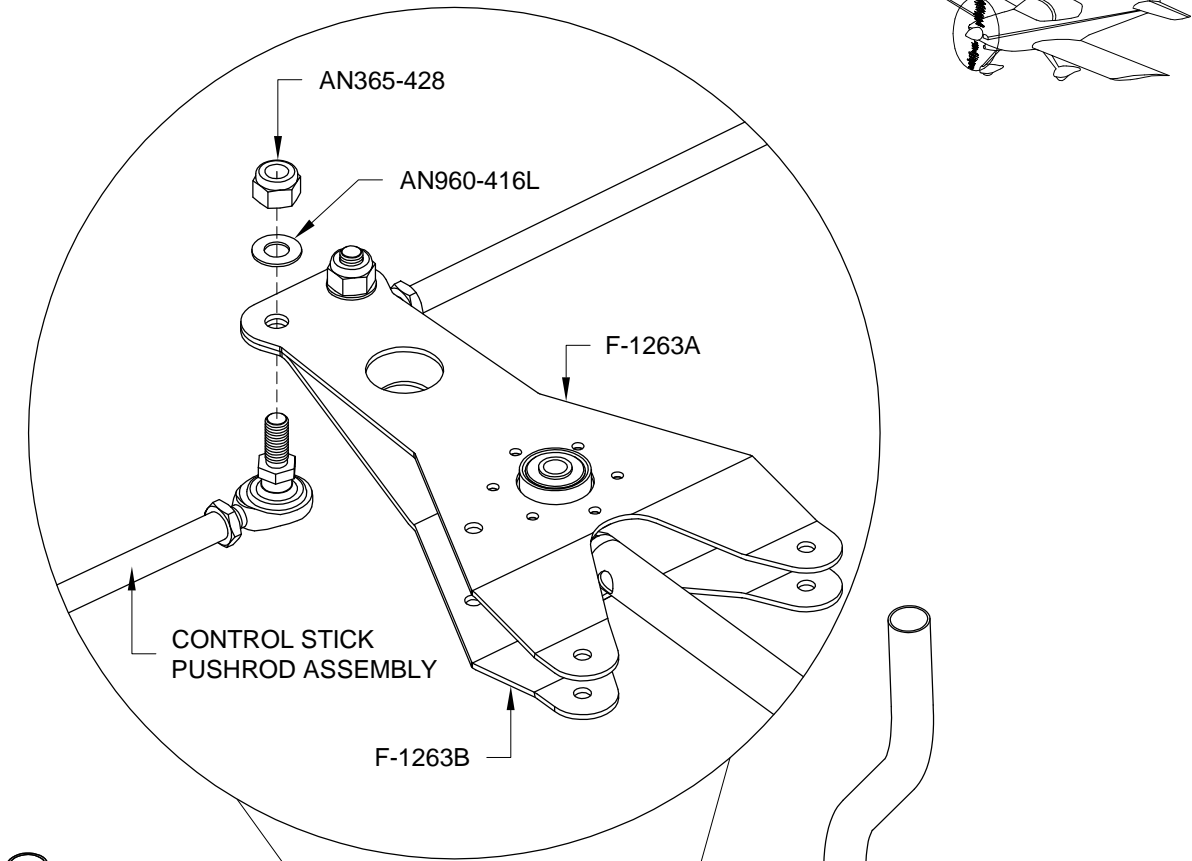


FIGURE 2: ATTACHING THE CONTROL STICKS

Step 1: Make the two Flaperon Pushrod Assemblies using the F-1265 Flaperon Pushrods and the hardware called out in Figure 1. After drilling, remember to mark the parts for reassembly.

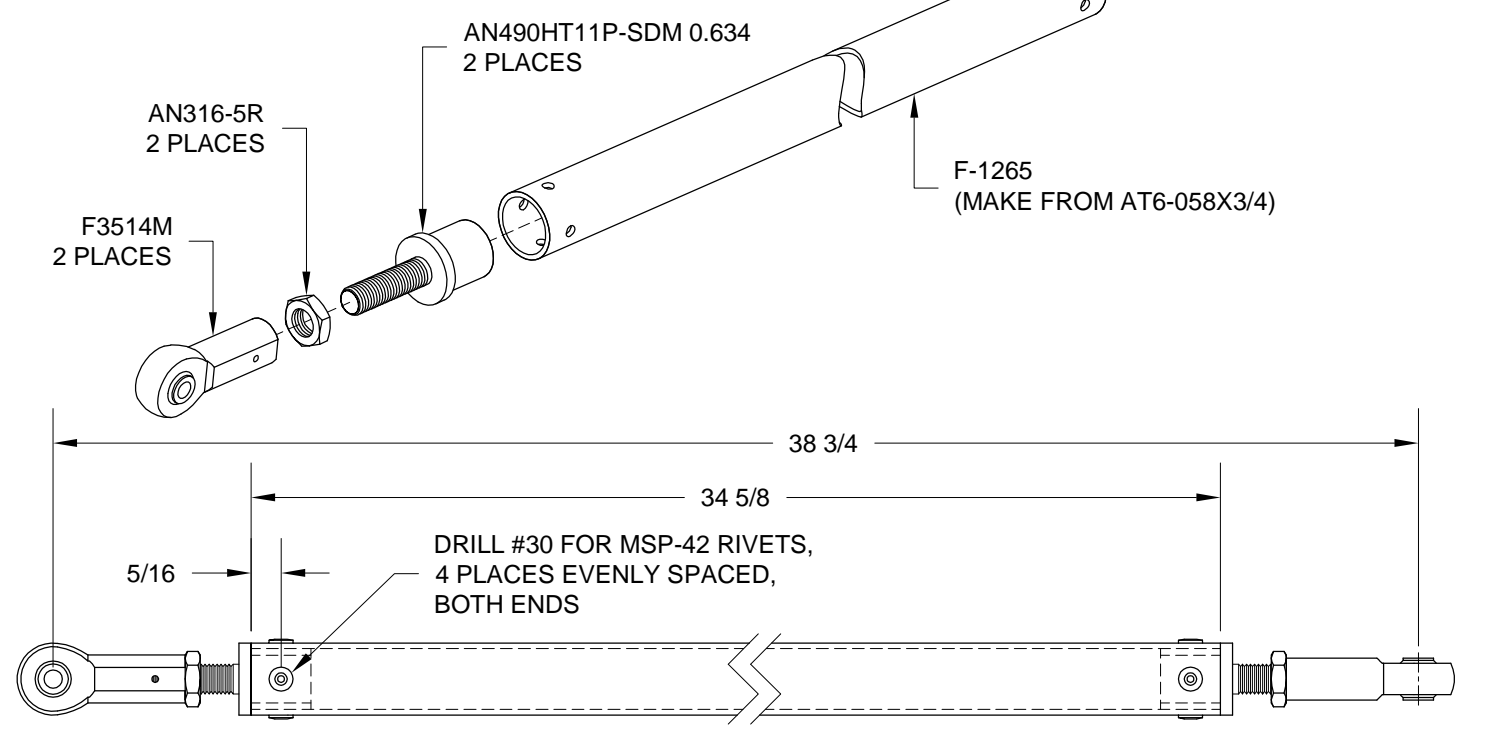


FIGURE 1: FLAPERON PUSHROD ASSEMBLY
2 REQUIRED

Step 2: Pass the two Flaperon Pushrod Assemblies through their corresponding oblong holes in the F-1204A & D Center Section Bulkheads and the center lightening hole in the F-1206A Bulkhead.

Step 3: Bolt the forward end of both Flaperon Pushrod Assemblies to the F-1263A & B Flaperon Mixer Bellcranks using the hardware called out in Figure 2.

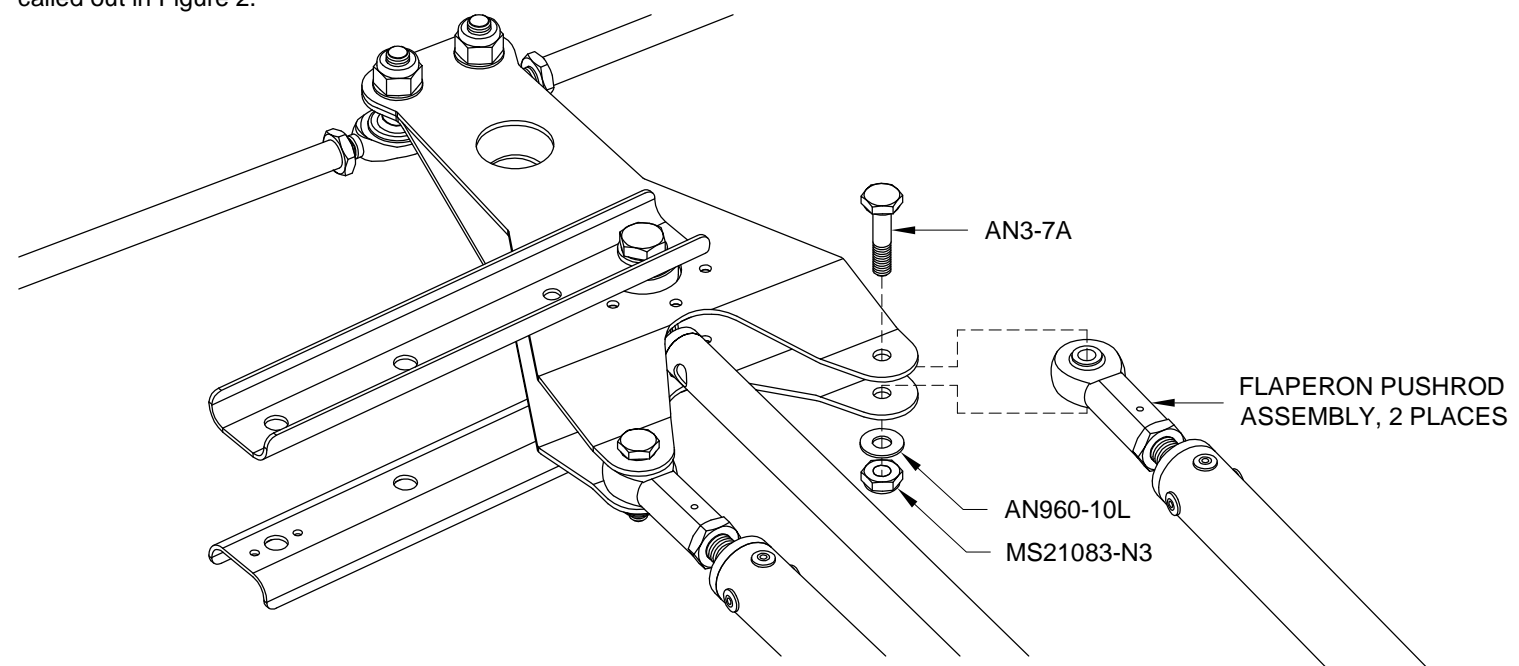


FIGURE 2: ATTACHING THE FLAPERON PUSHROD ASSEMBLIES

Step 4: Bolt the WD-1215-L & -R Flaperon Torque Arms to the F-1206D Bearing Brackets using the hardware shown in Figure 3.

Step 5: Attach the aft end of the Flaperon Pushrod Assemblies to the WD-1215-L & -R Flaperon Torque Arms using the hardware called out in Figure 3.

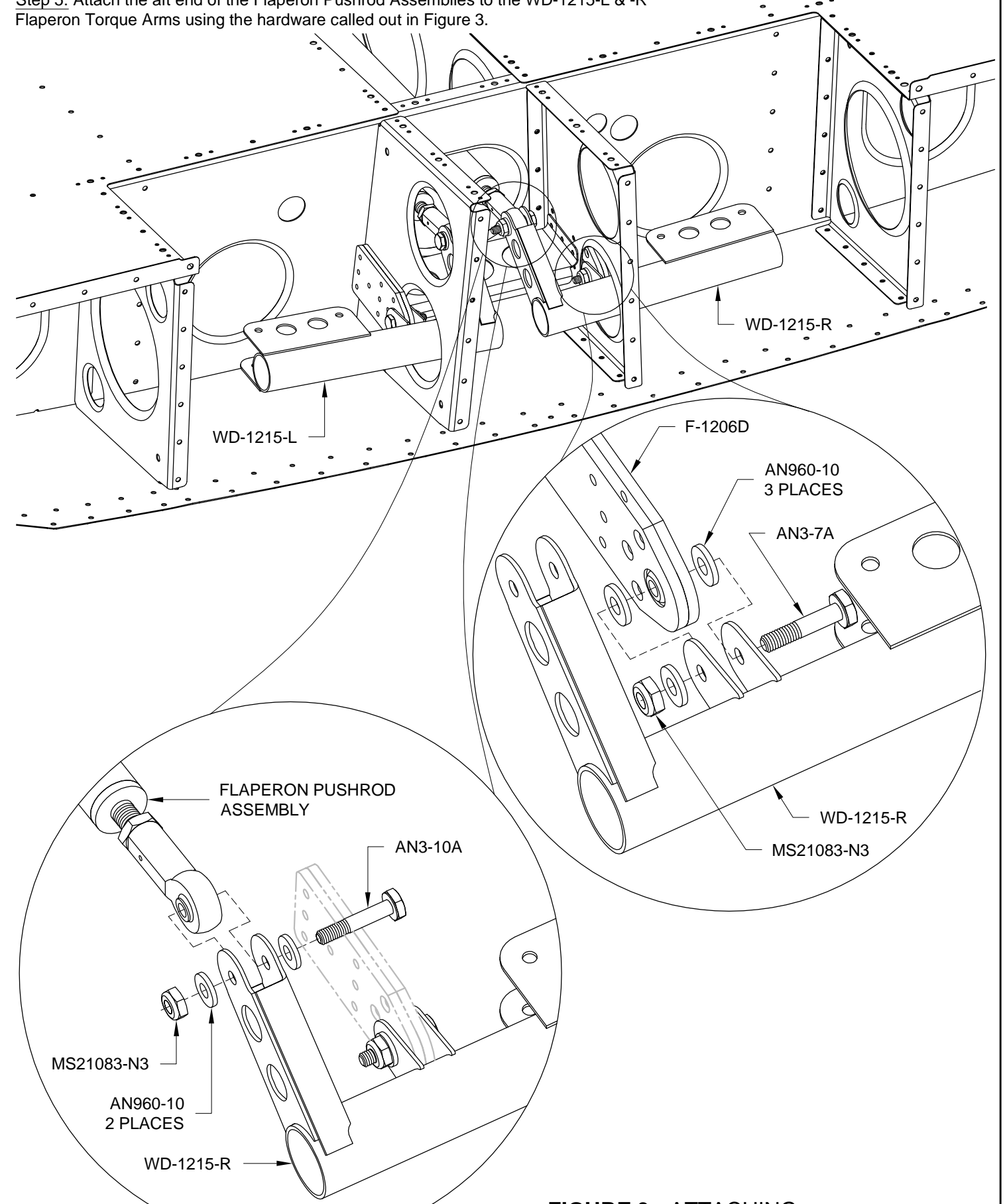
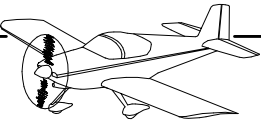


FIGURE 3: ATTACHING THE FLAPERON TORQUE ARMS



Step 1: Separate the F-1260B Flap Handle Fork and the F-1260C Flap Handle Spacer into individual parts by removing the shaded areas shown in Figure 1.

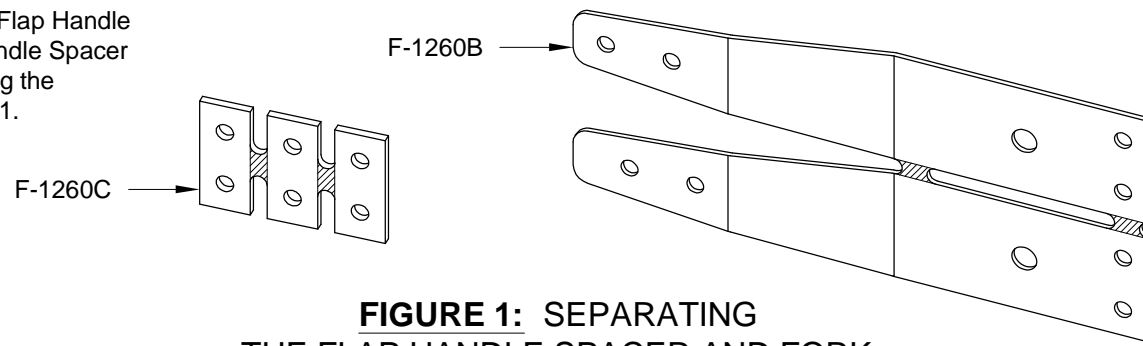


FIGURE 1: SEPARATING THE FLAP HANDLE SPACER AND FORK

Step 2: Make the Fork Assembly using the F-1260B Flap Handle Forks, the F-1260C Flap Handle Spacers, and the hardware called out in Figure 2.

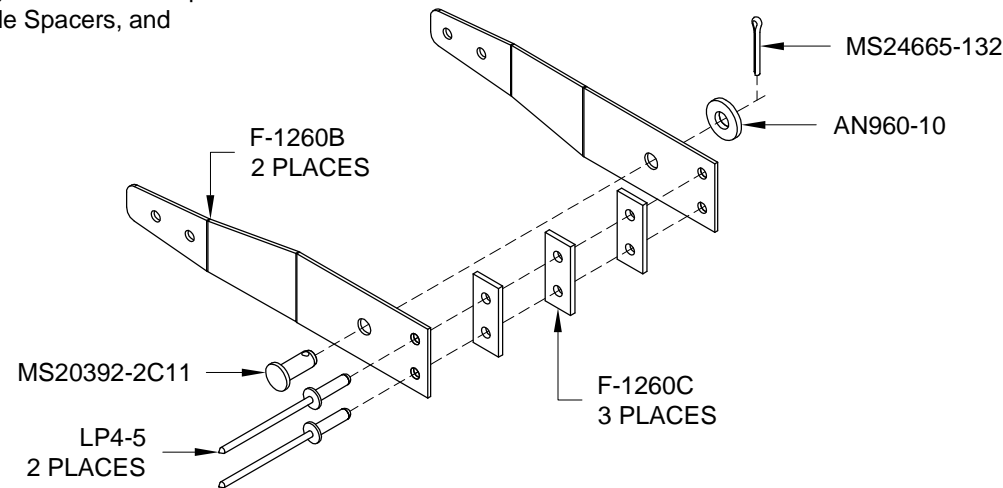


FIGURE 2: FORK ASSEMBLY

Step 3: Cut the F-1260A Flap Handle Tube to length according to the dimension provided in Figure 3.

Step 4: Carefully align the Fork Assembly with the F-1260A Flap Handle Tube, clamp the parts together, then match-drill #30 the two holes in both sides of the Fork Assembly into the flap handle tube.

Step 5: Attach the Fork Assembly to the F-1260A Flap Handle Tube using the rivets called out in Figure 3.

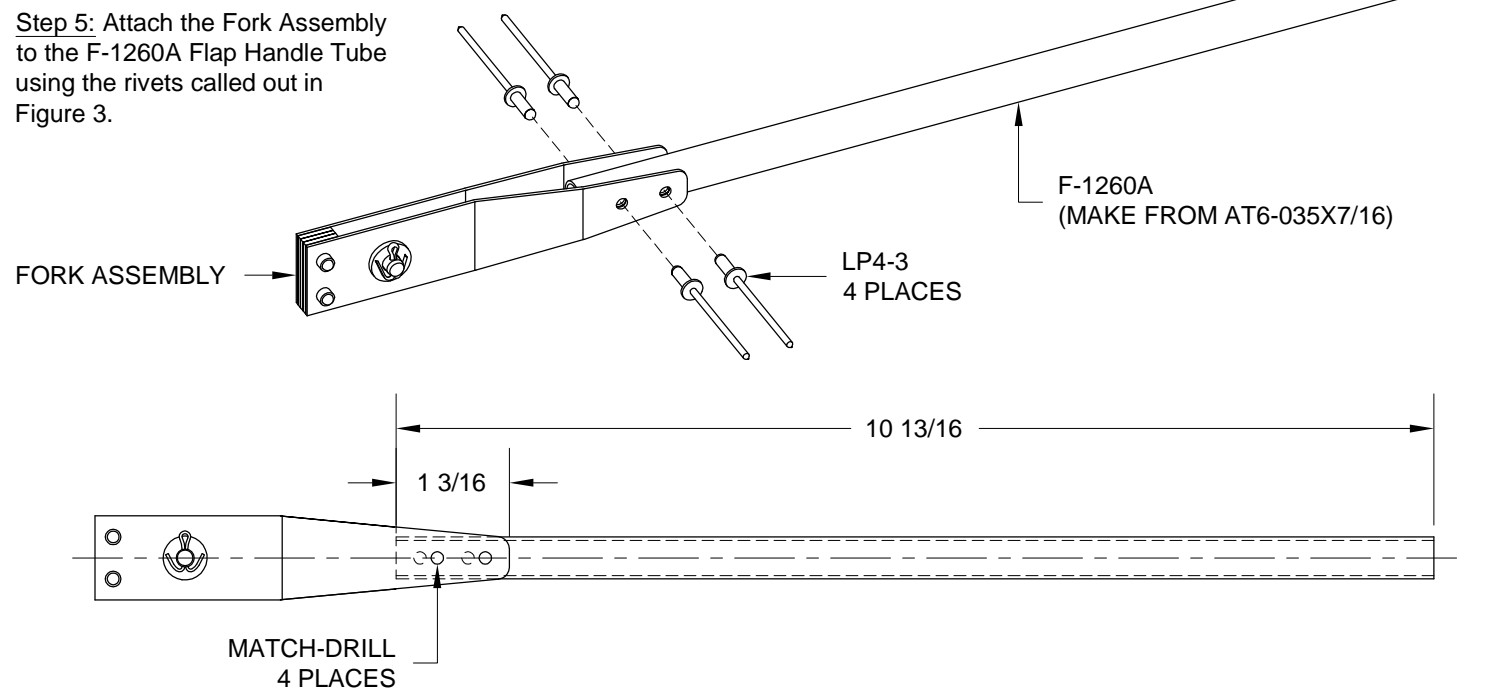


FIGURE 3: ATTACHING THE FORK ASSEMBLY

Step 6: Separate the F-1266C Flap Detent Bracket Angle and the F-1266AD Flap Detent Bracket / Stop into individual parts by removing the shaded areas shown in Figures 4 and 5.

Step 7: Use a fine file to round the transition between the flats and the detents on the detent bracket. See Figure 5

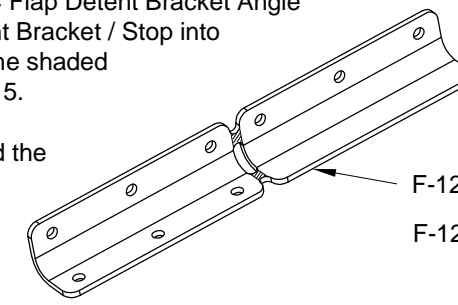


FIGURE 4: F-1266C FLAP DETENT BRACKET ANGLE



FIGURE 5: F-1266AD FLAP DETENT BRACKET/ STOP

Step 8: Attach the F-1266C Flap Detent Bracket Angles to the F-1266A Flap Detent Bracket using the rivets called out in Figure 6.

Step 9: Cleco the F-1266C Flap Detent Angle that has the holes in its horizontal flange to the F-1266B Flap Detent Bracket Plate as shown in Figure 6.

Step 10: Match-Drill #30 the holes of the F-1266B Flap Detent Bracket Plate into the F-1266C Flap Detent Angle that has no holes in its horizontal flange.

Step 11: Machine countersink the bottom of the F-1266B Flap Detent Bracket Plate for the rivets shown in Figure 6.

Step 12: Attach the F-1266C Flap Detent Bracket Angles to the F-1266B Flap Detent Bracket Plate using the rivets called out in Figure 6.

Step 13: Apply wheel bearing or thick lithium grease to the flats and detents of the detent bracket.

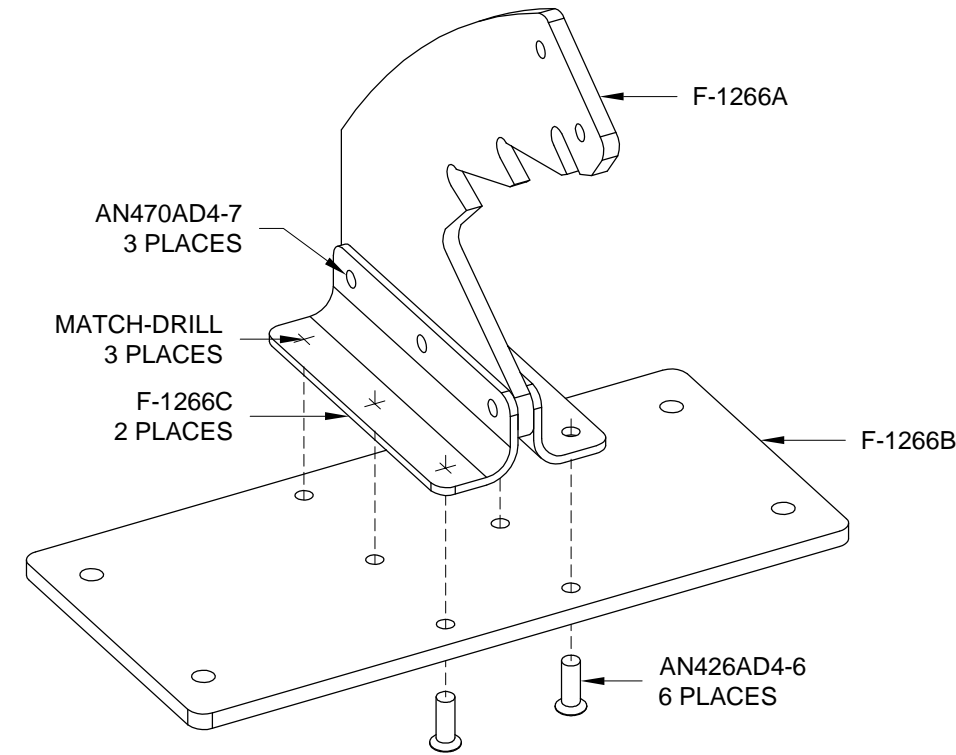


FIGURE 6: DETENT BRACKET ASSEMBLY

Step 14: Press the VA-110 Flap Knob onto the end of the Fork Assembly, then slide the VA-114 Compression Spring and the Fork Assembly into the WD-1213 Flap Handle as shown in Figure 7.

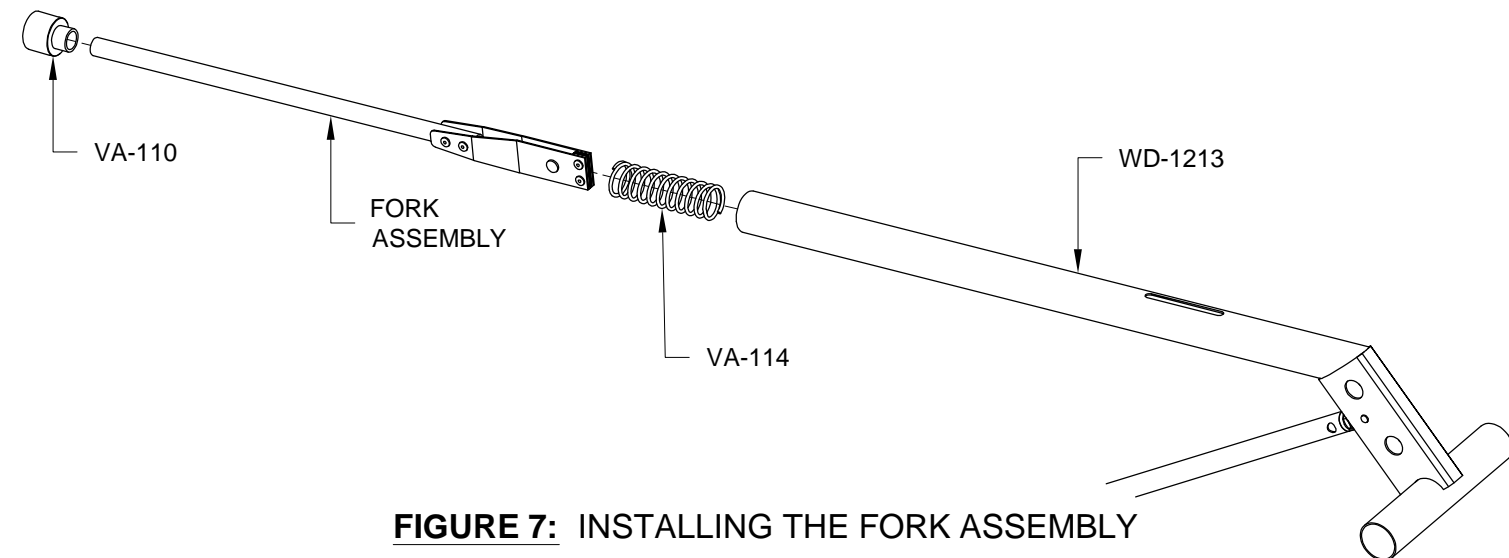


FIGURE 7: INSTALLING THE FORK ASSEMBLY

Step 1: Insert the F-1266A Flap Detent Bracket through the slots in the WD-1213 Flap Handle and between the F-1260B Flap Handle Forks.

Step 2: Make temporary 0.025 inch shims from scrap aluminum and place them between the Detent Bracket Assembly and the F-1225-L & -R Seat Floors, then screw the Detent Bracket Assembly to the seat floors using the hardware called out in Figure 1.

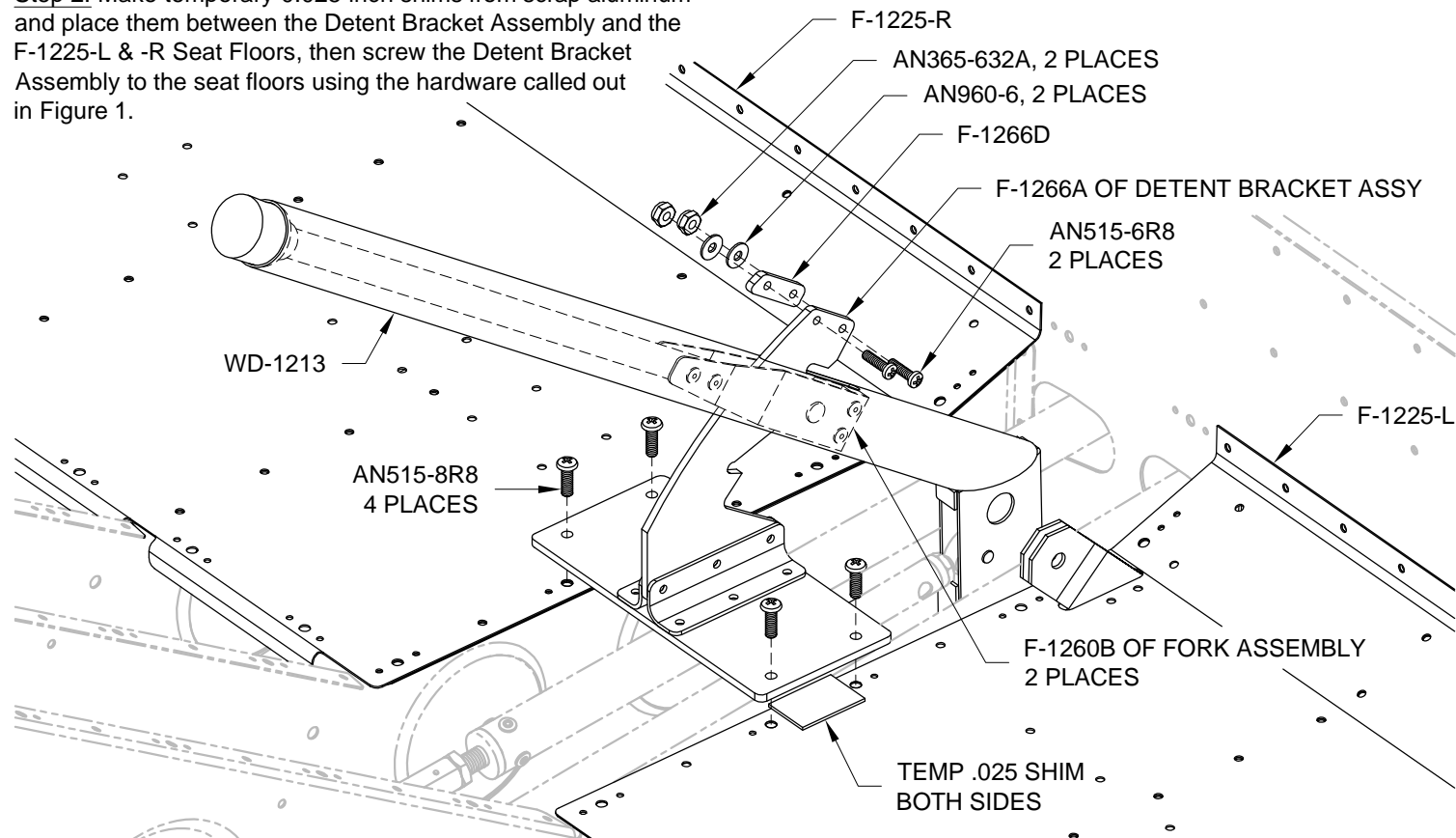


FIGURE 1: INSTALLING THE DETENT BRACKET

Step 3: With the Fork Assembly engaged in the F-1266A Flap Detent Bracket, trim the F-1260A Flap Handle Tube as necessary so that the VA-110 Flap Knob remains just inside the WD-1213 Flap Handle as shown in Figure 2.

Step 4: Remove the Fork Assembly, drill #30 the VA-110 Flap Knob and F-1260A Flap Handle Tube, install the rivet called out in Figure 2, then reinstall the Fork Assembly.

Step 5: Attach the F-1266D Stop to the F-1266A Flap Detent Bracket using the hardware shown in Figure 1.

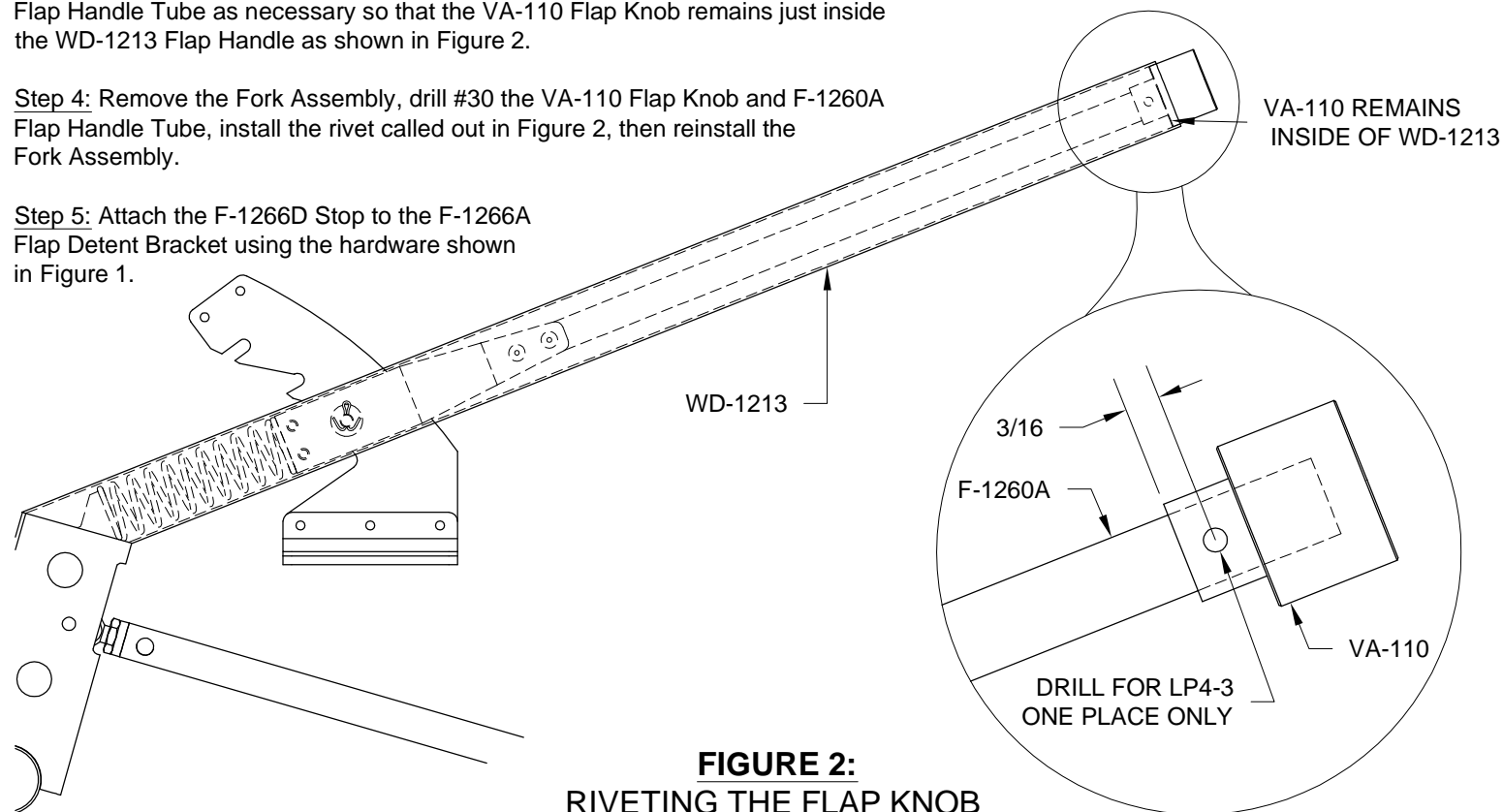


FIGURE 2: RIVETING THE FLAP KNOB

Step 6: Cut the F-1261 Spacer into four individual parts according to the dimension given in Figure 3.

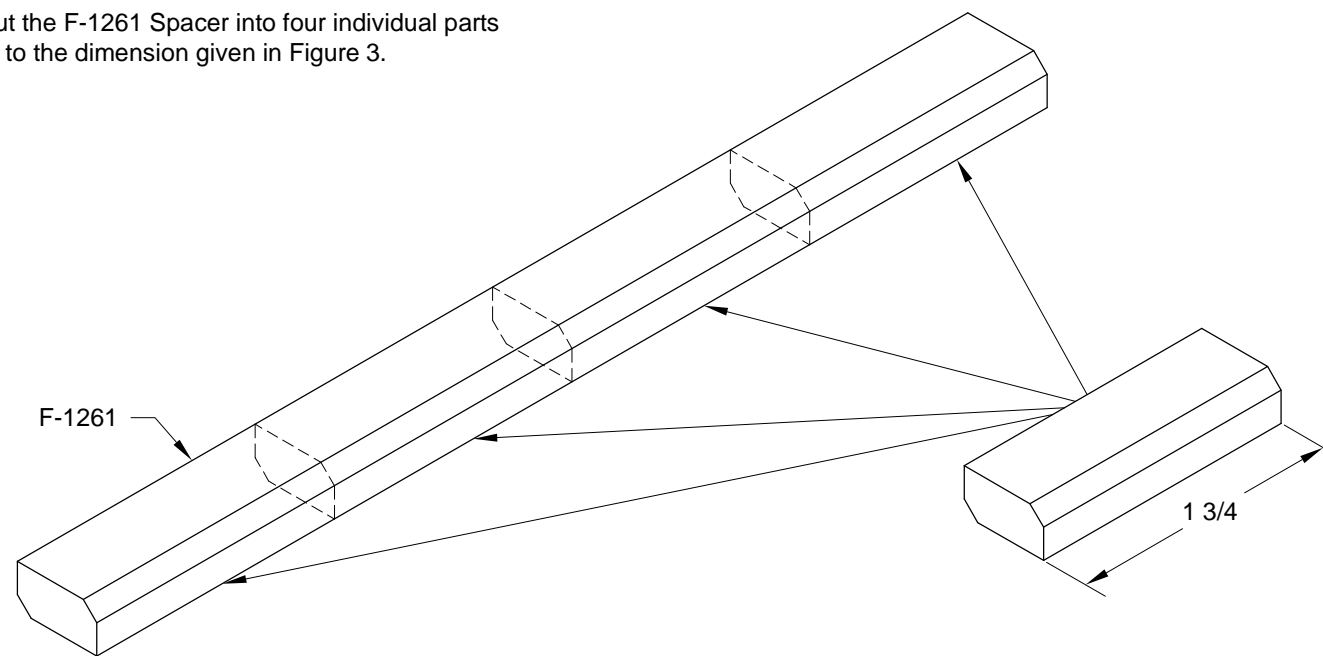


FIGURE 3: CUTTING THE F-1261 SPACER

Step 7: Position the F-1261 Spacers in the WD-1214-L & -R Flaperon Torque Tubes as shown in Figure 4, then match-drill #30 the holes of the flaperon torque tube into the spacers.

Step 8: Final-Drill #12 the two holes in each F-1261 Spacer (**the spacers only, not the flaperon torque tube**).

Step 9: Scuff the mating surfaces, then epoxy the F-1261 Spacers to the F-1214-L & -R Flaperon Torque Tubes. Do not use too much epoxy, a 1/8 inch gap must be maintained between the spacers (use a scrap piece of 1/8 aluminum or something similar). Before the epoxy sets, install the rivets called out in Figure 4.

Step 10: Ensure that the A-1211 Pivot Guides slide freely into the end of the WD-1214-L & -R Flaperon Torque Tubes. See Page 32-09, Figure 3. If some binding is present, first deburr the inside edge of the torque tube then, if necessary, lightly sand the pivot guides until the parts slide together freely.

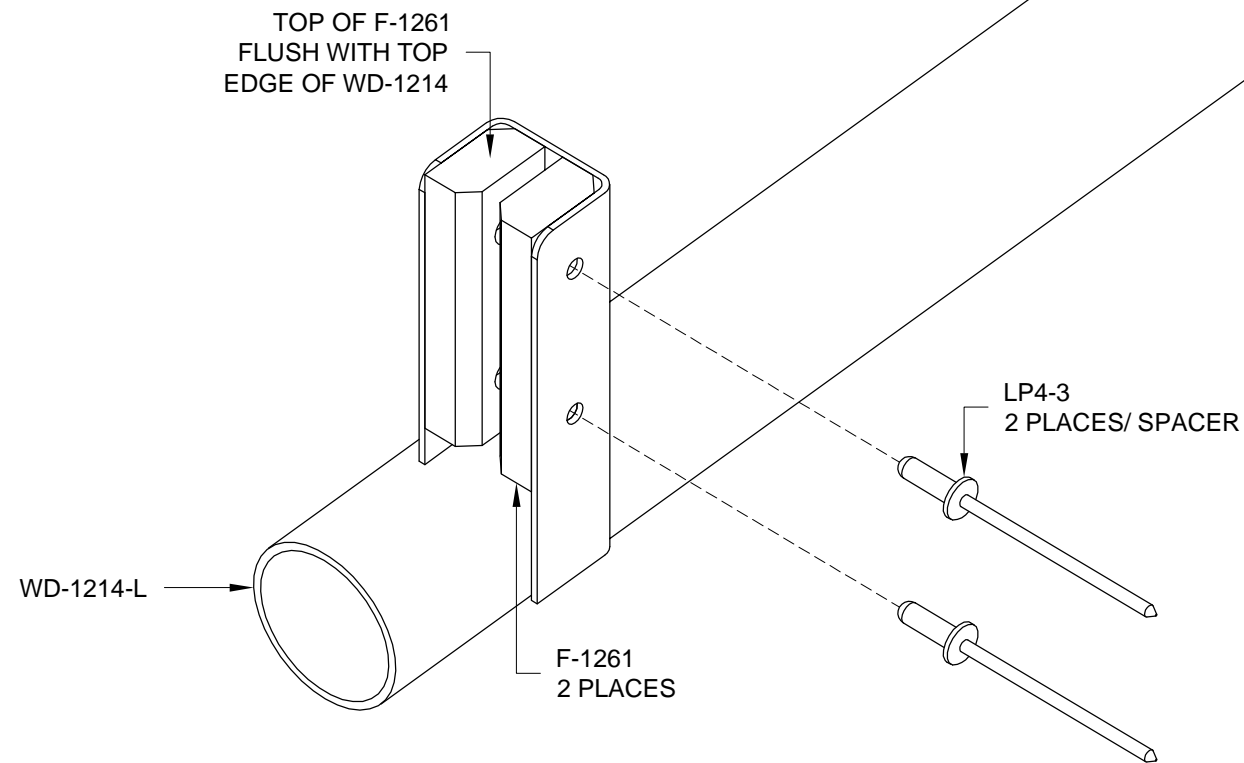


FIGURE 4: ATTACHING THE SPACERS

Step 1: From the 12 inch length of MS21266-1N Nylon Grommet supplied, cut two 3-11/16 lengths and install them around the edges of the holes in the F-1273-L & -R Baggage Corner Skins as shown in Figure 1.

Step 2: Slide the WD-1214-L & -R Flaperon Torque Tubes through the holes in the F-1273-L & -R Baggage Corner Skins and between the brackets of the WD-1215L & -R Flaperon Torque Arms as shown in Figure 1.

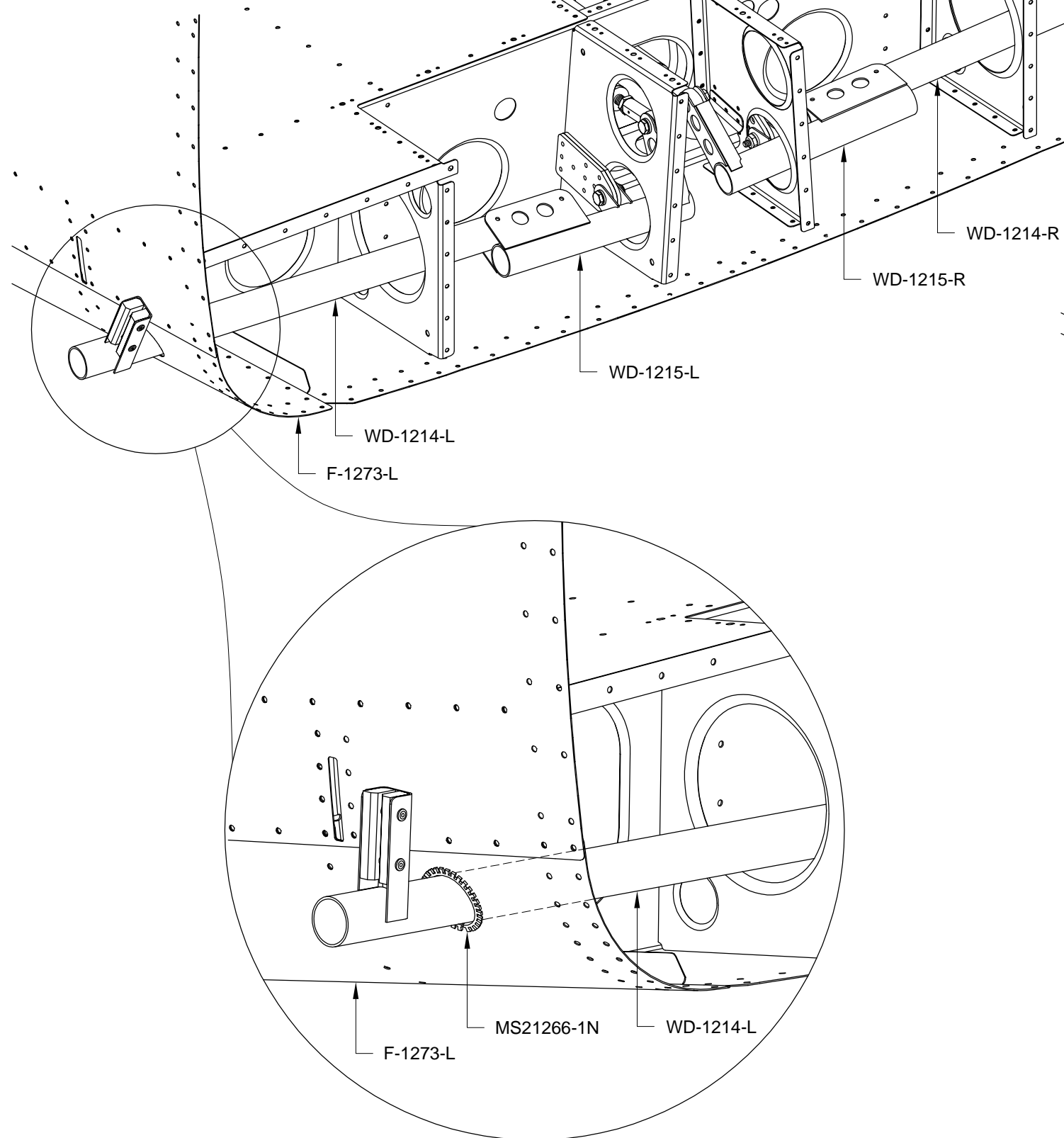


FIGURE 1: INSTALLING THE FLAPERON TORQUE TUBE

Step 3: Place the WD-1213 Flaperon Handle in the lowest (flaps up) detent in the F-1266A Flaperon Detent Bracket, then use the bolt shown in Figure 2 to temporarily lock the flaperon control system in the neutral position. Pass the bolt through the holes in both F-1219 Flaperon Mixer Arms and through the holes in the F-1263A & B Flaperon Mixer Bellcranks.

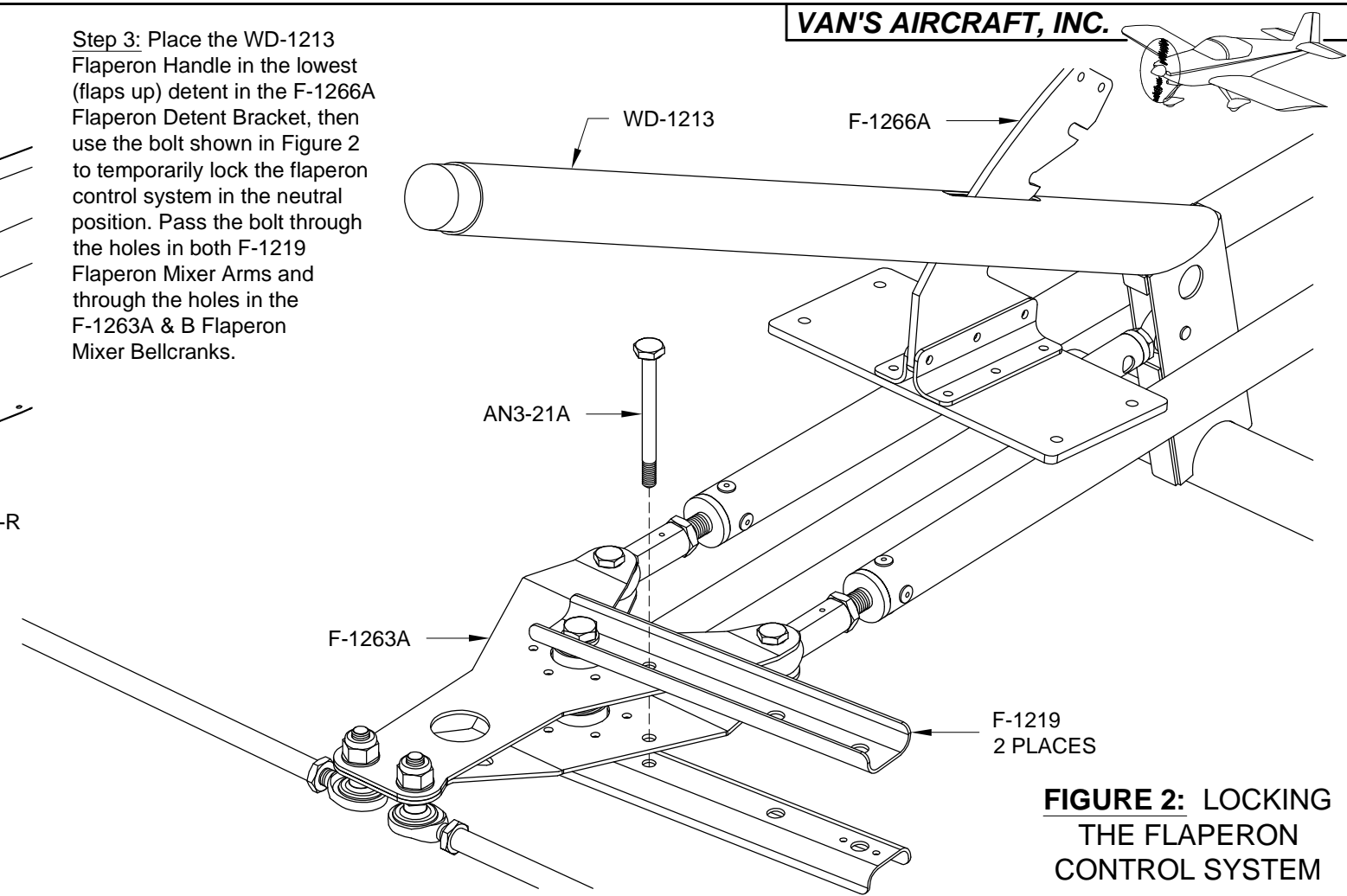


FIGURE 2: LOCKING THE FLAPERON CONTROL SYSTEM

Step 4: Install the wings. During installation, use axle grease to lubricate the A-1211 Pivot Guides and A-1207-L & -R Actuation Brackets. The pivot guides slide into the WD-1214-L & -R Flaperon Torque Tubes and the actuation brackets slide between the F-1261 Spacers as shown in Figure 3.

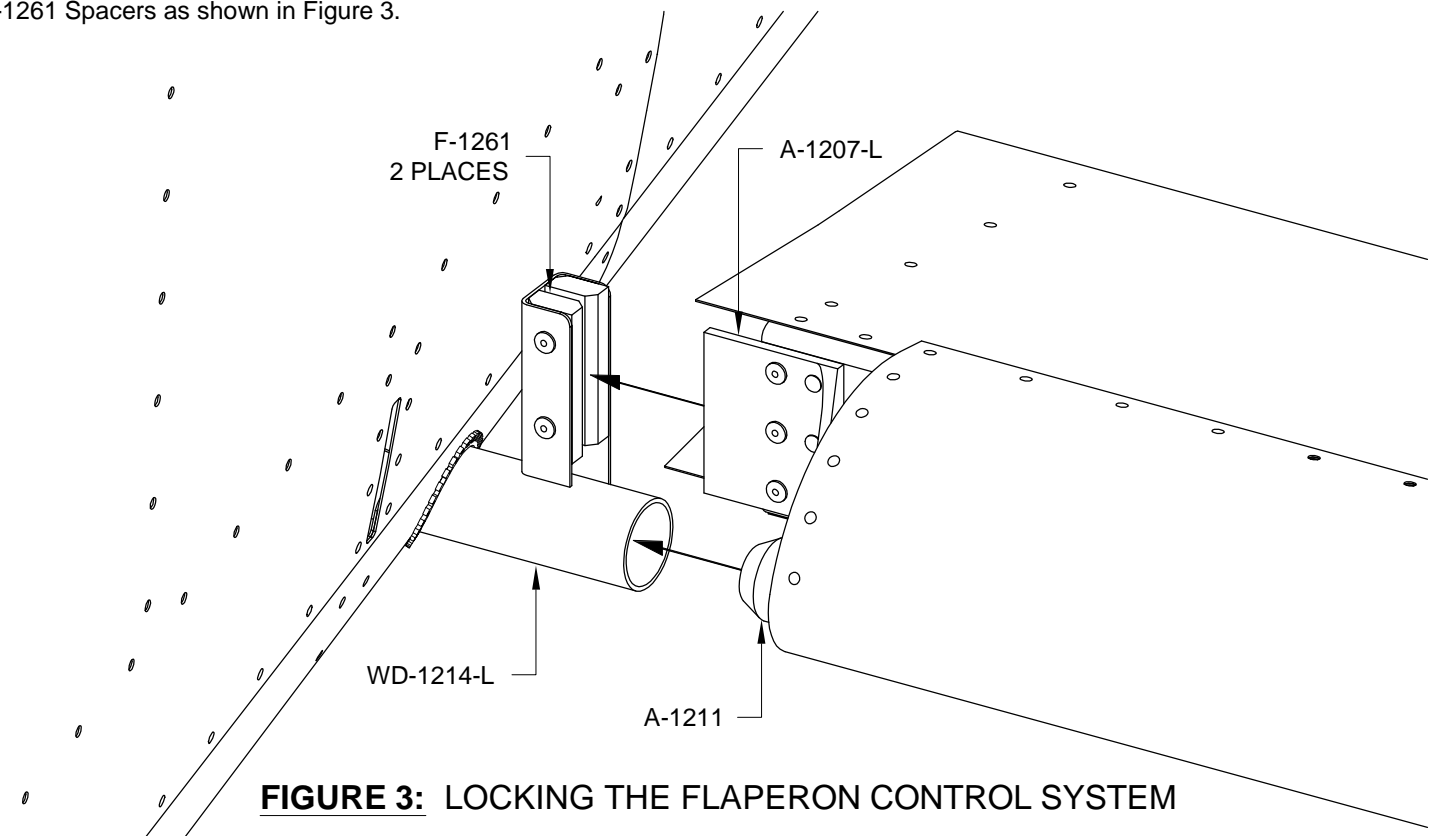
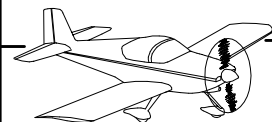


FIGURE 3: LOCKING THE FLAPERON CONTROL SYSTEM



Step 1: Use .125 thick shims and clamps to droop down both the left and right Flaperons as shown in Figure 1.

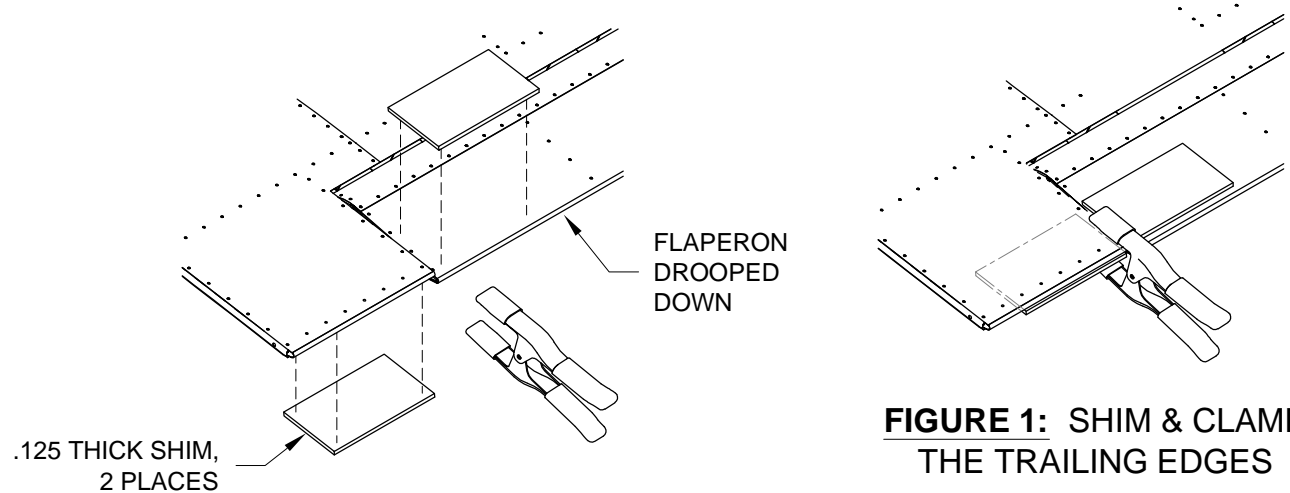


FIGURE 1: SHIM & CLAMP THE TRAILING EDGES

Step 2: Flush the ends of the WD-1214-L & -R Flaperon Torque Tubes with the brackets on the WD-1215-L & -R Flaperon Torque Arms as shown in Figure 2. If the A-1207-L & -R Actuation Brackets on the flaperons (see Page 32-09, Figure 3) force the flaperon torque tubes to extend beyond the brackets, trim the actuation brackets until the flaperon torque tubes are flush.

Step 3: Insert a temporary 0.063 spacer between the WD-1214-L & -R Flaperon Torque Tubes and the WD-1215-L & -R Flaperon Torque Arms as shown in Figure 2, then clamp the parts together.

Step 4: Match-Drill #30 (use a 12 inch extension drill bit) the two holes of the WD-1215-L & -R Flaperon Torque Arms into the WD-1214-L & -R Flaperon Torque Tubes (one side only, and cleco the first hole before match-drilling the second).

Step 5: Remove the wings, then remove the WD-1215-L & -R Flaperon Torque Arms and WD-1214-L & -R Flaperon Torque Tubes from the fuselage.

Step 6: On a work bench and with the 0.063 spacers in place, cleco together the WD-1215-L & -R Flaperon Torque Arms and WD-1214-L & -R Flaperon Torque Tubes using the previously match-drilled holes. Reapply the clamps.

Step 7: Match-Drill #30 the holes in the other side of the WD-1215-L & -R Flaperon Torque Arms into the WD-1214-L & -R Flaperon Torque Tubes.

Step 8: Final-Drill #12 all the way through both sets of holes (insert a bolt after final-drilling the first set) in the WD-1215-L & -R Flaperon Torque Arms and WD-1214-L & -R Flaperon Torque Tubes.

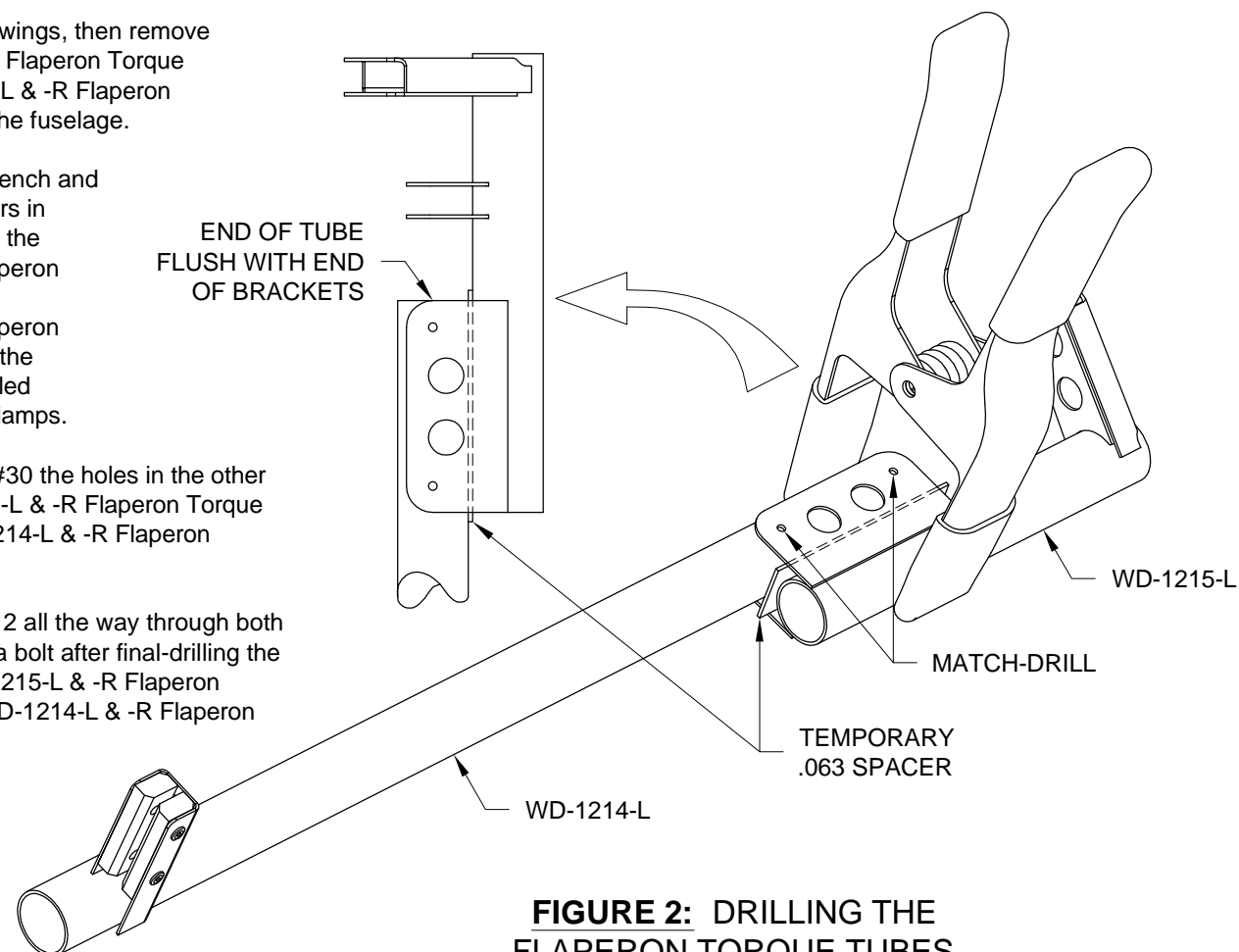


FIGURE 2: DRILLING THE FLAPERON TORQUE TUBES

Step 9: Reinstall the WD-1215-L & -R Flaperon Torque Arms (Page 32-06, Figure 3), then attach the WD-1214-L & -R Flaperon Torque Tubes using the hardware called out in Figure 3.

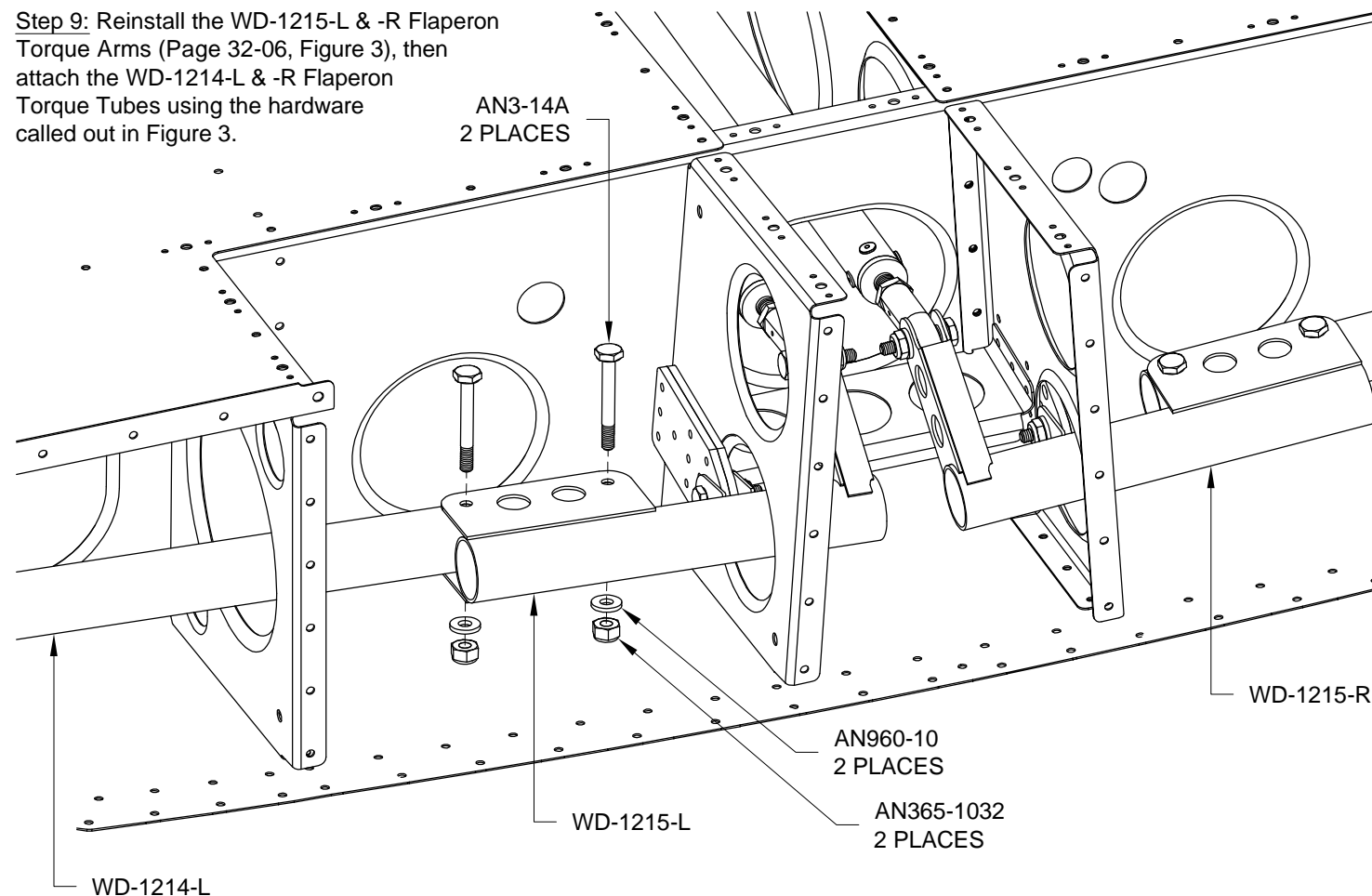


FIGURE 3: SECURING THE FLAPERON TORQUE TUBES

Step 10: Separate the F-1258 Rudder Cable Links by removing the shaded areas shown in Figure 4.

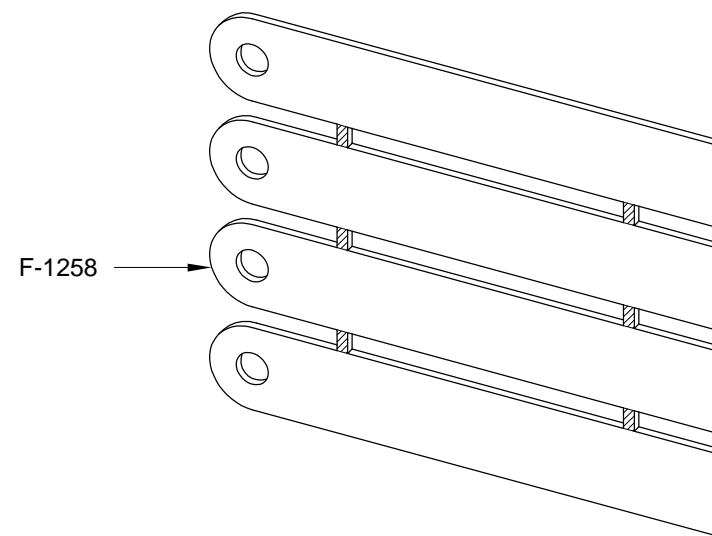
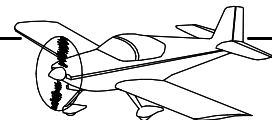


FIGURE 4: SEPARATING THE RUDDER CABLE LINKS



Step 1: Route the spade end (not the fork end) of the F-1239 Rudder Cables along with the 11 1/2 inch long plastic sleeve on both rudder cables, forward through the SB750-10 snap bushings in the F-1207B, F-1206A, and F-1204D & A Bulkheads (see Page 21-14, Figure 3 and Page 21-19, Figure 3). Leave the plastic sleeves at the location shown in Figure 1, then continue routing the cable ends through the two Ø9/16 holes in the F-1203A Bulkhead and the two upper SB750-10 snap bushings in the F-1202F Bulkhead.

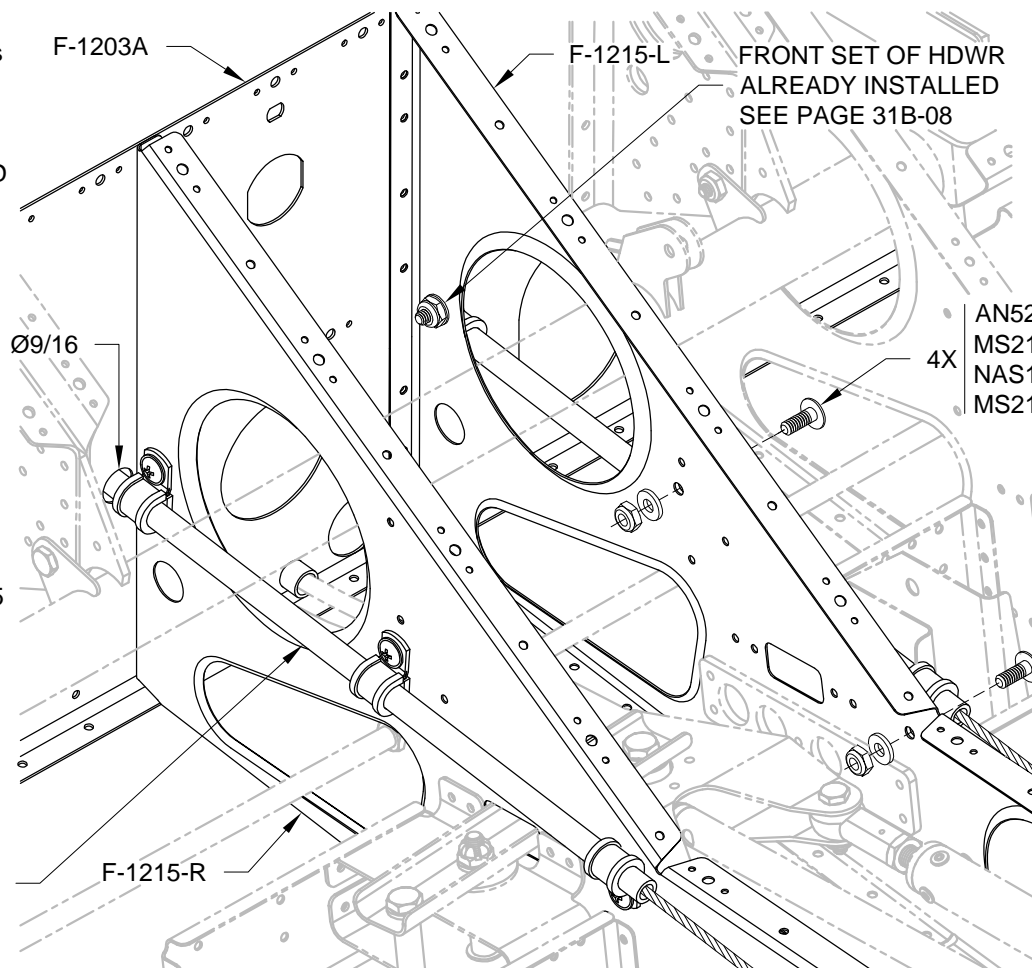


FIGURE 1: SECURING THE RUDDER CABLE PLASTIC SLEEVE

Step 2: Using the hardware shown in Figure 1, secure the plastic sleeve on both F-1239 Rudder Cables to the three Ø.191 holes in the center F-1215 Seat Ribs (be sure the MS21919 cushion clamps are oriented as shown). The plastic sleeves are to extend through the Ø9/16 holes in the F-1203A Bulkhead and forward of the bulkhead by approximately 3/8 of an inch.

11 1/2 INCH PLASTIC SLEEVE ON F-1239 RUDDER CABLE, 2 PLACES

Step 3: Drill a #40 hole approximately 3/16 of an inch from the aft end of the 10 inch long plastic sleeve that is on both F-1239 Rudder Cables as shown in Figure 2.

Step 4: Pull the 10 inch long plastic sleeves over the shaft of the fork ends of the F-1239 Rudder Cables and safety wire them to the fork ends as shown in Figure 2.

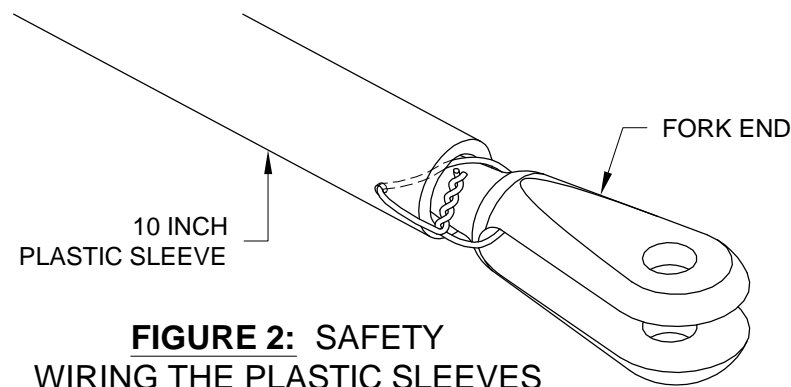


FIGURE 2: SAFETY WIRING THE PLASTIC SLEEVES

Step 5: Use the string that was routed through the tailcone in Section 10 to pull the F-1239 Rudder Cables through the snap bushing in both F-1238 Snap Bushing Brackets and out the F-1211 Bulkhead.

Step 6: Temporarily attach one F-1258 Rudder Cable Link to the fork end of both F-1239 Rudder Cables as shown in Figure 3.

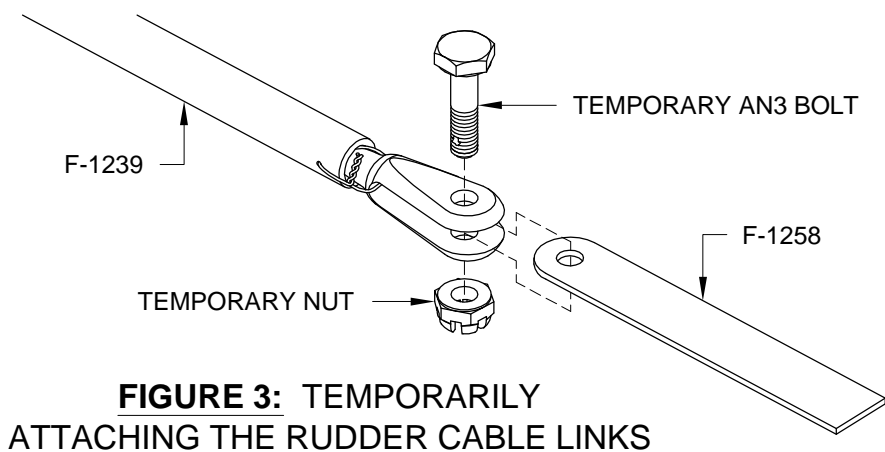


FIGURE 3: TEMPORARILY ATTACHING THE RUDDER CABLE LINKS

Step 7: Temporarily attach the spade ends of the F-1239 Rudder Cables to the horns on the WD-1206 Rudder Pedals as shown in Figure 4. (Secure the aft end of the rudder cables with wire or string so that they are not pulled back through the F-1211 Bulkhead.)

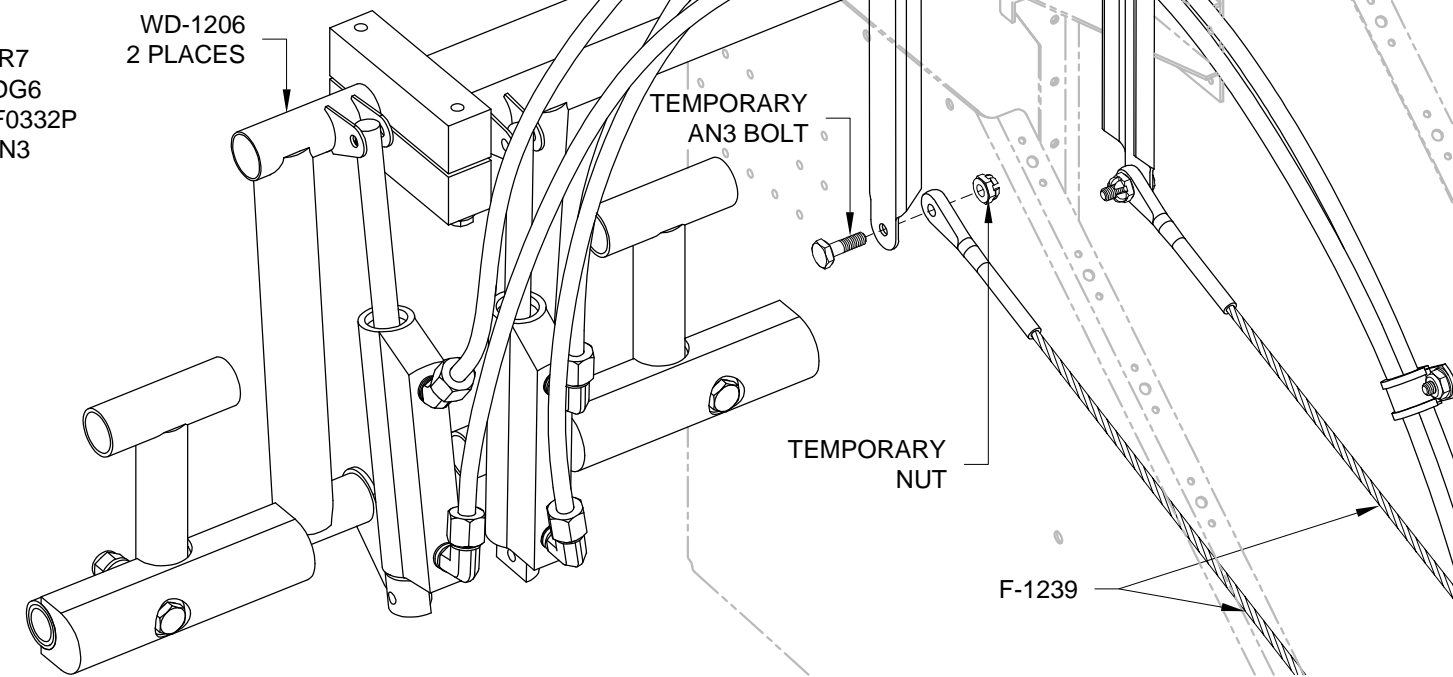


FIGURE 4: ATTACHING RUDDER CABLES TO RUDDER PEDALS

Step 8: Using the wood from the crating that the kit was shipped in, cut and nail together the Rudder Pedal Rigging Stop as shown in Figure 5.

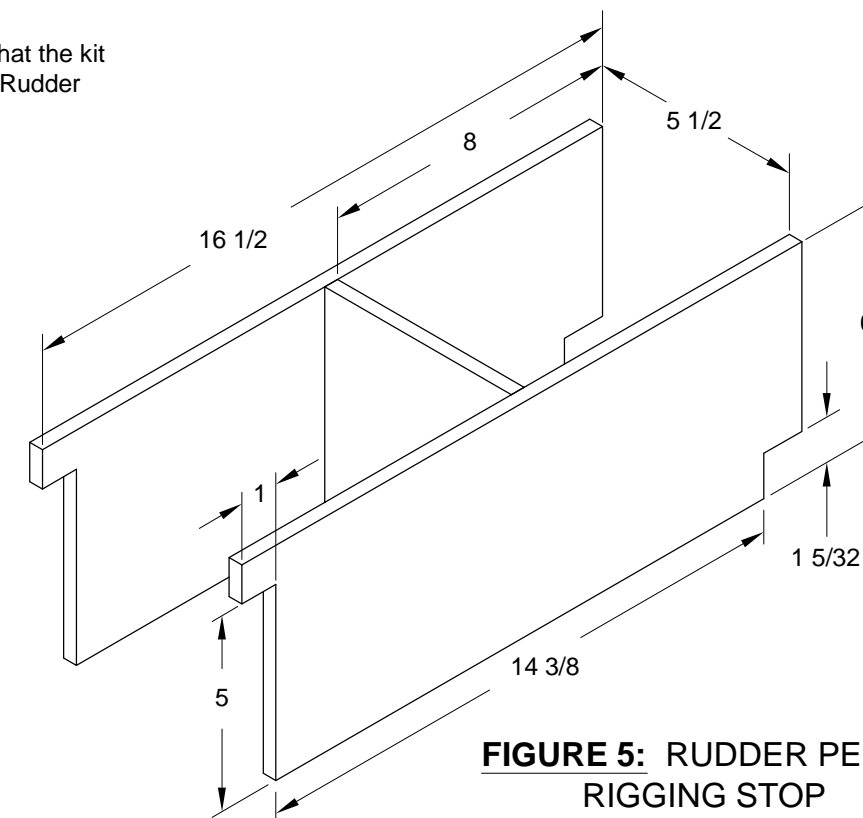


FIGURE 5: RUDDER PEDAL RIGGING STOP



Step 1: Set the Rudder Pedal Rigging Stop between the F-1290 Pedal Blocks and the F-1202F Bulkhead as shown in Figure 1.

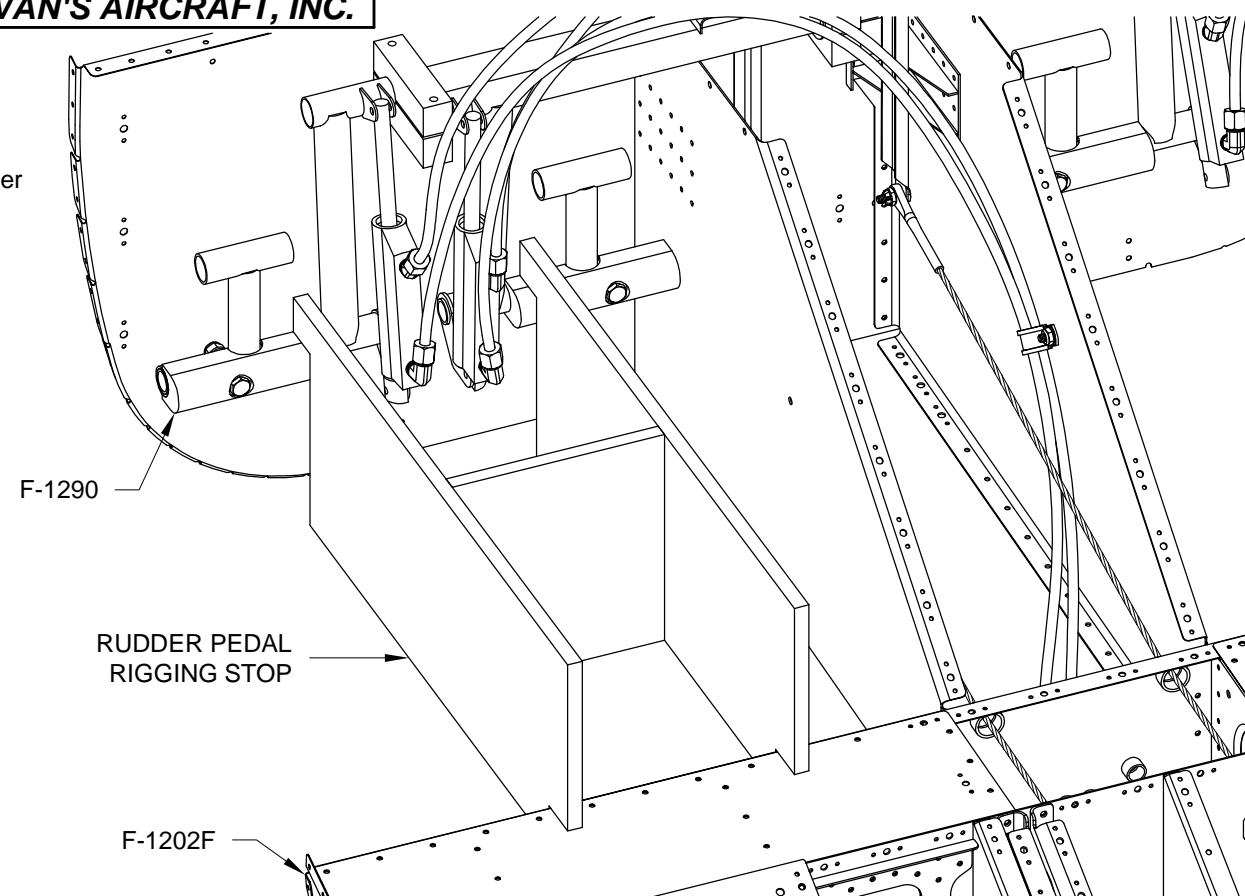


FIGURE 1: SETTING THE RUDDER PEDAL RIGGING STOP

Step 2: Draw a line down the center of the top surface of the F-1258 Rudder Cable Links.

Step 3: Center the rudder, pull the F-1239 Rudder Cables tight, center the line drawn on the F-1258 Rudder Cable Links with the holes in the WD-1205 Rudder Horn, then clamp the rudder cable links to the rudder horns as shown in Figure 2.

Step 4: Make sure the rudder is still centered, then mark the hole centers of the WD-1205 Rudder Horns on the F-1258 Rudder Cable Links.

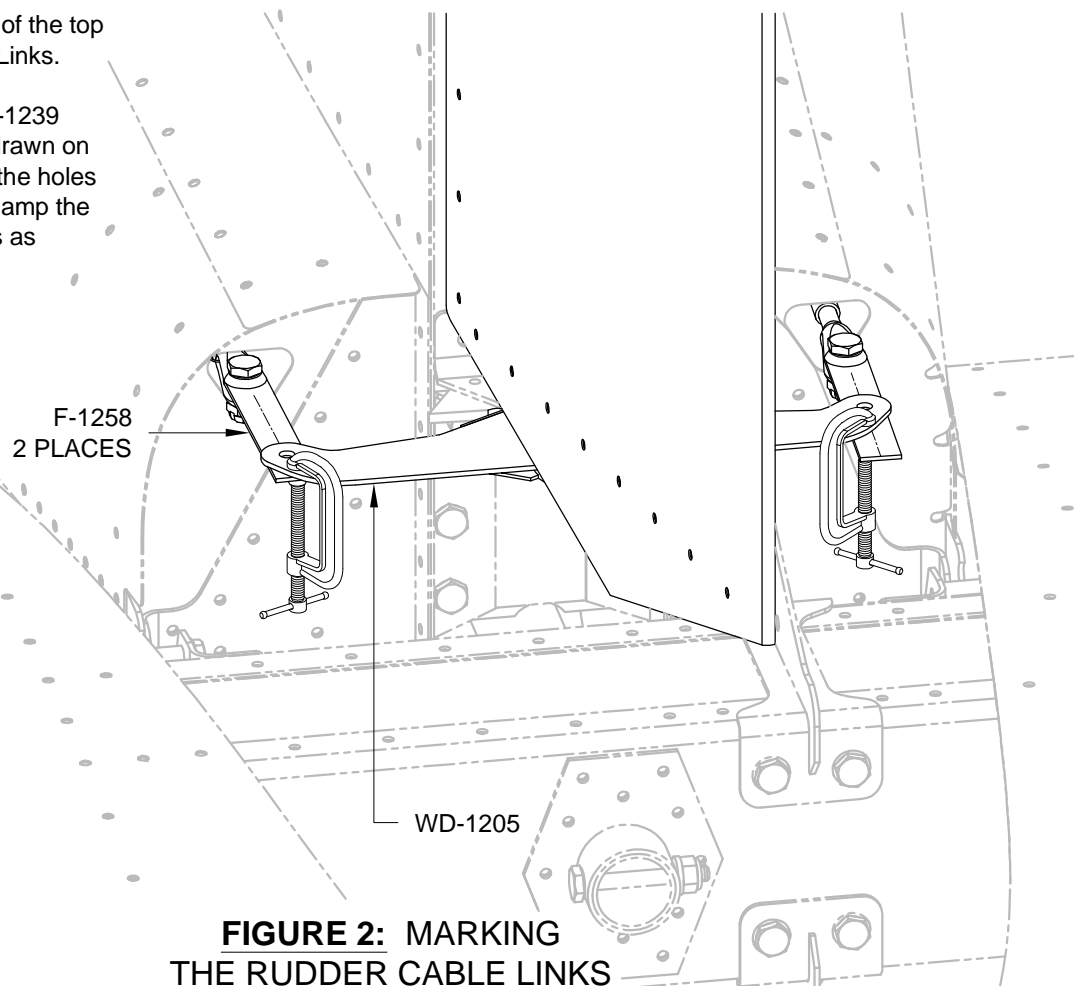


FIGURE 2: MARKING THE RUDDER CABLE LINKS

Step 5: Remove the Rudder Pedal Rigging Stops.

CAUTION: Pivot bolts (cable clevis to control horn attach bolts) must rotate freely after installing the nuts and cotter pins. Bolt should still turn by hand when properly tightened and safetied. Do not use standard torque on these fasteners! See Pivot Bolt Installation in Section 5V for more information.

Step 6: Remove the marked F-1258 Rudder Cable Links from the F-1239 Rudder Cables, then secure the rudder cables to the WD-1205 Rudder Horn using the hardware called out in Figure 3.

Lubricate bolt with wheel bearing grease and tighten nut only enough to prevent slop in the system.

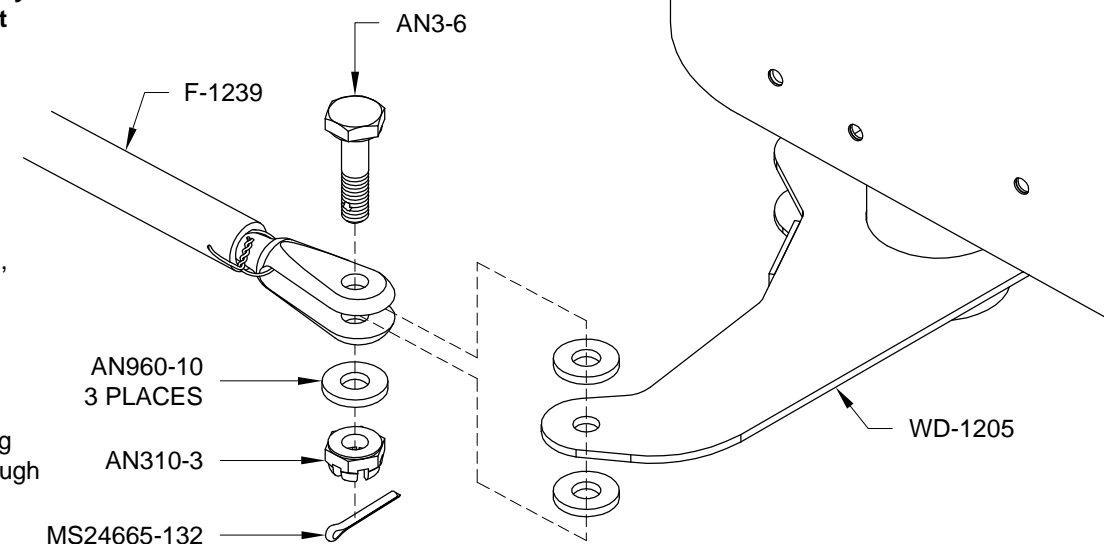


FIGURE 3: SECURING THE RUDDER CABLES TO THE RUDDER HORN

Step 7: With a bolt through the ends as shown in Figure 4, clamp a marked F-1258 Rudder Cable Link on top of an unmarked rudder cable link.

Step 8: Drill #30 through both F-1258 Rudder Cable Links at the marks, then final-drill #12.

Step 9: Repeat the last two steps with the remaining marked and unmarked F-1258 Rudder Cable Links.

Step 10: Trim the F-1258 Rudder Cable Links as shown in Figure 5. The rudder cable links with the holes closer together are the F-1258-R, those with the holes farther apart are the F-1258-L.

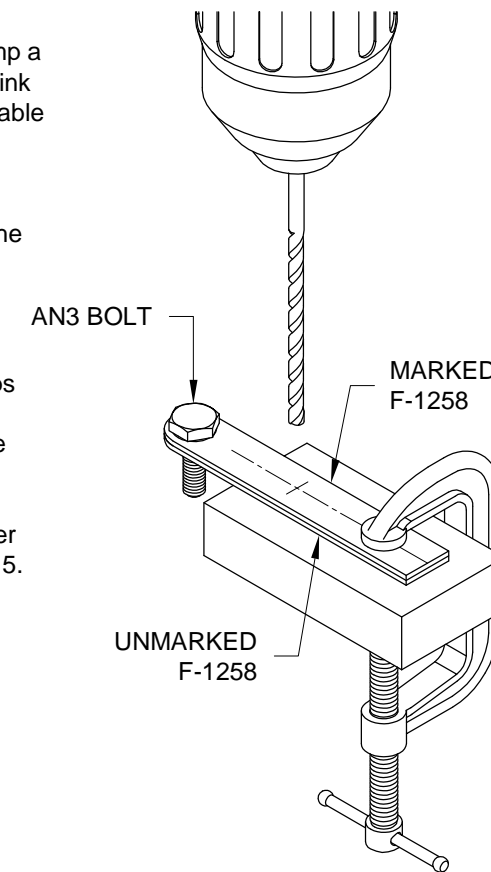


FIGURE 4: DRILLING THE RUDDER CABLE LINKS

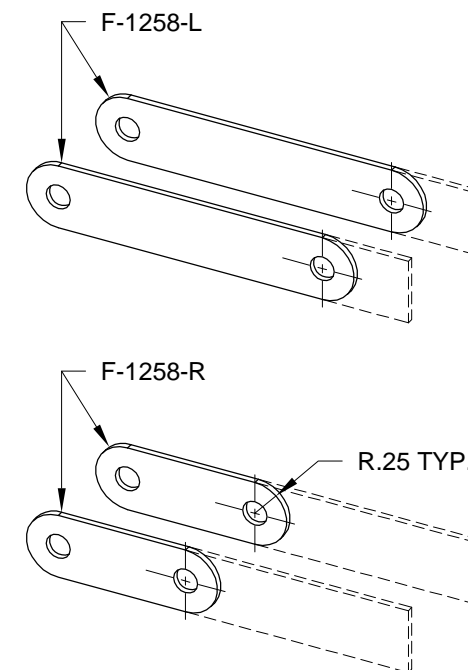
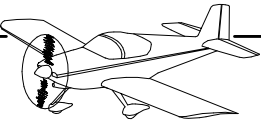


FIGURE 5: TRIMMING THE RUDDER CABLE LINKS



See Page 32-12 CAUTION.

Step 1: Secure the F-1239 Rudder Cables to the horns of the WD-1206 Rudder Pedals using the F-1258-L & -R Rudder Cable links and the hardware called out in Figure 1.

Lubricate bolt with wheel bearing grease and tighten nut only enough to prevent slop in the system.

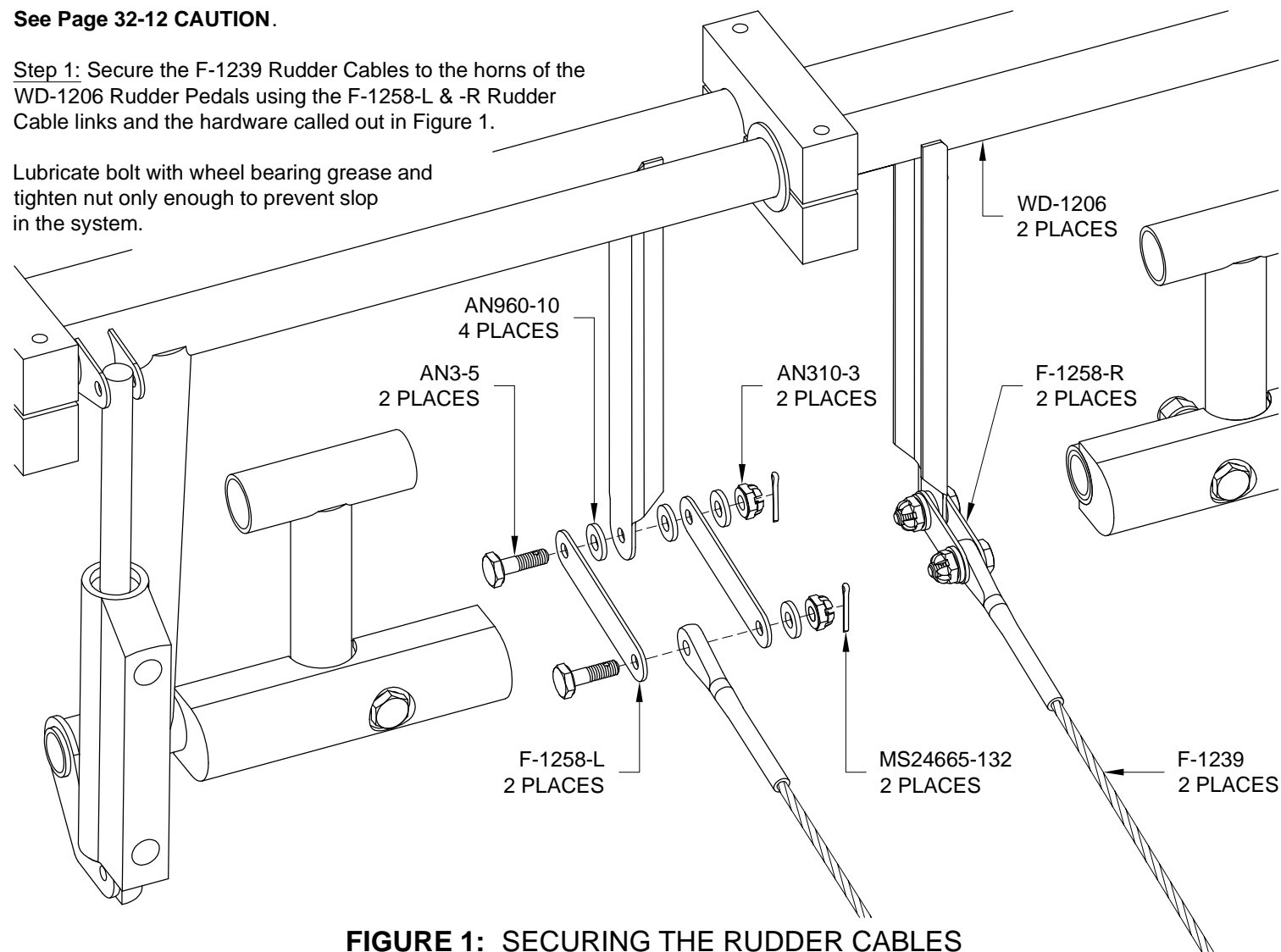


FIGURE 1: SECURING THE RUDDER CABLES

Step 2: Install the bushing shown in Figure 2 between the F-1250-L & -R Pulley Brackets using the hardware called out.

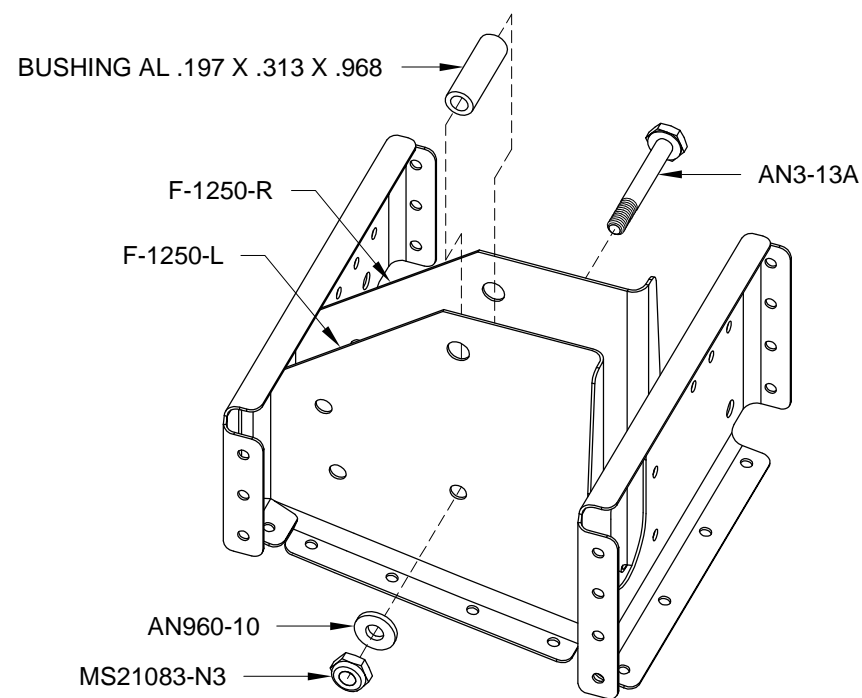


FIGURE 2: INSTALLING BUSHING

Step 3: Secure the F-1247A Forward Stabilator Cables to the WD-1210 Control Column using the hardware called out in Figure 3.

See Step 1 for lubrication and tightening.

Step 4: Route the aft end of both F-1247A Forward Stabilator Cables over the bushing and through the hole in the F-1220B Aft Intercoastal as shown in Figure 3.

Step 5: Install the two pulleys shown in Figure 3 using the hardware called out. Be sure the F-1247A Forward Stabilator Cables are captured between the bushing and the pulleys.

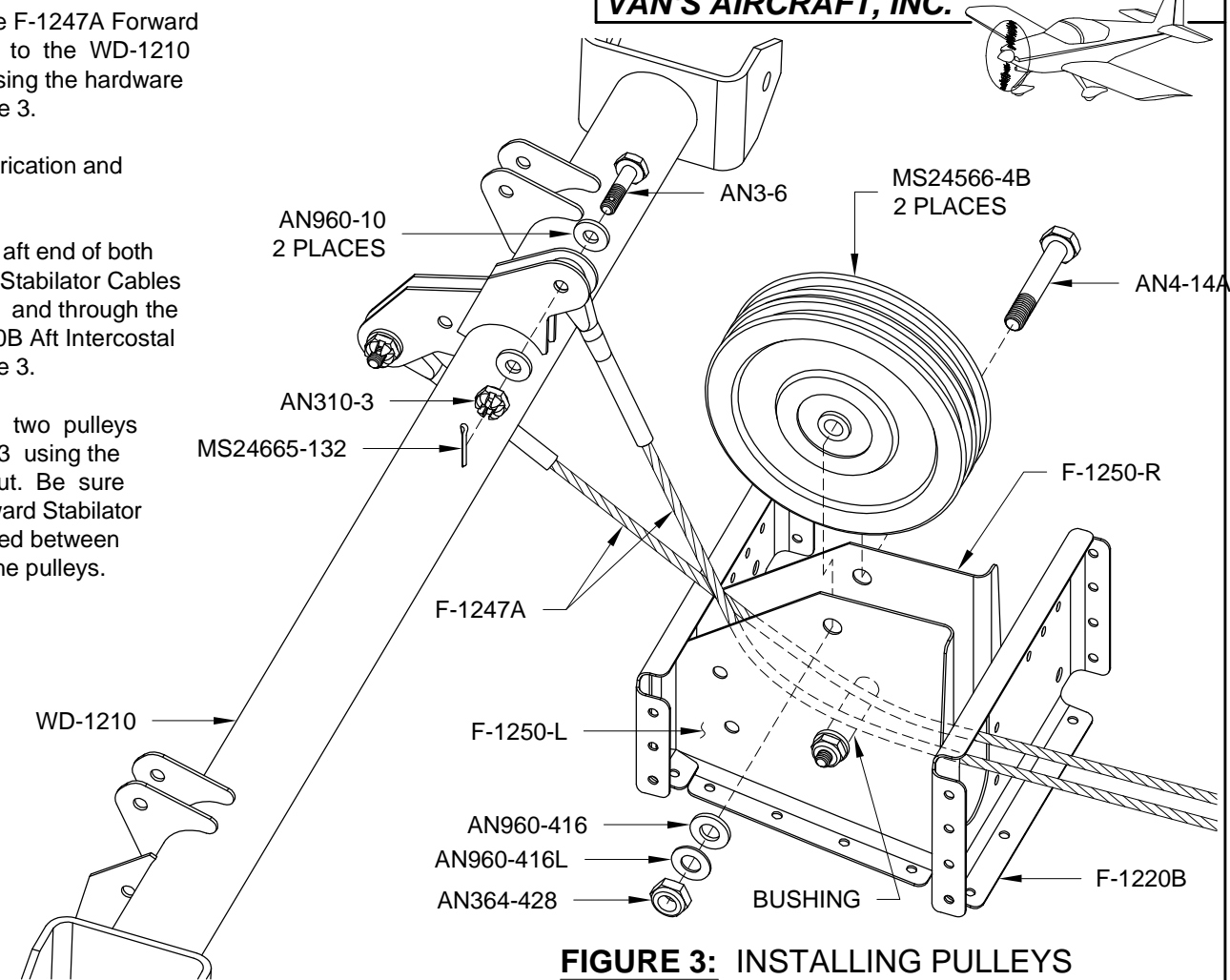


FIGURE 3: INSTALLING PULLEYS

Step 6: Use the string that was routed through the tailcone in Section 10 to pull the F-1247B Aft Stabilator Cables through the holes in the F-1211 Bulkhead. Secure the ends of the aft stabilator cables to the WD-1207 and WD-1208 Stabilator Horns using the hardware called out in Figure 4.

See Step 1 for lubrication and tightening.

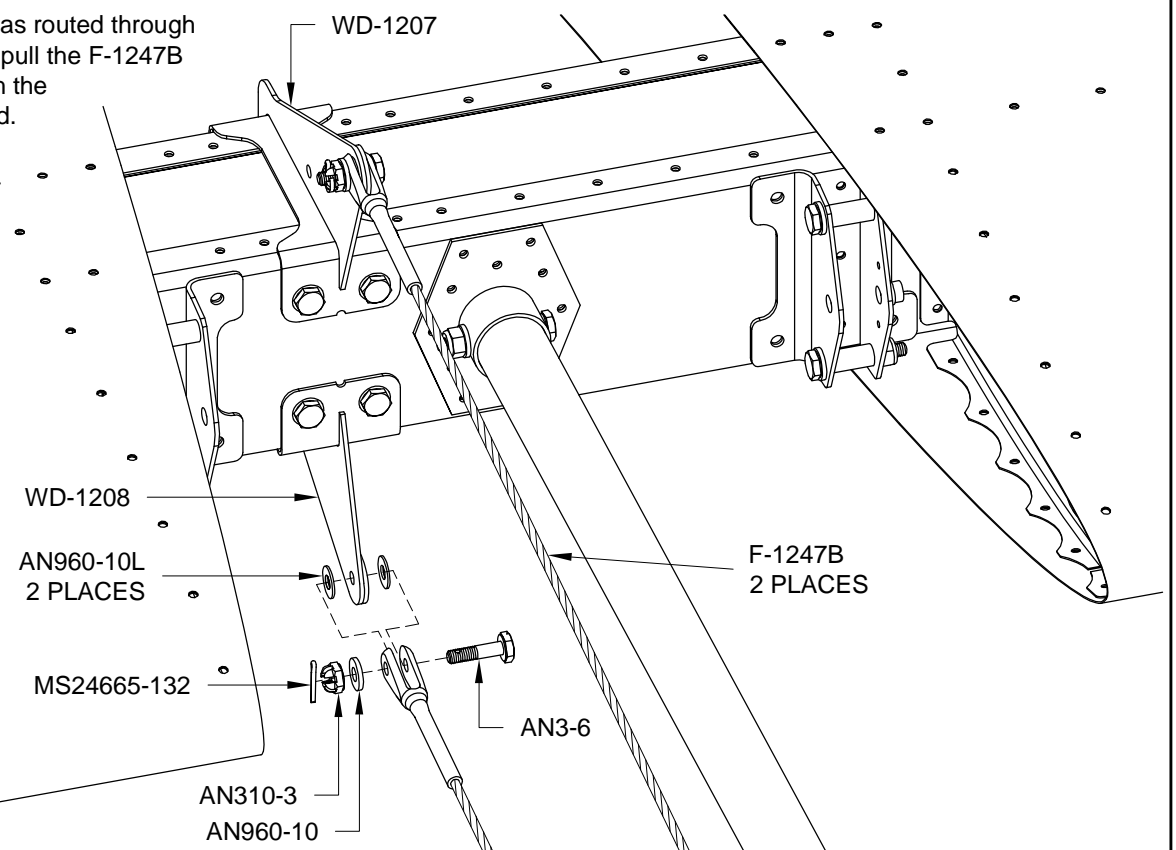
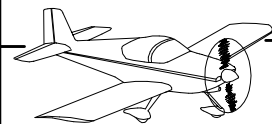


FIGURE 4: CONNECTING THE STABILATOR CABLES



NOTE: A cable tension meter is required to accurately set the cable tension.

Step 1: Route the F-1247B Aft Stabilator Cables forward through the holes in the F-1207B and F-1206A Bulkheads; see Fig. 1. The cable from the top stabilator horn passes through the upper hole.

Step 2: Route the F-1247A Forward Stabilator Cables aft through the holes in the F-1204A & D Bulkheads shown in Figure 1. The cable from the right pulley passes through the upper hole.

Step 3: Reach through the access holes in the bottom of the fuselage and connect the F-1247A & B Stabilator Control Cables as shown in Figure 2. A wire tool can be made that is inserted into the holes in the cable ends. This will hold them stationary as the barrel is rotated.

Step 4: Place a small weight on the stabilator to hold it trailing edge down. Remove the slack from the upper cable by tightening the upper (outboard) turnbuckle until the control stick and stabilator just start to lift off the stops at about the same time when the stick is moved aft.

Remove the slack from the other cable by adjusting the lower (inboard) turnbuckle. Check the entire length of the cables to ensure they are free from interference, are properly aligned in the pulleys, and do not touch each other. Pull the stick aft to make sure that the stabilator trailing edge moves up.

NOTE: The F-1227 Seat Ramp Cover must be installed prior to adjusting the cable tension.

Step 5: Install the F-1227 Seat Ramp Cover (Page 33-02, Figure 4). If the screw holes for the F-1233 Control Column Mount Brackets (Page 21-10, Figure 1) do not align with the cover, a light upward pull on the stick will correct the misalignment until the screws are inserted and tightened.

NOTE: Cable tension will change significantly with changing temperature. The cable tensions given below are for an aircraft inside a 70 °F hanger.

Step 6: Position one of the WD-1212 Control Sticks so that the top end is 10 inches from the lower face of the F-1202T Instrument Panel Left or F-1202U Instrument Panel Right (Page 29-07, Figure 2). Secure the control stick in place using a spring clamp to attach it to a 41" long stick bridged between and clamped to the upper longerons.

Check the cable tension just aft of the F-1207B Baggage Bulkhead using a calibrated cable tension meter making sure the control stick is correctly positioned.

Adjust turnbuckles an equal number of turns each to achieve 35-45 lbs of tension with the groove in the cable ends aligned with a V-notch in each turnbuckle barrel as shown in Figure 3. This tension will prevent the cables from "slapping" against the tailcone bulkheads when the control sticks are moved suddenly and repeatedly forward then aft.

Step 7: Remove the clamp and stick from the control stick and the weight from the stabilator.

Move the control stick between the forward and aft pitch stops. The stabilator should reach its travel stops just before the corresponding control stick stops are reached.

Step 7 (continued): If not, adjust the turnbuckles an equal and opposite number of turns until this is achieved. (Example: If the stabilator reaches its T.E. up stop too soon loosen the upper turnbuckle and tighten the lower turnbuckle. This will lengthen the upper cable and shorten the lower cable). After making adjustments repeat step 6 to reconfirm proper cable tension.

Step 8: Once the proper tension is achieved, and no more than three threads are exposed from the ends of the barrels, align the V-notch in the ends of the barrel with the groove in the cable ends and then insert the lock clips as shown in Figure 3. The hook end of the lock clips are inserted into the hole in the center of the barrel and must be completely pressed in until the hook springs open inside the barrel.

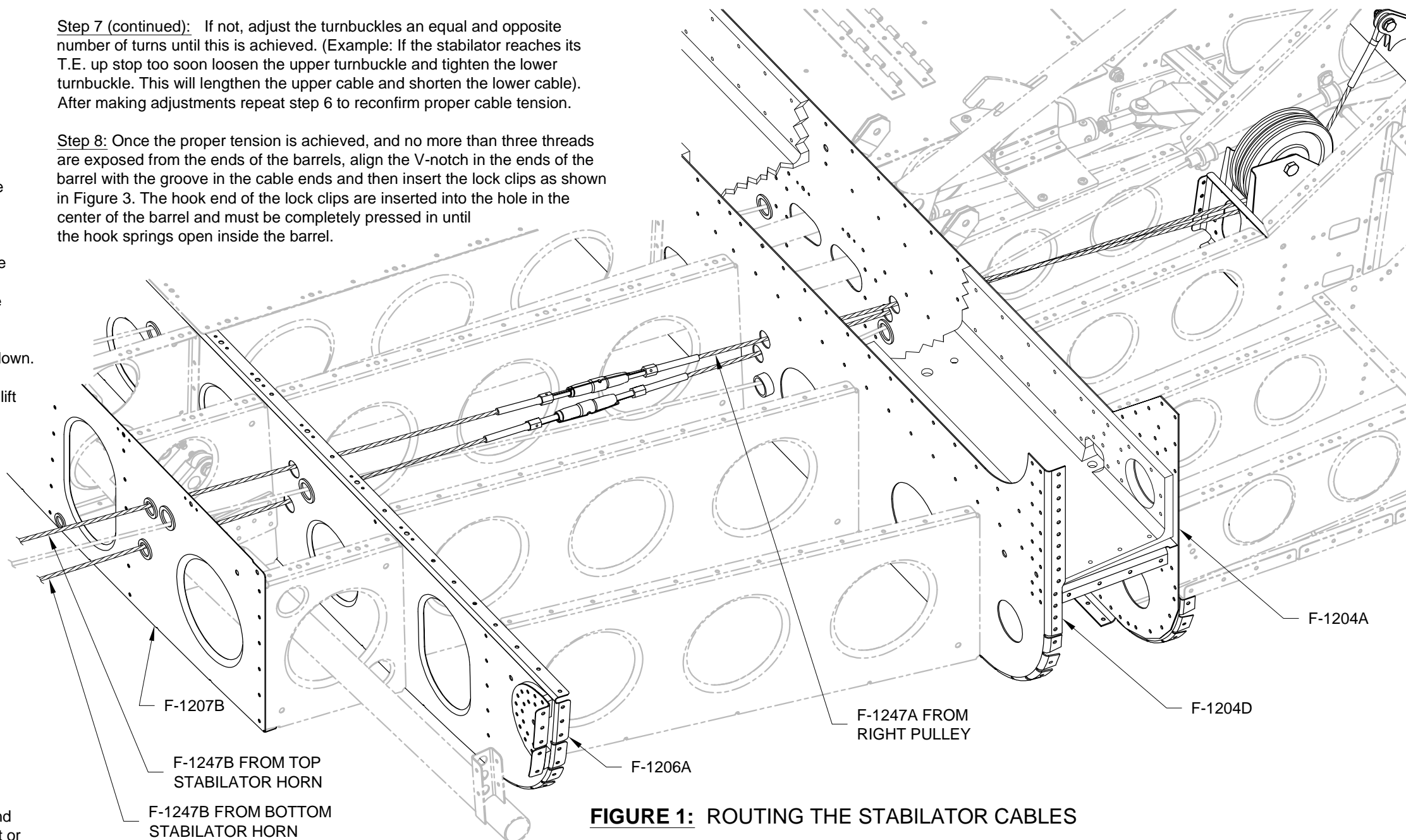


FIGURE 1: ROUTING THE STABILATOR CABLES

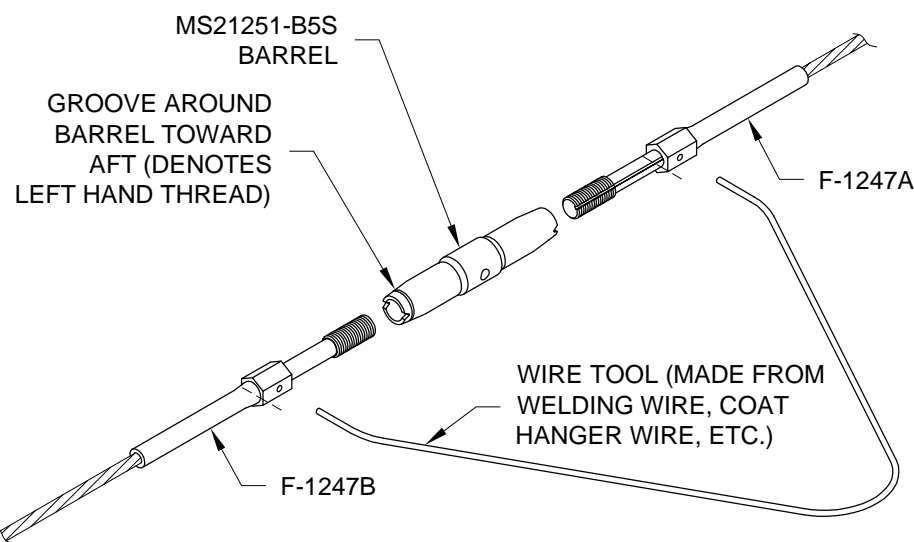


FIGURE 2: CONNECTING THE STABILATOR CABLES

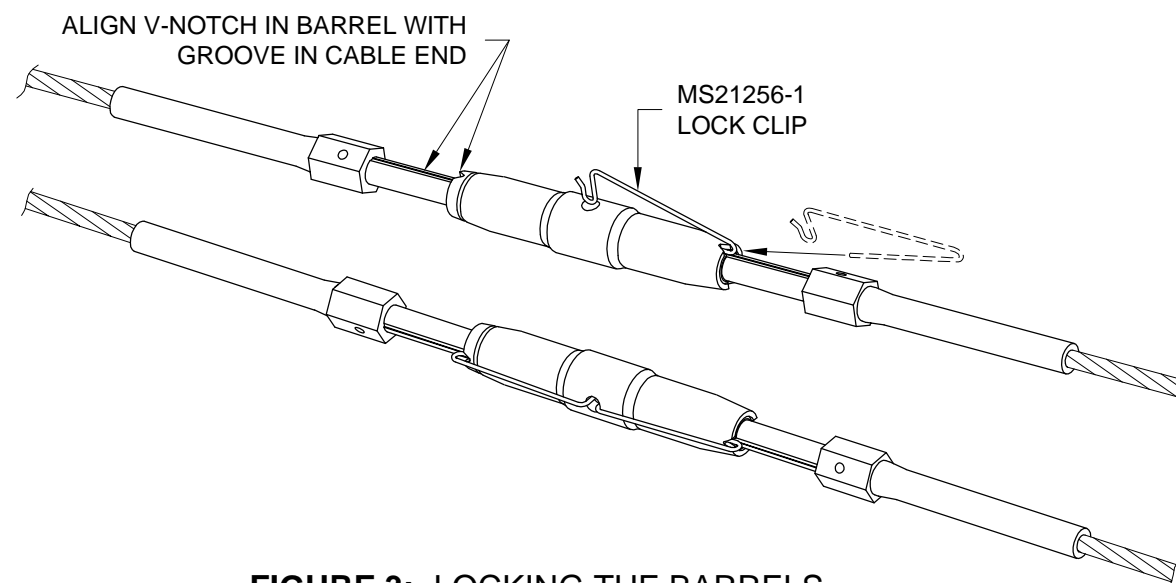


FIGURE 3: LOCKING THE BARRELS