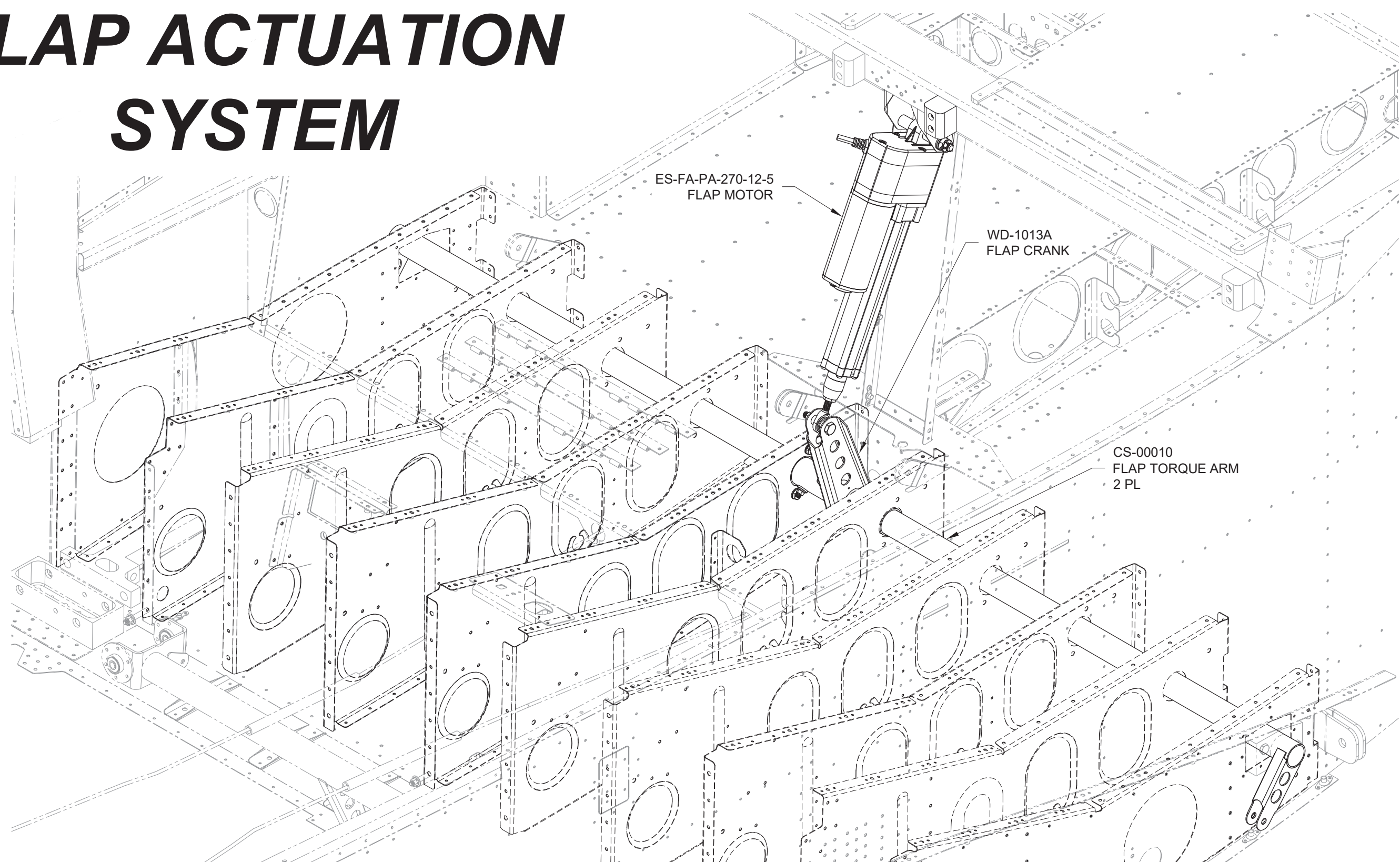


SECTION 34: FLAP ACTUATION SYSTEM





NOTE: See Section 5 for additional construction process information.

Step 1: Drill 1/4 through the attachment points on the WD-1013A Flap Crank and the CS-00010 Flap Torque Arm to clear excess powder coat. File the ends of the flap crank tubes to smooth edges of powder coating. See Figure 1.

Step 2: Clamp the WD-1013A Flap Crank to a flat surface as shown in Figure 1.

Step 3: Insert the CS-00010 Flap Torque Arm into the W-00026 Alignment Template. Secure the flap torque arm to the alignment template using the hardware called out in Figure 1.

Step 4: Insert the CS-00010 Flap Torque Arm into the WD-1013A Flap Crank and position the W-00026 Alignment Template with the bottom edge flush against the flat surface as shown in Figure 1.

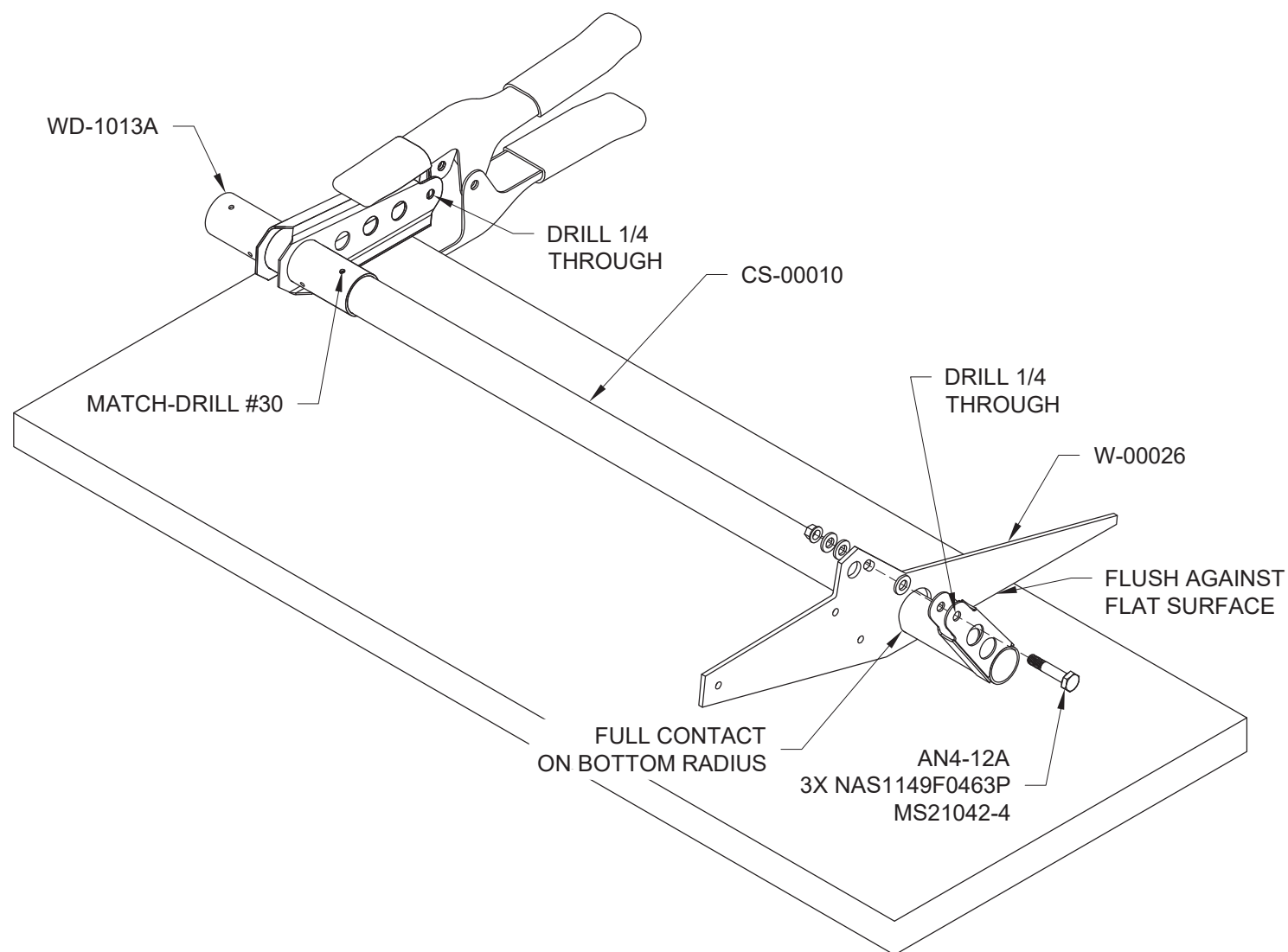


FIGURE 1: MATCH-DRILL FLAP TORQUE ARM (LEFT SHOWN)

Step 5: Position the CS-00010 Flap Torque Arm laterally from the WD-1013A Flap Crank using the dimension provided in Figure 2.

Clamp the flap torque arm to the flat surface. Place the clamp as close to the W-00026 Alignment Template (shown in Figure 1) as possible, and secure the torque arm in the position indicated.

Step 6: Match-Drill #30 the WD-1013A Flap Crank into the CS-00010 Flap Torque Arm as indicated in Figure 1.

Step 7: Insert a cleco in the match-drilled hole in the WD-1013A Flap Crank and the CS-00010 Flap Torque Arm.

Match-Drill #30 the hole on the opposite side of the assembly as shown in Figure 3. Insert a cleco in the second hole and remove the clamp. See Figure 3.

Step 8: Match-Drill #30 the other two holes in the WD-1013A Flap Crank and CS-00010 Flap Torque Arm.

Step 9: Final-Drill #12 all the way through the holes on both sides of the WD-1013A Flap Crank and CS-00010 Flap Torque Arm as shown in Figure 3.

Step 10: Insert the hardware called out in Figure 4 into the WD-1013A Flap Crank and CS-00010 Flap Torque Arm.

Step 11: Remove the clecos from the WD-1013A Flap Crank and CS-00010 Flap Torque Arm. Final-Drill #12 all the way through both parts the holes indicated in Figure 4.

Disassemble and deburr parts.

Mark the drilled flap torque arm. Hereafter refer to this as the CS-00010-L Left Flap Torque Arm.

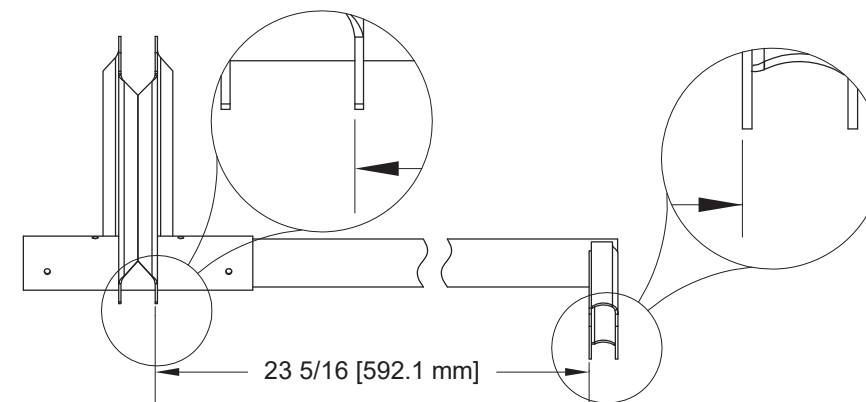


FIGURE 2: DISTANCE FLAP CRANK TO TORQUE ARM

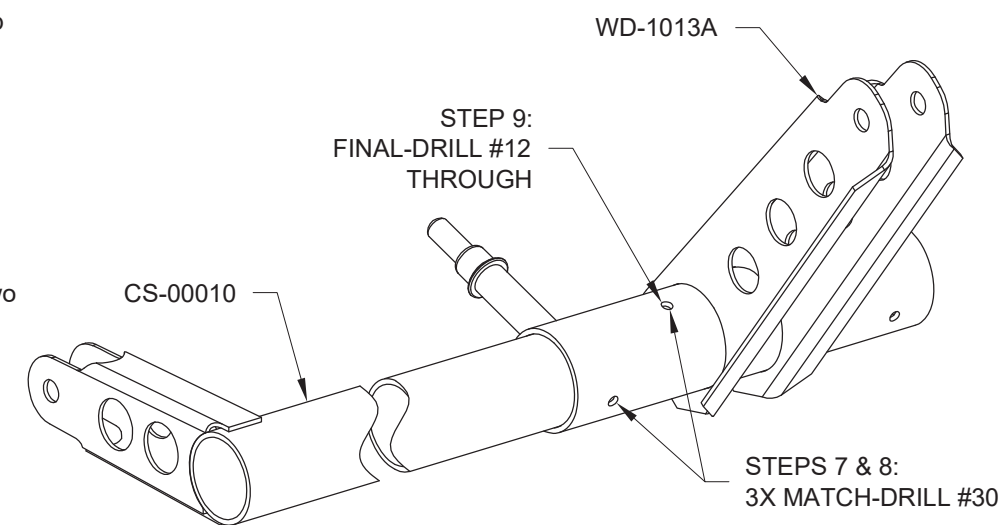


FIGURE 3: DRILLING FLAP CRANK AND TORQUE ARM (LEFT SHOWN)

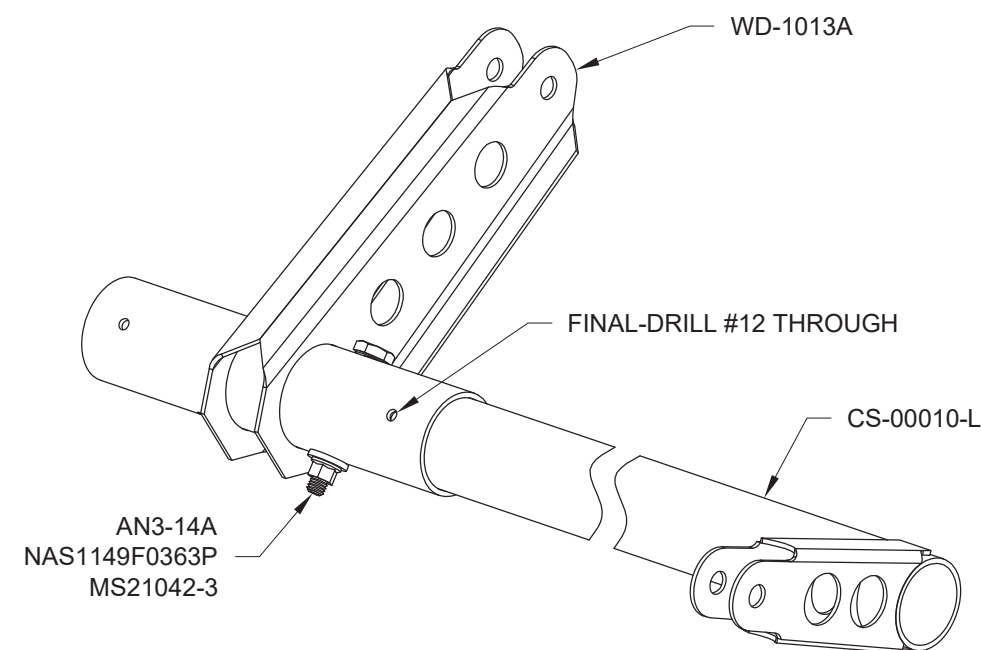
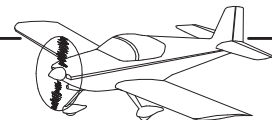


FIGURE 4: FINAL-DRILL FLAP TORQUE ARM



NOTE: The CS-00010-R Right Flap Torque Arm is a mirror image of the CS-00010-L Left Flap Torque Arm.

Step 1: Repeat the steps outlined on Page 34-02 on the opposite side of the WD-1013A Flap Crank for the second CS-00010 Flap Torque Arm. When complete refer to it as the CS-00010-R Right Flap Torque Arm. See Figure 1.

Step 2: Prime the inside of CS-00010-L & -R Flap Torque Arm tubes. See Section 5.1 for details on priming tubes.

Step 3: Sand off any burrs on the inboard end of the CS-00010-L & -R Torque Arm tubes and smooth down the edges of the powdercoat as shown in Figure 2.

Step 4: Apply wheel bearing grease to the CS-00010-L & -R Torque Arm tubes in the areas that are not powder coated. See Figure 2.

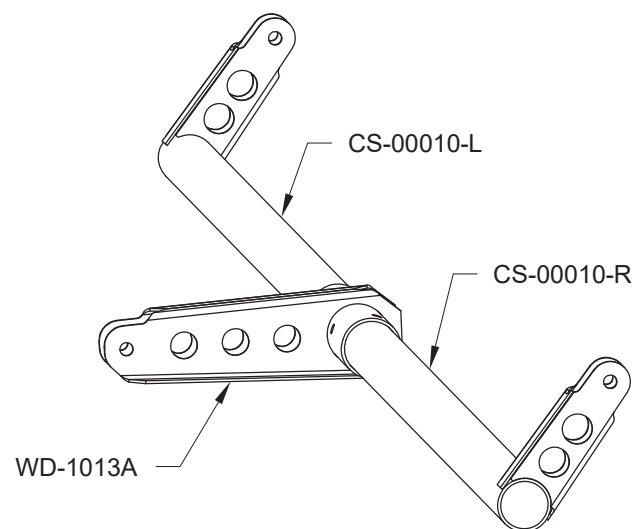


FIGURE 1:
FLAP ACTUATION ASSEMBLY
SHOWN UPSIDE DOWN

Step 5: Slide the CS-00010-L Left Flap Torque Arm into the F-1030 OUTBD Bushing as shown in Figure 3.

Continue sliding the left flap torque arm inboard through the F-1030 INBD Bushing until it is flush with the inbd bushing's inbd face.

The CS-00014 Rudder Cable passes above the CS-00010-L Left Flap Torque Arm as shown in Figure 4.

Step 6: Repeat Step 5 for the CS-00010-R Right Flap Torque Arm on the other side of the fuselage.

The CS-00014 Rudder Cable passes above the CS-00010-R Right Flap Torque Arm as shown in Figure 4.

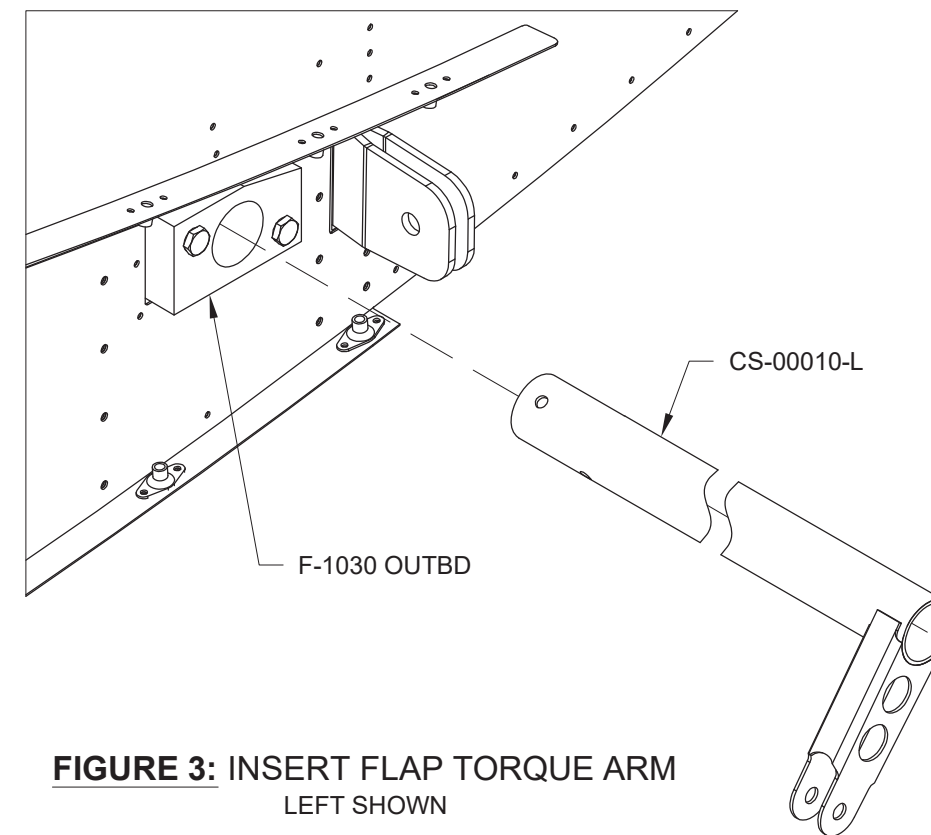


FIGURE 3: INSERT FLAP TORQUE ARM
LEFT SHOWN

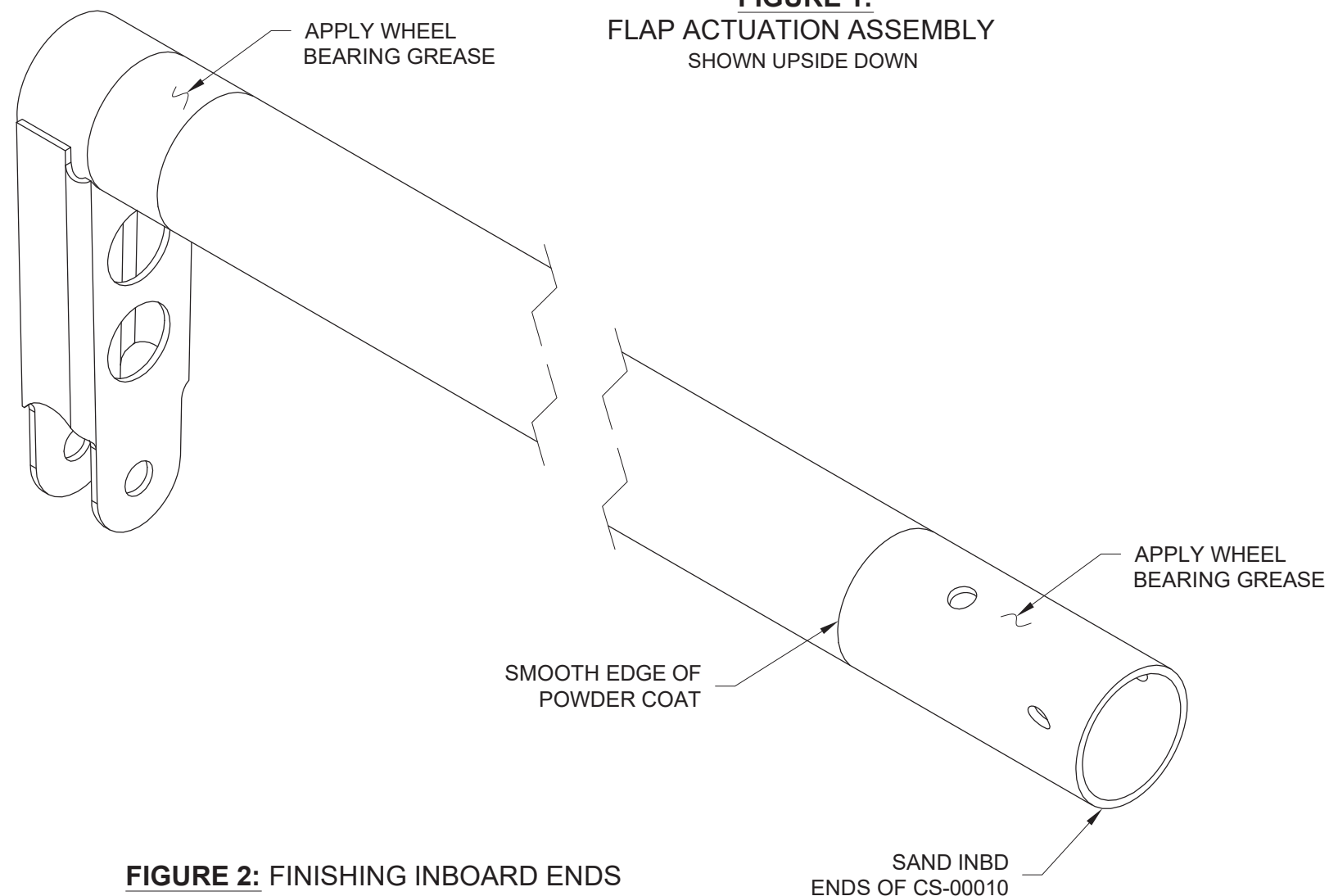


FIGURE 2: FINISHING INBOARD ENDS

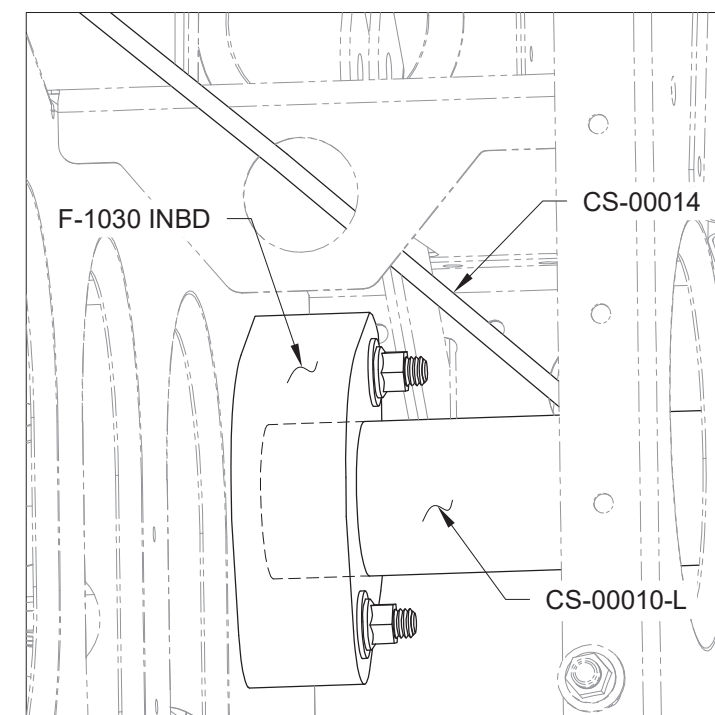


FIGURE 4: INSERT FLAP TORQUE ARM INBD
LEFT SHOWN

Step 1: Insert the WD-1013A Flap Crank into the tunnel in line with the axis of the two CS-00010-L & -R Flap Torque Arms and push the flap torque arms into the flap crank tube. See Figure 1.

Step 2: Align the bolt holes and insert the hardware called out in Figure 1 into the WD-1013 Flap Crank.

Test the installed flap control mechanism for smooth operation. It may resist movement but must not bind.

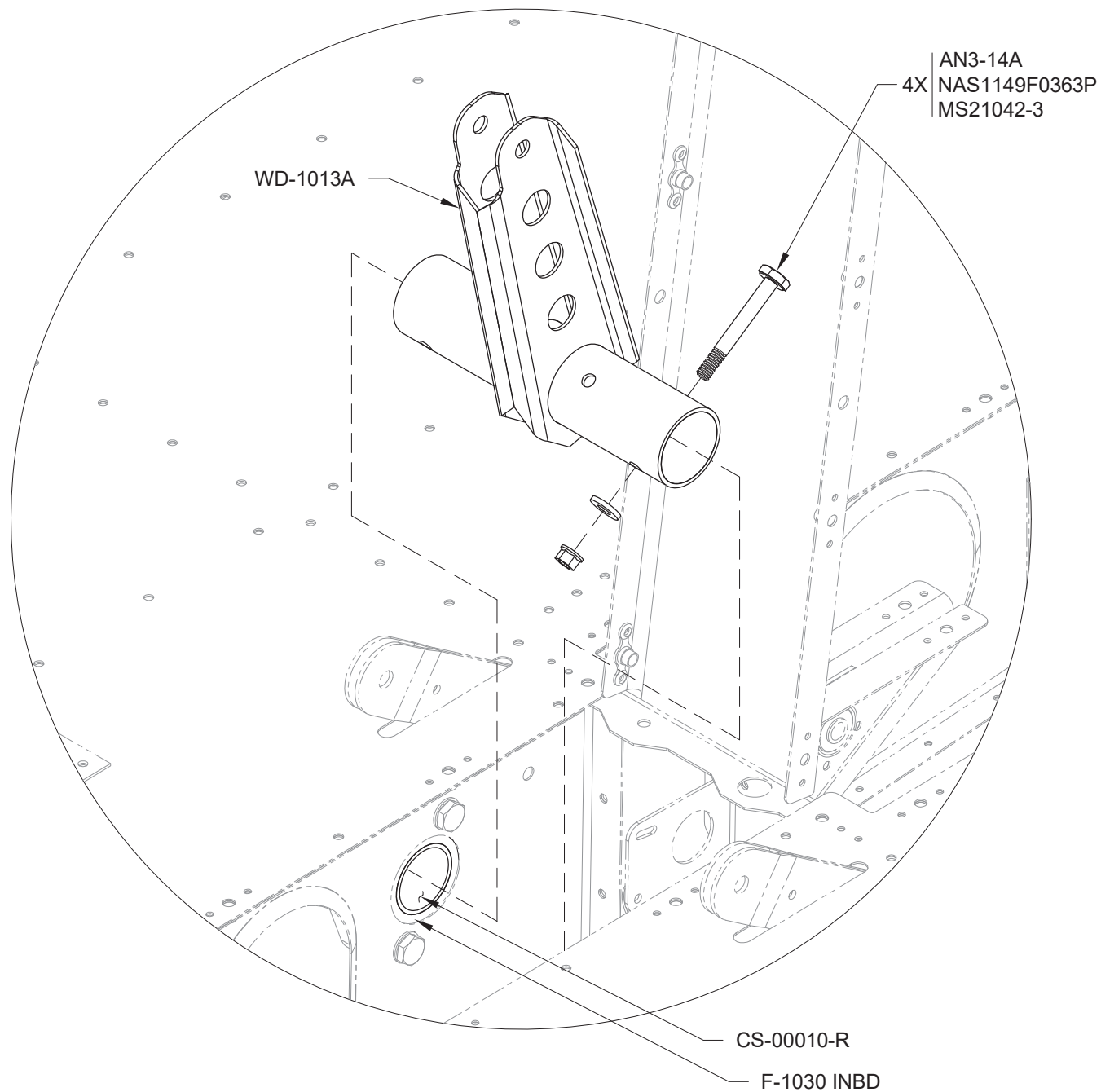


FIGURE 1: FLAP CONTROL HARDWARE

Step 3: Install the jam nut onto the rod end bearing then add a drop of Blue Loctite to the rod end threads and install the rod end into the ES-FA-PA-270-12-5 Flap Motor shaft as shown in Figure 2.

WARNING: At least seven rod end bearing threads must engage the flap motor shaft.

Step 4: With the flap motor shaft extended to its maximum length, adjust the rod end bearing to achieve the center to center distance shown in Figure 3. Tighten the jam nut against the face of the flap motor shaft while keeping the rod end bearing face vertical as shown in Figure 3.

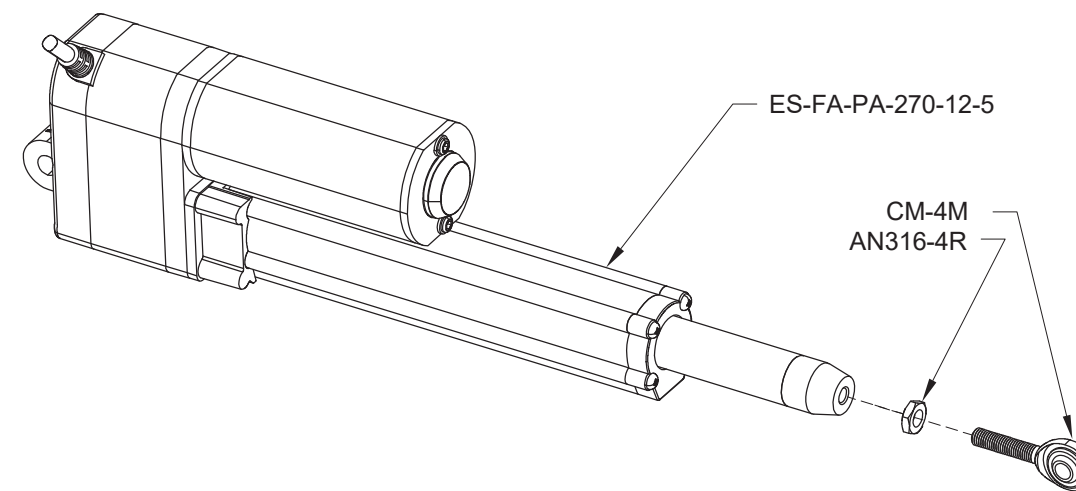


FIGURE 2: FLAP MOTOR ROD END BEARING

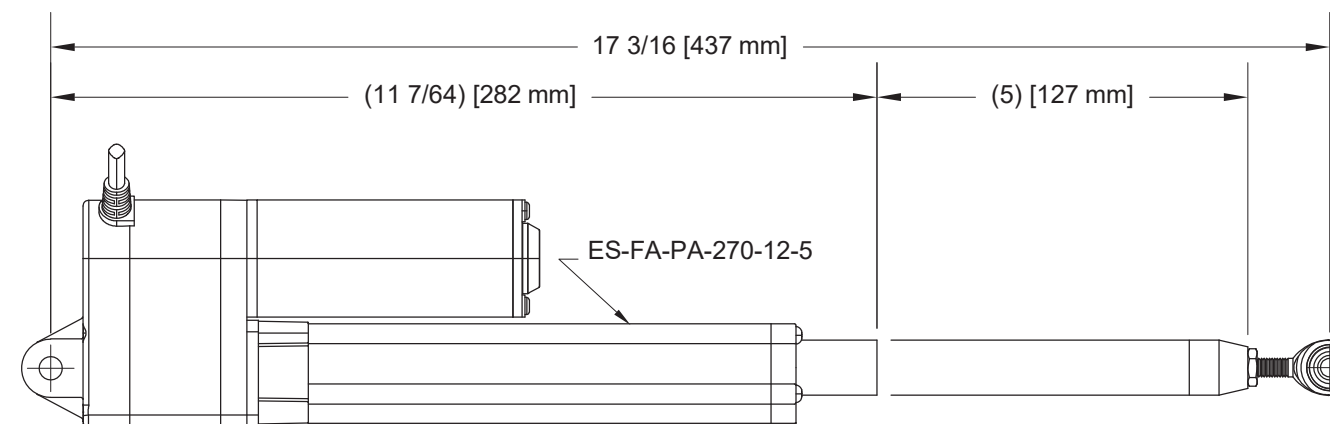
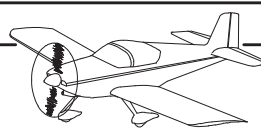


FIGURE 3: FLAP MOTOR EXTENDED & RETRACTED LENGTHS



Step 1: Apply a small amount of wheel bearing grease to the bolt shank, as shown in Figure 1. Bolt the ES-FA-PA-270-12-5 Flap Motor lug to the F-01466-L-2 & -R-2 Flap Motor Brackets using the hardware called out in Figure 1. Tighten the castle nut just enough to remove end play but not so much as to add friction. Install the cotter pin oriented as shown in Figure 2. Incorrect orientation will result in interference between the cotter pin and the Flap Motor Cover Assembly See Page 42-04, Figure 1.

Step 2: Bolt the ES-FA-PA-270-12-5 Flap Motor rod end bearing to the WD-1013A Flap Crank using the hardware called out in Figure 3. Refer to Section 5 for proper nut torque.

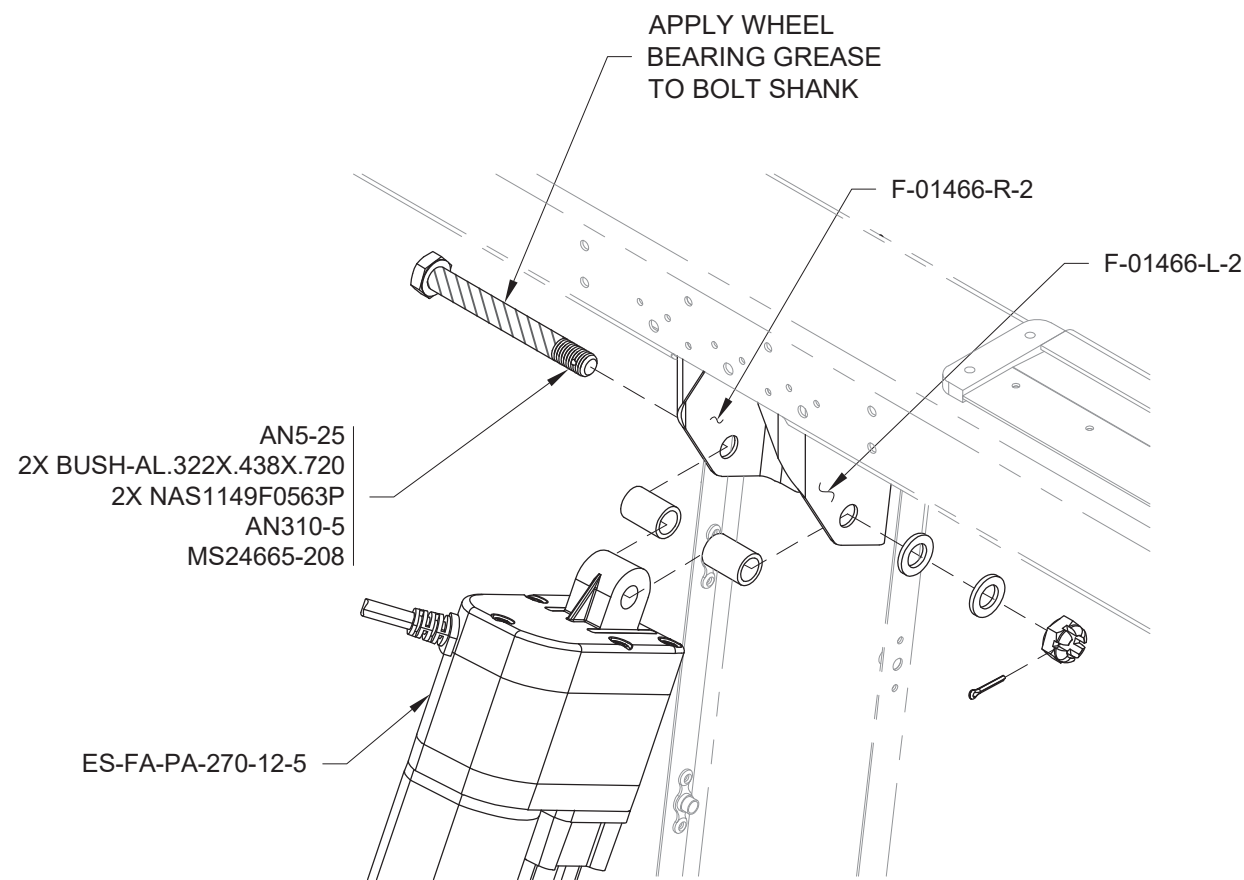


FIGURE 1: INSTALL FLAP MOTOR

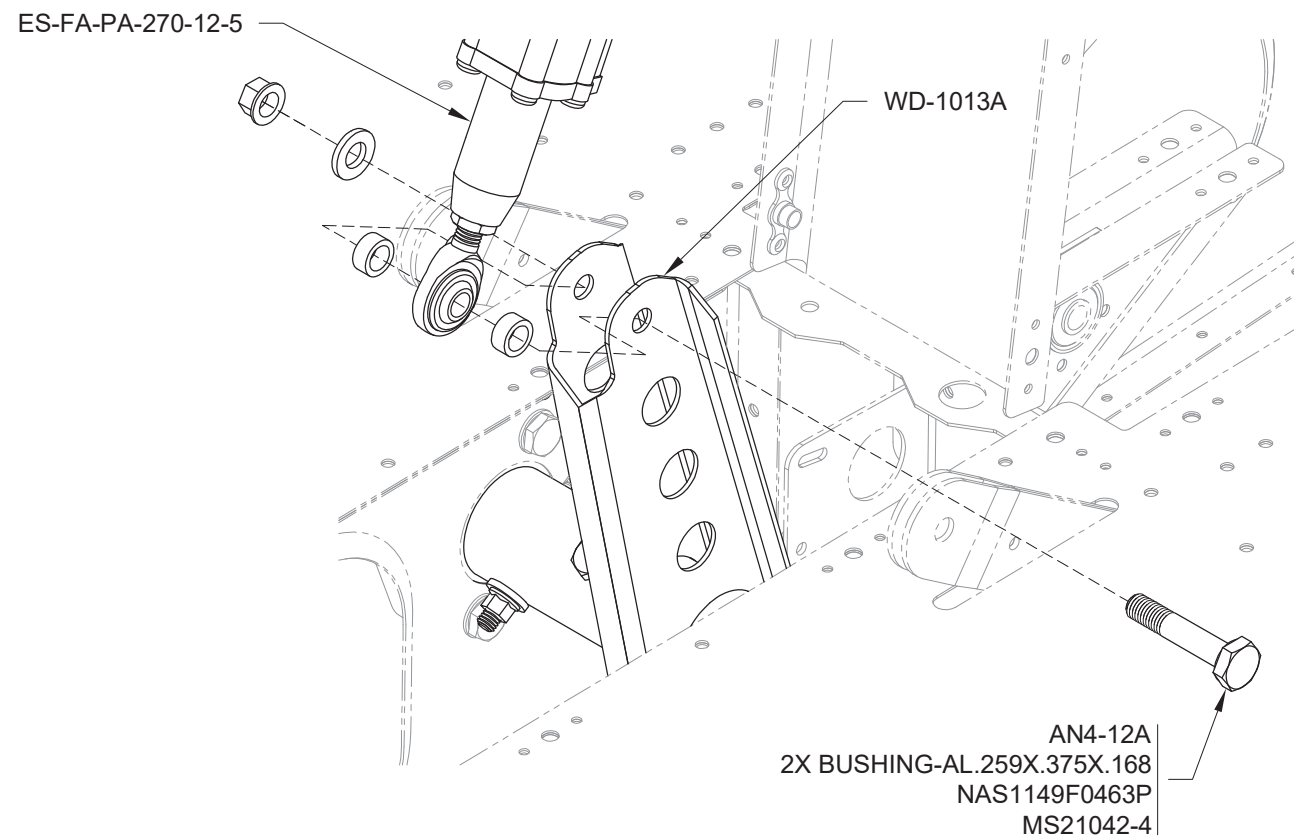


FIGURE 3: LOWER FLAP MOTOR ATTACHMENT

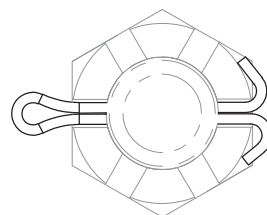


FIGURE 2: COTTER PIN INSTALLATION



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