





Step 4: Insert a VA-111 Threaded Rod End into the end of the F-1089 Elevator Pushrod (Fwd). Proper engagement of the threaded rod end in the elevator pushrod is when the end of the tube coincides with the edge of the taper in the threaded rod end. See Figure 3.

Match-Drill #30 the threaded rod end using the pilot holes in the elevator pushrod as drill guides. Insert clecos in the holes as match-drilling progresses around the circumference of the elevator pushrod.

Repeat until threaded rod ends have been match-drilled to both ends of the elevator pushrod.

Mark the threaded rod ends so that they can be reinstalled in the same position as when they were match-drilled. Remove the threaded rod ends from the elevator pushrod and deburr all holes in all parts and prime all parts inside and out. Allow primer to fully cure before permanently installing the rod ends. CAUTION: Seized bearings have resulted from wet primer finding its way to the rod ends.

Permanently install the threaded rod ends to the elevator pushrod using the rivets called-out in Figure 3.

MSP-42, 6 PLACES

F-1089

FIGURE 3: THREADED ROD END INSTALLATION

Step 5: Install the rod end bearings and jam nuts into the VA-111 Threaded Rod Ends as shown in Figure 4. Theoretically the correct engagement of the rod end bearings yields a bearing center-to-bearing center length of 37 13/32 inches. The rod end bearing engagement may need to be adjusted during installation of the F-1089 Elevator Pushrod Assembly.



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Step 4: Attach the F-1090 Elevator Pushrod Assembly to the Bellcrank Assembly using the hardware called out in Figure 3.



FIGURE 3: PUSHROD TO BELLCRANK ASSEMBLY

FIGURE 2: ASSEMBLING THE F-1065 PUSHROD

Step 3: Remove the F-1035 Battery/ Bellcrank Mount, see Page 10-23.

Install the F-1089 Elevator Pushrod Assembly by feeding it forward through the aft side of the F-1006 Fuselage Bulkhead and into the position shown on Page 39-1. Make sure the forward end is forward.

Install the F-1090 Elevator Pushrod Assembly by feeding it forward through the aft side of the F-1006 Fuselage Bulkhead and into the position shown on Page 39-1.

Reinstall the battery/ bellcrank mount.





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Step 1: Fabricate the F-1063C Spacer from AS3-063 as shown in Figure 1. Draw a horizontal centerline to use as a guide when match-drilling the part in the next step.



FIGURE 1: FABRICATE SPACER

Step 2: Cleco the two F-1063A Elevator Idler Arms, the F-1063C Spacer, and the VA-146 Flange Bearing together as shown in Figure 2. Adjust the spacer so that the centerline intersects the centers of the two pre-punched holes in the elevator idler arm. Match-Drill and final-drill as per the callouts. Disassemble and deburr all holes and edges. Prime if/as desired. Rivet the assembly together using the hardware shown in Figure 2.



Step 3: Bolt the F-1063 Elevator Idler Arm Assembly to the F-1063B Idler Arm Brackets using the hardware shown in Figure 3.

Bolt the F-1089 Elevator Pushrod Assembly to the elevator idler arm assembly using the hardware shown in Figure 3. Bolt the F-1090 Elevator Pushrod Assembly to the elevator idler arm assembly using the hardware shown in

Figure 3.



Step 1: Clamp the WD-1011-L Left Control Stick Base to a drill press table as shown in Figure 1. Insert a WD-1012 Control Stick into the control stick base as far as it will go. Rotate the control stick until it is planar with the surface of the table. Match-Drill #12 through the assembly using the hole in the control stick base as a guide. Support the control stick base with a block if necessary. Disassemble the parts and deburr. Repeat this step for the WD-1011-R Right Control Stick Base and the other control stick.

MATCH-DRILL #12 WD-1011-L WD-1012 **BLOCK IF NECESSARY**

Step 3: Final-Drill the WD-1011-L Left Control Stick Base and the WD-1011-R Right Control Stick Base as shown in Figure 3.



FIGURE 1: MATCH-DRILL CONTROL STICKS WITH CONTROL STICK BASES





Step 2: Final-Drill the WD-1010 Control Column as shown in Figure 2.



FIGURE 2: FINAL-DRILL CONTROL COLUMN



FIGURE 3: FINAL-DRILL CONTROL STICK BASES

Step 4: Install the WD-1010 Control Column onto the F-1033-L and F-1033-R (not shown) Control Column Mounts using the hardware shown in Figure 4. The right side is a mirror image of the left. The

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Step 1: Check that the length of both of the BUSH-BS .245 X .375 X 2.313 Control Stick Base Bushings is between 2 1/4 inches and 2 5/16 inches. Check that an AN4 bolt will fit the inside diameter of the control stick base bushings and ream if required. Deburr the ends of the control stick base bushings so that they slide easily inside the WD-1011 Control Stick Bases. See Figure 1.

The pivot tube of the control stick base must be about .010" shorter than the control stick base bushing. File the ends of the control stick base pivot tubes if/as required to achieve the correct length. Deburr the inside edges of the control stick base pivot tubes. See Figure 1.

Insert a control stick base bushing into each control stick base as shown in Figure 1.



Step 2: Bolt the WD-1011-L Control Stick Base to the WD-1010 Control Column using the hardware shown in Figure 2.

If the BUSH-BS .245 X .375 X 2.313 Control Stick Base Bushing is too long to fit into the control column it must be trimmed along with the control stick base pivot tube to maintain the length differential described in the previous step.

Repeat for the WD-1011-R Control Stick Base.

WD-1011-L



Step 3: Install the F-1065 Pushrod Assembly into the WD-1011-L and the WD-1011-R(not shown) Control Stick Bases using just the bolts and nuts shown in Figure 3 for now. Leave the nuts finger tight.

Install the WD-1012 Control Sticks into the control stick bases using the hardware shown in Figure 3. Move the control sticks through their full range of motion and check for interference. NOTE: When F-1043D-L/R Cover Panels are later installed check for interference with control sticks and trim the cover panels if/as necessary for clearance.



FIGURE 3: CONTROL STICK AND PUSHROD INSTALLATION

FIGURE 2: CONTROL STICK BASE INSTALLATION

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Step 1: Adjust the length of the F-1065 Pushrod Assembly until the WD-1012 Control Sticks are parallel as shown in Figure 1. Measure from inside to inside at the top of the control sticks and compare to same at the bottom of the control sticks. When the two measurements are equal the control sticks are parallel. NOTE: The dimensions shown in Figure 1 are for reference purposes only and need not match the builders actual measurements.

Tighten the jam nuts. Bolt the pushrod assembly into the WD-1011-L and -R Control Stick Bases using the hardware shown on Page 39-8, Figure 3.

Step 2: Bolt the F-1064 Aileron Pushrod Assemblies into the WD-1011-L and -R Control Stick Bases using the hardware shown on Page 39-8, Figure 3.



FIGURE 1: MAKE CONTROL STICKS PARALLEL

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wire should not interfere with anything at this connection.

F-1065

ORIENT NUT FOR MAXIMUM

CLEARANCE WITH F-1065





FIGURE 3: ELEVATOR PUSHROD (FWD) INSTALLATION

FIGURE
F-1089 PUS
RIVET HO
LOCATION TE

10 9/16 [268.3 mm]

> FIGURE 2: F-1090 PUSHROD **RIVET HOLE**

NOTE: CHECK PRINTED SCALE 1:1 PER SECTION 3 BEFORE USING THE TEMPLATE! "

16 [406.4 mm]



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