

PROCEDURE 6.050 CONTROL STICK ASSEMBLY

In this procedure...

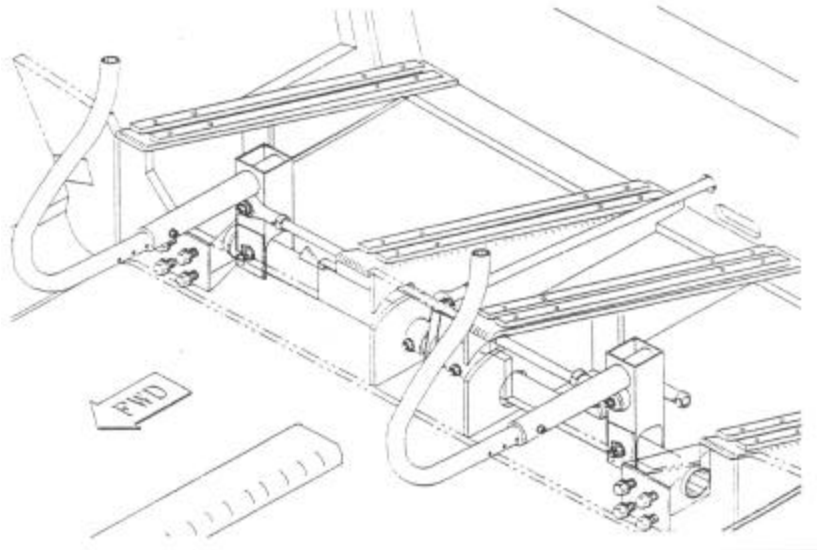
The control sticks will be attached to the elevator torque tube assembly. The interconnect push pull tube will be installed and the Control Stick Assembly will be attached to the aft side of the forward shear tie.

Materials Supplied

<u>Part Number</u>	<u>Qty</u>	<u>Description</u>
112-24-006	2	Control stick
112-24-007	2	Base, control stick,
112-24-007-03	2	Spacer, control stick base
112-24-008	2	Bearing Block Elevator Torque Tube
112-24-008-1	1	Bearing Block Elevator Torque Tube Center
112-24-008-2	2	Backing Plate Elevator Bearing Block
112-24-012	2	Torque tube, elevator
112 -24-018	1	Tube, aileron interconnect
121-24-030	2	Screw, aileron stop adjustment
AN3-10A	6	Bolt
AN3-11A	8	Bolt
AN3-27A	2	Bolt
AN316-4	4	Nut, check
AN364-428	6	Nut, self-locking
AN365-1032	10	Nut, self-locking
AN4-14A	2	Bolt
AIN4-16A	4	Bolt
AN960- 10	20	Washer
AN960-10L	8	Washer,
AN960-416	12	Washer
MS24665-155	2	Pin, cotter

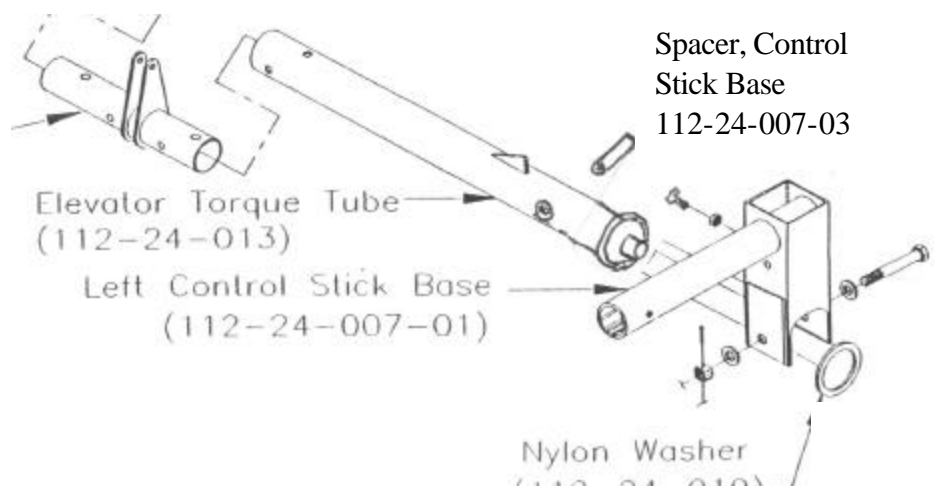
Step 1. Drill holes through the forward console for the elevator torque tube.

This step involves drilling two holes in the sides of the forward console to provide clearance hole for the torque tube. With a hole saw, drill a 1 3/4" hole on both sides of the console, centered on a point located 2 1/16" aft of the forward shear tie and 1. 1/4" up from the fuselage floor surface.



Step 2. Attach Control Stick Base to Elevator Torque Tube.

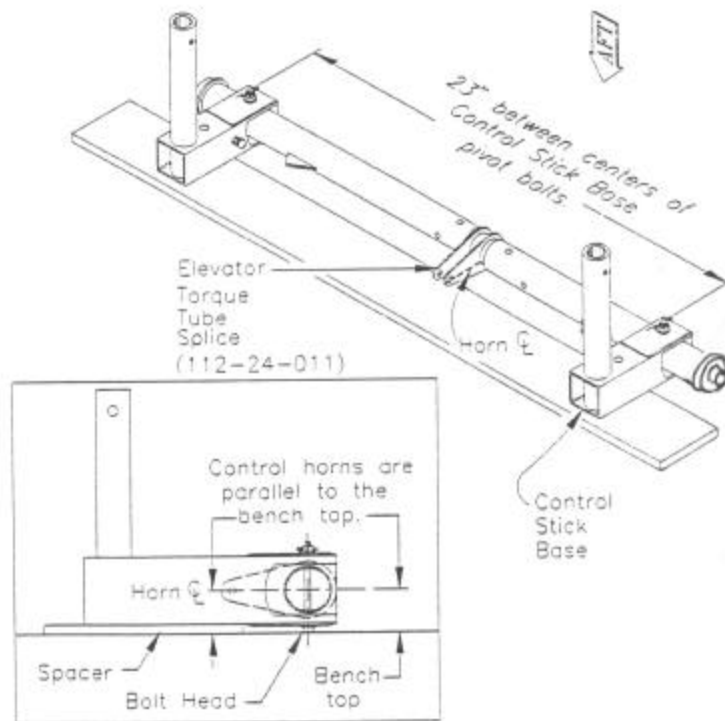
Attach the control stick bases to the elevator torque tubes. Remove any powder coating from the surface of the torque tube bushing where the control stick slips over. Lubricate the spacer assembly (112-24-007-03) and insert it into the bushing. Slip the control stick assembly over the ends of the spacer and install the bolt. Be sure that the bases move freely on the torque tubes before tightening nuts. After threading a check nut onto each of the two aileron stop adjustment screws, screw them into the welded nuts on the control stick bases. Adjustments will be made during final rigging.



Step 3. Elevator Torque Tube Alignment.

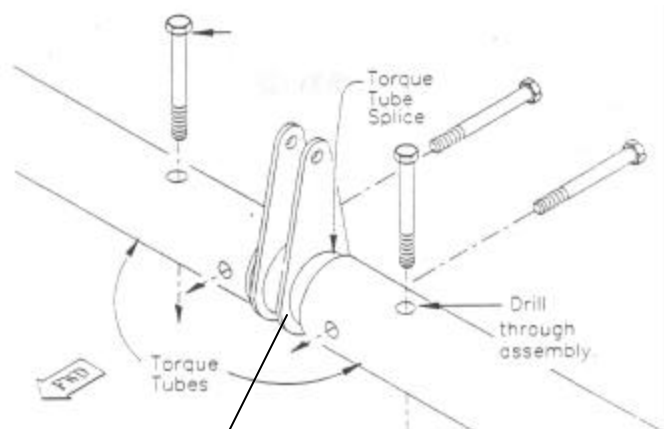
On the face of one of the horns of the elevator torque tube splice (112-24-011), draw a centerline intersecting the pre-drilled hole.

Slide the torque tube splice (with the longer portion of the tube to the right) and the torque tubes together, then lay the assembly on your bench, with the aft faces of the control stick bases face down. Place a spacer under them to clear the bolt heads. Adjust the centers of the control stick base pivot bolts until they are 23.0" apart, then center the torque tube splice horns 11.5" from the



control stick base pivot (**Centered between the control stick base points**). Adjust the torque tube splice so that the centerline on the horn is parallel to the bench top. (**Note; On early kits you may have to cut approximately 1" off the left torque tube in order to allow you to center the splice horns. There will be a larger gap between the end of the right torque tube and the splice horn.**)

Drill 1/8" holes all the way through the torque tubes and the splice, following the pre-drilled pilot holes in the torque tubes. Maintain the alignment by installing a Cleco in each hole after it is drilled. With a 1/4" drill bit, enlarge the holes. Insert a bolt (AN4-16A) in each hole as it is drilled, to check and maintain the alignment, but do not secure them at this time. When all holes have been completed, remove the bolts and



This space will be larger than shown in picture.

separate the torque tubes from the splice.

Step 4. Position the torque tubes, the middle bearing, and the bearing brackets.

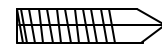
The torque tube splice goes between the console sides, with the horns up and the longer portion of the tube to the right. Remove the powder coating on the right torque tube approximately 6" from the end of the tube. Slip the Middle Bearing on the tube and make sure it rotates freely. Insert the right torque through the hole cut in Step 1, slip the right and left torque tubes into place on the splice. Press the outer bearings in the bearing blocks and install the bearing on the torque tube.



Step 4. Install outboard bearing

1. Fabricate 3ea. 10-32 center hole finders.

Cut the head off of an AN3-5 bolt and sharpen the shank area to a point similar to that of a pencil. Make sure the point is aligned with the center of the bolt.



Center Hole Finder

2. Screw the center hole finder into the two threaded holes in the right hand bearing block.

3. Install the both bearing blocks onto the torque tube ends and position the assembly in the aircraft.

4. Tap on the aft end of the RH Bearing block to mark holes.

5. Slide the torque tube assembly to the left and drill the #10 holes at each mark.

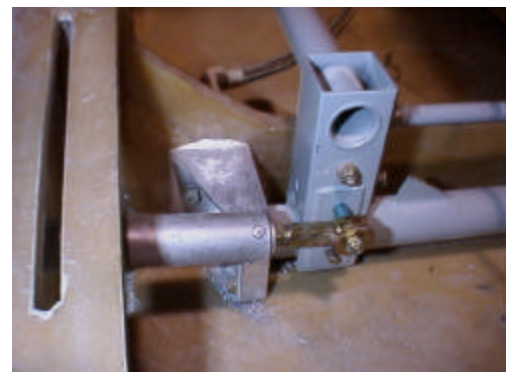
6. Remove the center hole finders from the RH bearing block and install in LH bearing.

7. Bolt in the RH bearing block and repeat steps 4 thru 6.

Bolt in LH and RH bearing blocks and check for freedom of movement.

Position center bearing block against console sidewall and back drill the mounting holes.

Bolt in center bearing block and check for freedom of movement. Tighten the mounting bolts



individually and check freedom of movement. If binding occurs use thin washers to shim the center bearing plate so that all bolts can be torque to 25 in/lbs and freedom of movement can be maintained.