

Stick shown in neutral position. In the full forward position, the top of the stick passes underneath the bottom of the instrument panel.

Refer to the box above the drawings number 6-DS-1 to 6-DS-3 for a summary of parts which have been replaced. Replaced means that the original part is not used and is being replaced by a new part shown on the 6-DS drawings.



Overview of location of control connection bolted to the front of the center spar section.

When retro-fitting to finished aircraft the installation is done with the wings removed. New elevator cables are required.

Note: There are no changes to the routing of the rudder cables through the lightning hole in the middle of the spar.
Ref 6-B-22 & 6-B-23

Note: The original Arm Rest Sides 6B18-1 are used.



**6DS1-5
TORQUE TUBE W/
BEARING**



Detail of the stop ring welded at the front of the torque tube.

Torque tube resting on its side.

NOTE: The Bearing 6B17-3 was installed before the rear plate was welded on the torque tube.



Orientation of the Rear
Torque Tube Bearing
6B17-3

Note: the two 3/16"
holes are pre-drilled in
the Bearing.



S1-4

ALERON CONTROL HORN

Welded assembly with pre-drilled holes



Line up the vertical center line on the Horn 6DS1-4 with the vertical center line on the rear plate of the torque tube 6DS1-5.



CHECK: The gap between the aft edge of the stop ring welded on the torque tube and the front edge of the 1-1/4" OD tube on the Control Horn for 6B17-6 + the stainless steel shim .025" Ref. middle diagram on drawing 6-B-17

Drill the 3/16" hole in the torque tube.



CHECK: Approximately 3mm clearance between the top of the torque tube and the top edge of the flange lightening hole in 6B17-1

Clamp the Torque tube to the Rear Torque Tube Bearing Support 6B17-1



CHECK: The front of the Bearing 6B17-6 is square (90 degrees) to the top of the torque tube.

Refer to section 6-B-17 of the Fuselage Assembly for the installation of the Rear Torque Tube Bearing 6B17-3 and the Forward Torque Tube Bearing 6B17-6



Note: The purpose of the **STEEL SHIM P/N 3088A417** (ref. right middle diagram on drawing 6-B-17) is to increase the surface area of the bearing surface between the welded stop ring and the Bearing 6B17-6

Install the torque tube assembly to the spar.



6DS2-3 UPRIGHTS

Position the I/B edge of the Upright 6DS2-3 along the vertical line.
Mark the location of the top and bottom AN3 bolts on the extrusion flange at the intersection of the vertical and horizontal line previously marked on the spar web.

POSITION LINE: Layout the aircraft center line in the middle of the spar (along the top bend).

From the aircraft center line layout the I/B edge of the Uprights, ref middle diagram on drawing 6-DS-2.

VERTICAL LINE: With a square reference along the top of the spar extend the position line to the spar web.

HORIZONTAL LINE: Draw another line through the center of the solid rivets, along the top and bottom of the center spar section.



AN3-6A BOLTS

Qty=4

Two bolts in each Uprights.

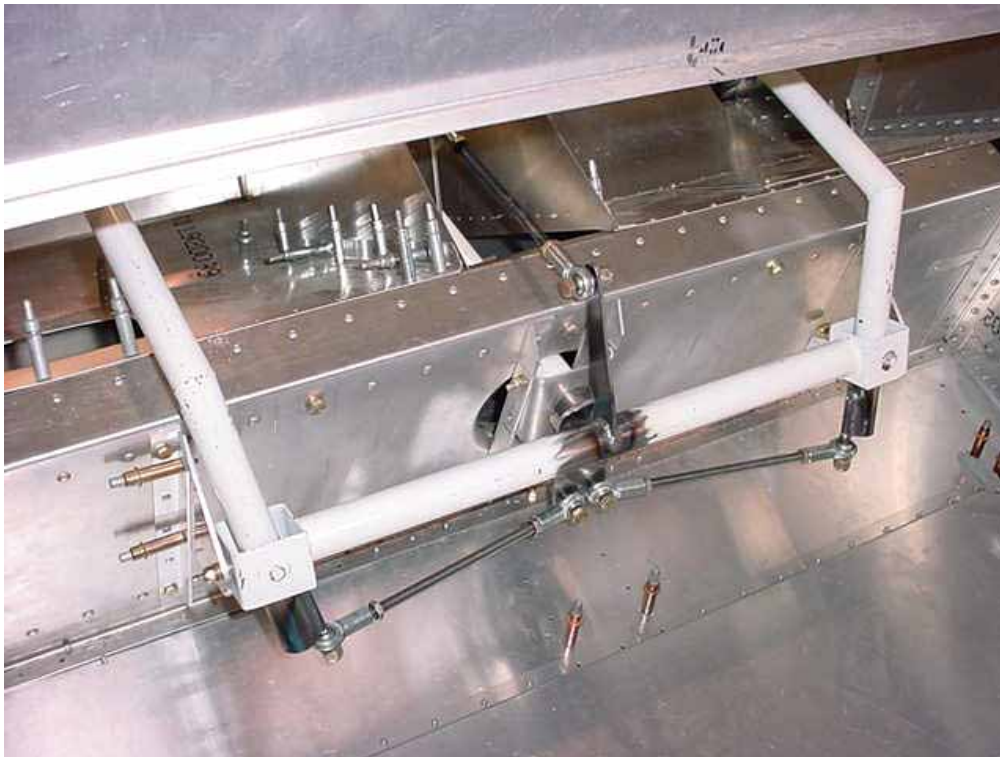
(6DS2-3 through 6W4-2 & 6W4-3)

Use a custom modified wrench (welded or taped to an extension or handle) to insert and hold the SL nut between the front and rear spar center assemblies. Enter the end of the spar with the outboard wings removed.



**6DS2-1
CONTROL HINGE
PLATES**

With a square reference along the aft edge of the Control Hinge Plate 6DS2-1 mark a line through the 6.4mm hole (mark the I/B side of the plates).



Clamp the plates on the I/B side of the Uprights 6DS2-3, Line up the square line through the pivot hole with the pivot line.

PIVOT LINE: Measure up from the cabin floor to the center of the Torque tube 6DS1-5. Layout the measured distance in the corner of the spar web and the Uprights.



CHECK: The aft edge of the Plate is against the spar web.

Drill and Cleco.

CAUTION: Don't let the drill chuck damage the spar web, remove the parts from the fuselage to drill the holes.



AN3-5A BOLTS

Qty=4

two bolts each side
(6DS2-1 to 6DS2-3)

Wait to bolt one of the plates until after the Control Connection is installed; 6DS2-3 cannot be installed with bolt plates bolted to the Uprights.

Note: It is acceptable to set additional 3 RIVETS A5 through the Upright and the spar web.



**6DS1-2
CONTROL
CONNECTION**

ORIENTATION: The horn leans towards the front.



**6DS3-1
CONTROL COLUMN**

Thoroughly clean the parts with a degreasing agent (such as lacquer thinner) before painting.

In the kit, the supplied steel parts have been coated with an anti rust oil:
Barsol Solvent L-250

For a more permanent anti rust protection, we recommend the steel parts be painted before final installation: "Rust-Oleum" brand aerosol spray will do a great job.



Left and right

Control Columns shown hanging over the edge of the workbench



Detail to show the bottom bolts.

ORIENTATION: Position the control column over the edge of the workbench with the welded bolt on the I/B side.



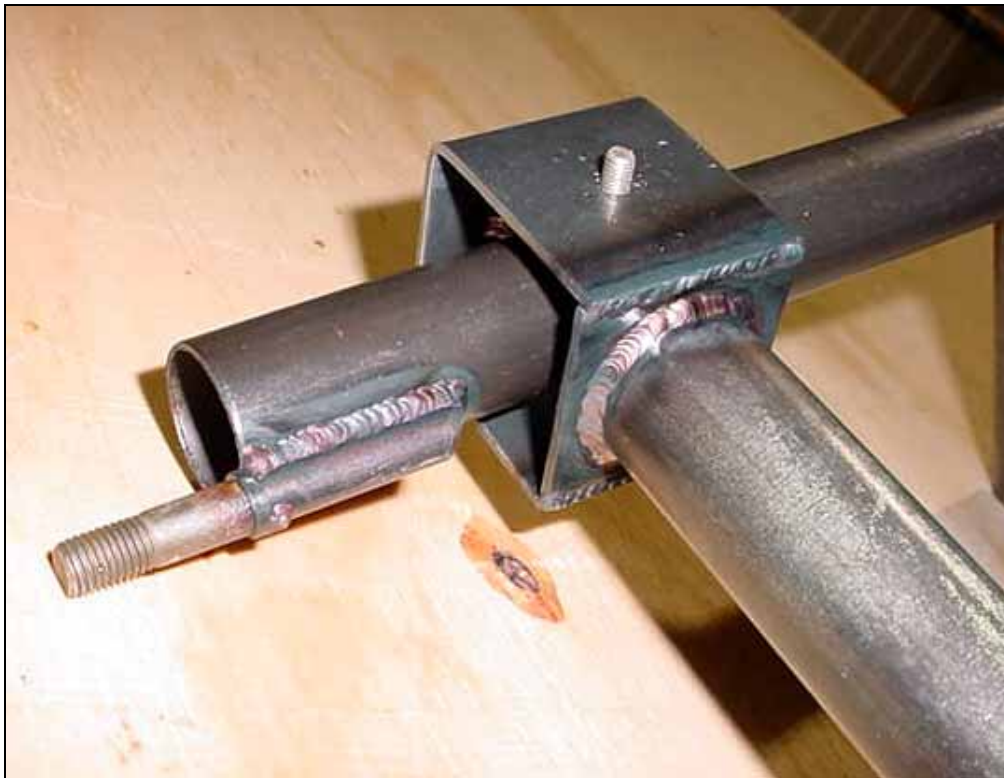
**6DS3-2
COLUMN BUSHING
Qty=1**



Detail to show bushing inside the 3/8" welded on the Column.

SUGGESTION: Use a spray lubricant such as Corrosion X to lubricate moving parts; including the rod ends.

Insert the Column Bushing 6DS3-2 into the 6.5mm reamed hole in the control Column 6DS3-1. (the parts are supplied with the hole reamed).



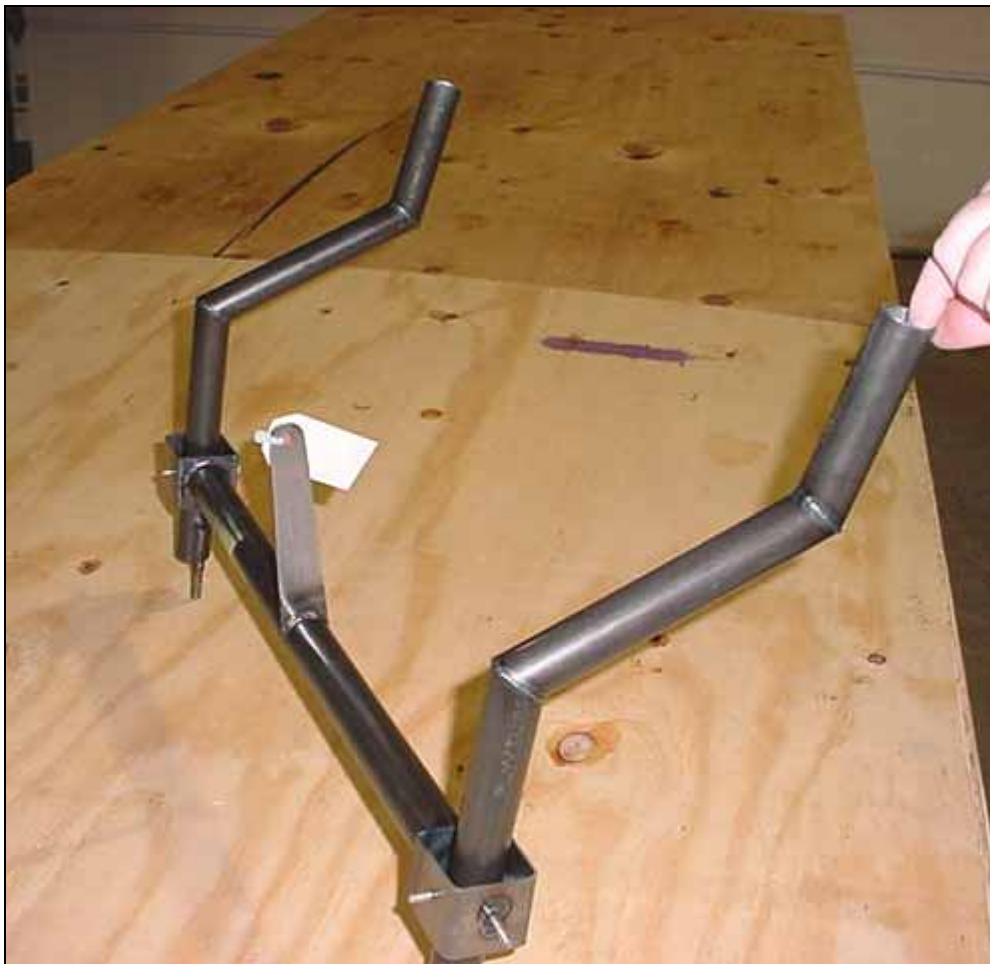
**AN3-21A BOLT
Qty=2
(6DS2-2 & 6DS3-2)**

Note: It is standard practice to use a washer under the SL nut. (nylon self locking nut AN365-1032) In this application the bolt clamps down on the bushing. The bearing surface is between the outside surface of the bushing and the inside diameter of the welded tube.

Insert the Control Column 6DS3-1 inside the ends of the Control Connection 6DS2-2



Bolt the left and right stick to the control connection.



Sub-assembly ready to install in fuselage.