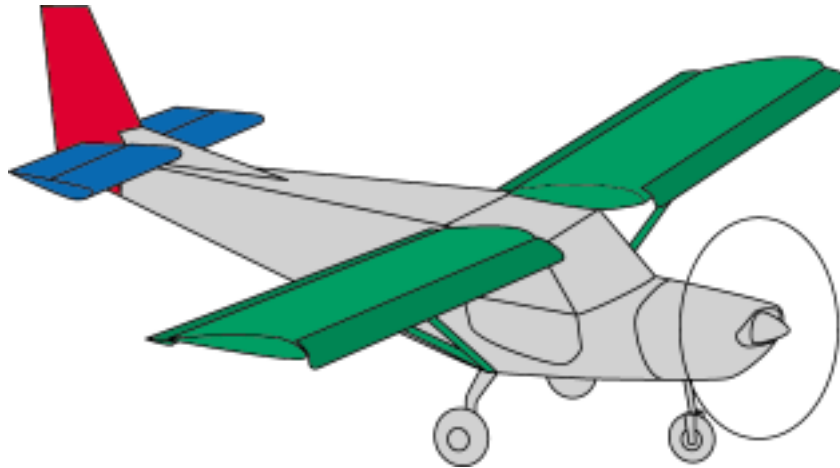


# STOL CH 801

## AIRCRAFT FINISHING “ATTACHING CONTROL SURFACES”



### SECTION 3 “Attaching the Wings to the Fuselage”

#### **Pre-preparation:**

- Remove the wing Root Top Skin before installing the wings to the fuselage.
- Make two wing support structures to support the wing at the tips.
- Both wings are mounted to the fuselage together – have enough space.
- Drill 5/16” holes in gear strut fittings before installing the landing gear.

1. Main Spar and Rear Top attachment to fuselage (wings square)
2. Wing Struts (set dihedral)
3. Jury Struts

#### **Reference Drawings:**

- Drawing “Dihedral”



file wing-attach-0a

Level the cabin frame longitudinally and laterally.

Check that the 5/16" hole for the lower strut attachment is in the gear strut fitting before installing the wings to the fuselage.

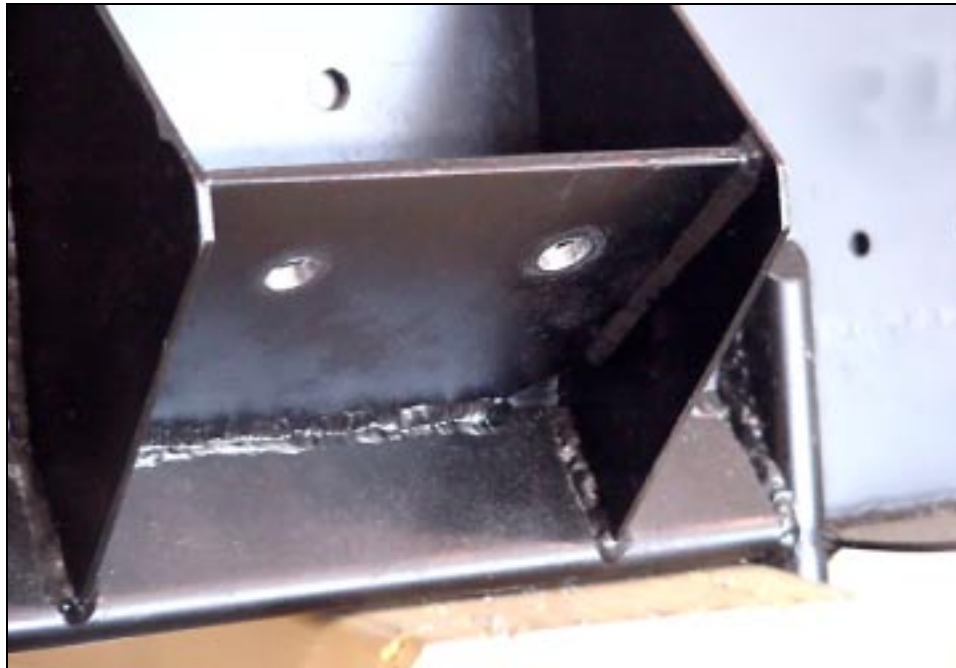


file wing-attach-0b

The wing spar is square to the fuselage: Run a string from wingtip to wingtip over the spar rivet line. Check for equal distance to a fixed on centerline by the tail.

The wing dihedral is 148 mm. between the string and the spar at Rib Station #1.

**Reference drawing**  
"Dihedral" for details.



file wing-attach-1a

Drill the 5/16" wing strut attachment holes.

Location of the 5/16" holes:  
25 mm left and right of the centerline (middle between front and back sides) and 25 mm. inboard of the outside edge of the 1/8" plate.



file wing-attach-1a

Note: drilling these holes may be very difficult to do with the landing gear spring attached!



file wing-attach4-0

The wing struts:

8V10-1  
8V10-2A



file strut-1a

Front and rear wings struts, with the jury struts, with strut fairings installed.



file wing-attach4a

Wing strut bolts:

- Bottom: AN5-7A
- Top front: AN5-10A
- Top rear: AN5-7A

Plus: washer + SL nut





The front spar attachment (right side), view from bottom front.

The bottom of the cabin frame "U" is up against the radius of the extrusion of the wing root.

file wing-attach2b

Bolt: AN6-12A + washer + S.L. nut.



The right rear wing attachment (view from bottom-front of wing).

The bolt access cutout in the bottom wing skins measure approx. 60 mm. in front of the rear wing channel and 60 mm. rear of the channel, 40 mm. wide.

file wing-attach3a

Generally, bolts are installed with the head on the front side. When in a vertical position, the head is on the top side.

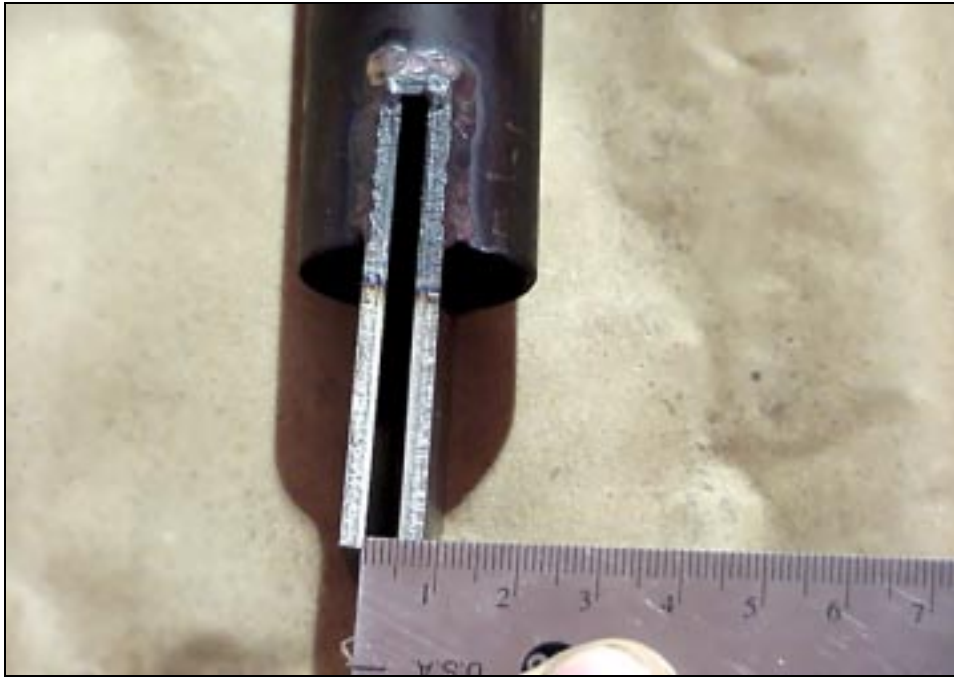


Rear wing attachment  
view from bottom rear.

The channel 8V6-2A and  
doubler 8V4-3 overlap  
on the aft side of bracket  
8F5-1.

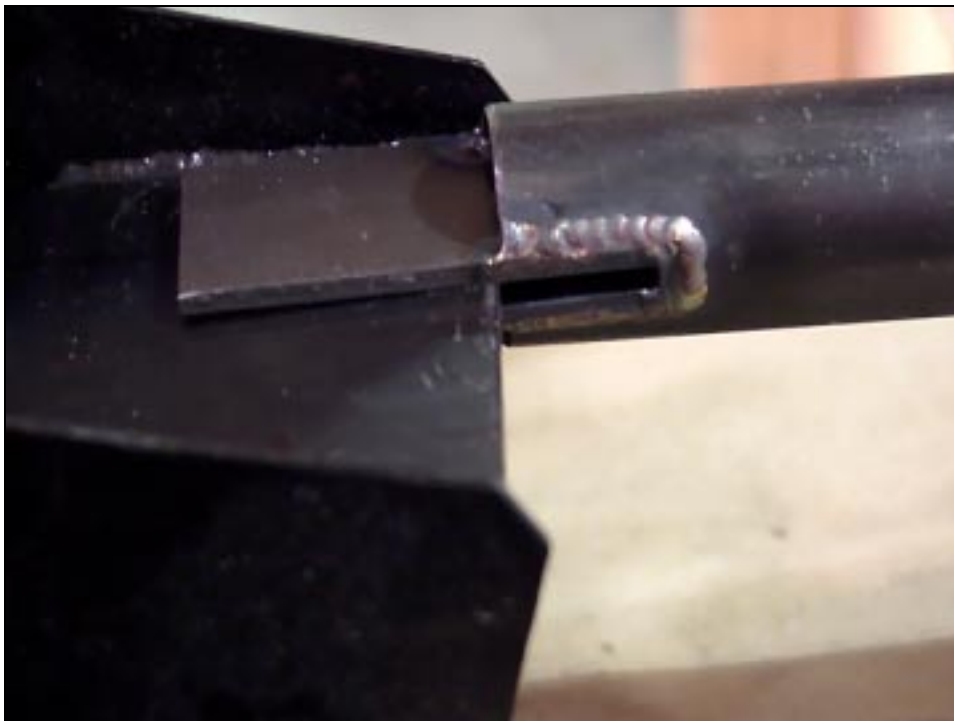
file wing-attach3b

Bolt: AN5-6A + washer + S.L. nut.



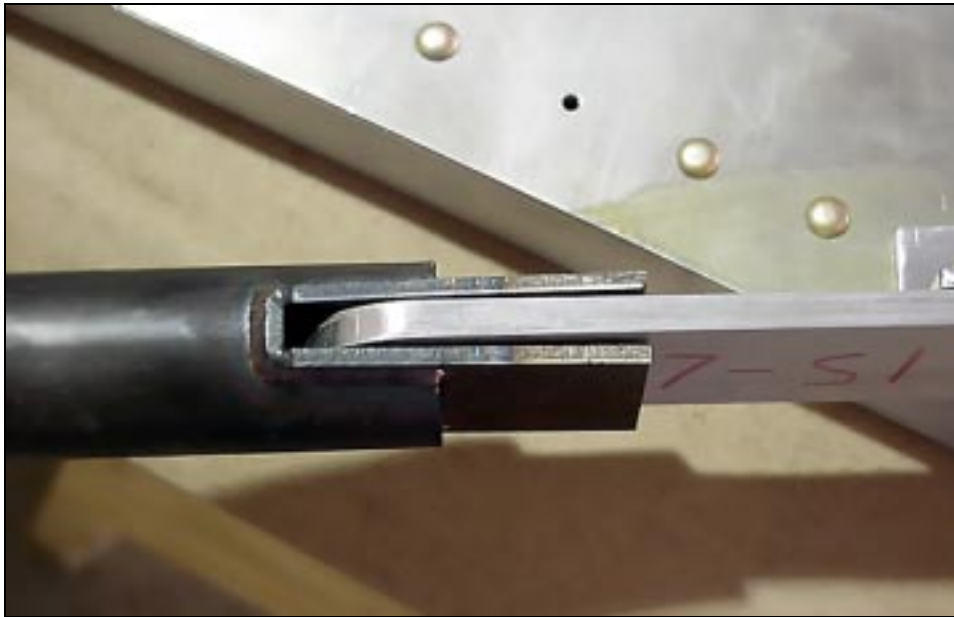
file wing-attach4c

Strut ends (bottom front and rear, plus the top rear): 1/8" slot.



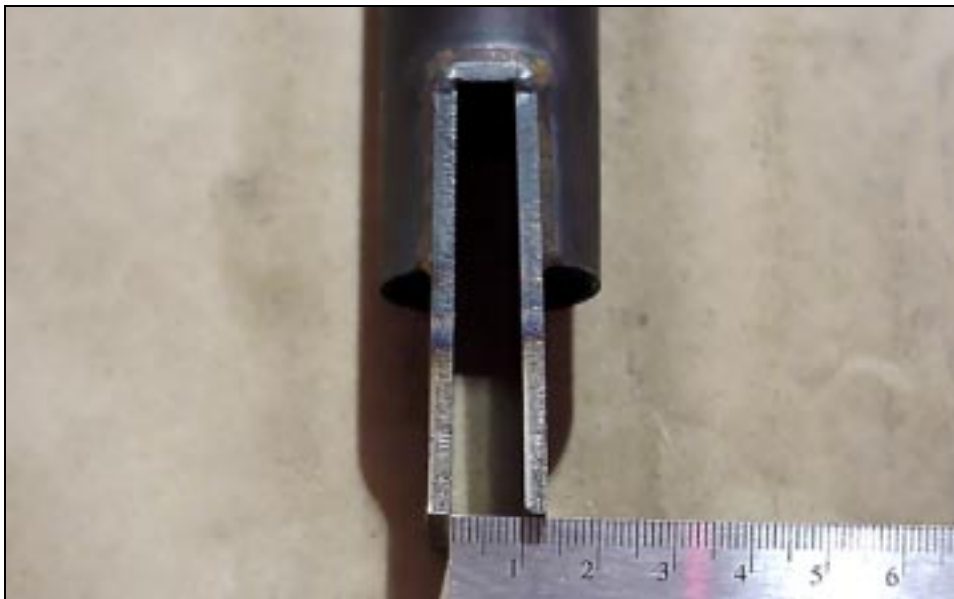
file wing-attach4b

Gear strut fitting 8F17-1.



file wing-attach5a

Front top main spar.



file wing-attach5b

Top end of 8V10-1: 3/8" slot.





Jury strut angles.

file 8v10-41



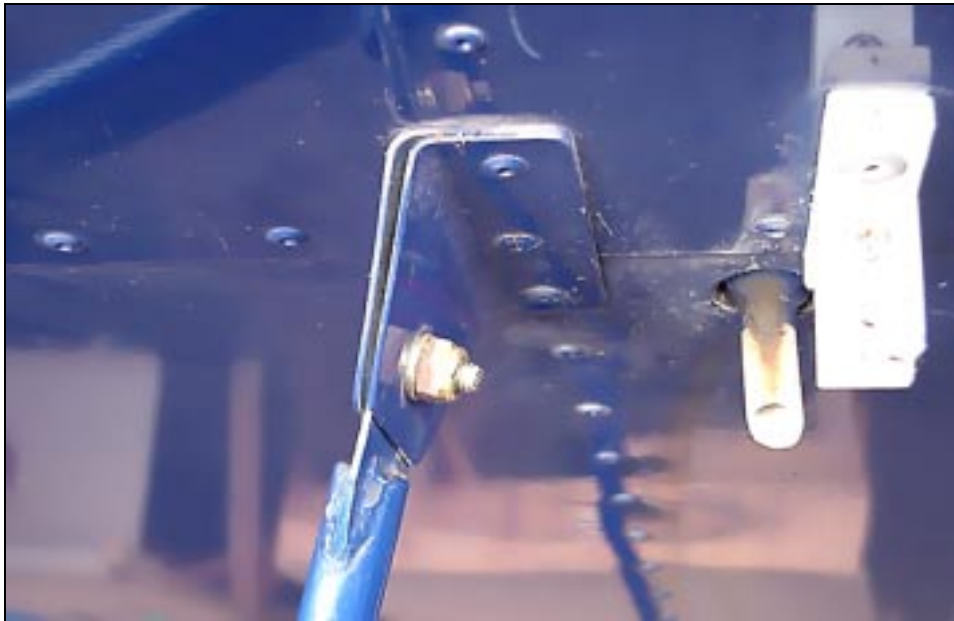
The jury strut assembly (right wing).

Location of the jury strut on wings: Second rib, approx. 930 mm. from the inboard end of the wing.

Location of the jury strut on the struts: 1265 mm. measured from the AN5 bolts at the bottom wing strut attach.

file wing-attach6c

Attach with 4 bolts: 2 at the top (front and back, through 8V10-4A & B) and 2 at the bottom (through each wing strut).



(Note: Vent tube for the wing tank is required on the bottom of the wing if the fuel caps are not vented).

file wing-attach7b

The front-right Jury Strut attachment to 8V104A and 8V104B.  
The middle rivet of the angle is through the wing spar.  
Bolt: AN3-5A + washer + S.L. nut.



Trim and round the edges of the jury strut angles after the 3/16" hole is drilled.

file wing-attach7c

The rear-right Jury Strut attachment  
Bolt: AN3-5A + washer + S.L. nut.



file wing-attach8a

Jury Strut attachment to front right Wing Strut.  
Bolt: AN3-16A + 2 washers + S.L. nut.



file wing-attach8b

Jury Strut attachment to rear right Wing Strut.  
Bolt: AN3-16A + 2 washers + S.L. nut.