

# STOL CH 801 WING ASSEMBLY

## SECTION 12

### “TRAILING EDGE INSTALLATION”

#### Compass Check

1. Join the two pieces to make one.
2. Locate skins and drill and rivet to the bottom of the rear spar.
3. Locate the skin, drill and rivet to top of rear spar.

# STOL CH 801 WING ASSEMBLY

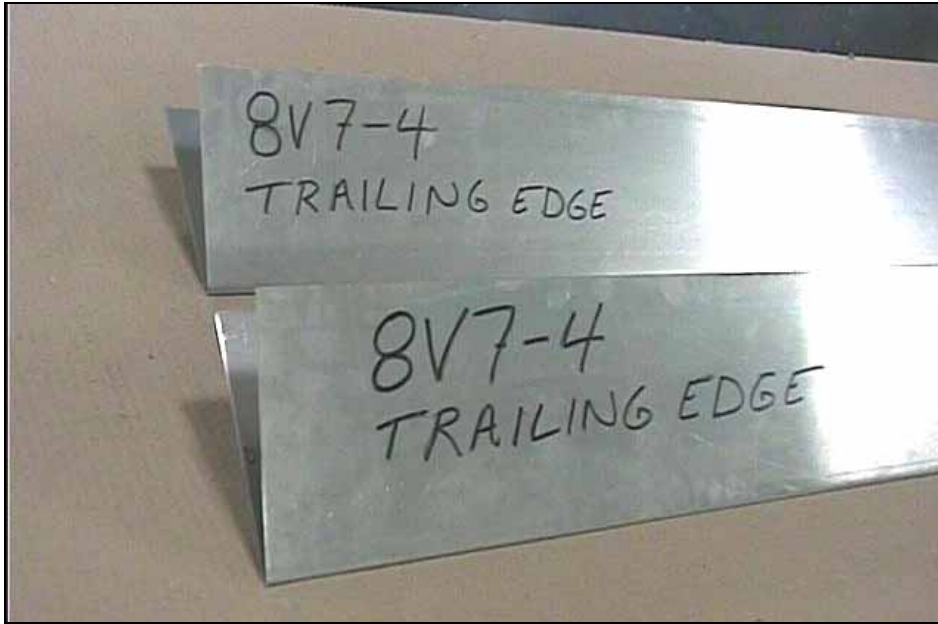
## SECTION 12

### “TRAILING EDGE INSTALLATION”

#### Helpful Building Tips

1. Keep things straight by checking regularly with a straight edge.
2. The length of thread pulled tight is an excellent straight edge.

## SECTION 12: TRAILING EDGE INSTALLATION



file V200-60

Photo V11-1

The trailing edge consists of two skins per each wing. Both skins are of equal length.



file V200-62

Photo V11-2

In order to facilitate the joining of the two skins it is first necessary to adjust the radius of the formed skin where the O/B skin will overlap the I/B skin by 20mm.

The body of a standard 1/8 cleco just happens to be the ideal size. Place the cleco in the radius as shown in the photo V11-2.



file V200-61

Photo V11-3

Use a punch and hammer to gently drive it to the bottom of the skin radius.



file V200-63

Photo V11-4

Overlap the two skins 20mm

The next step is to align the two skins. If you have a very good straight edge you may use that. If not, a length of cotton thread may be used.



file V200-64

Photo V11-5

The best way to use the thread is to attach it to the workbench 6 - 8" beyond either end of the skin and 3/8" above the table. Pulled taught it gives a very good straight line. When using the thread line do not push the work up against it, rather keep the work 1/8" away and check your alignment visually.

Check the straightness of the assembly before drilling - clamp securely.



file V200-65

Photo V11-6

Layout the pitch. Check the straightness of the trailing edge once more and drill the first hole at the 20mm point and cleco. - Use a #30 drill. Check alignments again then drill the other holes on this side. Repeat for the opposite side of this assembly.

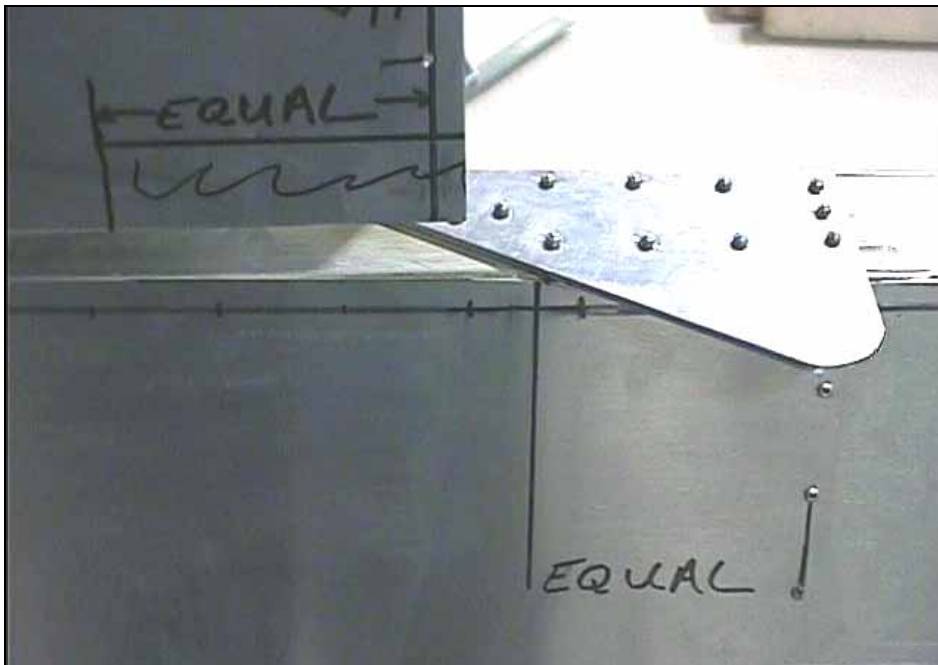


(rotated photo)

file V200-45

Photo V11-7

Remove the Clecos and set the wing in wing stands. The stands are similar in construction to those used earlier for the rudder. Only the shape and size is different.

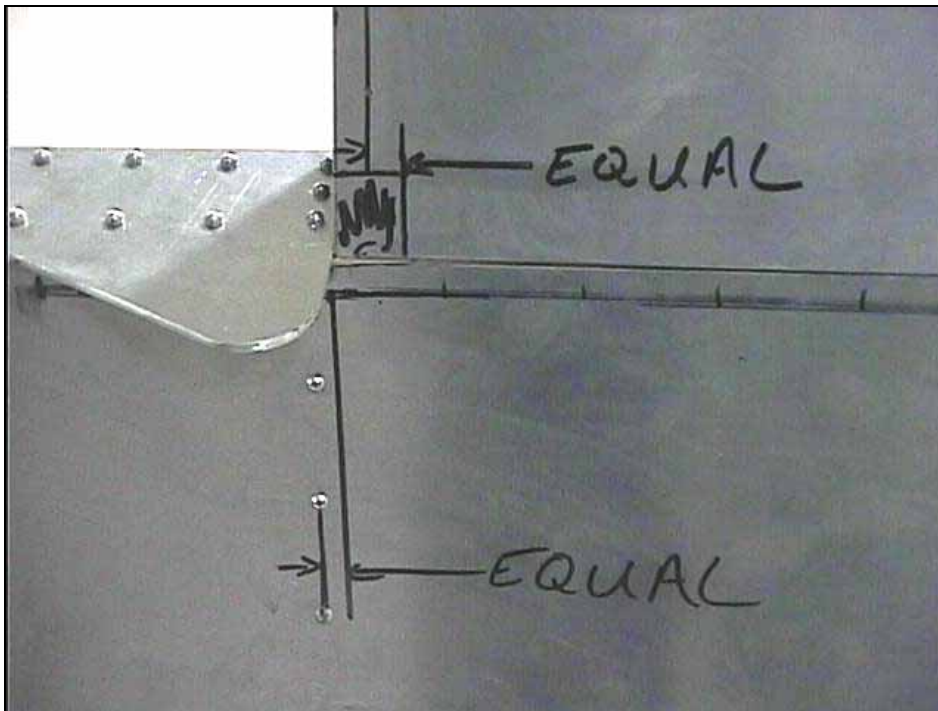


Remember to allow for the 20mm overlap of the skins.

file V200-66

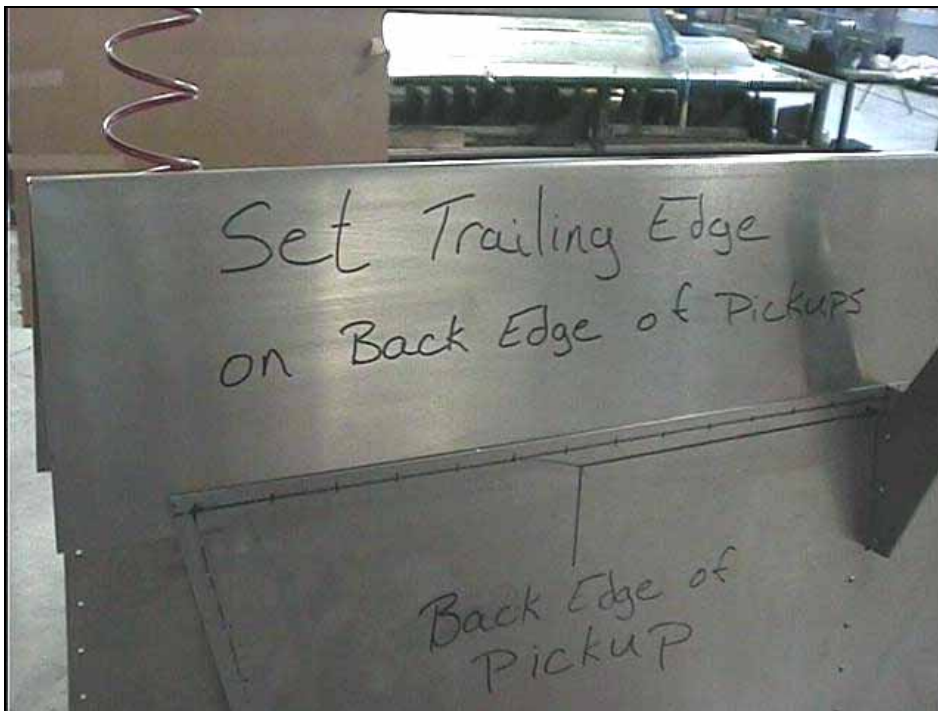
Photo V11-8

Position the skin on the rear spar placing them so that the splice rivet lines will be located in line with rib rivet line at wing station #4. The edge of the skin will slide between the skin and the flange on the rear spar and will rest on the flaperon brackets. Mark the skins for the cutout around the strut bracket. Also see photo V11-9



file V200-68

Photo V11-9

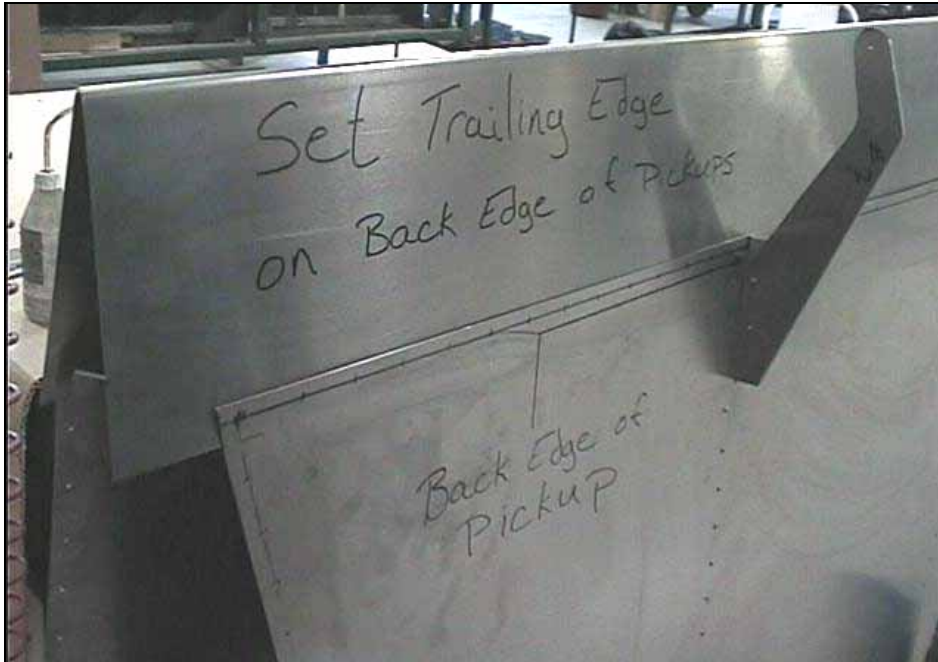


file V200-69

Photo V11-10

After making and checking the cutouts rivet the skins together and place in position on the wing.

The O/B edge will be even with, or extend beyond the top rear skin O/B edge.



file V200-70

Photo V11-11

In position ready to drill. The edge of the trailing edge skin sits on the flaperon brackets. Layout the rivet pitch line along the rear edge of the lower rear skins. Use pitch 40 starting at each rib centerline. Don't drill the last two holes at either end of the rear spar.



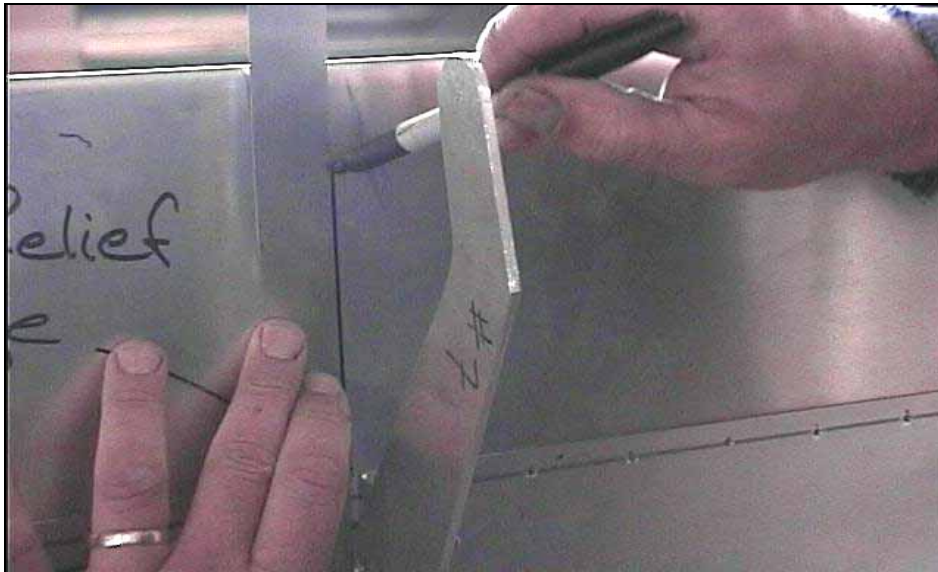
file V200-71

Photo V11-12

All drilling is with a #30 drill.

Hold the trailing edge in place against the flaperon brackets and drill with #30 drill. - Cleco generously.

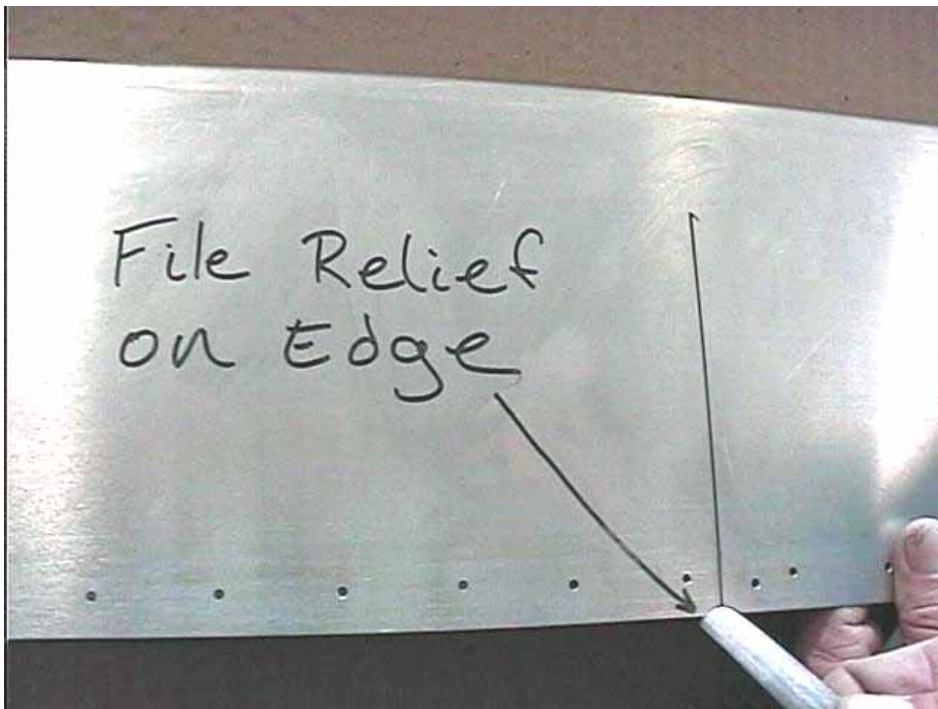




file V200-72

Photo V11-13

Extend a line up from each of the flap brackets.



file V200-74

Photo V11-14

Remove the trailing edge skin and file a 2mm relief for each flap bracket. Deburr all rivet holes.



file V200-75

Photo V11-15

Reassemble and rivet the lower side of the trailing edge. A4 rivets.

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File V200-92

Photo V11-16

This portion of the assembly is best done with the wing sitting right side up on the worktable.

Photo shows the topside of the wing after drilling and riveting the trailing edge, however do not rivet at this time, rather follow the instructions below.

Drilling is with a 3/32 drill.

- Turn the wing right side up on the table.
- Layout the rivet line along the rear edge of the top rear skin, on the centerline of the rear spar flange. Pitch is 40 starting at the centerline of each rib.
- The most desirable position of the trailing edge skin is to keep its top surface flat and in line with the flattest portion of the rear rib. The rear rib has a relatively flat area starting at the rear spar extending forward approximately  $230 \pm mm$ .
- Starting at rib station #4 press down on the trailing edge with a suitable straight edge positioned at rib #4.
- Continue to press down on the rear edge of the trailing edge skin until the straightest line, an extension of the flat area on the rear rib is obtained. See photo V11-16 & V11-17.
- Hold the trailing edge skin in that position and drill a rivet hole into the spar and skin close to rib #4 and cleco. Repeat the process at each rib in the following sequence rib 7, 1, 2, 3, 5, 6.
- Stand back and “eyeball” the wing from the rear. The trailing edge should be straight since the rivet holes will be opened to 1/8, slight adjustments may be made at this time to straighten the rear edge of the trailing edge: just keep in mind that moving the skin down rather than up is the preferred adjustment.
- Now, drill the balance of the holes along the rear spar clecoing as drilling proceeds.



file V200-93

Photo V11-17

A slight gap at the rear spar rivet line is normal but try to keep it at a minimum.

Remove the Clecos in the trailing edge skin.

Remove the Clecos in the rear top skin.

Remove the rear top skins and place aside.

Deburr the spar and trailing edge skin rivet holes.

Leave the wing open.

I have checked my work and parts list and confirm to myself, that all items listed in this portion of the elevator hinge have been installed.

Signed: \_\_\_\_\_ Date: \_\_\_\_\_

**Revision List:**

<b>Revision</b>	<b>Summary</b>	<b>Revised By:</b>	<b>Date:</b>
3.0	Reformat	SH	8/18/1999