STOL CH 801
WING ASSEMBLY

SECTION 8

"INSTALLING THE FORWARD STRUT ATTACH DOUBLER"

Compass Check

1. Remove nose skin.
2. Make a template to transfer rivet holes to stiffener.
3. Re install nose skin.
4. Transfer rivet holes to stiffener.
5. Install stiffener and doubler.

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WING ASSEMBLY

SECTION 8

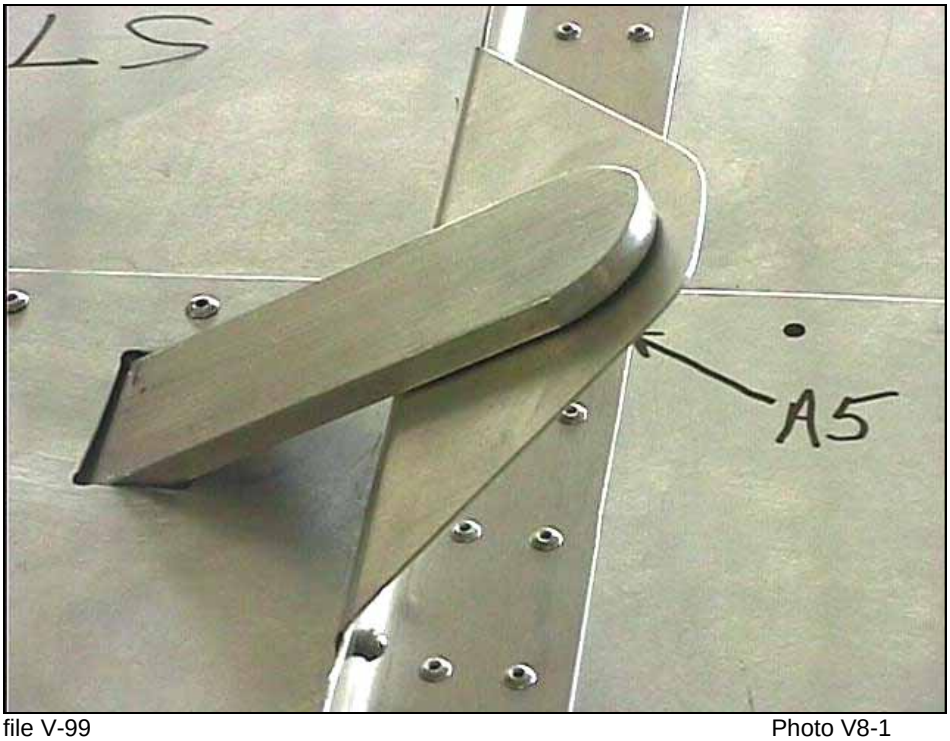
"INSTALLING THE FORWARD STRUT ATTACH DOUBLER"

Helpful Building Tips

1. Read this entire section before starting.

2. Take the time to mark the position on the parts and template to avoid confusion. Inverting the template when drilling 8V8-1A will ruin the part.

Section 8: INSTALLING THE FORWARD STRUT ATTACH DOUBLER



file V-99 Photo V8-1

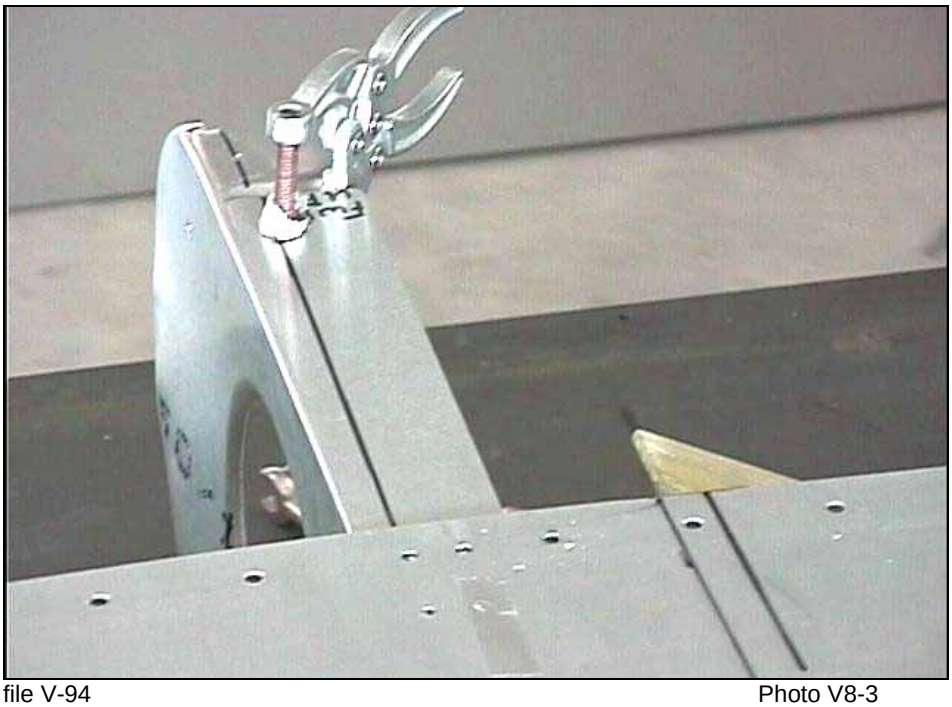
This is how the main strut attach doubler 8V8-1A & 8V8-1B will look after installation.

file V93 Photo V8-2

The first step is to make a drill template to transfer the #4 rib rivet holes to the strut stiffener, part 8V8-1A.

All holes are first drilled - 3/32

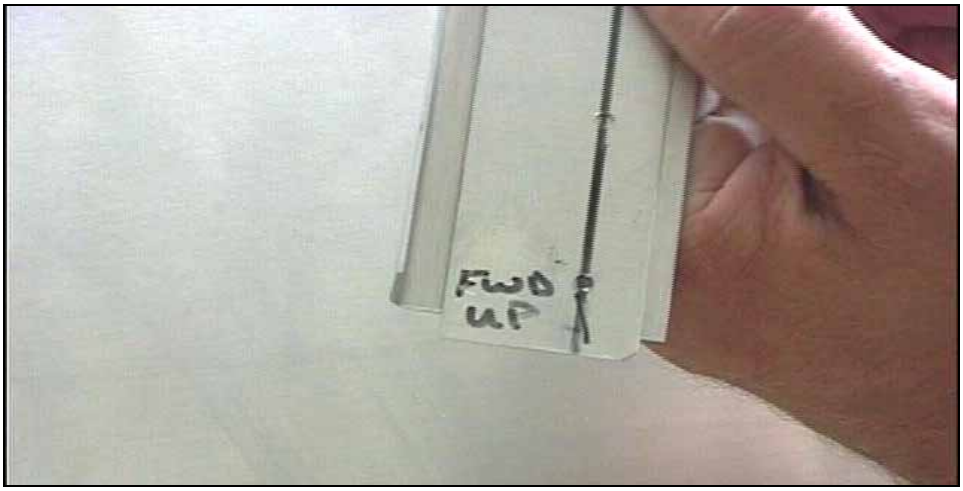
Template to transfer rivet holes:
Cut a strip of scrap metal about .025 thick x 50*mm* x 600*mm* long.
Mark a center line along its length 10mm in from one edge.
Mark a rivet hole on this line 10*mm* from one end and drill a 3/32 hole.
Slide the strip under the rear skin at station #4 with the end having the hole to the rear of the wing.



file V-94 Photo V8-3

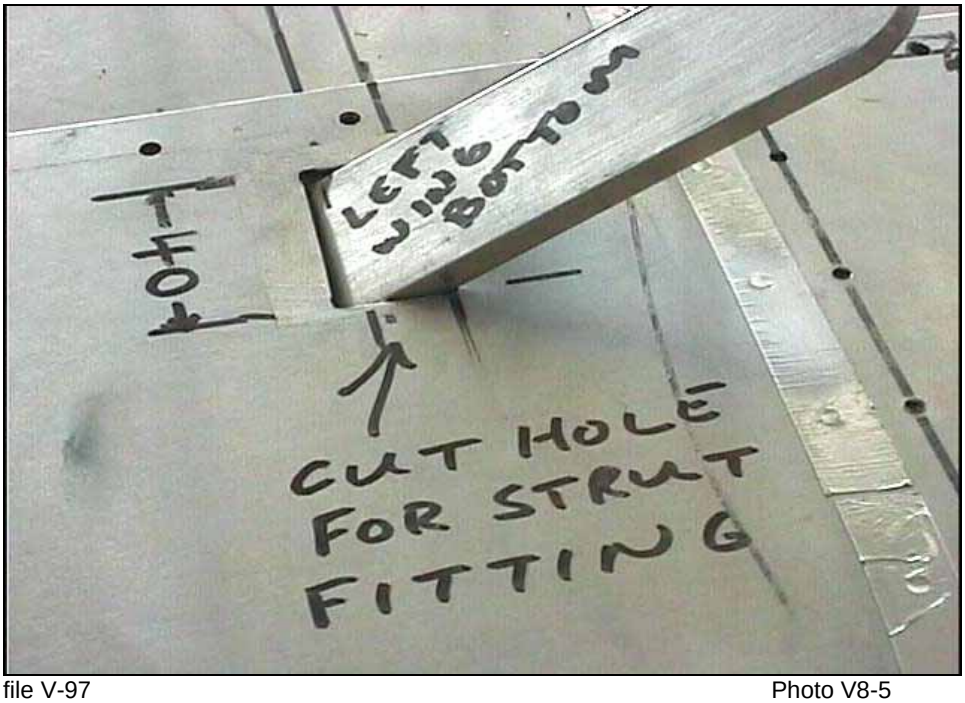
Notice that the edge of the strip is flush with the side of the rib.

- Slide the strip under the skin along the rib flange until the free end is somewhat past the most forward hole in the nose rib. At that point the hole drilled in the strip will line up with a hole in the bottom rear skin and rib #4, cleco there.
- Clamp the free end to the nose rib.
- Starting at the first hole forward of the cleco in the strip, drill the next hole in the strip and cleco it to the rib and skin.
- Repeat this process up to the nose rib making sure you cleco each hole after drilling so as to keep the rear rib, which is hidden, in correct position.
- Do not drill any holes in the strip at the nose rib location just yet.



file V1-6 Photo V8-4

Remove the strip from under the skins - mark its position for future reference.



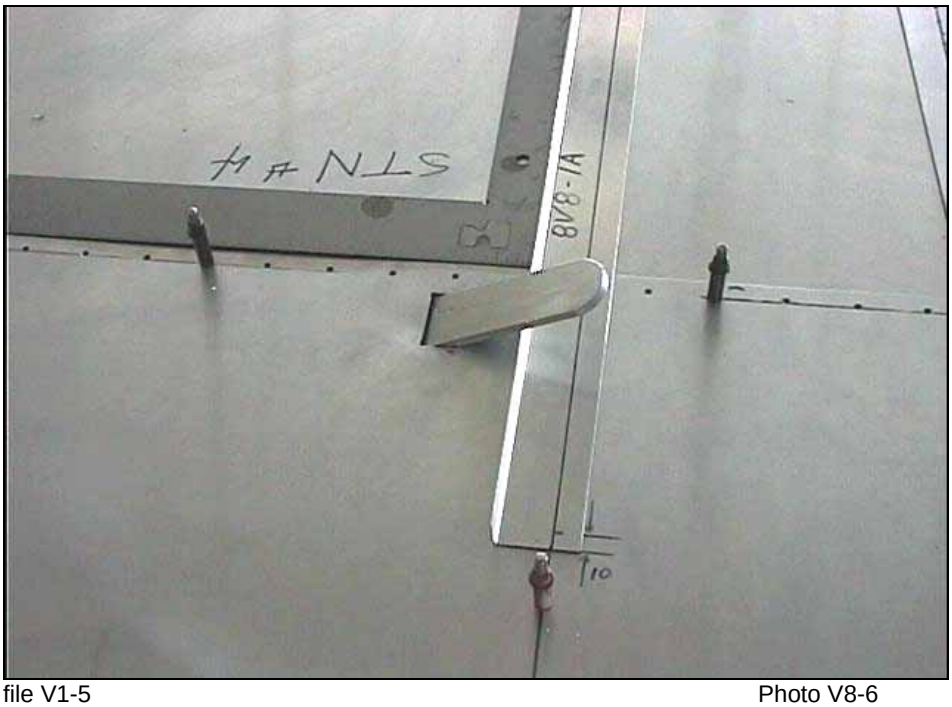
file V-97 Photo V8-5

Re-install the skin 8V7-1 I/B and cleco well. Re install the main strut attach (two bolts only as this part will be removed again)
Cleco the template strip in place on top of the rear skin.

- Cleco the nose rib to the leading edge skin at the most forward hole only.

- Now drill the next hole closest to that cleco, through the rib, leading edge skin and template strip. (This is best accomplished by either using a hole finder from above or a 12-inch long drill bit from below).

- Cleco and repeat the process for all holes in this portion of the nose rib.



file V1-5 Photo V8-6

The rear edge of 8V8-1A is positioned approximately 390*mm* aft of the spar/skin rivet centerline.

Use a carpenter's square for aligning the part.

Place doubler 8V8-1A in position as shown with a 1/16 spacer /between the underside of the strut attach and the edge of the flange on 8V8-1A. Transfer the centerline of the rib rivet holes down the length of 8V8-1A.

Measure back 10*mm* from the most forward end of 8V8-1A, remove it from the wing and drill a 3/32 hole at the intersection of the two centerlines.

The hole just drilled will be located at the second hole aft of the front of the nose rib.

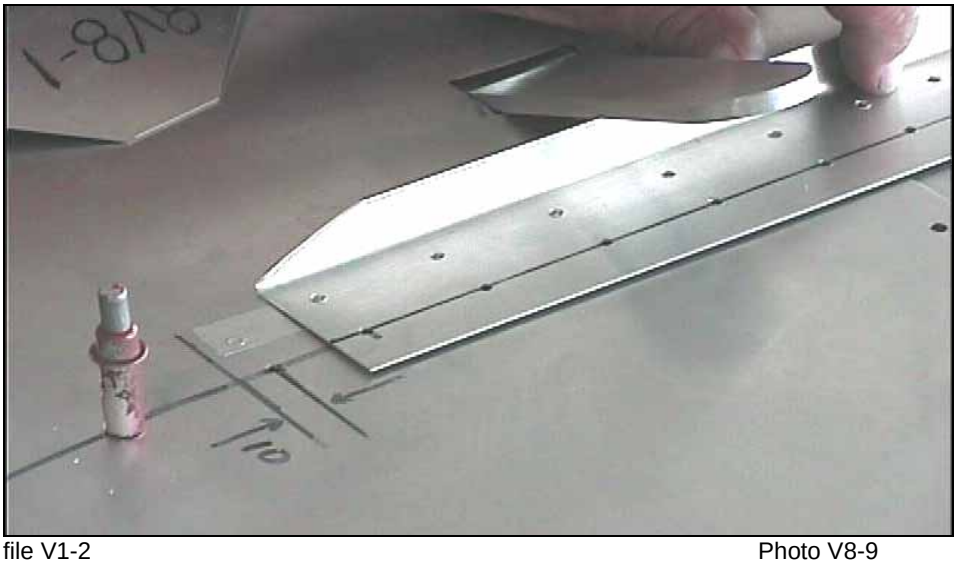
file V1-7 Photo V8-7

Stop*!* Check the orientation of the template before drilling.

Remove the stiffener and place your template on top of 8V8-1A lining up the holes in the template with the hole in 8V8-1A.
Cleco the parts together.
Align the most aft hole in the template with the centerline drawn on part 8V8-1A, drill and cleco there.
Now drill the balance of the holes using the template as the locator.

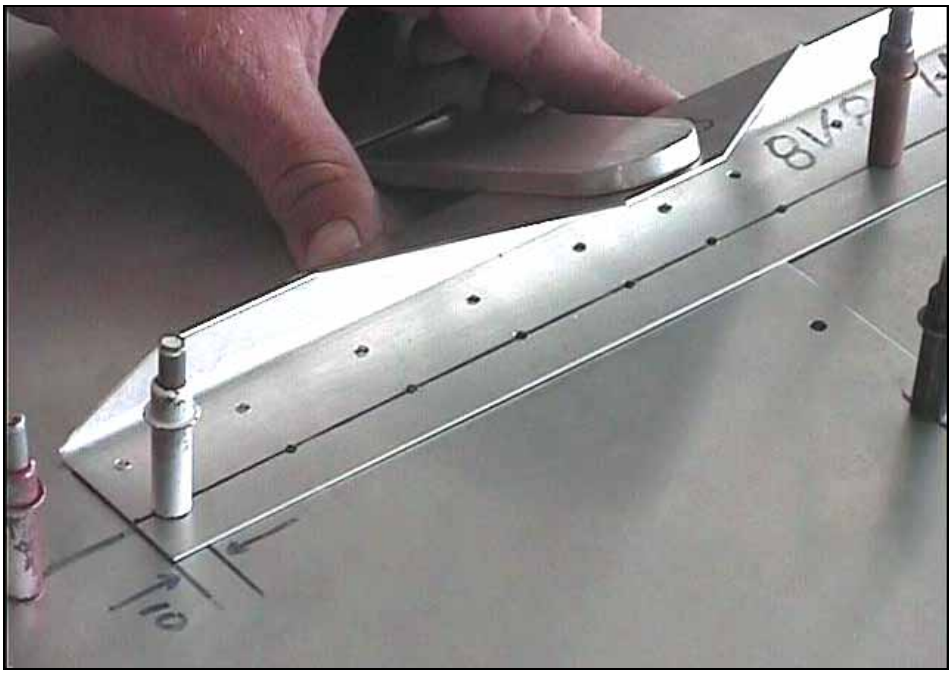
file V1-9 Photo V8-8

Layout a second set of rivet holes directly opposite and 20*mm* to the side of those just drilled.



file V1-2 Photo V8-9

After drilling the second row of rivet holes cleco 8V8-1A in place on the wing.
Drill the second row of holes in 8V8-1A into the wing skin. Open all the holes with a #20 drill.



file V100-1 Photo V8-10

Position 8V8-1B as shown with its topside tight against the underside of the strut attachment.

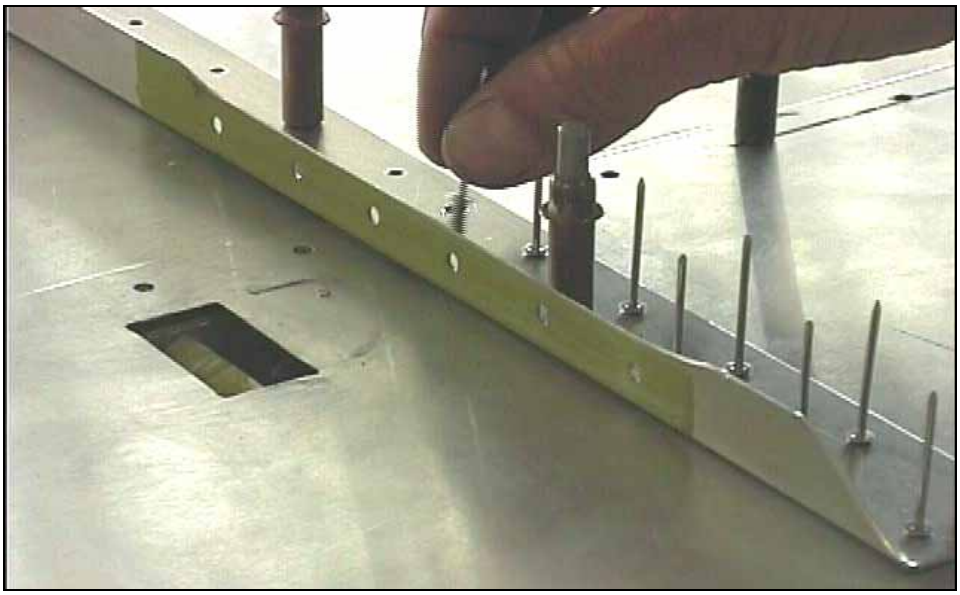
It may be necessary to file away part of the flange on 8V8-1A to provide clearance for the radius on part B. If so make sure you make a nice radius where the relief joins the virgin edge of the flange. See photo V8-12.

file V1-3 Photo V8-11

8V8-1B shown being put in place.

Clamp 8V8-1B to 8V8-1A
Remove both pieces while clamped together and drill five evenly spaced #20 holes through 8V8-1B and the flange of 1A.
Remove the main strut attach bracket.
Remove the leading edge skin and deburr all holes.

- Re-install both leading edge skins in the same manner as detailed in the last page of section 7.
- Cleco generously.



file V1-10 Photo V8-12

Re-install the doubler 8V8-1A and cleco
Place and pull rivets in all the open rivet holes in the rear skin, leading edge skin and 8V8-1A except for the last two on either end of the main spar.
Rivet 8V8-1B to 1A.
Re-install main strut pickup permanently. (see next photo)

file V100-8 Photo V8-13

When installing the main strut attach permanently, the bolt closest to the bottom skin requires a washer under the head of the bolt to provide clearance next to the skin.

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:

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