

STOL CH 801 FLAPERON ASSEMBLY

“FITTING THE FLAPERONS TO THE WING AND FUSELAGE”

SECTION 3a (1 of 2)

SET-UP:

1. Wings and struts are fitted and bolted to the fuselage
2. Control system is in place (refer to drawing 8CN-2).

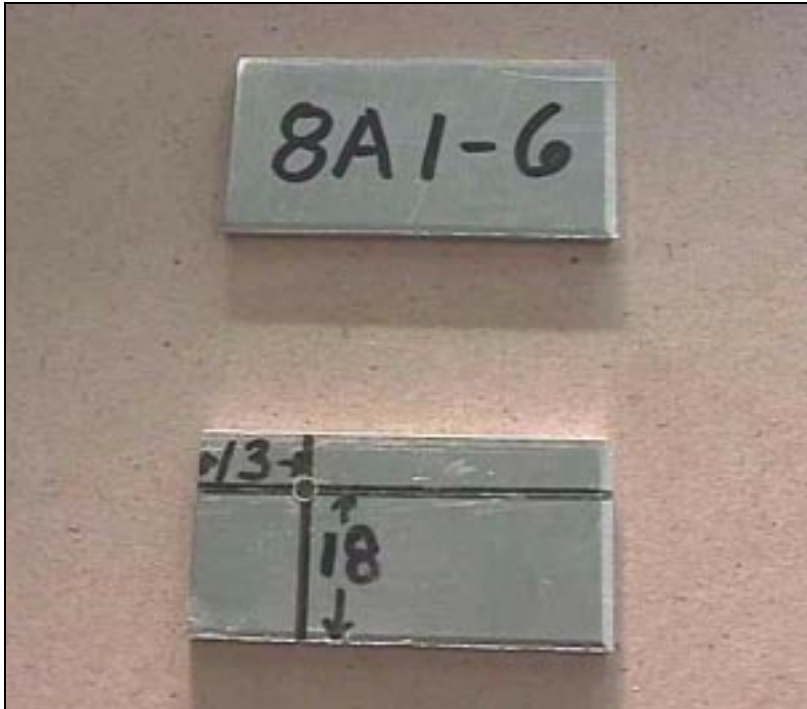
Section 3a:

1. Drill the hinge holes in the flaperons.
2. Trim the inboard flaperon assemblies to fit the fuselage.

Section 3b:

1. Install the fuselage hinge pin.
2. Cleco the horn to the end rib.
3. Position the end rib to the inboard end of the flaperon.
4. Cut the clearance slots in the fuselage side skins.
5. Fit and install the fiberglass tips on the flaperon outboard ends.

STOL CH 801 - FLAPERON ASSEMBLY - SECTION 3a
"FITTING THE FLAPERON TO THE WING AND FUSELAGE"



file FR100-56

Photo FR3-1

Hole location jig.
Drill a 3/32" (#40) hole
centered at 13 mm. from
the front edge and 18 mm.
from the bottom of the
block.

Item 8A1-6 is a piece of aluminum used to locate the flaperon hinge hole.



file FR100-57

Photo FR3-2

The front edge is flush
with the Flaperon Hinge
8A1-5. The bottom is
flush against the skin.

Position and clamp the block on the flaperon hinge.



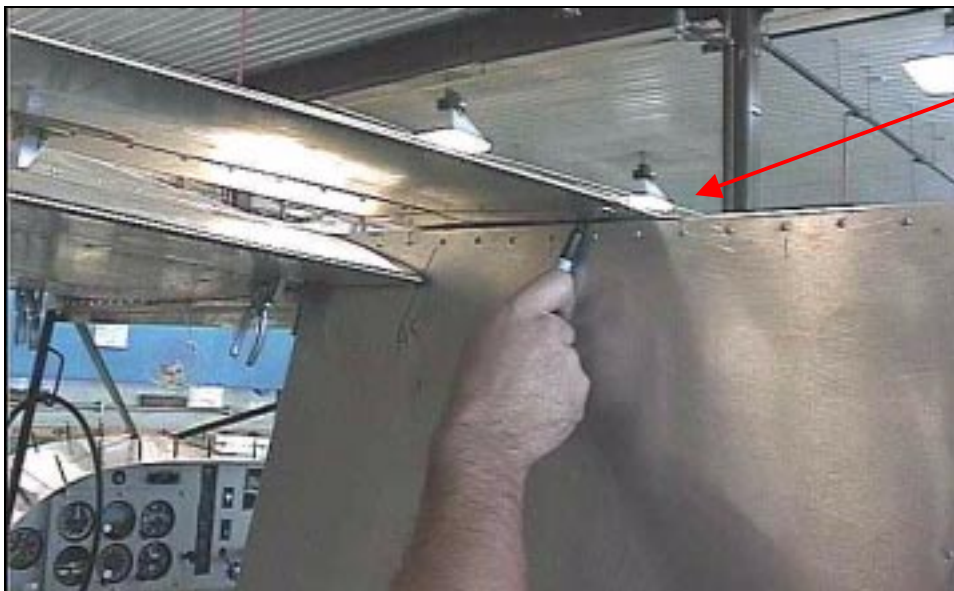
file FR100-58

Photo FR3-3

Use a #40 or 3/32" drill.

CHECK: Edge distance from the hole to the front edge is 12 mm. (the hole is centered on the extrusion).

Repeat the process on all of the flaperon hinge brackets.



file FR100-59

Photo FR3-4

Trim the skins to fit.

The fitting of the flaperon is accomplished with the wing installed on the fuselage.

An extra pair of hands makes the handling of the flaperon assembly easy.

Position the flaperon assemblies on the work table and rivet them together at the splice plates (8A2-2A, 8A2-2B and 8A2-3). Place the assembly on top of the wing. Align the hinge bracket with the flap attachment arms on the wing. The hinge bracket on the flaperon will be on the inboard side of the attachment arms. Mark the contour of the fuselage on the underside of the flaperon skin.



file FR100-60

Photo FR3-5

Place the assembly back on the work table. Layout a trim line 10 - 12mm to the outboard side of the edge of the fuselage line (shortening the assembly). The trim line is to be parallel to the fuselage line. Cut to this line.



file FR100-48

Photo FR3-6

Actual distance from rib leading edge: 42 mm. (not 38 mm. as shown on photo).

A left and right assembly is required.

Reference
Drawing FR3-6

Drill the control horn on the rib and rivet (see next page for rivet placement).



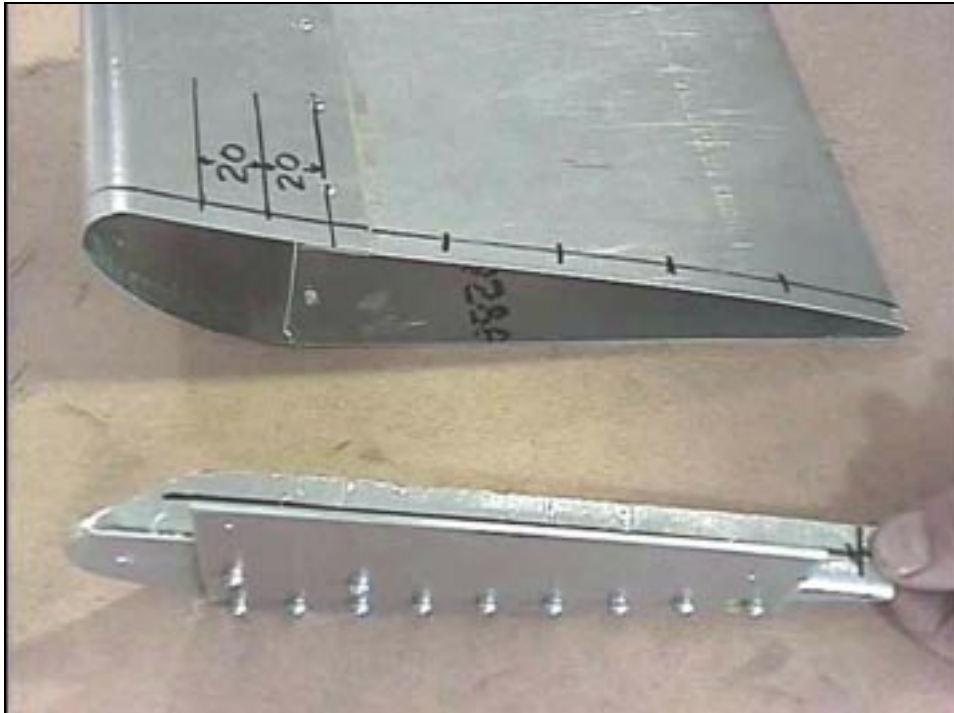
file FR100-61

Photo FR3-7

Note the placement of the rivets.
The horn and rib are fitted on the inboard end of each flaperon assembly.

Rivet the control horn 8A2-5 to the end rib with 11 A5 rivets:

- 9 A5 rivets on top
- 2 A5 rivets on the bottom



file FR100-62

Photo FR3-8

(See photo FR3-21)

Install the end rib onto the assembly. Use the same pitch as was used at the center rib location. Drill and rivet. Repeat this process for the other flaperon.



file FR100-63

Photo FR3-9

Sight through the flaperon hinge holes on the attachment arms and locate the root hinge pin 8A2-4 on the fuselage. Drill a 3/16 diameter hole there.



file FR100-73

Photo FR3-10

Open the most inboard and outboard hinge hole in the flaperon with a #20 drill. Install the flaperon on the wing and cleco to the attachment arm at those two points.



file FR100-75

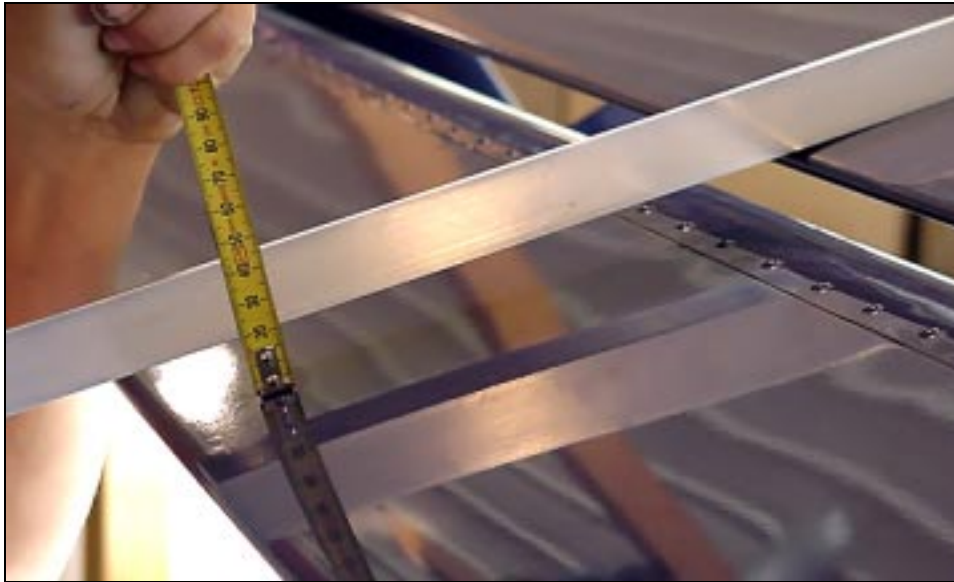
Photo FR3-11

Hold the flaperon straight, in a neutral position and clamp the hinge to their respective attachment bracket. Being careful not to cover the hinge hole.

The intent is to keep the flaperon in it's natural position when clamping to the attachment arms.

Sight through the hole in each attachment arm to check that the hinge hole in the flaperon hinge bracket, is on center. Adjust as necessary then drill the flaperon hinge hole through the attachment bracket with a #20 drill and cleco. Repeat for all hinge holes.

Test the flaperon for freedom of movement. If not satisfactorily, remove one cleco at a time, recheck movement then replace the cleco. Repeat until the offending hole is found. Reposition and re-drill. The holes will eventually be opened up to 3/16" diameter. If difficulty is experienced they can be opened to a maximum size of 5/16"



file FR100-74

Photo FR3-12

Straight edge is placed on top of the wing and held tight to the flat portion of the rear wing.

Flaperon Neutral position, set at the outboard (O/B) section of the flaperon, set an 8mm gap between the trailing edge of the Flaperon and the top of the wing.

CHECK: on the inboard (I/B) section, the gap from the trailing edge to the wing is 20mm.

The flaperon is in neutral position.



file FR100-64

Photo FR3-13

Photo illustrates drilling of hinge pin from inside the fuselage on left flaperon.

(An alternative method is to shoot a laser light beam through the hinge pivot point).

With the flaperon held in the neutral position, drill the fuselage hinge pin hole in the control horn from inside the fuselage.

Continued Section 3b