

OSPREY CANOPY LIFT STRUT

When building the canopy for N276JF, I was not fully satisfied with the bracing system used to hold the canopy open. I wanted something more convenient so decided to try a gas spring like those used on hatch-back automobiles. After much drawing, testing, trial and error of different pressures, strokes and lever arms, I arrived at a geometry that works quite well. I used a strut from the back of a late model Mercury Zepher station wagon (\$5 each at the wrecking yard). This strut exerts 150 lbs of force throughout its stroke. I shortened the rod 3 3/4" since the full length is not needed.

The rear bracket is made from .080 2" x 1 3/4" x 6" long alum U channel.

The original clevises were removed from the strut and new ones made from 1/2 x 3/4 alum blocks and installed in the same manner as the originals. (after shortening the rod, it will have to have a slot ground on either side to accept the roll pins.) The setup shown works well with my canopy assembly, however, slight differences in the weight of the canopy (compass etc) will affect the operation. The 6" dimension on the rear bracket can be increased to provide greater lift or shortened to provide less. Also, temperature will affect lift. Heat will increase the pressure, cold decrease it. If you install the strut on a hot day, make sure there is plenty of extra push.

The attach point on the rear cabin is an area 5" x 4" that is solid glass resin with 4 ea 10-32 bolts counterbored and glassed in place with the threads protruding on the inside for bolting in the rear bracket.

The leverage of the canopy puts alot of force on the rear cabin. I would recommend closing the canopy for taxiing or in strong winds.

I see no reason why this system could not be retrofitted to a completed airplane simply by routing out the foam in the attach point area and replacing it with solid glass and resin.

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"Would like to hear from, and correspond with, you Osprey 2 builders in the State of Washington area.

I purchased plan serial number #980 in September 1981 and since then have numerous small parts made, alodined and primed. These parts along with their various standards are packaged in "Zip-Lock" bags which I find is a very convenient way of storing them for future use.

I have to extend my shed about 5 feet on one end and install double doors before I can build the airframe.

The only problems so far are small discrepancies in measurements on the plans which the careful builder will discover as he goes. Also when the plans were copied, the process used tends to shrink them, or expand them so a rib or a clevis etc., might not be (true) full size. Another thing that would help the guildler is, if George would put "view indicators" on his drawings. (See "A")

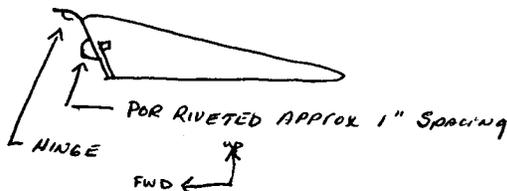
Case in point: Drawing #14, I built the Elevator Trim bracket backwards. However, I just turned it around and it will work anyway. Also I folded the trim tab thusly. Drawing #7. Makes a neater looking trailing edge. (See "B")."

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"A"



"B"



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