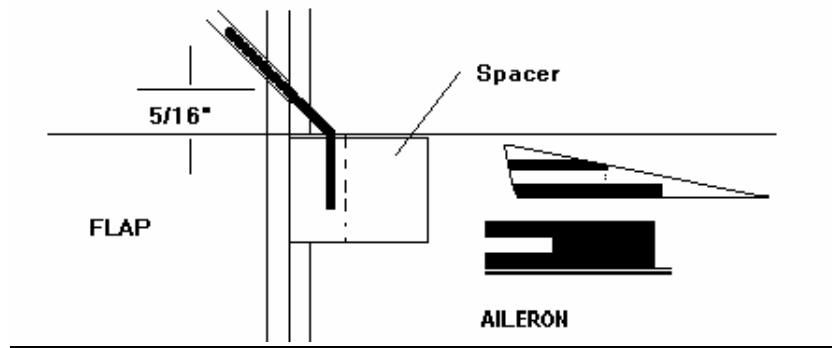


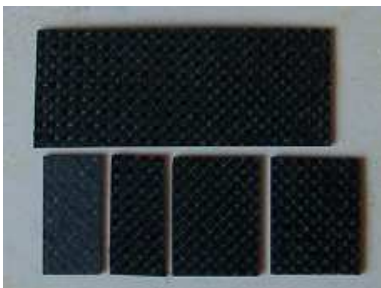
## CONST. FILE # 10-HARD SLOTS AT AILERON ENDS

The first part below addresses the hard slot in the balsa-skinned Easy LT/S. The remainder is for bagged wings. If you plan to cut your own CF plate for this or making RDS pockets for flaps, see the picture & details in the Miscellaneous Pictures file how to set up a Dremel rotary tool, etc. to do so.

The drawing below shows the aileron drive shaft exiting the center section endcap on a line centered  $5/16''$  ahead of the hingeline. The  $5/16''$  is a critical dimension. With the shaft oriented & bent at 45 degrees & with the elbow just ahead of the hingeline for proper RDS operation, it then protrudes  $1/4''$  to securely seat in the slot to positively deflect the aileron. Centered vertically, progressively open a hole in the center endcap to  $1/8''$  angled at 45 degrees. This forms a loose guide that allows the shaft end to “float” a little as the aileron deflects. Do not put a tube there. On the bottom skin over masking tape, mark the path of the drive shaft all the way to the spar as a guide to locate the aileron servo well.



The shaft engages a slotted unit fitted between the aileron skins. A groove is to be made in the tip section endcap to allow the shaft to slip into the slot. For illustration, the profiles are exaggerated in the above drawing, but do notice the top CF piece is a little ahead of the bottom piece. This allows beveling for down deflection after the aileron is cut loose.



The slot inside surfaces should be rigid & durable. .028-.032" carbon plate is ideal. From a 1" x 2-1/2" piece, cut a pair 1/2" wide & cut the remainder down the middle.

The 3 views below show the plate pieces glued to  $1/32''$  ply bases. This closely aligns the slot with the center section endcap hole. Elongate the hole vertically if needed to allow the float. Treat hole with CA glue to reinforce it.

Using thin CA glue & ply pieces a bit oversize, wick the CF pieces to the bases & then trim excess. The spacer is  $3/32''$  bass positioned to leave a slot  $3/8''$  wide.

A 1/4" #2 sheet metal screw fully run into a 1/16" hole firmly binds the unit together to prevent splitting.



A usable substitute for genuine CF plate is rather easily made as follows: Cut 3 pieces of 4 to 5 oz. CF cloth about 4" square. If unidirectional, criss-cross the fibers. Between waxed pieces of window glass, etc. & using a slower epoxy thinned by heating, thoroughly wet out the 3 layers. Roll them flat & sop up all excess epoxy with toilet tissue to look dry. Put the work in a vacuum bag, if available. Otherwise, weight it down well. When cured, separate the work from the glass & clean off wax residue on the CF so glue will stick.

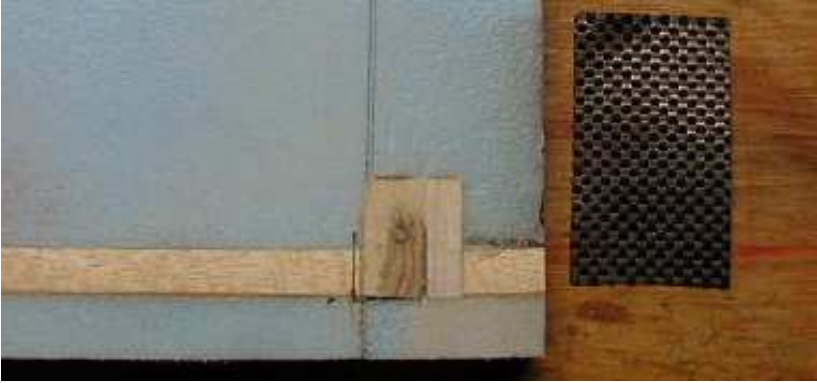
The "spacer" is to put top & bottom in parallel planes with a slightly snug fit with the shaft. 3/32" bass or ply is good, but will likely need to be uniformly sanded thinner. Remove a section of the tip endcap & core as shown in the above drawing to position the unit flush to the bottom skin & just behind the hingeline. Bevel & fill over the top with balsa as needed to match adjacent core. Attach the top skin. Cut the aileron loose.

#### PRE-INSTALLING THE SAME HARD SLOT UNIT IN BAGGED WINGS

Follow CONST. File #3, part 1 about first trimming the TE of the center section to equal chords & cutting flaps loose. This establishes the aileron hingeline. The unit is to be located just behind the hingeline so the saw clears it cutting the aileron loose after bagging.

Bevel the unit, including the screw head, so nothing is above the aileron core. Fit an adjacent "spacer". This is temporary & is removed after bagging. Wax all over it. Wax inside the slot. Slip the spacer in place. This sequence is pictured below:





**This shows the unit in the right tip of SGP # 4, ready to bag. Balsa fill has been shaped to the core. The foam overcap was divided to provide a reference where the inboard hingeline starts. A reinforcing layer of CF cloth goes over & under the aileron core before overall cloth is bagged on.**



**Out of the bag with overcap removed to display installed slot.**



**With aileron cut loose, the waxed spacer is removed, leaving a clean, durable slot for the drive shaft to slip into.**