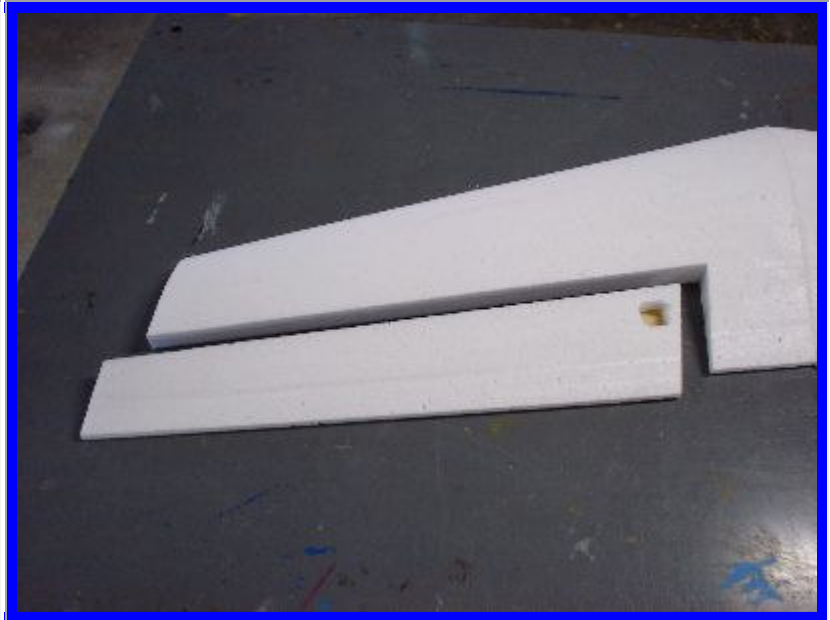# Foamflyer's RC Airplanes
Tape Hinges

Here's how I use tape to hinge control surfaces like ailerons and elevators:

1. I start by cutting the surface out (in this case a single aileron) of the wing. The size of the aileron depends on the type of plane among other factors. Notice the balsa control horn mounting block has already been installed.
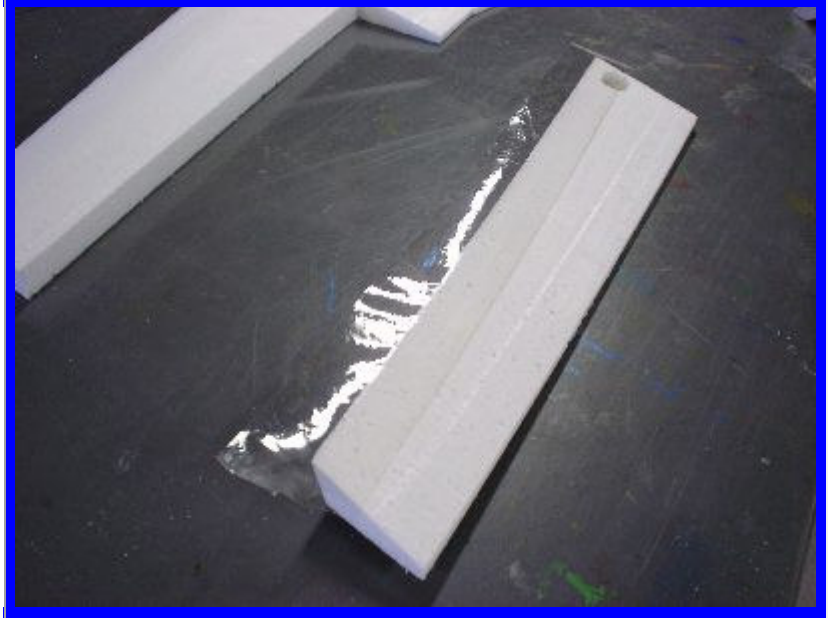

2. Then, using a bandsaw, I bevel the hinge edge of the aileron, usually to about a 30-degree angle. This angle is not critical, anywhere from 30 to 45 degrees works for me.

3. This is the tape I normally use - Scotch Storage tape, 2-inches wide. It has served very well for me. Optionally you can seal it down with a film covering iron I've never had a failure with this tape and process. It seems to take paint well too - Krylon H2O is good, but not as well with acrylic craft paint.
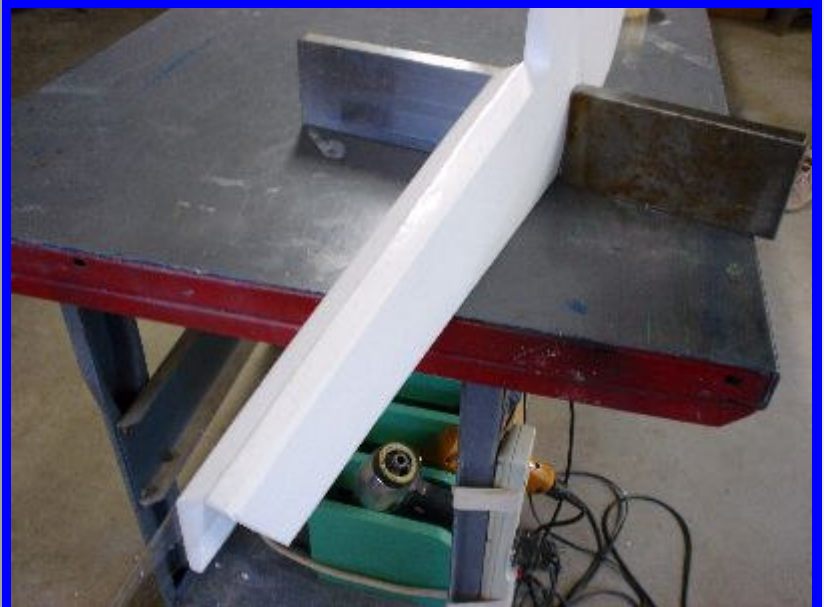

4. Before I apply tape I sand the foam well and remove the dust either with compressed air or a vacuum. Next I cut a piece of tape slightly longer than the aileron, and place it on the aileron halfway hanging over on the hinge edge. Minimize handling of the tape for maximum adhesion. Trim the excess tape.
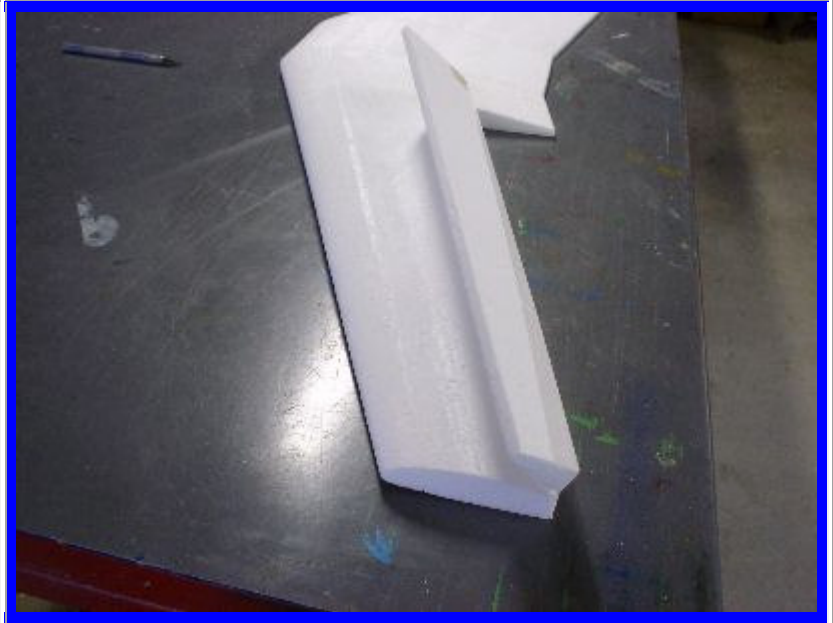
5. Here are the tricky steps - attach the aileron to the wing carefully at it's maximum deflection angle. It's easiest to have the aileron overhanging the edge of a table for this. Touch the sharp edge of the aileron to the top of the wing where it was cut. Allow spacing between the aileron and wing so it will move free and not bind. When correctly in position, run your finger or thumb over the hinge line to start adhering the tape to the wing. Start at the hingeline and work towards the leading edge of the wing. Avoid wrinkles. If you get a small wrinkle you can pull the tape off the foam a little and reseal it. The heat iron will also remove some small wrinkles. Then trim the excess tape.

6. Then I stand the wing up (I use steel blocks to help hold it) and apply tape to the bottom of the hinge line, again half on the aileron and half on the wing. Burnish the tape down and trim the edges.

7. At this point the hinge is done. I have never seen a need for the two tape strips to touch at the hinge, although this works best for others. Notice that the aileron will be somewhat stiff in movement and it will not be in its neutral position. This doesn't matter once the servo and pushrod is in place.