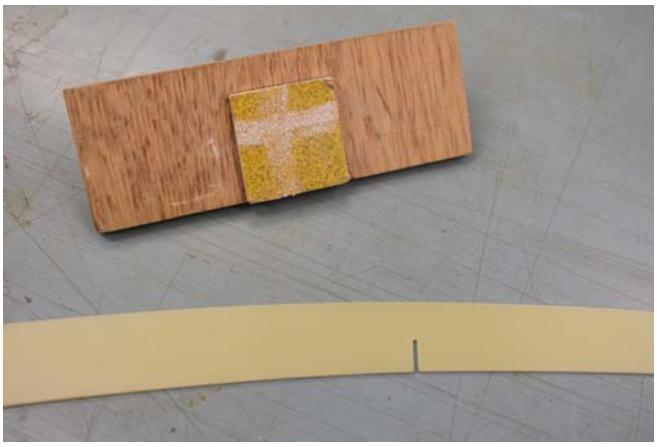
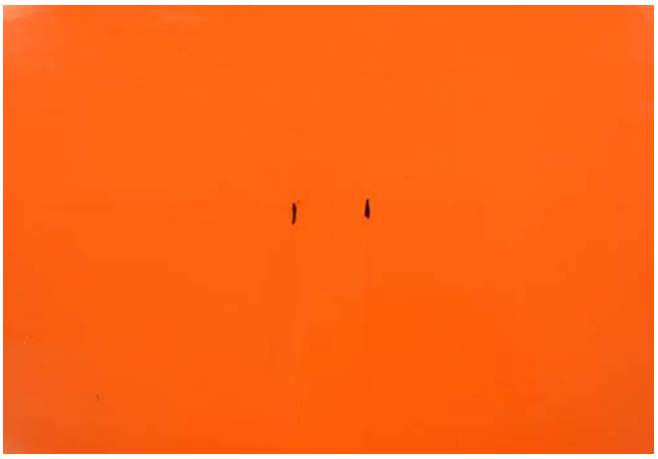
CESSNA 185 STALL FENCE:

LEFT WING SHOWN

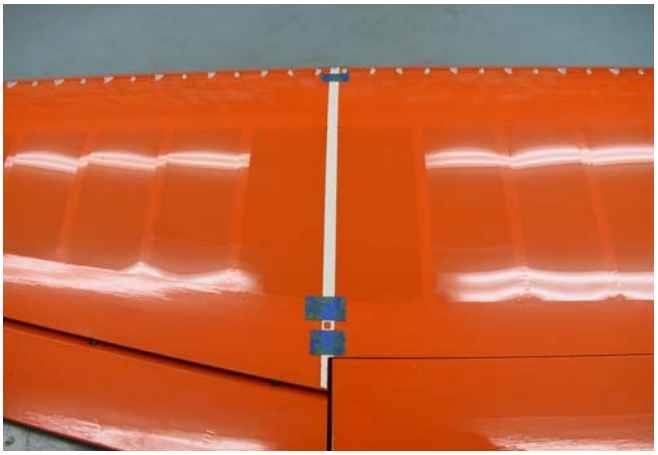
1. Sand the tabs down flush and smooth.

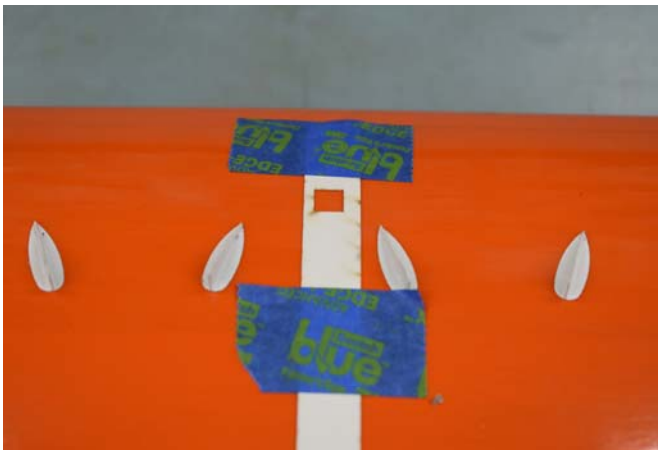


2. At the wing “break“ mark where the ½“ wide cap strips are at the T.E. and towards the spar if your wings are already covered..

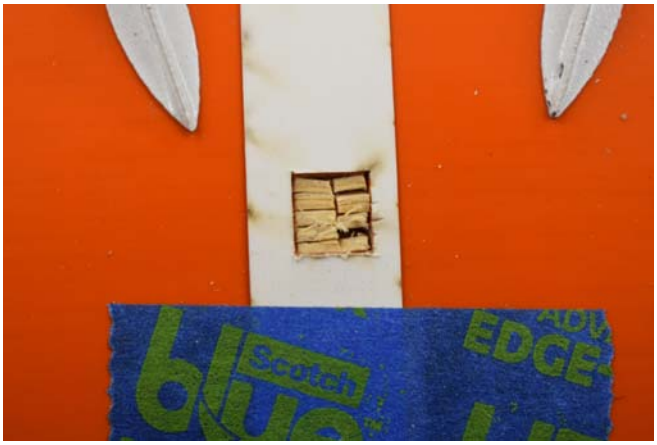


3. Tape the cardboard template to the wing as shown at the T.E. first. Then tape it down at the L.E. Use a light tack painters tape.

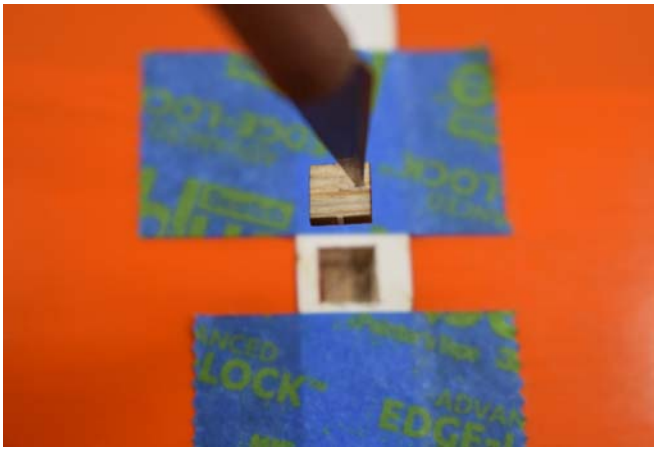


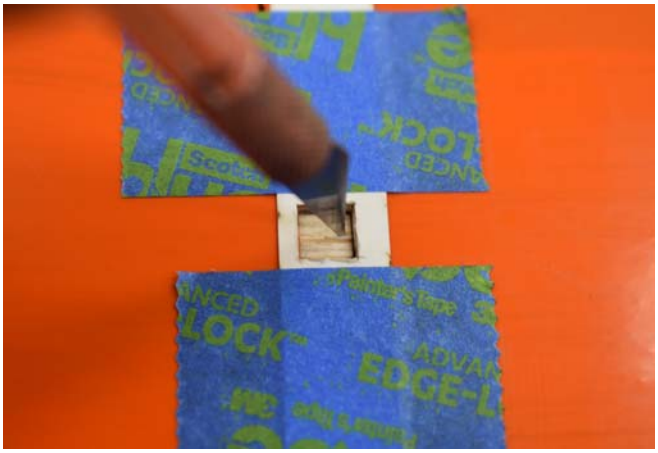


4. Using a new x-acto blade cut the covering material away from the inside square windows and then cut away the balsa wing sheeting to the top of the rib.



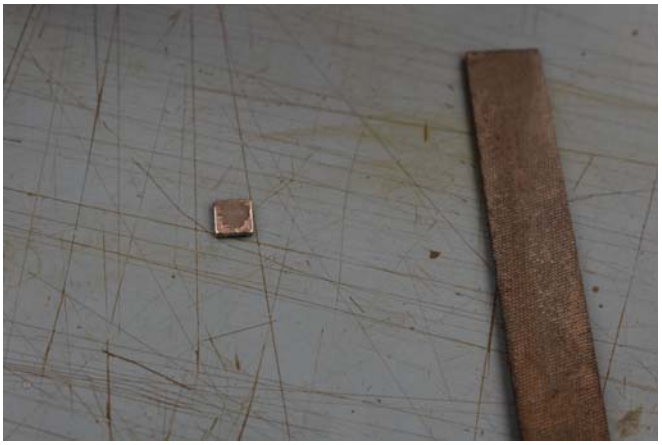
5. Stab a 1/4” square balsa with your knife and check that it inserts easily and fully to the depth of the pocket. If it doesn’t, then trim the pocket to suit (usually at the bottom of the pocket). Remove the 1/4” square balsa.



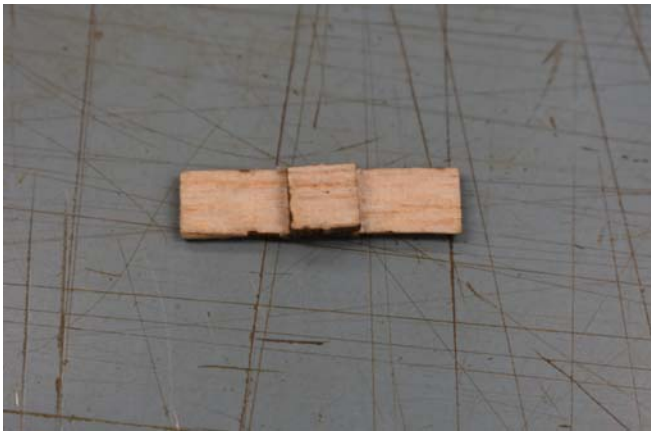


6. Carefully un-tape and remove the template.

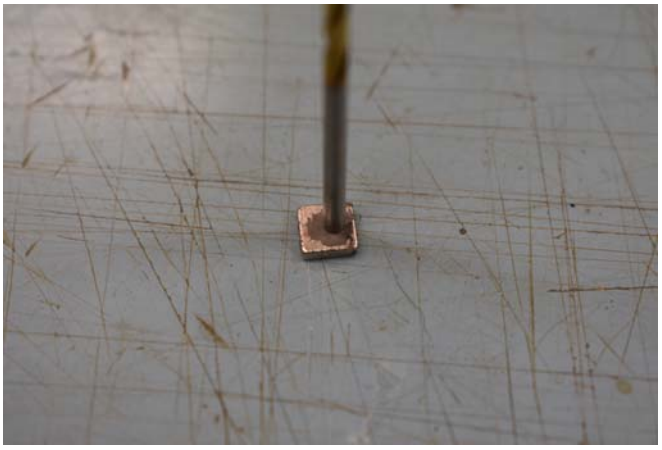
7. Roughen up one side of one magnet with a metal file thoroughly and clean it with acetone.

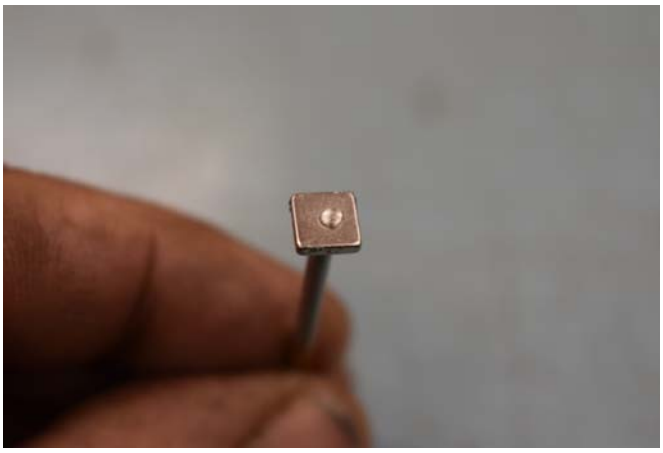


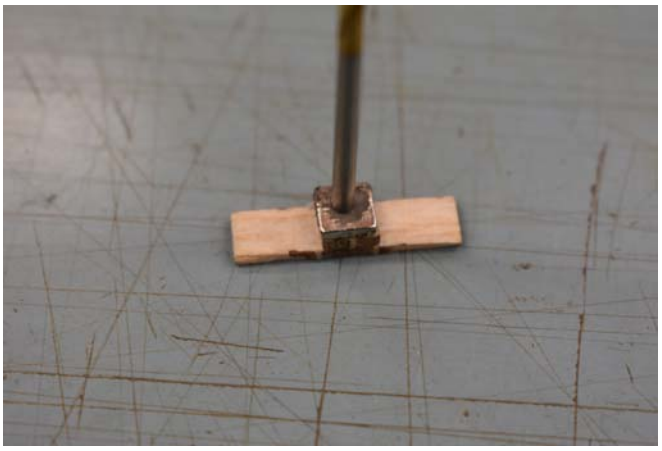
8. Glue the balsa square onto a balsa rectangle as shown.



9. Use the back end of a drill bit and stick it onto the roughened side of the magnet. Then add a tiny drop of medium CA glue to the other side of the magnet (non roughened side) and glue it onto the 1/4” square balsa.

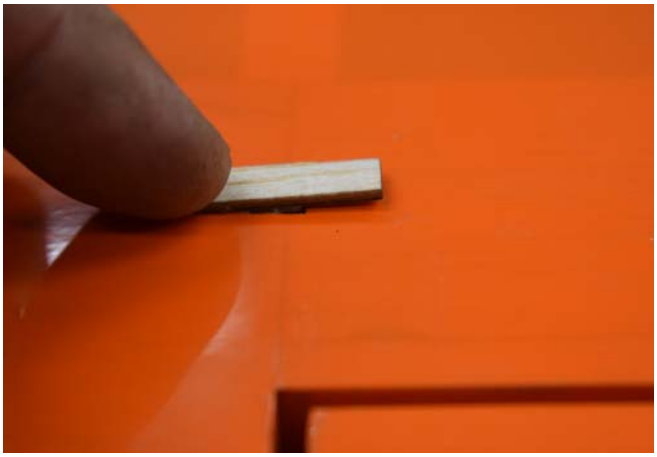






10. Trim any balsa from the square that protrudes past the magnet.

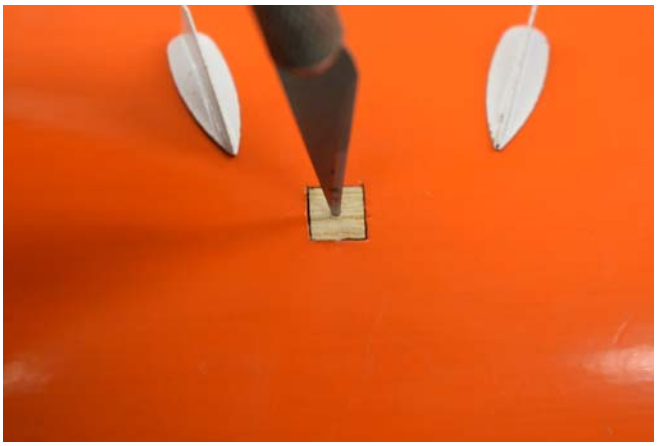
11. Slip the magnet/balsa assembly into the pocket as shown. Check that the pocket is deep enough. If the long balsa doesn't sit flush with the top or rocks left to right then you need to slightly deepen the pocket.



12. Add thick CA glue into the pocket and press in the balsa/magnet assembly. Tape it down and repeat procedure at the L.E.

13. Once the glue has cured remove the balsa assembly by slightly rotating the rectangular balsa back and forth. You will be lucky if it pops out clean. If not then break off the balsa top and cut out the balsa. Scratch off any glue that is on the surface of the magnet.

14. Stab a new 1/4” square balsa with your knife and check that it inserts easily and fully to the top of the magnet. If it doesn’t, then trim the pocket to suit. Remove the 1/4” square balsa.



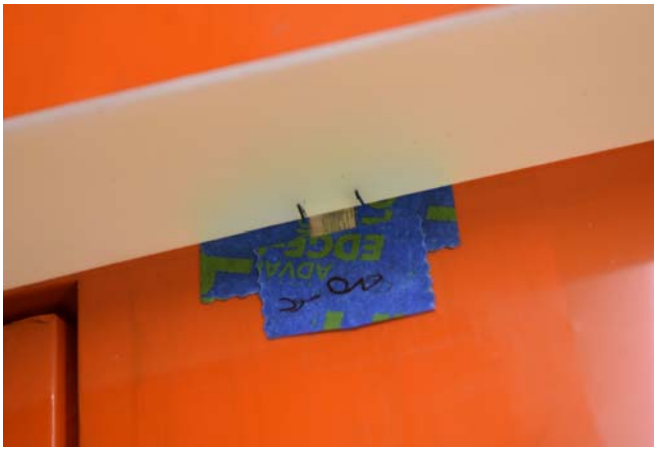
15. Cover the pocket with a piece of tape and drop a magnet onto the tape. The dropped magnet will flip to the correct pole.

16. Roughen the side of the magnet that is facing up toward you with the metal file and clean it with acetone. Remove the tape and place the magnet into the pocket. Repeat procedure for the opposite end.

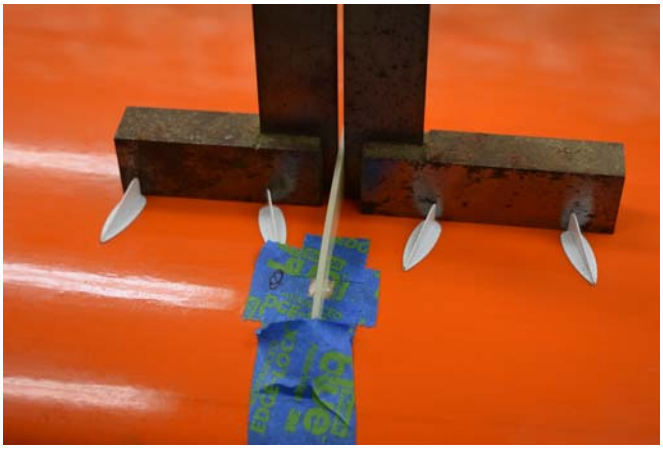
17. Use four pieces of tape to just cover the magnet. The tape is about 1/32” onto the magnet so glue cant work into the seam of the pocket opening.

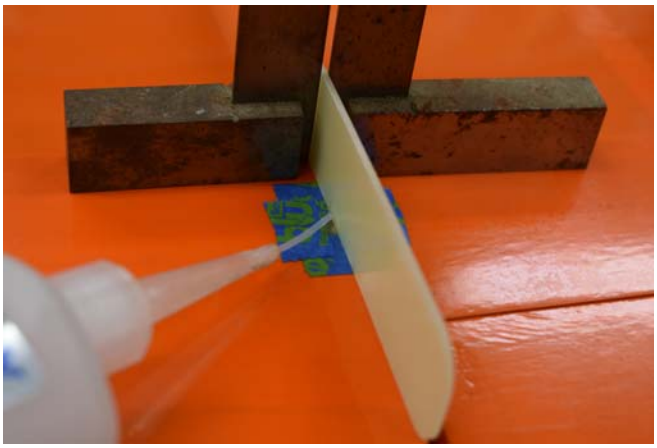
18. Position the stall fence onto the wing centered on the magnets. Make sure the leading edge of the stall fence is touching the leading edge of the wing sheeting. Don’t worry if there are small gaps under the stall fence. Tape the stall fence to hold it into position.

19. Mark the location of the magnets on both sides and roughen up the G-10 and wipe clean with acetone.

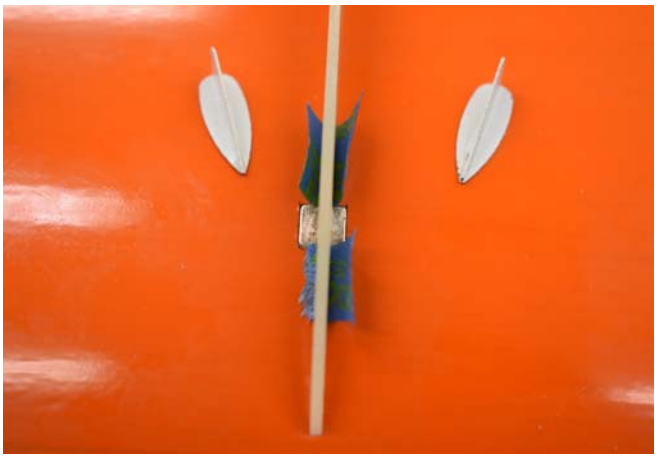


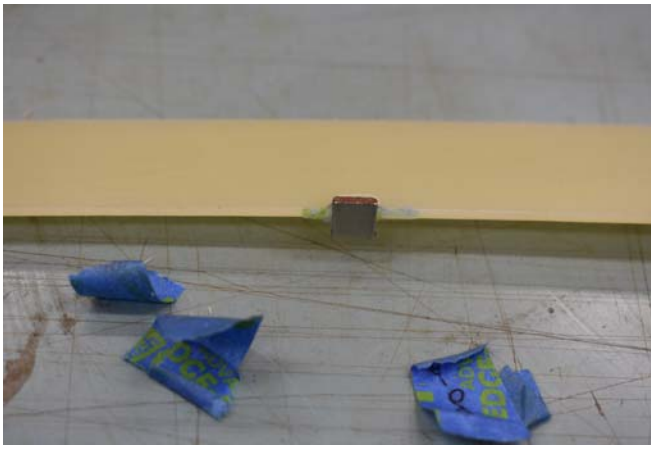
20. Position the stall fence centered over the magnets and leading edge touching the sheeting. Note the use of the machinist squares to keep the stall fence perpendicular to the wing. Using thick CA glue or a good quality epoxy glue (Hysol 9462, BVM Aeropoxy or toughened G-Flex from West Marine etc.) add a nice size fillet of glue to both sides. If using CA glue be sparingly on the accelerator spray.

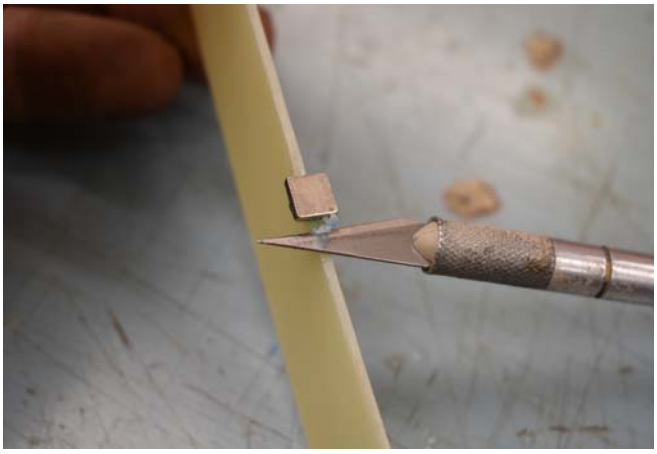




21. Carefully peel away the tape from the sides and peel up the tape that crosses under the stall fence and gently pull up at both ends to remove the stall fence. Remove any excess glue and tape.

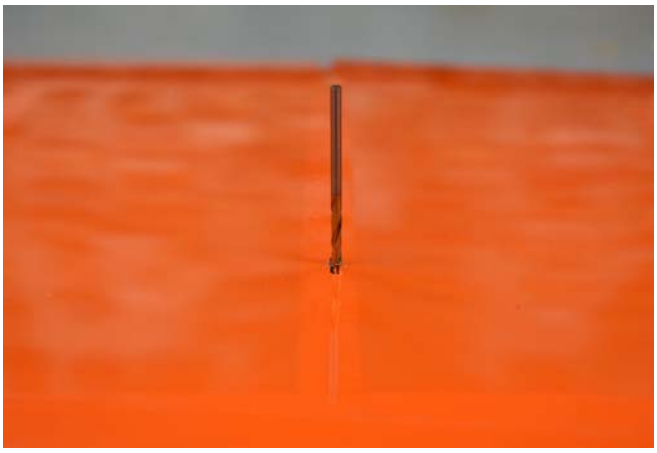






22. Reinstall the fence and make sure it is straight (I.e. not curved or bowed) and use a fine tip marker to accurately mark the slot onto the wing.

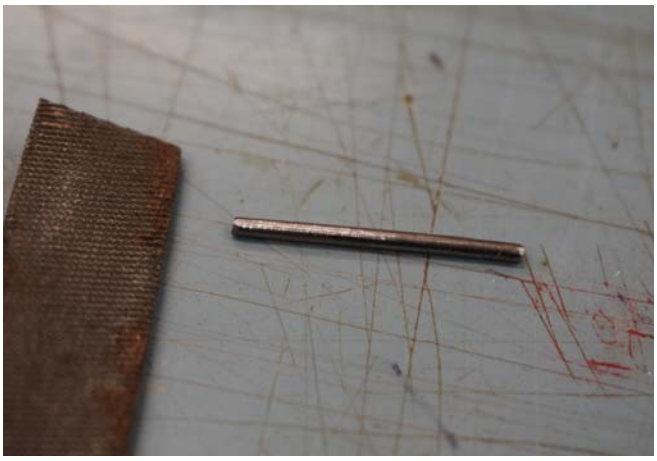
23. Install a #41 or 3/32” diameter drill bit in your drill. Bow the fence slightly out of the way and drill a hole parallel with the slot and perpendicular with the wings surface. Drill to a depth of 3/4” minimum.



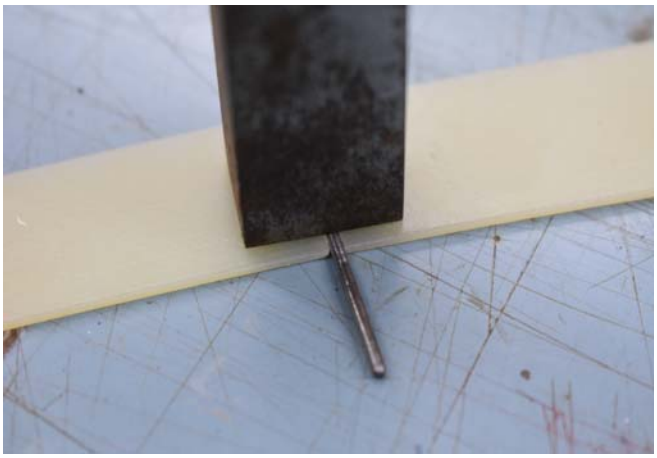
24. Sharpen the inside circumference of the aluminum tube with an x-acto knife and press into the 1/16” thick balsa by rotating the tube back and forth. Add a small blob of CA glue to secure the balsa plug into the tube.

25. Now cut the aluminum tube with the plug at one end to a length of 3/4” long. Use your x-acto knife and roll it back and forth on your table to cut it. De-burr the open end and roughen the tube.

26. Cut music wire to 1” long, chamfer both ends and roughen the one end that will get glued into the slot.



27. Press the wire into the slot flush and add CA glue to both sides.



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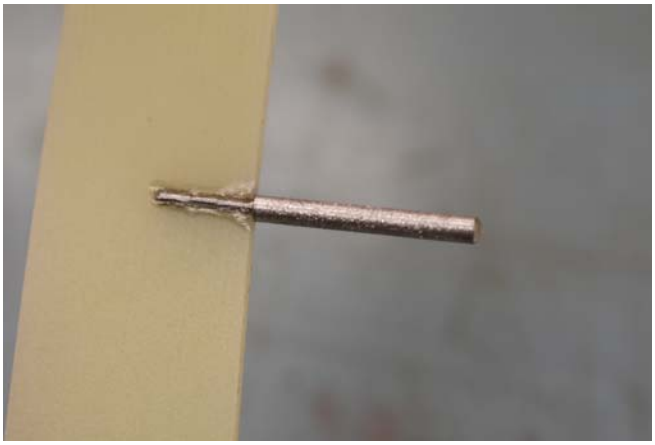
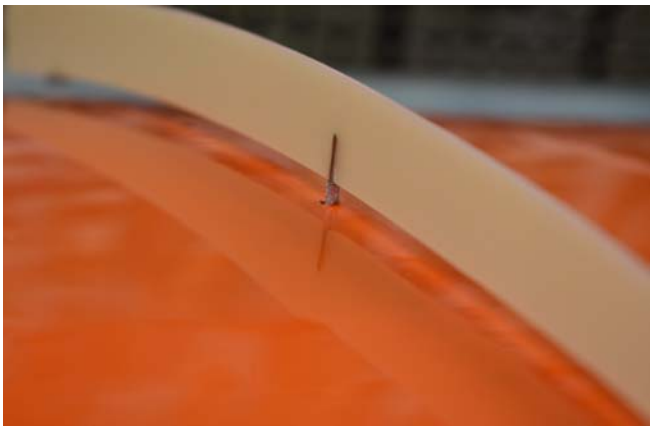
28. Slip on the aluminum tube to check that it bottoms out to the bottom of the stall fence. If there is a gap then shorten the music wire..



29. Do a dry test fit with the aluminum tube on the music wire to see if the alignment is good. **DO NOT** press the fence all the way on or let the magnets grab the fence because you might not be able to remove the aluminum tube. Make sure the tube doesn't fall into the hole either. Best is to add a couple of scrap pieces of 1/8" thick sticks under the fence. If the alignment is off, then enlarge the hole slightly to suit. Remove fence and aluminum tube when satisfied.

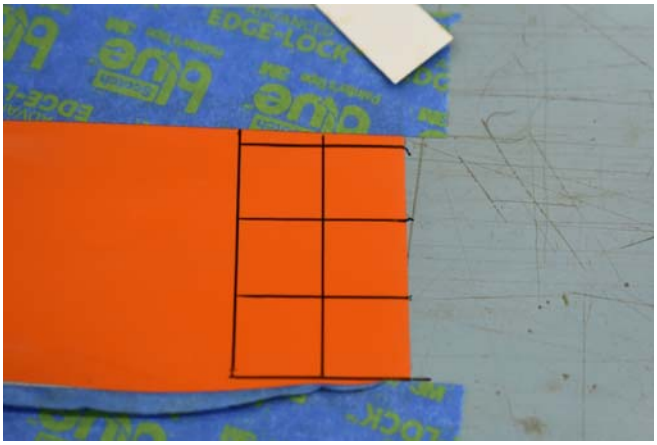


30. Add thick CA glue or epoxy into the hole and reinstall the fence and tube fully. Note again the use of the machinist squares near the pin and tube location.

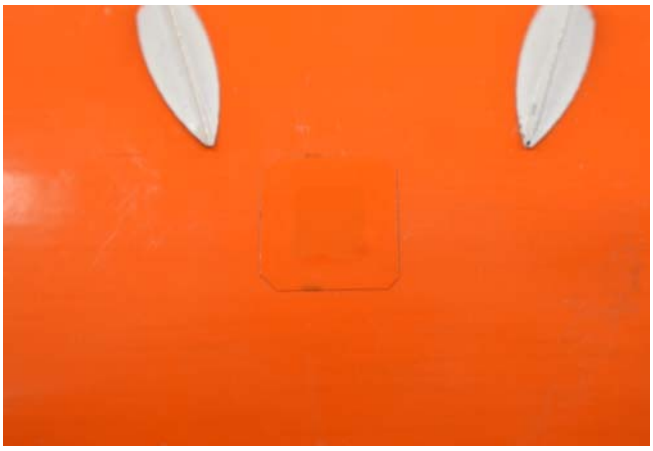
31. Once the glue has cured remove the stall fence. If the aluminum tube protrudes above the surface then add a piece of tape over the tube and sand through the tape so the tube is sanded flush with the surrounding tape.

32. Repeat procedure for the right wing stall fence. With a fine tip marker label the bottom of the magnets L or R for the left and right stall fence.

33. Cut six 1/2” squares of your covering material and trim the corners slightly. Use the template, it is 1/2” wide.

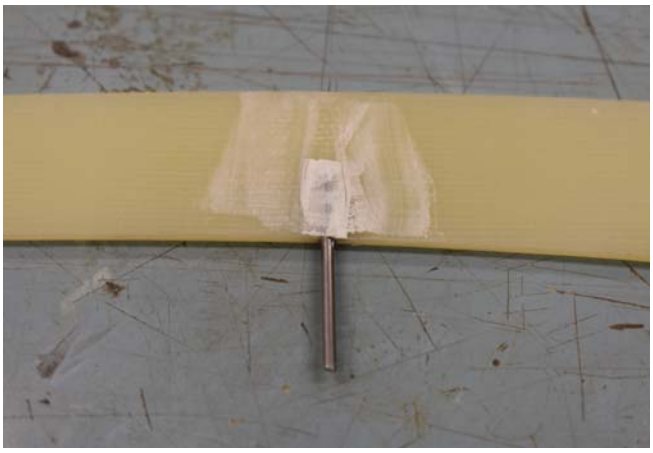


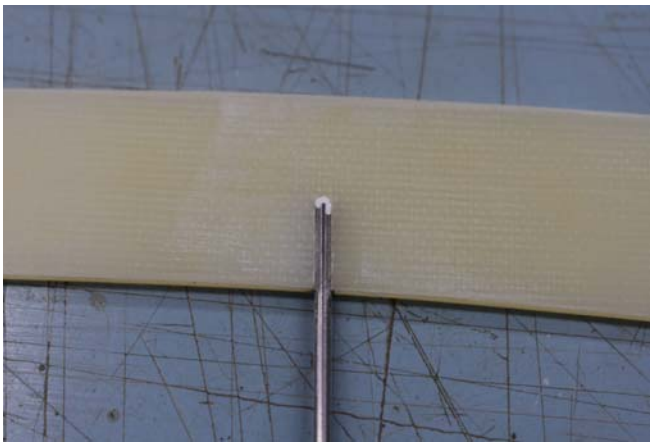
34. Using a trim iron, iron on the square covering over the square pockets. I used the template to eyeball and mark the edges so they are centered over the pocket opening. Cut an X and iron down over the edges. Trim the little covering triangles off the magnets.



35. Finally iron on a square covering onto the cap strip and heat up a 1/16” rod to melt the hole through the tube.

36. Sand excess CA glue from the pin area by using fine sandpaper on a small block of wood. Then fill any voids if needed with body filler or equivalent. I like using Icing.





37. For cosmetic reasons, I also added some filler to the glue fillets.

38. I drilled a hole into the ends of a wood dowel for priming and painting purposes.

39. Stall fence installed and ready to go.