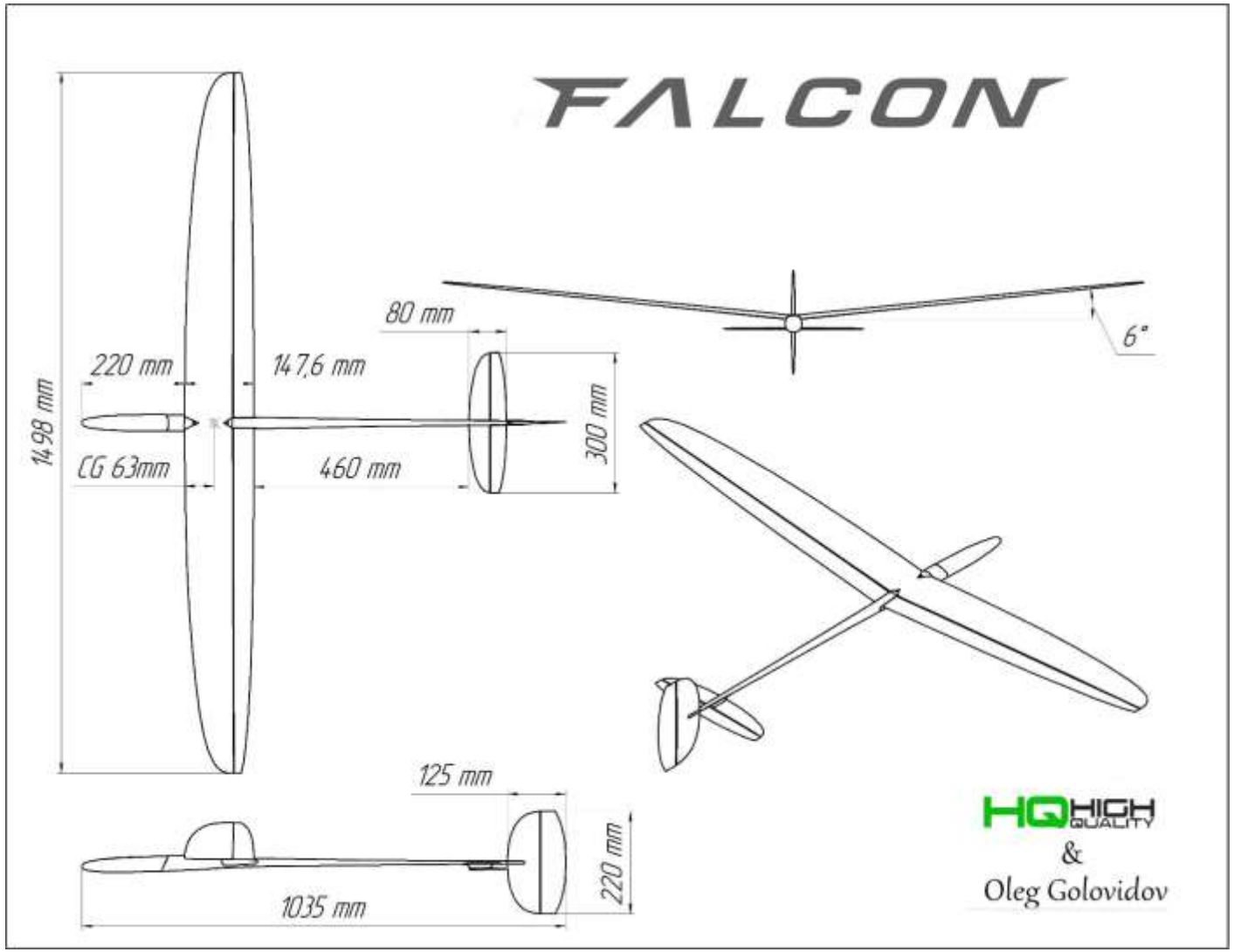
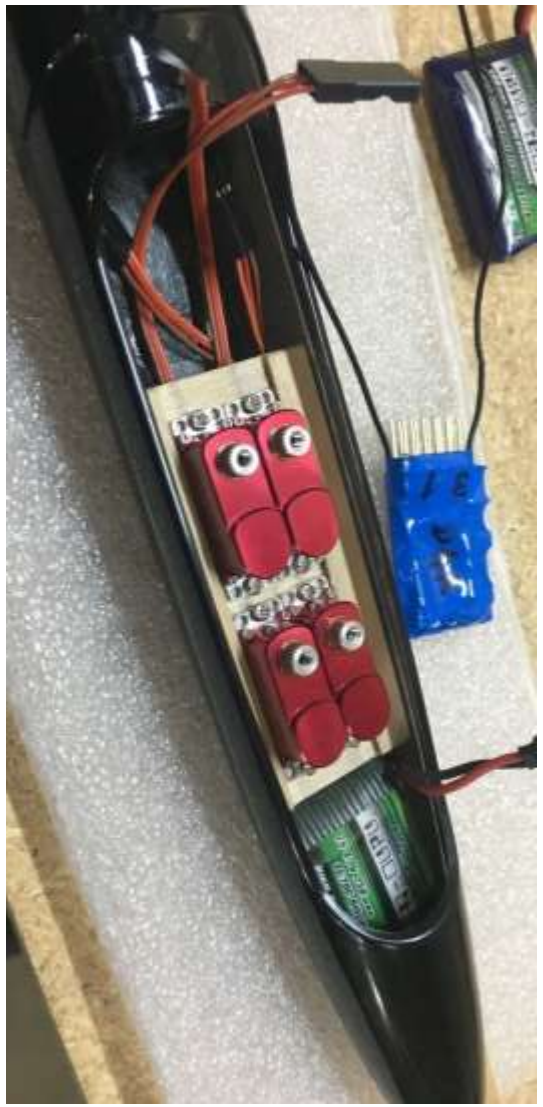
Assembly Guide



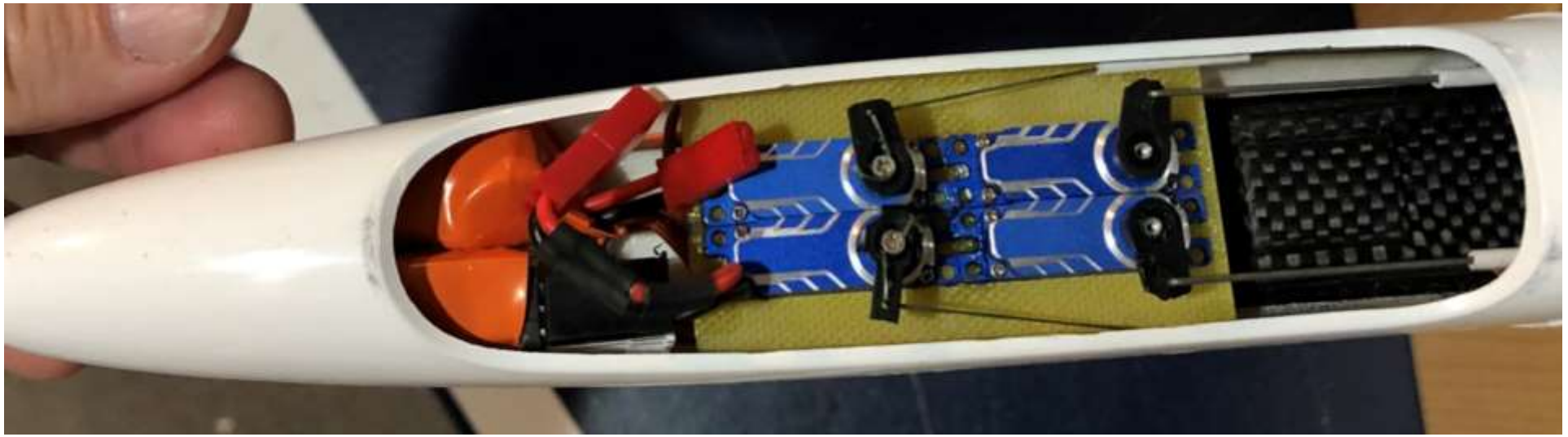
1) Prepare electronics
    a. Make battery harness/connector to Rx. Do not plug battery lead directly into Rx.
    b. Program radio and bind receiver. Refer to ‘Initial Programming of a DLG” thread.
    c. Center the servos
    d. Prepare servo horns
2) Prepare factory servo tray
    a) Sand/scuff edges for better adhesion. Sand/scuff inside of fuse where tray will attach.
    b) Mount servos in tray





3) Test fit battery / Rx / servo tray to determine fore/aft position of servo tray.

a) Use the seam in the fuse wall as a visual reference for tray alignment.
b) Check for clearance of servo horns with nose cone
c) Ensure battery and Rx are removable



4) Glue servo tray in place with CA or Epoxy.

At this point servos and servo tray are firmly installed, battery and Rx are removable.

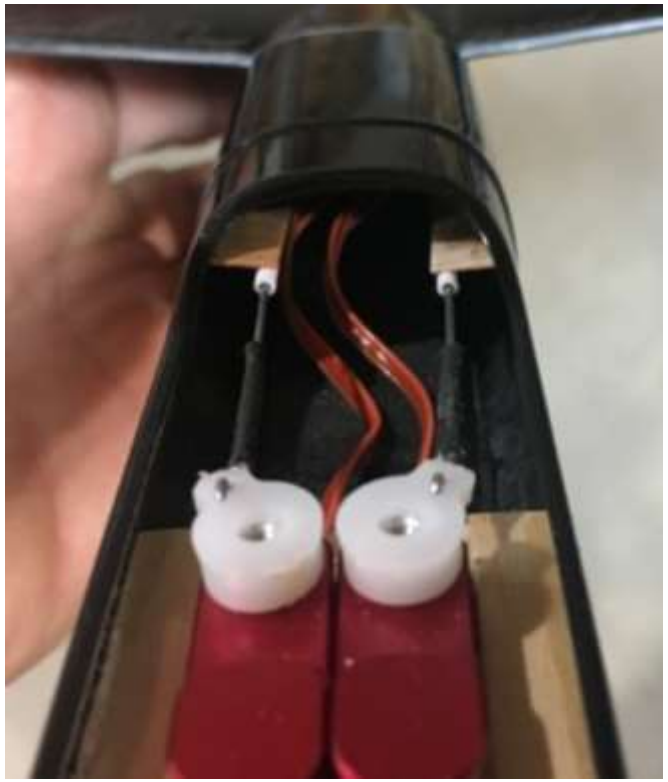
5) Prep aileron guide tubes. The guide tubes should have some support to the fuse wall to ensure aileron linkage is firm. Cut the aft portion of the tubes slightly longer than necessary for ease of handling.

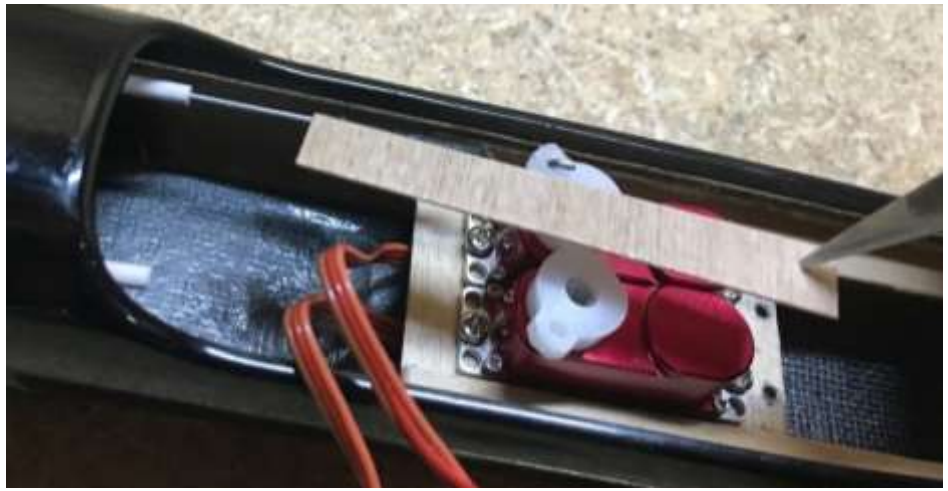
6) Make guide tube exit holes in fuse. For reference, the exit hole is usually positioned right above the seam in the fuse wall (bottom of hole touches top of seam) and as far out-board as possible.

a) Use a hobby knife to start the hole and finish with a small round file. Angle the file close to the fuse wall to keep the exit hole aligned with the fuse. This will keep the pushrod path straight.

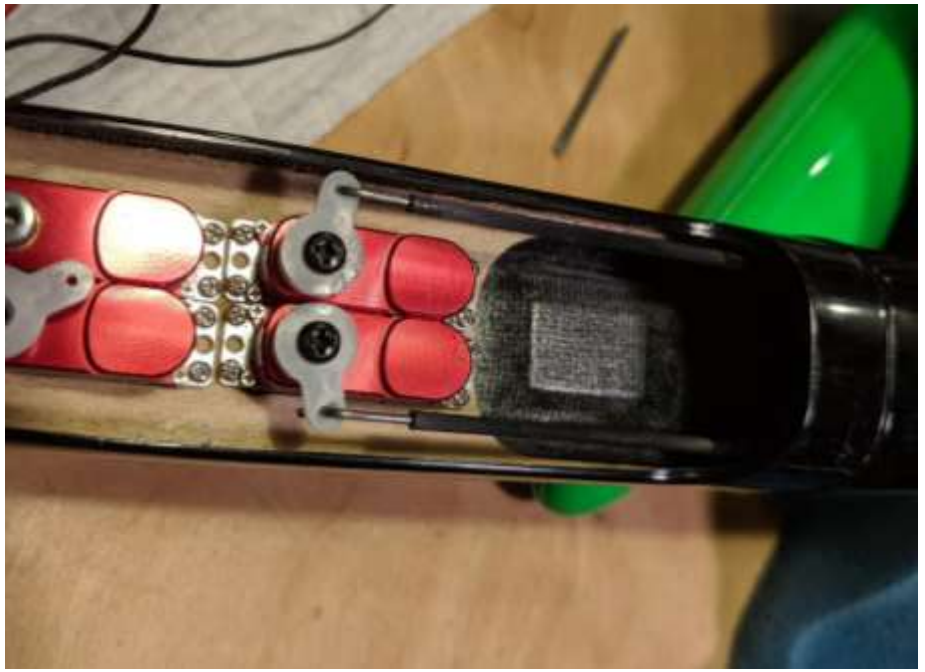
7) Install guide tubes.
   a) Use pushrod material attached to the servo horn for alignment and support.
   b) Glue with CA or Epoxy

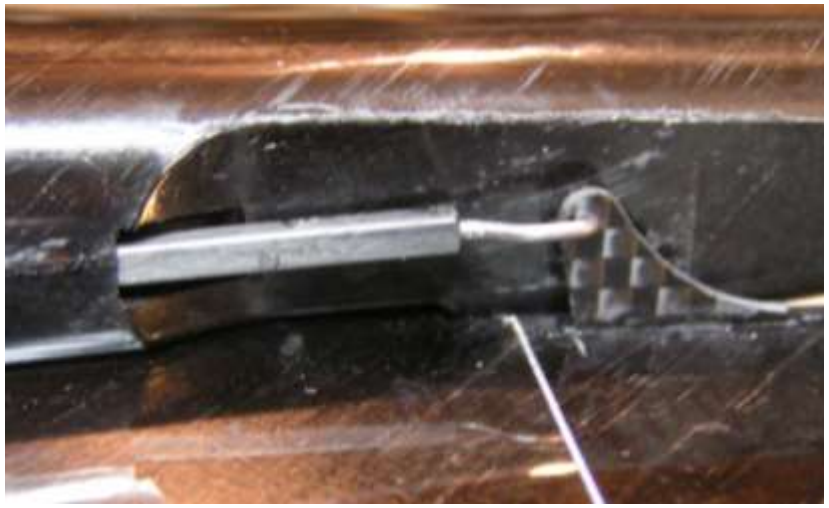
8) Insert aileron pushrod wire in both servos/guide tubes with a couple of inches sticking out of the exits. This will help with alignment/position of aileron horns.





** Floating pushrod installation is also possible.

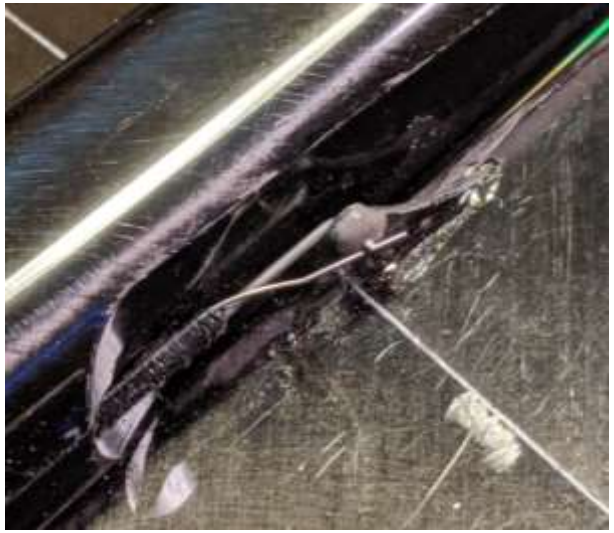




9) Make slots for aileron horns. Consider if you will make outward or inward linkage bends. This may have some affect on horn inset amount.

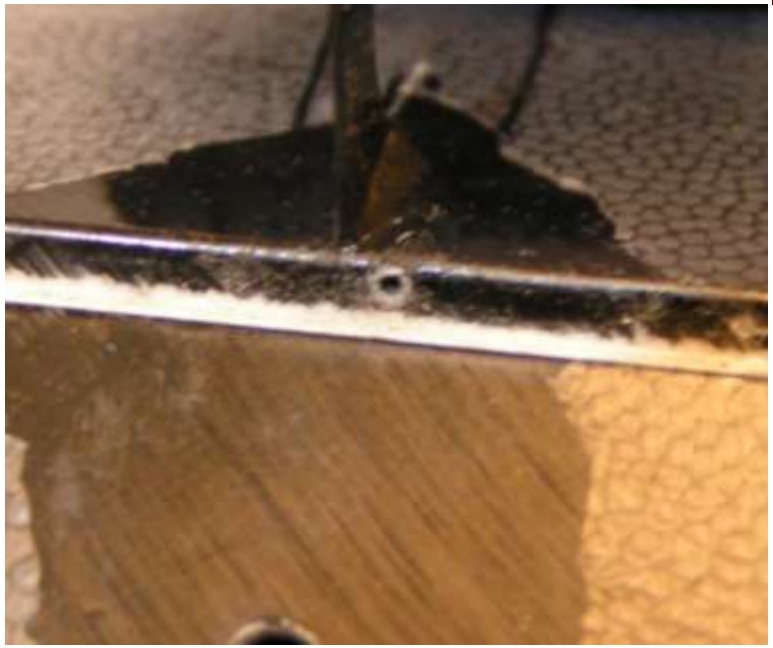
a) Horns should be placed 2-4mm from hinge line and 1-3mm inset from edge.
b) Start slots with a knife or diamond cutting wheel and finish with a diamond file.
c) Test fit the wing on the fuse to see how the pushrods align with the horns.
d) Horns can be angled slightly in either direction according to the pushrod wire location.
e) Important – maximum symmetry of aileron horn location/angle is required.

10) Glue aileron horns with thin CA or Epoxy.
    a) Double check alignment/symmetry of horns before gluing.



11) Put horns and springs in H and V stabs. Use a piece of masking tape over the hinge gap to keep them flat (or install springs later).

a) Mark elevator horn location by sighting a line through the mounting holes and extend out to the elevator. Horn should mount 1 – 2mm back from hinge.
b) Mark rudder horn location by sighting a line down the center of the fuse and extending back to rudder. Holes in horn should rest directly over hinge when rudder is at neutral position to provide symmetrical movement.
c) Install springs with aft leg as close as possible to horn location. Seal in place with a small drop of CA at each entry point. Or use tubing inserts for the spring ends.



12) Attach H-stab and fit rudder noting where the front edge of the rudder is located.

a) Remove rudder, sand boom where rudder attaches.

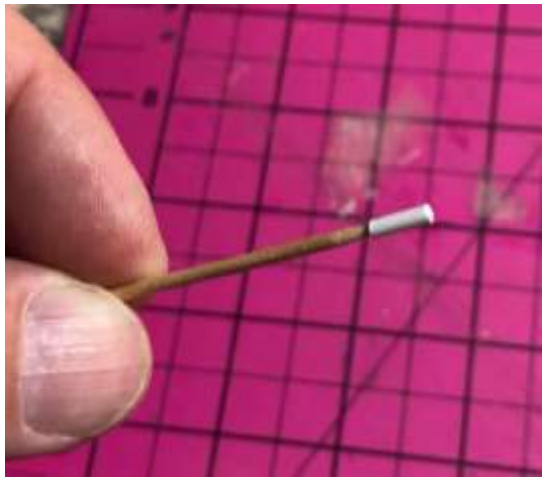
13) Install wing on fuse, invert on a large flat table (both wing tips touching table) and use this as reference for aligning the vertical stab.

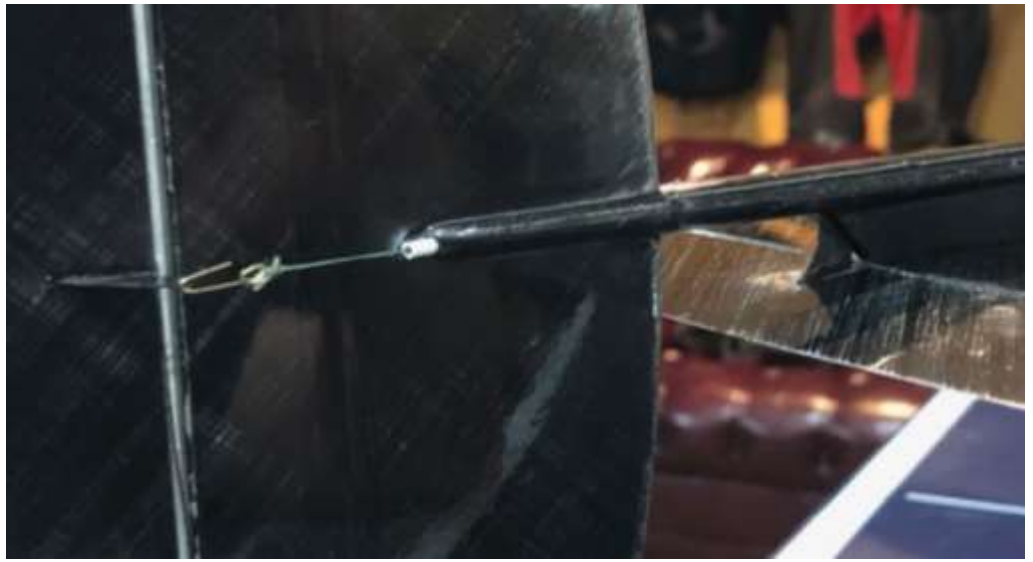
a) Use a square on the table against the flat side of the vstab at the hinge line for vertical alignment.
b) While wing and H-stab are installed, sight down fuse and check for alignment of H-stab and Wing.
c) If there is any misalignment, gently sand the ‘high side’ of the stab mount and re-check.

14) Install rudder with Epoxy or thin CA - keep wicking it in at the edge, it will take a few drops.

15) Add guide tube stub for rudder string.

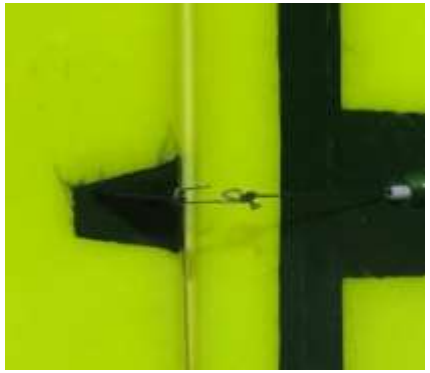
a) Use a knife to start the hole, round file to finish and angle.
b) Use ~1cm of the white tubing.
c) Stick the tubing on a toothpick to hold steady during install.
d) Glue with thin CA.





16) Install pull line for the rudder. Feed pull string down fuse through rudder tube stub.
    a) Fab a small wire hook to attach pull string to rudder horn. Or crimp in place with a loop.

17) Attach pull string to servo horn.
    a) Install guide tube to keep pull strings to the fuse sides (optional)
18) Install elevator pull string.
    a) Create a loop in one end of the pull string for attaching to elevator horn.
    b) Feed pull string down fuse Pro tip: use a guide tube to feed pull strings through fuse to avoid snags or twists.
    c) Repeat servo horn connection with guide tube.



19) Complete aileron pushrods.

a) Determine if you want 1 piece or 2 piece pushrods.
b) 1 piece requires bending accuracy, but is tidier and has no failure point
c) 2 piece is easier to get perfect symmetry/alignment
d) Determine if you will have inward or outward bends at the aileron horn

*Ensure final bend marks or connections are completed with servos and radio powered on, setup for speed mode, servo horns are symmetrical and angled towards the back of the fuse (15-35 degrees, depending on servo horn length), and wing is positioned with ailerons in speed mode (flat bottom surface near wing root).

20) Install T peg

a) Mark location for cutout.
b) Peg location should be 6-9mm in front of hinge line
c) Cutout is approx. 12mm wide, and 15mm deep on the back edge.
d) Cut with diamond wheel or razor saw.
e) Use flat diamond file to clear foam. Clear only enough foam to accommodate the carbon tongue.
f) Prep T-peg. Sand for fit/size if desired. Make a few notches for epoxy holding power.
g) Glue with 30min epoxy. Compress under a towel with several pounds of weight while epoxy hardens.

21) Balance with CG of 60-63mm.

a) If weight is needed in the nose, balance with modelling clay pressed onto tip of nosecone to determine correct weight to add for desired CG.
b) Weigh modelling clay and form a lead fishing weight into a ball of the correct weight. Cover lead ball with electrical tape and place in the tip of the nose.

22) Set initial throws for ailerons, flaps, elevator and rudder.

a) Speed mode – flat wing bottom
b) Cruise mode – 1-2mm down from Speed
c) Thermal mode – 4-5mm down from Speed
d) Snap Flaps – add 2-3mm Camber in Cruise/Thermal at maximum up elevator deflection.
e) Snap Flaps – add 2-3mm Reflex in Speed mode at maximum down elevator
f) Rudder - 12-15mm, ensure movement/throws are symmetrical
g) Elevator – 1mm from boom in upward direction, as much as possible in downward direction (for quick pushover at top of launch)
h) Landing flaps – 30mm. Be sure to setup Flap->Elev mix on a multi-point curve if possible.