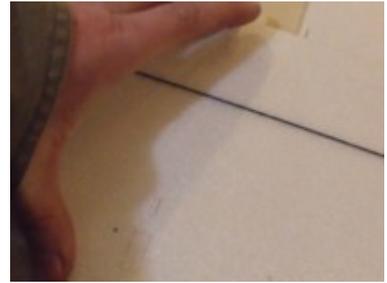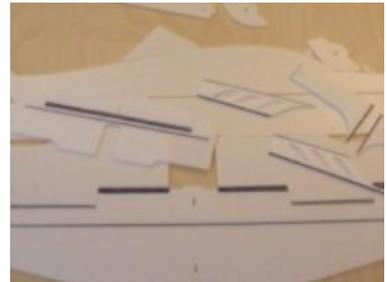## 1) Color Plane
Common methods include markers, spray paint(foam safe, test first), and ink (solvent based, test first)

2) Insert Spars
Cut spars to length, use the 3mm flat strips. Slide the spar through spar slot to insure fitment before applying glue. Glue carbon spars into wing and elevator. Hold foam against spar while glue sets.

3) Seperate Panels
Some plane kits require seperation of control surfaces, wheel pants, etc. Also most kits will have tabs needing removed, these items are left to make parts stronger during shipping and handeling. Leave as many tabs attached as possible during coloring.

4) Bevel Panels
Indoor planes will typically have only underside of panels beveled on the ailerons and elevator. The rudder can be beveled either on one side or both.
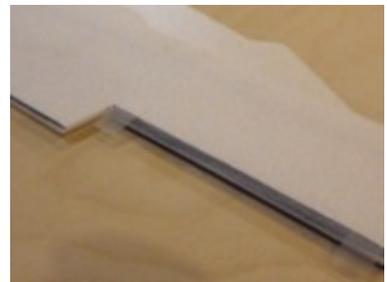
5) Hinge Controls

Hinge ailerons and elevator, lay panels flat on table, beveled side down, butted agains ajoining panels. Tape across entire hinge, flip and tape in only a few places with about a one inch strip perpinticular to hinge. After hinging slip a knife blade between panels where dragging against each other.

6) Assy Horizontials
Flat on a table glue the horizontial panels to each other. Take care to orientate hinges the same if single bevel hinges are used.
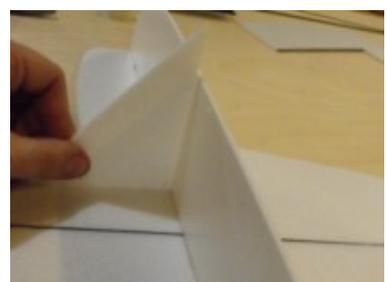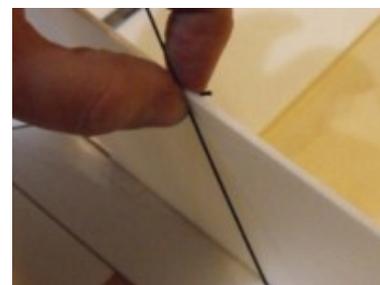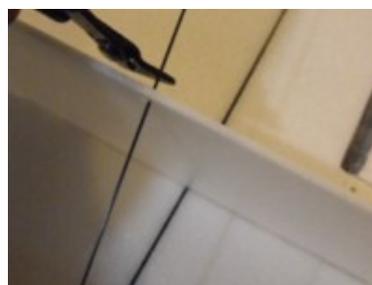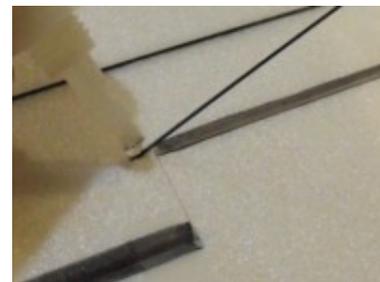
7) Attach Lower Fuse

If single bevel hinges are used place teh beveled side up to expose the bottom of the horizontial panels. Test fit the lower fuse before adding glue. Check for 90° using square, glue while checking for square periotically.
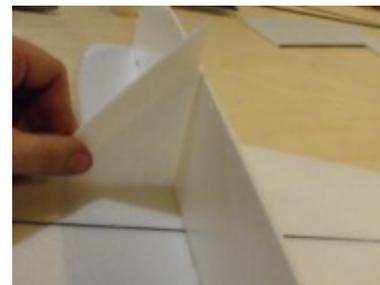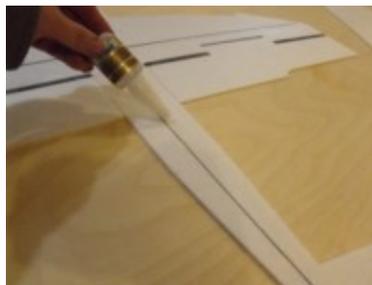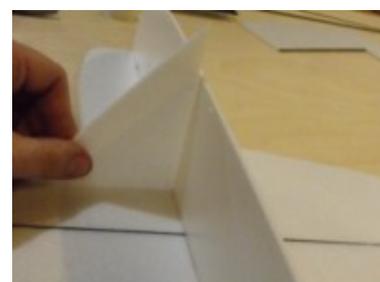
8) Add 1mm Struts

Slide struts into position and cut, leaving a small amount longer than needed. At shallow angles (on wings) press the carbon into the wing to keep it from bowing. At intersection where carbon crosses throught fuse pinch the carbon to remove bowing. Glue ends at horizontial panels only. When all lower struts are in place check square and glue at lower fuse. Keep checking square while gluing at each intersection. After gluing trim struts for appearance.

9) Install Gear Legs
Cut gear legs (3mm flat carbon) to 9" long. Cross through the lower fuse into the wing, glue at wing only. Check square and glue at lower fuse.

10) Attach Upper Fuse
Test fit upper fuse to plane, check square, and glue.

11) Add 1mm Strut to Vertical Stab Install Rudder

Pass 1mm strut through vertical stab cut leaving length to trim later. Glue at horizontial, check square, and glue at vertical stab. Tape one side of rudder hinge on flat surface. Touch the hinge points together and then fold tape around to complete hinge. Fold rudder over tape and tape aposing side of hinge.
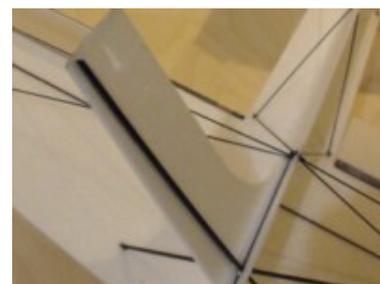
12) Install Foam Gear Leg/Pant

Test fit foam gear leg to fuse, glue at fuse then glue foam to carbon leg. Test fit wheel pant to brace and leg,

then glue. Make sure to keep the leg panel parallel to wing when gluing ot fuse. When test fitting wheel pant check that it is vertical, trim if needed. A 1mm strut can be added between the wheel pant and wing for added strength. Glue to the carbon gear leg and the wing spar, resting on the wheel pant.

Insert carbon into tail for skid
13) Attach motor Mount Tubes
Align motor mount and transfer hole locations with a marker. Mark fuse to cut slots for motor mount tubes. Glue tubes to fuse using epoxy or low temp hot glue.

14) Glue Fuse Nose Bracing
Test fit to underside of fuse, longer end goes up, mounts flush to front of fuse. Beveling the nose braces will incease bonding area (optional).

15) Secure Control Horns
Glue in control horns, use a left over piece of 1mm carbon, or a tooth pick to apply glue. Do not glue over holes!!!

16) Put in Electronics
Mount motor, ESC, RX, servos, leaving servo horns off until affter powering up. Be sure no trims or mixing are active during setup. Leave servo horns screws out far enough to slip pull-pull under the head of screw. The aileron servo goes in sideways and then rotates int position.
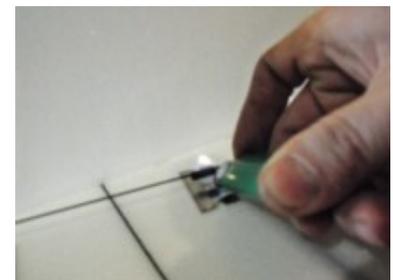
17) Install Control Rods Pull-Pull Line
Build control rods using 1mm carbon for ailerons, making z-bends, and attaching with self adhearing shrink wrap. Taping the ailerons into place can make the job easier. Heat wrap out of plane for first z-bend, attaching

this to the servo. Lay metal under the second joint while heating to protect the foam. A razor, thin saw, or even foil works well. Stainless steel is a better choice than steel or aluminum. Install pull-pull line by routing through hole in the following order:
pinch hole

control horn hole
servo horn hole

around servo screw
servo horn hole
control horn

pinch hole horn

Pull line at pinch hole to tension and lock into place, do the same at both ends. Once a slight tension is acheaved, power up system again. With the servos centered, center the control surfaces, then tighten the servo horn screw anough to keep hte line from slipping.

18) Install Battery / Set CG
Find appropriate placement for battery mounting that meets CG requirements. CG to be set ¼" in front of wing spar.

19) Install Prop, Do Preflight Checks
Check motor spinning direction, check CG, check servo for reversed throw. Weigh the plane, take a picture, charge up your batteries, BE SAFE!!! HAVE FUN!!!

Thanks,
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