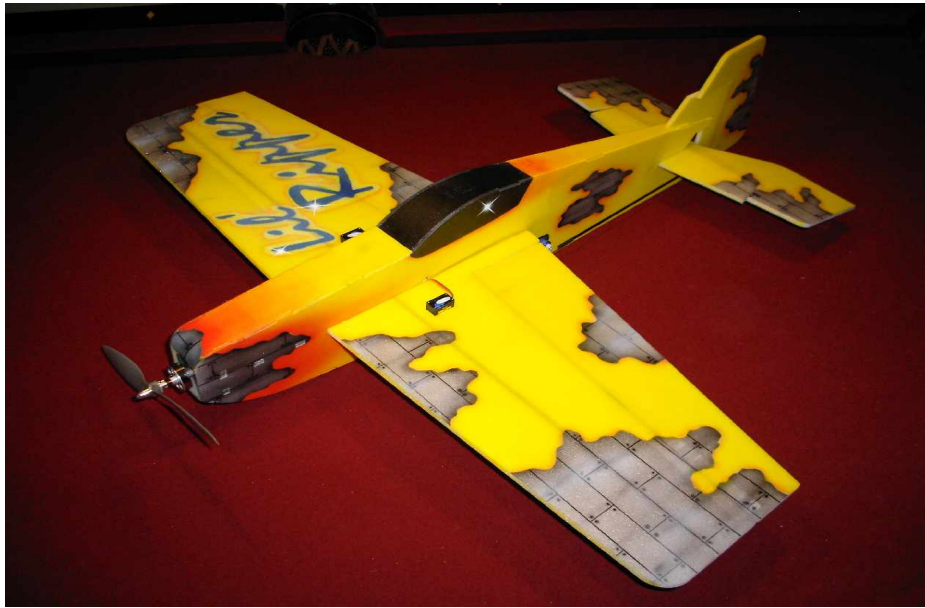


Lil' Ripper

Designed by: Shaun Frank

www.3DMONDESIGNS.com



Specs:

Wingspan: 31"

Length: 31.5"

Flying Weight: 10-11 oz's

(The Lil' Ripper flies best when kept light, but performs good with heavier setups in the 13-14 oz range as well)

CG: Located on the carbon wing spar, but can be moved as far back as the middle part of the wing servos for better 3D performance

Recommended throws: 25 deg's low rates, 45 deg's high rates

60-70% of exponential is suggested when in high rates.

Recommended Power Setup:

Motor: 24g 1300-1500kv "Blue wonder"

Speed control: 15 amp

Prop: 9x4.7 APC Slowfly

Battery: 3s 500-800mah 20c lipo

Servos: Hitec HS-55 or similar

Items needed:

Carbon tubing:

- 1- .120" x 5" (elevator)
- 1- .120 x 9" (elevator control rod)
- 1-.120 x 11" (rudder control rod)
- 1- .210" x 29.5" (wing)

1/32" music wire (control rod ends)

Glue (Foam safe CA + activator and/or hot glue)

Hinge tape (I use cheap thin packing tape and it works very well)

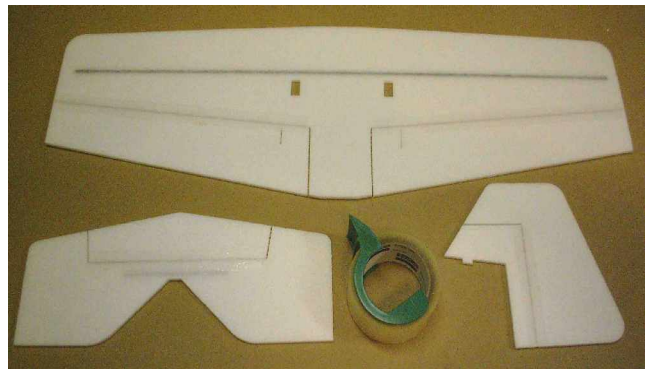
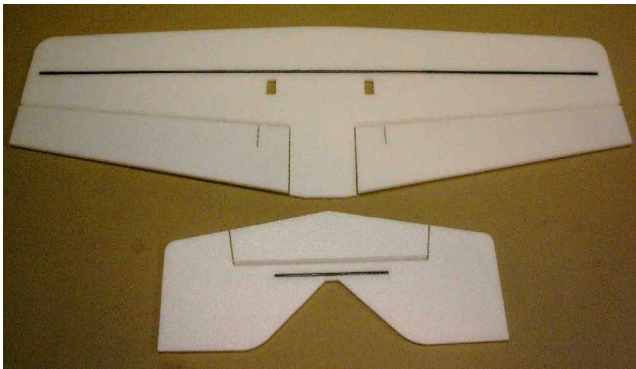
1/32" drill bit (For the motor mount and control horns)

Razor knife

Build instructions

Glue the carbon tubes in the wing and elevator locations.

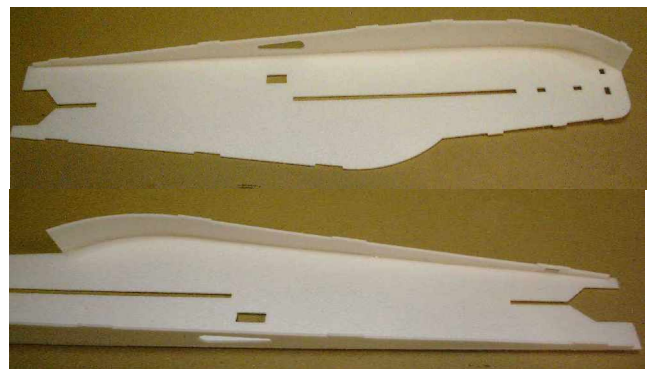
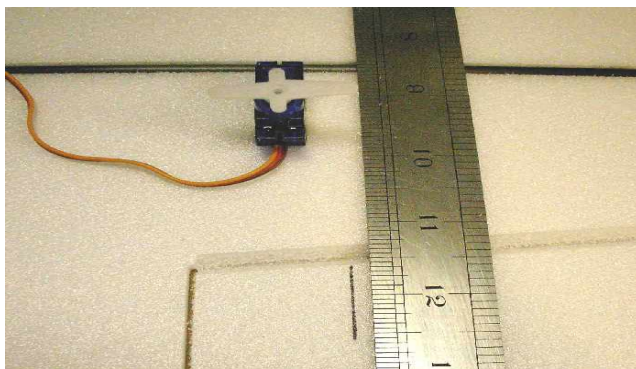
Tape over the hinge line of the ailerons, elevator and rudder (On the pre-beveled kits taping just the top is all that is needed).



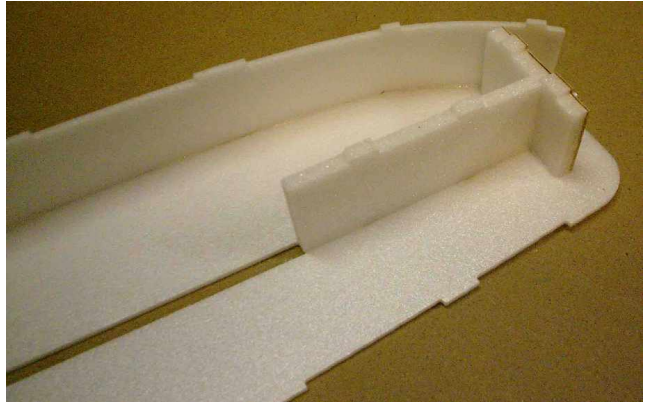
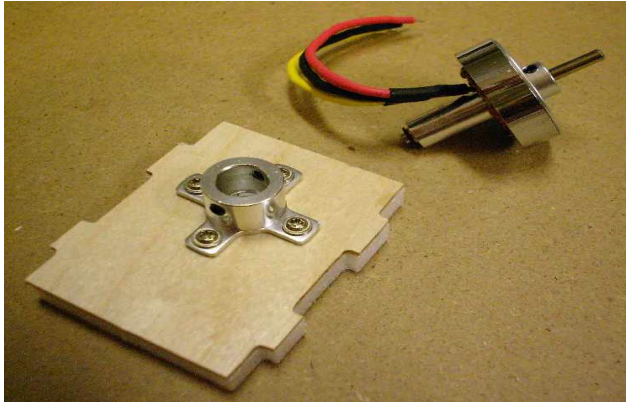
Temporarily place servo in wing, line up and cut slot for the aileron control horn.

Glue top and bottom pieces of fuselage to one side of the fuselage.

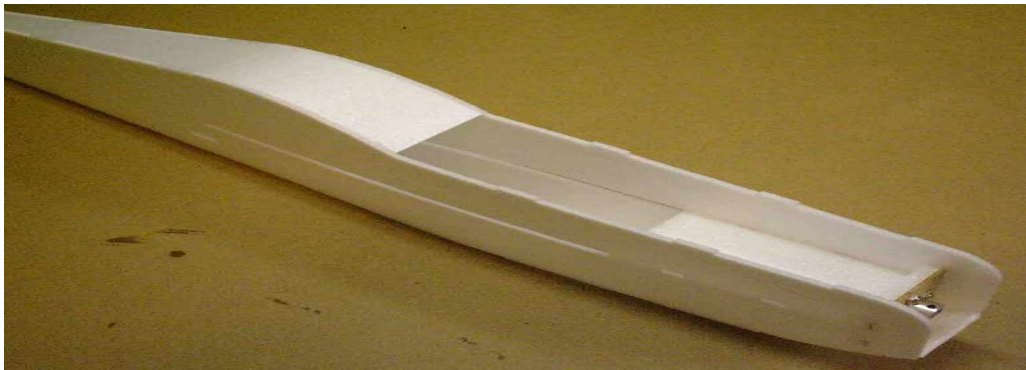
*Be sure to pre bend the curved sections to make it easier to glue together.



Glue 1/16" plywood firewall to foam firewall, drill holes and install motor mount. Glue the motor mount assembly and the horizontal brace to the fuselage.



Glue the other half of the fuselage on. Pre-bend the curve for the top hatch and set to the side. The hatch gets glued on after the electronics are installed to make things easier.

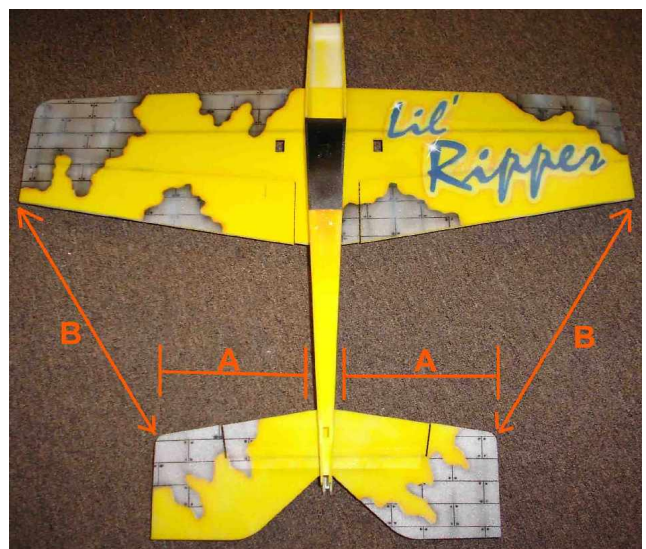
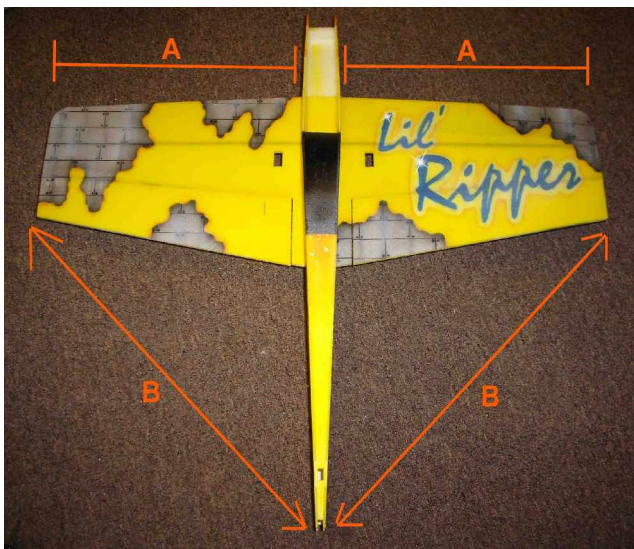


Now is a good time to paint your model if you choose too. Be sure to use foam safe paints as standard spray can paint will eat the foam. With the parts separated it makes it easier to lay out your paint scheme.

Cut slot and glue elevator control horn 6 1/2" from the side of the elevator.
*Make note the elevator control horn has the slot it in to fit over the brace.
Cut slot and glue rudder control horn 3/4" from bottom
*Be sure the hole of the control horn is over the hinge line.



Glue wing to fuselage making sure A=A and B=B.
*Be sure the wing is level horizontally before gluing in place
After gluing the wing, do the same for the elevator.



Cut 2 carbon tubes for pushrods. Elevator at 9", and the Rudder at 11"
*I use my razor knife to roll back and forth over the carbon tube to cut it.
Glue a small piece of music wire with a z-bend on one end of each tube.
Put heatshrink tubing over the music wire after it has been glued.



Use small dabs of hot glue to glue the all the servos in place.
*Be sure to route the elevator and rudder servo wire over the top of the wing.

With the longest arm installed on the servos, center the servo and the elevator surface and glue the other music wire with a z-bend to the other side of the pushrod to make the pushrod the correct length. Heatshrink over the wire.

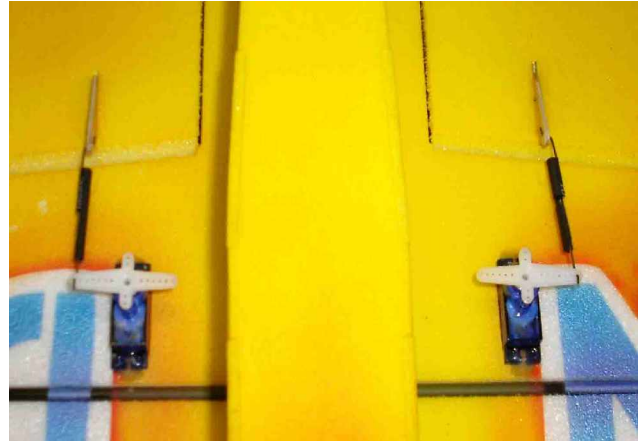
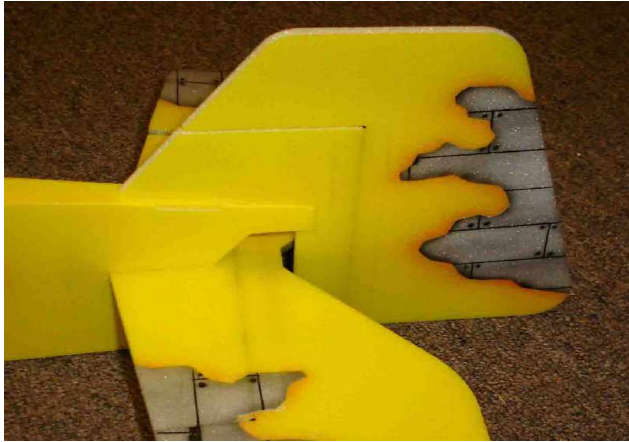
*Make sure the elevator servo arm points up for the right geometry going to the elevator. The rudder servo arm points down.



Glue the rudder in place.

Add the pushrods for the rudder and ailerons the same way as the elevator. The rudder servo arm should point down and the pushrod should go straight back to the rudder

*I recommend the aileron servos be placed so the arms and horns are on the bottom of the wing. The wires will go through the side of the fuselage on the top. Two small holes will need to be cut for the wires to go through.

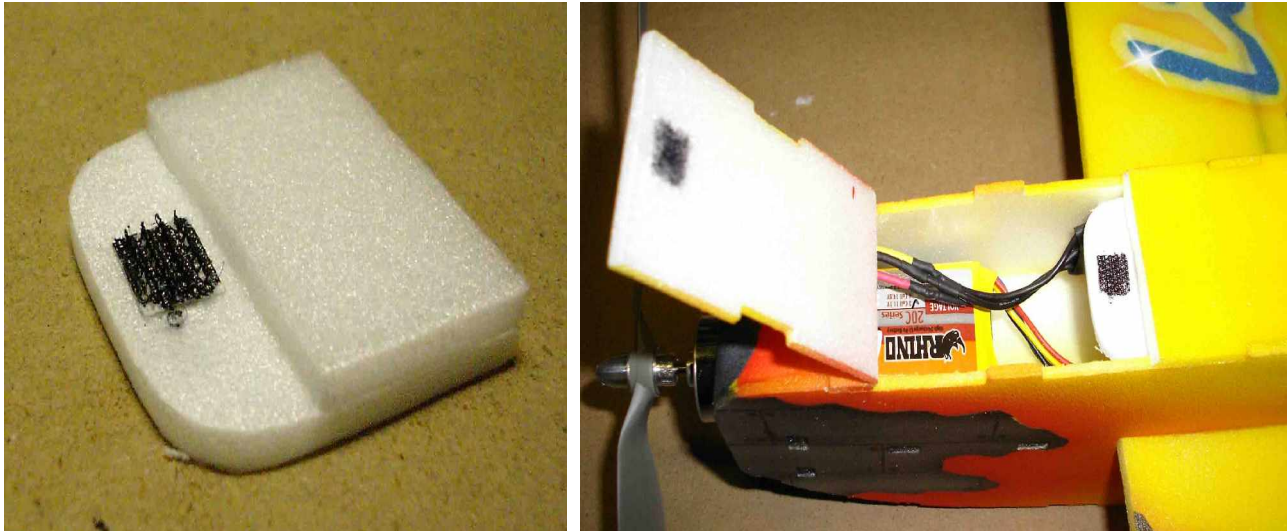


Install the receiver, speed control, motor, and prop.

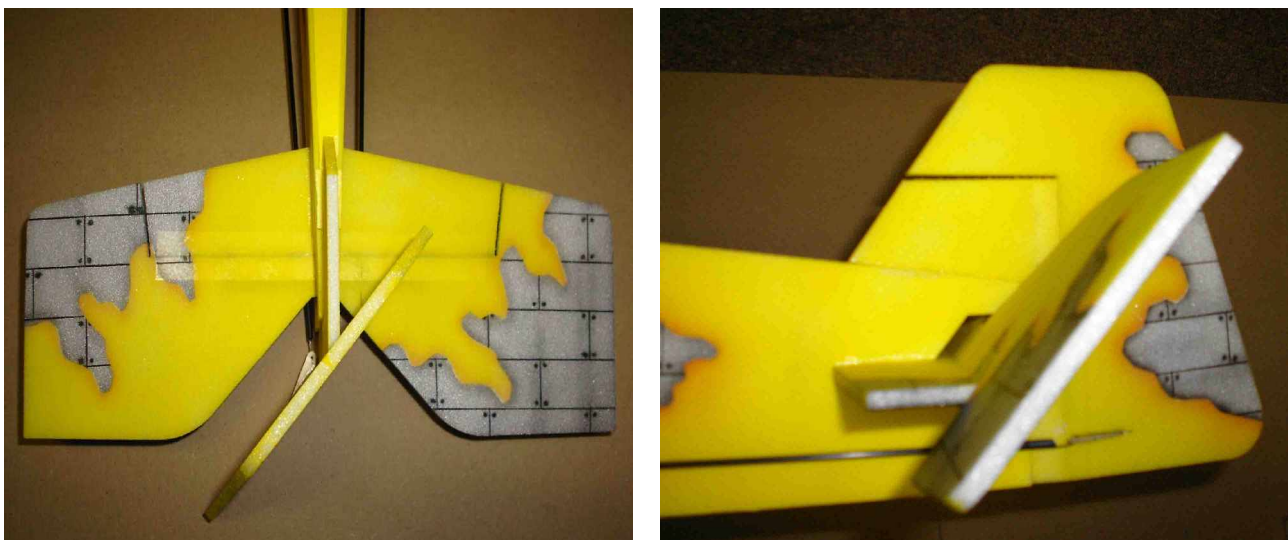
*Depending on the power setup used, you should check the cg before fastening the electronics down. The light power setups will need everything as far forward as possible, especially the battery.



Glue the hatch lip together and glue a small piece of velcro to the front of the lip. Determine where you want the hatch to go and cut that section from the top fuselage cowling area. Glue the top fuselage section making sure not to glue the hatch area. Place a piece of tape over the hinge area of the hatch and attach the other half of velcro to the hatch door.



Power up your receiver and make sure the servos are going the right way. For high rates line up the rudder to match the angles of the inner part of the elevator (45 deg's), and for the elevator line it up with the cutout it sets in (45 deg's). The ailerons should be set to about 50-55 deg's. If you want low rates, 25 deg's on all surfaces would be good. In high rates it is recommended to use a good amount of expo (60-70%) to tame the machine down around center stick. *Make note high rates are for 3D flying.



Ok, your Lil' Ripper is now finished!

Make sure before you fly that you check the cg by balancing it on the carbon wing spar. For better 3D flight it can be moved back to about the mid part of the servos.

Double check to make sure your control surfaces are going the right way.

The Lil' Ripper can be hand launched by grabbing it by the canopy area and giving it an slight underhand toss.

Have fun ripping up the sky with the Lil' Ripper!

If you have questions concerning the build, feel free to contact me at:
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