Thank you for purchasing the SuperFly V3! The SuperFly has been designed to fly extremely well in a wide range of speeds all while using reasonably priced equipment. One of the features of this plane is its light weight. Please don't load this plane up with heavy batteries or lots of paint! If you build it according to the instructions you will have tons of fun and learn what is possible with the SuperFly!

Parts list:

1. **(2) High Density EPP wing halves**
2. **(2) Vertical Stabilizers made from block of foam encasing wings**
3. **(2) EPP Elevons**
4. **(1) Pre-cut EPP Canopy**
5. **(2) Pushrods**
6. **(2) Control Horns**
7. **(2) Silicone Clevis Saftey Bands**
8. **(2) GWS 8X6 Prop**
9. **(1) Motor Mount**
10. **(1) Motor Mounting Stick**
11. **(1) Motor Mounting Hardware**

Optional:

12. **(1) Brushless Motor**
13. **(1) Prop Adapter**

If your kit is missing any parts or you have ANY questions about the build, feel free to contact us: servo6950@hotmail.com

Required Items:

1. **(1) Radio with Elevon Mixing**
2. **(1) Micro Receiver**
3. **(2) Submicro Servos .5 oz or less each**
4. **(1) 15 amp Brushless Electronic Speed Control (ESC)**
5. **(1) 3 cell 11.1v 1200-1500 mah Lipo Battery. Must handle 11 amps continuous. *BATTERY SHOULD WEIGH BETWEEN 2.0 and 2.6 oz***
6. **(1) 3 cell Lipo Battery Charger**
7. **Connectors of your choice for battery and speed control**

Required Building Materials:

1. **Hot Glue Gun and Glue Sticks**
2. **Extra Sharp Razor Blades for cutting foam**
3. **Straight Edge**
4. **Ruler**
5. **Your choice of spray paint. Does NOT have to be foam safe.**
6. **Soldering Equipment**

Tips and Hints:

Batteries:

1. **Please read all information included with Lipo Batteries and chargers.**
2. **Only charge a Lipo Battery with a Lipo charger.**
3. **NEVER leave batteries unattended while charging**

Current:

This setup will pull around 10.9 amps at wide open throttle with the recommended equipment.

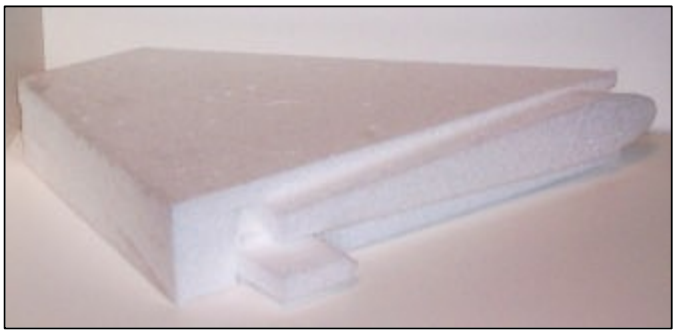
Launching:

Hold the plane by the leading edge and launch it out and up at a 45 degree angle. Use part or full throttle and hold a little UP elevator.

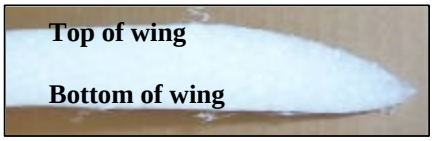
Always fly in accordance with your local and national clubs rules.

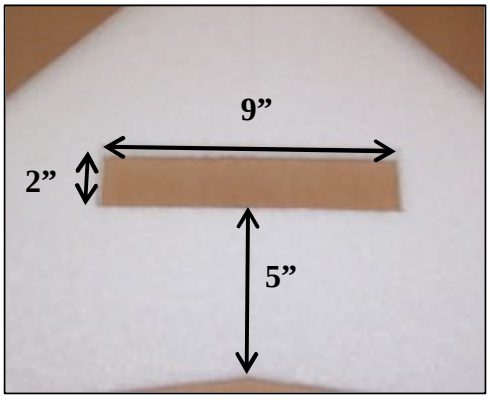
Assembly Instructions

1. Remove wing halves and elevons from large block of foam.
2. Save the block of foam encasing the wing halves.
3. Gently rub wing halves together to remove any slag. Same with elevons.



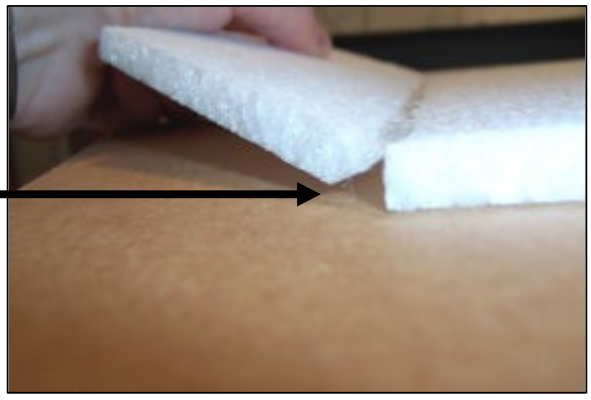
4. Glue wing halves together with hot glue on a flat surface. Flat side of wing down.



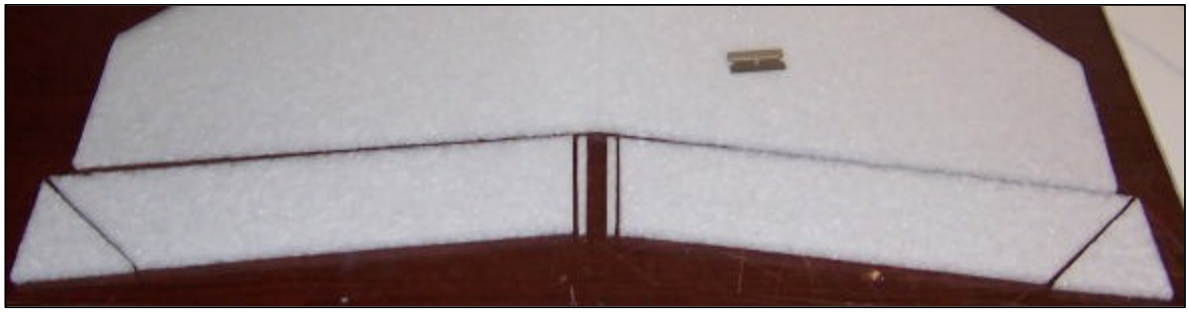


5. Cut a slot in the plane 5” forward from the trailing edge of the plane at the midline. 9” wide by 2” long.

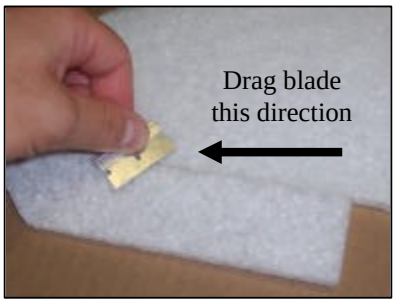
6. Place elevons along the trailing edge of the plane. *The angle on the elevons goes down.*



7. Cut ends of elevons as shown.
DO NOT TAKE SHORT CUTS!

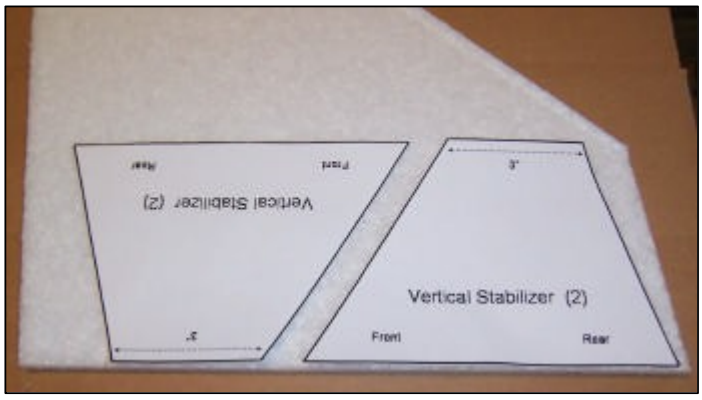


8. **Super FLY RC** ***Hot Glue Hinge Method:*** *(you may want to practice this step on some foam scraps first)* Line up elevon (with 45 degree bevel facing down) along trailing edge of plane, make sure there is no gap at the hinge line. Quickly apply a **2" long 1/8" wide** bead of hot glue along the hinge line. Be sure the bead covers the elevon and trailing edge of the plane. Very quickly while the glue is still hot flatten out the bead with a new razor blade. This flattens out the bead and pulls the heat out of the glue so it sets quicker. Repeat this process until the entire length of the hinge is complete. Hinge the other elevon using the same method. Flattened bead should be less than **1/4" wide** or elevon will be difficult to move. Once glue has cooled flex elevon up and down to loosen hinge.



9. Cut (2) vertical stabilizers (fins) as shown on the template.

Tip: The shape of the vertical stabs can be cut to suit builder preferences. The shape is not of critical importance.



10. Position fins just on the outside of the prop slot with the long slope facing the nose of the plane. The back end of the fin should be 1" forward from the elevon hinge line.

11. Use the Vertical Stabilizer Angle Template and glue fins in place. Fins should tilt out towards the wingtips. You will need to cut or sand an angle on the bottom of the fin.

12. You may paint the plane at this time. Only paint the top side of the leading edge. More paint then that will add unnecessary weight.

Note: The following instructions are illustrated using our optional motor package. If you intend to use your own motor then you may need to mount it differently.

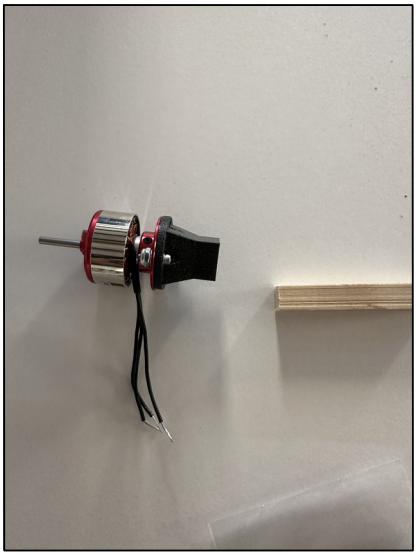
13. Remove the base of the brushless motor. Do this by loosening the set screws and removing the motor base from the assembly.

DO NOT REMOVE THE SET SCREWS

13. Gather the small nuts, bolts, and washers included with the motor. Take the motor mount and orientate the bolt as shown in the right hand image. Make sure your lock washer (the washer with a break in it) is on the side where the bolt head contacts the mount.

14. Next you must attach the motor base to the mount. Then add your flat washer and nut as shown in this image. Then duplicate this processes with the attachment point opposite whichever point you have already assembled. Then attach this assembly back onto your motor.

ENSURE THE SET SCREWS ARE TIGHT



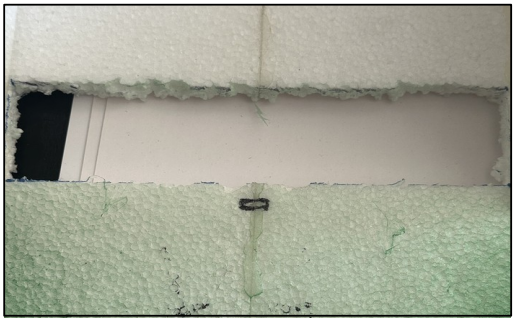
15. Install motor on stick as shown. Secure by putting hot glue inside the mount. Be sure and use enough that you see the glue spill out as you insert the stick.

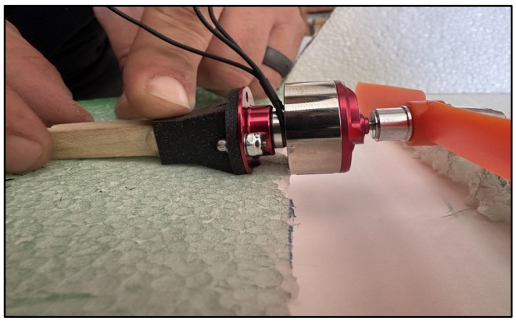
16. Install prop on motor with the small numbers facing the motor and the nose of the plane. **Hold prop adapter with pliers while tightening. DO NOT HOLD MOTOR.**

17. Take the motor mount and lay it centered on the joint of the plane with the stick facing forward. Now align the propeller with the center of the slot you cut in step 5. Begin pressing the assembly into the foam. Try and make it so that the propeller is level with the surface of the plane. This will ensure proper air flow.

18. Now in order to secure the motor we need to remove some material from the indention we made while pressing the motor assembly down. Make a notch roughly ¼" long and ¾" wide. Be slow and careful while you remove material, you don't want to take too much off. You should end up with something similar to the photos below. Just remember that you want the air flow to be straight along the edge.

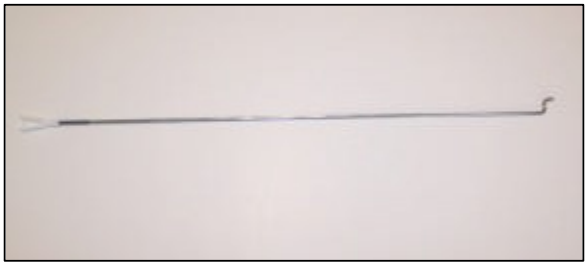
ONCE YOU ARE CERTAIN THE PROP IS BOTH LEVEL AND CENTERED – GLUE DOWN THE MOTOR MOUNT ASSEMBLY

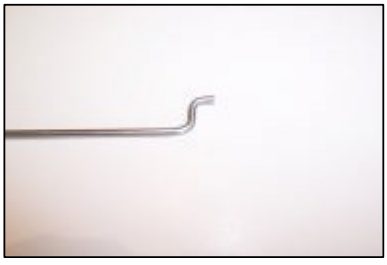




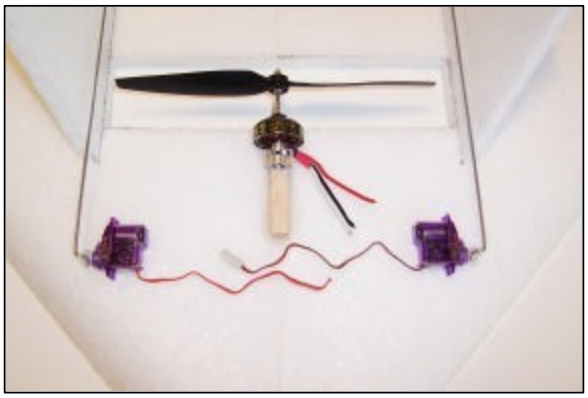
19. Hot Glue Control Horns onto elevon as shown. Horn should line up just to the inside of the fin when viewed from the back and when viewed from the side the holes should line up over the hinge line. ***Use plenty of glue all around the base!***

20. Cut 1" off bare end of pushrod. New total pushrod length (NOT INCLUDING CLEVIS) should be 11" Next, make a "Z" bend on the end.

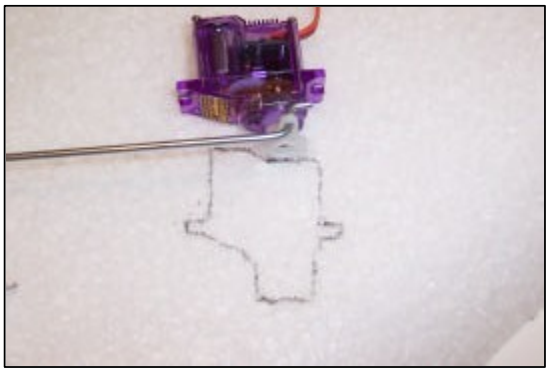


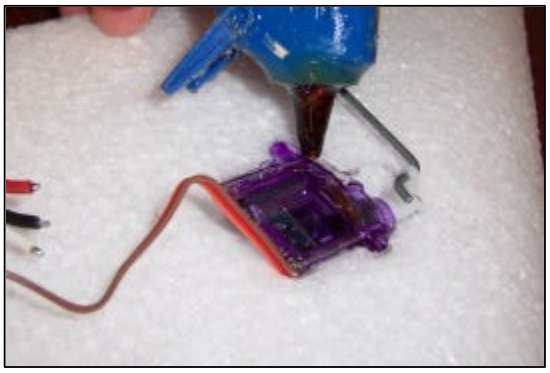


21. Install ”Z” bends into servo arms and clevis onto control horn. Center servo arms and position servos so that the pushrod almost touches the inside of the fins. Elevons should be flat on the bench.

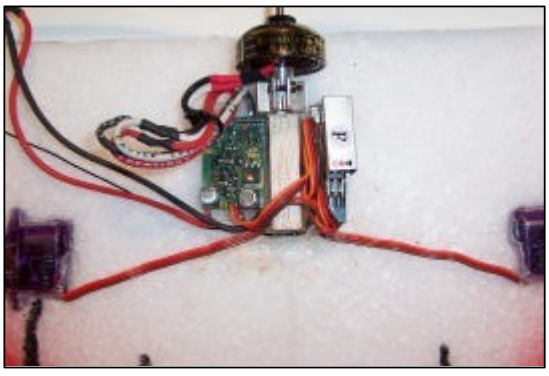


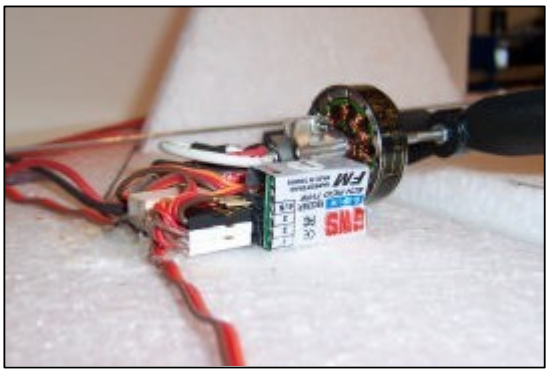
22. Mark where servo goes and cut or melt out enough foam to fit the servo. Glue in place with hot glue.



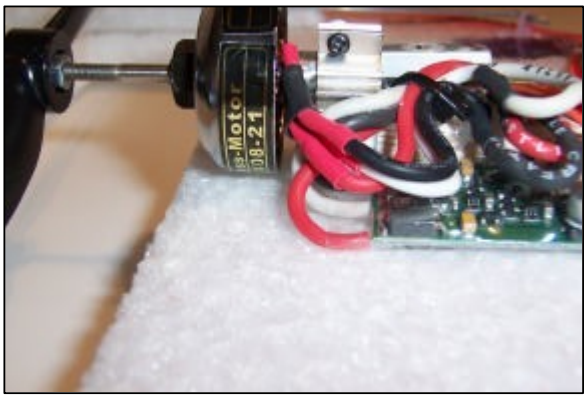


23. Solder speed control wires to motor. If motor runs backwards simply switch any two wires to the motor.
24. Solder connector to speed control and battery. Double check polarity.
25. Plug speed control and servos into receiver. Follow your transmitters manual for proper elevon setup. (Spektrum Users: set controller to elavon mode. If the controls are reversed, then reverse the servo leads at the receiver.)
26. Paint canopy black and allow to dry.
27. Glue speed control to plane next to motor mounting stick.
28. Glue receiver on other side. The back end of the canopy will cover these parts. **OR** You may glue these parts under the back of the canopy.
    Secure extra wire with hot glue or zip ties. Antenna goes along the outside of right fin and back.



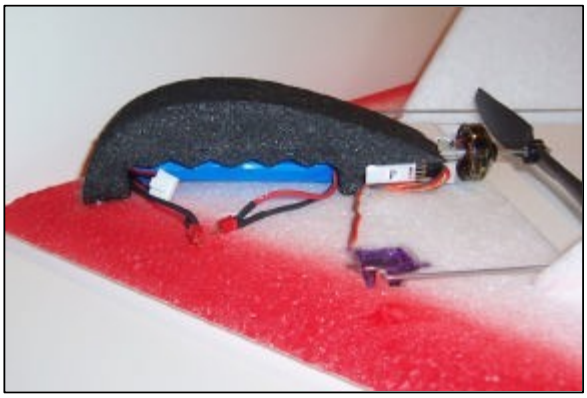


29. Make sure wires do not touch the motor.



30. **Center of Gravity (CG) is 9.5" back from the tip of the nose on the underside of the plane. (9.25"-9.75" range)**

31. To set the CG you must place the battery in the canopy slot and temporarily set everything in place. You will need to move the canopy (with battery installed) back or forward to get the plane to balance on the 9.5" mark. Once the plane balances make a mark where the canopy should go. Remove the battery then glue the canopy in place. Press canopy down firmly around the nose of the plane. Make sure there are no gaps under the nose of the canopy.



32. Set control throws for 1.5" up and 1.5" down. You may adjust them later to suit you flying style.

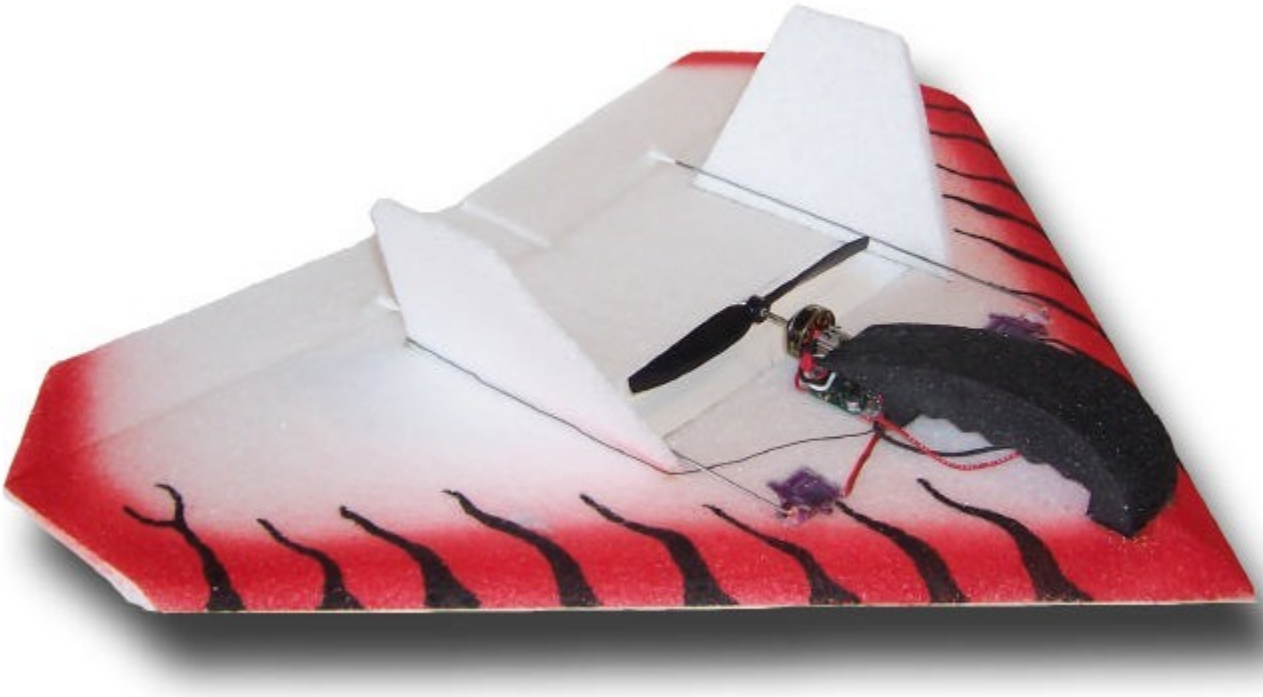
33. Make sure LEFT IS LEFT and RIGHT IS RIGHT. Now is the time to find that out!

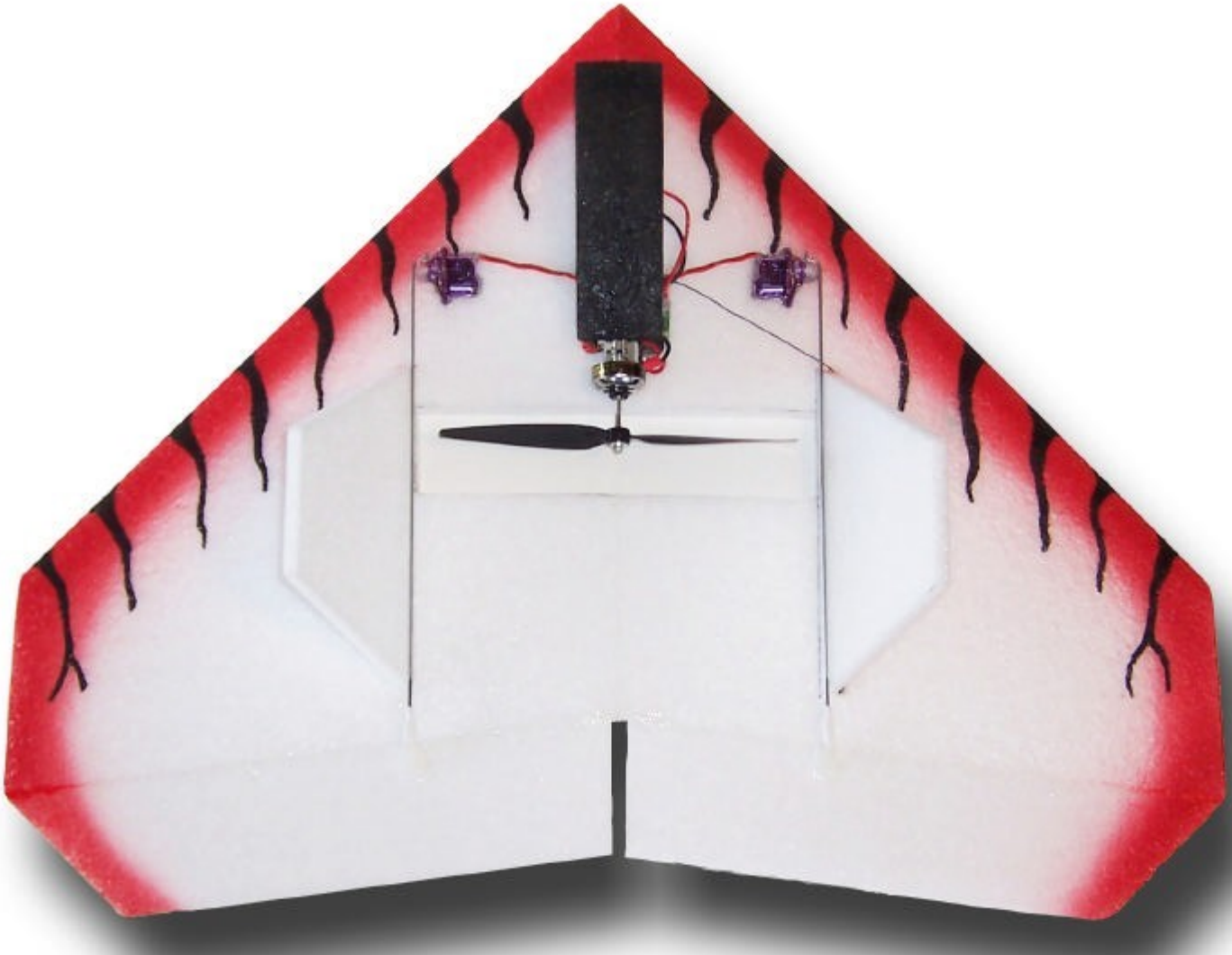
34. Make sure left and right elevons deflect the same amount at full UP elevator and full DOWN elevator. Check this often as any difference will cause the airplane to roll out of loops.

35. Set elevon trim for 1/8" UP trim to begin with. Double check 9.5" CG!!

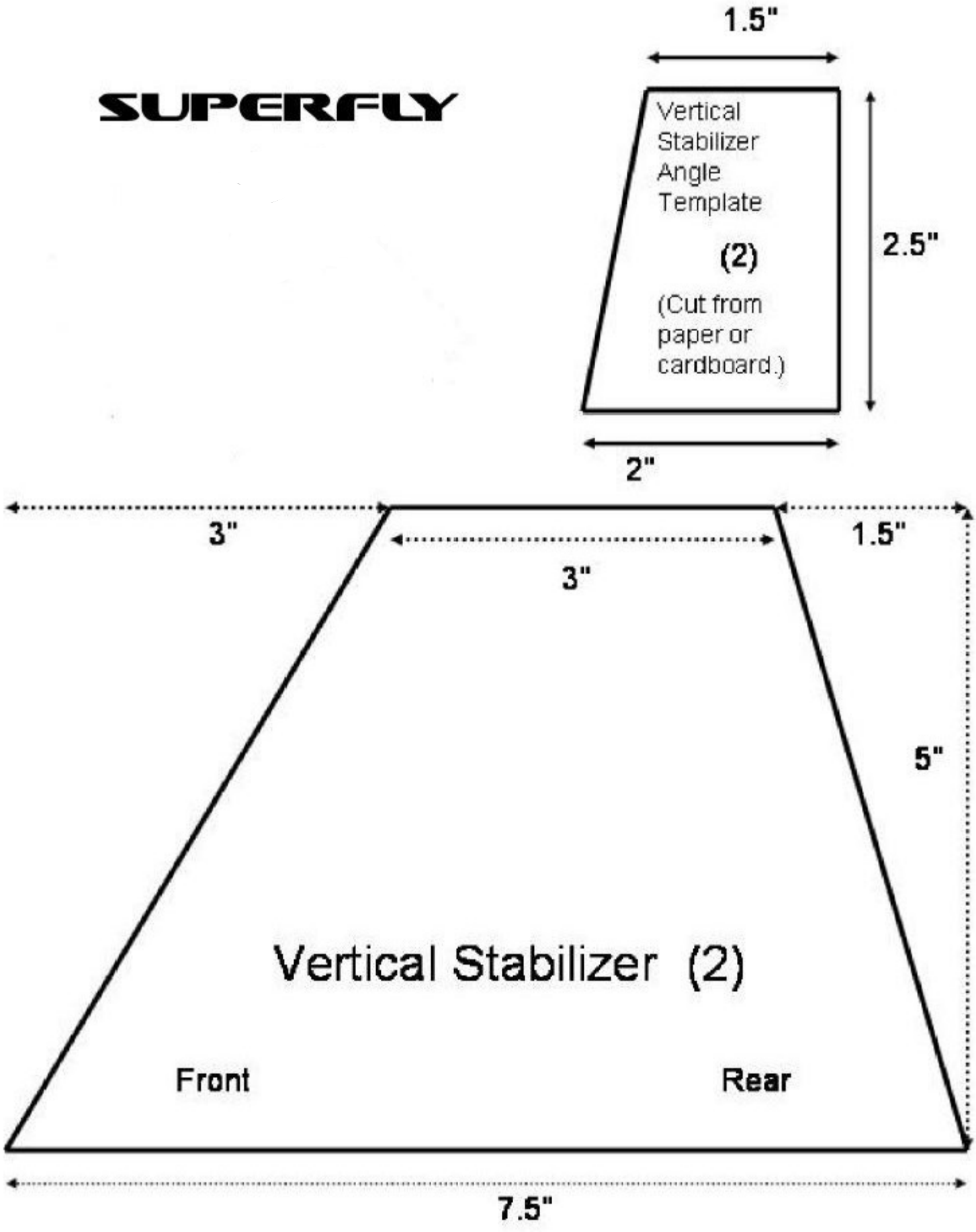
Flying the SuperFly

Try the Harrier move! Slow the plane down and slowly pull almost full UP elevator while applying more power to get the plane to fly very slowly with the nose pointed up. This is lots of fun with some practice and the plane can be flown at less then walking pace! You will need a lot of control throw to do this so increase your throws as you become more comfortable with the plane then you will be ready for the Harrier high alpha flight! Now try it inverted!!!!





SUPERFLY


1.5"
Vertical Stabilizer Angle Template
(2)
(Cut from paper or cardboard.)
2.5"
2"
3"
3"
1.5"
5"
Vertical Stabilizer (2)
Front
Rear
7.5"