

Build Instructions for the Mini Mako

Product Details

The Mini Mako is a EPP foam parkflyer, designed to fly indoors during winter months, but it also flies very well outside. With its low center of gravity and light weight it makes a good beginner plane. It slides on hardwood floors, concrete, and black top. Sorry it does not fly off of water, grass, or snow.

Available at wmparkflyers.com

Specifications:

- Wing span – 25"
- Length – 27"
- Center of gravity is 10" from tip of floats
- Motor for light indoor flight: C2403 - 2100KV (2s 800mah battery)(7oz auw)
<http://www.hobbyking.com/hobbyking/s...dproduct=12681>
- Prop: 8x4DD cut down to 7" or 7x5sf prop
- Speed Control: 10 Amp
- 5 gram servos, 3 total

Kit Contents

Material EPP 9mm: All parts laser cut w / spar grooves.

- Carbon Fiber 3mm X 2mm Tube 2 pcs. cut to the following lengths.
 - #1) 21 inches 11 inches
 - #2) 10 inches 10 inches and 7 inches
- Carbon Fiber 1.5mm solid 1 pcs. cut to the following lengths.
 - 10 in. 10 in. (aileron) 17 in. (rudder) 6 in, Rudder connector

Note: The 6 in. rudder connector is not in the PDF listed below. We need to correct this error as soon as I can get back to the Cad.

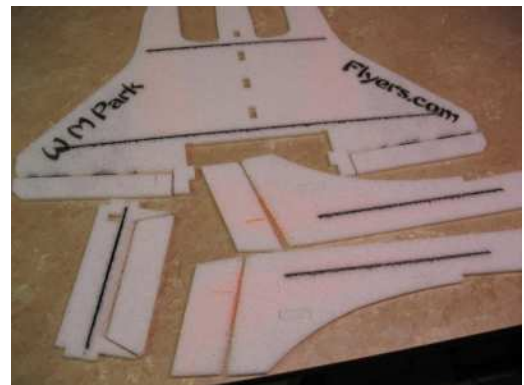
- Carbon Fiber 1.2mm solid 2 pcs. each of the following lengths for trussing. (working from the front of the plane to the back)
 - 2-1/2 , 3-3/8 , 4.0 , 4-1/8 , 4-3/4 , 3-3/4
- Carbon Fiber 1.2mm solid 2 pcs. 4.0 in long tail struts.
- Mini Mako Wooden control horn and parts set.
- Piano wire – (5) Z-bends and 4 straights.
- Dubro E-Z connects (5)
- Heat Shrink 6 pcs

Step 1) Begin the build by gluing both halves of the wing together.

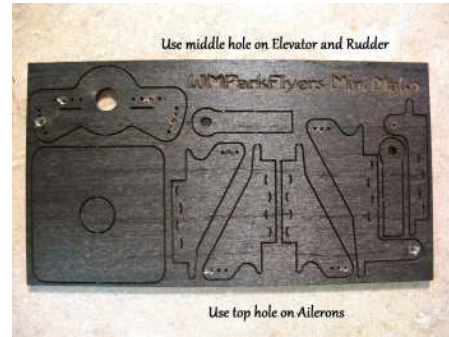
Step 2) Glue in the Wing Spars with foam tac. Wing spars are Carbon fiber tube cut to length

Step 3) Glue the tail spar in the elevator slot.

Step 4) Glue in the tail boom spars. Your plane should look like this at this stage.



Step 5) Locate the appropriate control horn and glue them in place.



Use middle hole on rudder horn



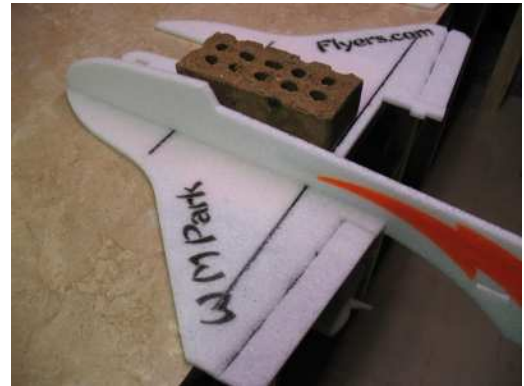
Use top hole on aileron horns



Use middle hole on elevator horn.



Step 5) Glue sides in place, make sure they are square and straight.



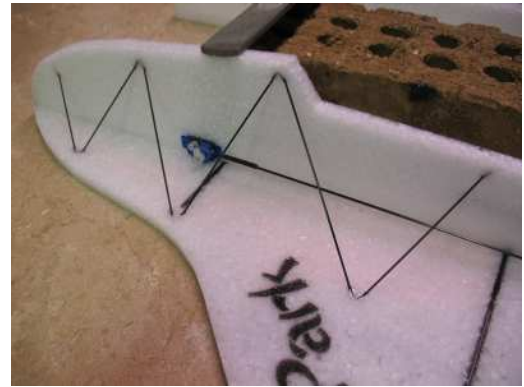
Step 6) Glue horizontal stab and trussing in place (trussing pcs are 4" long), make sure it is square to sides. (picture is of upside down plane)



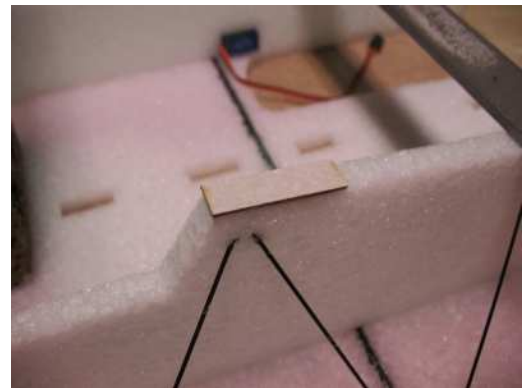
Step 7) Install rudder servo, horns and control rod before trussing.



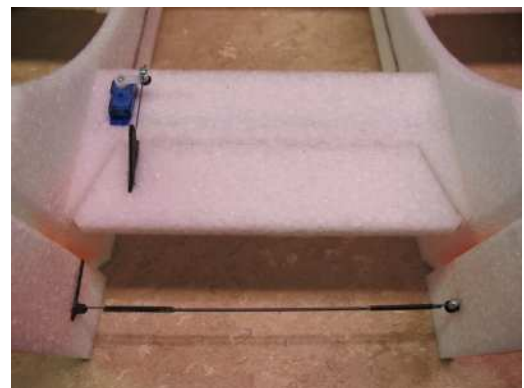
Step 8) Glue trussing. Lengths from front to back are, 2-1/2 , 3-3/8 , 4.0 , 4-1/8 , 4-3/4 , 3-3/4



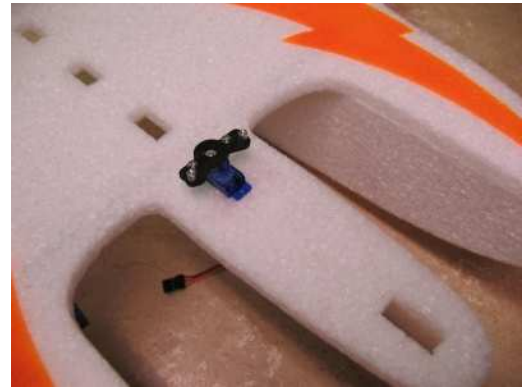
Step 9) Glue wear pads in place.



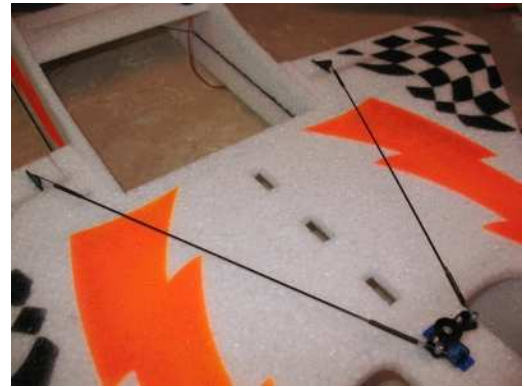
Step 10) Glue elevator servo and horn in place, and connect rudders with z-bends, ez-connects, and 6" carbon rod.



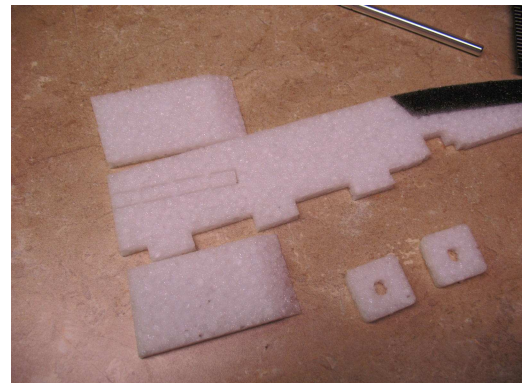
Step 11) Screw plywood control plate to servo horn, attach ez-connects, and glue servo in place.



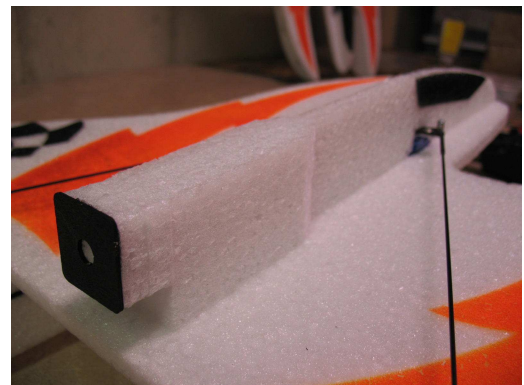
Step 12) Attach aileron horns and control rods.



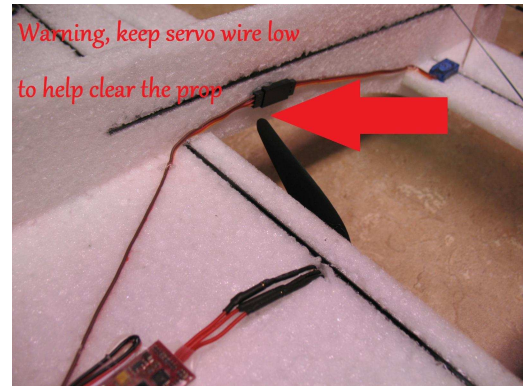
Step 13) Glue side supports to fuselage. Note there is a slot for a stick mount. If you are not using the stick mount leave the foam strip in place.



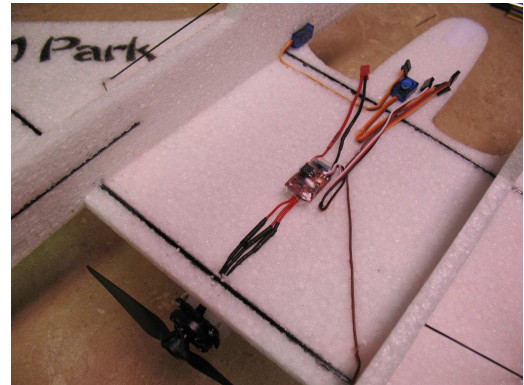
Step 14) Glue motor mount spacers in place as needed to get prop 3/4" out away from foam wing. (It is easier to screw motor to mount before glueing fuselage to wing)



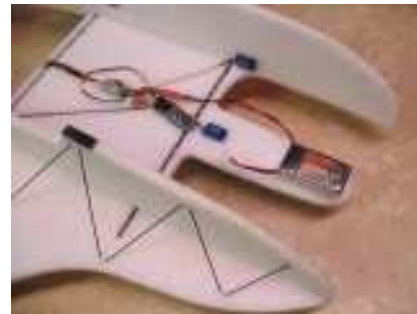
Step 15) Flip plane over and glue elevator servo wire in place. KEEP SERVO WIRE AWAY FROM PROP!!!



Step 16) Attach ESC and glue wires in place.



Battery should be attached under the nose to achieve the correct center of gravity.



Suggested Throws & Expo for Mini Mako
Elevator low rate, 30% Expo and 3/4" throw both ways.
Elevator high rate, 50% Expo and 1-1/4" throw both ways (this is needed for a hand stand)
Aileron low rate, 30% Expo and 3/8" throw each way.
Aileron high rate, 50% Expo and 3/4" throw each way.
Rudder, 50% Expo and 1-1/4" or more! throw each way.

