

Pelican Polyhedral Wing Building Instructions

Pelican by Crashtesthobby.com



SPECIFICATIONS

- Fuselage length 26" Polyhedral and Aileron wings are 34"
- The Pelican is cut from 100% EPP foam
- The fuselage is laminated but the wings are designed to not be laminated.
- Center of Gravity: 2.75" (7 cm) back *on the wing*
- Pod mount motor does not change the center of gravity
- Elevator, Rudder and Aileron Throws: 3/8" up/down/left/right (1 cm)
- Wing tip angle is up 3.5" to top of the wingtip on each side of the polyhedral wing.
- Dowels back 5" and 13" from the nose of the fuselage
- Motor pod is back 5" from the nose of the plane behind the front dowel
- Motor has two 3/16" washers under bottom screw to get a positive motor angle
- Use four to six #64 rubber bands to secure wing
- 2812 motor, 7x6 APC prop, 20A ESC, 2 mg90 servos,
- 1300 -1500 mah 3S lipo battery
- Target All-Up Weight: 15-22 oz
- Lighter always flies better!!!!

The aileron wing for the Pelican is a great variation of an old favorite. With the 2812 motor is a nimble and exciting plane to fly. You can build it light for slow and stable flight or put a more powerful motor and bigger battery on it for aerobatic flight with more throw on the flight surfaces. Watch the Pelican Build Videos at our website at Crashtesthobby.com to clarify any of the instructions.

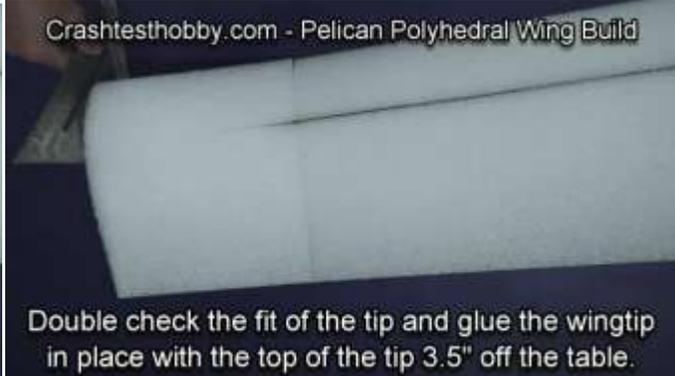


Mark the central spar location by lining up the tips with the main wing core. Lightly sand the carbon spar.

Use a metal straight edge and a new razor blade and cut a 1/2" deep slit across the top of the middle core of the wing. Press the carbon fiber spar into place with the spar centered with the same amount of spar poking out of each side.



Glue the wingtips in place with a low temperature glue gun. Don't glue the spar yet. Make sure the top of the wing tips are 3.5" off the table.

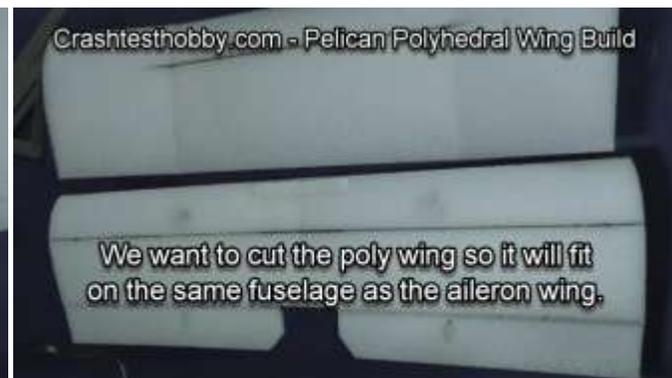


Reinforce the glue on the seam between the cores with hot glue and smooth it out. Work baking soda in the slit with the flat carbon spar. Make sure the spar is deep enough in the wing that it doesn't poke up. Glue the spar in place with thin CA glue.





Using the hot glue gun work several pumps of hot glue in the wingtip around the spar that is in the tip from both the top and the bottom. Make sure the wingtip is still 3.5" off the table while the glue cools.



The aileron wing has a cut out in the center back of the wing that not only helps with ailerons but helps strengthen the back of the wing so it is less likely to tear with the rubber bands. We suggest that you cut the trailing edge of the wing as shown so you can use either an aileron wing or a polyhedral wing on the same plane.

Measure back 6.5" from the leading edge of the middle of the wing and make a cut out 3.5" wide. Trim the corners of the cut out 1" x 1" for easier access to the rubber bands on the fuselage. You can see in the picture below how the trailing edges of the wings match up so they can be used interchangeably.





Using a medium temperature hot glue gun glue on the nylon reinforcing braces to protect the foam from being torn by the rubber bands. This is the end of the stock wing build.

Due to the number of flyers flying with bigger motors and FPV gear we are adding information on how to reinforce the wing tips. You can reinforce the wingtips now or later by adding additional flat carbon spars in the wingtips.

To secure the added spars they need to cross at the angle, or bend, of the wings. Cut the spars to 10". Make a 1/2" deep razor blade slit in the top of the wing in alignment with the main spar in the wing. Using a longer blade knife and cut a slit 2" long along the main spar in the main core of the wing and slide the spar into place. Using baking soda and CA glue, glue the spars into place. Use low temp hot glue to secure the spars together at the bend.

