

34" PELICAN POLY WING BUILD - by CRASH TEST HOBBY

The Pelican is a 34" trainer that can level its own wings and put its nose on the horizon once trimmed and balanced. It can handle more wind than most flying planes in its class. It is cut from EPP foam that won't dent or crush. The Pelican below is shown with laminated wing and tail and colored packing tape trim. Laminate for fuselage comes in kit. Add 10' laminate if you want to laminate the wing and tail. The aileron wing is on the left and the polyhedral wing is on the right.



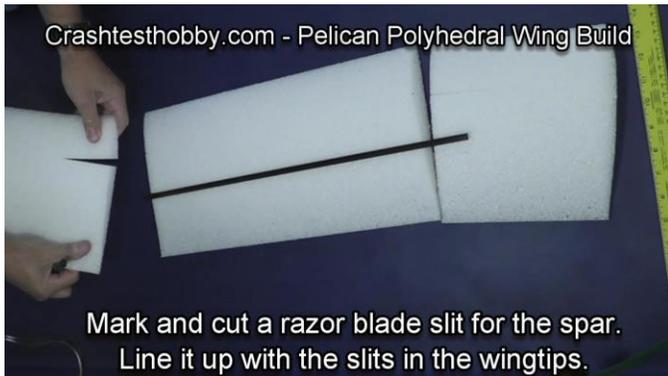
SPECIFICATIONS

- Center of Gravity: 2.00" (5 cm) back on the wing.
- The CG is critical and the plane will not fly with the CG too far back.
- The motor is installed on the nose of the plane.
- The motor angle is pre-cut. The motor aims down and to the right to compensate for prop torque.
- Elevator Throws: 3/8" up/down/left/right (1 cm)
- Wing tip angle is up 3.5" to top of wingtip on polyhedral wing.
- Dowels back 6" and 15" from the nose of the fuselage for the poly wing
- A third dowel is used at 12" back from the nose if you are also flying with the aileron wing.
- Use four to six #64 rubber bands to secure wing
- We recommend the 2812 1534 kv motor, 20A ESC, 2 mg90 servos, 4 servos with aileron wing.
- 800-1300 mah 3S lipo battery
- You can cut 7x6 your prop to 5.5" if using the 2812 motor for lower amperage
- Target All-Up Weight: 10-18 oz (300-540 gm)
- Launch at 1/2 throttle and throttle up
- Lighter always flies better!!!!

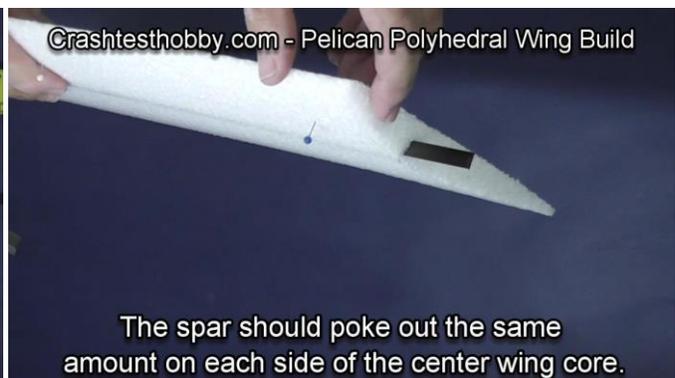
EQUIPMENT NEEDED

- Pelican kit, from CrashTeshHobby.com
- Add laminate for wing and tail if desired. (Adds over 4 ounces to the plane.)
- All electronics and accessories as desired (motor and #6 screws for mounting, props, esc, tx/receiver, servos)
- Low-temperature hot glue gun (and low-temp rated glue)
- Quick Grip Glue or "Goop" brand glue (preferably Household or Plumbers)
- Thin CA glue and baking soda
- Metal straight edge
- Soldering iron (either adjustable-depth tip, or a wheel collar to restrict depth.)
- Fine grit sand paper
- Pliers, Side cutters, or snips (must be flush on one cutting side)
- Razor blade
- Electric drill and small bit
- Philips head screwdriver, Velcro strip
- Iron for applying laminate (hobby iron or clothing iron may be used)
- Iron temperature is 185 to 220 F degrees.

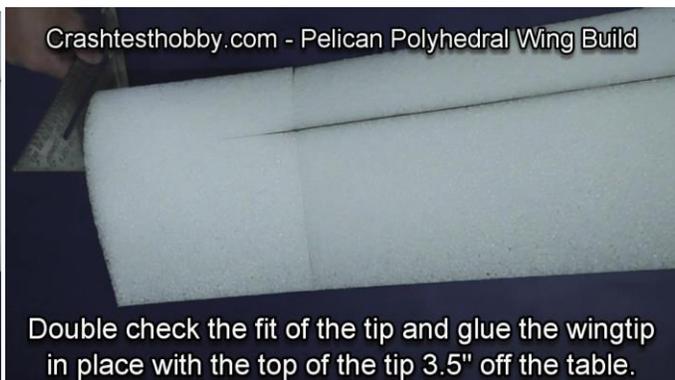
The aileron wing for the Pelican is a great variation of an old favorite. With the 2812 motor is a nimble and exciting plane to fly. You can build it light for slow and stable flight or put a more powerful motor and bigger battery on it for aerobatic flight with more throw on the flight surfaces. Laminating adds about 4 ounces to the plane. If you want the Pelican to be slow keep it light.



The center spar will go through the slits in the wingtips on the poly wing. 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.



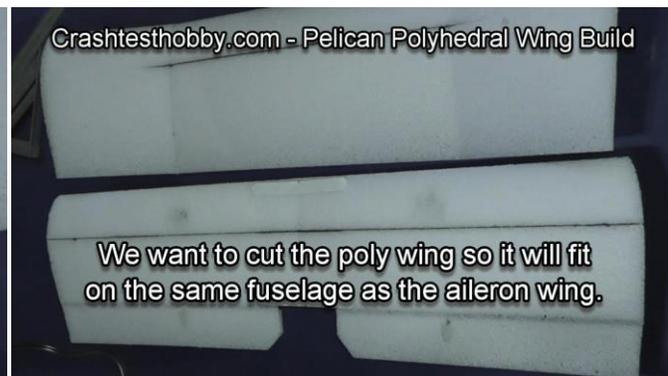
Glue the wingtips in place with a low temperature glue gun. Make sure the top of the wing tips are 3.5" off the table.



Work baking soda in the slit with the flat carbon spar to act as a catalyst for the CA glue. Blow off any excess or it will make hard lumps along the 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.

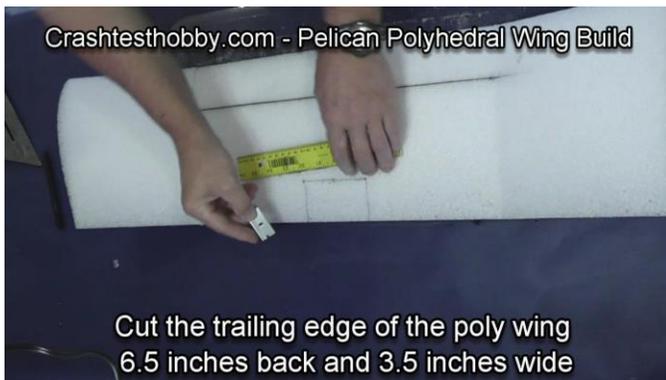


Using the hot glue gun work several pumps of hot glue in the spar slit in the wingtip to secure the spar from both the top and the bottom. Make sure the wingtip is still 3.5" off the table while the glue cools.



The aileron wing has a cut out in the center back of the wing between the ailerons that 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 polyhedral wing as shown so you can use either an aileron wing or a polyhedral wing on the same plane with the same dowel locations on the fuselage.

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.

