Pelican Aileron Wing Building Instructions

Pelican by Crashtesthobby.com

SPECIFICATIONS

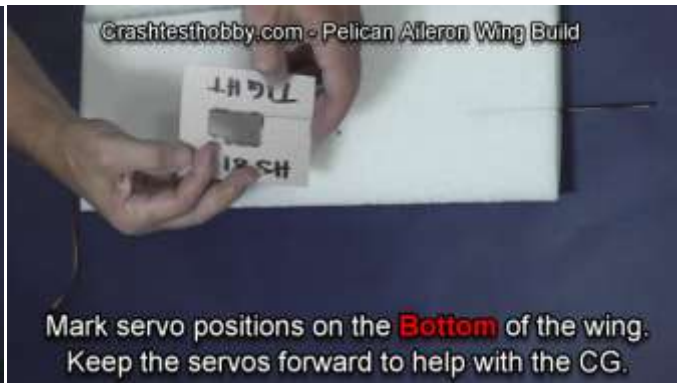
- Fuselage length 26" Aileron and polyhedral wings are 34"
- The Pelican is cut from 100% EPP foam
- The fuselage is laminated but the wings are designed not to be laminated
- Center of Gravity: 2.75” (7 cm) back *on the wing*
- Pod mount motor does not change the center of gravity
- Elevator and Aileron Throws: 3/8” up/down/left/right (1 cm)
- Wing tip angle is up 3.5” to top of wingtip on both the aileron and polyhedral wings
- 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.

The ailerons are already precut into the wing core. Fold up the ailerons and flex the wing to loosen up the hinges.

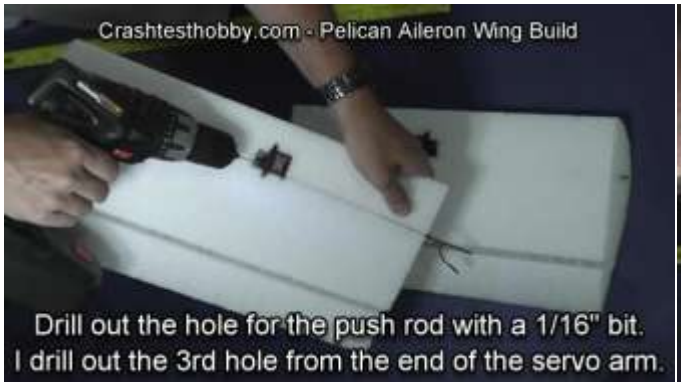
Cut a spar slit, with a new razor blade, on the top of the wing for the flat carbon spar. This slit should be the same distance back as the precut slot already in the wing. Lightly sand the spar to help the glue to stick. Press the spar into the slit with the extra spar at the center of the wing.

Put baking soda along the spar and work it into the slit with the carbon spar. The baking soda acts as a catalyst and speeds up and hardens the CA glue. Glue the spar in to the slit with thin CA glue.



Install the servos on the bottom of the wing. The servos work the best if installed near the center of the wing panels. Keep the servo and servo wires in front of the spar to help with CG. See how long your servo extensions are before deciding on where to put your servos. I have a servo jig that helps to speed up servo installation that I cut out of Formica. I use this jig with a soldering iron as you can see in the videos. I also frequently draw out the servo on the foam and cut with a soldering iron, hobby knife or a box knife. Don't cut all the way through the wing.

Before gluing the servos in place with a low temperature glue gun, bind them to the radio and center the servo arms on the servo. Drill out the third hole in the servo with a 1/16" bit to be big enough for the push rod. Don't glue the servo extension wires in except for where they exit the wing in the middle where they will be plugged into a Y connector that plugs in the receiver.

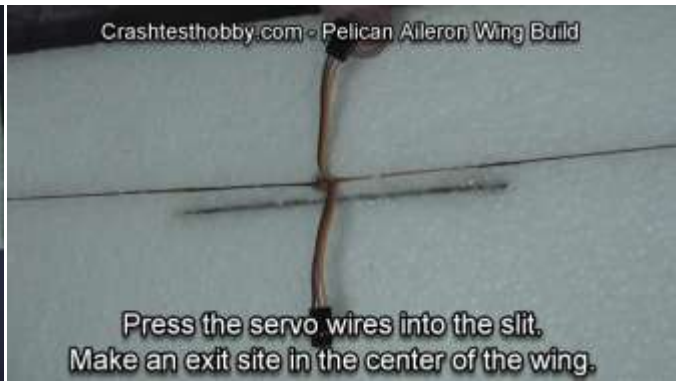


Install the control horn in straight behind the servo arm with the holes in the control horn at the edge of the aileron. cut a slit with a hobby knife. Make a small hole along the slit for glue to move up the horn and glue the horn in place from both the top and the bottom.

Drill the top hole in the horn with a 1/16" bit. Install the EZ connectors. Trim the push rod to length.

Cut the aileron 1.75" from each side of the middle to make a gap for the rubber bands to hold the wing on the fuselage. the total gap should be 3.5" between the ailerons. Trim the corners as shown to give more room to install the rubber bands.

Glue the wing halves together. Apply glue to the center spars after you have the wing positioned with the tip 3.5" off the table. Squeeze liberal amounts of glue in to support the spars where they cross in the middle of the wing.



Make a hole at the exit point for the servo wires to exit the wing. Glue the nylon protectors on the front and back of the wing with a low temperature glue gun to prevent the rubber bands from tearing the wing.

Bind your radio and center your servos. Tighten the EZ connectors so the ailerons are in line with the wing. Make sure the ailerons are moving the right direction. When you stand behind the plane and push the right transmitter stick to the right the right aileron should go up and the left aileron down.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Make sure aileron is moving
the right amount in the right direction.