

Protégé EZ 2026/2027 Elastic Launched Glider

Build manual

By J&H Aerospace ↗

www.jhaerospace.com



*A Beginner-friendly Indoor Free Flight Glider conforming to the rules
for the 2026-2027 Science Olympiad Elastic Launched Glider Event*

Includes materials for two gliders

Protégé EZ 2026/2027 Elastic Launched Glider

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Building Instructions

Congratulations on your purchase of the Protégé EZ catapult glider! Use the Protégé build and trimming videos on the product website to complete your glider: <https://jhaerospace.com/product/protegeez2027/>

1. Parts list

Before beginning construction, please verify that your kit contains all of the necessary parts listed below. Please be aware that some of the laser cut parts may have separated from their carrier sheet, so you should ensure that all of those parts are present and undamaged.

1. Parts Sheet (made from 1/16" balsa)
-Total of 2
2. Fuselage (0.050"x19" carbon rod)
-Total of 2
3. Catapult rubber (3/32" Tan Supersport)
4. Catapult Handle (pine dowel, 6" long)
5. Clay nose weight

Glider Flight Log

[illegible]

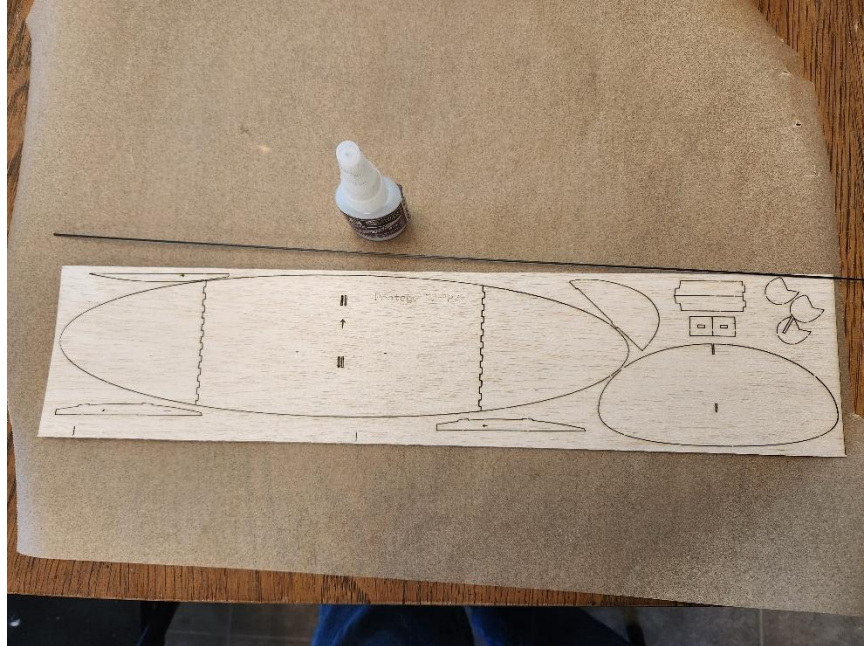
Protégé EZ 2026/7

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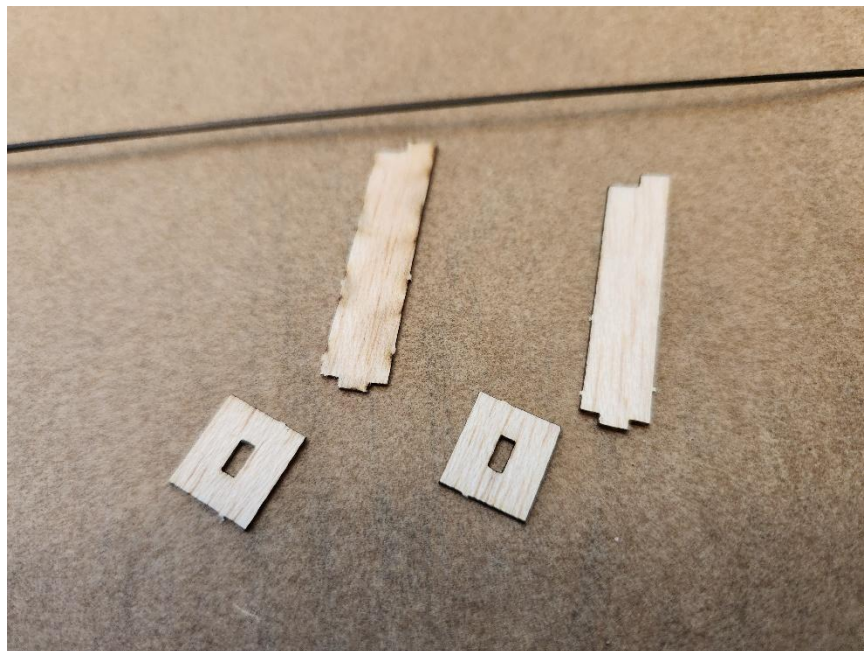
Before beginning construction, make sure you have a clean work area and the necessary tools. You will need either packing tape or parchment paper for a non-stick work surface. You will also need fresh razor blades (use a new razor blade for each build—they dull quickly and are not readily sharpened to a state that is suitable for re-use), a flat sanding block (optional), and some sort of balancer for setting the glider's CG. We recommend medium viscosity cyanoacrylate cement (aka CA, or super glue) in a quality bottle such as those supplied by Bob Smith, Mercury, or Zap. CA doesn't always harden instantly, so you will want "kicker" or CA accelerator as available from the previous mentioned suppliers.

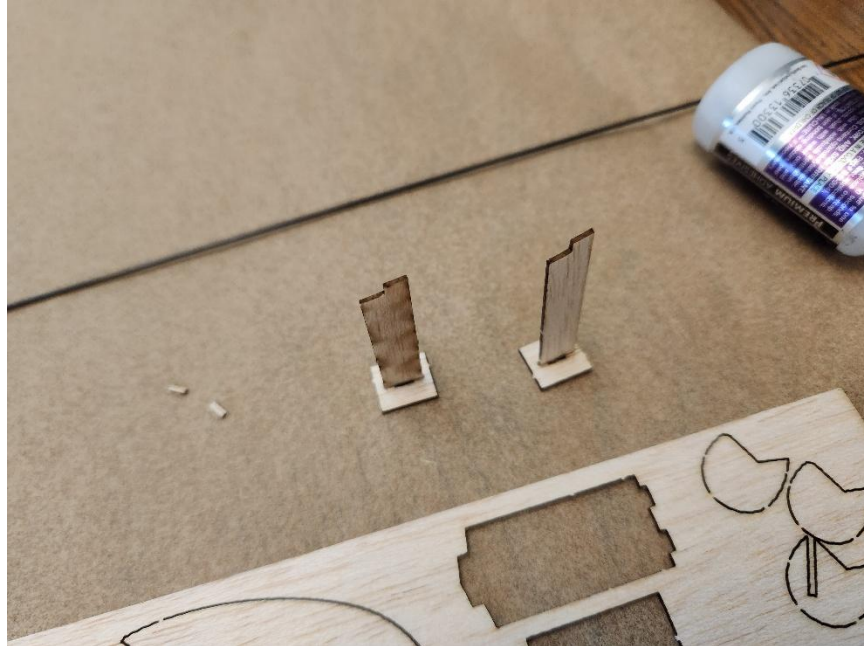
This kit is extremely simple to assemble, but it is also unforgiving of building mistakes. Build with precision and take your time. Make sure you understand each step before applying glue, as those actions are not reversible once glue is applied. The same is true for any sanding process—you cannot undo the removal of material from the flying surfaces.

IMPORTANT: the balsa sheets have a pair of cut marks in them. If you break up the sheets to remove the parts, these cut marks become useless; preserve them so you can easily mark the location for the wing to mount onto the fuselage.

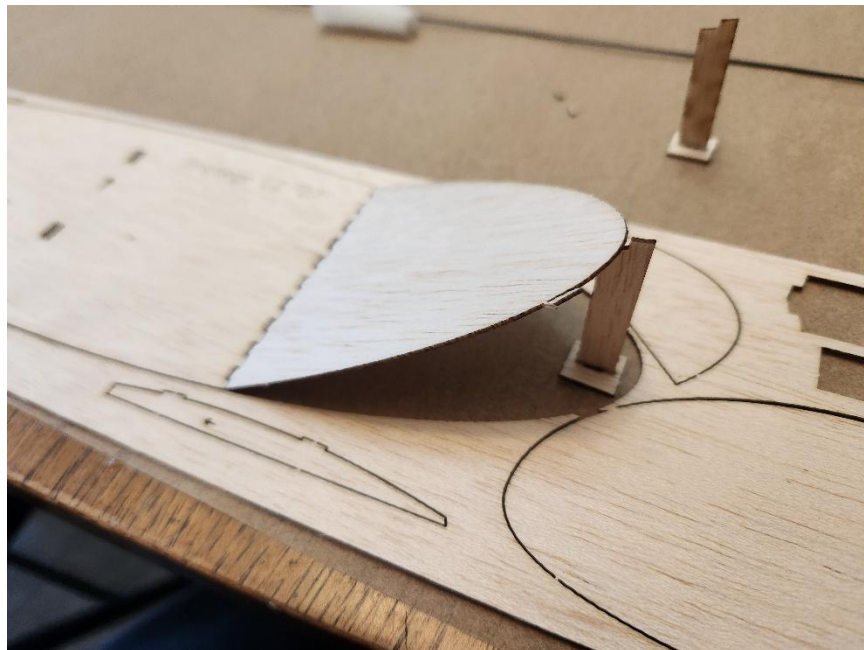


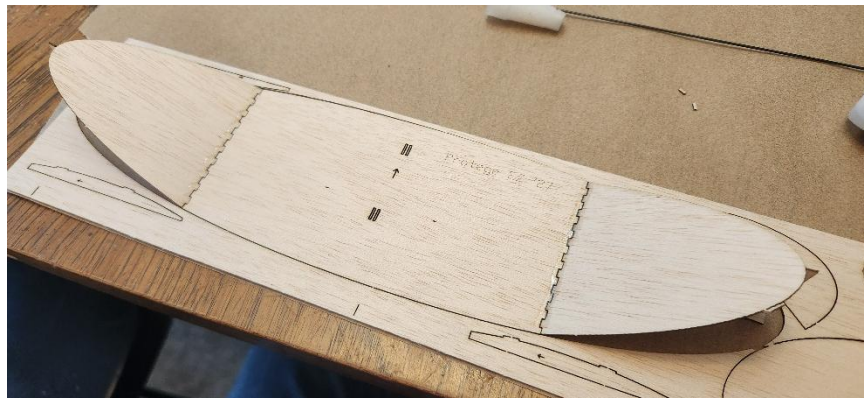
Remove dihedral jig parts from the parts sheet and assemble them.





Without breaking the wing center section free of the parts sheet, use the dihedral jigs to prop up the wingtips while you glue the tips in place at the proper angle to the center section. If things do break loose of the parts sheet, all is not lost; it is merely easier to set everything up with the center section still attached to the sheet. The tips will need to be freed from the sheet using a razor blade.





The wing can now be removed from the parts sheet.



The mounting pylon for the wing is made from 3 layers. The outer layers have tabs which will key into the wing. The center layer is narrower and has no tabs.

Laminate the layers together so that the curved surfaces are flush with each other and the arrows all point the same way.





Carefully key the wing mount into the wing. Don't use glue while test fitting. After you are sure that the slots have been cleaned out enough to get a good fit, you may glue the wing in place. The wing and the mount have arrows which must point the same way. The wingtips point away from the mount, not down on the same side as the mount. The mounting surface is curved, and you will need to press the wing down so that it conforms to the surface of the mount as you glue it in place.

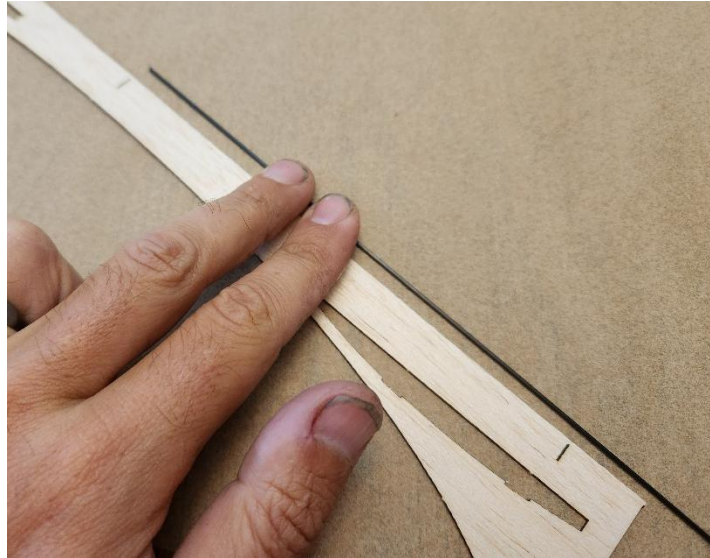




The carbon fiber fuselage rod fits into a slot on the wing mount. It is very important that you test fit the fuselage by pressing it into this slot a few times to get a good fit. Do not glue the fuselage in place yet.



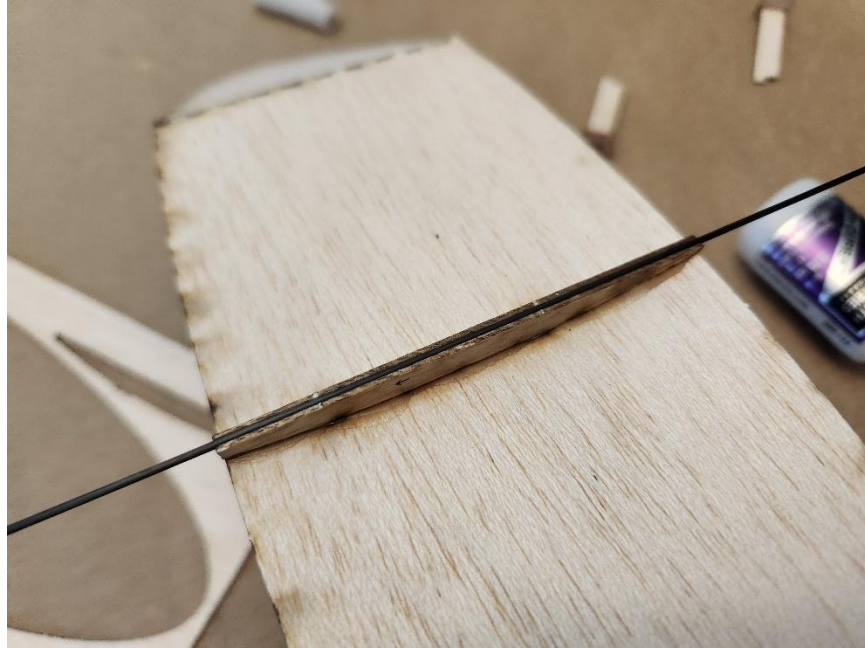
Line up the fuselage with the marks on the parts sheet. These dictate how far back the wing should be placed from the nose of the aircraft.



Press the wing in place, lined up with the mark, arrow pointing forward toward the marks, and with glue in the slot so that the fuselage is bonded well.



Make sure the fuselage is firmly glued into place.



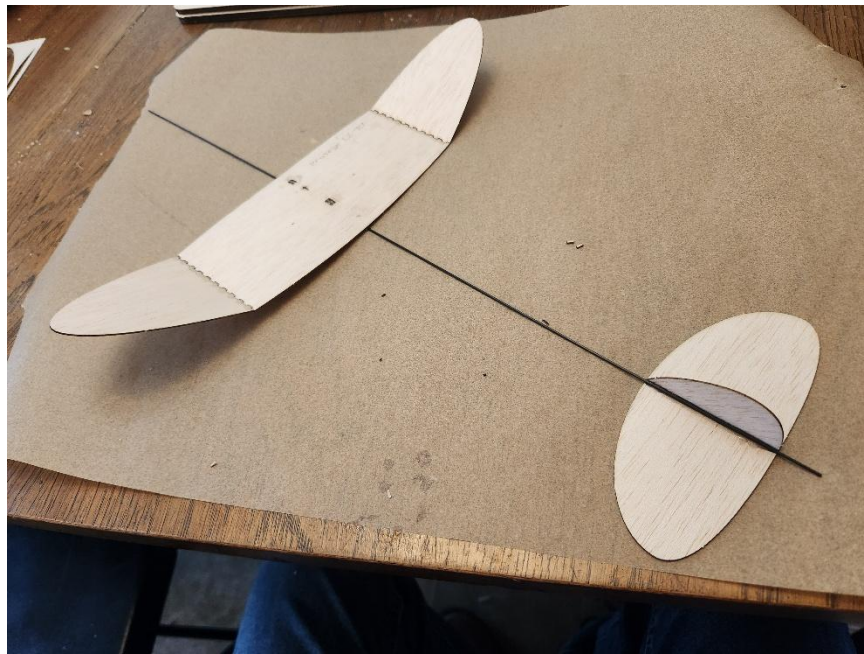
Break the and stab free of the parts sheet.



Install the fin into its notches



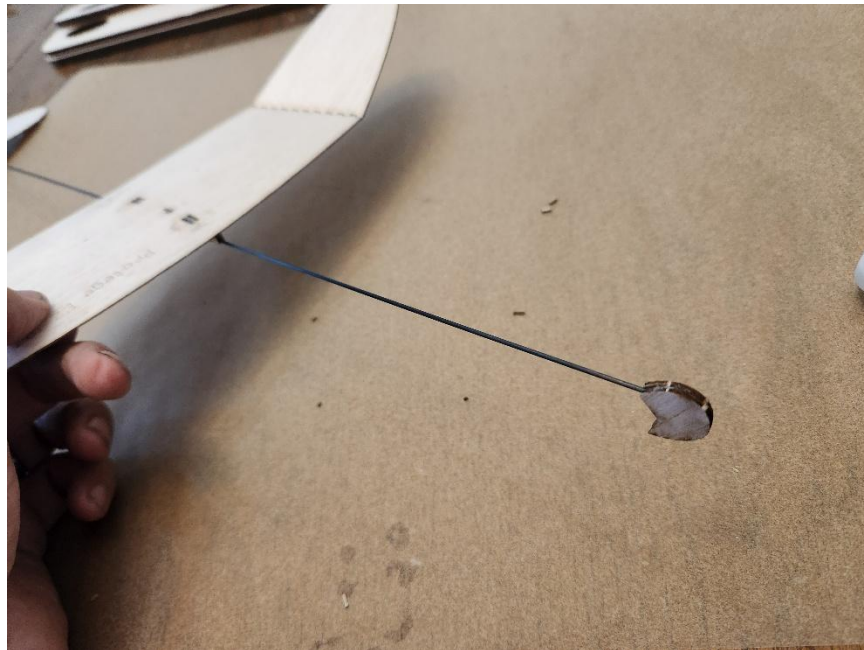
Glue the tailboom into the corner against the fin/stabilizer interface, leaving $\frac{1}{2}$ " of the tailboom protruding behind the stabilizer.



Assemble the nose, placing the slotted part as the center layer.



Glue the nose in place. The hook portion goes down.



Your Super Protégé is now fully assembled. Let's balance it.



Balance the glider at the CG mark shown on the pylon by gluing bits of clay to the nose.



Elastic Launched Gliders are very challenging to fly. Please be extremely careful to adjust the model so that it will fly well. This process starts by adjusting the elevator to get a smooth glide from a steady shoulder height toss at glide speed (don't throw it). Once you have the glide set, it is time to throw the glider harder dead level. Add rudder as needed to make it gently turn to the right as it slows down, and adjust the elevator to make it hold level as the speed bleeds off. You can then proceed to launching up at

a 60-80 degree angle and some amount of right bank that allows it to turn right off the top of the launch. If the model goes straight up and straight down, even with some bank on launch, add up elevator until this behavior is eliminated. If it loops, bend the stab trailing edge down until the model climbs and turns into the glide.

This video closely describes the trimming process: <https://youtu.be/VLZJBBSBP5>

Please contact us using the contact form at jhaerospace.com or at joshuawfinn@gmail.com if you have any questions regarding your Stinger.

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