Flapper glider launching and trimming - SO Glider Event 2026-27 season
NFFS Youth Development Program
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Watch the NFFS Glider Overview video before reading this. The two launch angles mentioned below (inclination and bank) are demonstrated in this video as are other key factors.

Flapper Basic Launching and Trimming

1. Begin testing by hand gliding; release at a slight downward angle (aimed at a point on the floor about 25-30 ft away) and with a downward follow-through with the hand/arm. releasing very gently with a downward follow-through of the hand. If the glider noses down sharply add a 1/32" thick and ¼" long shim under the front edge of the pylon between the pylon and the fuselage. If the glider noses up, no adjustment is needed at this step.
2. First launches with the rubber band should be at shallow inclination angle of 20 degrees and a 45 degree of bank angle and rubber stretch of 4". If using around a 5" loop of 1/16" wide rubber strip this means the 5" loop is stretched to 9". This should produce a smooth banking shallow climb to about 8-10 ft followed by a smooth right turn into the glide circle. If this is what you observe and the glider stalls continuously during the entire glide, add 20-30 mg ballast to the nose.
3. If the glider noses up sharply and does not bank in this first low-power high bank low inclination launch and does not bank/turn to the right, first check for loose glue joints, including loose carbon attachment. If all is good, try the next launch with a 60-80 degree bank angle.
4. If the glider hooks sharply to the right, try #2 again with half the bank angle. Very rarely we have a glider that needs zero bank and every now and then a glider needs a few degrees of bank in the opposite direction!
5. If the glider noses up sharply in this first low-power flight but banks fine and tries to transition to glider circle, add 1/32" shim between the back edge of the pylon and the fuselage.
6. You can't evaluate the transition or the glide completely till you get the bank angle correct and get the glider starting to fly per #2 above.

7. Once you have a launch path that is like #2 above, stretch another 1” and at the same time, increase inclination angle from 20 degrees to about 30 degrees. Yes, you are changing two variables, but this time it is a good idea.
8. With each subsequent flight, add another 1” of rubber stretch and try different inclination angles and bank angles (in 5-degree changes at a time) as you try to get close to the ceiling of the room. Usually, as you stretch more, you will need to increase inclination angle and also decrease bank angle. Flapper gliders typically will fly best with inclination angles between 45 and 80 degrees and bank angles from zero to 30 degrees.
9. Now adjust turn circle till it’s about 25-35 ft diameter by slightly bending the vertical fin TE 1/32”at a time 25-30 ft

Once your glider is flying close or slightly more than 1 second per foot of max launch height and is launched to at least 18-20 ft and the glide circle is correct, you move on to some additional techniques as described in “Flapper Glider Advanced Techniques”.