

HAND LAUNCH/CAT GLIDER PRIMER

By Stan Buddenbohm From the March issue of the Turbulator, the newsletter of the St. Louis Thermaleers MAC, Chris Matsuno & Bob Klipp, editors. The author, Stan Buddenbohm, is, a past master at HLG and catapult glider. He also sells Catapult and HLG kits and plans.

Catapult launching: The optimum launch angles for most catapults are 50° to 70° with 15 to 30° right bank. With the thumb and forefinger pointed up, grasp the rear of the model, either the fuselage behind the stab or a tab glued under the stab. Hold the launcher in front of you, above your head, at the appropriate angle, and pull hard! Adjust the length of the rubber so that your maximum stretch matches the rubber's maximum stretch.

Incidence: Using the bottom of the wing as the zero reference line, the higher the stabilizer trailing edge (TE) is, compared to its leading edge (LE), the more loopy the model will be at high speed.

Loopiness robs altitude, but you need some of this incidence for a good, stable glide. Don't be fooled; just because a glide test looks good doesn't mean you have the right amount of incidence. The correct amount depends on the launch. As you progress, you'll want to get all of the altitude you can so you will need to fine tune the adjustments.

At the top of the launch, the glider should almost stop before turning and plopping into the glide. At this point, it should be just past vertical, at about 100°. The amount of incidence depends on the launch speed. If the model zooms past 100°, looping, then decrease the incidence (stab TE down).

If the glider never gets to the 100° angle before stopping, increase the incidence (stab TE up). Take it slow and use very small adjustments — like bending an area as wide as your finger next to the fuselage; 1/64" or 1/4 turn of a screw.

Turn: Use rudder turn to counter the right bank of the launch. You shouldn't need to bend the rudder TE more than about 1/32". This is different from the rudder turn you build in. Always bend the rudder near the fuselage; if the top is bent, it can exaggerate spiral problems at high speed, even if the glide looks okay. Too much rudder turn will do the same thing.

Once you have the right rudder setting for launch, adjust the glide circle with tip weight. Simply add weight to the left wing tip to make a smaller circle, or add weight to the right tip to open up the circle. A 50 to 70 ft. diameter circle is good. Always make one small change at a time!

I hope these suggestions and tips will get you started, you'll be successful and you'll have a bunch of fun. Feel free to ask questions of anyone who looks like they know what they are doing. Most people in free flight are happy to help.