

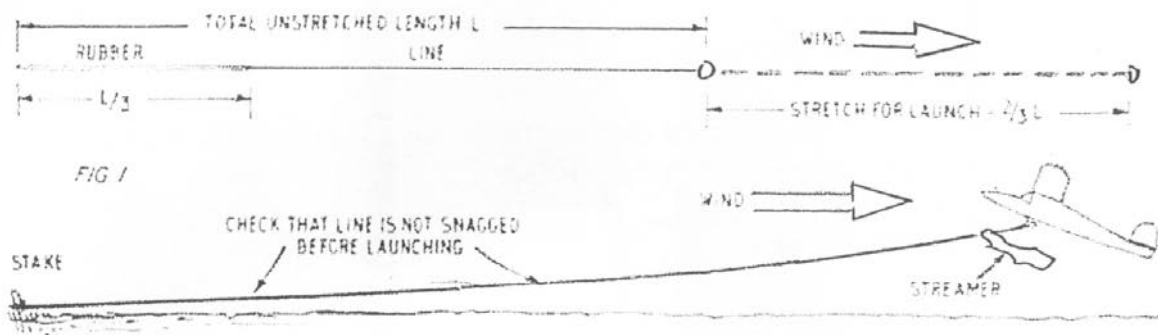
“HIGH START” GLIDERS FOR FUN-FLYING

By Mike Nassise

Most of the articles ever published on glider and sailplane flying have been concerned with contest types and their performance. Yet, the glider is equally suited to "Sunday flying", just for fun. Above all, a glider or sailplane is probably the most inexpensive type of model to operate, including even rubber-powered ships.

Towline gliders are a lot of fun, but two people are required - one to handle the towline and carry out the actual launching and an assistant to release the model. What is often overlooked is that the old-fashioned catapult launch ("high start") can be nearly as effective as a normal tow launch in the matter of height gained before release, and it can be used with large or small models. It is a method of carrying out single-handed glider launches that's even safer than the running tow approach.

The ideal proportions for a "high start" catapult are shown in Fig. 1, from which the method of launch should be obvious. The line consists of one-third of its length of rubber strip and two-thirds normal towline, thread, nylon, etc. It is extended by walking down-wind until the rubber has been stretched to not more than three times its original length, the model hooked on and released. Provided the model is trimmed for launching, and the catapult rubber width correct. The result should be a foolproof launch every time.



The chief fault is trying to use too strong a rubber in the line. The best section can only be decided by experiment, for this will vary both with total catapult length and the size and weight of the model. For 100 to 150 ft. total line length, for example, 1/8" flat strip rubber should be adequate to launch a 36" span glider weighing around 5 ounces. It will probably be too powerful for smaller models, where 1/16" rubber is usually adequate. A larger, heavier model may require 3/16" strip, or even 1/4" strip. Catapult line lengths of 150+ feet can work quite well, provided the ground is free from obstructions which could snag the line. Unlike normal tow launch, where the line is free of the ground from the moment of launch, the end of the catapult line nearest the stake tends to remain on the ground until the model has achieved a reasonable height, especially when using a very long line.

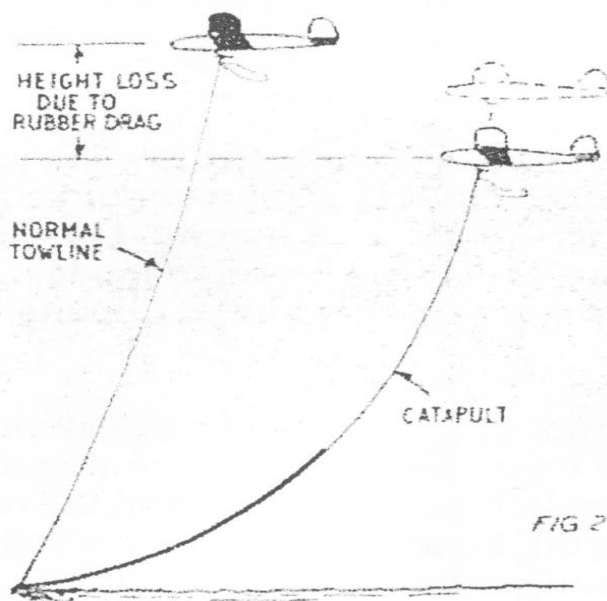
Problems are easily identified, and the cure obvious. If the model climbs too sharply or too fast and slips off the line prematurely, the rubber is too strong. Either decrease the rubber section or, if this is not practicable, increase the rubber length. If the model does not climb, then the rubber is too weak. By far, the most usual fault is too strong a rubber.

The problem may, of course, lie with the design or trim of the model. If the model pulls to one side on a catapult launch it needs trimming for straight flight or warps need taking out of the wing. If the tow

hook is too far forward, a glider will never achieve maximum height on the line. If the hook is too far aft the model will tend to weave and pull off to one side for a premature launch. The latter can also be due to lack of directional stability or warps again. A weak catapult is much more tolerant with the elastic nature of the line applying automatic correction to gusts, etc., and even to a launch started slightly off wind.

The model itself can be easily adjusted as needed on a shorter total catapult before trying on a longer length. The aim should be to get the model up to the full length of the line so that it is almost coming over the top of the stake when it releases itself. This will not normally be possible if there is any appreciable wind, even with a really good towline glider design, because the higher wind resistance of rubber strip, compared with thread, will usually cause to bow backwards with some loss of height - Fig. 2.

The only other method of unassisted launching - hand launching - has definite limitations, except for "chuck" gliders. The "chuck" glider should never be despised as a type for flying fun. A good design, properly constructed and trimmed, and with a good launching technique, can give extremely long flights, even fly-aways. Often when the wind is far too strong for safe flying with built-up tissue covered models, a good size chuck glider can come into its own and take full advantage of the soaring opportunities given by gusts



The spirit of Sunday flying! Nothing could be more carefree than this—no noise—no crowds—just us and the model, plus it is hoped an adequate picnic lunch!