

ASYMMETRIC RUBBER MOTORS

by John Pakiz, Omaha, Nebraska

Since TanII is no longer available, I came up with a way to improve the performance of Super Sport Rubber as an alternative to TanII.

I'll cite my p-30 motor as an example. This motor is two loops — one is 3/16", 18.5" long and the other is 1/8", 17.5" long. The main motor is 3/16 and the 1/8th one is supplemental. The supplemental motor is shorter and that is important for the overall performance.

On my P-30 the hook to hook length is 17". The rubber loops have to be just long enough so the freewheeling device will disengage the propeller.

Now, the dynamics of this setup work like this. It's very simple. The shorter, supplemental loop maintains a high torque value throughout the motor run while the main motor delivers the cruise. It's like the best of both worlds with a free lunch thrown in. 650 -690 turns will take my P30 to heights of 120 to 140 feet, high enough to give the model a good chance of catching a thermal.

The 3/16 and 1/8 loops work well for the P30. For smaller ships that might use a single loop of 1/8 rubber, there's a formula to determine the diameter of the main and supplemental motors. Basically, the main motor is 2/3 the total diameter and the supplemental is 1/3. 1/8" rubber is .125, so the main motor can be .085 and the supplemental .040. The supplemental needs to be 1" shorter than the main. Don't make the supplemental motor too short or you won't be able to pack in as many winds. However, the best approach is to experiment with an asymmetrical motor on a torque meter. Keep shortening the supplemental loop by one inch and try to get the same number of winds in each winding.

I've used this rubber setup successfully for indoor and outdoor models. It works.