

ANOTHER WAY TO ESTIMATE THE SIZE OF A MOTOR

by Mike Moskow

Lotta stuff has been goin' around re rubber motors, and I thought I'd put my 2¢ in.

The first step is to determine the amount (weight) of the motor for any given model. Most of our birds will do well when the motor is 35-40% of the all-up weight.

As an example: Consider a mid-size model whose empty weight is 100gm. For a 35% motor, take 100 minus .35, or .65. Divide 100gm by .65 to get 153gm, which will be the flying weight, and the difference, 153-100 is the rubber weight. 1/8" rubber weighs 1gm per foot, so we have a 53' motor

A mid-size (small cabin/stick) will have a 14-15" prop, for which 16 strands is optimal. $53' \div 16$ gives a 3.3' motor; or 16 strands by 39". It will take lots of braiding.

Winding is best done to torque, and these values have been previously shown in the PFFT rag.

For those who want to count turns, breaking turns is given by

$(50 \div \sqrt{\text{total motor width}}) \times \text{length}$

Using our example: $(50 \div \sqrt{16 \times 1/8}) \times 39$ or about 1400 turns.

Best to wind to about 75% for sport; 80% for contest.