

Tuning Up Model Plane Motors

*For the owner who wants
the last ounce of power
from his model plane*

EVERY model plane enthusiast who wants his machine to have a top-notch flying performance should pay special attention to the elastic motor.

In the first place, the rubber must be full of life and free from cracks. You can test it by stretching it out to its full length. This will at once reveal any flaws in the rubber.

The elastic should stretch to about six times its normal length and, when released again, should return to its original size. If it stretches much permanently, it is perished and useless.

The type of rubber you should buy depends on the kind of model for which it is intended. For all indoor flying machines the rubber should not be greater than $\frac{1}{16}$ -in. square section, and for very light indoor models $\frac{1}{32}$ -in. square section will be best.

For fast-flying outdoor models use $\frac{3}{16}$ -in. flat strip elastic, but for a model designed for long-distance flights the best size is flat rubber, $\frac{1}{8}$ -in. wide.

The number of strands of elastic will depend chiefly on the weight of the model. One strand of flat rubber is enough for very small light planes, but four or even eight strands will be required for a comparatively heavy machine.

Careful attention should always be paid to the fixing of the rubber to the motor hooks. This part of the work is often badly neglected. A simple way to connect a single strand of flat rubber is to pierce the end of the strand with a tiny hole, about $\frac{1}{2}$ -in. from the end. The hook may then be slipped through the hole in the rubber.

By taking a little more trouble, you may get many more turns from the rubber by making a connection like that shown at Fig. 1. To make this connection, first fold the end of the rubber over a short piece of wire for a distance of about 1 in., holding the wire in place with a length of fine wire wound round the rubber.

Now obtain some strong silk thread and bind up the joint tightly in the manner indicated. When

the end is reached, take off the fine wire and bring up the silk thread and finally make fast by tying.

The fine rubber used for indoor light models should be connected in a similar manner, this being much better than tying a knot.

Stranded rubber is connected to a strong S-type hook as shown at Fig. 2. The hook should be closed when the rubber has been slipped on. This may be done with a small pair of round-nose pliers.

The rubber motor should be adjusted to allow the elastic to be slightly on the slack side; it should never be stretched in position on the motor stick.

Few model makers know that strong light is harmful to the rubber motor, and since it tends to cause the rubber strands to become hard and cracked when the model is finished with, it is, therefore, a good plan to pack it away in some dark cupboard.

Never use ordinary oil or grease as a lubricant for the rubber. Both these tend to weaken it. A little ordinary glycerine or some soft soap will be found very good lubricants and these will not harm the rubber.

Proper elastic lubricant can be made by mixing the last two substances, and this is undoubtedly the best stuff to use. If the elastic is lubricated thoroughly after every four flights it will last for ages.

Another good tip for preserving your elastic in first-rate condition is to remove it from the machine as soon as you have finished flying, and having washed off with lubricant and a little water any grit that may have stuck to it, powder it well with French chalk, then put it away in a dark box until you wish to use it again. It is a good idea also to keep a quantity of French chalk in the box.

Perished rubber means bad performance figures, so if you want long flights it will pay you to take every care of your motor.

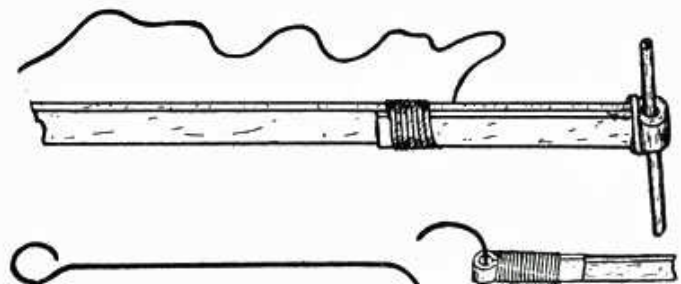


Fig. 1.—How to attach elastic to motor-hook. The loop is securely bound with fine silk thread.



Fig. 2.—Stranded rubber motors should be connected to a strong S-shaped hook, as here, the open end of the hook then being coupled to the propeller shaft.