

FOO-2-U-2

By DON SRULL. . . This is a scaled-down version of Ron Shapton's .020 scaled-down version of the original 1939 pylon design by Dick Obarski. This new version uses simple electric power, and it's a gem!

• Many antique and old-timer free-flight power designs are ideal subjects for the new mini-electric motor systems. When scaled down to between 80 and 120 square inches of wing area, these little "scale" models are wonderful sport flyers. You can't beat them for simplicity, and they all are sure to trim out easily and fly well. One of the finest old-timer pylon designs is Dick Obarski's 1939 FOO-2-U-2, a simplified and further development of Carl Goldberg's classic "Zipper." The FOO-2-U-2 in recent years has again become a formidable competitor in the form of Ron Shapton's .020 Replica version, published in the November 1975 *Model Builder*. Scaling down the 150-square inch .020 Replica to just over 100 square inches and simplifying somewhat gives us a perfect sport design for a two- or three-cell mini-electric motor system.

I used a VL Products model HY70 motor, flying the model on both two and three cells. Other mini-electric motors are suitable, including the MRC unit which comes in their small foam ARF electric free-flight; the Ferrell Enterprises .007 motor; and the

new Knight and Pridham KP01 from merry old England. Two features of the VL motor which make it particularly nice for the old-timer mini-Replicas (a new class?) are: the easy radial mounting directly onto a flat firewall and the incorporation of a propeller freewheeling device. The freewheeling prop will disengage from the motor drive pinion in case of an accidental "hard landing" with a full charge shortly after launch. This will save the motor and batteries from damage due to the high current from a stalled motor. The freewheeling prop also disengages after the power is exhausted and reduces the drag of the gliding model.

Construction of the mini-FOO-2-U-2 is very conventional, and the plans are, hopefully, self-explanatory. Remember to use light balsa for all parts except the wing spars and leading edge. These later pieces should be of stiff, straight balsa stock. Keep the model as light as possible. The only item requiring a little extra care is the forming of the wing saddle atop the pylon. An easy way to assure a perfect fit to the wing's undercamber is to fit and glue the 1/16-inch sheet balsa saddle pieces together onto the bottom surface of the finished and covered wing. Some Saranwrap or wax paper to prevent sticking and the use of a little thick cyano glue makes this job quick and easy. Glue the pylon to the saddle before removing from the wing.

Cover the entire model, including sheet balsa parts, with light Japanese tissue, and

finish off with three or four coats of low shrink dope such as Sig Litecoat. Before installing the mini-motor, make a dummy spark ignition engine from a Williams Bros. plastic cylinder and contact cement it to the electric motor. This is a "scale" model after all.

Motors other than the VL require that you install batteries, switch, and charge jack in the fuselage prior to covering. The two-cell VL model HY70 motor is self-contained outside the firewall and doesn't require any inside installation. In any case, installing these little electric motors is very simple; simply follow instructions and keep the batteries as far forward as possible, since the FOO-2-U-2 has a very short nose and a tendency for tail heaviness.

Flying the FOO is the fun part. Make sure the CG is inside the limits shown on the plans and all flying surfaces are warp-free. Although pylon models usually are trimmed for a right climb and a right glide, my model preferred a right climb and a left glide. The model's ready-to-fly weight, including some nose ballast, was 64 grams. Using two 80 mAh (mili-ampere hour) cells, the climb is leisurely and graceful. A 30-second motor run gets 1- to 2-minute flights every time. Longer chargers and motor runs of 40 to 50 seconds gets the model up high enough to catch the slightest lift; and with a terrific glide and light wing loading, chasing these little models can be a real challenge. After losing the model three or four times (eventually getting it back each time), I added a pop-up stab dethermalizer actuated by a Tomy Toy timer. It weighs a little more than a fuse system, but I personally don't like the fuss, bother, and risk of using fuses on sport models that are flown a lot. The Tomy DT cost about five grams, but even on this small model it's hard to see a difference. With the DT we can now put the little FOO up sky high, even at our little field, and bring her back every time with a short one- to two-minute DT. Fun stuff like you can't believe!

Substituting a three 50 mAh cell battery for the standard two 80 mAh cell battery that comes with the VL motor, gives the model a faster climb, but provides a shorter motor run. The maximum altitude reached is about the same in either case. Both of these battery packs weigh the same, so the glide is unaffected. I prefer the more graceful, longer climbing pattern for a model this size, so I also tried a battery pack of two 100 mAh cells. Wow! For a weight penalty of only 3-1/2 grams, you can get runs approaching three minutes and almost out-of-sight climbs. On a calm evening and using the DT, it's great fun. No matter how you fly

it, you're going to get attached to your little FOO. •