

GOLDEN WINGER'S FULL SIZE PLAN THIS MONTH

"HUMBUG" was intended as a tough, reliable sports flyer with a capability for scramble flying as a sideline. In these respects, it has been most successful, having survived the rough and tumble of sport flying; been lost in the "bush" for four months, after which it required no retrimming; and has never been beaten in a scramble.

The requirements for a good scramble design happen, we feel, to coincide with the requirements for a good beginners' model – simplicity of construction, ease of trimming, and the ability to maintain that trim, and durability. Thus "Humbug" presents an ideal opportunity for a youngster to break (sorry!) into power flying, while also providing great fun for more experienced modellers.

Design and construction of the prototype occupied one weekend, for a total cost of materials of about 5£ –excluding motor and wheels, of course. The Cox Pee Wee is the ideal power plant, with its ease of handling, although others may be substituted. If the model is kept light, by substituting a lighter grade of wood, or using 1/32 in non-critical areas, an 0.10 will provide quite sufficient power.

Construction begins with the wing. Choose the harder edge of the sheet of balsa for the L.E. of the wing, give what is to be the underside two coats of dope, and sand. While the dope is drying, cut the ribs from the hardest piece of 3/32 available. Now for bath time! Drop the wing into the bath, whereupon it will curl, with the doped side inside the curve. Don't leave it too long, or you'll have a dandy tube fuselage for your next Wakefield! Now glue the ribs in place, noting that double ribs are used in the centre. You will have noticed that the wing, at this stage, has no dihedral. That comes next. Cut the flat wing in half, and give the dihedral joint with a piece of scrap T.E. section balsa sandwiched between the two halves, to provide the correct angle. When this is dry –preferably after having been left overnight– reinforce the joint with a well-glued strip of tape.

The tailplane and fin require little work, except for the anti-warp keys, which are set in across the grain. Be sure to pin these units down securely while the keys are being glued into place, as a bad joint made in "mid-air" can result in a warp which is difficult to remove.

Next, cut all fuselage parts, giving particular attention to the downthrust angle.

Bend the undercarriage wire, sew and glue to the appropriate former with nylon thread, and assemble the fuselage. The sides are then pulled together at the tail, with a careful eye on the alignment of the fuselage. Small scraps of balsa should also be fitted behind the firewall, to reinforce the joint. The top and bottom sheeting is then fitted, with the grain running across the fuselage. Finally, reinforce the firewall joint with a strip of silk or light bandage.

When all this cutting and glueing is complete, sand the model thoroughly, fit dowels and the tailplane platform, and epoxy short lengths of 1/16 wire into the holes in the firewall to locate the engine mounting plate. The idea of attaching the motor with rubber bands may be a little horrifying to some modellers, but it works, and is a good deal less troublesome than attaching units to the back of the firewall, and so on.

Apply sufficient dope to seal all surfaces, sand thoroughly, and cover all but the underside of the wing with lightweight tissue. Then apply more dope, and finally fuelproofer. Weight is not critical, although we would recommend using coloured tissue rather than colour dope –it's easier, anyway! The original weighed 4½ oz.

Right –attach the motor with stout rubber bands, looping the band from the nose dowel behind the motor, but under the wire pins. Then collect fuel and batteries, and head for the nearest field.

If all angles are correct, and the model balances correctly, trimming should be no problem at all. The glide is slow and flat, in large left hand circles. Using the normal .020 propeller, the climb is fairly steep, in tight left hand circles –a little left thrust may be needed to maintain this– with perhaps little left rudder tab. We fly scrambles with a 6x3 nylon propeller, an enormous load for a Pee Wee, but one which we would recommend, for nice, gentle, non-ulcer type flying. Again, trim is left-left, but the climb it naturally much slower, and in wider circles, no side thrust being required.

In conclusion, a word of warning –keep the engine run short! We didn't –once– and promptly lost our "Humbug"!