



Build Harry

Purser's

beginner's .5 C/L

trainer

# DRAGON WAGON

**S**TANGE how things often go full circle, to coin a phrase, isn't it? My modelling career, some forty years, is fairly typical; starting with rubber powered models, progressing to C/L and then to R/C, my last serious C/L flying dating back to about 1968.

Two years ago, however our eldest son Richard, then aged nine saw a C/L model being flown and became very interested in this type of model as well as plastic scale kits. We also have built up a selection of small rubber-powered models over recent years.

I purchased an old Veron Provost profile trainer, fitted it with my ED .46 diesel and in a very short time, Richard was flying this model with ease. Our next C/L model was a Sig Chipmunk fitted with a Merco 35 which I really enjoy flying but it would probably pull our (now eleven years old) son over! In any event this size of model is inevitably damaged in any crash and is not suitable as a trainer.

I therefore, designed the model featured here for our youngster to learn at least loops and simple manoeuvres with. Of primary importance were total simplicity, small size and construction tough enough to withstand the inevitable knocks. In fact, if flown over long grass, this model is virtually indestructible. First flight were with a very old Wen Mac 049 which was not very reliable but loops, bunts, eights and inverted were flown on twenty foot 'button thread' lines. Incidentally, nylon fishing line or very thin wire lines are better than button thread since thread tends to lock up after even two loops. Next we fitted the ED .46 diesel which, whilst reliable, is a little short on power. In no time at all Richard was flying the model and performing loops and showing good progress. At this point he moved on to a ready made plastic C/L Mustang which looks nice and goes like a team racer... but to a dyed-in-the-wool balsa basher is not entirely my idea of modeling.

Brother Julian, aged eight, wanted the ED .46 back in the Provost so that he could have a go, so at this stage I purchased a new Cox Tee Dee 049 for Dragon Wagon. I was utterly amazed at the power of this motor and tested it, running very rich, but with the original twenty foot lines, it leaned out after two laps and I all but vanished into a blur, rather like a skater performing a pirouette. This is the only time I have ever been giddy flying C/L, much to the amusement of the children. With thirty-foot plus lines, however, the model is nicely aerobatic with the ability to retain tight lines in any position or manoeuvre. It is also generally good at regaining line tension if the lines do go slack with lower power motors. In all seriousness, the Tee Dee really does take the model

beyond the trainer stage and would require very strict supervision with youngsters; indeed, any motor must be treated with total respect at all times. Ideal motors include D C Darts, PAW .8cc diesels or any 0.5cc diesel.

I have yet to try the suggested flaps but when I have finished by KK Skystreak 40, I will build another dragon Wagon with these fitted. Possibly a double-size version for a 2.5cc diesel will be the next model, including flaps. Modern printing techniques make enlargements/reductions so simple.

## Chop wood!

The fuselage should be from straight, firm balsa (not oak) cut to shape with cut-outs for bearers, leading edge and trailing edge, as shown in the drawing. Bearers are ideally close-grained beech. When the bearers, LE and TE, are glued into place, follow with the ply reinforcement to each side, all using PVA adhesive. The wings are of formed of a laminated LE and simple sheet TE which are passed through the fuselage and glued in place using PVA adhesive. Check all is square and true and follow with ribs and soft sheet tips, maintaining accuracy throughout. Balsa cement is quite adequate for general wing construction especially the laminated LE, as balsa cement sands well.

Next, fit the ply bellcrank mount with PVA adhesive. The bellcrank is bolted in as shown (yes, the head does pimple the lower covering). Lock up all the nuts and bolts with cyano having ensured smooth bellcrank operation. Keep the cyano away from the bellcrank though, or it will never move again! Make up and fit the lead outs and push rods as shown and retain with soldered washers or "Z" bends

and ensure absolute security before proceeding. The wing is completed by centre section sheeting, as shown.

Tailplane, elevators and fin are simple sheet as shown on the drawing. Hinges can be of Solarfilm but I prefer sewn thread for small models. One could, of course, use proprietary hinges, or mylar. An R/C plastic elevator horn was fitted following covering of the elevator.

## Finishing

Two coats of 'Clearcoat' were applied to the fuselage and fin, the remaining surfaces being covered with translucent Solarfilm. The tank was made from a plastic container for children's pistol caps with ends fitted and tubes installed, all using cyano glue. An air vent must be drilled towards the top on the fuselage side. It really worked!! but for the sceptics, a conventional metal tank may be preferable.

Finally, do ensure that you start with the balance point as shown and use ballast as necessary to obtain the correct centre of gravity position. This latter item is vital, for there is nothing which will make an incorrectly balanced aeroplane fly properly. This applies to anything ranging from an indoor free flight model to a Jumbo Jet.

## Conclusion

The Dragon wagon has proved us with a lot of enjoyable, economic C/L stunt flying within its size limitations. To fellow builders, we hope that yours provides as much enjoyment as the original.

Oh yes, the name! Dragon Wagon is the nickname of my wife's car!! At this point I will sign off and retire to the model shed. (P.S. *He better had, after that - the wife.*)

