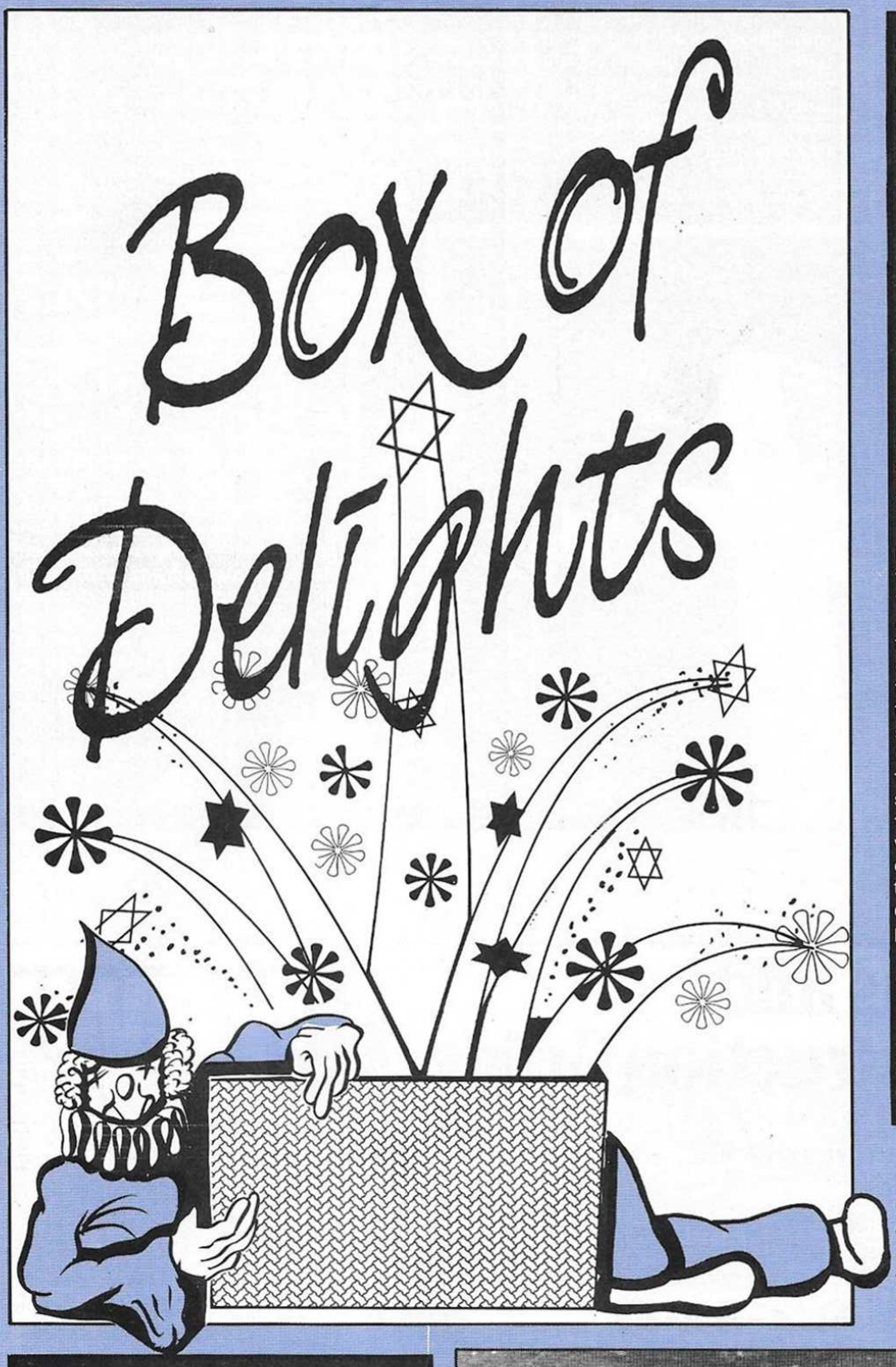


GEOFF SPRAWSONS's latest pack away model for .19 diesels and three function radio.

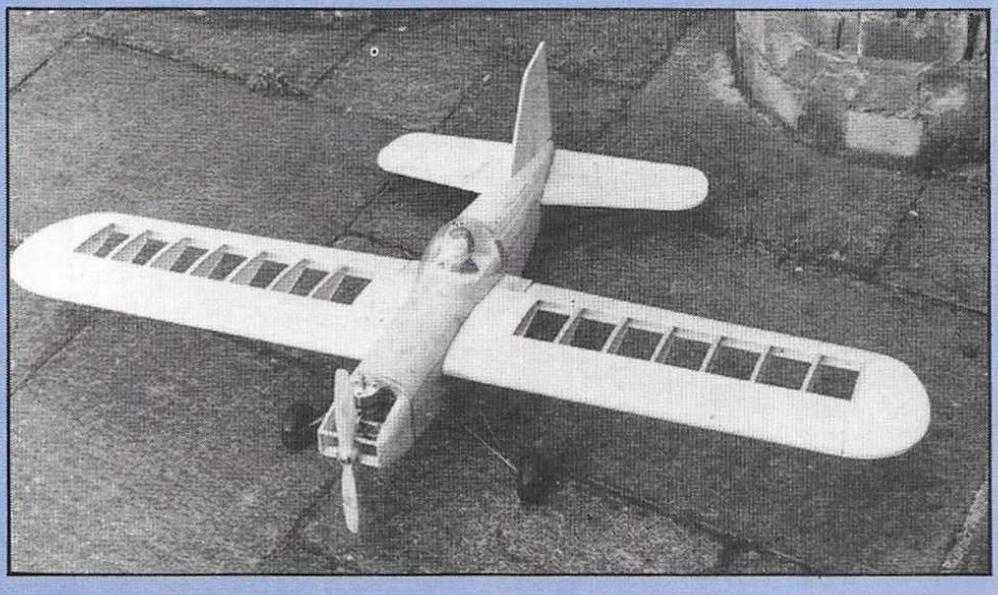
Here it is, the follow up to 'Jack in a Box'. A powered, sports aerobatic, pack-away model that you can take with you anywhere, to enjoy flying whenever you get a chance. The model is fun to fly, with neutral, docile and vice-free handling. It is almost suitable as an aileron trainer, bearing in mind that it stays in whatever altitude you put it in! The prototype is powered by a P.A.W. 19 diesel. This has the advantage of simple operation, no flight box, no starter and no glowplug leads; just a can of fuel, carried outside the box in case of leaks. The first time that it was flown. the other modellers watched apprehensively as I arrived with a plane and no equipment, expecting that I would need to borrow all their gear! The diesel engine also has the important benefit of a less obtrusive exhaust note, vital for a model which may be flown in unusual locations.

Creating The Beast

Start with the wings; they are needed to align the components on F3. The ribs are all the same size and may be sandwiched or cut with a template, sand smooth and drill the holes for the joiner tubes. Razor plane the leading and trailing edges to section, pack them to height on the plan and glue up the wing frame with the ribs and spars. Let both wings dry, position the joiner tubes and wires and check alignment.

When you are satisfied, epoxy the tubes in position, add the packing blocks around the main tubes and web the spars. Sheet the wings, and fix the cap strips to the ribs and trailing edge. Epoxy the aileron torque tubes in position, add the false trailing edges and the ply root facings. Fit the 3/32in. tip outlines, glue the foam blocks in position and leave until dry. Cut the foam to section with a hot wire or a hacksaw blade. (If you use a hot wire, pin a card template to the end of the foam to keep the cut straight). Sand to final shape, and, for those using film or heat shrink nylon, coat with 'Balsaloc'. Remember, don't use a doped finish on unprotected foam! Shape the ailerons, but don't fit them until the torque rods can be positioned in the completed fuselage.

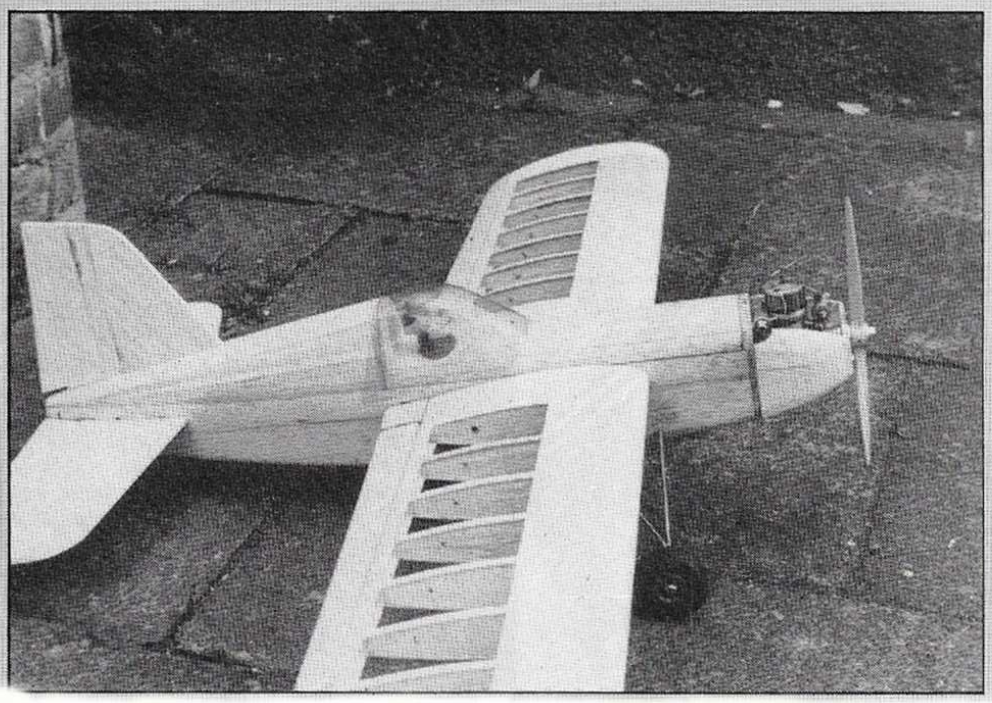
Epoxy the main joiner tube accurately across F3. Assemble the wings on the joiners, the aileron bellcranks on their mountings and position on F3. Fit the aileron torque rods into the bellcranks, and check for free movement. When it all works properly epoxy the rear joiner tube and bellcrank



The 'Box' features a simple construction — D-box wings, sheet fuselage and tail surfaces. Wings, tailplane and undercarriage all detach from the fuselage so that the whole model can be packed into a small box.

Below, another view of the uncovered airframe showing the outline of the one piece hatch from trailing edge to F1.

Low aspect ratio wings give a good wing area for a short span and a respectable roll rate.



mountings to F3. Cut-out the fuselage parts, and fix front and rear doublers to the sides, (I used the technique of gluing both surfaces thinly with P.V.A. and ironing them down dry). Pin the sides accurately together, drill the holes for wing, tailplane, and undercarriage fixings, and cut the slots for the ailerons and elevators. Fit the balsa spacers and former locators to the front doublers and the triangular stock to the sides. You may need to notch the triangle to get it round the front bend. Razor plane the rear triangular section to the line of the fuselage sides. Assemble the sides with formers F1,2,3,4 and 5, check for squareness and alignment and glue up. When dry, glue the back together. Fix the tailplane tubes and bellcrank with the elevator push rod already attached, carefully checking the alignment against the wing joiners with wires through the tubes. Epoxy the undercarriage in place, add the tank support and the bottom sheeting. Drill the rear post for the tailskid tube.

Edge the fuselage sides and 1/8 x 1/4in. hatch edge with strips of 1/32in. ply. Mask the fuselage sides and formers around the hatch with adhesive tape, position formers F2A and F5A with 14 gauge pegs, glue the hatch edges between them and add F4A. Plank the hatch with strips of soft 3/32in. balsa, note the tape. Remove the hatch and masking tape, epoxy the front hatch peg in place. Fit the engine mount and check clearance on the cowling. Remove the engine and replace the cowling. Add formers F6 and F7 plank the rear fuselage with tapered strips of soft 3/32in. balsa. When the planking is dry, sand the top flat and add the 3/8in. deck. Make slots and holes in the deck for the aerial exit tube and the canopy catch. Glue the block around the tank in place making sure the tank is a snug fit.

Sand the fuselage to shape, add the fin and plastic canopy with pilot and cover. Fit the rudder snake, canopy catch, and aerial exit tube.

Position the wings, engage the aileron torque rods in the bellcranks and fit the ailerons. Make up the tailplane and elevator and check for alignment before finishing. Fuelproof, set up the radio and you're ready for the off.

Now the Fun Begins

The prototype's first flight unfortunately provided valuable information that I didn't really want at that point, terra firma 1 — model 0. The crash after 5 mins of promising test was clearly due to interference, the model not even responding to the throttle on the way down, and the radio working perfectly afterwards at greater than crash range with the transmitter aerial down. The impact removed both blades of the nylon prop flush with the hub, and split one of them in half lengthways. However airframe damage was restricted to a fuselage break between formers 2 and 4, a broken wing root where the end of the joiner rod had coincided with the first rib position (remember to keep the joiners centred) and a crushed wingtip and cowling.

After repairing the damaged wing, and making a new, slightly modified, fuselage, I was ready to try again ... Success! The combination of a thick blunt wing section with tapered ailerons, produces very predictable low speed handling with no tendency to tip stall. Full throttle performance depends on the CG position. With the CG as shown on the plan the model manoeuvres smoothly and is easy to fly. If you like snappy flying, move the CG aft in gentle stages to taste.

Everybody who has tried the prototype has been impressed by both its looks and performance. Try one; you can surprise the wife, when she thinks she's got you on holiday and away from those horrible smelly toy planes for a fortnight!

Box of Delights on its box. Model and transmitter are carried in the box, the fuel for the diesel is separate in case of leaks.