

LAWRENCE DESIGNS & MODELS

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Although widely known for our Brass Master Prototype Patterns (recognisable usually by our logo (L.D.M.) engraved on undersides.) as used by many white-metal kit manufacturers, this is our first venture into marketing a kit under our own name. The subject is known to many through our '500th Master Celebratory Issue' of this model as a fully finished limited collectors edition in the 'Rothmans' Aerobatic Team colours. Now available in kit form in 'Jubilee Duc' Aerobatic Team colours (No.1 aircraft)...
the 'Pitts S2.A Special'

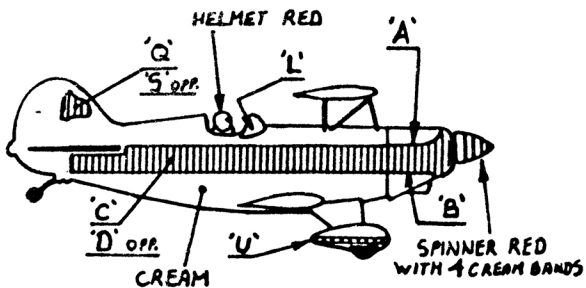
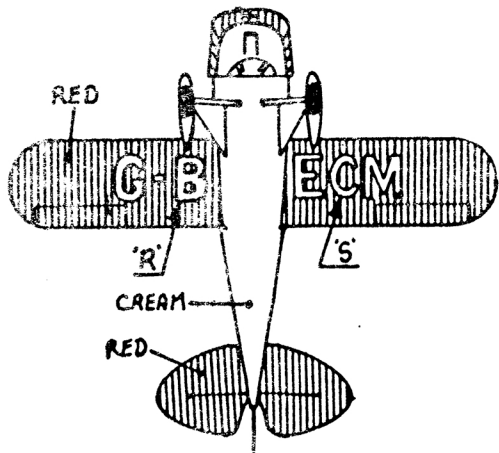
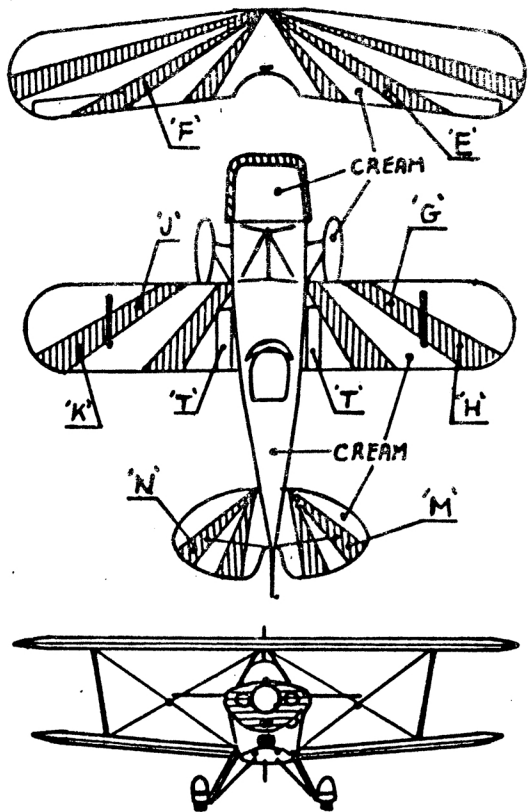
This diminutive but highly manoeuvrable aircraft is a conventional structure two seat bi-plane (the front seat is usually faired over for aerobatics) of 20ft wingspan and powered by a 200 hp Lycoming engine giving a top speed of 157 mph. Designed by Curtiss Pitt it entered production in 1971 (originally with a 180 hp engine) and is now widely used by aerobatic teams and individual pilots throughout the world.

This kit is produced basically from the same moulds as our 'Rothmans' model, and in the light of experience gained from building quite a number of these the following points should be noted..... (A)...Although the propellor can be assembled so that it is free to rotate, for the less experienced modeller we suggest that it be fixed, as it can then be fitted last, after model is painted and thus avoiding difficulties with the masking, transfer application and probable handling damage etc.....(B)... The upper wing was designed so that the wing strut spigots protruded through and were soldered to the top surface, this entails filing flush and retouching up paint finish locally. It may be considered preferable to shorten the wing strut top spigots to 2mm length, fill holes in upper wing and redrill $1\frac{1}{2}$ mm dia by 2mm depth from underside, taking care not to break through, so that painted wing can be glued onto struts without fear of marking the finish to the upper surface.

The following assembly sequence has been compiled to achieve the quickest assembly with the least risk of handling damage. Read all instructions fully, in conjunction with the 'exploded' drawing. Carefully remove any flash or mould lines from castings with a fine file, trial fit all parts and wash all items prior to glued assembly. For the best results joints should be soft soldered, however we stress that soldering is only to be used by those already skilled in its application to white-metal. Almost as good and a great deal safer is the use of quick-drying epoxy resin adhesives, such as 'Devcon' or 'Araldite Rapid', Cyanoacrylates can also be used for the smaller parts and for attaching the windscreen.

1. Trial fit Lower & Upper Fuselage sections (1 & 2), it may be necessary to file flash from spigot at tail end of (1), also fuselage sides may need careful bending to achieve a close fit. Note dihedral of lower wing.
2. Glue Seat Unit (3) into lower fuselage, and Dashboard (4) into upper fuselage. N.B. If pilot is required omit items (3) & (4) and fit Pilot (5) into upper fuselage.
3. Assemble fuselage halves, when fully dry lightly file joint flush.
4. Assemble Undercarriage (6) into lower fuselage, fill hole (originally used for a stand location) between U/C legs.
5. Trial fit Engine Cowling (7). This may need some careful adjustment to profile as this item sometimes distorts in casting. Note that upper sides of cowling protrude, (cooling air exit). Drill hole 4mm dia for propellor (8). If a free turning propellor is required, (see note (A) above), insert prop' spigot into cowling and glue Retaining Washer (9) into place taking care not to get adhesive between spigot and cowling. Assemble cowling to fuselage, check alignment before adhesive dries by visually sighting along fuselage.

6. File out slot in fin, 2mm length, to locate Rudder (10) and tail bracing wire. Check that tailplane is correctly aligned relative to lower wing. Bend a piece of the wire supplied to angle of 'upper' template on assembly drawing, cut to length so as to locate in fin slot with ends in the small holes in tailplane, and glue into place.
7. Fit Rudder (10). Lower fuselage location may require careful filing to suit rudder.
8. Bend wire to 'lower' template, cut to size to fit under tailplane, wire passes over forward end of tailwheel leg and locates in same holes as the upper wire.
9. Glue/solder Outer Wing Struts (11 & 12) to lower wing, check alignment by dry fitting Upper Wing (14) in place whilst glue hardens. When dry clean off any protruding lengths of spigots on underside of wing. Carefully bend Centre-section Strut (13) to C/S template and glue into predrilled holes in upper fuselage, again using upper wing as jig.
10. Check over model so far, clean up joints etc as required, lightly rub all over with fine 'wet or dry' or a suede brush, including upper wing, then wash well in warm soapy water, rinse and leave to dry.
11. Spray all over with primer. When fully dry roughly mask all upper surfaces and lower fuselage and undercarriage, then spray undersides of both the wings and the tail 'Venetian Red', avoid excessive overspray onto other surfaces. Remove masking.
12. When Red is fully hard, mask over undersides of both the wings and the tail, then spray the complete remainder 'Pale Cream' (several light coats are preferable to one or two heavy ones), inspect for 'pale' areas and respray if required. Remove masking before paint fully hardens then leave until hard.
13. Clean off paint from wing strut spigots (see note (B),) glue and assemble upper wing into position.
14. Apply transfers as per drawing below. We advise the use of 'Micro-set' with all the transfers. Cut out items as required, immerse in luke warm water for 10-15 seconds, remove and transfer should gradually uncurl, ensure transfer is fully released from its backing sheet then carefully slide into the required position, align then press firmly down to exclude all air pockets. Special note...Side panels (transfers C & D) should be trimmed by 1½mm off from fwd end and 2½mm off rear, locate under tailplane and align so that top stripe lines up just below top edge of propeller hole. Position top cowl stripe (A) to match side panels, then lower stripe (B) likewise, it may be necessary to crease these two stripes slightly but with care and using 'Micro-set' this will not be noticeable once gap between the stripes is painted. When applying (M & N) to tailplane note that transfer is slit to fit around tailplane bracing struts.
15. Cut 2 lengths of wire 26mm long for aileron rods between wings, insert wire through holes in lower wing and locate opposite ends in recesses in upper wing, glue in place. Glue an 8mm length of wire into L/E of lower Port wing for Pitot, also a 14mm length of wire between U/C legs and angled backwards for VHF aerial.
16. Paint area between cowling stripes Red, and touch up any gaps or damage to other transfers. Paint tyres, seat, carb' intake and exhaust stubs....Black, fuel filler, fuel gauge (fwd of C/S struts), pitot and aerial...Silver, aileron rods....Cream, Propeller....blades Grey with Yellow tips, spinner Cream with 4 Red bands, Pilot (if fitted)....goggles Silver, mask Brown, helmet Red.
17. Transfer varnish is gloss but due to manufacturing problems has come out decidedly matt! so we recommend at this stage the entire model be sprayed with 'Micro-Gloss'.
18. Cut out vac-formed windscreen and cement in place, glue propeller into place if not already fitted.



Should anyone wish to fit flying wires (model was not designed for this, but some people will try anything !) a length of fine Micro-rod is supplied. See sketch above assembly drawing for rigging positions. Spreader bars approx. 15mm long.

We hope you have enjoyed making up our 'Pitts S2.A Special' kit, we have plans to follow in the future with other white-metal aircraft models to 1/48th scale, look out for advertisements or send your name and address and we will keep you informed as other kits are ready.

Finally we would like to thank Anvil Aviation Ltd, of Tees-Side Airport, for their kind assistance and for their permission to use their 'Jubilee Duo' colour scheme.

Brian Lawrence

B. Lawrence.

(L.D.M.)

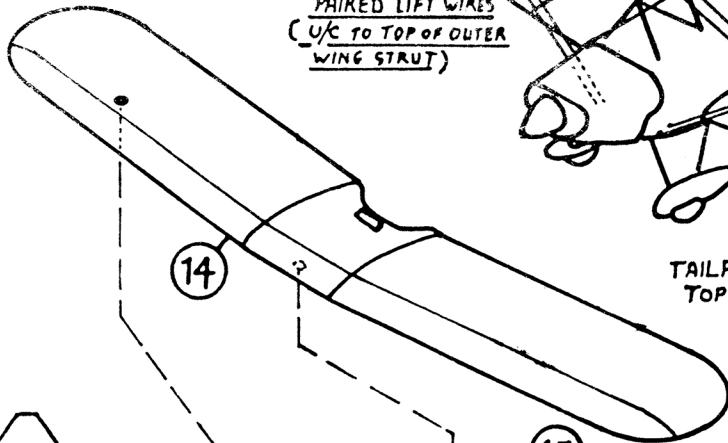
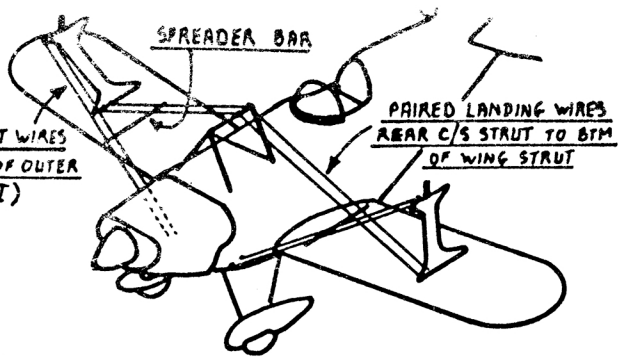
Also now available, to 1/48th Scale.....

No.2. 'Cierva C30A' Autogiro (civil & military)

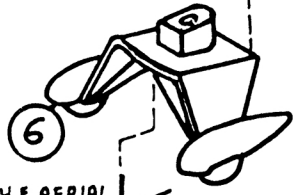
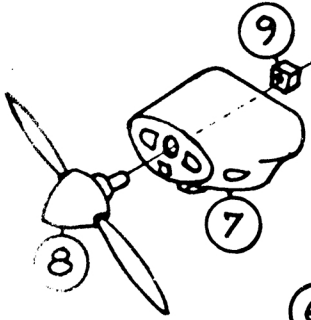
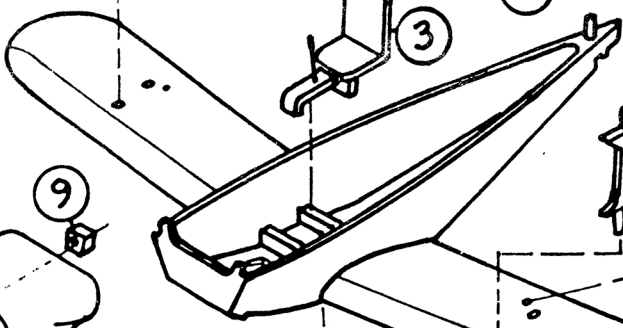
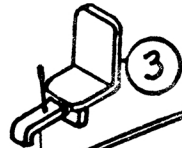
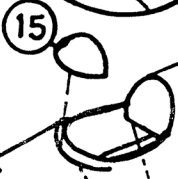
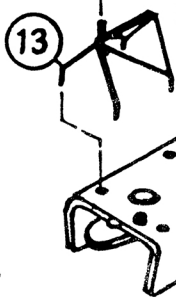
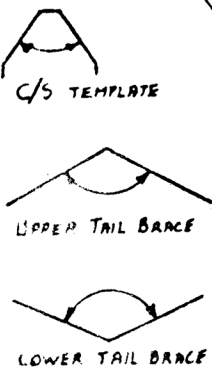
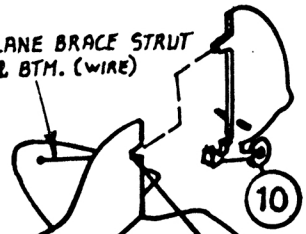
No.3. 'Comper Swift' Racer (G-ABUU & VT-ADO)

No.4. 'Percival Mew Gull' Racer (G-AEXF)

ARRANGEMENT OF BRACING WIRES



TAILPLANE BRACE STRUT
TOP & BTM. (WIRE)



PITOT (WIRE)

No. 1(B)

DEC. 77.
L.D.M.

'PITTS S2.A SPECIAL'

(WIRE) V.H.F. AERIAL