

## Tom Jolley's 'BURP' Mouse Racer for .049's (.8 c.c.)

**FULL SIZE  
PLANS ON  
CENTRE  
PAGES FOR  
THIS ULTRA  
SIMPLE C/L  
DESIGN**

CONSTRUCTION, in the main, has been kept simple. The only dodgy step is the drilling of the fuselage for the undercarriage leg. Unfortunately, despite much dandruff disturbance, it's the best idea we can come up with.

Balsa cement was not used on the originals at any point because of the ply parts. Araldite, now available in small quantities, is recommended for the joints that you can leave for a number of hours. Those requiring speedier treatment were fixed with Holts Cataloy paste - useable time about four minutes, and workable after 20-30 minutes.

Now, to the bench, kitchen table, grand piano lid or what-have-you. We always suggest, but never do it - chop out all the parts after you have decided what engine to use. Ensure that the tail slot in the ply fuselage is parallel to the top edge. Cut out the spar slot in the wing and glue the spar in place. Carefully round off all the edges of the tailplane and elevator with very fine glass paper, which should be wrapped around a 6 in. length of planed 2 in. x 1 in. hardwood to give much better control. Finish all edges and surfaces (except wing at this stage) with grade 400 wet or dry paper, used dry.

Hack the wing to the closest approximation that you can manage to the shape shown on the plan. Again finish with glass paper and 400 Wet or Dry paper.

Drill the ply section of the fuselage and having bent the upper part of the leg, push it down through the fuselage. Trim underneath of the wing to seat correctly on the ply.

**Sticking time** - Attach wing and tailplane to plywood half of fuselage. Check that they align perfectly to each other both in plan, side, and end views. Attach engine former if using radial mounted motor (no offsets necessary). Glue balsa top to fuselage.

Two choices now remain: start a second model or go to bed.

If using beam mounting, shape bearers and attach to fuselage. If using radial mounting, groove mount for tank feed pipe and add top and bottom fillet pieces. Drill rear of fuselage and glue tailskid in place. Attach outboard wing tip skid and inboard wing line guide. Attach horn to elevator - securely. Add adhesive fillets anywhere that

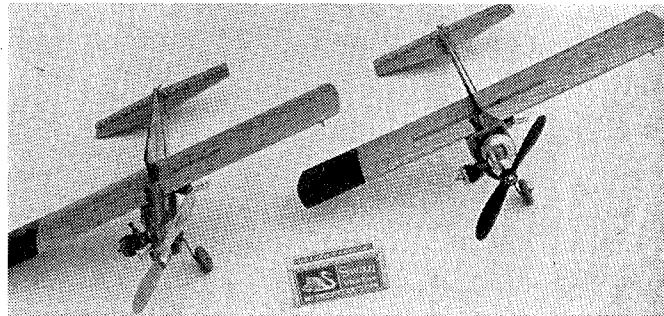
you fancy - wing/fuselage, tailplane/fuselage, engine mountings etc., and that's it.

Continue with second model, watch T.V., or go to bed again.

A great many words have been published on the subject of finishing, but most can be ignored for this brainstorm. After a most careful finishing sanding with 600 W/D paper, used dry (well-used 400 or two pieces of new 400 scrubbed face to face will suffice) apply one coat of clear dope, straight from the bottle. You can, to advantage, add half a dozen drops of castor oil to each ounce of shrinking dope - stir extremely well before use. This will reduce the tendency to curl the wing trailing edge and tail parts. Lightly dry sand all over with the 600 again, paying particular attention to corners and end grain. Add any trim that your psychedelic fantasies dictate. Apply one or two coats of clear polyurethane to the whole thing. As you will be using nitromethane fuels in glow motors, it is recommended that you use a two pack polyurethane - the only type that has a true chemical hardening process.

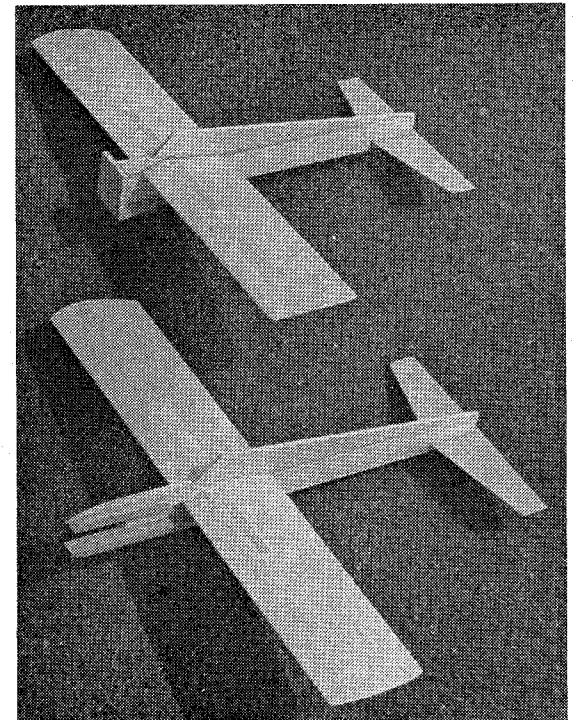
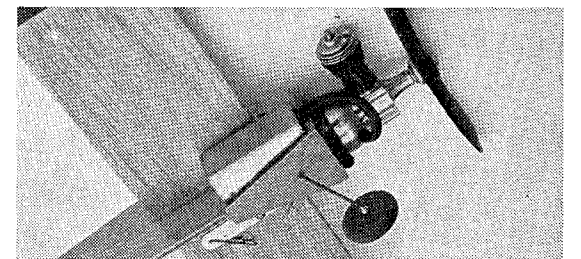
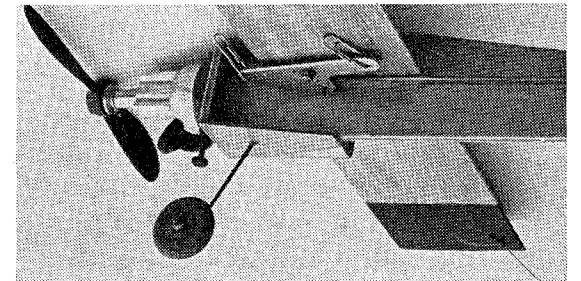
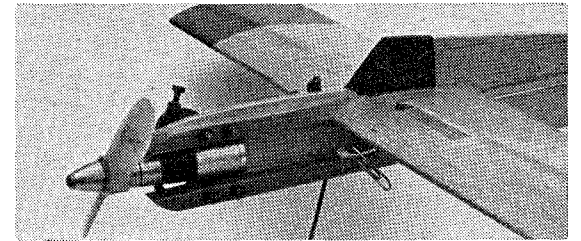
Using either a fine twist drill (No. 50) or a pin, carefully make the holes for the carpet thread stitched hinging, which connects the elevator to the tailplane.

The prowess of the girl friend or wife - but not both together - could now be tested. Ensure that ultimately the horn is on the top - this will mean that for 'up' elevator the pushrod is pulled giving a positive reaction at the elevator, instead of a bending pushrod when overtaking. You *will* be overtaking, won't you? Drill the wing and bolt the bellcrank in place complete with paper clips (for tiny models ONLY) and over-length pushrod.



Paired views of the twin Burps, Class I for Tee Dee 049 and Class II with Cox Babe Bee radially mounted are sized for comparison with matchbox. Could anything be simpler? Last year's Nats showed how these tiddlers can rotate like the best and yet can be made overnight. Build today, race tomorrow should be the motto.

Right, Top to base. Nose detail of Class I with Cox Tee Dee on beam mounts. Detail of bellcrank with paper clip connectors, and pushrod trapped by wing as does the elevator horn and fuselage. Drilled Babe Bee tank also has needle valve upside down for crash protection, hard to see; but it points upwards. Base view shows the bare facts, minus flippers, ready for finish and proofing, one for each class.



Temporarily lock the bellcrank at the *almost* full DOWN position and, holding the elevator at neutral bend the pushrod to fit the elevator horn. Remove the bellcrank/pushrod assembly, feed the pushrod through the elevator horn and gently fiddle the rod and the bellcrank back to their correct location. Drill the motor mounting for the 8 BA bolts (No. 44) and bolt motor in place. On radial mounting version screw lower outboard bolt FORWARDS to ensure clearance for tank.

Now glue tank in place, making sure that tank and local area are grease-free. Install 5 in. diameter prop. on motor and bend undercarriage leg so as to give  $\frac{1}{4}$  in. to  $\frac{1}{2}$  in. prop tip clearance when flying from hard surfaces or  $\frac{1}{2}$  in to  $\frac{3}{4}$  in. for very short grass. For long grass just don't bother with an undercarriage at all. Bend for wheel must turn inwards, not outwards, so that wheel is inboard of the C.G.

Flying presents no problems - it can be used as a trainer - even in strong winds, believe it or not. After connecting the lines, double check that a comfortable handle neutral gives neutral elevator. Be critical. Rectify any errors by adding/subtracting/bending supplementary paper clips at the handle. Use a handle with a small line gap (about 2 in.) to reduce sensitivity. At the moment of release the pilot should step back and to the left to ensure line tension as the model lifts off.

Original equipment used has been: K.K. red card 33 s.w.g. steel lines; K.K. plastic handle; K.K. 15 c.c. rectangular team race tank; Tornado or Cox 5x4 nylon props; and Super Nitrex fuel (15 per cent nitro).

The use of a two-volt wet accumulator should seriously be considered, using a long thin lead to end up with about 1.7 volts at the plug. This voltage is high enough to burn off any excess fuel during a flooded start, but not high enough to burn the element or cause excessive back-firing. A *small* polythene bottle should be used as a filler/primer, because a normal sized one will waste as much fuel as is used, being almost uncontrollable during pit stops.

Lines should be carefully stored on a reel around 2-3 in. diameter - a suitable one can be made from  $\frac{1}{4}$  in. Balsa core and 1/16 ply flanges of  $\frac{3}{4}$  in. bigger diameter than the core.

See you at the next event?

### Rules

Class I Motors costing more than £4.

Class II Motors costing less than £4.

Modifications and interchange of parts is allowed in each class as long as the original style of induction is utilised.

### General

Handle to model line length	35ft.
Minimum line diameter	0.010 in.
Maximum number of team members	Three
Maximum number of teams per race	Three
Minimum number of teams per race	Two
Heats: 72 laps with minimum of one stop	
Final: 144 laps with minimum of two stops	
Flight circle markings:	
10 ft. diameter	
20 ft. diameter	
90 ft. diameter	

Maximum heat time allowable 7 mins. 0 sec.  
General S.M.A.E. Rat Race rules shall apply.