



Dick Edmonds

lets you into the design secrets
of his very successful F.A.I. racer

TIME TRAVELLER

REMEMBER the furore created when the F.A.I. Team Racing specifications were first announced? With loud cries of "Too big" — "Tank too small" and "Lines too long", the British fraternity were considerably upset by the metric requirements for the International class; but they could hardly have foreseen that the most important of the 1956 races were all to be won by these "oversize" F.A.I. designs. We refer to Pete Smith's *Footprint* (A.P.S. drawing CL 589), J. Howard's *Finger Print* and Dick Edmond's *Time Traveller*. All three have flown for Great Britain at Continental meetings and all have done well, with perhaps the highest honours, home and abroad currently due to the latter.

Why should a model, first considered to be too large, be developed into a winner against all-comers? One cannot deny that the team racing skill of big Dick Edmonds counts for a lot, whether he is using a standard 70 sq. in. wing or the 104 sq. in. in *Time Traveller*; but there are hard facts that Dick can give in favour of the bigger model which add together to spell a better chance of success.

First, the size of the wing itself has no measurable effect on airspeed. It's the motor/prop combination that provides the performance in the air, assuming, of course, that the demon drag is kept to a minimum with clean lines. Checks with both High Wycombe and the Forester's models have shown the F.A.I. racers to be just as fast as the S.M.A.E. variety. Where they actually gain advantage is in the take-off and landing characteristics.

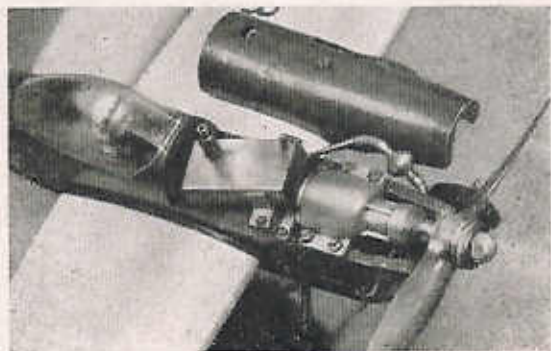
But it is not wing area alone that gives the advantage if we study Dick Edmonds' design features as embodied in *Time Traveller*. One must have a high ground angle for that snappy, almost VTO take-off, and to get this, the fuselage should be a short as the appearance requirements in the rules will permit. This gives a further advantage in drag reduction, for the rear fuselage can be tapered off with smallest possible "wetted area", and in turn, the reduction in tail weight structure calls for a shorter nose length, meaning less nose area and even more important still, a better balanced flying position. Control-line flyers will know that a long nose very often means a hard pull on the lines when at full speed, and the model flies in a constant state of yaw

towards the outside of the circuit. By balancing with the centre of gravity close to the pivot point (but just far enough forward to retain excellent control) Dick Edmonds has a model that sets its flight path firmly on the radius of the circle and minimises speed wasting drag. Note too, how the fuel pick-up point on Dick's tank—either the 10 or 15 c.c. size—is arranged close to the C.G. and in line with the centrifugal pull on the lines. This accounts for the absolute consumption of all the fuel on every flight, and an average of 54 laps at 85-90 m.p.h. on S.M.A.E. line length of 46 ft. 8 in., or 40 laps at the same speed with the smaller tank on F.A.I. 52 ft. 3½ in. lines.

Those who have long admired the pit stop technique of Dick Edmonds (he always pits his own model) will know he can send a model off single handed (as required by the F.A.I.) in the time it takes to squeeze a bottle and flick a prop just once. His pressure valve is indispensable for such fast refuelling, and we should warn intending builders that it is not possible to unseat the ball non-return valve by squeeze bottle pressure alone. Make a nozzle for the bottle so that when forced over the filler, a wire or tube projects to push the valve down. Such valves can be unscrewed for changing from tank to tank.

Performance? Built for the Criterium d'Europe this year, where it was only 5 seconds behind the winner in spite of a prop change, *Time Traveller* has won the Dartford and Enfield races (N. Heights Cup), was 2nd at the All-Britain and 2nd in the London Area rally at Heston.

Fuel used: 45 per cent. Aladdin Pink Paraffin, 35 per cent. Ether, 20 per cent. Castor oil, to which 3 per cent. Amyl Nitrite is added.



Tuned Oliver Tiger, fuel filter and angled pressure filled tank form the prize-winning power unit for *Time Traveller*

TIME TRAVELLER



DESIGNED BY
R. Edmonds



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THE AEROMODELLER PLANS SERVICE
38, CLARENDON RD., WATFORD, HERTS.

ALL WOODS ARE Balsa UNLESS OTHERWISE STATED

TANK FILLED UNDER
PRESSURE FROM
"SQUEEZE" BOTTLE

SKETCH SECTION
OF FILLER VALVE

16 S.W.G. BRASS
STRIP

8 BA. NUT SOLDERED ON

10 CO. TANK FROM
SHIM BRASS

15 CO. TANK DIMENSIONS
IN BRACKETS

BALL

SPRING

1 CM (0.2 CM)

FILLER VALVE

4.5 CM (1.5 CM)

2 CM (0.5 CM)

12 S.W.G. BRASS TUBE VENT

14 S.W.G. BRASS TUBE OUTLET

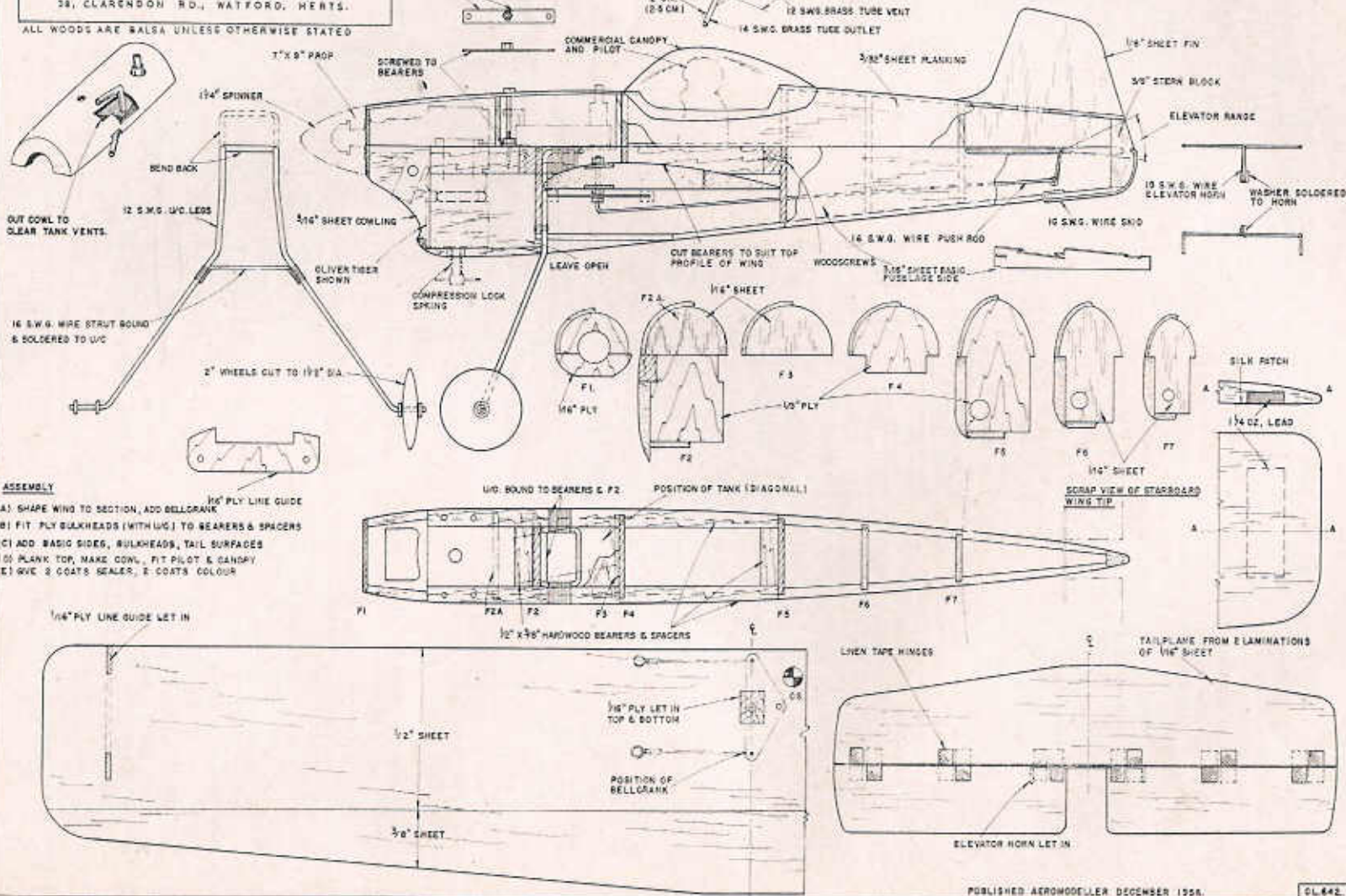
SHEET 30" LONG

1 SHEET OF 1/16" X 3"
1 - " 3/32" X 3"
1 - " 1/8" X 3"
1 - " 7/16" X 3"
1 - " 1/2" X 3"
1 - " 3/4" X 2"

MATERIALS REQUIRED

MISCELLANEOUS

3/2" DP 1/16" PLY
3/3" " 1/8" "
16" " 1/2" X 3/8" HARDWOOD
36" " 12 S.W.G. PIANO WIRE
34" " 18 G.W. "
DRAP BRASS STRIP & SHIM



ASSEMBLY

- SHAPE WING TO SECTION, ADD BELLCRANK
- FIT PLY BULKHEADS (WITH W/C) TO BEARERS & SPACERS
- ADD BARD SIDES, BULKHEADS, TAIL SURFACES
- PLANK TOP, MAKE CONL., FIT PILOT & GANTRY
- GIVE 2 COATS SEALER, 1 COATS COLOUR

1/16" PLY LINE GUIDE

W/C BOUND TO BEARERS & F2

POSITION OF TANK (DIAGONAL)

1/16" SHEET
SCRAP VIEW OF STARBOARD
WING TIP

1/16" PLY LINE GUIDE LET IN

1/2" SHEET

3/8" SHEET

3/16" PLY LET IN
TOP & BOTTOM

POSITION OF
BELLCRANK

LHEN TAPE HINGES

TAIL PLANE FROM ELIMINATIONS
OF 1/16" SHEET

ELEVATOR HORN LET IN