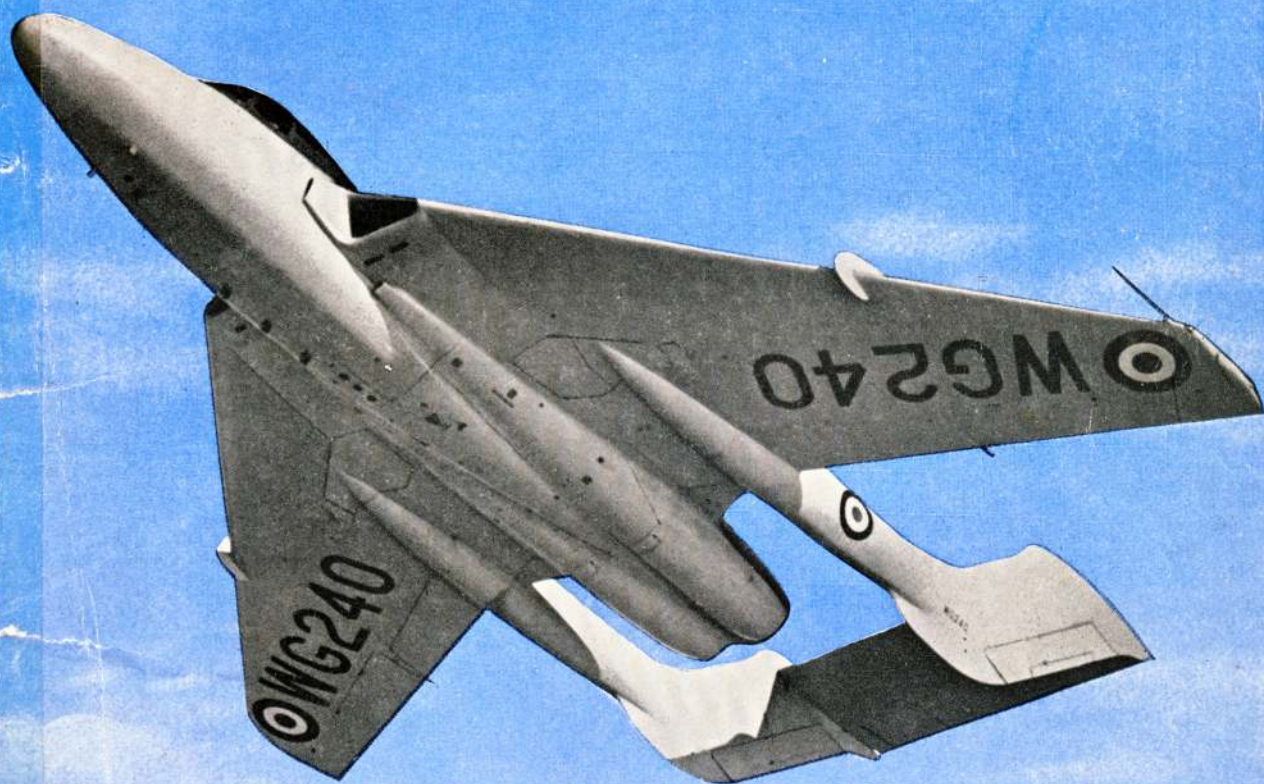


NOVEMBER 1954

AERO MODELLER



IN THIS ISSUE

D.H. 110 FEATURE • CHANNEL-CROSSING SCOOP
WORLD C/L CHAMPIONSHIPS • FOLDING PROPS
FREE-FLIGHT BIPLANE • LEADING A/2 DESIGN
FULL-SIZE CONTROL-LINER • TIP FIN TOPICS

1'6



BAMBI

·15c.c. 108/11



DART

·5c.c. 64/2



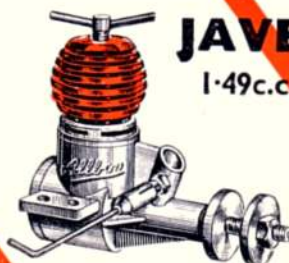
SPITFIRE

1·0c.c. 64/2



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3/3
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JAVELIN

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D.C. 350(G)
3·5c.c. 78/5**

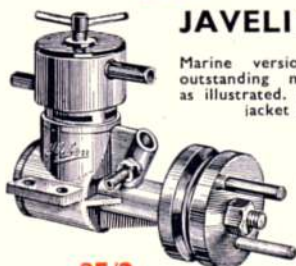
Available in either diesel or glowplug form. The diesel version is illustrated here



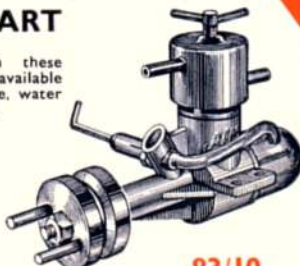
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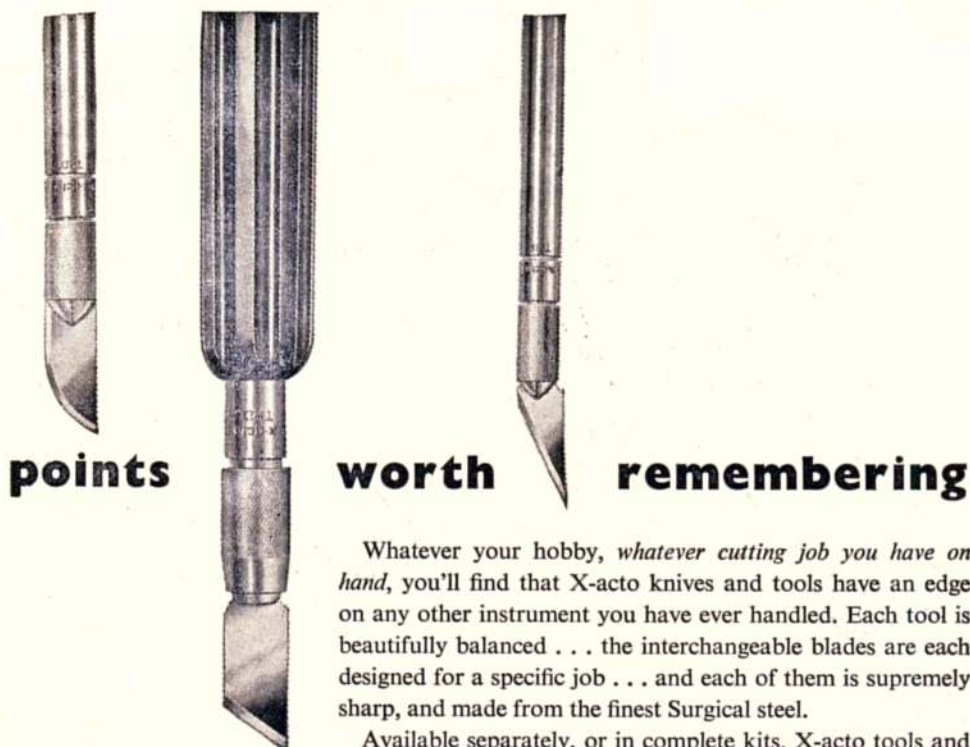
85/2



83/10

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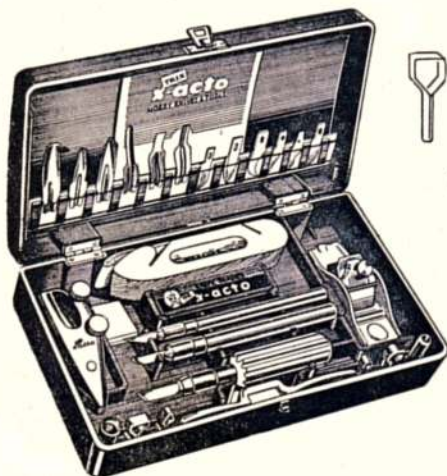
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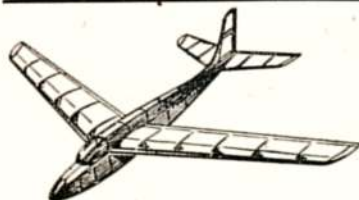
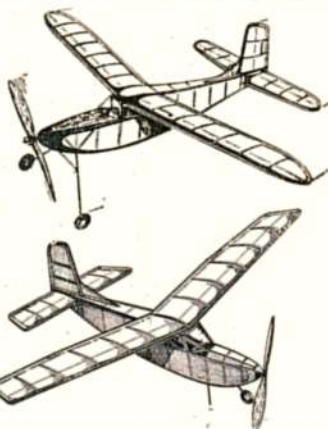
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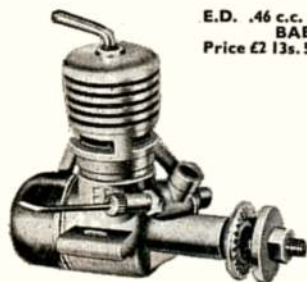
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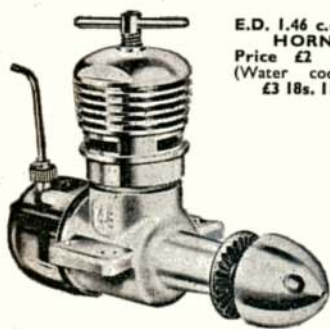
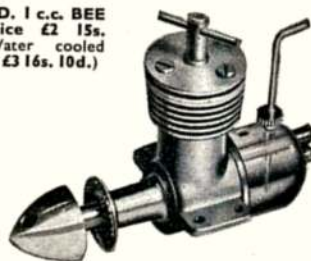


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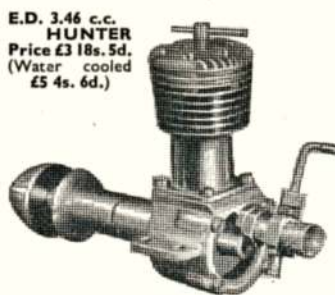
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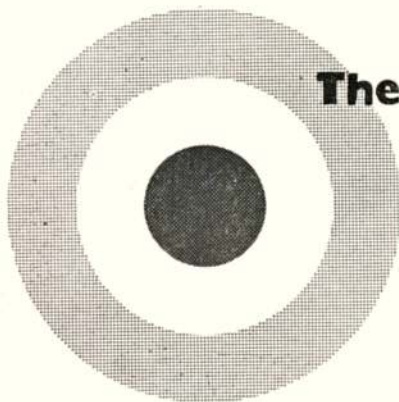
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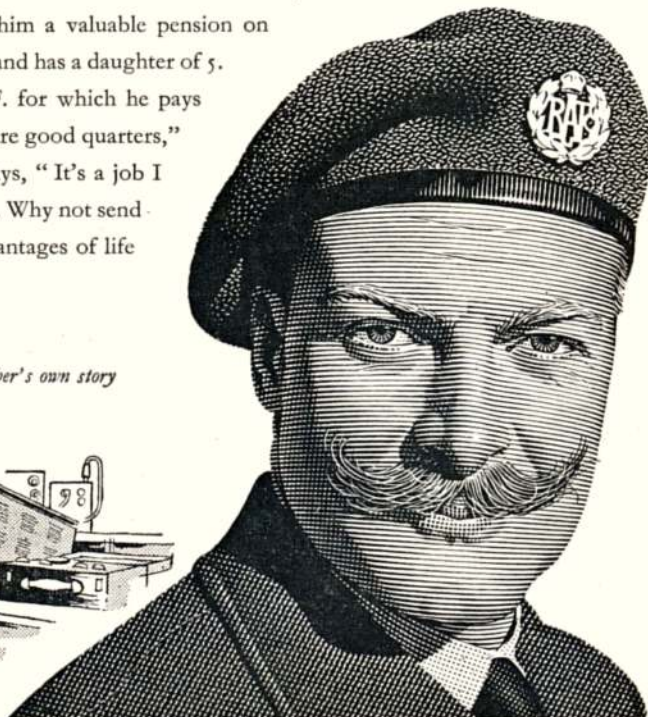
R·A·F

Flight Sergeant Donald Barber is the senior radio N.C.O. of the Bomber Command station at Wyton where he is responsible for the radio efficiency of Squadrons of Canberras. During his career in the Royal Air Force, Flight Sergeant Barber has mastered all the most advanced radio techniques and acquired a degree of skill that will always make his services valuable both in and out of the R.A.F. Wisely he has signed on for a long service career which ensures him a valuable pension on retirement. Aged 36, Barber has been married 8 years and has a daughter of 5. He lives in married quarters provided by the R.A.F. for which he pays 15/6d a week rent out of his £13 a week pay. "They are good quarters," he adds. After 18 years in the Service, Barber still says, "It's a job I know and the job I like." And it's a job you'll like too. Why not send the coupon *now* and find out about all the many advantages of life in the Ground Trades of the Royal Air Force?

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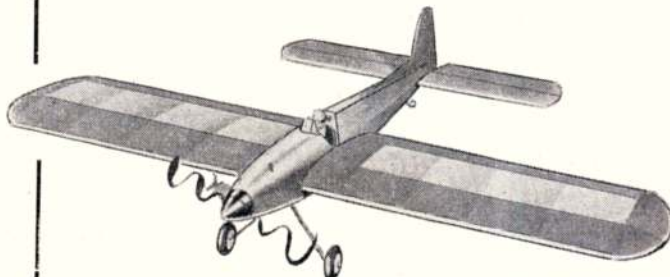
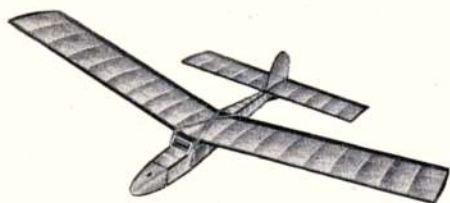
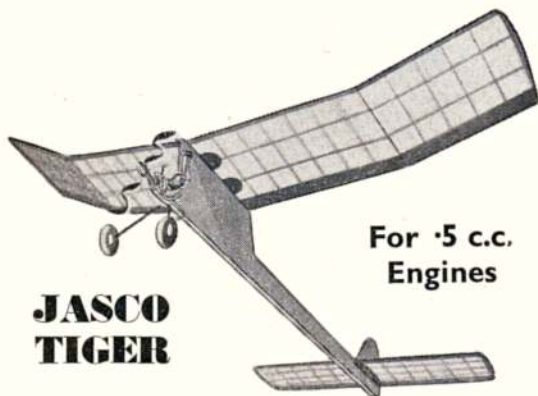
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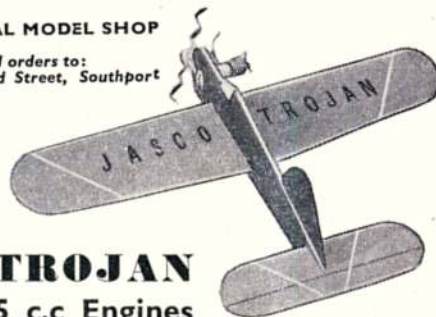
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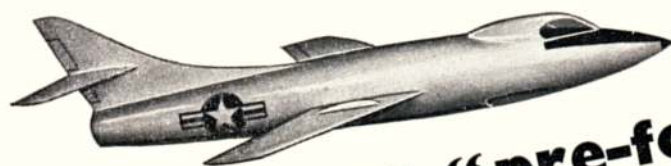
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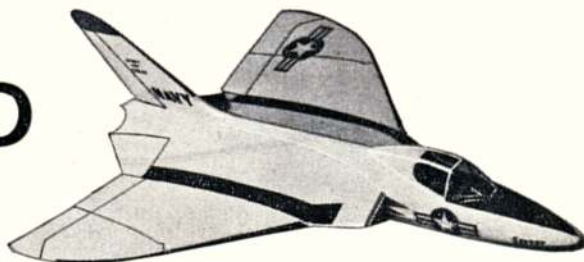
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Says "The Aeromodeller" Oct., 1954 Issue, page 546

Performance is in the 'excellent' Class...

Claims for the Allen-Mercury "25" are vindicated beyond question as Ron Warring's independent test report in last month's issue of the "AEROMODELLER" shows. He writes:

"Everything is clean and neat about the '25' . . . The result is very definitely a modeller's engine—produced by a modeller (Dennis Allen) . . . We would rate the Allen-Mercury '25' an extremely good general purpose 2.5 c.c. engine. Performance is in the 'excellent' class for speeds up to 12,000 r.p.m. where peak power output is achieved. (It's a) modeller's engine peaking at a moderate r.p.m. figure . . . should be an excellent team race engine as it appears to have low fuel consumption . . . Undoubtedly bargain value for first-class workmanship and a generally excellent power plant . . ."



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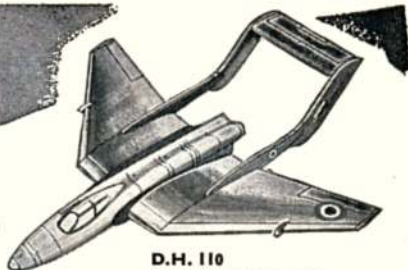
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"Covers the world of Aeromodelling"

VOLUME XIX
NUMBER 226
NOVEMBER 1954

Managing Editor - - C. S. RUSHBROOKE
Editor - - - - H. G. HUNDLEBY
Assistant Editor - - - R. G. MOULTON



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First Across!

AT THE "Aeromodeller" offices we treat the annual crop of channel-crossing promises with the polite tolerance normally reserved for reports of first-cuckoo cries. It gives us great satisfaction therefore, to report that the egg was well and truly laid on September 22nd, 1954, by those two well-known aeromodelling personalities George Redlich and Sid Allen. The model, a "Radio Queen," was powered with an E.D. 3.46 diesel, and controlled by an E.D. Mk. IV miniaturised 3-reed radio control unit.

Launched but a few yards from the meadow on South Foreland where Bleriot made his historic landing in 1909, the machine was controlled initially by Sid Allen with a ground transmitter, and then taken over by George Redlich, who flew with a second transmitter in an Auster piloted by Norman Ashe of the "Junior Express." After a somewhat adventurous start, at 1.35 p.m., due to the turbulent conditions on Dover Cliffs, the model crossed the French Coast at Sand Gap just south west of Calais, exactly 40 mins. later at a height of 3,100 feet. It is interesting to compare this time with Bleriot's crossing which took 37 minutes, the actual ground speed of the model being 36 m.p.h., this, of course, under the influence of a following wind.

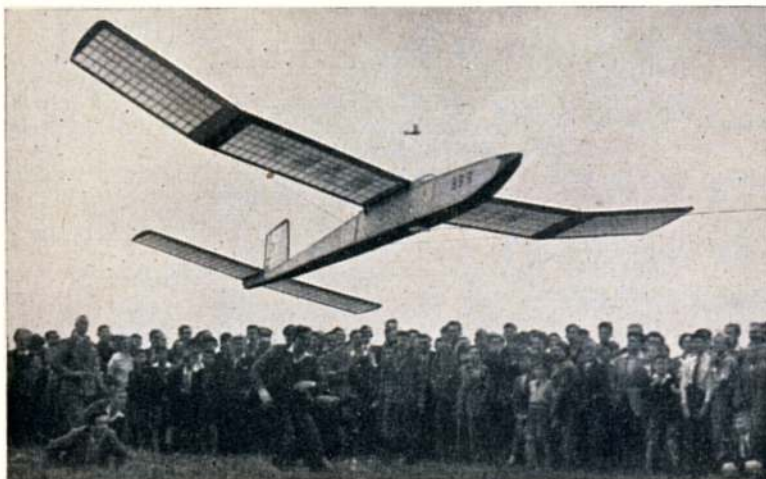
After flying $1\frac{1}{2}$ miles inland the model was turned in the direction of Calais Aerodrome, which it reached after an hour's battle with the wind. It was then spun down and the Auster landed quickly, so that George Redlich could once again take control from terra firma. The extremely rapid descent of the Auster unfortunately made it impossible for George Redlich to keep his eyes on the model, with the result that they were unable to locate the model from the ground, although its motor could be heard quite plainly. When last seen by officials from the aerodrome control tower, the model was heading in the direction of Lille. We understand that it was eventually found five miles inland from Calais.

We applaud the "Junior Express" for their air-mindedness in sponsoring this channel crossing, and congratulate George Redlich and his team for what is not only a considerable technical achievement, but also a notable feat of aeromodelling, that must surely be recorded in the history of Aviation.

On the cover

The familiar twin-boom shape identifies a De Havilland fighter, in this case the second prototype of the supersonic D.H. 110. Taken last year, this view shows WG 240 in an earlier colour scheme which contrasts with those shown on p.587 of this issue, and also illustrates the previous fin outline, now modified for the version to be developed as a Royal Navy fighter.





Heard at the Hangar Doors

"Yorkshire Evening News" Photo

Club Effort

A significant fact arising out of our recent comment on sparsity of Northerners at the Darlington Meeting is that to date only one protest has been received.

This comes from the Novacastria M.A.S. and not without justification for as a group of sport and contest fliers they were one of the very few clubs in mass attendance at Croft Aerodrome.

Like the Lancaster and Morecambe Club from the other side of the country, the Novocastrians represent a club spirit that is to be admired. They arrive with coaches "chock-a-block" with models of all types and such diverse shapes that when out on the field photographing the odd and unusual, we always seem to get either Lancastrian or Novocastrians repeated over and over again in our notebooks.

Outstanding at Sherburn from the Lancaster Club was the massive glider depicted above which was the product of three weeks' hard labour and inestimable expense by Eric Rowley. With a span of 21 ft. 6 in., length 16 ft. 6 in. and chord 32½ in.—"Big Baby" is large enough to lift quite a fair size youngster off the ground. We understand that after



preliminary "trimming" flights hand launched from a hill, Eric in a misguided moment attempted to tow launch it from Morecambe Sands. Once released by the five people supporting the model, "Big Baby" pulled so hard that Mr. Rowley was dragged for some twenty yards across the sands whereupon he released the tow-line and spent the next six weeks boiling the sand out of his suit! With two helpers to help hold him down at Sherburn he made a most impressive flight, which, unfortunately, terminated in a near-vertical dive as the result of tail rubber bands giving up under the strain.

As the second photo shows, nose damage amounted to no more than a crumpled dozen sheets of one-eighth balsa—so "Big Baby" will soon be flying again and will perhaps enliven another rally!

Farnborough—'54

Accurate model-making and its value in publicity has never made itself more felt than in the static exhibition of the S.B.A.C. show at Farnborough. Though hardened by now to the magnificence of the professionally produced model, we must confess that the displays on some manufacturers' stands were sufficient to warrant long study and our progress through the enormous marquee was punctuated by many halts to admire finish and detail. Percivals and Saunders-Roe stand out in



our minds as having specially good models but the most impressive, if only by virtue of size and radical outline, were the Avro Deltas surmounting the Hawker-Siddeley arena, as seen in photo opposite.

Fibre Props

Started many years back by "Charlie" Chester (the BIG model man), the practice of using fibre for model props is fast catching on. Pete Buskell has of course used them to good effect on all his "Slick-Sticks," and Messrs. Bickerstaffe, Archer and Harrison of the North West are currently going up faster than ever, thanks to the thin and very efficient blade contours it is possible to obtain with fibre. Carving is tedious, but the results are worth while. See the photo on p. 313, June issue for a suitable blade shape.

Wise Guys—Huh?

One of the people who had a good time at Sherburn was the owner of Jaguar KNC 473, who no doubt thought it very funny at the time when he plastered the car with all the signs within reach and drove off. The joke's over now however, and he is requested to return the signs to Yorkshire Evening News, Trinity Street, Leeds 1, otherwise the paper will take action which may turn out expensive for him!

Further, the type who pinched a notice board from Cranfield (see last month's issue "Aeromodelling Vandals Again") is warned that information has been received which gives a clear indication of the identity of the culprit(s). If the missing object is returned to the "Aeromodeller" offices in a plain envelope, nothing more will be said, but failure to do so within a reasonable time will lead to trouble.

We of the "Aeromodeller" are determined to do our best to assist the organisers of any meeting who are troubled with this sort of stupid action, and will have no compunction in passing on information that may lead to the apprehension of the culprits.

First Effort

Claims for long duration flights are an annual event and this year we have no exception. Outstanding duration claim is for young 15-year-old L. R. Burrows of Welling in Kent, who launched his first design, an A/2 glider of 66-in. span from a 100-ft. line at his local field on Sunday, September 19. The time was certified by many witnesses as approximately 12.30, and the model was followed until it disappeared through the clouds, drifting towards the Thames Estuary.

At 5.10 p.m. precisely works policemen observed it to land on the jetty of Fords at Dagenham, thus proving that the model had been airborne for some four hours forty minutes, covering a distance of six miles. One of the features of the A/2 was the use of the Hans Hansen airfoil described in our December 1953 issue, combined with long fuselage and small tail area.

S.M.A.E. Annual Dinner & Prizegiving

The Annual Dinner and Prizegiving of the Society of Model Aeronautical Engineers will be held at the "Horseshoe Hotel", Tottenham Court Road, London, W.1, on Saturday, December 4, 1954. Price of tickets will be one guinea, and can be obtained from the Society's offices at Londonderry House, Park Lane, W.1.

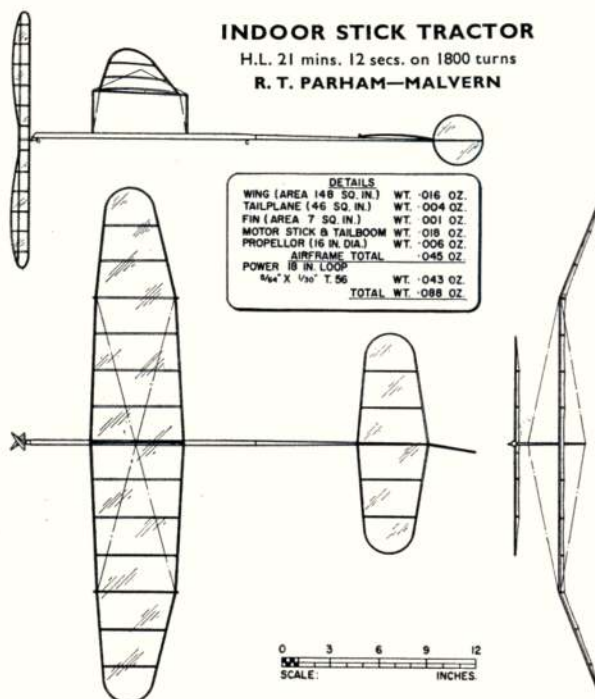
As numbers again will be strictly limited, early application will be necessary. In order to provide more time for dancing, it has been decided to start one hour earlier than in previous years, i.e., 6.0 for 6.30 p.m.

Record Flights at Cardington

Records again tumbled in rapid succession at the third Cardington Meeting beginning with Bob Copland raising his R.O.G. record to 15 : 22 on half turns. Fanning out the prop to bigger pitch he made 17 : 47 on full turns and then further improved to 19 : 29 with finer pitch.

The new Stick R.O.G. record goes, however, to Ray Monks for a 20 : 30 flight and the honour of first flight to the 180 feet high ceiling to Phil Reid—also of the Birmingham Club on what would surely have been a new hand launched duration record.

Ray Monks also managed 4 : 13 with a new tailless design and Reg Parham from Malvern—13 : 16 for a new figure with his hand launched fuselage model. Reg still retains the Stick duration record at 21 : 12, the scale drawing for his model being reproduced below.



**Best performer in the
1954 British A/2 team,
Jeff Wheatley presents
his long - fuselage A/2**

NUMBER

EIGHT

TYPICAL of the "stick" type A/2, Jeff Wheatley's Number Eight is a simple, easy-to-build design capable of a steady 2½ minute average in fair conditions. Two-piece wings with strut bracing make it easy to transport to the flying field, and sensible construction methods enable it to survive a prang or two and to be repaired without affecting trim to any serious extent.

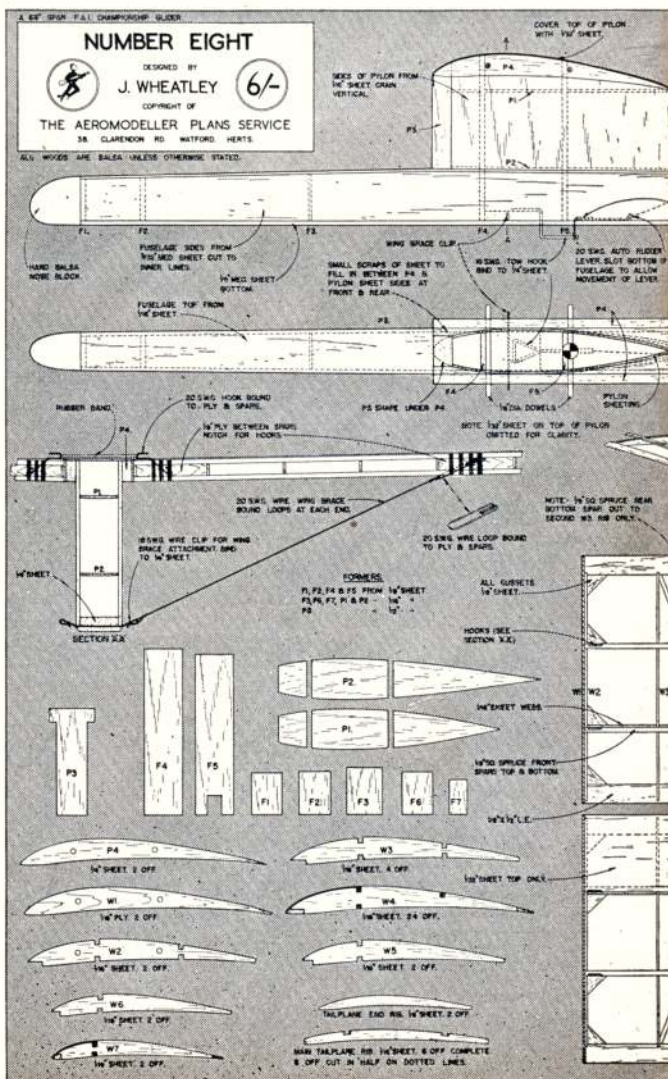
It is thus a good model for all-weather flying, and, indeed, Jeff Wheatley's performance with the prototype at the World Championships at Odense this year bears out the fact that it can perform in most atrocious conditions. Placing twelfth in the final results in Denmark, Number Eight topped the British team, showing ability that belies its relatively simple shape.

Earlier contest results include a total of 13 : 45 for five flights in the first A/2 eliminators, and a third in the Blackheath Glider contest at Epsom. At Wittering it finished third and gained a place in the British team, and after a first flight 5 minute maximum at the Northern Heights Gala, it had to remain ignominiously in a tree and was not retrieved in time for another flight.

With the wing surmounting a pylon, and a tow-hook situated very close to the vertical C.G. position, Number Eight is capable of that elusive property—the overhead tow. Every launch is made using the full length of 164-ft. towline, and tow stability is of high order due to the long tail moment and fairly high aspect ratio which in turn provides a span of 68 inches.

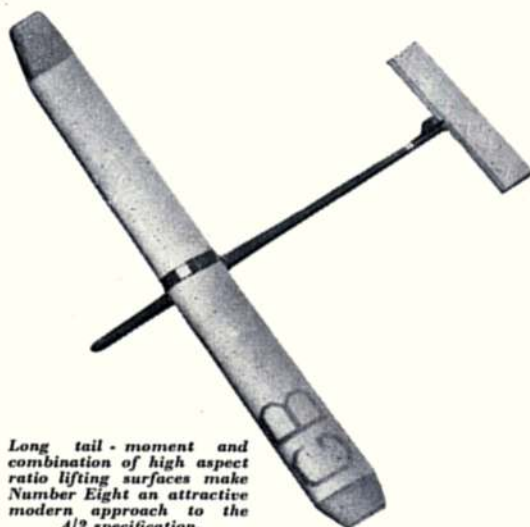
Construction is very practical. Both wing and tail feature anti-warp structures and sheeted upper surface of the Sigurd Isacson 64009 wing section back to the point of maximum camber ensures uniformity of the aerofoil and that best effect is gained from the high lift wing.

Start with the fuselage, which is all-sheet and incorporates the pylon. Add the fin and auto-rudder

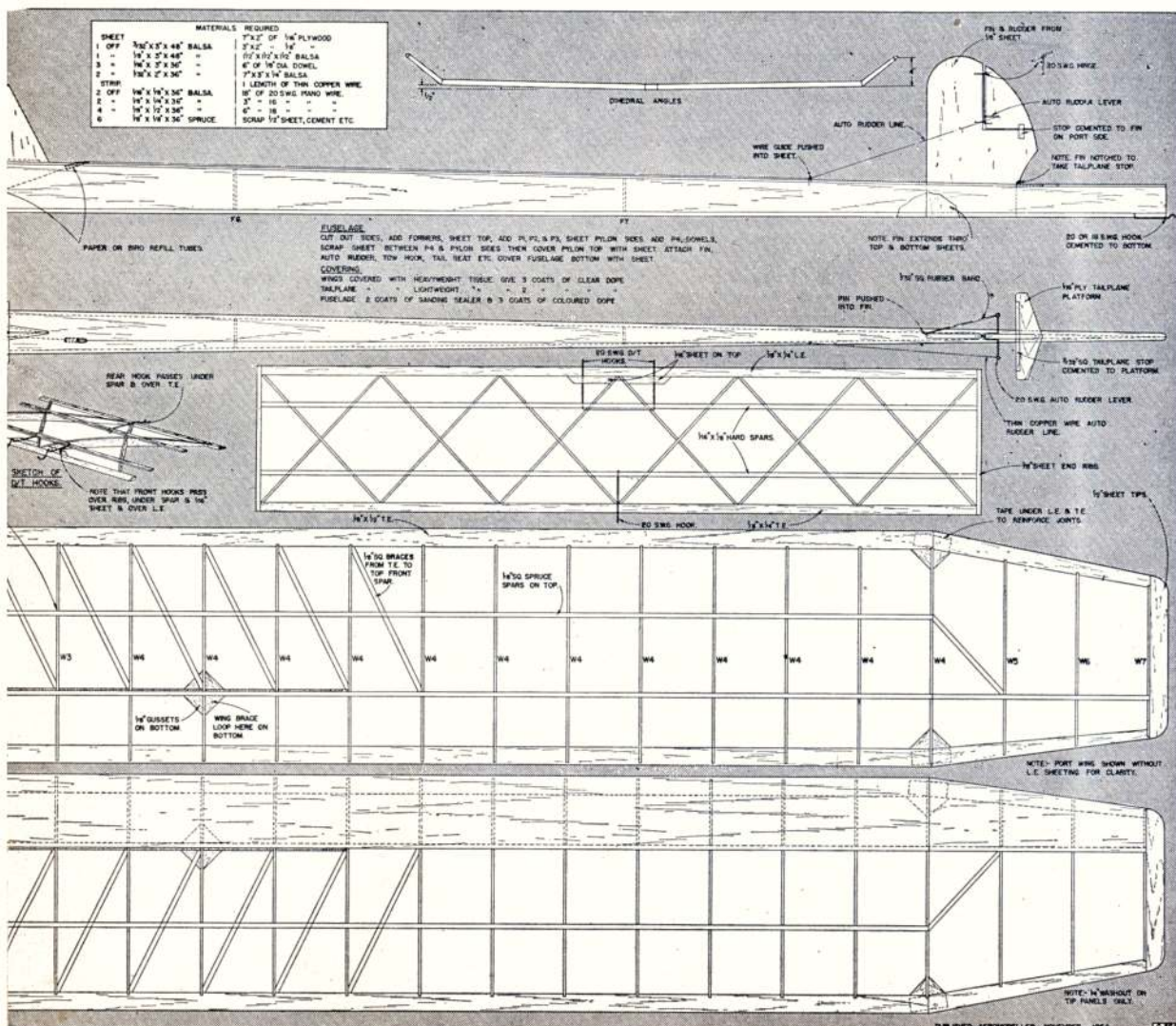


arrangement, then see that the wing strut clip and dowels are firmly located, for everything depends on these for taking the strain when the model is towed up. Wing and tail are built on to the leading and trailing edges pinned in place over the plan. In each case the trailing edge has to be propped up at its forward point to conform with the under-camber of the section. Spars, ply ribs, wire hooks and reinforcing pieces are fitted after removal from the building board, then dihedral, washout and leading edge sheeting completes the wing ready for heavyweight Modelsplan covering and three coats of clear dope. The tail has lightweight covering and two coats dope. Balance to bring the centre of gravity to the indicated position by adding lead weight between F.1 and F.2, and you are ready for that next contest.

FULL SIZE COPIES OF THIS 1/5th SCALE REPRODUCTION OF THE A.P.S. DRAWING CAN BE OBTAINED PRICE 6s. POST FREE FROM THE AEROMODELLER PLANS SERVICE.



Long tail - moment and combination of high aspect ratio lifting surfaces make Number Eight an attractive modern approach to the A/2 specification.



WORLD CONTROL-LINE CHAMPIONSHIPS



**U.S.A. wins 5 c.c. speed,
France the Team Trophy
& G. Britain overall team
prize at the Hague.**

Reported by R. G. Moulton

EVERY man, boy or girl who has ever felt the pull of a pair of control-lines should lay down the handle for a moment and give a rousing cheer for the British team which travelled to The Hague on August 20th. For though they did not bring back the World Championship title for 5 c.c. speed, their collection of four cups and two medals represented the best team effort of the meeting, and they left behind them an impression of sportsmanship and skill worthy of World Champs.

This was a team raised by private enterprise. Each man paid his not inexpensive way to and from the contest—and, we may remark, appeared to enjoy doing so—there being quite a story behind the actual gathering together of those keen and able enough to go. Way back in the year when it first became obvious that the S.M.A.E. could not afford to despatch teams to World events in '54, we became anxious that in the A/2 and C/L at least there ought to be some participation by modellers prepared to bear their own expenses, and by good fortune and little persuasion, those most qualified to attend both events by virtue of performance through the eliminators were keen to go. As with the A/2, travel and the myriad items of team management came under our guardian wing through S.M.A.E. sanction and the control-line band of happy warriors alighted at Schiphol via K.L.M. Convair midday on Friday 20th.

Twelve hours later they finished their first day's session in the circle, thirty-six hours later they were resting on their laurels if not on their beds. It was what I call a "past-midnight" meeting. Flying ran on until after 11.30 on each night, bull sessions continued through the small hours and not a moment was wasted. They were full hours, everyone keyed up to top tension, eyes and ears searching for new ideas, motors running all over the place, the pungent smell of burnt Nitro and noisome din of diesel team racers adding up to quite a meeting. What's more, apart from the aerobatics, all events were run indoors and every pilot will well remember the kaleidoscope of tumbling colours, lights—and flashbulbs—that greeted him each flight.

We arrived, somewhat burdened by a large number of models to enable participation in all events, and with some trepidation inspected the Houtrust Hall. It was far better than expected. Ceiling height was in the region of 30 ft., illumination good, surface magnificent, and the preponderance of Shell advertisements left no doubt as to who was footing the bill. Practice flying was already under way, and Brians Fairey and Dunn who were our advance guard quickly summarised the likely opposition. Thus it was that we began thirty-six hours of the most concentrated controlling in my experience.

Early disappointments came in three ways. Amato Prati, new Italian Class 1 World record claimant and his lapped piston Super Tigre G.20S, 118.35 m.p.h.

model plus the rest of an impressive list of Italian fliers would not be coming. Dale Kim, American Air Force flier who uses the revolutionary Stanzel "MonoLine" and did well at this year's U.S. Nationals also could not attend—and biggest personal blow, Team Managers were not allowed to take part in Team Race if a full five-man team had been entered. Flying the High Wycombe "Taurus" racer in practice had been quite a thrill even if it did leave the ground with the urgency of a hundredweight tortoise, and losing my opportunity to fly it in a race meant that Pete Wright would have to pilot both our racer entries in the heats, leaving the possibility of both models reaching the same final as a matter to be sorted out later.

Britain flies first

Immediate British concern, apart from clarification of ambiguities in the rules, was for us to get five fast 2.5 c.c. flights in within our first half-hour period. It was obvious that with a close time-schedule, we should field the best men first, and Pete Wright went out to reel off a calm 109.4 with his familiar E.D. Glo-plugged 2.46 Gook, now entering its third season. We managed four flights in the allotted time, Pete Smith as last man not having his turn: but as a series of successive fast flights, the team performance called for appreciation by the gathering spectators. They were soon to resort to cheers as the first of the Team Race heats got under way with Pete Smith more than making up for his lack of opportunity to get at the speed pylon. Pete had made this F.A.I. special racer in the week or two prior to the contest. It looked large, and it was in fact, a square decimetre oversize: but it certainly was the fastest racer there, the Oliver Tiger taking it round at 81.3 m.p.h. and showing a clean pair of elevators to the Belgian and German racers both in the air and, thanks to Pete Smith and Brian Dunn, was fastest off the ground as well. Straightaway after that heat, we were again occupied with more racing as the Wycombe boys, with Pete Wright piloting, got away to a good lead over their Dutch and Belgian opposition only to have the compression of the well-worn Tiger back-off for a very burpy run. Dick Edmonds sorted matters out at the first stop: but the Dutchman and his E.D. 2.46 had the lead and a 25-ounce Taurus flying at 74.5 m.p.h. could only make up part of the gap. There remained the chance that as third fastest finisher in the heats, it would manage to make the semi's . . . which it did.

Team race tactics

In these first heats, the British boys were able to employ tactics born of considerable practice, particularly at the start which was on the old 2-minutes-to-go basis and not *a la* Le Mans. Others were boiling away

Heading shows Houtrust hall interior during the fourth T.R. heat and shows excellent surface marking. Model at top is Bob Lutker's Dooling winner, 13 in. span, 16 ounces weight, launched with 7 x 9 prop turning at 13,000 r.p.m.

for the two minutes whilst we topped up and waited, starting at 1:58 and away with full tank at the fall of the flag. That several reed or flutter valves burned out in other racers was no surprise to the British camp.

U.S.A.F.E. Highlights

As if no respite was to be allowed, we were then called up for 5 c.c., the World Championship Class, and for an hour we were supposed to share the speed circle with the U.S. team represented by U.S.A.F.E. fliers just returned from their Military and U.S. Nationals. Sanction was granted for us to lick our wounds and prepare a little to fly later (it was now sometime after 10 p.m.!) In the meantime the U.S. boys went to town and tubby Bob Lutker up from a Tripoli base soon had us on tiptoe with a none too stable but inspiring 135.4 m.p.h. His performance was then somewhat overshadowed by that of Warren Godden who looked like going equally fast when an abrupt silence followed by the fall of one of the fabric ceiling sound baffles and ensuing peals of raucous laughter announced the fact that he had hit the ceiling. With the aid of a convenient fire escape thoughtfully provided by the Hall authorities, an unscratched model was safely brought to earth. He later repeated this delightful performance and Pete Wright also joined the roof club.

Another highlight came with the antics of "Put-put" Putze and R. Aubert from Rhein Main U.S.A.F.E. base who succeeded in extracting a lot of McCoy innards out of said engine via the exhaust port when the propeller departed from the shaft. Had not Pete Wright brought the screeching engine to a blissful standstill (at the same time, completely removing it in one sweep from the metal fuselage pan!), we might have had the pleasure of seeing an engine disappear through its own exhaust port. As it was, this incident effectively reduced the American participation considerably, and speed was left for Bob Lutker to deal with.

5 c.c. entries from Sweden, Holland and Switzerland kept the circle busy with only one outstanding effort by Olle Ericsson and his SAAB J.29 type design at 133 m.p.h., then Pete Wright made his usual 124.3 m.p.h. with Bazooka to bring him up to third place. He was already firmly in 1st place for Class 1, so the British were content with themselves when they finally became introduced to sleeping quarters at 12:15.

After what must have been a traditional Dutch breakfast (including plenty of cheese) the second, and full day, started with five countries having their first try at 2.5 c.c.

Emil Fresl working alone for Yugoslavia, Jarry Desloges with his own motor for France and M. Gordijn for Holland all came out of the circle with 94 m.p.h. to credit and Peter Wright seemed safe with his 15 m.p.h. lead.

Aerobatics

Outside, on a barren plot of wasteland, aerobatic entries were being judged and Pete Smith encouraged to exercise his Harlequin prior to the first of the three allowed flights. Motor feed blockage created a little heartburning, and Pete's first attempt came to an early finish with a pullout from inverted on a dead motor.

Bob Lutker and his Fox 35 in three-year-old Squaw were very showy indeed and if measure of placing was to be graduated by the smallness of figure eights, he had the stunt trophy right from the start. In general, the aero-



1. Pete Wright retrieves from the ceiling, after the fashion set by 2. W. Godden on the ladder. 3. Feron and Longdot flew flutter valve E.D. racer, 9 x 8 prop. 4. Belgian Henri Stauffs the stunt champ with E.D. powered own design, has extra thick section. 5. British contingent at processing, Smith, Andrews, Wright, Edmonds, Dunn and helper Fairley.



5 c.c. team winners, Laniot Jr., Desloges and Laniot Sr., deliberate with Labarde in centre on "combien Nitro" in 6, while Desloges displays his high A.R. 5 c.c. design in 7, uses own engine. 8 is Roegg of Austria, and 9 Kroger of Germany in pits with his E.D. racer.



World C/L champs

batics were to a high standard. It was very calm, a fact which did not aid Peter Smith and his heavier model, and we soon spotted the difference between good and better from the judges' point of view. It was just that—the judges' point of view—which clinched matters, for each of the first five stunts were distinctive for showmanship. Manoeuvres executed directly opposite the jury and preceded by smart pilot signs, two laps perfect level flight and precise timing paid off. The bugbear came with engine run, for only six minutes were allowed per flight, and that started from the moment lines were laid out! Even with careful fuel limitation, Peter over-ran for 10 seconds on one flight and 30 secs. on another, thus losing a sure 20 pts.; but he was well judged at third for Henri Stouffs, many years a modeller in Ealing, is World class and has an outstanding thick wing model.

Back to the screaming Hall interior, Peter Wright had made his second flight, and Brian Dunn, content with 120 from the previous day was concentrating on 2.5 c.c. with Pete Smith to back up our leading position. Each topped the earlier second-best, but Emil Fresl had found some Nitro and was up to 105 m.p.h. From then on, 2.5 was a closed shop and a final 111.8 m.p.h. World Record equaliser closed Pete Wright's win.

5 c.c. was less definite until Bob Lutker made the first of his two 138 m.p.h. record flights and Olle Ericsson seemed a safe 2nd with 133.



Team racing continued through two more heats, the first of which was slow enough to eliminate all three

from the semi's, leaving us comfortably placed. The atmosphere seemed electric as the flag dropped for first semi-final as it matched the Netherlands' favourite, P. Smelt who had made fastest heat at 6 : 29. Belgian venerable Longdot, and Pete Smith

As usual, we were still flying when the others came down for the first stop, and a very rapid refuelling by Pete made certain of a long lead at the half-way stage. The Dutchman was having trouble that was afterwards explained most carefully as attributable to a variety of causes; the trouncing by Pete's 10 Kilometers in 5 : 46 lending no small measure to his disappointment. Then Dick Edmonds made it a second heat win for G.B. and Janssens of Belgium followed him through to the final.

And what a final! All five of our men were involved, and with young Arthur Andrews pitting the Wycombe model single-handed, Dick Edmonds piloted his first T.R. flight of the day. It was hectic.

At the first stop, Smith was 6 laps ahead and Edmonds level with Janssens. Then the Belgian started to go faster, and the strength of his right arm was making the difference. Dick well knows the penalty of whipping and let him go ahead with young Arthur catching up a lap or so at each pit stop. Only a lap and a half separated 2nd and 3rd at the end, to make it a final worthy of a World Championship—a fact the audience duly appreciated.

Sensational last flights

There remained the last flights of 5 c.c., and France appeared to have a monopoly of the pylon. Those sages of the art of hand prop carving, Lanriot and Labarde were pulling out the stops, and Jarry Desloges was obviously benefiting from their advice. First Lanriot tied at 133 with Olle Ericsson, then Desloges came up with exactly the same speed. This made a triple tie for second place and left almost the last flight of the night to decide the issue. It came with sensation. Olle used one of sporting Bob Lutker's own props to jump from a tie at second to equalise the speed for first place! It was a terrific effort—not only on Olle's part, but also for the timekeepers as we had great difficulty in seeing the black and alloy whirling dervish in that artificial lighting. So the meeting concluded. A record attempt by Olle was not as fast, and last man in the pylon was kingpin of the circle, the man who kept the circle going endlessly for so many crowded hours, "Windy" Kreulen. He deserved that flight, and when he landed Pete Wright's reserve model safely, he dizzily stated, "Wow—its like a Carousel (Merry-go-round). I don't know how you fellows managed it!" He was right.

Telegraphic points of note

The way Mercury fuels and P.A.W. rallied to help the team with Nitro and props, many thanks indeed. Nonchalance of the experts, the way they start first flick, walk to the pylon and oh, so calmly, fly fastest and smoothest. Jarry Desloges and his French home-mades,

13. Lutker and Godden fuel up the Fox 35 in former's Square. 14. R. Studer of Switzerland helicopters his Castor-powered Ambassador. At right, 15 is Fresl's Torp 15 model on alloy dolly, placed 2nd. 16. Balloon application by Frei of Switzerland has turned off to avoid needle twiddling and fills through needle body, afterwards blanked off. 17. Desloges's 2.5 model with fantastic chord. 18. Ericssons short pan holds metal tank, uses Amyl Nitrate in fuel. 19. Pete Smith's "Footprint," winning racer. 20. Eliasson's model had extra tail panel fitted to comply with loading rules. 21. Soderberg's dolly wheels had Cellophane "tyres" for better tracking. 22. Lutker's lines hooked direct through wing onto bellerank. 23. Smelt's Dutch racer was the local favourite. 24. New Spanish engine, the Byra, in opposite rotation; but very good placed 4th in stunt.



10. Team race finalists, featuring the entire British team at rear, with Defrere, Janssens and Valles of Belgium in front. It shows rough terrain for aerobatics, with Wetzels German entry being released on card take-off board. 12. Active Swedes, Ericsson, Eliasson and Soderberg.



wing chords down to $1\frac{1}{4}$ in., they have to be whipped up to flying speed. The way the Americans left practically everything in the Hall overnight, *except* a precious can of "This-Is-It" fuel freshly brought back from the States. The success of Grish (Tornado) props in Stunt and 5 c.c. The universal acceptance, and many applications of the pen bladder tank. Bland faced, pop-eyed Olle Ericsson's effort in finding that extra 5 m.p.h. The way Juste Van Hattum could always find an answer, if not always the one we wanted, certainly it came promptly. How those Oliver Tigers rocked the Team Race opposition, and Arthur Andrews' starting of same pleased the crowd. The excellence of the organisation, from its treasury dept.: through to lap scorers, was responsible for a first grade meeting.



Bob Lutker receives the Aero Club d'Italia cup (now transferred to France for winning team, while Bob has K.N.V.v.L. cup) from F.A.I. President, Mr. C. Koluff.

Class 1 Speed. Leaders.

	m.p.h.
1. P. Wright, G.B. (E.D. 2.46 Glo)	111.8
2. E. Fresl, Yu. (Torpedo 15)	104.4
3. J. Desloges, Fr. (Own Motor)	97.5
4. M. Gordijn, Hol. (W. Mach 1.)	96.9
5. P. Smith, G.B. (Checksfield)	96.2
6. R. Labarde, Fr. (Micron)	95
7. B. Dunn, G.B. (Checksfield)	94.3

Class 11 Speed Leaders

	m.p.h.
1. R. Lutker, U.S.A. (Dooling 29)	137.9
2. O. Ericsson, Sw. (Dooling 29)	137.9
3. R. Labarde, Fr. (Dooling 29)	132.9
J. Desloges, Fr. (Own Motor)	132.9
5. H. Frei, Switz. (Dooling 29)	124.8
6. P. Wright, G.B. (Dooling 29)	124.3
7. B. Dunn, G.B. (Carter)	119.8

Aerobatic Leaders

	Points
1. H. Stouffs, Belg. (E.D. 2.46)	1279
2. R. Lutker, U.S.A. (Fox 35)	1276
3. P. Smith, G.B. (E.D. 2.46)	1212
4. J. Vallez, Belg. (Byra)	1201
5. G. Laniet, Fr. (Micron 5)	1182
6. H. Wetzler, Germany (W. Mach 1)	1146
7. J. Janssens, Belg. (McCoy 19)	1141

Team Race Winners

	10 Km.
Heat 1, P. Smith, G.B. (Oliver)	7m. 10s.
Heat 2, P. Smelt, Hol. (E.D.)	6m. 29s.
Heat 3, W. Kroger, Ger. (E.D.)	7m. 55s.
Heat 4, R. Longdot, Belg. (E.D.)	7m. 30s.
1st Semi, P. Smith, G.B.	5m. 46s.
2nd Semi, R. Edmonds, G.B.	7m. 26s.
Final, P. Smith/J. Janssens/R. Edmonds.	

Overall Team Placings

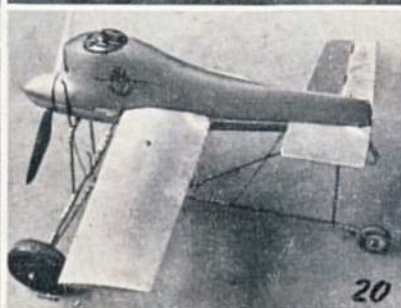
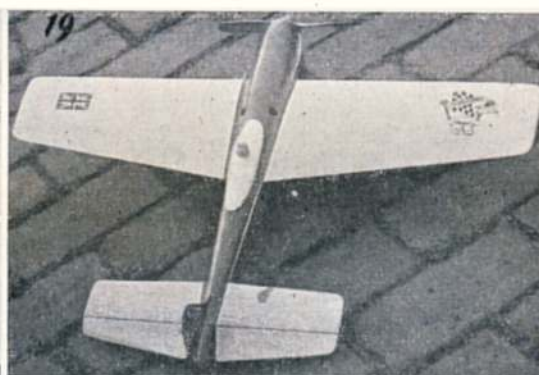
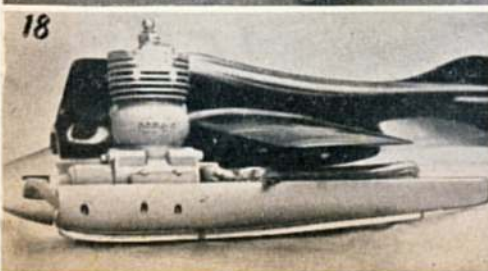
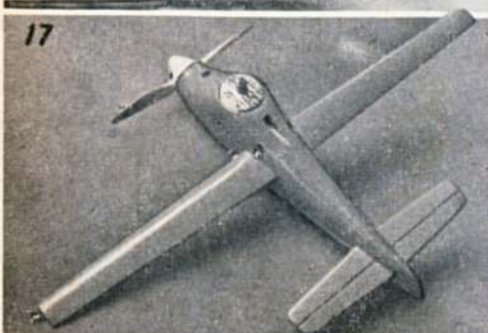
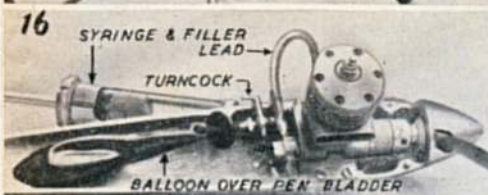
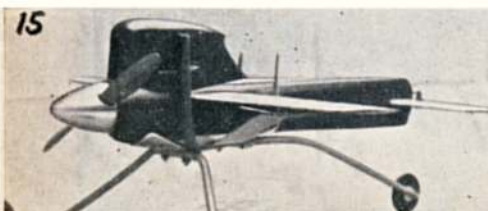
1. Great Britain	... 11 points
2. Belgium	... 14 points
3. France	... 17 points
4. Holland	... 18 points
5. U.S.A.	... 19 points
6. Germany	... 23 points
7. Sweden	... 24 points
8. Switzerland	... 26 points

World Champion: R. Lutker U.S.A.

5 c.c. Team Champions: France.

Best Individual performance:

P. Smith, G.B.



**A 25 INCH SPORT
FREE-FLIGHT BIPLANE
FOR THE POINT-FIVE**



Doohicky

by John Swift

Twenty - seven - year - old
Industrial Model-maker ...
Member Sheffield S.A. ...
main interests in control-
line and semi-scale models

This is another of those delightful designs that can be carried about in a suitcase, flown for a whole day without fear of spinning in or breaking apart in the air, and then packed away again ready for another day. The original flew on a Frog 50, but any engine of similar capacity or power output can be used, provided that allowance is made for any difference in engine bearer spacing.

Sweepback on the upper wing adds further realism and a straight lower wing gives Doohicky a "Hawker" air. The top wing is also the means of flight trimming for by means of an ingenious incidence changing system on the wire centre section struts, a simple arrangement employing a sawn-off 6 B.A. bolt and soldered washer allows

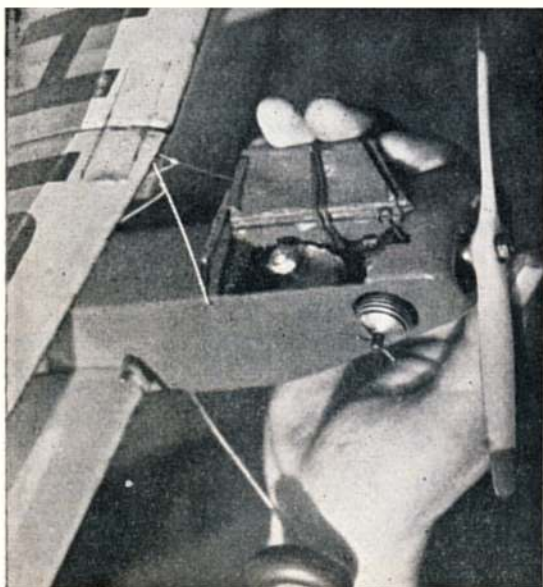
the most minute changes of setting to be obtained.

Construction begins with the fuselage, and two sides are made with 1/8th sheet forward portions from F.11 back to just in front of F.6. The 16-gauge undercarriage is bent to shape and bound in place on F.2, then both F.1 and F.2 are assembled on to the engine bearers. At this stage any alteration made necessary by use of a different engine can be compensated by altering the bearer spacing. This bearer assembly now has the pair of sides attached and these in turn are joined at the rear and formers F.3 to F.9 fitted in place. Stringers follow next, and then the brass tubing to take the cabane or centre section struts. These are best held in place with a fillet of plastic wood as well as liberal coatings of strong cement.

Cover the top with 1/16th sheet, fit the engine and tank, add the cowl front to the bearers and arrange a hinged panel for access as seen in the photo here. Then add the dowels and sheeting for the lower wing seat. The wings and tail are of normal structure, and when the wings are removed from the board the upper leading edge should be sheeted and paper tubes added as well as ply facing ribs on the upper pair and strut anchorages. Lower wing has a fairing to streamline it with the fuselage.

Intricacies of the centre section struts are amply described on the plan and as the fin is a simple shape cut from sheet, the only further instruction needed is to cover with lightweight Modelspan and give two coats of dope plus colour dope to personal choice.

Flying Doohicky is a delight, and all trimming for the initial gliding tests is made by altering the upper wing incidence. Only touch the tail if really necessary and avoid a right hand power turn. The best pattern is to have a climb to the left, and glide to the right.

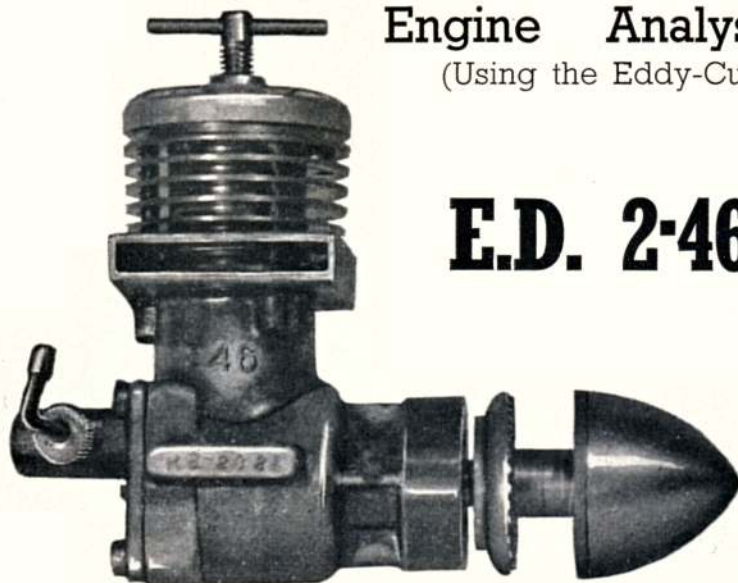


Side-mounted Frog 50 and the tank are easily reached through the top access hatch. This and top photo give a good comparison for size with designer John Swift and show the diminutive proportions of this pert little Bipe.

Engine Analysis Number 5

(Using the Eddy-Current Dynamometer)

E.D. 2-46 RACER



Reviewed by
Ron Warring

THE E.D. Racer has been the subject of a previous AEROMODELLER test (August, 1951), but it was considered worthwhile to carry out a complete re-test with the new equipment, partly because this engine is something of a "standard" in the 2.5 c.c. contest world, and partly because since its inception the Racer has undergone one or two minor design changes. Most noticeable of these is the addition of strengthening webs to the crankcase unit (between the crankcase itself and the front ballrace housing). The backplate with integral induction tube is now cast in aluminium alloy instead of magnesium alloy, as used on the earlier models.

Three years in production

The first prototype of the Racer appeared in 1951 and the engine has now been in production for nearly three years. During that time many thousands have found ready customers all over the world, attracted, no doubt, by the fact that here is a racing-type engine of the maximum International class size selling at a very reasonable price. Racers have been prominent at many Continental events, especially in countries where "home"-produced engines did not, until recently, offer a comparable performance. Although surpassed in peak performance by some of the later 2.5's, the Racer still appears as popular as ever, both for contest work and sport flying (particularly radio control). It has also been widely used outside of aeromodelling and a water-cooled marine version was produced some eighteen months ago to meet a popular demand.

On our test the Racer was given a lot of hard work to do since it was employed on checking r.p.m.

figures with several different families of propellers, as well as a number of dynamometer runs, where speeds in excess of 15,000 r.p.m. were achieved and held for appreciable periods at a time. No mechanical trouble of any sort was experienced, except that a total of three spinner nuts were wrecked due to the frequent propeller changes called for. The threads in this light alloy member did not stand up to what was, in effect, unnatural abuse.

The propeller mounting assembly is, in fact, about the only part of this engine which came in for criticism. In the first place, standard commercial propellers are drilled with a $\frac{1}{4}$ -in. diameter hole which has to be opened up to $\frac{3}{8}$ in. to fit the Racer. It is not always easy to enlarge a $\frac{1}{4}$ -in. diameter hole accurately to $\frac{3}{8}$ in., even with a drill of appropriate size. There is always a tendency for the larger drill to run off to one side. But, more important, few modellers have drills with chucks capable of taking more than a $\frac{1}{4}$ -in. diameter drill, so reaming out has to be done by hand—usually with the tang of a file. Hence unbalance is common. Also the minimum closing space between propeller backplate and spinner is equivalent to a pitch of about 6 inches, meaning that the spinner "core" has to be trimmed to length to suit smaller pitches, or washers used as packing.

Alloy prop driver

This arrangement of employing light alloy drive members on the end of the crankshaft came into use when race car engines like the Hornet and McCoy were produced in a form suitable for model aircraft use, *i.e.*, adapted to take a propeller. It has since become quite widely adopted for "racing type" model aircraft power units of larger capacities and does offer certain structural advantages. From the ordinary user's point of view, however, it is not

Though not featured in manufacturers' adverts., the modified Racer crankcase with additional webs has been on sale for some considerable time. Photo at heading is actual size.

without its practical disadvantages. Personal preference, perhaps, but the simplest and more direct method of clamping the propeller straight on to the crankshaft itself has the greater appeal.

Merits of the E.D. Racer could be listed at length. It is a high performance engine which is as easy to handle as any docile sports power unit. Starting is exceptionally easy, even hand-starting with the smallest sizes of propellers and there is not the same vicious "kick" common with most high-speed motors.

High power at low speeds

Another somewhat unique feature of the Racer is the shape of the torque-r.p.m. curve. Many racing engines develop an unflattering torque figure at low and moderate r.p.m. and do not really begin to show their capabilities below speeds of 12,000 r.p.m. The Racer develops excellent low speed torque and runs consistently within this range. Hence the B.H.P. curve is convex rather than straight, tending to make the actual peak considerably less critical.

Analysis of the test figures showed maximum B.H.P. to be developed at 14,650 r.p.m., but an exceptionally high power output is maintained over a range of from 11,000 r.p.m. upwards. The performance curve is such that operating the engine "off peak" does not represent an appreciable loss of power.

Ideal for Radio Control

The high low-speed torque also means that the Racer will out-perform sports type engines of similar (or even larger) capacity at comparable speeds. This, coupled with the good starting and handling characteristics, makes the Racer an excellent general purpose engine, with the extra power there, if not always used. As such it should have a particular appeal for radio control work, being quite suitable for handling models of this type up to about 4 or even 5 lb. total weight.

Designer's tips

For two-speed operation a double-butterfly valve is recommended by the designer (one on either side of the spray bar). Since the intake tube is cast in integral with the backplate this means cutting off and re-mounting a longer choke tube to accommodate both butterflies. The job is not difficult if one has the necessary facilities, but not one for the average modeller to tackle. A simpler, but rather less reliable method of obtaining two-speed control is to arrange for a pad to choke the end of the intake for slow speed running—effective, but very messy.

Designer Miles also passed on some tips regarding "hotting up" the Racer. A certain saving in weight and appreciable reduction in out-of-balance can be achieved by grinding away excess material from the crankshaft web around the region of the crank pin, rounding and chamfering the edges right off. Since the shaft is hardened, grinding is the only way of tackling such a job. The other modifications are concerned with reducing gas friction and improving the flow of charge through the engine. Streamlining the rotary disc valve cut-out appears to be quite quite widely favoured by race car and power boat enthusiasts, although probably never considered by aeromodellers outside of control line speed enthusiasts. A definite improvement in performance has also been obtained by filing a better lead-in to the transfer ports and polishing smooth, paying particular attention to removing any high spots which may have been generated on the cylinder walls during the process. The improved gas flow resulting may not only show an increase in r.p.m., but a saving in fuel consumption—a point to appeal to team race enthusiasts. Needless to say, of course, such modifications are only to be attempted by someone with a reasonable degree of "engineering" skill and ability.

The E.D. Racer is a relatively bulky engine, but represents a considerable advance, in this respect, over its predecessor—the shaft valve E.D. 249

Data.

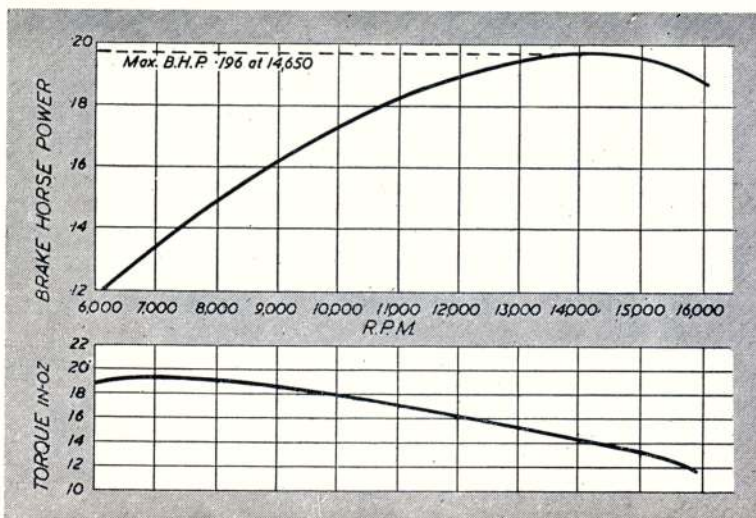
Displacement: 2.46 c.c. (.150 cu. in.).
Bore: .590 in.
Stroke: .550 in.
Bore/stroke ratio: 1.07
Bare weight: 5 3/8 ounces.
Max. B.H.P.: .196 B.H.P. at 14,650.
Power rating: .08 B.H.P./c.c.
Power/weight ratio: .0365 B.H.P./oz.

Material Specification.

Crankcase: Die-cast magnesium alloy (aluminium alloy back-plate).
Disc: Aluminium.
Cylinder: Steel S14.
Cylinder jacket: Dural anodised.
Piston: cast iron.
Contra-piston: Steel.
Connecting rod: Dural RR56 forging.
Crankshaft: Steel S14.
Crankshaft bearings: Two ball journals.

Manufacturers.

Electronic Developments (Surrey) Ltd.,
18 Villiers Road, Kingston-on-Thames.
Retail price: 78/6 (including tax.)
Water-cooled (marine) 109/3 (including tax).



Engine Analysis...

Mark III. Its weight of 5½ ounces puts it in the "heavy" class for engines of this size so that the power/weight ratio may appear a little unflattering. Rather less attention is, however, given to weight saving these days, even with contest models and so, apart from balancing, the Racer presents no problems to the designer in this respect.

We mention this question of balance because of troubles which have been experienced in the past by modellers building American model designs and fitting them with British engines. Size for size, American engines (around which the model was originally designed) are lighter. Also radial mounting is common, which dispenses with the weight of extended bearers, etc. Hence replacing the radially-mounted engine with a heavier, beam-mounted engine can result in a nose-heavy model—a point which has often not been appreciated until the model has been completed and it is then rather late to do anything about it.

Crash symptom—and cure

One peculiarity which has shown up with the E.D. Racer during use is annoying, rather than damaging. Being such a rugged engine it can take quite a few crash landings without any harm. A head-on collision, however, is apt to knock the crankshaft back slightly, sufficiently to jam against the rotary disc and backplate so that the shaft cannot be turned over without excessive friction. The cure was simple—remove the backplate, tap the shaft forwards again and tighten up the propeller

backplate on the conical part of the shaft. Without a gap between propeller backplate fitting and the spinner nut, likelihood of this happening is removed. A small clearance between these two fittings is, however, desirable to obtain the best grip on the propeller.

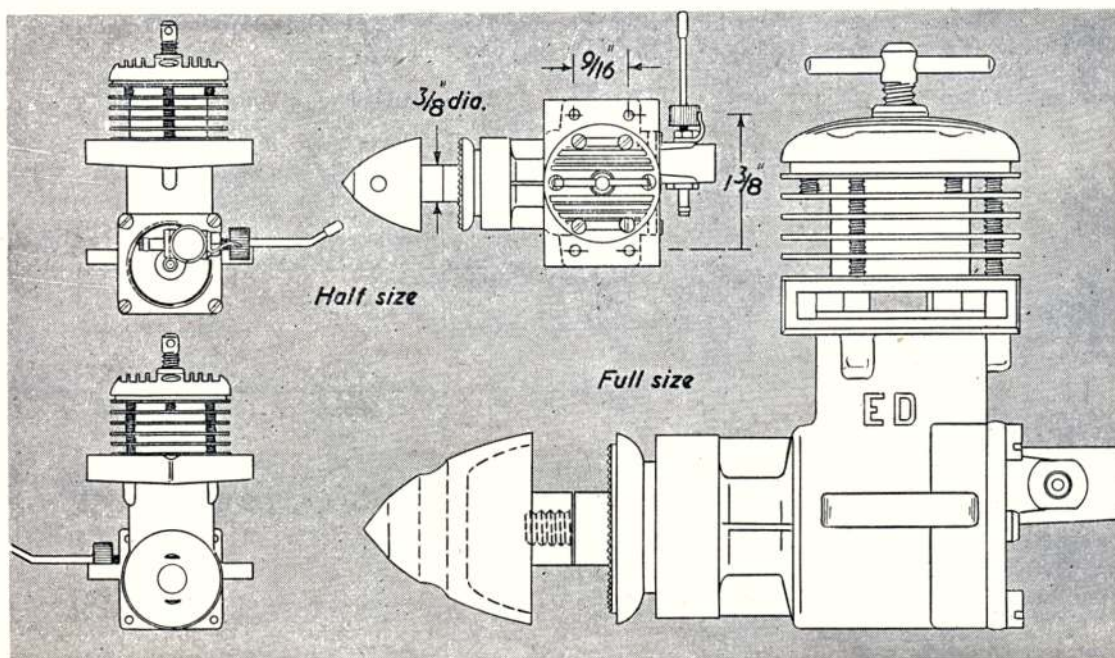
However, despite the fact that we *still* do not like the method of propeller mounting, the Racer is an engine we would unhesitatingly recommend for *all* classes of aeromodelling calling for a 2.5 c.c. engine—contest or sport flying; free flight or control line. If, maybe, it can now be bettered on the score of sheer performance, it still remains one of the easiest to handle and most consistent of the "racing" engines.

Propeller—R.P.M. Test Figures

PROPELLER dia. pitch	r.p.m.
8 x 4*	11,000
8 x 6*	10,750
8 x 6 (Trucut)	10,600
8 x 6 (Stant)	11,800
8 x 6 (K-K)	11,000
9 x 4 (Stant)	10,800
9 x 4 (K-K)	10,500
9 x 6 (Stant)	9,800
9 x 6 (K-K)	9,350
10 x 4	9,700
10 x 6	7,800
11 x 6	6,500
11 x 8	5,750

Mercury No. 8 Fuel.

* Plastic.



By J. R. Enoch

De Havilland's 110

LATEST of a long line of highly successful twin-boom, jet fighter aircraft, the D.H. 110 was designed to the same specification, F. 4/48, as the Gloster G.A.5 Javelin, which called for a high altitude high speed, all-weather fighter for the R.A.F. The Javelin consequently was the successful contender for the subsequent production contract. The Royal Navy, however, have shown interest in this machine, and at the present time the second prototype is undergoing development for the Fleet Air Arm, and also for land based use.

First flown on September 26, 1951, the first prototype, Serial No. WG.236, had overall light grey finish, with large back-swept fin flashes on inner and outer surfaces of each fin. No underwing roundels were present. It was announced in August, 1952, that the aircraft first exceeded the speed of sound on April 9, 1952.

The second prototype, WG.240, which was first flown on July 25, 1952, initially appeared finished silver with vertical fin flashes. Prior to its arrival at Farnborough for the S.B.A.C. Show, it was re-sprayed high gloss black. Externally it differed from WG.236 in having additional glazed panels in the pilot's canopy, and a pitot head "probe" on the port wing only. Ventral fin area, introduced on WG.236 after initial flights, being incorporated.

The nose of the fuselage nacelle, with a di-electric fairing, contains electronic combat and navigation equipment. Immediately behind this is the crew compartment with its off-set backward sliding canopy for the pilot. The radar operator is accommodated on the starboard side at a lower level than the pilot. With a glazed side panel, his position is topped by the entrance hatch, which hinges upwards from its forward edge. Both crew members have Martin Baker ejector seats.

Twin Rolls Royce Avon axial flow turbo-jets, the type number of which has not yet been disclosed, with short tail-pipes are mounted side by side, and form the rear of the nacelle. The airframe has been so designed that with the advent of improved turbo-jet engines full advantage can be taken of the increased power available.

The backward retracting nose-wheel has two fairing legs, the forward half is attached to the undercarriage leg, the other is normally closed when the undercarriage is extended. Air brakes of unusual configuration are located forward of the jet outlets. Shaped to conform with the tail-pipe contours they extend from their forward edges clear of the nacelle. The lower brake has a large buttress-shaped trailing edge, that of the upper

brake being of small buttress pattern. It may be recalled that bellows operated air brakes of similar design were first tested on the D.H. Mosquito fighter prototype, serial W.4052, over ten years ago.

On the underside of the fuselage, below the crew compartment, is an aerial parallel to the skin with three attachment points, and behind the pilot's canopy is a conventional whip aerial. Access to the engines and fuselage equipment is facilitated by the many detachable panels of the nacelle, providing for a high standard of serviceability.

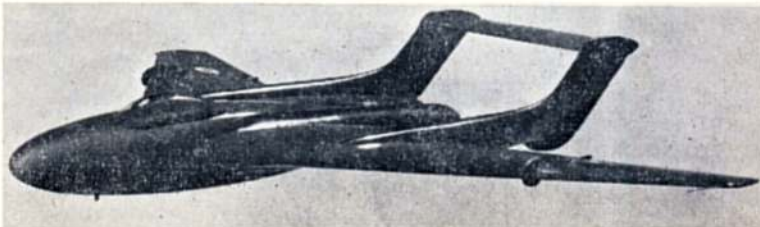
The swept-wings are fitted with boundary layer fences extending approximately one-third chord on the upper surface only, and around the leading edge. Ailerons of substantial area are horn balanced, the latter forming the rear half of the wing tip. Extension type flaps, with guides at the aileron flap junction, extend to the wing root, and include the tail boom lower skin in one section. Single wheel main undercarriage units retract inwards into the wings, and a landing lamp is attached to each of them.

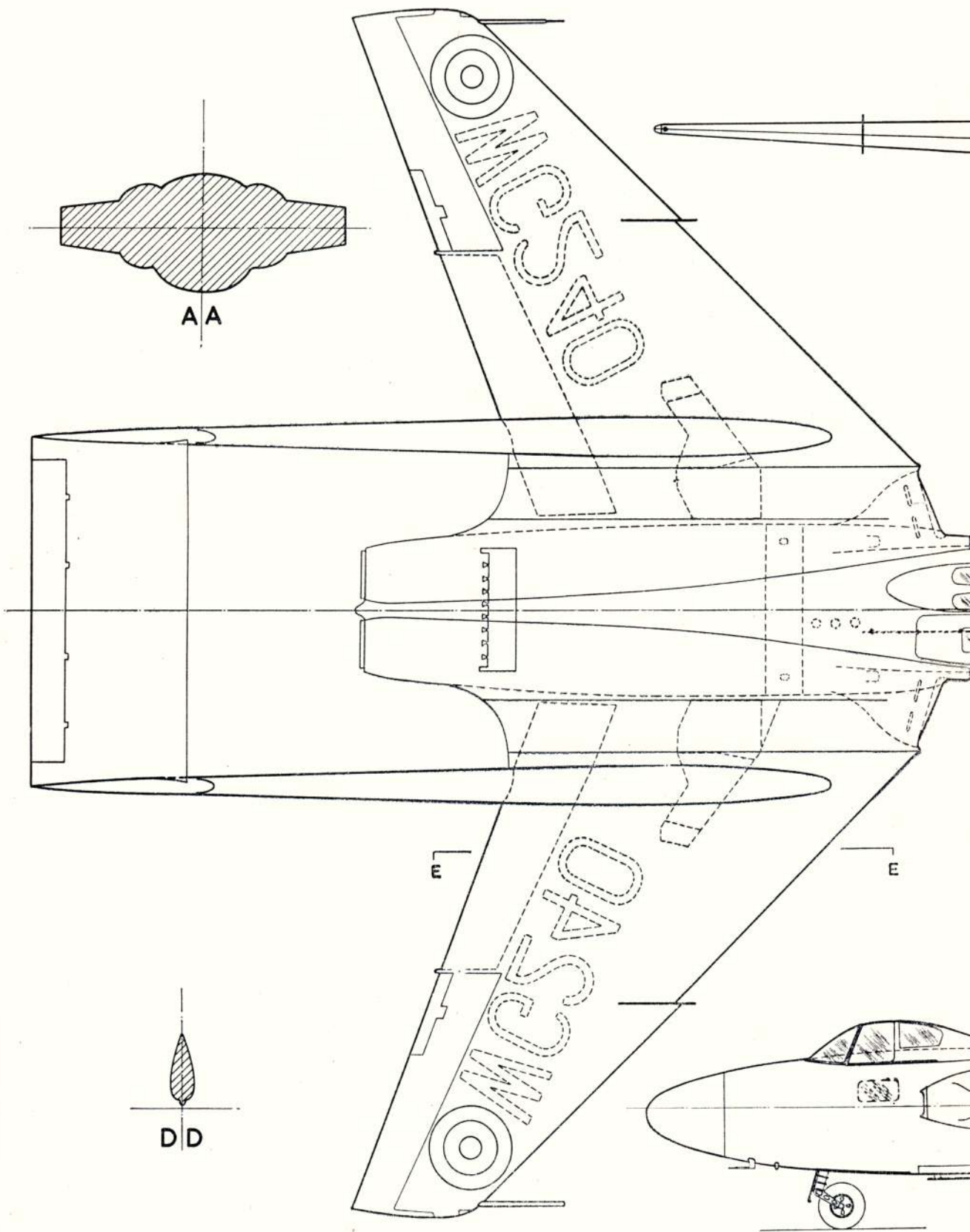
The main engine air intakes, with internal guide vanes, have two small adjustable intake slots above and below in the outer skin. In addition to these, forward of the main intake, is the boundary layer bleed, and under the wing, at the forward end of the tail pipe fairing, is a similar intake.

The tail unit was subject to various modifications prior to flight testing, which was resumed on June 11, 1954. With the variable incidence tailplane and normal elevators replaced by an "all flying" tailplane and full span trailing edge trim tab, the D.H.110 followed the fashion set as far back as 1929 by the D.H.77 fighter with an all-moving tail (though not then for supersonic purposes). Ventral fin area, and fin-tip trailing edge areas were at the same time reduced. Additional modifications at that time affected the mainplanes. Wing area has been increased by extending wing chord outboard of the wing fences, and the introduction of the "drooped" leading edge will improve handling qualities at both low and high speeds, so further enhancing the excellent manoeuvrability of the aircraft. During its second flight, with the new configuration, on June 14, 1954, sonic speed was achieved.

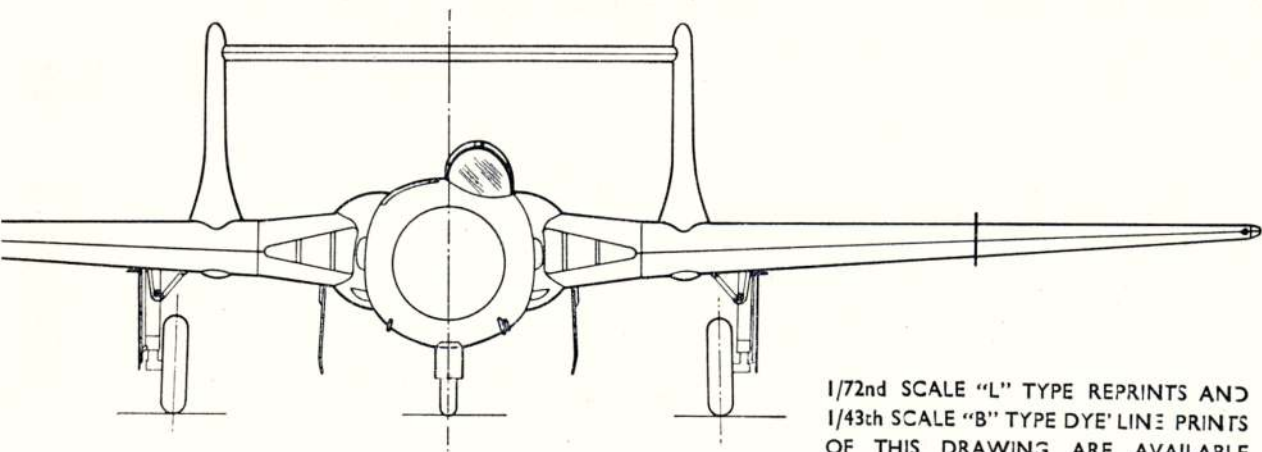
Performance details of the De Havilland 110 are still secret, but it is possible to say that it provides all the essential features of the all-weather fighter in high speed and endurance, an outstanding rate of climb, and extreme ceiling, with heavy armament, and yet possesses all the essential low speed handling attributes of the carrier-borne aircraft.

WG.240 in earlier all-gloss black finish contrasts in shape and colour with its latest form at Farnborough '51. New Fin lines and naval scheme of Dark Sea Grey upper surfaces with Sky undersides, but without fin flash or Royal Navy over the serial No. are points of note. Span is 51 ft. 0 in. Length 52 ft., and wheel track 17 ft. 5 in.

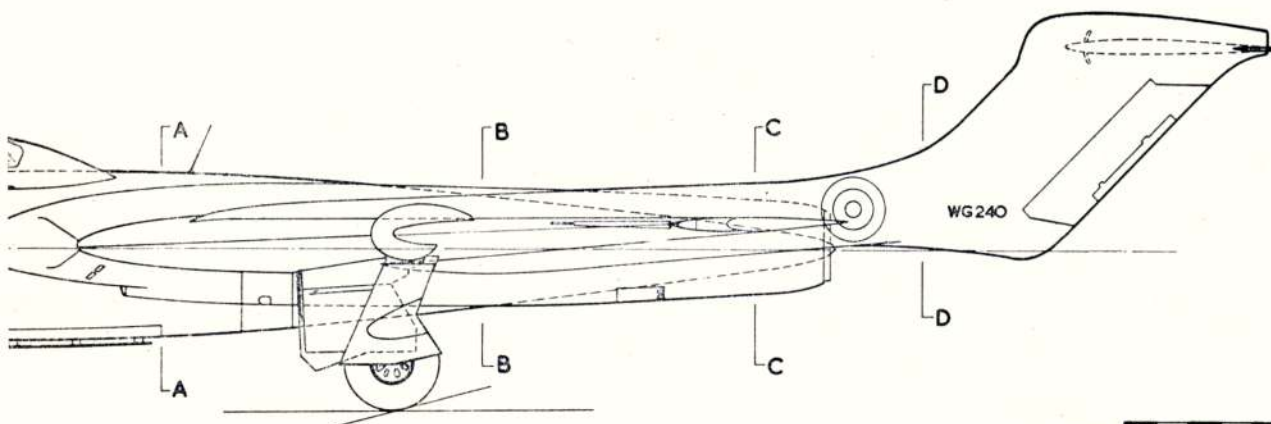
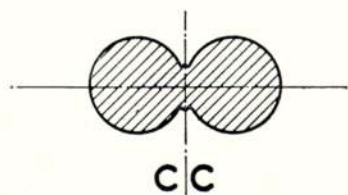
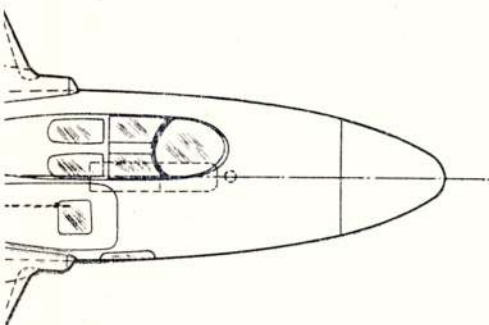
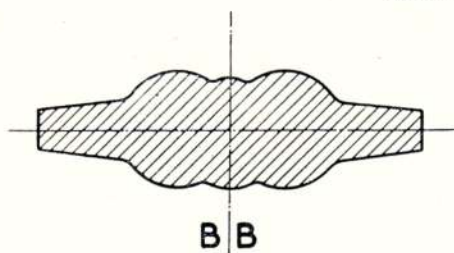




DE HAVILLAND DH 110



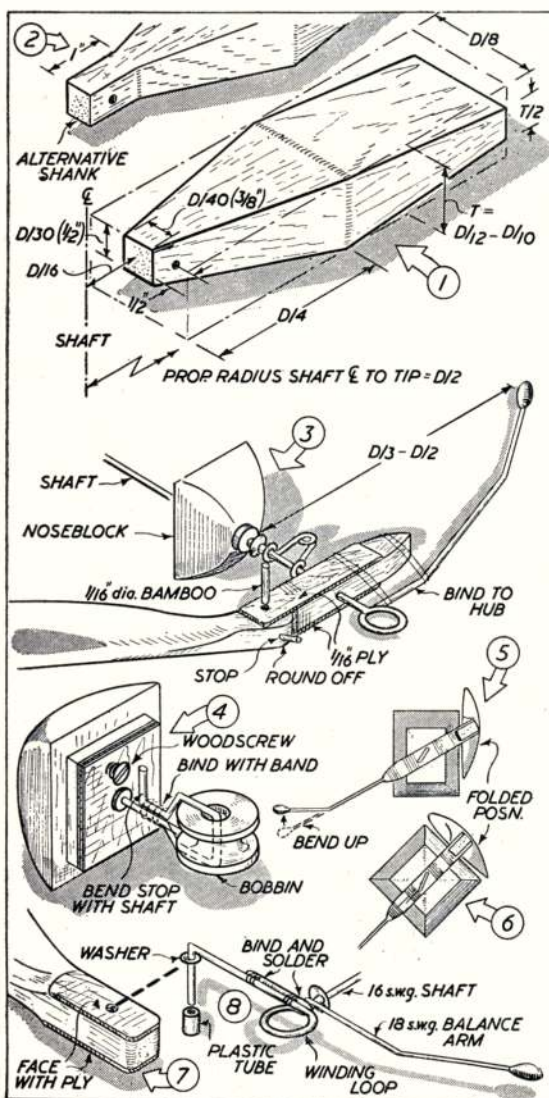
1/72nd SCALE "L" TYPE REPRINTS AND
1/43th SCALE "B" TYPE DYE' LINE PRINTS
OF THIS DRAWING ARE AVAILABLE
PRICE 1/- & 1/6 RESPECTIVELY FROM THE
AEROMODELLER PLANS SERVICE.



Focus on . . .

Folding-props

TO MEET numerous requests, we present a condensed article on the construction of folding propellers arranged in easy reference form. Although essentially a contest model feature, a propeller which folds is also more crashproof than its fixed or freewheeling counterpart. To many less experienced aeromodellers it will also be found easier to construct, since, with the most popular single-folder only one blade has to be carved.



1. Laying out the propeller blank should follow the proportions shown. When replacing a two-bladed propeller with a single-blade folder, diameter should be increased by about 10 per cent. Folding propellers usually average about 45 per cent. of the wing span in diameter. The shank section is sometimes squared off for convenience of fitting, when the blank is modified as in 2.

3. Straightforward folding propeller layout utilises $\frac{1}{16}$ ply hinge plates bound and cemented to a balsa hub. The blade is then pivoted in plate with a bamboo peg. Round off the end of the blade so that it can pivot backwards freely. Square ended blade shank is necessary. A bamboo (or pin) stop is usually necessary to locate the blade in the correct "open" position.

4. A stop is necessary in conjunction with a tensioner spring to ensure that the blade folds flat, thus offering minimum air resistance. Bend the stop integral with the propeller shaft and bind securely with a rubber band, after slipping the motor in place.

5. Two adjustments are required with the stop mechanism. It must be cut in at the proper time (just before the motor goes slack) and also stop the propeller so that the blade can fold flat against the fuselage side. This generally means that the hub must be stopped diagonally. With a diamond fuselage (6), a single-blade propeller is invariably folded against the port upper fuselage side.

Wire hinges are stronger (and more crashproof) and favoured for larger models more powerful motors. Also blade shank is better reinforced by facing with thin ply (7). Almost invariably confined to single-blade folders, wire hinges may dispense with a separate hub. (8) Blade can be detachable for easy replacement, using plastic tube or a binding of cotton (cemented) to keep blade in place.

Quite the best type of hinge for large folders is made from $\frac{1}{16}$ in. dural either wrapped round wire hinge (9) and (10) or filed out from a block of solid dural (11). Either of these types are suitable for single—or double-blade folders. The wire part slips over propeller blade shank and is strongly bound in place and cemented. The dural member is bound to a balsa hub (rectangular section). Lightening holes may be drilled in the dural to reduce the weight to a minimum.

This type of hinge can also be given a skew angle (12). This compensates for the pitch of the propeller as the blade folds back, rotating the blade so that it can fold flat in a horizontal position. This is often the only solution for "flat" folding on many fuselage shapes (13). The skew angle has to be matched to the propeller and fuselage shape, so experiment first with the blade mounted on a piece of wire. Adjust the wire bend until you get flat folding, then duplicate the skew angle when making up the permanent hinge. Final adjustment can then be done by experimenting with the stop position.

The simple ply hinge (3) can be used for small two-bladed folders, but do not rely on it for motors more powerful than about 10 strands of $\frac{1}{4}$ strip.

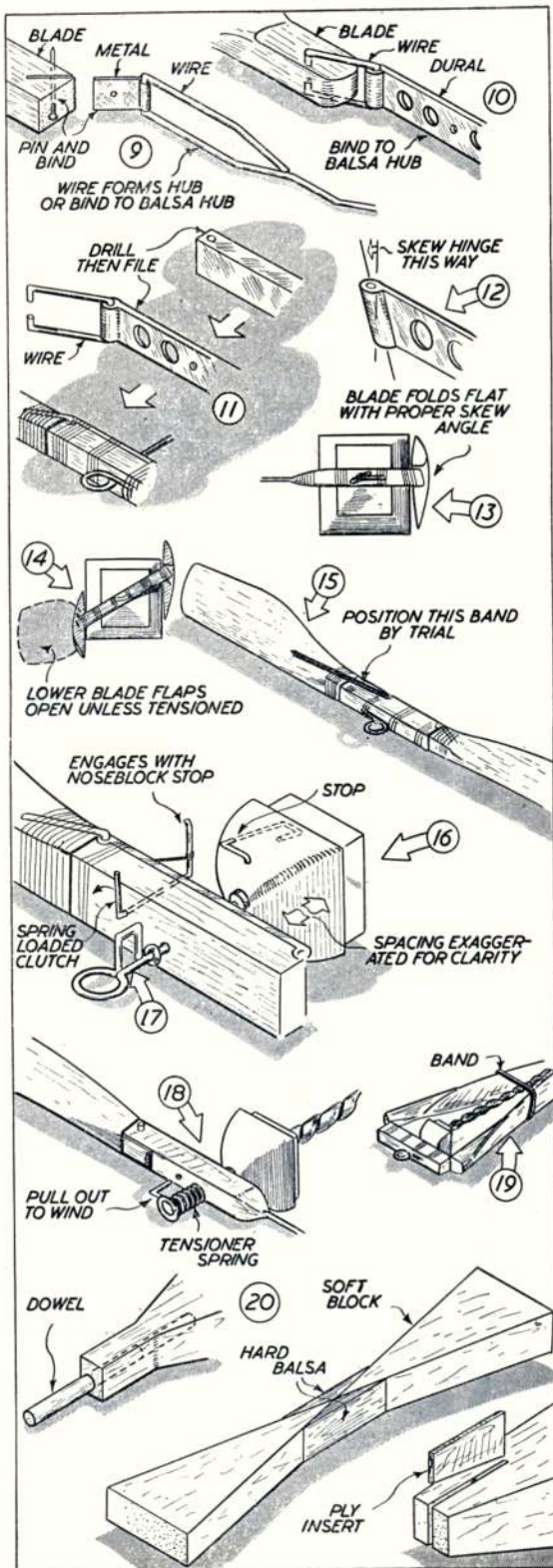
A wire or metal hinge is more foolproof for larger models, even if a little more difficult to make. Whether you use skew hinges or not, one trouble you may experience with a two-bladed folder is that one of the blades (the lower one, when folded) may tend to flap open as the model circles on the glide (14). This is easily cured by fitting a light band to that blade as in (15). Find the exact position required for the band by trial and error. It should have a double action, holding the blade in the open position and then snapping it back if the blade is pushed back more than about twenty degrees. The band must be weak enough to allow air pressure to start the folding action—then strong enough to hold the folded blade flat against the fuselage. Another advantage is that a blade with a "lock" in the open position is often easier for launching. The second blade does not need a tensioning band.

Eliminating the normal stop action on a folding propeller, and also giving the propeller a "freewheeling" action for ease of winding, is the cunning device shown in (16). The propeller has a normal freewheeling type of clutch and loop, with just one difference. The clutch is spring loaded to rotate away from the shaft loop as soon as it disengages. This brings the back extension of the clutch into a position where it can engage a stop mounted in the front of the nose-block.

Action follows this pattern. When the motor runs out the clutch immediately disengages and the propeller starts to freewheel. Immediately the clutch is released the rear arm springs up into a position where it can engage the nose block stop. After freewheeling about half a turn the clutch extension engages this stop and brings the propeller to a halt. The blades then fold back under air pressure. This device must, of course, be used with self-tensioned or taut motor. Also use a "Safe" type clutch loop—(17).

Winding is often a bit of a problem with a folding propeller locked to the shaft. Wind facing upwind if you want the blades to stay open. You have to turn the propeller as well as the motor, which makes winding harder. For easier winding you can arrange to have the shaft disengage as in (18). Make sure that your tensioner spring and shaft proportions are such that the propeller will not disengage in flight when the motor runs out, otherwise stop action will be ineffective. A band locking the blades shut over the motor has been used on two-bladed folders (19) but this is not a particularly satisfactory solution. The blades must be unfolded by slipping off the band before putting on the final turns.

Reinforcing the shank end of a folding propeller is good practice (20). A dowel is a good strengthener cemented into a hole drilled in the root end of the blade. A ply insert is a useful alternative. Binding with silk soaked in cement adds considerable strength. Glass plastic reinforcement might also be considered. Large folders cut from diagonal blocks require soft material to keep weight down, but the hub section can be strengthened by cementing in wedges of hard balsa. Aerolite 300, Durofix or Britfix are good adhesives for joints of this type.



Radio Control Notes

by Howard Boys

THE FIRST item this month is a rather gadgety piece of equipment from Mr. John Moore of Coventry. He says that if it is made and adjusted with care, the engine speed can be controlled smoothly, using difference in pulse rate. The system has been worked out after trying various other types involving delayed relays, etc. Here is his description.

"I had been using an exhaust restriction method of engine control which luckily gave a smooth speed variation. This seemed to deserve something better than two speed control so I devised this contraption which has been tried out in a boat for convenience. It operates in conjunction with mark/space signal for proportional rudder.

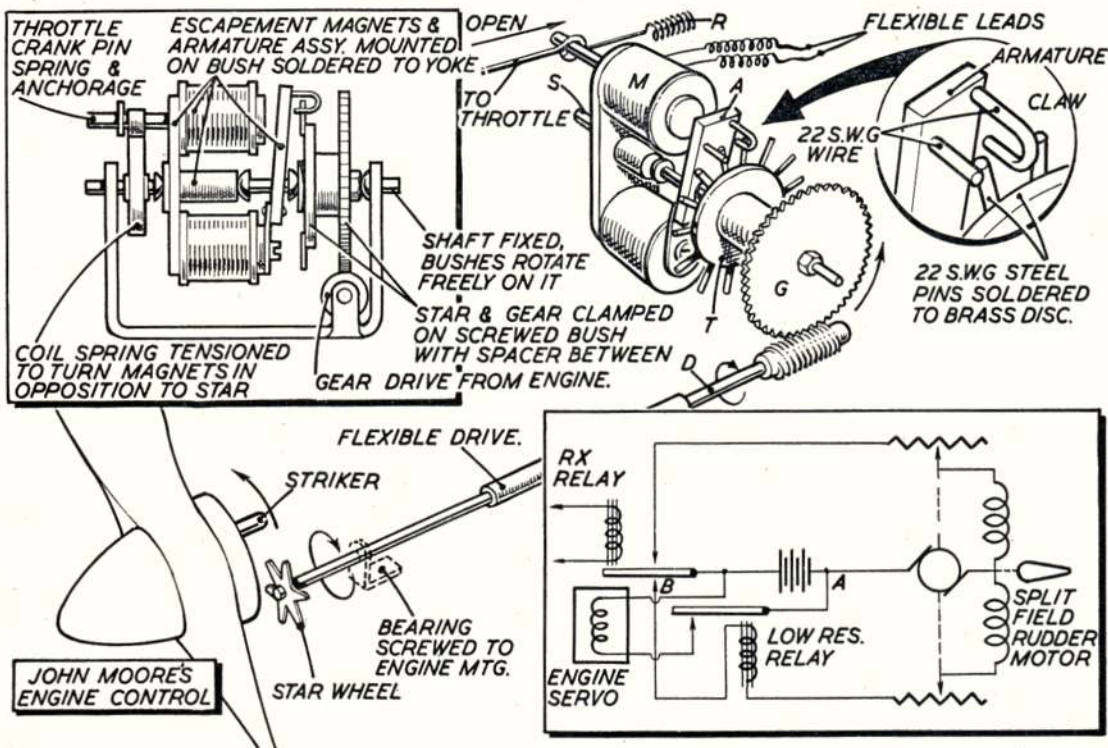
"Referring to the diagrams, it will be seen that the device consists mainly of two parts, each freely pivoted on an 18 s.w.g. shaft 'S' and capable of independent rotation except for the locking action of the escapement. One unit consists of the magnet 'M' and the armature 'A' with a simple claw, and the other is the escapement star and drive 'T' and 'G'. Thus: revolving the drive in the direction of the arrow will also turn the other unit and tension spring 'R'. The magnet unit is linked to the throttle and with the above conditions the drive will close

the throttle, spring 'R' trying to open it.

"Now, if a pulsed current is fed to the magnet coils at the same rate as that of the star teeth passing the claw, the magnet system will remain stationary. Increasing the pulse rate will allow the spring to rotate the magnet against the direction of the star wheel thus opening the throttle. Decreasing the pulse rate will close the throttle. Note that this is dependent on the pulse rate only, and the mark/space ratio can be varied without materially affecting it. If the star wheel is rotated at constant speed the throttle will open with increase of pulse rate and the pulse rate will then need to be returned to normal to maintain this opening. If, however, the star wheel is driven from the engine, then as the pulse rate increases the magnet system will open the throttle, the engine will speed up and speed up the star wheel until pulse speed and star wheel speed correspond.

"The method suggested for taking the drive from the engine is O.K. up to 8,500 r.p.m. provided the star wheel is not too free, and has a low inertia. I have used a belt drive for higher speeds by riveting a pulley to the back of the prop driver, and on an E.D. 3.46 a groove was turned for this purpose in the extension by the simple expedient of applying a suitably ground file tang while the engine was running . . . (mind the prop!).

"On the original system, which only weighed about an ounce, the magnet coils were swiped from a miniature buzzer. (A Goltone Bell Buzzer unit will provide two such magnets.) The circuit used is



shown, but the low resistance relay is not necessary (this was used because it was already in the model from the old system), the magnet can be connected between points A and B.

"NOTES.—Concerning the throttle servo, when this is operating normally the magnet system oscillates slightly, and this can be compensated for by allowing a slight amount of backlash in the linkage to the throttle.

"No gearing is shown or given since this will depend on the normal engine revs., the average pulse speed, and the number of teeth on the escapement. It is given by:

$$\frac{\text{total gear ratio}}{(\text{Engine to escapement})} = \frac{\text{max. eng. revs. per second} \times \text{No. of esc. teeth}}{\text{max. pulses per second.}}$$

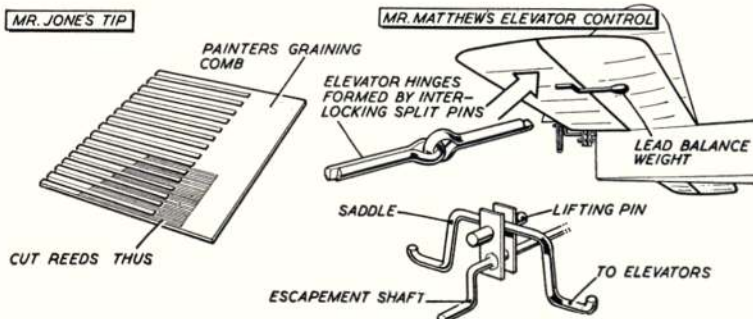
"The magnet system should balance on its pivot as closely as possible to reduce the effect of 'g' in turns and landings."

Reed suggestion

A very useful tip for reed material has been received from Mr. H. E. W. Jones of Barnet. A comb as used by painters for graining will provide enough for two or three reed units at a cost of fourpence. They can be cut down as shown shaded in the diagram. He does not think spring steel is necessary. Neither does Mr. Cuckson who uses headphone diaphragms. Mr. Jones also says that the silver contacts for the reeds can be made by drilling a 1/16-in. hole, slightly countersinking it both sides, and riveting in a piece of silver ring from what a watchmaker calls a "jumper." He also says that he has difficulty in winding the coils with thin wire for reed units, so uses thick wire with few turns, and couples in an output transformer. This only adds about an ounce to the weight of the equipment.

Elevator off single escapement

A scheme for up elevator in one of the neutral positions of the usual four position escapement which has been suggested before, but will stand repeating, has been sent by Mr. Matthews from New Zealand. The elevator hinges are made from interlocked split pins which give a very free movement, and the elevators are balanced to take some of



the load off the escapement. (This will also prevent the elevators developing "flutter.") The elevators are lifted by a saddle of 18 s.w.g. wire which passes over a lifting pin on the escapement shaft, see diagram. The sequence then is left rudder, 2 up elevator or, 3 right rudder, 4 neutral rudder and elevator. The elevators operate on No. 2 only. With this sequence a steep spiral dive to start a loop is made unnecessary. Right rudder is held on until a slight dive develops, then to left rudder to straighten, and then one more movement (up elevator) to carry the model over into a loop.



Some idea of the state of r/c development in the U.S.A. can be gained from these photo's of Fibreglass high speed models. Top shows two by Earl Vell, with 3-channel receivers using E.D. reeds and Bonner compound escapements. One in foreground has an Elf 6-cylinder engine, other a Torp 19 2-speed. Bottom photo is of R. Beckman admiring up to 100 m.p.h. 5-footer by W. J. MacKerracher. Has symmetrical wing, weighs 9 lb., McCoy 60 with contra props, Rockwood 5-Channel reed Rx. Wing loading is 45 oz./sq. ft.



1. T. R. Kennedy launches his superb S.E.5a on first flight ever. Stall on power prevented him qualifying for Concours d'Elegance prize. 2. Novel VTO model by J. Brierley of Middleton has downthrust angles built on to inclined fuselage. 3. Swiss Flying Wing article in May issue was responsible for this plank by J. Holland of Macclesfield. Flies well. 4. Capt. C. C. Horner of Lancaster had this model of an aircraft he worked on in his youth. 5. The MIM's composite, Me109, by Howarth, and Ju88 by Jacques. 6. Ken Mole's beautiful A/2 won freelance Concours.

Berkshire Evening News

Model Flying Festival . . . Sherburn

AS IF TO confound critics of Northern activity, the fourth Y.E.N. meeting was one of the most pleasant rallies it has ever been our pleasure to attend. Sherburn abounded in the novel and unique. One could see a dozen airborne models at a glance at any time during the fine day, and it would be safe to say that eleven of the twelve were there just for the fun of flying. Flying wings, saucers, helicopters, semi-scale and true-scale models covered the field at this now well-established social event of the Northern year.

Of the contests one noted large numbers of free-fighters disappearing into the depths of an inconvenient cornfield and the continuance of inter-club needle in Class A team racing. Fly-offs were necessary in the duration events, but the contest that commanded most attention was the well-supported Concours d'Elegance. More scale models than ever seen in one tent before gave rise to at least one comment that the SMAE Super-Scale Trophy should be run-off at Sherburn, and having seen entries in scale at all other events of the year, we cannot help but feel there is some foundation in this claim.

Results

Glider

1. A. Brocklehurst (Stalybridge)
2. J. Turner (Sheffield)
3. N. Guppy (York)

Power

1. J. Done (Wallasey)
2. C. Marsh (St. Albans)
3. R. Chisnall (Wigan)

Rubber

1. J. Cartwright (Leeds)
2. H. Budding (York)
3. A. Anderton (Cheadle)

Chuck Glider

1. W. Houghton (Prestatyn)
2. H. O'Donnell (Whitefield)

Team Race A

1. D. Bolton (Foresters)
2. A. Andrews (High Wycombe)
3. R. Edmonds (High Wycombe)

Team Race B

1. J. Howard (Foresters)
2. G. Pilkington (Barnoldswick)
3. K. Stones (Heath)

Concours d'Elegance

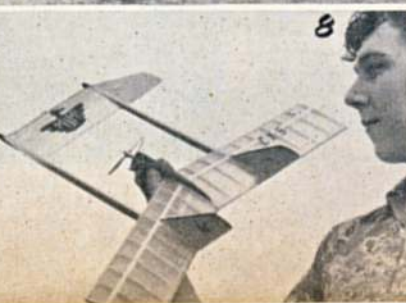
F.F. Scale: J. Bridgewood (Doncaster) Heston Phoenix

C/L Scale: J. Cooke (Congleton) Mosquito

Freelance: K. Mole (Newcastle) A/2

(Duration times not supplied at press date)

7. G. Rayner supports a 36 ounce scale BV138b with single engine and two dummies. 8. R. Place of MIM's and Albion Barnbi canard that goes well. 9. Concours scalewinners, Geoffrey Cannon with Bellanca Cruisemaster and J. Bridgewood's omnipresent Phoenix.



The Mad Hatter's Song—as performed at the Queen of Heart's Concert and related at the M.H.'s Tea Party:

"Twinkle, twinkle, little bat!
How I wonder what you're at!
Up above the world you fly,
Like a tea-tray in the sky.
Twinkle, Twinkle . . ."

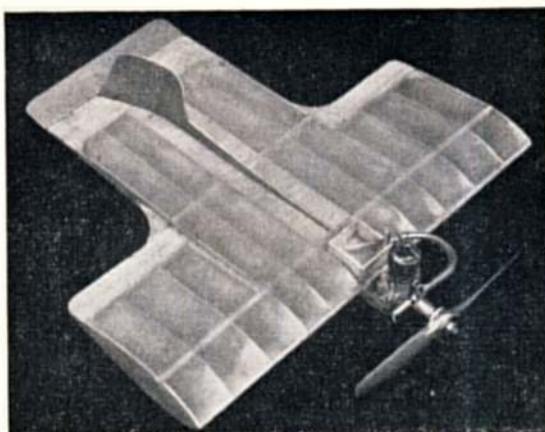
Here the Dormouse interrupts and sings on
"Twinkle, twinkle, twinkle, twinkle," in its sleep . . .

Introducing James Snook's Tough All Wing Stunt Model

THERE ARE not many stunt designs that can claim the distinction of being fully aerobatic with only .5 c.c. to power them, but T-Tray is one of them, and as a tough, inexpensive novelty you'll find it hard to beat. In the words of the Mad Hatter, it's a bat that twinkles like a tea-tray!

Wingspan is a mere 12 inches, length only 10 in. and area 78 sq. in. Built to weigh around 4 oz. all-up, T-Tray flies on thread or wire lines of any length from 20ft. to 35ft., depending on wind conditions, and as for cost—two of them can be made for as little as 6s. Full-size plans are overleaf, so why not grab some 1/32nd and 1/16th sheet plus a strip or two of 1/8th sq. and a length of 1/4 sq. hardwood, scrap celluloid, ply, tissue, wire, and cement. That's all you need to get the model complete and ready to fly in ten hours' building time.

Make a start by cutting out all the ribs, noting the different thicknesses required at certain positions on the model. Then pin the two bottom 1/8th spars to the plan, as well as the lower halves of the 1/32nd sheet trailing edge to the centre-section. Add the centre, longer, ribs and when set dry, add the outer



T-TRAY

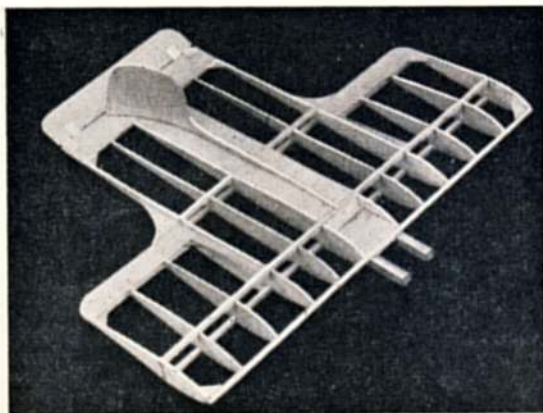
ribs, making sure that they are in-line with the centre section. The trailing edge points should be 1/4 in. above the board. Now add the top spars, top of the centre-section trailing edge, the leading edge and the outer section trailing edges.

Lift from the plan and cement all the gussets in position. Also fit the 1/2 oz. tip weight in place with a silk patch, making certain that it will not come adrift at the first belly-landing.

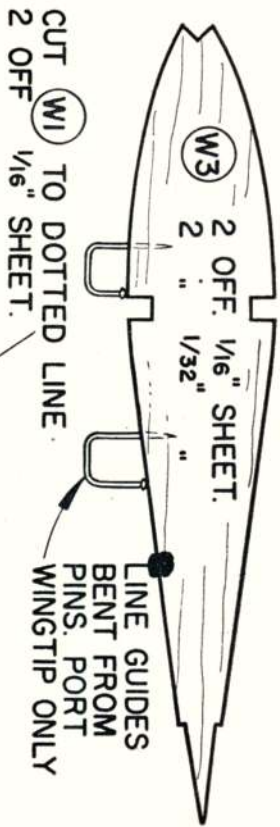
One-sixteenth sheet fillets in the "T" corners and 1/32nd strips to support the covering at the change of section can now be added, and the next task is to fit the engine bearers. Engines suitable for this model have a great variety of engine bearer spacing: that on the plan being for the popular Allbon Dart. If a Frog 50, for example, is to be fitted, then the bearers and centre ribs should be brought closer together, and tank altered accordingly. Cut away part of the leading edge to take the bearers, which are firmly cemented with Britfix to the ribs. Add the hardwood crossbraces, ply bell-crank mount and assembly, then sheet over the centre-section with 1/32nd. Fit the fin with appropriate offset, hinge the 1/16th elevator in place and hook up the push rod for control. If you prefer, these last operations can be left until after covering with lightweight Modelspan and giving two coats of clear dope plus one of colour and Fuel Proofer.

Ready to fly, we suggest 25 ft. lines for the first test, and that a reliable helper is called in to give a smooth hand launch. T-Tray is a nippy little flier, and will accelerate up to 50 m.p.h. if an efficient prop is used. We suggest the Frog 6in. x 3in. nylon prop as a good all-rounder to start with.

Don't over-control after the launch, and you'll find the T-Tray flies itself away on neutral or slight "up" elevator, then when it has gained airspeed and is high enough, you can start to flit it around as the Mad Hatter suggests in our heading rhyme, extracted, of course, from that classic, "Alice in Wonderland," by Lewis Carroll.



1/2 OZ. LEAD WEIGHT
STICK WITH SILK
PATCH.

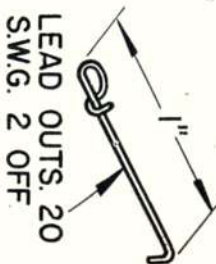
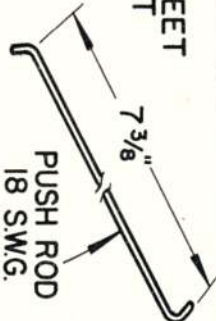


W2
2 OFF. 1/16\" SHEET
2 \" 1/32\" \"

1/8\" SQ. L.E.

1/32\" SHEET TO
AID COVERING

1/16\" SHEET
FILLET



BEARERS
PROJECT 3/4\"
IN FRONT
OF L.E.

1/8\" SQ. SPARS
TOP & BOTTOM

1/32\" SHEET
TOP & BOTTOM

1/4\" SQ. HARDWOOD

1/16\" PLY
BELLCRANK

1/32\" SHEET TOP & BOTTOM



TANK FITS
HERE

DORSAL FIN

FIN

W1



PIONEER MONOPLANE MAKES A PERFECT SCALE MODEL FOR .75 TO 1c.c. DIESELS

By A. M. Finucane

Aged 32 . . . many years a member of York M.A.S. . . . G.P.O. Telephone Sales' representative . . . Married, with family of three . . . A modeller for 18 years, keen on free-flight only, with accent on scale and A/2... other interest is historical Aviation, model railways and ships.

BLACKBURN 1912 Monoplane

IN THE December, 1951, "AEROMODELLER" George Cull described the 1912 Blackburn Monoplane and captioned: ". . . will surely make the flying scale modellers reach for their drawing boards"—I did!

Eighteen months of development have produced this exact scale model—not for the piano top—but for safe scale type flight. Thanks to the low wing loading, auto rudder, generous tail area and the 1947 Amco .87 up front, this has been achieved.

Dihedral, airfoil sections, wing and tail areas are scale. In the interest of flyability a number of rigging wires have been omitted and a peculiar tail trimming device incorporated. Although rather unconventional, this latter arrangement works perfectly and is very robust.

The prop diameter is slightly below scale size. With an eleven inch scale prop the little Amco would only run when the needle valve and compression screw were removed!

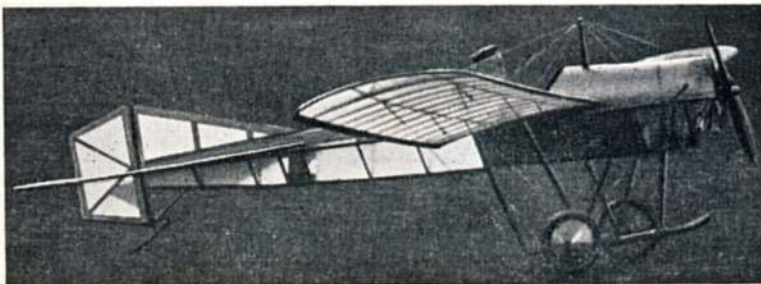
The model is always R.O.G.'d and never pushed. Hard-bitten power duration men stand and gape when, with the Amco gently misfiring, auto rudder wagging and the intrepid aviator's scarf blowing in the slip stream, the Blackburn rolls forward. A 35-40 ft. take-off run is followed by a gentle right hand climb to a 30 ft. "ceiling." For an unknown reason—probably connected with auto-ruddery and pendulum inertia—the normal wide circle flight pattern is sometimes enlivened with a figure of eight. The tank has a 1½ minutes flight capacity—so old

"hat-on-backwards" has got some hours in.

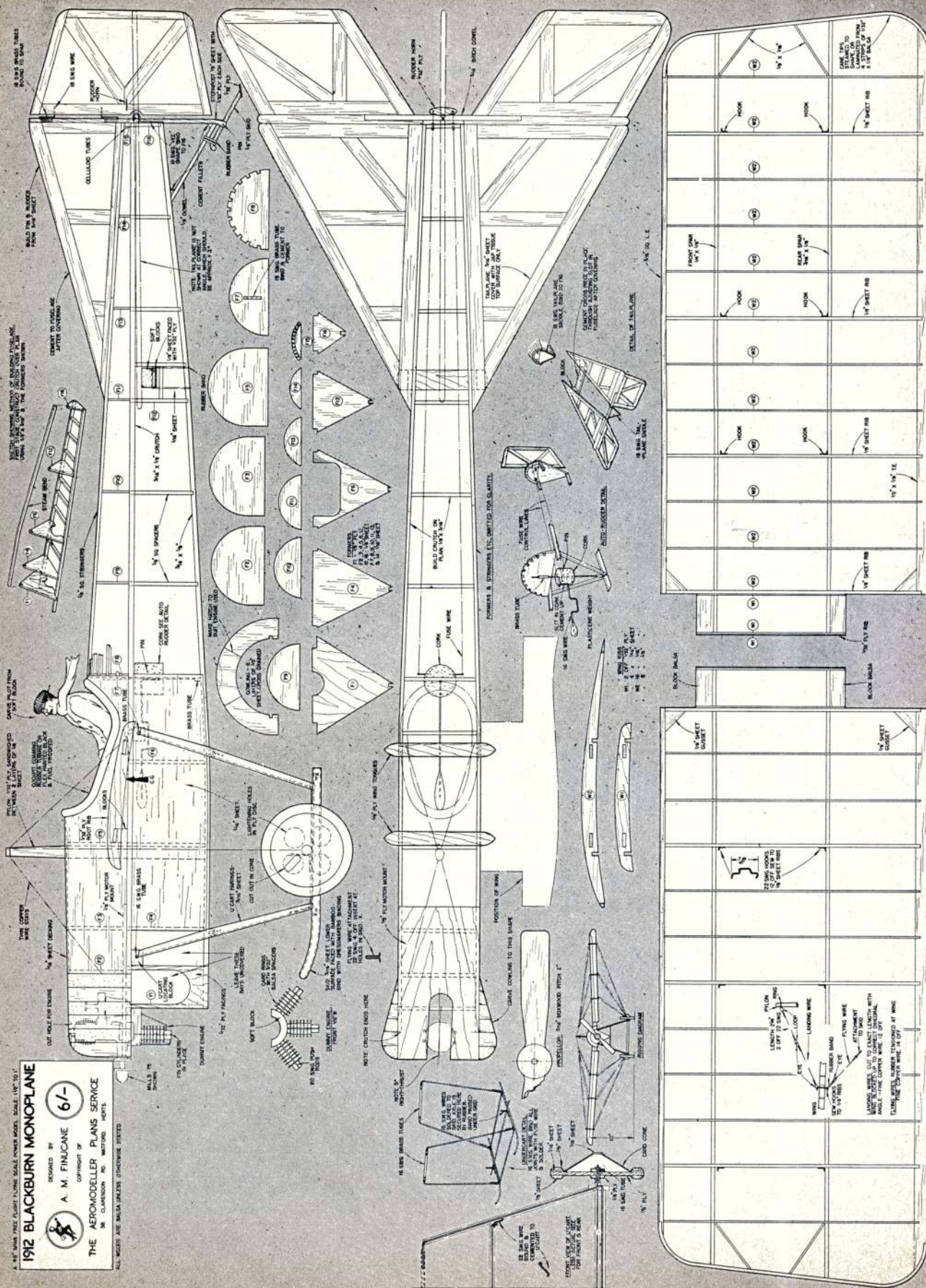
Low air-speed—about 7 m.p.h. flat out—and light weight reduce the chance of serious damage. It is, however, essentially a calm weather job—as also is the prototype which cavorts regularly at the aeronautical garden party. And there's a point there, for if your club is one of those publicity minded co-operative groups that are constantly asked for demonstrations at local affairs, the Blackburn is a certain crowd-puller.

Full building instructions are included on every copy of the full-size A.P.S. plan; but to whet the appetite, the rather novel trimming system makes interesting reading.

The model is best trimmed under power on a calm evening. Add ballast inside the cowling to bring centre of gravity to position indicated on plan. Pack leading edge of tail to give approximately 3 degrees positive incidence. With as much downthrust as possible, attempt an R.O.G. on full revs. Walk beside the model. It will probably rumble forward tail up and remain on the ground. Remove downthrust in very small doses until the model comes unstuck after 30 feet and stays airborne. If it climbs steeply, lay it by the heels and put on more downthrust. Don't worry about turn. The rudder takes care of that. No other trimming for glide was required on the original; but if necessary the centre of gravity can be moved slightly and the tail set at zero.



A sure flier, Mr. Finucane's Blackburn Monoplane will find a place in all scale modeller's hearts. Natural doped finish adds authenticity to this glamorous example of the pre-national markings era. Full-size copies of the A.P.S. 1/5th scale plan reproduced opposite, complete with incorporated building instructions, are available, price 6/- post free from AEROMODELLER Plans Service.





Top, George Howard, based at Manston, Kent, took his APS Seraph to El Paso and Chicago for the U.S. Military and Civilian Nationals to return with a nice collection of hardware. Centre Wakefield expert Dick Baxter of California, built this neat Longster with McCoy diesel. Above, Harold Copas also has a McCoy diesel and fitted it to his revised APS PAgeboy. Below, New Soviet section known as the Saratov Pioneer was designed by A. Grigor and follows Austrian practice.



World News

BIGGEST meeting of the year must have been the U.S. Nationals at Chicago. News from the U.S.A. indicates participation by over 1,500 modellers in the multitude of events and though local corn crops (up to 10 ft. high!) were responsible for a great many lost models . . . and modellers—high times indicate it was a great meeting. Among the lists of winners we note friend Parnell Schoenky taking away the Hiller Helicopter Trophy again, Alex Schneider top of R/C and from Manston in England, George Howard of U.S.A.F.E. came 2nd in A/2 flying an A.P.S. Seraph (see photo, left).

Harking back to the U.S. West Coast Elims for their Wake and Power reps, we read in "West Coast Model News" of the fabulous mid-air collision by Joe Foster's and Joe Bilgri's Wakefields which not unnaturally put them out of the running. Striking thing of this Eliminator held at Sacramento was the fact that generous prizes, engines, fuel, props, dope, etc., were given to the officials for their assistance, *not* the competitors. What's more, they were allowed to choose their own awards. With gifts for the workers, we can imagine their might be a queue for helpers at S.M.A.E. events if the idea spreads to Gt.Britain. Another major Western affair was of course the Jim Walker 3-day meeting, where Gil Coughlin of Tacoma won the grand prize including free trip around the world with Jim Walker next season. And talking of prizes, over 3,500 dollars worth were awarded to 69 of the 300 competitors at the Midwestern States Model Plane Meet, Stout Field, Indianapolis.

American Legion, local paper and Allison Division of General Motors Corp raised the cash—now why can't we have more of that kind of thing in Gt.Britain?

Posted in Moscow, first news of the Internationals held in **Russia** came direct to us by postcard from the capital city. Czechs won the A/2 by virtue of Spulak's time of 839 secs. and Poland the Wakefield through Niestoj's 873s. Czechoslovakia also won first place in power, 5 c.c. and jet speed to collect the team award with the Soviet Union 2nd and Hungary 3rd. Eight nations competed and full results plus a report will be given as soon as available. We have also had the good fortune to get hold of a Soviet handbook on model engines published in 1951 and the contents are amazingly detailed. Quite the most comprehensive book we have yet seen on the subject; some of the ideas on carburettor control are worthy of repeating for the benefit of the radio boys and will be seen in "AEROMODELLER" columns soon.

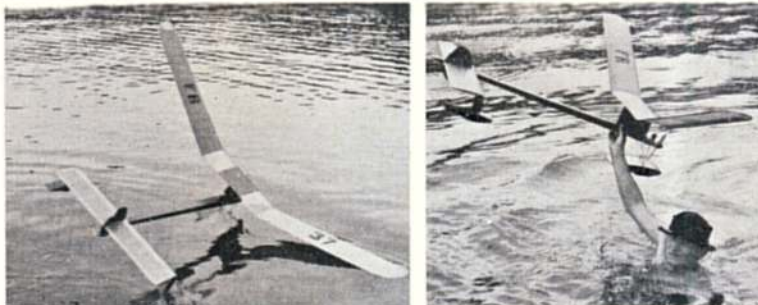
Modelling at Pusan, **Korea** is influenced by supplies of Japanese and American kits, the Jap outfits using their special brand of light wood and including the four engined Boeing B.50 and scale jet McDonnell Banshees in their range. Most popular and less troublesome Jap motors are the Enyas, and our correspondent informs us that over a hundred of these motors could be seen in one model shop display in Tokyo. Ready-made models in metal or wooden construction can be bought over the counter for low cost.

ORDINATES FOR S.P. RUSSIAN SECTION

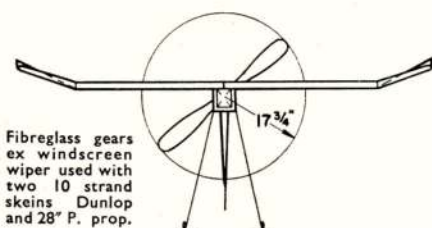
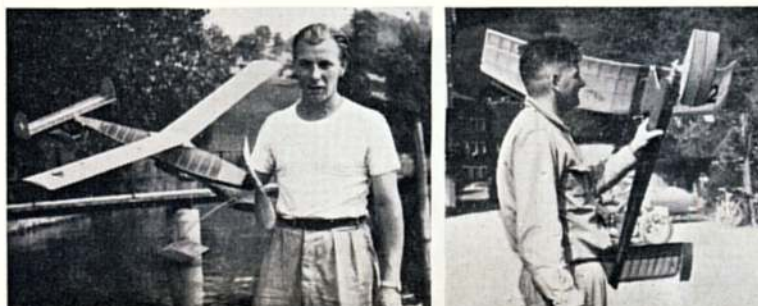
% Chord	...	...	0	1.25	2.5	5	10	15	20	30	40	50	60	70	80	90	100
UPPER	...	...	2.5	4.5	5.5	7.0	9.1	10.7	11.7	13.5	14.0	12.6	10.7	8.5	6.0	3.1	0
LOWER	...	...	2.5	1.0	0.5	0.2	0.2	1.2	2.5	5.3	8.5	7.5	6.0	4.5	3.0	1.5	0



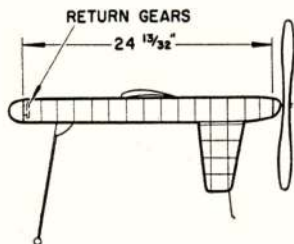
In Korea there is a keen club at Pusan, and these three examples typify three types. At left is a jet with Japanese pulse unit and diminutive wing area. Centre, a silk-covered oven design stunter by Allan Wimberly with attractive eagle decorations and an Enya 29 engine. At right, Japanese kits include a pre-fabbed Boeing B.50, here fitted with four American engines. Woods are mostly other than Balsa.



Hydromodel contests are popular in Switzerland and the annual National Contest is held on the calm lakes around Lucerne. This year the usual still conditions prevailed, and at right we see a Frauenfeld entry before—and after—a take-off attempt. Single front-floats are popular for power; but Caturaza of Schonenverd placed first in rubber (bottom left) with twin sled floats at front. Schenker of Schonenverd (bottom right) placed second in power, is seen checking the motor run on land before departing by boat for the float in the centre of the lake.

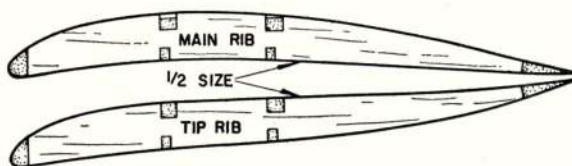
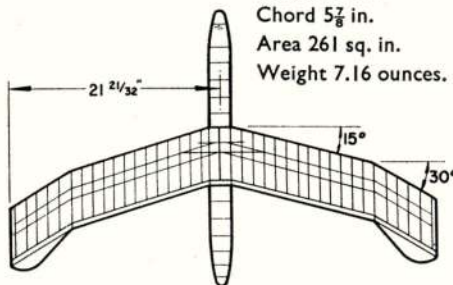


Fibreglass gears ex windscreen wiper used with two 10 strand skeins Dunlop and 28" P. prop.

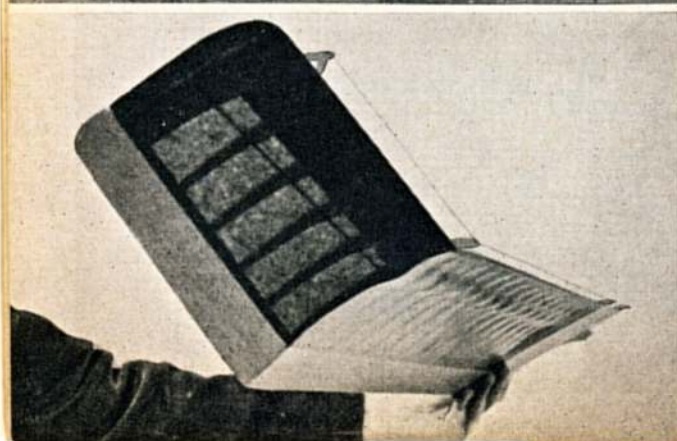
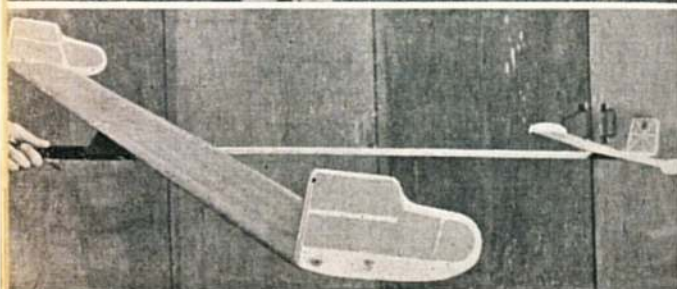
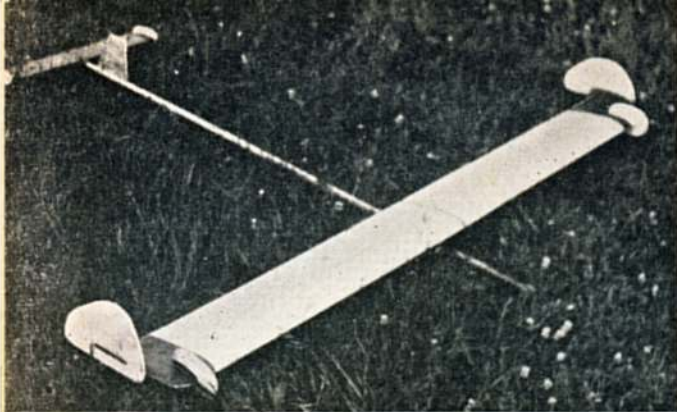


RUBBER-POWERED TAILLESS WINNER
GERMAN NATIONALS '53 and '54 by
Dr. Dictor Hermann, Berlin.

Span $43 \frac{5}{16}$ in.
Length 26 in.
Chord $5 \frac{7}{8}$ in.
Area 261 sq. in.
Weight 7.16 ounces.



0 12 24 36
SCALE INCHES.



TIP FIN TOPICS

WITHOUT doubt, the follow-up feature for 1955 A/2 design after the '54 trend toward the drooping trailing edge, is the addition of endplates to flying surfaces. Our feature in the August issue on the Yugoslav approach has doubtless been the cause for many tip-finned gliders seen at subsequent flying meetings, and now we have pleasure in giving further illustrations of the latest from Yugoslavia, plus revealing comment from John Hannay and Stan Hinds supported by sketches to demonstrate their point. Over to John and Stan:—

"Having read with interest on end plates in the August issue of your magazine, we thought you might be interested in our findings on the same subject.

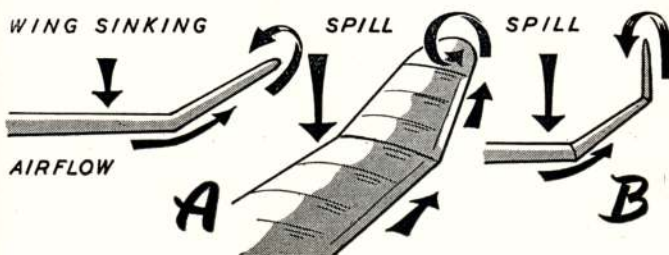
"Whilst our experiments have been conducted principally with A/2 models, most of the theories hold good for wings used on rubber and power models.

"About four years ago we decided to carry out experiments on wings along the same lines now being developed by the Yugoslavs, the intention being to produce a wing with no losses due to stability requirements (*i.e.* no dihedral) and also to reduce induced drag due to tip vortices, theoretically tending towards a wing of infinite span, and hence of infinite aspect ratio.

"It occurred to us that with a conventional wing form there takes place at the tip a considerable spill causing loss of lift, and to reduce this we decided to use end plates.

"The sketches illustrate the spill caused by a sinking wing (*a*) being the standard tip (*b*) wing tip with end plates only above the wing and (*c*) with end plates displaced equally above and below the tip. We arrived at the conclusion that the scheme illustrated in (*c*) was the most effective method of countering this spilling effect and this is the method we always use. As will be seen if the end plates have

Latest from Yugoslavia, top to bottom:—Double fins are no exception and in this case are combined with swept tips and tail-fins. Close up and next photo show Zarko Manojlovic's extended versions. Note the tail area! Sheeted wing and unusual fin shapes are on Rancin Gradimir's new A/2, whilst at bottom, Bora Kolic's wing displays Flamingo aerofoil and turbulator of the old school.





Top left, J. McQuillan of Novocastrians based his fins on our earlier feature and finished up with these enormous endplates. At Sherburn we spotted the model at right, designed by J. L. Langley of Matlock. Doubtless each of these models could benefit from extra dihedral as outlined by John Hannay below.

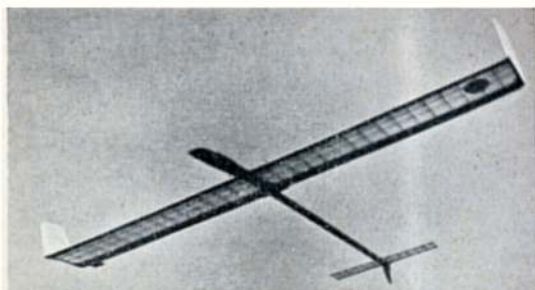
relatively large area, they will have some dihedral effect, and hence the wings can be made perfectly flat.

"It was found however, with this type of model, that they had a good performance on and off the line in calm weather, provided the glide circle was large; if however, the models became banked (tight turn) they would not roll out as there was insufficient rolling movement which is usually provided by dihedral (d).

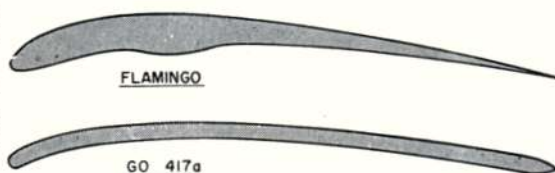
"From the results obtained with these models, we felt that the logical development called for a wing with dihedral *and* endplates and it is along these lines that all our later models have been developed.

"As a matter of interest to those interested in slope soaring, the common feature our models have had, which we feel is somewhat unique, has been the inherent tendency to hold into wind. All the models when fitted with a standard size tab have required modifying, *i.e.* increasing tab size. To support this theory we put forward Stan Hind's win at the Clywd Slope Soaring Contest in 1952, and John Hannay's win at the same meeting the following year."

Many other readers write of similar experience using tip fins and we trust that this advice from two experts on the subject will inform the dubious as to the advantages they offer.

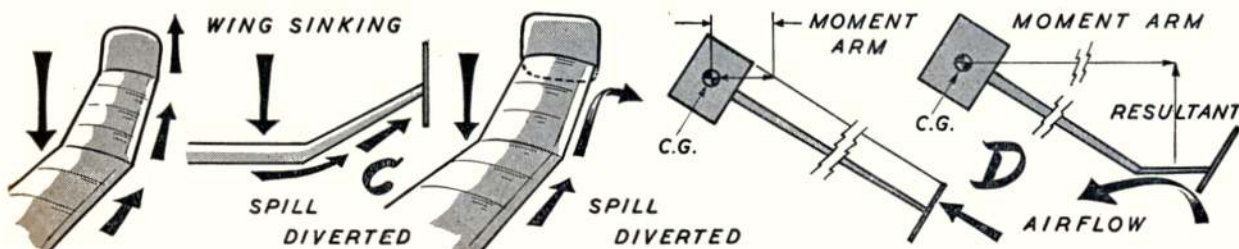


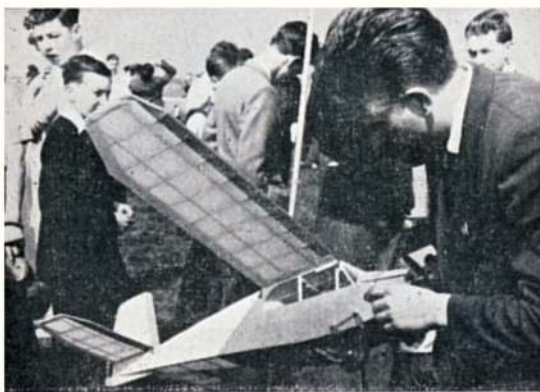
Above: Stan Hinds flew this A/2 at the Digby Trials in 1951; just goes to show there's nothing new in Aero-modelling. Below are Yugoslav favourite aerofoils Co.417a being available in the A.P.S. series of tapered sheets from 4in. to 12 in. chord, price 6d.



ORDINATES FOR Go 417a

% Chord	0	1.25	2.5	5	7.5	10	15	20	30	40	50	60	70	80	90	95	100
UPPER	1.45	3.0	3.65	4.7	5.6	6.3	7.15	7.75	8.6	8.8	8.45	7.89	6.9	5.7	4.26	3.55	1.45
LOWER	1.45	0.05	0.45	1.55	2.5	3.3	4.2	4.85	5.7	5.9	5.55	4.95	4.0	2.8	1.3	0.6	1.45





THE AVERAGE retail Model shop needs a big fire-work through its letter-box—those were the sentiments expressed to us in no uncertain terms by two quite independent leading wholesalers recently. There is more than coincidence in their opinions, for in the words of a prominent modeller who travels around a bit, "a 'leading' mail order house I went out of my way to see recently was my biggest disappointment for years. A quarter-inch of dust covered the heap of out-dated junk in the window." Now we know that it depends on what is termed as "average," and that there are exceptions to these slating comments: but without doubt, the retailer of today lacks the initiative and enterprise so essential

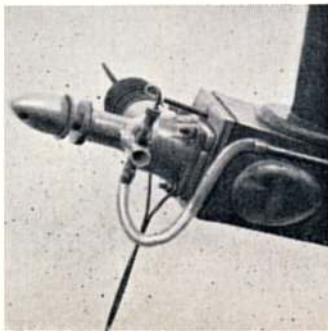
to success in earlier years. How about a brighter Model-Shop campaign, and an effort to carry more complete stocks? Manufacturers are not without fault in pre-advertising items without hope of hitting the market at the same time, this fact alone is enough to cause a sore head for the Mail Order people.

One exception to the above is the Henry J. Nicholls establishment at Holloway Road, N.7.

Henry is coming back after that P.T. flattening like wildfire, and the **Mercury** lines are expanding fast. The Matador kit for R/C or sport flying is now firmly established as a value-for-money kit, and there is a new string of controliners yet to come. Den Allen's A-M 25 is already out-selling production rate thanks to overseas' dealers with confidence in Mercury to put out only a first-class job—and their sense to speculate means that modellers in Australia, New Zealand and S. Africa will soon be enjoying the merits of this fine diesel. Mercury fuels have now completed practical field tests of their latest blend and the new brew is launched this month. To be known as RD (Racing Diesel), it has already proved its worth in team racing with 1st and 2nd in the Davies Trophy plus good use in contest free-flight by several well-known modellers. With lower lube oil percentage, it is not recommended for running-in.

Recent editorial appeal for better beginners' kits brings to our attention the **JASCO** line, from Southport. Covering rubber, glider, power free-flight and control-line, the JASCO series make a perfect introduction to the hobby with die-cut ribs and many cut-out parts, explicit instructions and for the Triumph rubber job—a nicely carved balsa prop. Prices are reasonable at 5/- for the 30 inch Tutor towline glider, 8/6d. for the Triumph 33 inch rubber cabin job. 10/- for the control-line trainer with all parts ready cut and suitable for .5 to 1.5 c.c. and the 36 inch contest power model known as the Tiger retails at 12/6d. Another design to add to the range this coming month is the Tracer control-line stunter for up to 2.5 c.c. and we suggest you look out for the usual attractively-coloured JASCO box.

Answer to the many APS Vultan delta builders who enquire after a suitable pusher prop is **P.A.W.** Manufacture of this special "left-hander" has been under way for some time they tell us, and because of extra production difficulties the price is a little higher than the usual **Trucut** figure. Retailing at 3/2½d. inc. P.T. the 7 in. x 5 in. is smoothly finished in best quality beech and also suits the APS Pushy-cat or any other pusher model using .75 to 1.5 c.c. engines. From the same establishment, though a different firm, Gig Eifflander **Re-boring service** announces another job they can now tackle. This is crankcase welding, and for many hundreds of modellers this means renovation of an engine previously considered "beyond repair." John Bickerstaffe, well-known northern contest flier had his favourite radial Elfin 2.49 break apart in three separate pieces, yet Gig was able to restore the crankcase back to normal,



Norman Allen of West Essex is airborne as he launches a 3½ lb. Mercury Matador. Model has a Mercury-Allen 25 and E.C.C. radio. Below is Mr. Dennis of Barnoldswick with his 2 lb. 10 oz. Matador, also E.C.C. radio, uses Frog 150 and modified sprung u/c. Left. Latest D-C products, the Merlin, already a best seller, and neat cut-out which fits all engines. Right: Elfin 2.49 restored to life after triple fracture by Eifflander welding service.

Left to right: Valtack Blow-Lamp, only 5½ in. high, can silver solder and tackle any modelling job, good value at 12/6d., and a 'must' for any well-equipped workshop. Manning-Carr relay has great promise, can operate at 100 cycles per second. New Mercury R.D. fuel is advised for peak r.p.m. Bondaglass cover and vents on Cyril West's team racer.



and as we heard at Croft, the engine rattles out the revs even better than ever! Crankcases Gig cannot tackle are the Electron types like those on Mills engines, and the E.D. 2-46, nor can he weld shafts or liners, though the replacement of these items is part of the rebore service and is done at very reasonable cost. Ringed piston engines and Ohlsson type assemblies with spot welded liners are excluded from the rebore service.

New addition to the **Model Shop (Newcastle)** kit range is the Gemini, an ideal outfit for the beginner with ready cut tail and fuselage parts. Built up wing is just enough to get the ab initio man introduced to building over a plan, and at 5/9d. it represents good value. Also from M.S. is the re-kitted favourite Supermarine S.6.B., at 14/6d. More than 55 ft. of strip is included in the box, which incidentally carries authentic racing colour tones of the original, and this is a kit we thoroughly advise for the connoisseur. Designed for rubber, we know of more than one control-line conversion.

Another scale job to take our fancy is the Douglas Skyway by **Wilmot Mansour** in their new tailored series for the augmented 50B. This is the nearest approach to a flying "solid" we've yet seen, and for accuracy in detail and kit engineering it sets new standards. Whilst one cannot expect such a diminutive (9¼ in. span) delta to perform with the brilliance of a bigger model, the Skyway is a flying model and represents many pleasant building hours for 10/6d.

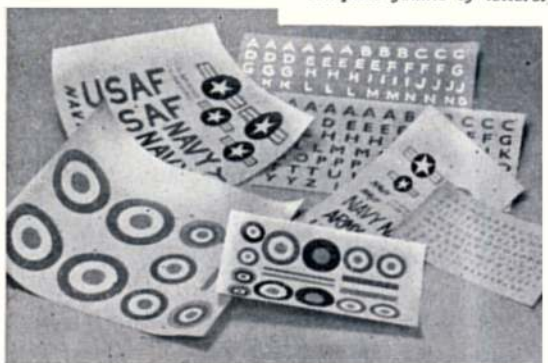
Elmer variable pitch props are selling to the tune of a 10,000 dollar order to the U.S.A. and are now handled by Aylwin Kelsey and Partners of Stroud. Further ranges of Elmer props are under development to supplement the increasingly popular 9 in. two-blader which retails at 18/6d. Next one is expected to be a three-bladed version.

Accurate transfers for Military insignia and lettering are now marketed by **P. S. Fisher** of 6 Station Yard, Twickenham. U.S.A.F. and U.S. Navy markings are supplied on sheets to two scales, suitable for either 1/72, 1/48th or larger scale models and R.A.F. roundels in modern proportion are also available to similar sizes. In addition, Mr. Fisher markets sheets of transfer letters in either 3/8 or 1 inch size to any of seven colours, and for the solid man, his black or red letters and numbers only 1/8th high will be invaluable. Prices range upwards from as low as 2d. per sheet.

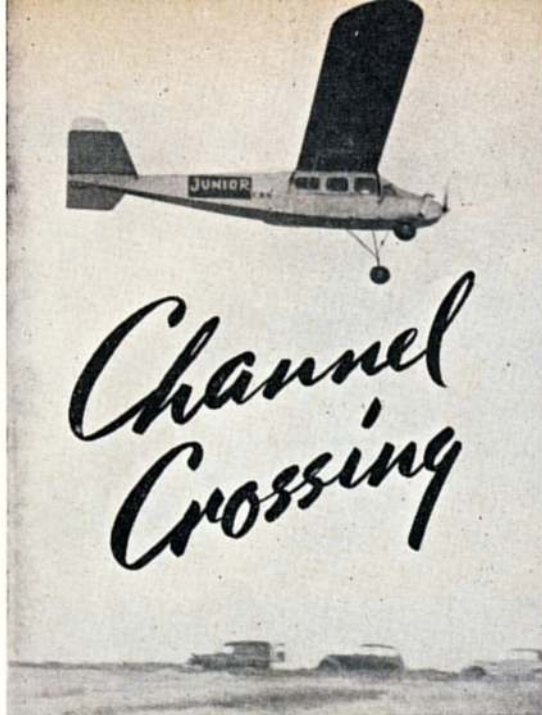
New items for the R/C fan are the 32/6d. **Manning-Carr** P.53 7,000 ohms. polarised relay weighing only an ounce with a performance rating that makes it most attractive. Our boffin is at present putting one to every possible test, and a report will appear at a later date. Other item is a new **Ever Ready** electric motor for 3v.—6v., speed range, 4000 to 9,000 r.p.m., immediately self starting and reversible it weighs only 1.4 oz., and sells for 9/11d. inc. tax.



Good transfers and superb kit engineering make the Jetex Tailored Skyway a pleasure to build. Model is decorative as well as being a flier. Below: the range of Fisher transfers includes complete founts of letters.



New Ever-Ready motor in cream and black cellulose moulding has self-lubricating bearings and can be obtained with base or end mounting. Ideal for actuators it is self-starting with peak drain of .40 amps., operating off 3 volts, on load.



THE STORY begins the previous day when we rushed down to Dover on receipt of a message that an attempt was to be made at 12.30 p.m. from the South Foreland. An attempt that was abandoned owing to damage sustained to the wings after the model had stalled at takeoff. The party retired to Colonel Taplin's not too distant house in order to effect repairs. The model was a "Radio Queen," and, as the Colonel had several examples himself, a mainplane was borrowed from one of these models. The special long distance tanks were removed from the damaged wing and very soon incorporated in the sound one. Satisfactory test flights were then conducted at Ramsgate aerodrome.

Arriving at the venue the following morning, we noted that the wind direction was ideal, blowing almost directly across towards Cap Gris Nez. In spite of the forecast, visibility over the Channel itself was not good, although scattered cumulus in a blue sky accentuated the view of Dover Castle and the towering radar masts just behind us. Sid Allen was disconsolately examining the transmitter intended for initial control which had gone u/s due to damage in transit. A spare had already been sent for, however, and was produced at high speed.

The receiver was already tuned to the flight trans-

mitter, now at Lymepe with George Redlich, so the reeds in the substitute transmitter were quickly re-tuned to those of the receiver. Two reeds were used for rudder operation, and the third operated a trim tab my means of a four-pawl actuator. With the radio working to satisfaction, Sid Allen and Roger Clark (who had the job of launching the "Queen") poured 12 ounces of fuel into each of the wing tanks, and the motor was warmed up. By now the Auster was on its way from Lymepe.

The aircraft was soon in sight, and by means of prearranged ground signals, operation between the airborne transmitter and the model was checked. Now came the great moment, and Roger Clark galloped across the corn stubble and hurled the 7½ pound model into the air, only for it to sink back to earth under influence from downdrafts that were in abundance on the cliff top. After further unsuccessful launches it was obvious that Roger could not run fast enough, due to the upward slope of the ground coupled with the uneven surface. We therefore moved to the road, and once again the model was launched. Once again it sank, and for an agonising second brushed the grass, before slowly climbing away. Almost immediately it caught the full force of the wind, and turned towards the edge of the cliff. Sid Allen applied rudder, but could not fully counteract the wind, and the model in a crosswind drift, disappeared from our view below the level of the cliff edge, once again in the grip of vicious downdrafts.

George Redlich gave us the rest of the story some 24 hours later—naturally he and the pilot were suffering considerable anxiety, firstly at the delay in launching, and secondly when the model missed the cliff face by inches! Their outlook was improved no further when the model lost considerable height, flying perilously close to the waves. However, George quickly took control, circling provisionally to regain height, and then keeping the nose straight towards France. They passed directly over the Ostend-Dover Ferry boat, which must have baffled the passengers, with the model climbing steadily. 15 minutes after take-off the model had reached a height of 600 ft., in 20 minutes 900 ft., in 23 minutes 1,000 ft., and at 40 minutes, when they crossed the French Coast, 3,100 ft.

As mentioned in our Editorial, the model has been found. It was discovered a week later some five miles from Calais Marcke Aerodrome. We shall be giving full technical report on the equipment used in our next issue, and meantime take off the Editorial Hats to all concerned in this epic achievement.



Left, George Honnest-Redlich who was the prime mover of the attempt. Right, Sid Allen tests the radio with the airborne transmitter in the Auster, which can be seen in the background. Heading photo depicts the "Queen" just after take-off, all set for the shores of France.



CLUB NEWS

A display of fifty models by Heswall M.A.C. attracted crowds all day at the Heswall Horse Show.

NO DOUBT gleams are beginning to appear in the eyes of Jetex speed fiends, with the onset of winter programmes and intensified indoor activities. Last year there was a great deal of controversy over speed claims with such models, but definite figures obtained with the Wilnot Mansour electronic timer at the M.E. Exhibition show that **EPSOM D.M.F.C.** exceeded the 100 on at least eight occasions, and two members of the Jetex "works team" chalked up 125 and 130 m.p.h.! We expect to hear of increased "rubber team-racing" and similar R.T.P. events in the next few months, and would remind clubs that if they have any pet competitions or novelty events of this type, we are always pleased to pass the ideas on in these columns.

London Area

A new club is the **SOUTHGATE D.M.F.C.**, meeting every Thursday evening in St. John's Church Hall, Palmers Green. With 51 members already, this should be quite a club, and though you may be a little late for the current "construction and finish" contest, it should be well worth looking 'em up if you're seeking a club in that district.

Disbandment is usually a sad business, but in the case of **RAINES M.A.C.**, which is now finished, it was inevitable, since most of the members have now left the school to join clubs elsewhere. Final flurry of activity was with the recent *Scatterbrain* design, which proved very popular in the club.

The London Area club geographically in the South Midland, **ST. ALBANS M.A.C.**, has had a rewarding season. Of special interest were contests by post with Santa Barbara club and the Washington Skylancers. One unusual result was George Fuller winning a Torp for best power time while an E.D. 1.46 went across the Atlantic for a glider win! A local six-cornered contest saw the **WEST HERTS** group win, followed by **BEAVERS, MILL HILL, ST. ALBANS, HATFIELD** and **LUTON**.

Southern Area

Proposition in the **BOURNEMOUTH M.A.S.** is for a radio controlled Airship, and a meeting of interested members is being arranged to thrash it over. Well, it has been done before—in the 1920's, when a gent, whose name escapes us for the moment, actually had a music-hall turn, flying his dirigible over the heads of the audience and dropping postal orders on them! He used a spark transmitter, coherer receiver, and electric main motors, but with diesel power and modern equipment, etc., it should be even more practicable.

We frequently hear of A.P.S. designs scaled up, but W. Field of **SOUTHAMPTON M.A.C.**, went the other way with a half-size *Leprechaun*, which flew away while slope-soaring. R/C fan R. Cooper (apt initials!) has



solved the penetration problem; his 2.46 job has a groundspeed of 30 m.p.h. against a 15 m.p.h. wind. Downwind—well, you have to be fast on the button! Snag is getting a small enough rudder, apparently.

Growth from 5 to 21 members in eighteen months is reported by the "Flying Druids," **AMESBURY M.A.C.**, and one or two places are now rewarding the hard-working contest entrants. Two successful exhibitions have been held, and new members are welcomed. What a lovely position for a publicity stunt—"Radio model flies through Stonehenge arch!" What about it, eh?

Latest activities of the solid model club, **READING S.M.S.**, include a Kayak Squadron tie-up, exhibits at a horticultural show, and visits to the Farnborough Display plus a Farnborough-cum-Battle of Britain-Week Exhibition in a prominent model shop window. A large party cycled to the S.B.A.C. show on September 5 to watch the arrival of aircraft, especially those which would not be showing their flying paces during the week, and two further visits were paid. Scheduled next is a trip round the Aircraft Section of the Science Museum.

North Western Area

Prizes in **MAGHULL M.A.C.** comps. are half-an-hour flights in an Auster. Contest power is the trend, with all shapes and sizes coming up, and tests of B. Leatherbarrow's *Slick Stick* are awaited with interest. R/C gets a look-in with G. Arber's *Electra*.

A large crowd inspected 50 models displayed by **HESWALL M.A.C.** at the Heswall Horse Show in August. Members also put on two flying displays which impressed the crowd; reaction of the horses is not recorded. A club H.Q. and a respectable flying field are still lacking, but enthusiasm is high nevertheless.

Quite a few contest successes have been recorded in the first year of the **ENGLISH ELECTRIC M.A.C.'s** existence. Latest contest attended was the Y.E.N., where Tom Smith had the misfortune of an engine seizure while running up for his *Oliver Twister's* second flight. C. A. Kimber lost rubber model on its first flight, and altogether luck ran out on the whole club.

Prize for the top unplaced junior at Sherburn went to P. Matthews of **BLACKPOOL & FYLDE M.A.S.**, who was flying a 48-in. o.d. rubber job. Excellent scheme in this club is a junior comp. before each coach trip away, the winner collecting a free seat. Should keep 'em keen!

East Midland Area

Booming is the nine-month-old **NORTH Lincs M.A.S.**, which recently held the first of what is hoped



Grrr-er-umph-h-h, says Joe Botting as he heaves off his entry in the R.C.A.F. R/C meeting at North Luffenham.

to be an annual exhibition in Yarra House, Cleethorpes. With 120 models on show for a week, including working jobs such as a compressed air jet and an electric *Provost*, over 2,000 paid for admission, resulting in a nice balance for club funds and a bumper crop of new members. Meetings are held on the second and fourth Thursdays each month at the Model Engineers' clubroom in Wellowgate and the door is always open to potential members.

More successes in team-race circles were scored by **FORESTERS (Nottingham) M.F.C.** with an 8:33 1st in B and 1st and 4th in A at Sherburn. Despite opinion to the contrary, the club's A machines use perfectly standard *Oliver Tigers* which aren't even bench-run before installation.

South Western Area

Windy weather gave trouble at the **EXETER M.A.C.** rally, especially to the glider entries; top time was P. Williams 2:57. Power and rubber were a little better, both going to S. Gibbons with 6:34 and 4:57. The wind didn't deter two large models—a 9-ft. Dooling job and a *Thermalist*.

Northern Area

Also in the winning bracket at Sherburn were **MEANWOOD I.M.**, with 1st and 2nd in combat. An unusual thing has happened in the club—one member is turning out free-flight jobs, mostly unorthodox, taking advantage of the special suitability of the *Bambi* for experimental efforts.

In the second round of the N.A.K.O., **BRADFORD M.A.C.** defeated **WAKEFIELD M.F.C.** by a margin of 2:45, team being Lanfranchi, Miller, and Eckersley. Only two entrants braved Keil Trophy Day, Silvio returning 6:10 and Pannett 2:32. Three more *Swiss Misses* have been completed in preparation for 1955 events; this design, by the way, is coming up in A.P.S. shortly.

If you're a lone wolf within reach of the **HUDDERSFIELD D.M.A.C.** why not pop along to the Lockwood Mechanics Hall, any Friday night at 7.30? The club pursues just about every branch of model flying and will be pleased to see you. Two coach-loads visited the Y.E.N. Rally and a busy building programme is in hand to bring the model strength back to normal.

One of the rare all-control-line clubs, **HEATH AEROMODELLERS**, with a membership of around fifty, has had a busy season with five carnival displays

and numerous contests entered, not without some success. The flying ground has been re-seeded, but flying will carry on right through the winter in addition to a full indoor programme.

Sharply-pointed aluminium fins are now featured on **LEEDS M.F.C.** combat models, and are said to have a certain psychological effect. Outstanding model is B. Eggleston's *Elfin 2.49 Creep*, which had a successful airing at Sherburn; another notable design is the club *Wakefield Tyke*, with which at least one junior is having great success.

Midland Area

Postponed comps., in **LEICESTER M.A.C.**, mean a squash at the end of the season, but so far better luck has been experienced with the weather, especially for the club Gala Day. The two-day Abbey Park display was its usual success, with the usual high prang rate on the second day as types got more and more daring!

Reorganisation and change of name results in the **MONKSPATH M.A.C.**, which meets on the second and fourth Fridays of each month at the Vicarage Hall, Earlswood, nr. Shirley, Birmingham. The club has exclusive permission to use R.A.F. Honiley, and all types of model are indulged in, though contests have yet to make their appeal.

A pleasant day was spent by **WOLVES M.A.C.** members at Sherburn, who do, however, respectfully point out that the rounds system employed made it extremely difficult to fly in more than one event and tended to penalise long-distance late arrivals. As a result of the system, five members entered in power only. Indoor chuck gliders are being seen again, and a contest in the small clubroom saw K. Trumper's 49 sec. 5-flight aggregate win.

Two Sabres opened the R/C contest staged by the **R.C.A.F.** at North Luffenham. Wind and showers made conditions difficult, but a dozen competitors flew, some for two flights, and only three crashes resulted. The four prizes went to George Redlich, Ted Hemsley, Joe

S.M.A.E. CONTEST RESULTS

HAMLEY TROPHY (22 flew)

1.	C. Marsh ...	St. Albans ...	10:23
2.	D. Painter ...	Henley ...	9:47
3.	J. McMasters ...	Glasgow M.A.C. ...	9:29
4.	A. Muse ...	Novocastria ...	8:47
5.	J. Waldron ...	Henley ...	8:41
6.	J. Pannett ...	Bradford ...	8:06
7.	T. Christer ...	Novocastria ...	7:53
8.	C. Plant ...	Stockton ...	7:51
9.	G. Ford ...	Novocastria ...	7:35
10.	R. North ...	Croydon ...	6:50
11.	C. Peacock ...	Novocastria ...	6:08
12.	P. Wyles ...	Novocastria ...	5:22

KEIL TROPHY (31 flew)

1.	D. Painter ...	Henley ...	10:45
2.	B. Eggleston ...	Leeds ...	9:27
3.	S. Taylor ...	W. Hants ...	9:25
4.	P. Brown ...	Brighton ...	8:22
5.	V. Jays ...	C.M. ...	7:58
6.	A. Nicols ...	Southern Cross ...	7:53
	P. Buskell ...	Surbiton ...	7:53
8.	A. J. Brooks ...	Grange ...	7:12
9.	D. Willmott ...	Belfairs ...	7:04
10.	S. Gibbons ...	Exeter ...	6:34
11.	J. Webster ...	Farnborough ...	6:13
12.	E. John ...	Grange ...	6:08

FROG JUNIOR (12 flew)

1.	P. Crossley ...	Blackheath ...	8:36
2.	A. Williams ...	Croydon ...	7:12
3.	P. Larcey ...	Henley ...	6:47
4.	R. Burwood ...	Blackheath ...	6:12
5.	H. O'Donnell ...	Whitefield ...	5:16
6.	A. Syme ...	Northwick ...	5:03

Botting and Howard Boys. Sid Allen and Geoff Pike flew in demonstrations after the close of the contest, and a most enjoyable time was spent.

East Anglian Area

Assistants and spectators at the R.A.F. Championships this year were **NORWICH M.A.C.** members, who later held their own club comps. at Horsham St. Faiths. Wind and thermals produced lots of fly-aways and some shattering results. Rubber winner was a *Senator* with *Gnome* wings (one flight 4 : 50 o.o.s.), and a junior, K. Nash, won power with his first duration job, to the chagrin of seniors. Scale went to J. Bird's *Luscombe Silhouette* (2 : 46 off 45) and J. Soame collected glider. C/L flying is still to the fore in the club.

Scotland

Team racing and stunt rule supreme in the **PERTH** and **MONOFIETH** clubs. At the Scottish Nationals N. Curr lifted B with an o.d. Eta 29 machine and D. McEvan won stunt with an E.D. 2.46 *Destroyer*. A. Curr's latest Eta racer is pulling out 40 laps at close to the 100 on straight fuel. The boys run several McCoy and Dooling jobs, from .29 to .61.

Ireland

With the closing of the local Butlin's season, the **DROGHEDA M.F.C.** have finished their weekly demonstrations for another year. At their rally, stunt was won by Carroll of **DUBLIN S.M.E.E.**, A racing by Thompson of Dublin, B by Woods of **PHOENIX M.F.C.**, and flying scale by Morelli of Dublin, who also won the Butlin Trophy for most contest points. A 2½ c.c. speed record of 80 m.p.h. was established by Barrett of **CORK M.F.C.** Prizes (cups, motors, etc.) were all given by Butlins Holidays Ltd.

American youngster looking for a pen-pal is Browne Goodwin (14), 103 State Street, Brewer, Maine, U.S.A. Interests are Jetex and small rubber or power F/F scale, and would swap goods.

New Zealand club looking for postal contests, preferably with their namesake, but not necessarily so, is **HASTINGS M.A.C.**, who seem to go in for everything except rubber, and have around a dozen juniors and a dozen seniors. Write to A. A. J. Deans, 214 Lovedale Road, Hastings, Hawkes Bay, New Zealand.

At home, W. L. Manuel, 187 Eastworth Road, Chertsey, Surrey, wonders if anyone would care to come in on a club devoted exclusively to R/C sailplane flying, in the London area? Idea is to operate on the lines of a full-size club, including a week's summer camp for competitions, etc.

What, no models found this month without identification? Tsk, Tsk.

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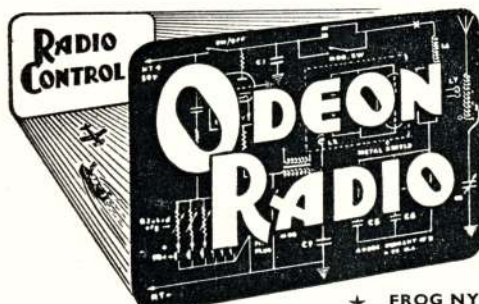
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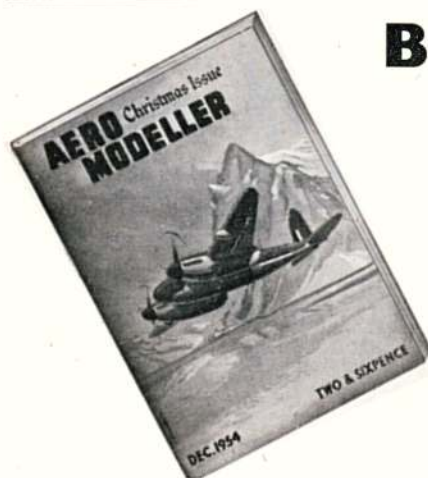
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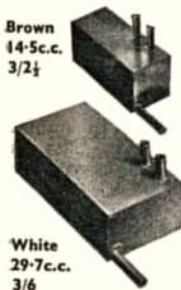
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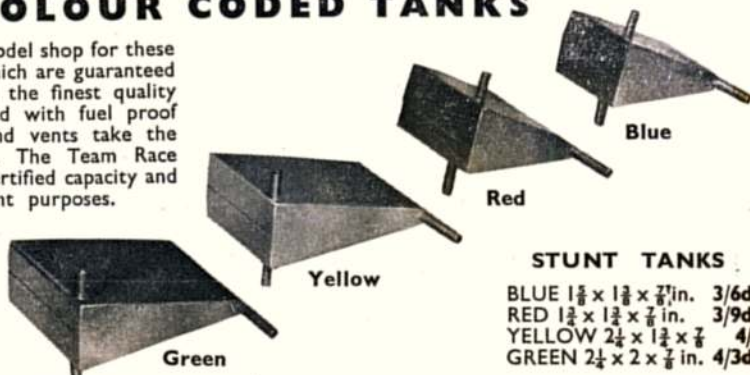
Sole Trade Distributors:-



White
29-7c.c.
3/6

A. A. HALES LTD.

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STUNT TANKS

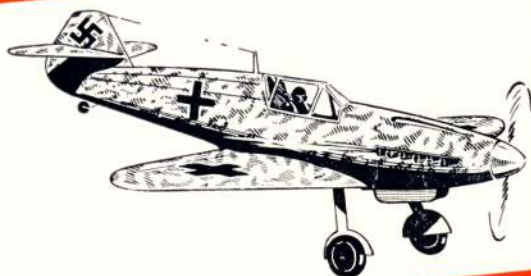
BLUE $1\frac{1}{2} \times 1\frac{3}{4} \times \frac{7}{8}$ in. 3/6d.
RED $1\frac{1}{2} \times 1\frac{3}{4} \times \frac{7}{8}$ in. 3/9d.
YELLOW $2\frac{1}{4} \times 1\frac{3}{4} \times \frac{7}{8}$ in. 4/-
GREEN $2\frac{1}{4} \times 2 \times \frac{7}{8}$ in. 4/3d.

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M.E. 109 Messerschmitt

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3/6^d MODEL



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No cutting out
No tissue covering
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performance

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**because it contains the
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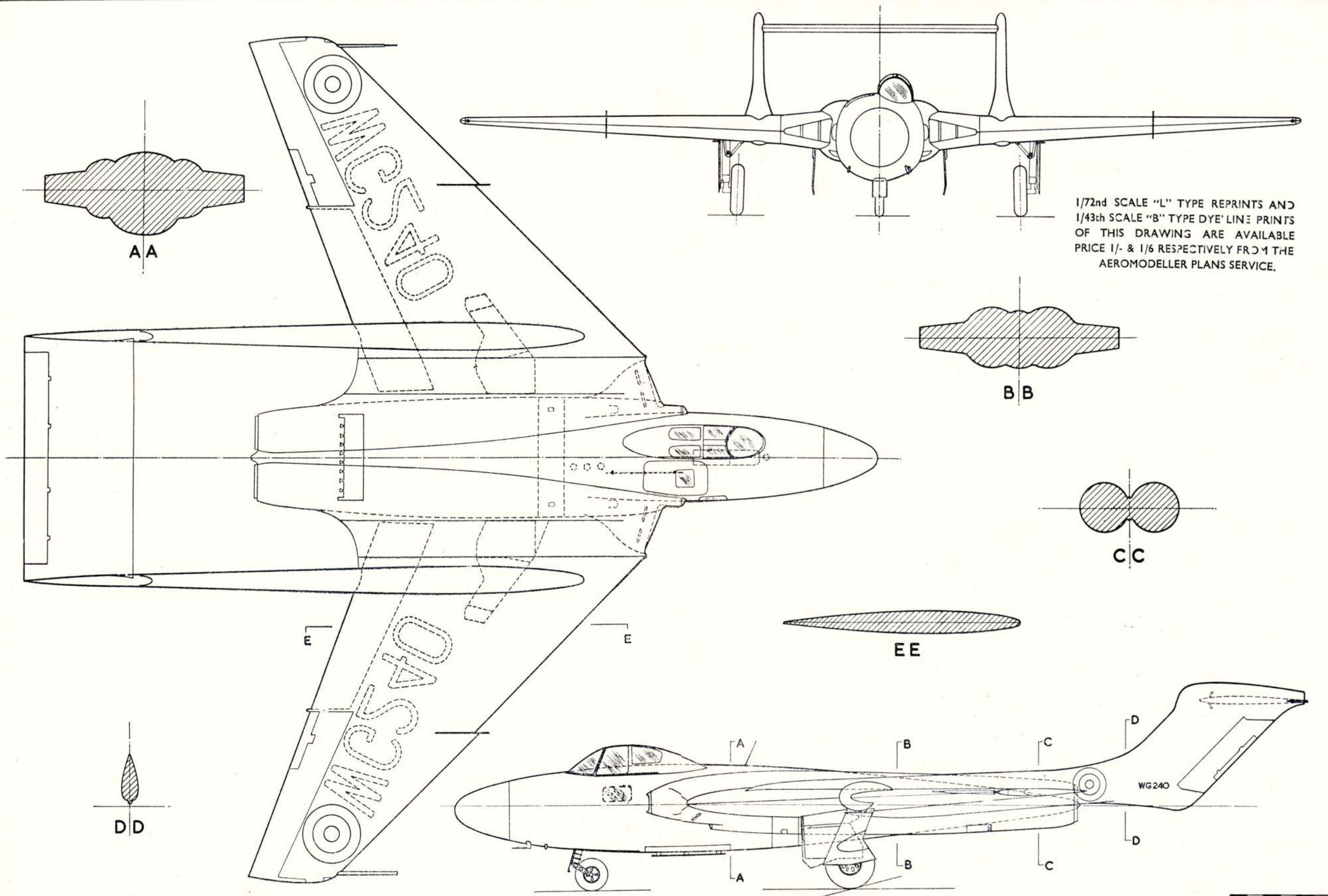
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