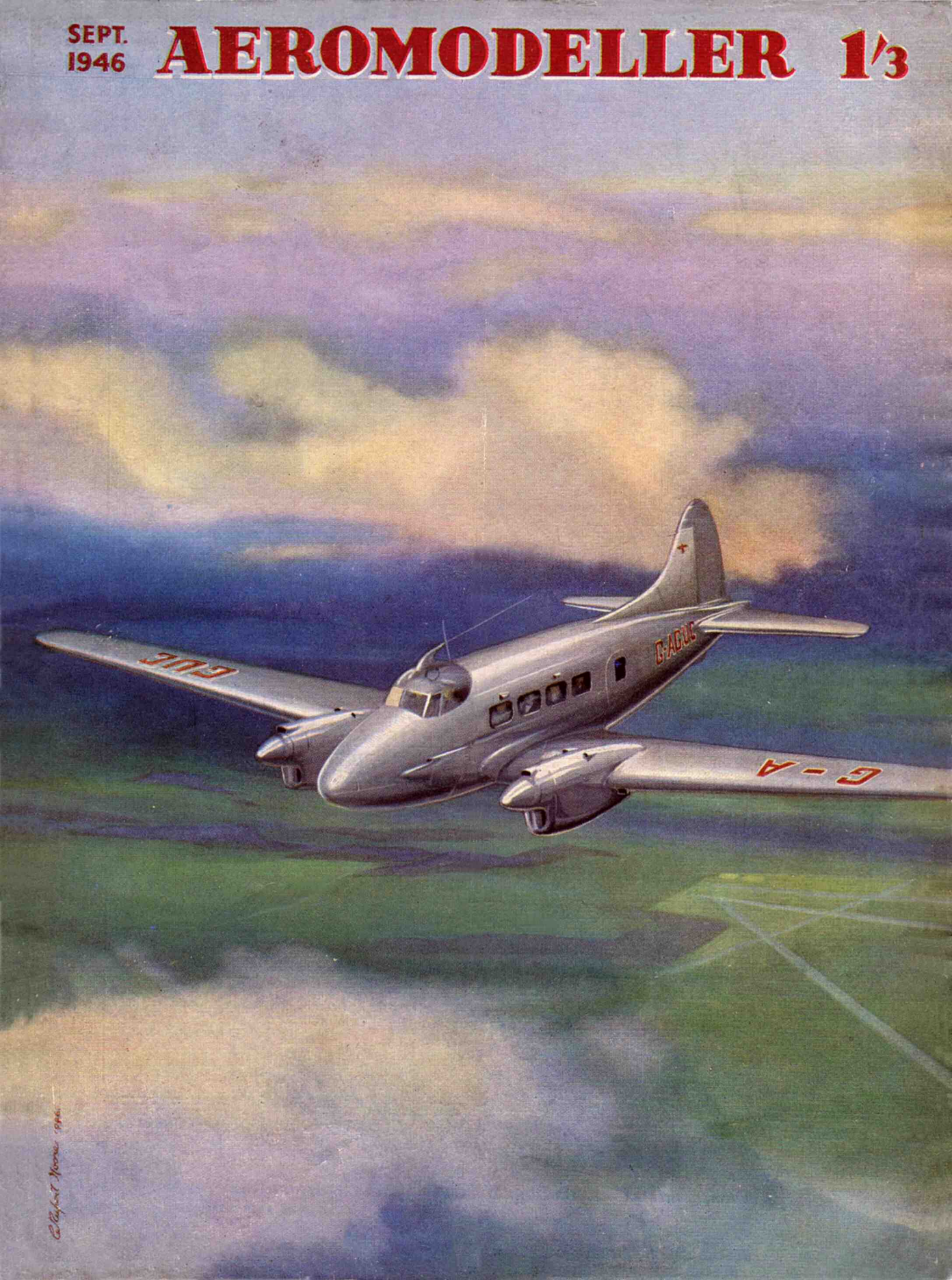
SEPT. 1946

AEROMODELLER

1/3



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Yesterday my "TERN" was launched to about 250 ft.—immediately started to climb, continuing to gain height rapidly until it entered cloud 9½ mins. later—more than doubled the local Club record!

(Signed) G.K.G. Reading, Berks

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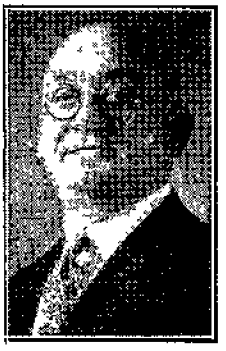

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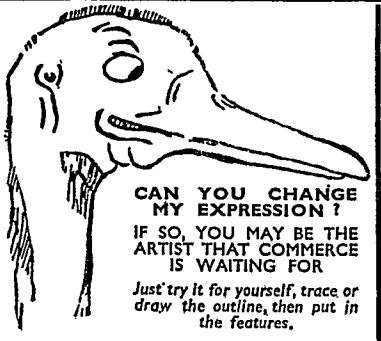

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Jim Duck

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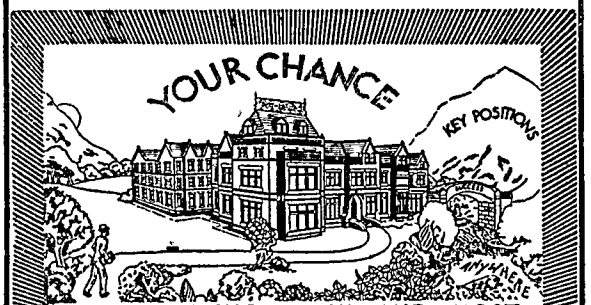

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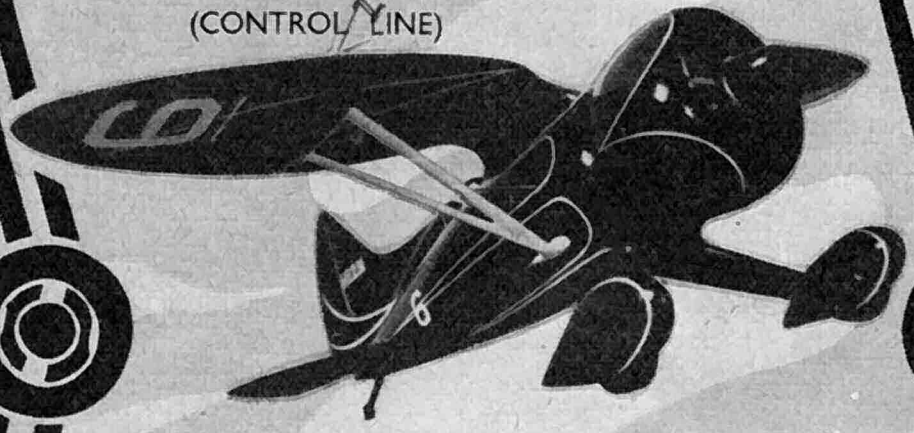

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The AEROMODELLER
INCORPORATING THE MODEL AEROPLANE CONSTRUCTOR"

ESTABLISHED 1935

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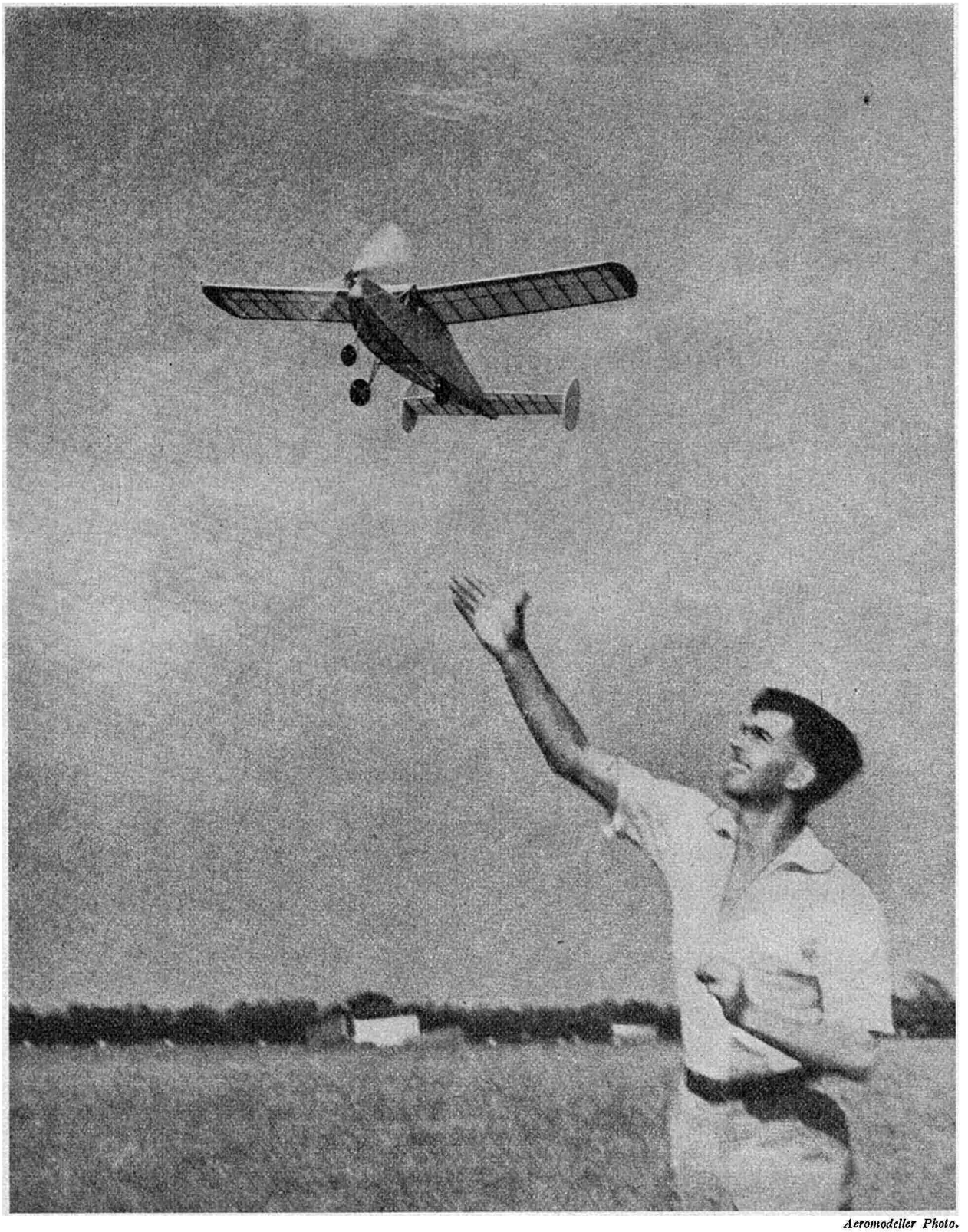
Contents



Aeromodeller Photo.

The prototype "Dorland" designed by the Aeromodeller Research Staff undergoing test flights at Eaton Bray. The happy smile on the face of our Assistant Editor is indicative of the pleasures in store for those who build this versatile little model.

EDITORIAL

DORLAND HALL

JUST lately, time seems to have been marching on with seven-league boots, and this month we reach the point where we are able to announce Thursday, December 12th as the opening date of the Third National Model Aircraft Exhibition at Dorland Hall, London. This occasion is outstanding in that we are to have the enthusiastic co-operation of a Great National Newspaper, the *Daily Express*.

No exceptional powers of imagination will be needed to envisage the benefits that must arrive from the coupling of this Organisation's immense prestige and publicity value with the large volume of practically applied airmindedness represented by the readers of the AEROMODELLER. Moreover, it is a gratifying indication of the place which aeromodelling has won in public appreciation that this close association is possible. In consequence, this third Dorland Hall venture, which is being advertised widely as the—" Daily Express National Model Aircraft Exhibition organised in association with the AEROMODELLER "—affords the aeromodelling movement an opportunity of "showing the flag " and winning further interest and support from the public and will surpass anything previously organised. We are confident that individual modellers and organisations in their hundreds will not be slow to respond with their whole-hearted co-operation.

In the main, the Exhibition will follow the lines of last year, but with certain not unimportant differences calculated to make for even greater effectiveness. Let us deal first with the matter of exhibits by individual modellers, which after all, are the backbone of the show. Once again the organisers are offering a large number of substantial prizes to encourage modellers to put forth their best efforts. These prizes will be awarded to the best entries in each of the various classes—light-weight, duration models to a formula, flying-scale, small solids, gliders, flying-boats, and so on—much on the lines of the previous Exhibition, and of which details will be found elsewhere in the issue.

There will, however, be one all-embracing difference. At the first Exhibition in January, 1945, there were no fewer than 700 exhibits, a record figure at that time and all the more remarkable in that the war was in full swing. At the second Exhibition in December, 1945–January, 1946, despite the fact that many wartime shortages and hindrances remained, the number of exhibits approached 2,000. In the case of the Third Exhibition, it is only reasonable to suppose that there will again be a substantial increase, but Dorland Hall not having grown any bigger, it is clear that some degree of pre-selection will be needed.

In planning the previous show we were thinking in terms of " all-in " participation by modellers. But various enthusiasts regarding the outcome from the equally reasonable consideration of the improvement of the model breed, subsequently expressed the view that it would have been better to minimise the tendency to visual confusion from an over-abundance of models, and that the show would have gained in other respects by the omission of some of the more mediocre specimens.

This year, bearing in mind the foregoing consideration, and on account of limitations of space, it is proposed to allow the judges to reject any model failing to conform to a certain minimum standard, but we hasten to assure readers that they need not fear that this veto will be so rigorously applied as to eliminate all but the work of experts. Entrants may submit their entries in perfect confidence, however modestly they may regard them, for the standard of excellence will merely be fixed sufficiently high to effect the " weeding out " necessary to prevent a congested mass of exhibits. Moreover, the work of those below the age of 16 will be judged still less rigorously than that of seniors. So, by all means, let us have your entries in hundreds. Incidentally, a Certificate of Merit will be awarded to *every model* accepted for display.

In addition to this, the models will be more effectively displayed than previously. Attached to each will be a neatly printed card giving the owner's name and address, brief details of the model and its performance and a note of any prize it has been awarded by the selection committee. Entrants are asked to furnish the necessary details of their model on their entry form, and the display cards will be produced by the organisers' staff.

In addition to the prizes awarded for the best exhibits in each of the model classes mentioned, we are also proposing to organise a National competition for a model built to a particular design, plans of which will be available through the AEROMODELLER Plans Service by the time this issue appears. The model chosen is a pleasing high-wing job on modern lines with several ingenious features, and is described on page 638. It will be known as " Dorland " and has been designed by the Research Staff of the AEROMODELLER. It is anticipated that this contest will attract a large entry, and in all probability it will be necessary to hold area contests, with the first two or three winners from each district coming to London for final judging. A silver trophy and a number of cash prizes will be awarded, particulars of which, together with the competition rules, are given on page 636.

Let us now turn to the general arrangement of the Exhibition itself. The consensus of opinion among the many thousands who visited Dorland Hall last time was that the housing of the smaller models in glazed showcases marked a distinct step forward on previous shows. Not only did it afford the exhibits a novel and effective setting, it also secured immunity from the depredations of over-eager fingers. Small models will again be protected in this way.

The actual planning of the Exhibition, however, will be different, and will secure not only increased show space but will also give visitors a clearer view of the exhibits. Entering Dorland Hall from Lower Regent Street, the visitor will immediately find himself in a long salon containing the bulk of the individual exhibits. The entire left-hand wall will be covered by an immense showcase, filled with models of all types from the tiniest scale " solid " to the largest sailplane or petrol-engined plane. A conveniently placed hand-rail will prevent inadvertent jostling by people in other parts of the salon. At the far end there will be a " set-piece " display of models flanked by a large exhibit featuring Eaton Bray Model Sportsdrome.

Turning round, the visitor will find the centre of the salon occupied by a long vertical screen containing large photographs of models on the ground and in the air. What is now the left-hand wall will also be covered with another huge showcase of models. Arrived back at the entrance to the salon, one ascends the stairs to the mezzanine floor, and passing along a railed balcony finds oneself ideally placed to view no fewer than three electrically-driven tethered models which will take off from, fly over, and alight on circular landing strips.

This year, not only has the number of " round-the-pole " models been increased to four, but the space below the landing strips has been covered in so that visitors on the mezzanine floor enjoying the flying will not be distracted by the moving throng below. Veering left, the visitor passes a further large display of models. Then comes the AEROMODELLER stand, several large trade stands, and the fourth tethered flying models. Then, down the stairs, one passes by two lines of stands given over to the trade. Finally, there will be a further R.T.P. model in operation. At present it is still on the "secret list"!

Once again every effort is being made to ensure a first-class show on the grand scale, but with the advantage of the improvements already enumerated. The experience gained in previous shows has been carefully considered, numerous suggestions have been examined, the " AERO-MODELLER Staff " has been still further augmented. The outcome, particularly in regard to the prestige and news coverage of the *Daily Express*, will secure for the Exhibition a volume of worthwhile interest unparalleled in the history of aeromodelling.

We have every confidence, therefore, in inviting our large family of readers to make a careful note of the opening date of the Third National Model Aircraft Exhibition, December 12th, to study the details of competitions given on page 636, and to set to work and produce exhibits that will creditably represent them in this forthcoming " best ever " galaxy of aeromodelling achievement.

Spitfire

It is with, we trust, pardonable pride that we announce yet another important addition to the range of books on aviation subjects by the Harborough Publishing Company, Ltd., this time a complete book of the Spitfire and one that we feel will be regarded by all who see it as a not unworthy tribute to the world's most famous fighter.

" Spitfire " has been written by John W. R. Taylor and Maurice F. Allward, and the authors have had the fullest co-operation of Vickers-Armstrongs Limited (Aircraft Section) under the personal direction of Mr. Victor Payne. The book is cloth bound and printed on art paper throughout. Its 120 pages, 11 ins. by 9 ins., contain illustrations of every Mark of Spitfire, many of them of full-page size, also a two-page perspective drawing of the Griffon-engined LFR Mark XIVe.

Dedicated to the 375 pilots of R.A.F. Fighter Command who gave their lives in the Battle of Britain, the book contains a history of the Spitfire from its inception in the mind of its brilliant designer R. J. Mitchell, to the production of the Mark XXII in 1946, and details its war record from its first successes against enemy raiders over the Firth of Forth in 1939 to the final sortie against the Japs in 1945.

A few of the interesting facts that emerge from a perusal of the book are that the Spitfire was first flown as far back as March 5th, 1935, by Flight Lieut. Summers, Chief Pilot of Vickers-Armstrongs, the machine was seen at the R.A.F. Display at Hendon in 1936, R. J. Mitchell died (in June, 1937) before the R.A.F. received its first Spitfire. 307 had come off the production line when war broke out, the Spitfire was the only operational type to remain in full production throughout the war, it was flown in every theatre of war, by most if not all the Allied Air Forces, and for almost every purpose. Time after time, the enemy fondly imagined he had outmoded it, but always there came up to challenge him afresh a new and " hotter " version. Altogether 21,767 Spitfires had been produced up to August 25th, 1945.

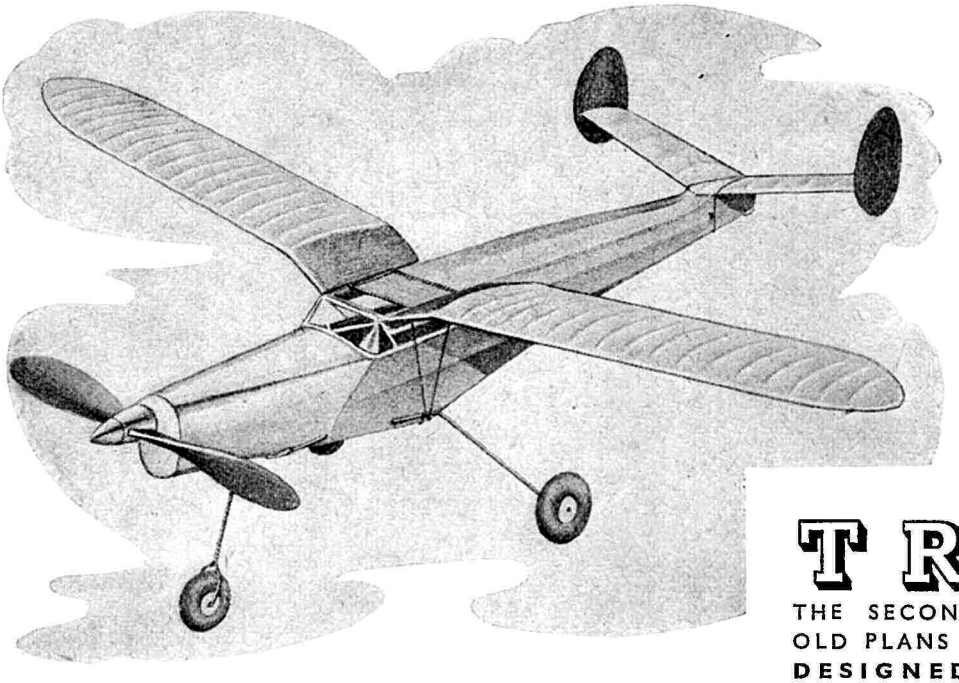
All this information and very much more is to be found in the book of the Spitfire, in fact, virtually any question you might think to ask regarding the Spitfire is answered in its pages. One can scarcely think of a finer gift for an airminded youngster, or grown-up for that matter, and the price is no more than 15 shillings, notwithstanding the superlative quality of the production. Every reader of the AEROMODELLER should certainly have a copy of the book of the Spitfire.

Holiday Meeting at Eaton Bray

August Bank Holiday week-end at Eaton Bray was notable for yet another added attraction—the presence of full-size gliders. While welcoming the interest of model enthusiasts these full-size visitors " kept themselves to themselves " and in no way detracted from the main object of the Sportsdrome to provide flying facilities for *model* aircraft. The London Gliding Club were there in force with a Kirby Cadet and a Slingsby two-seater, while the British Gliding Association Research Department brought along the well-known " Weihe. " In addition there was a party from 727 Sqd. R.N. Air Course, Gosport, complete with their own Tiger " tug." Messrs. Grey and Stevenson were there flying their celebrated Kirby Gull. Apart from several other Tiger Moths that looked in and a visit from Mr. Rice in his immaculate all-red Tipsy, arrangements were made with London Motor and Air Services to provide an Auster which took up winners in the model competitions as a novel—and very welcome—form of award.

On Sunday morning several novel take-off contests proved popular and certainly spectacular! The afternoon's flying produced its usual crop of flyaways and some really close finishes. Monday rather naturally provided the bulk of the visitors and contestants. In spite of the still air, a number of elusive thermals were discovered and the general standard of flying extremely high. There is no doubt that the promise of free flights in the Auster stimulated the younger entrants to put on an extra special effort.

When the bulk of visitors had departed there still remained a substantial body of campers determined to make the most of their stay—many indeed pitched their tents for a week or a fortnight, enjoying their holidays in true aeromodelling style. More and more parties are getting that Eaton Bray habit and come along most fine week-ends for the fun of a care-free day's flying. Looking back in retrospect from Bank Holiday to Easter, we can say with confidence and no little pride that as fast as we have added to the amenities so have the crowds increased to enjoy them.



TRIKE

SON OF TRIKE

THE SECOND VERSION OF AN OLD PLANS SERVICE FAVOURITE

DESIGNED BY D·COLLIER

THE elegant offspring of the ever-popular Trike (always a best seller in the AEROMODELLER Plans Service), this second version is sure to achieve an even greater appeal. Careful re-design of certain components has given all the renowned flying qualities of the old model, plus greatly enhanced appearance and strength. If you built a "Trike" Mk. I, you will be unable to resist Mk. II's improved qualities, though, indeed, no one will find an acquaintance with the Trike's pedigree necessary for appreciation of this novel and efficient machine.

Fuselage.

Start by pinning down the longerons and then cementing in the spacers, beginning with the one that fits at the cabin end of the top nose longeron. Cement in 3/32 in. sheet balsa surrounding cabin window. Build another side identical to this one, separating the two carefully afterwards with a razor blade. The top and lower longerons should now be bevelled at the aft end and the two side frames joined at the correct angle, the sternpost being added when dry. Cut to length and cement in place the top and bottom spacers occurring: top, at front of cabin, and bottom, below this respectively. Now add all spacers from cabin to tail. Make top and bottom nose spacers and nose formers, fix in place and check that the framework is square. Shape formers 1, 2 and 3 and their corresponding bottom spacers and cement well in position. The side and lower formers below former 1 may be made by cementing lengths of 3/32 in. square on to the fuselage spacers and sanding them to an elliptical contour. Cover the nose with 1/32 in. sheet and trim off all surplus balsa at front former so that the latter can be sanded flat. Now the 1/32 in. plywood reinforcer can be roughed out slightly oversize, and a rectangle cut out, leaving a hole the same size as that in fuselage nose. Glue this firmly to the fuselage nose, sanding down afterwards to the latter's outline. Bind two aluminium tubes (length taken from drawing) to 3/32 in. square spacers, cement these in their respective places, adding gussets and the bamboo pegs where shown. Laminations of 1/16 in. sheet and 1/32 in. plywood are made to fit between spacers at tail as shown on plans, cementing in place before drilling $\frac{1}{8}$ in. dia. through each piece. Complete the fuselage by adding the tailplane fairing (sanding tops to dihedral angle), the top and side stringers and the bamboo cabin framework.

Noseblock Assembly.

Build up the block of laminated sheet sized on the drawing, and use the rectangular piece of 1/32 in. plywood previously cut out from the fuselage nose reinforcer, to strengthen the $\frac{1}{8}$ in. spigot. Sand to a smooth finish and give three coats of dope, sanding between each. The freewheel device consists of a small piece of dural or brass $\frac{1}{8}$ in. wide, 1/16 in. deep, 7/16 in. long, pinned to the propeller by means of two 18 g. pins. This tongue engages with a slot filed in the 1/16 in. sheet brass end cap, which is drilled to receive the prop. shaft and opened out to $\frac{1}{8}$ in. dia. by 5/32 in. deep to house a 22 g. coil spring. When assembled the clearance between the end cap and the tongue on the prop. need only be 1/64 in. and the stop pin for the rubber. The original propeller was an 11 in. hardwood, modified to 10 in. dia. The aft half of the prop. spinner is built up in layers of plastic wood around a metal bar or glass tube of about 7/16 in. dia., and similarly the spinner gap is made on a 5/16 in. drill shank. A spigot is cut and filed on the cap to fit well in the hole of the rear portion. The whole spinner is then finished to shape. Split the aft portion accurately longitudinally with a razor blade, and bed each half to the prop. boss by cutting away a section appropriate to that half of the prop. against which it fits, after which cement both halves in place.

Undercarriage.

This can be made from data given on drawing, the rear wheels being $1\frac{3}{4}$ in. dia., and the front one $1\frac{1}{4}$ in. dia.

Wing.

Make two ribs "A" of 1/16 in. sheet and 28 roughly

A 30 3/8" WING SPAN, SEMI-SCALE DURATION MODEL

SON OF TRIKE.

DESIGNED BY

D. COLLIER

1/6

THE AEROMODELLER PLANS SERVICE LTD.

ALLEN HOUSE NEWARKE STREET LEICESTER.

ALTERNATIVE TYPE OF SIMPLE & EFFICIENT FREEWHEEL.

20 G WIRE — BLOCK BALSA SPINNER — WOODSCREW — 22 G. WIRE PINS — BRASS BUSH — PROP BLANK — SIDE VIEW — PROP. BLANK — TOP VIEW — BUILD UP SPINNER AROUND PROP

MATERIALS REQUIRED

SHEET.
2 SHEETS OF 1/32"X3"X36" BALSA
1 " " 1/16"X3"X6" "
1 " " 3/32"X3"X6" "

STRIP.
2 STRIPS OF 1/16"X1/16"X36" "
6 " " 3/32"X3/32"X36" "
NOTE:- SMALL SIZE STRIP SHOULD BE CUT FROM SUITABLE THICKNESS SHEET.

MISC.
1 BALSA BLOCK 10"X7/8"X1 1/8"
1 " " 3 5/8"X2 1/2"X1/2"
23" OF 18 G. WIRE.
16" " 16 G. "
4 1/2 " 18 G. ALUMINIUM BUSH.
6" " 1/16" DIA. BAMBOO.
PIECE OF BRASS OR DURAL 1/16"X1/2"X3/8"
1 BRASS BUSH & 1 BALL RACE
SCRAP 1/16" & 1/32" PLY.
THIN CELLULOID SHEET.

COVERING.

COVER ALL SURFACES WITH LIGHTWEIGHT TISSUE & APPLY 2 COATS OF CLEAR DOPE TO WINGS & FUSELAGE & 1 ON TAILPLANE & FINS.

ALL WOODS UNLESS OTHERWISE STATED ARE BALSA.

THIN CELLULOID WINDOWS — 3/32" SHEET — ALL LONGERONS & SPACERS 3/32" SQ. — TOP STRINGER X 3/32"X1/16" — 1/16" SQ. STRINGERS — 1/8 DIA. DOWEL — 3/32" SHEET — 1/32" PLY LAM. WITH 1/16" SHEET. — 1/4 X 1/8

BAMBOO — DETACHABLE FRONT — THREADED BUSH. — SCRAP.

SKETCH OF U/C CONSTRUCTION

3/32" SHEET CUSSETS — 18 G. ALUM. TUBES — FRONT LEG 18 G. WIRE

SKETCH OF FREEWHEEL DEVICE — DURAL OR BRASS TONGUE — BALL RACE — 1/8" SHEET LAM. — 1/32" PLY FACING

NOSE COVERED WITH 1/32 SHEET TO THIS LINE. — SINGLE LEG — ELASTIC BAND LOOPED OVER U/C LEG & PASSED UNDER FUSELAGE TO OTHER LEG. — 1/16 DIA. BAMBOO TO TAKE WING RETAINING ELASTIC BAND. — TWIN LEGS. — FREEWHEELING POSITION — 1/16 FLAT BRASS — WINDING HOLE. — SOLDER ONTO FLATTENED END OF SHAFT. — 22 G. SPRING — PROP DRIVING POSITION — 16 G. SHAFT — TENSION PIN — 18 G. PINS TO FIX TONGUE TO PROP. — NOSEBLOCK DETAILS — 7 TRACK ON REAR LEGS — REAR LEGS 18 G. WIRE 2 OFF. — BIND WITH FUSE WIRE & SOLDER.

BIND TUBES TO CROSS BRACES — TOP STRINGER X — TAILPLANE MOUNTS

LOOP AN ELASTIC BAND OVER PEG, UNDER FUSELAGE & ONTO OTHER END OF PEG TO GIVE U/C SPRINGING.

FORMERS C,D & E OFF 1/16" SHEET, B,F & G OFF 3/32" SHEET, A OF 1/32" PLY.

3/16 X 1/8 L.E. — W1 — BLOCK BALSA CENTRE SECTION (C/S) — 1/8 SQ. L.E. — T1 T2 T3 T4 T5 T6

W3 W2 — FRONT WIRE — CEMENT FIN HERE. — 1/32" SHEET — 1/16" PLY — REAR WIRE. — BLOCK A — 3/32" SHEET. — 1/4 X 3/32" T.E.

2 1/8 DIHEDRAL UNDER EACH TIP. — 1/4 X 1/8 SPAR.

POWER: 14 STRANDS OF 1/8" FLAT, 24" LONG (UNTENSIONED)

TAILPLANE SPAR FRONT VIEW — 3/32" SHEET SPAR.

REAR C/S WIRE — 14 G. WIRE — FRONT C/S WIRE — 3/32" SHEET FINS, 2 OFF.

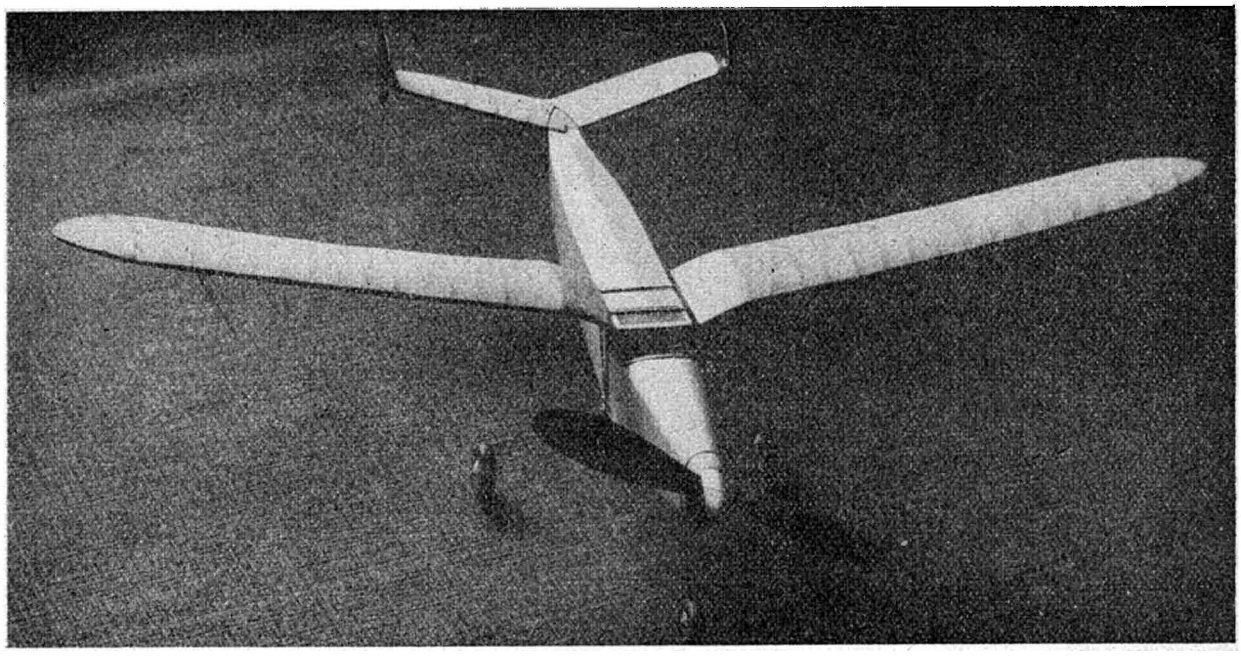
BIND & CEMENT WIRE TO SPAR. — WIRES PASS THRO' BLOCK — 1/16 PLY SUPPORT — FRONT WIRE — REAR WIRE. — BLOCK A — BLOCK B — SKETCH OF C/S ATTACHMENT

TAILPLANE RIBS — T1 T2 T3 T4 T5 T6

BLOCK B — W1 — 3/8 X 1/8 T.E. — LET RIBS INTO T.E. — MAKE 28 OFF 1/32" SHEET " 2 " 1/16" " — 2 OFF 1/32" SHEET — 2 OFF 1/32" SHEET — W1 W2 W3 — WING SPAR.

TAILPLANE RIBS T2-T5 OFF 1/32" SHEET " " T1 & T6 " 1/16" "

1/8" SHEET RIB, SAND SIDE TO SET FIN VERTICAL WHEN IN POSITION



Grace and Utility, keynotes of the Mk. II, are well brought out in these photos.

cut from 1/32 in. sheet. Pin the 1/32 in. ribs between the two of 1/16 in. and sand down to these outside templates until you have 30 ribs alike. Two each of ribs "B" and "C" are required. The wing is built half at a time, so pin a spar down to the drawing and cement to it all ribs of that half. Mark off all rib positions on a trailing edge length and with a hacksaw blade cut a slot $\frac{1}{8}$ in. deep at each position. Applying cement to each rib, press T.E. gently on to them. Add leading edge to this half of wing, and when set, repeat whole process for other half. A point to remember is that as each half is, for the moment, completely independent of the other, the 1/32 in. sheet spar reinforcements may be cemented on before assembly is commenced. Shape and fix in position the wing tips. The wing root is made in wood of a thickness suitable to encompass the wing section and is bevelled along one edge to the required angle, the rib shape being drawn on this face. The root is then tapered down to a narrow rectangle, at the point which will be nearest to the fuselage. A recess is cut to receive the spar end and grooves made where shown to accommodate the centre section wires. After cementing to face of wing rib a triangular recess will be noticed, left by the bottom of the spar end, and this should be filled with a separate block of balsa. The connecting wires of 16 g. can now be cemented in each wing, completing when dry with plastic wood, the forward wire being also bound to spar in first rib bay. However, before doing this, check the dihedral at each wing tip so that adjustment can easily be made.

Tailplane.

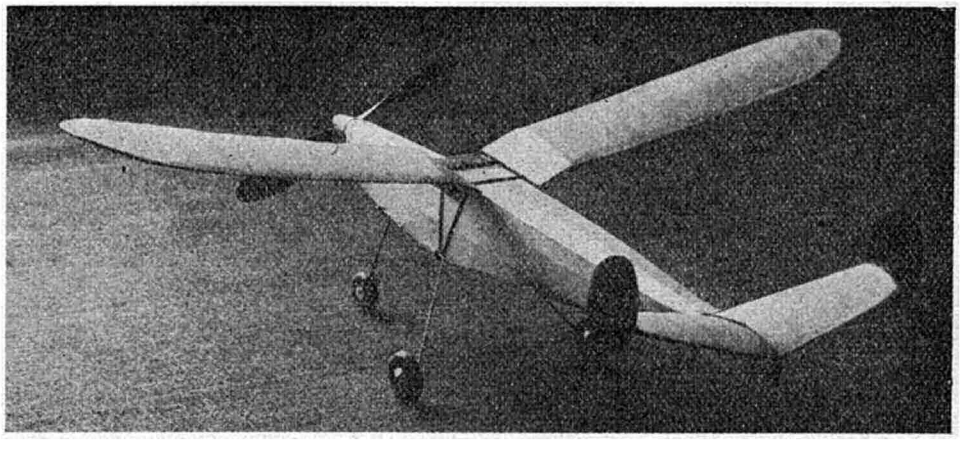
Shape two spar halves as drawing, cementing together and reinforcing with 1/32 in. sheet either side. Cut two end ribs and a centre rib from 1/16 in. sheet, and roughly cut the remaining ribs from 1/32 in. sheet. Pin the ribs for half the elevator between the centre and end ribs, sanding down to these outer templates. Repeat for opposite half, and then proceed with assembly on drawing.

Fins.

These should be soft 3/32 in. sheet. Sand to a streamline section and give two coats of dope, sanding lightly after first coat. Add facing ribs.

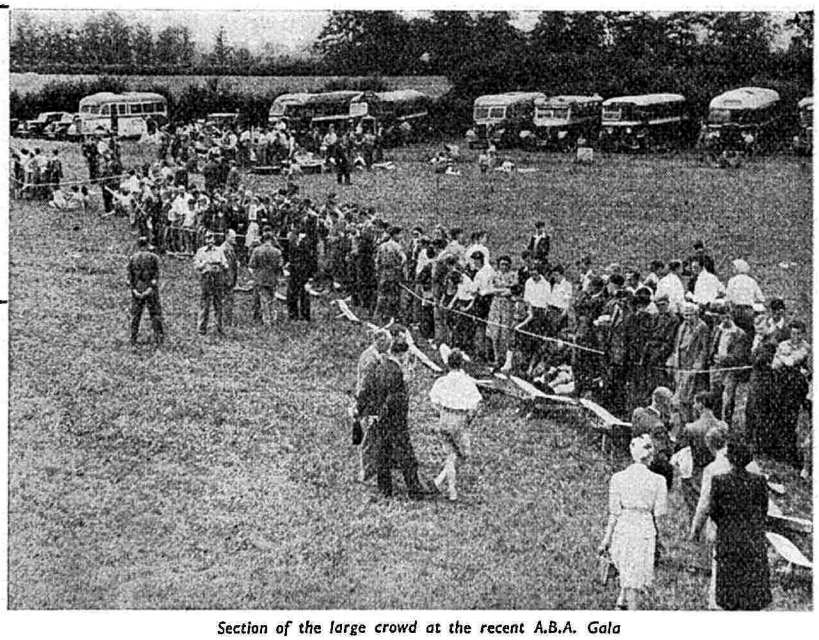
Plans.

The drawing opposite is scaled to one-third full size enabling anyone to draw up a working plan with the minimum of difficulty. Those desirous of obtaining full size plans, however, can as usual obtain these, price 1/6 post free, from the Aeromodeller Plans Service Ltd., Allen House, Newarke Street, Leicester.



GREAT DAY!

AUGUST BANK HOLIDAY GALA AT EATON BRAY



Section of the large crowd at the recent A.B.A. Gala

ONCE again the gatekeepers were busy at Eaton Bray over the August Bank Holiday weekend. Saturday was rather quiet, the main arrivals being a considerable number of campers and a Tiger Moth for towing off the sailplanes of the London Gliding Club, Cambridge University Gliding Club, the Research Section of the British Gliding Association, and 727 Squadron R.N. Air Course, from Gosport, to whom the Tiger Moth was attached. The gliding clubs did not arrive until the second day of the meeting, Sunday, and with them came many hundreds of aeromodellers and friends to enjoy flying their models in their own time and in the impromptu contests organized by the management for cash prizes. The gliding attracted many people, too, and the grace of the fine assortment of sailplanes absorbed the attention of considerable crowds. The weather was very fine, with no wind, and many models were lost in thermals. Modelbods were not the only lucky thermal-hunters on this occasion, however, one of the full-size sailplanes turned in a fine flight of five and a half hours! A most enjoyable time was had by all; as one camper put it: "Who'd be jammed like sardines at the seaside when you can get a far cheaper and more enjoyable time here?" He, like many others, is a fairly regular camper—a habit which is catching on. By about seven o'clock most of the visitors had departed, though one or two stalwarts still kept up the search for late thermals.

Monday dawned fair with promise of very hot hours to come—a promise that was fully justified. Two aircraft made their appearance, another Tiger Moth and an Auster, to aid with the towing of gliders. The Auster was there for another purpose, too, as was realised when Flying Control announced that the prizes for the contests were to take the forms of ten-minute flips. The contests started at two o'clock with the petrol and diesel event. There were a fair number of entries, including such well-known personalities as Silvio Lanfranchi, of Bradford, assisted by his friend and 1946 Shelley Cup winner, Harry Austwick, and Mr. Wilson, of Hayes, fresh from winning the Bowden Trophy the previous day.

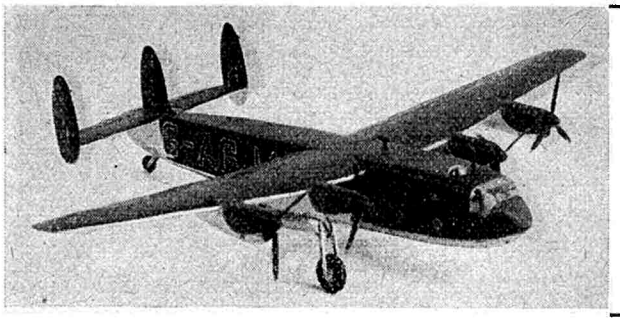
N. Gregory, of Harrow, was there with his Phantom-powered model, finished in the unusual colour scheme of pink and green, a little faded now as the model is well over two years old.

Mr. Horner, of the Pegasus Power Club, competed with an interesting little diesel-engined model which flew very well. A very interesting demonstration by Mr. Horner showed the degree of control available with a diesel by means of the contra-piston, full revs or just a tickover. The one trouble that left him out of the winners was the old diesel bogie, engine cut-out. On one flight his motor went on blithely for over a minute, erratically, but nevertheless with enough power to keep the model climbing.

The winner finally proved to be N. Gregory, with a total time of 2 : 32·5 for two flights.

The duration contest swiftly followed on, and model after model took the air in quick succession, the prospect of a joy-ride a spur to keen competition. There were no spectacular flights but a great deal of very steady flying. The models presented an interesting array of designs both original and commercial—the latter a pleasing indication of the large number of new and efficient kits coming on to the market. A very interesting original design seen on this occasion as at many other meetings at Eaton Bray was a slabsider duration model by A. Hopkins of Leighton Buzzard, featuring a lifting banana-shaped fuselage and elliptical wing and tail surfaces. This model has shown itself a consistent performer at many local rallies and has often been amongst the successful entrants. By four o'clock the winner had been announced as K. H. Lloyd, of Harrow, who took the prize with one flight of 5 : 21 o.o.s. Second was A. J. Barr of Coventry with 3 : 26. The glider contest started at 4.15, and here again competition was keen. An interesting incident occurred during this competition when an errant model flew down towards the lower half of the field where the full-size gliding was in progress and collided with a sailplane taking off. Much to the owner's joy—and surprise—when he retrieved the model, which had spun down to earth, he was able to discover only superficial damage. The sailplane, too, escaped unhurt. H. C. Aitken was well up amongst the leaders by the end of the first round, and in the second round walked off with the honours with a tremendous flight of 8 : 54 o.o.s., no mean achievement in the light of the fact that there was no wind and thermals, although fair in number, were consequently difficult to get hold of. Aitken's aggregate was 11 : 2, and runner-up was young D. Fash with the excellent aggregate of 7 : 51.

By six o'clock all flights in both the contests and the Auster were concluded, and most people were packed up and heading for home. As we left a little later, however, there were still one or two of the most ardent type tirelessly seeking that best-of-the-day flight. Wonderful people, aeromods!



A SEMI-SOLID 1/72 SCALE AVRO YORK

BY M · H · BEECHING

Fuselage.

The fuselage is built in three sections, the nose and tail out of solid wood and the centre-section built up in a box fashion.

Centre-Section.

Two rectangular pieces of three-ply, size 1¼ by 7¾ ins., are cut to shape and the position of the windows marked in and then cut out with a fretsaw, and finally filed to a circular section by means of a ¼ in. diameter completely round file. A channel, ½ in. wide, is cut behind the windows on the inside of the walls, running the whole length of the fuselage side, so that the thickness of the walls containing the windows is about 1/16 in.; the top and bottom of this centre-section are cut from pine, a wood which is fairly easy to work, and are shaped as in the side elevation, the edges then being rounded to fit on the sides. A strip of wood the thickness of the plywood walls and about 3/16 in. deep is cut from each side of both top and bottom. This is to ensure a strong fit when the four pieces are assembled. The circular hole for the astro dome is then cut on the starboard side of the roof. A slot on each side of the fuselage walls is cut for the wing lugs to pass through.

Nose and Tail Sections.

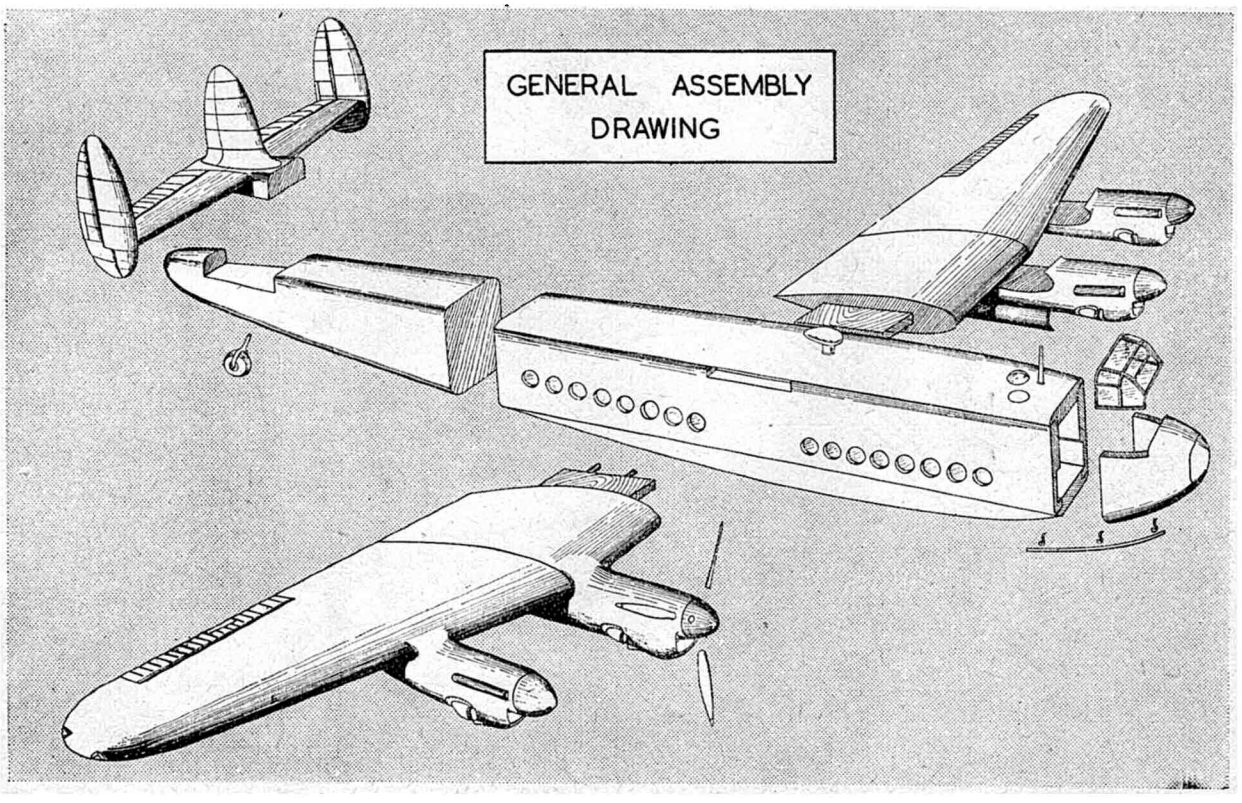
The nose and tail were shaped back to back from the same block of wood with about ½ in. of spare wood in between them. The nose was shaped first, and then the tail, after which both were cleanly cut off and tested with the respective ends of the centre-section for fit.

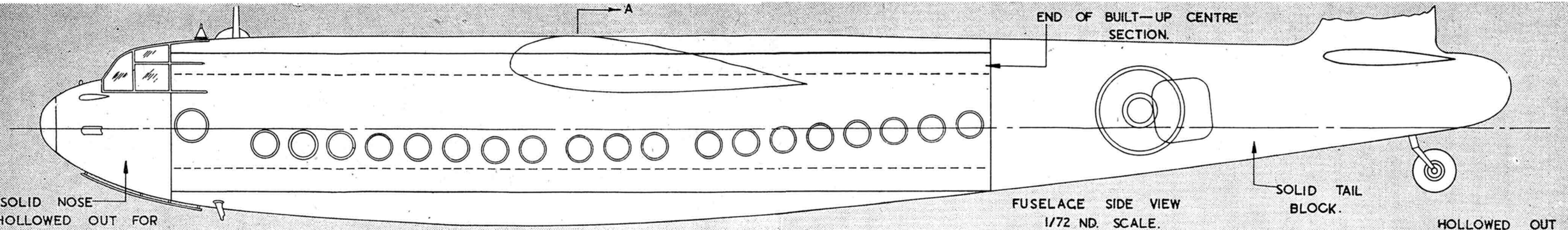
The portion of the nose-block that is transparent can be cut off, but if this is difficult (the one I made split), one can be made of a soft wood, even balsa. The nose-block was hollowed out and the sides and bottom of the centre-section cemented together. The nose and tail were then fixed. The roof was lightly cemented on because it had to come off later to fit the bulbs for the lighting system. When the various parts are firmly fixed, plastic wood can be applied where needed and the whole fuselage sanded to a smooth finish.

To Fit Electric Lighting.

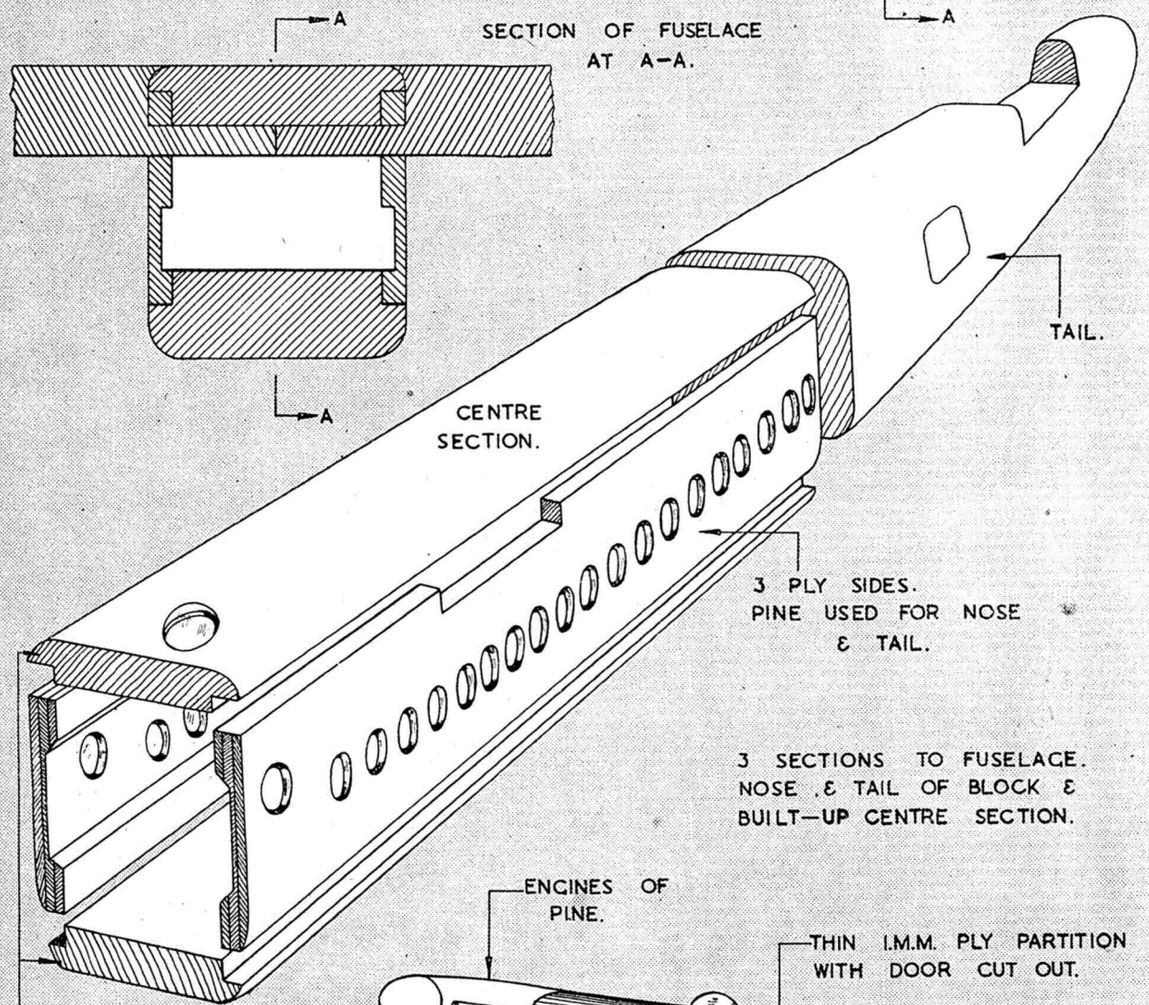
A metal strip about 5½ ins. long with bent-up ends

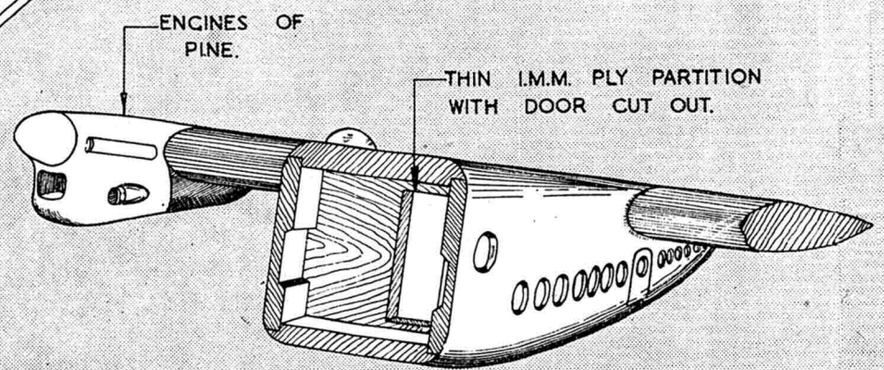
continued on Page 622

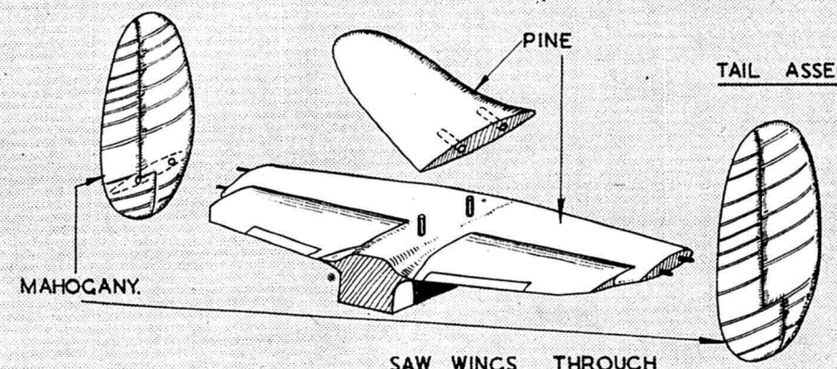




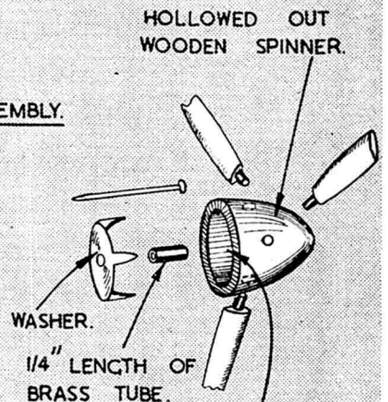
FUSELAGE SIDE VIEW
1/72 ND. SCALE.

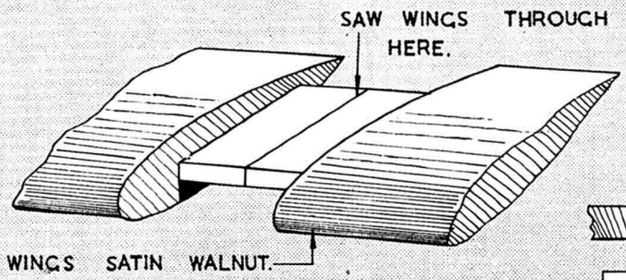


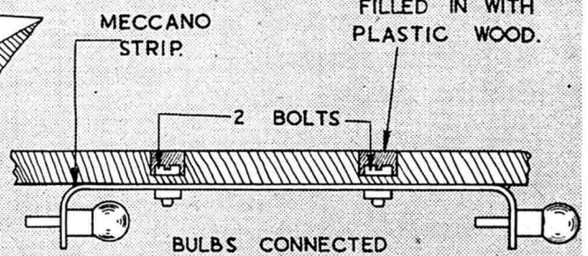


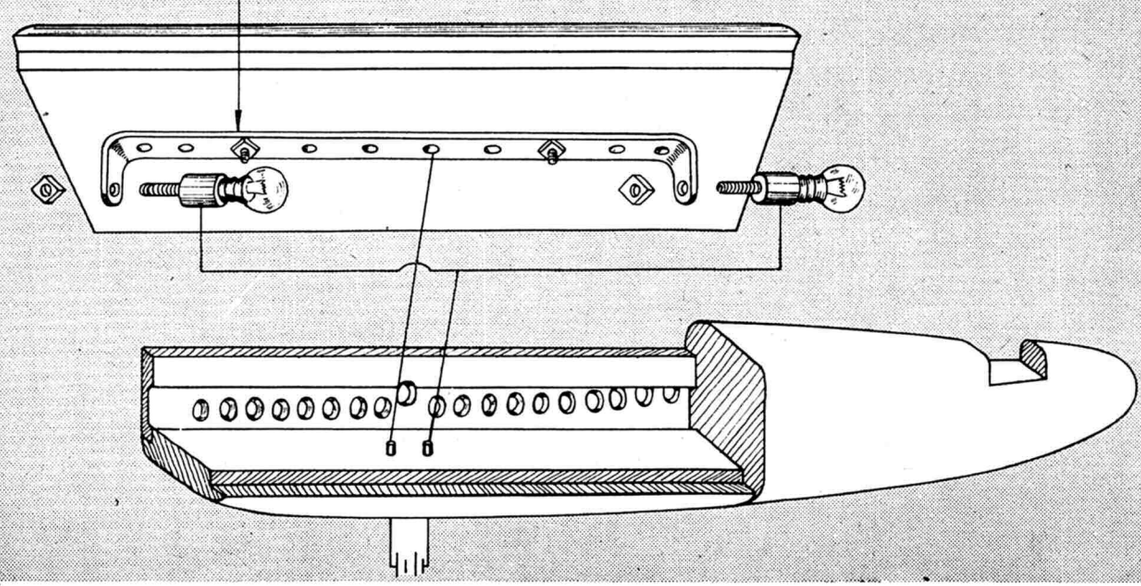


TAIL ASSEMBLY.









(Meccano double angle strip was used for mine) is connected to the roof as shown with two small bolts and nuts, the gaps left at the top being filled in with plastic wood. Two ordinary bulb-holders, with the bakelite parts removed, are fixed to the ends of the angle strip, and screwed tightly with the small nuts.

On one side of the floor two small holes were bored about ¼ in. apart, and two lengths (about ½ to ¾ in. long) of thin brass or copper tubing pushed into them. This tube should have the hole only slightly thicker than the copper wire used. Two lengths of wire are connected to the arms of the bulb-holders and then are pushed through the tubes, and the roof is then cemented on to the sides of the fuselage, not forgetting to screw the bulbs into each end of the bulb-holders first. The wire should not protrude beneath the tubes at the bottom, because the wire connected to the battery has to be pushed into the bottom half of the tubes.

The wire connecting the bulbs to the tubes is cemented to the tube where it is pushed into it.

Wings.

The wings were made together and were shaped in the usual manner. They were cut away to a rectangular section to fit in the slots in the fuselage as shown in the diagram. Dihedral was then incorporated: this is very marked in the case of the "York." To join the wing to the fuselage the wing can either be cut in half and each side pushed through the slot in the side and then joined by dowels, or the wing can be placed on the fuselage sides before the roof is placed in position. Two lengths of wire are used for dowels to join the wings in the former method.

The wheel wells are cut out in the position of each inboard engine nacelle.

Engine Nacelles.

Each nacelle was made from two sheets of pine wood, size 2½ by 10 by ⅜ ins. thick, which were glued together. The outlines of the motors were marked and the four nacelles cut out. One half of the piece of wood had only been glued lightly, and this was used to make the INNER nacelles. When the nacelles had been shaped as in side and plan views, the inner nacelles were split open and hollowed out to take the undercarriage. The engine nacelles were then cemented in position before the wings were attached to the fuselage.

Undercarriage.

The drawing at the bottom of the page is self-explanatory; varying materials may be used, the choice resting with the individual. Retraction is achieved by exerting pressure in an inwards direction on the centre pivots of the rear strut. The wheels may be bought or turned up on a lathe, preferably from mahogany.

Tail Unit.

The tailplane was shaped in one piece with some wood left at the bottom to provide a joint in the rear of the fuselage. Old gramophone needles were used to secure the outer rudders and fins and central fin to the tailplane. The rudders were built in the usual manner, from mahogany. The elevators and rudders are marked in with a sharp knife and lino-cutting tools. The four parts of the empennage were then assembled, fixed together, grain-filled and sanded to a smooth finish.

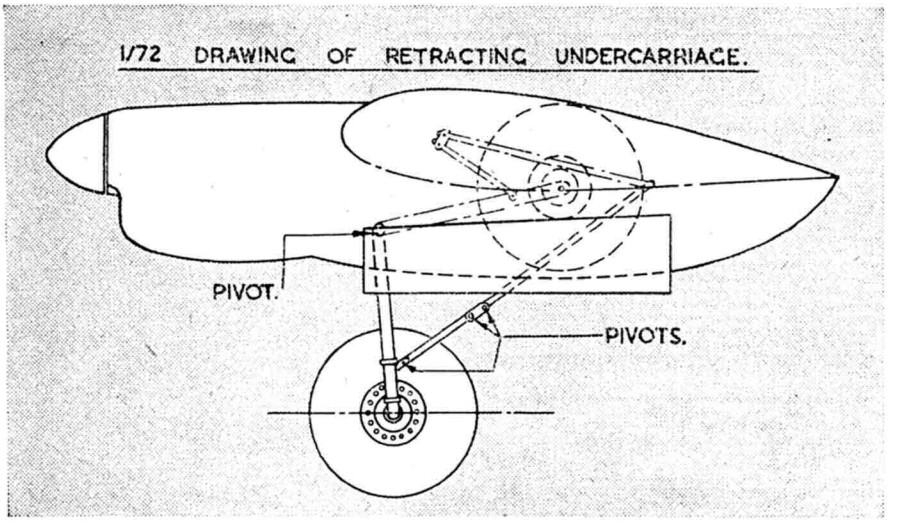
Assembling, Grain-Filling and Painting.

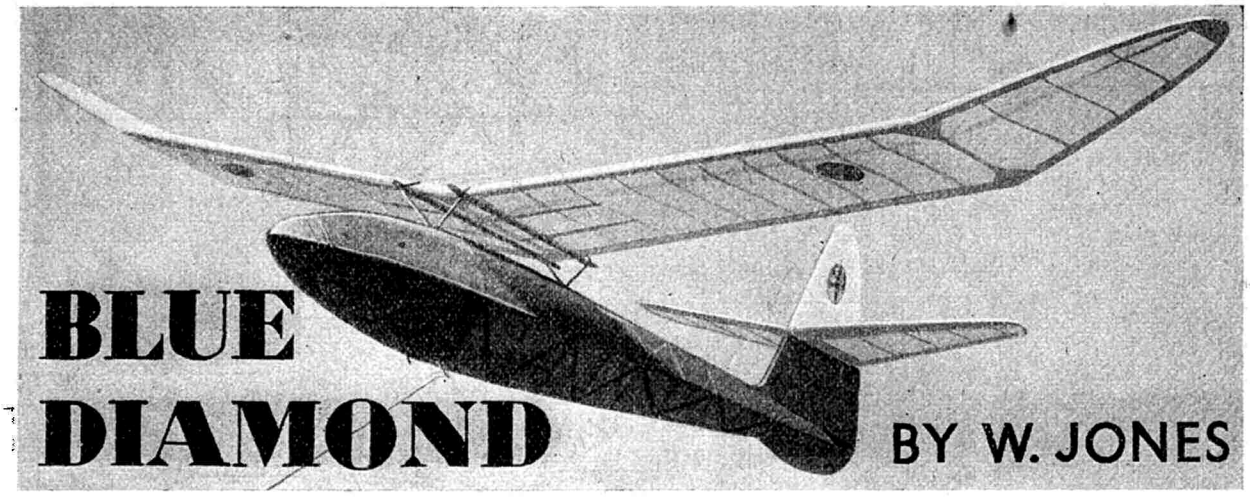
When the lighting system is finished and has been found to work satisfactorily, the roof is fixed to the rest of the fuselage and the whole lot touched up if need be with plastic wood; the fuselage can be given its first coat of grain-filler. The kind I used was white cellulose filler, which is fairly easy to obtain nowadays. When this filler is dry it is smoothed down by use of "wet-or-dry" paper, which is used with water and is, in my opinion, far superior to ordinary sandpaper.

The windows were cut out separately from celluloid sheet. After they had all been fitted they were removed and kept until the painting was complete. The front cockpit cover was fitted permanently when the fuselage had been sanded after the first coat of filler. The motors were then fixed to the wings and the retractable undercarriage was fitted into each inboard nacelle, and the doors fitted. The tail assembly was then fitted to the fuselage, and the two wings were pushed through the slots in the sides of the fuselage and cemented together. The whole model was then given a further coat of filler and sanded to a smooth silky finish. To represent fabric-covered ailerons and elevators, etc., thin strips of paper were stuck on by means of cellulose dope. The painting was done by means of artist's oil paints mixed only with turpentine. I find that this paint is the most satisfactory I have used so far, for it takes well on top of cellulose filler.

The "York" was camouflaged with brown and green on the top and sides and was painted silver underneath. The registration letters G-AGJA were painted in black, and red and blue stripes were painted on the top surface of the wing. Red, white and blue stripes are carried under the letters on the fuselage sides and underneath the wing.

A fully detailed three-view 1/72nd scale drawing of the Avro York may be obtained for the modest sum of 6d., post free, from the Aeromodeller Plans Service, Ltd., Allen House, Newarke Street, Leicester.





BLUE DIAMOND

BY W. JONES

"BLUE DIAMOND" was built in the early summer; the span being about the limit for gliding in a small public park, such as are usually found in any urban district. Wing span is 60 ins., with a chord of 6 ins., the popular parasol wing mounting is employed and the tail placed high on the fin to reduce risk of damage on landing. In the first contest in which it was entered, the M.E. No. 1, aggregate was 970·2 secs. (Best flight 672·2 secs., o.o.s.) Using the model again in the Thurston Cup, the aggregate was 666·0 secs., one flight being 360·4 secs. In the S.M.A.E. cup the model flew away again, this time o.o.s. for 13 mins. 53 secs. and landed three fields away, the aggregate for three flights being 1,163·4 secs., which placed it fourth in the competition. So much for the model's performance to date.

Fuselage Construction.

The two sides are built in the usual way as for slabsiders. The hardwood longerons are first bent, or steamed, to the correct shape before the uprights are cemented into position. It is wise to make four cross struts for each bay, these all being the same. This makes it simpler to secure a truly square fuselage. The diagonals or cross-bracing struts can be put in after the two sides are joined together. Fill in front of fuselage with $\frac{1}{8}$ in. sheet hardwood to form back for weight-box. The hardwood nose and hollowed out laminations of balsa comprising the weight-box are the next step. Final sanding should be left until the bays are sheeted in. The bottom fin rib is cemented to rear fuselage after making platform, the top longeron being cut away 6 ins. from the rear to allow for this.

Wing Mount.

Next bend 16 s.w.g. wire to shape and bind and cement to longerons and cross braces as shown on plan; the oval bamboo runners are then cemented and bound with strong silk to the wire wing mounts. The two 18 s.w.g. wire tow-hooks are then fitted, bound with strong silk and well cemented in. The first four fuselage bays are sheeted with 1/32 in. obechi sheet; use plenty of cement, glueing to all longerons and cross braces. When it is thoroughly dry, sand down well to get a smooth finish.

Tail and Fin.

The bottom part of upper fin is now completed, the $\frac{1}{8}$ in. dowelling fits flush with the top rib and goes through the other four ribs, and platform into fuselage, and is flooded with cement. The trim tab is fitted as shown on plan and the whole of the lower fin covered with 1/32 in. balsa sheet. The upper part of the fin is attached by means of two dowels glued to it and sliding into tubes in the lower part. These two dowels pass through holes in the tailplane and serve to anchor it. An elastic band ensures a firm seating even if fit of dowels and tubes wears loose in time.

Wing.

The wing construction is quite straightforward and should present no difficulties. Fit the leading edge of $\frac{1}{4}$ in. sq. hard balsa (or hardwood if preferred); the $\frac{1}{8}$ in. $\times \frac{3}{8}$ in. hardwood spar is then cemented into ribs. Care should be taken in cutting out ribs so that the hollow trailing edge can be fitted accurately. First, lay the ribs on the plan and attach the upper side of the trailing edge, then turn over and fix the lower part. This results in an exceptionally strong wing. The gusset plates are added after the dihedral is put in.

Covering.

The fuselage and wings are covered with blue bamboo paper and water shrunk. When thoroughly dry, two coats of clear dope and one of banana oil are given; the tail and fin are covered in white tissue and one coat of clear dope given. Bamboo paper may be hard to secure and normal tissue will probably have to be substituted. A new grade of paper is now on the market that, while very weak in its natural state, is exceptionally strong when doped. This paper, which is available only in white, looks very like thin blotting paper and should *not* be water shrunk.

Trimming the Model.

Put sufficient weight (lead shot) into the weight-box so that the model balances about one-third back from the leading edge when held about half-way along the wings. Choose a fairly calm day, with only slight breeze. Hand-launch, pointing the model slightly downwards, aiming at a point roughly about six yards ahead. Take out lead if slightly nose heavy, or add more if model tends to stall. Do not alter the incidence. The model may next be tried on a 50 ft. towline with rubber tensioner. It has a remarkably good glide and takes advantage of any slight air currents without becoming unstable.

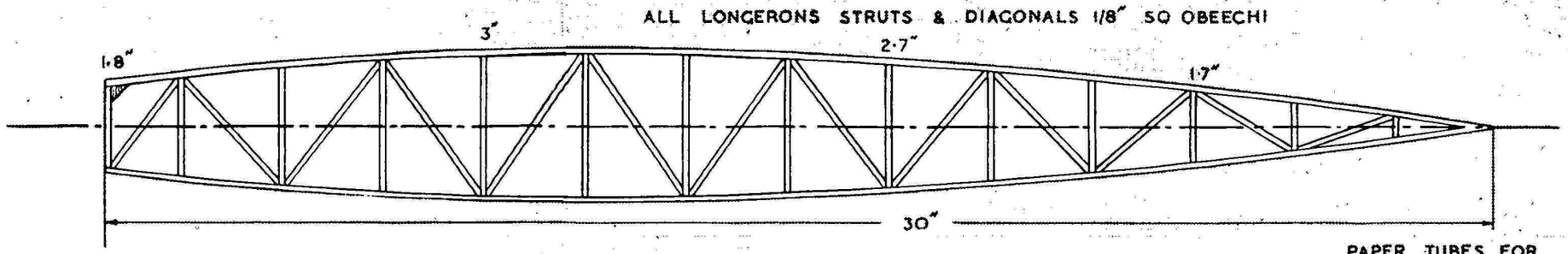
BLUE DIAMOND

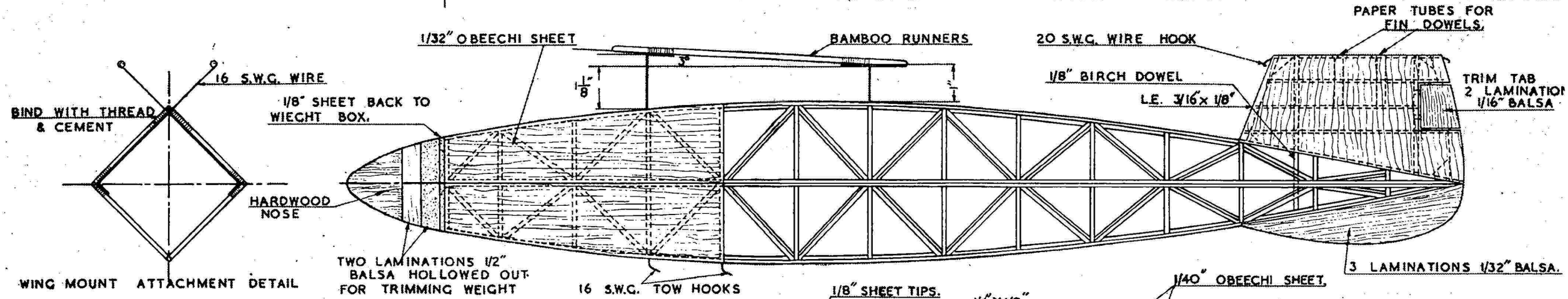
DESIGNED • BY

W. JONES.

SPECIFICATION

SPAN 60 INS.
OVER ALL LENGTH 30·2 INS.
WING AREA 288 SQ INS.



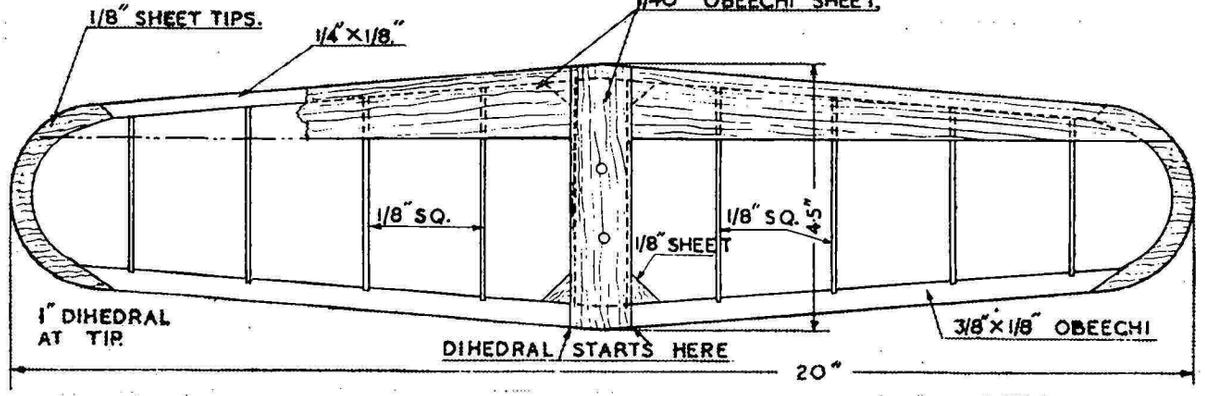


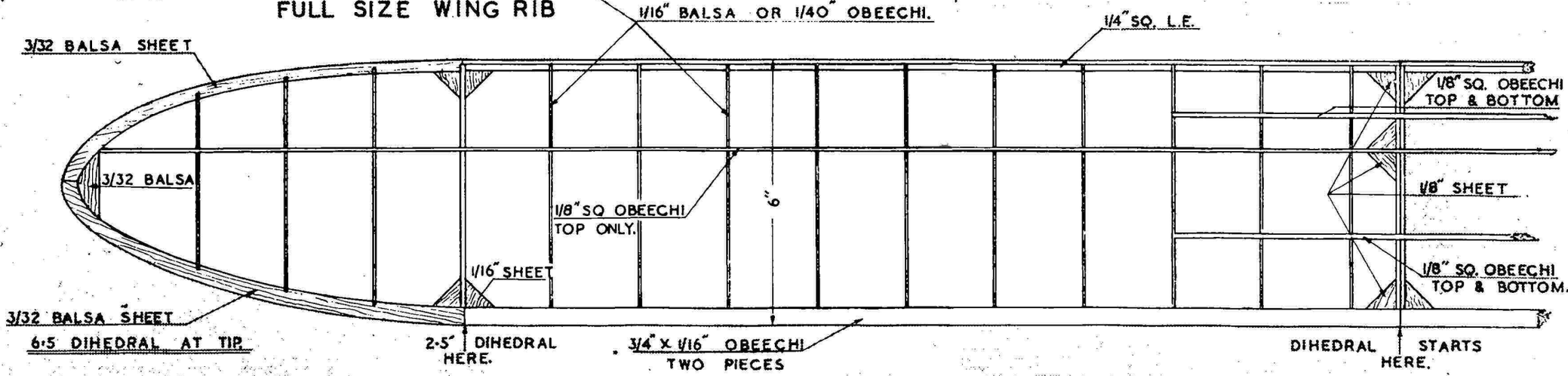
SCALE OF 1/3 FULL SIZE.

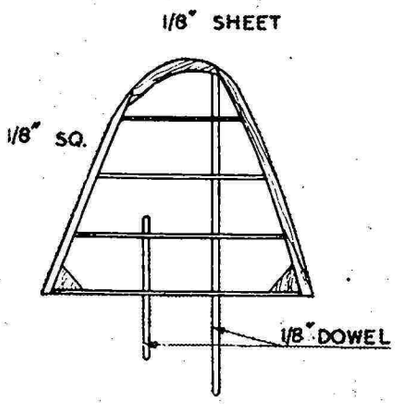
PERFORMANCE

MODEL. E.N. No. 1.	970·2 AGG.
THURSTON F.A.I.	666·0
S.M.A.E. CUP.	1,163·4

FULL SIZE WING RIB







FIN RIBS R.A.F. 30 SECTION FROM 1/16" SHEET.

• ASTOUNDING

EXTRACTS FROM THE LOW SPEED AERODYNA-

BY R. H. W. ANNENBERG, B.Sc.(Eng.), AND N. K.

A TECHNICAL revolution is taking place in model aeronautics, yet so quietly that the great mass of the modelling world has as yet little or no knowledge of it. This revolution is intimately connected with the comparatively young Low Speed Aerodynamics Research Association (formed 4th February, 1945), indeed it *is* the L.S.A.R.A.

The Association is engaged on research work covering the whole field of aeromodelling, and one of its most amazing discoveries is a new series of laminar flow aerofoil sections, of which L.D.C.2 (Fig. 3) is the best known example. The two workers chiefly responsible for them, N. K. Walker, B.Sc., and R. H. W. Annenberg, B.Sc. (Eng.) discarded the orthodox method of improving aerofoil performance by inducing a turbulent boundary layer,* and designed a basic section for laminar boundary layer conditions. A brief outline of the theory involved follows:

The boundary layer on the upper surface of an aerofoil may exist in one of two forms: turbulent or laminar. A laminar layer is always present over the front part of the aerofoil, becoming turbulent at the point known as the " transition point." This transition the full scale designer attempts to delay as much as possible by polishing the wing surface and modifying the shape of the wing section. At very low Reynolds Numbers such as are found in model flight, the laminar layer is very stable and it is very difficult to cause transition to the turbulent form, which means that the layer over the aft of the aerofoil is also laminar. The peculiarity of the laminar layer is that there is no mixing of the outermost high energy air with the very slow stream near the surface, and consequently the latter is mainly dependent on its own momentum to force it forward against the adverse pressures existing on the rear of the upper surface of the aerofoil. It can easily be shown, both theoretically and experimentally, that it is unable to do this and, in fact, the airflow breaks away from the surface just after the highest point (*i.e.* the maximum camber point at small angles) leaving a very turbulent wake of high drag (Fig. 2). The point where the layer leaves the surface is called the " laminar separation point," and for a normal section such as R.A.F. 32, it is at about 55 per cent. chord from the leading edge at 0 degrees incidence and moves steadily towards the leading edge as the incidence is increased, being only 20 per cent. chord away at 10 degrees. The drag is proportional to the vertical distance from the trailing edge to the separation point, so it

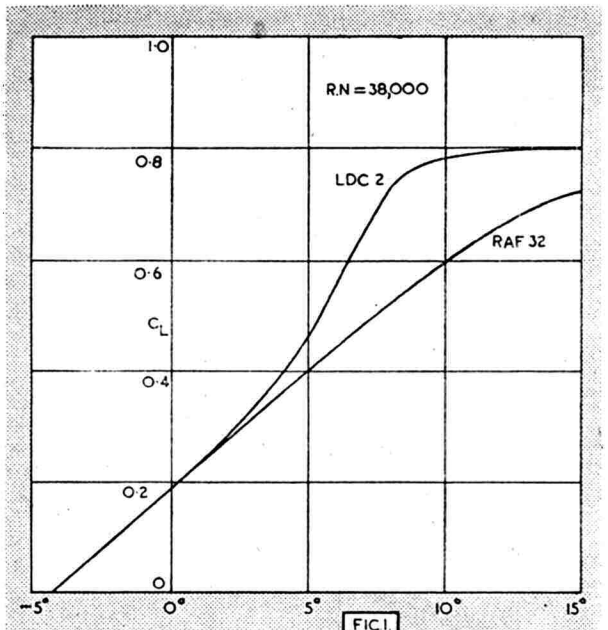


FIG. 1.

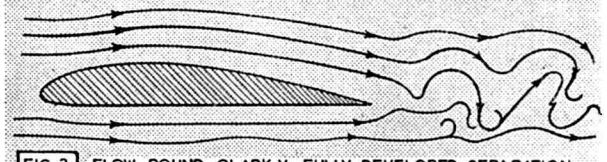


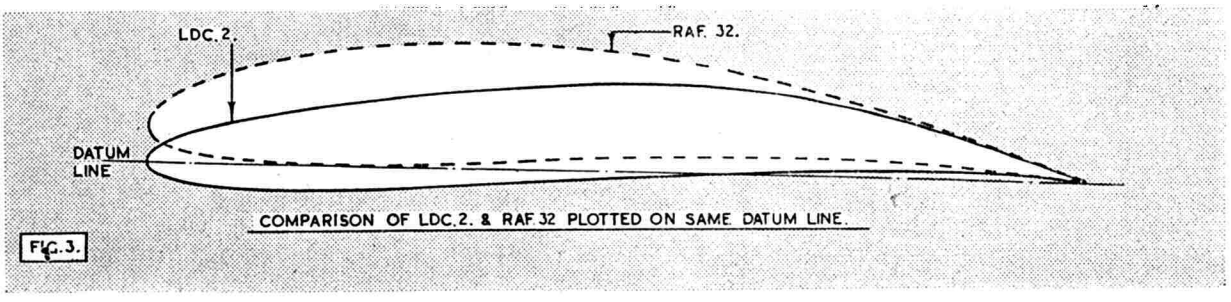
FIG. 2. FLOW ROUND CLARK Y. FULLY DEVELOPED SEPARATION.

ORDINATES FOR SECTION LDC.2.
FIGURES ARE PERCENTAGES OF CHORD

STATION	UPPER	LOWER
0% FROM L.E.	0% FROM D/L	0% FROM D/L.
2·5 " "	2·20 " "	−2·00 " "
5·0 " "	3·00 " "	−2·45 " "
10 " "	4·75 " "	−2·65 " "
15 " "	5·50 " "	−2·70 " "
20 " "	6·35 " "	−2·60 " "
25 " "	7·10 " "	−2·35 " "
30 " "	7·65 " "	−1·90 " "
35 " "	8·25 " "	−1·50 " "
40 " "	8·75 " "	−1·20 " "
45 " "	9·17 " "	−0·80 " "
50 " "	9·45 " "	−0·45 " "
55 " "	9·50 " "	+0·05 " "
60 " "	9·45 " "	0·20 " "
65 " "	9·00 " "	0·55 " "
70 " "	8·50 " "	0·35 " "
75 " "	7·50 " "	1·00 " "
80 " "	6·40 " "	1·10 " "
85 " "	5·00 " "	1·05 " "
90 " "	3·50 " "	0·90 " "
95 " "	1·80 " "	0·50 " "
100 " "	0·0 " "	0·0 " "

NOSE RADIUS 1%

* *The term " Boundary Layer " applies to a layer of air adjacent to the surface of a body moving through the air. In it, the velocity relative to the body of the air directly on the surface is zero (i.e. it sticks to the surface). A minute distance from the surface the air is moving very slowly; a little further out the air is moving slightly faster, and so on until the edge of the boundary layer is reached, where the velocity is the same as the mass of the air outside.*



COMPARISON OF LDC.2. & RAF.32 PLOTTED ON SAME DATUM LINE.

FIG. 3.

AEROFOILS •

MICS RESEARCH ASSOCIATION REPORT NO. 8
WALKER, B.Sc., EDITED BY N. K. WALKER B.Sc.

is obvious that this forward shift causes a very great increase of profile drag with incidence and, as less of the surface is being used, there must be a progressive loss of lift. If the boundary layer could be made turbulent, separation would be prevented, but experiments have shown that it is very difficult to make this take place.

The new sections are designed to preserve laminar flow over as great an area of the surface as possible, and, in fact, for L.D.C.2 the separation point moves from 72 per cent. chord at 0 degrees to 60 per cent. chord at 8 degrees, a very considerable improvement. (It moves forward rapidly to the leading edge at 9 degrees.)

Only crude tunnel tests are so far available; a glance at Figs. 1 and 4 should convince the most sceptical that a very great advance in aerofoil performance has been made.

For the benefit of "practical" modellers, accurate flight test comparisons are being made and advance results were given in L.S.A.R.A. Report No. 7 (AEROMODELLER, May, 1946), which showed that a very substantial reduction in the profile drag had, in fact, been achieved and the models were stable at a much higher lift coefficient than usual. As a result, the sinking speeds of the two experimental models were both about 1·0 ft./sec. instead of 1·7 to 1·9 as for conventional models.

Two simple precautions must be observed if the new sections are used on a model.

(1) The wake from an ordinary wing section is very wide and diffuse, and though the tailplane is almost always inside it, the loss of efficiency is probably not more than 20 per cent., which has little effect on longitudinal stability. It is, however, a property of the new sections that the wake is very thin and concentrated, and it is absolutely essential that the tailplane should be mounted high enough to clear it, otherwise a 50 per cent. loss of efficiency may occur. This means in practice that the tail should be mounted well above a horizontal line drawn from the top of the wing section. (It is, of course, possible to mount the tail very low, but it is much more difficult to specify a suitable position.)

(2) It is obviously essential that the upper wing surface should conform closely to the theoretical shape, and in L.S.A.R.A. tests this is ensured by fitting 1/16th square riblets on the upper surface at about 15 per cent. chord apart, in addition to the normal wing structure. To facilitate this the wings are always constant chord with elliptic tips, and the riblets are cut with a steel template.

In conclusion, a caution. A patent for the sections had been taken out by the Ministry of Aircraft Production, on behalf of the inventors, and thus commercial use is forbidden other than by arrangement with the Director of Research, L.S.A.R.A. This does not, of course, prohibit individual modellers from using them privately.

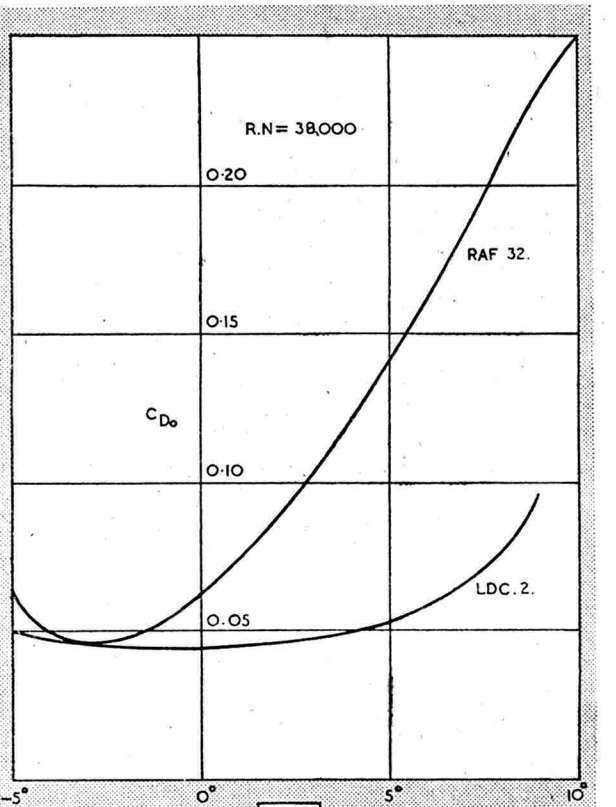
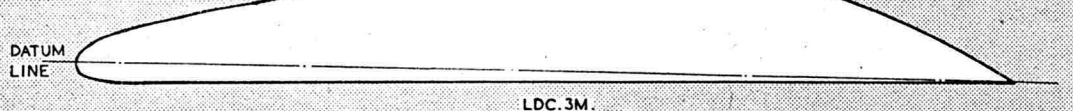


FIG.4.

ORDINATES FOR SECTION LDC 3M. FIGURES ARE PERCENTAGES OF CHORD.		
STATION	UPPER	LOWER
0% FROM L.E	0% FROM D/L.	0% FROM D/L.
2·5 " "	2·70 " "	−1·70 " "
5 " "	3·55 " "	−1·90 " "
10 " "	4·90 " "	−1·80 " "
15 " "	6·00 " "	−1·70 " "
20 " "	6·95 " "	−1·60 " "
25 " "	7·75 " "	−1·50 " "
30 " "	8·65 " "	−1·40 " "
35 " "	9·30 " "	−1·30 " "
40 " "	10·00 " "	−1·20 " "
45 " "	10·60 " "	−1·10 " "
50 " "	11·05 " "	−1·00 " "
55 " "	11·40 " "	−0·90 " "
60 " "	11·45 " "	−0·80 " "
65 " "	11·25 " "	−0·70 " "
70 " "	10·85 " "	−0·60 " "
75 " "	10·10 " "	−0·50 " "
80 " "	9·05 " "	−0·40 " "
85 " "	7·45 " "	−0·30 " "
90 " "	5·40 " "	−0·20 " "
95 " "	2·95 " "	−0·10 " "
100 " "	0·0 " "	0·0 " "
NOSE RADIUS 1%		

A NEWER SECTION SUITABLE FOR PETROL MODELS.



LDC.3M.

FIG.5.

Control-Line CAPERS

BY FL. LT. J. E. HOWETT

Left shows Flt. Lt. Howett's 54 in. span free flying model after conversion to a parasol wing control-liner.

I BECAME a control line fan during my tour of duty as a flying instructor in Canada, the reason being that the aerodrome was in use seven days a week and it was impossible to fly free models during flying hours. When the weather was unfit for flying it was also unfit for models, so having read of U-control I decided to try it.

The first effort was a 22 in. span job, modelled on the lines of a Comper Swift. Unfortunately, this model lasted only about ten seconds—to put it briefly, just up, round and down! Although the model hit the tarmac at about 50 m.p.h. it didn't even break the prop., thanks to a large, soft balsa spinner. It broke nearly everything else though, as Photo 1 shows. Luckily, the engine, an Ohlsson 23, suffered only the minor damage of a broken jet pipe.

The second model was a converted 54 in. span free-flying job of my own design, modifications to which included conversion to a parasol wing—see heading photo. I flew this and subsequent models in a drill hall which was about 100 ft. square and ideal for the purpose, except

Photo 1

Photo 2

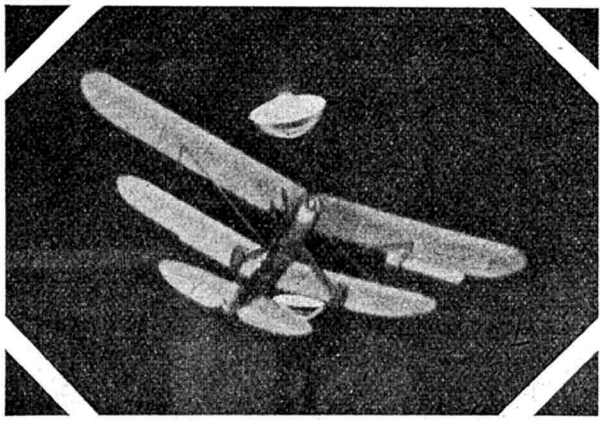
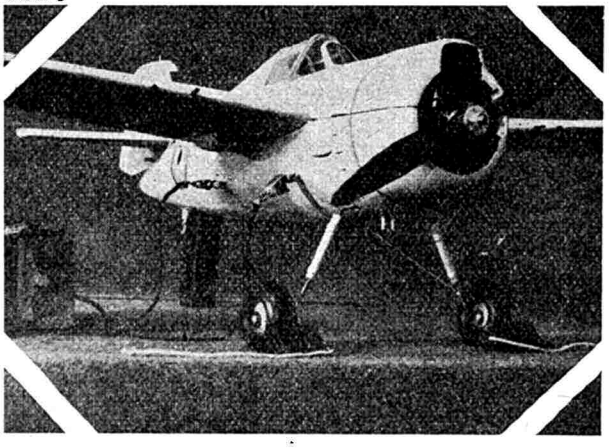


Photo 1, left, shows what a smash at 50 m.p.h. can do; Photo 2 is the machine in the heading photo once again converted—to a biplane; and below, Photo 3, the modified 1 in. to 1 ft. scale Grumman Martlet—note the chocks!

Photo 3



that the roof was rather on the low side—hence Photo 4! This model was later converted to a biplane, the only alteration necessary after conversion being found to be an adjustment of the battery box. (Photo 2 shows this model in flight.) The speeds of both monoplane and biplane was about 30–35 m.p.h., and real take-offs and glide approach three-point landings could be attained. As a pilot myself, with over nine years' experience, I can say I get more kick out of taking-off and three-pointing a U-control model than with a real aircraft.

The next U-control was a 1 in. scale Grumman Martlet, which from the drawing board to first flight took me two weeks; it was, however, modified to the form shown in Photo 3. The Martlet was a good flyer, but owing to the weight it had a glide like a brick.

My next model was the biplane shown in Photos 5, 6 and 7. It was built almost entirely of scrap wings, tail surfaces, etc., from free-flying models, but was the most successful of all. It is about 40 ins. span and weighs about 2½ lbs., and flies at about 35–40 m.p.h., which I think is quite fast enough. I built this model something after aircraft practice and the whole thing dismantles and packs in a box 9×9×28 ins. I brought this model back to the U.K., but have not had the opportunity of flying it yet. When the photographs were taken I had not completely rigged the model, flying wires being required and also a few holes needed patching.

I hope that these photos and the few words that accompany them will have conveyed that U-control models can be made to look like real aircraft and that one need not be too particular about weight. In conclusion, may I give a couple of tips which I think may help any would-be U-control modeller:

(i) When positioning the control plate in the fuselage place the pivot 1 in. from the leading edge of the mainplane, irrespective of whether it is tapered or straight. Balance the model in the normal way, C. of G. 1/3 back from leading edge, very slightly nose heavy.

(ii) When flying a U-control model in the open start model in such a position that it becomes airborne on the downwind side of circle. Never climb model into wind; always dive into wind and climb downwind. Variations in control flying include balloon bursting (balloons pinned to floor so that they float at about 12–18 ins.), glider snatch pick up, or tow off and release by timer, etc.

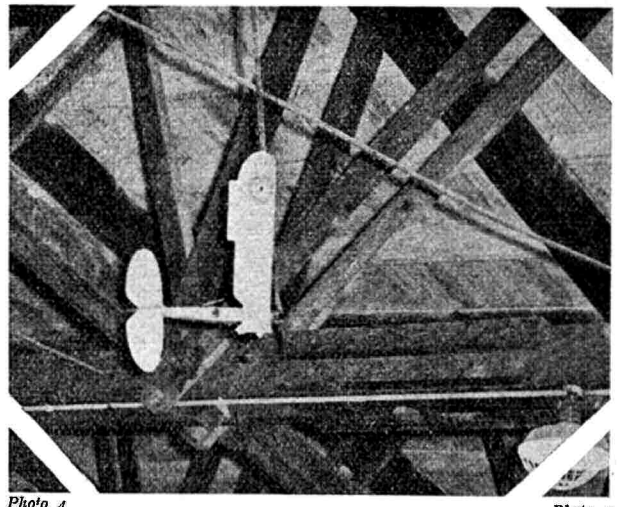


Photo 4

Photo 5

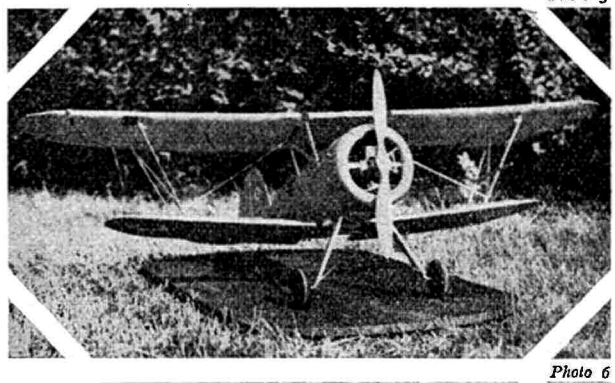


Photo 6

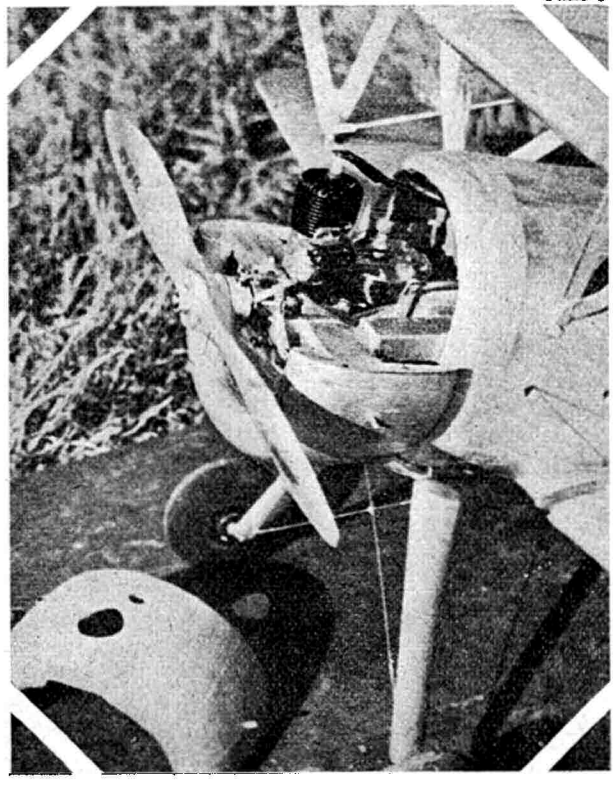
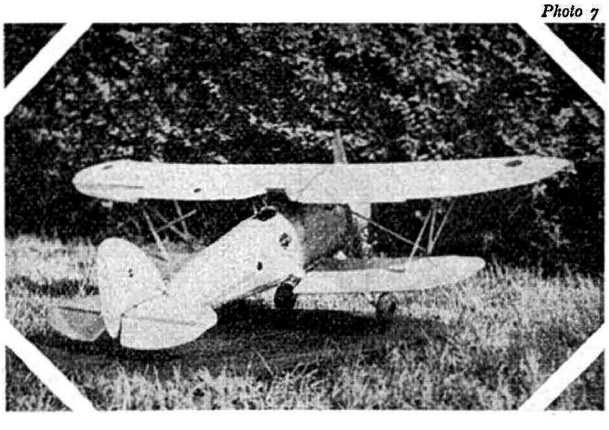


Photo 4, top, displays a disadvantage of a low roof! Photos 5, 6, 7, are of the author's biplane powered with an Ohlsson 23. Note the compact installation and neat cowling shown in Photo 6.

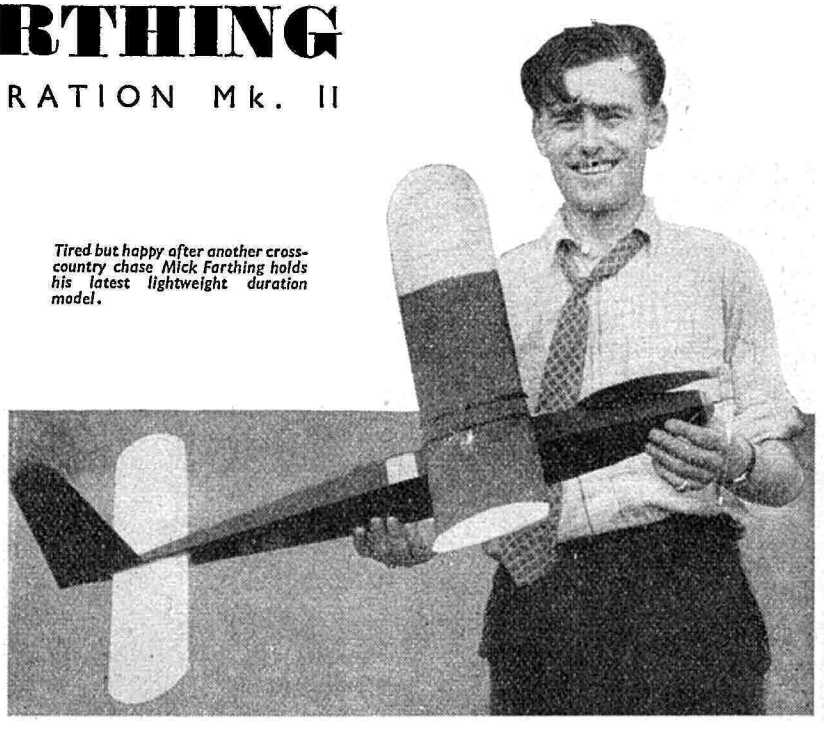
Photo 7



MICK FARTHING

LIGHTWEIGHT DURATION Mk. II

THE announcement of a new Mick Farthing design is an event as important to lightweight duration enthusiasts as the release of some new jet project is to full-size fans. In common with other well-known designers, Mick Farthing works steadily along the same general principles, improving a little at a time and incorporating new features only when they have proved themselves in the field. It is not surprising then that Mark II of the famous lightweight duration bears a family likeness to its predecessor, which has proved such a universally popular model. Several thousands of Mark I have been built and flown to victory in innumerable contests all over the country, besides giving a vast amount of flying time to their constructors. No one who has succumbed to the fascination of this branch of flying will be able to resist this latest design.



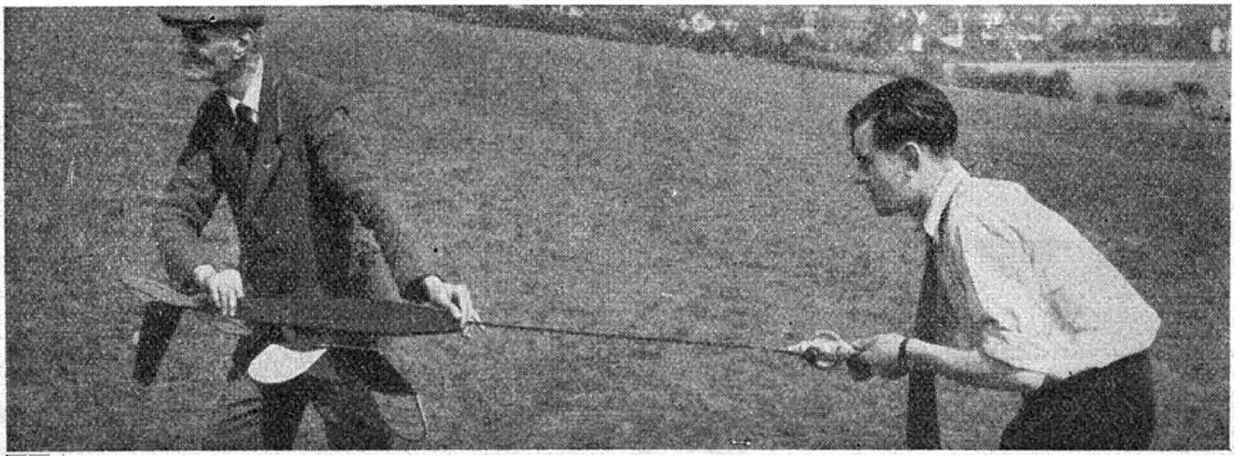
Tired but happy after another cross-country chase Mick Farthing holds his latest lightweight duration model.

For the benefit of those who have already built a Mick Farthing, the main improvements in Mark II are given. The diamond fuselage arrangement has been dropped in favour of a normal rectangular shape, which enables a stouter wire pylon to be fitted without soldering. Polyhedral is increased from 4 in. at tips to 5½ in., while 1/16 in. bamboo tips to mainplane and tailplane have given place to ⅛ sheet. Fixing of tailplane is neater and stouter, while an aluminium trim tab has been added to the fin. The characteristic undercart, now a plain length of wire without a wheel, retracts automatically flush against the side of the fuselage with negligible drag. The noseblock is held in place with bands instead of relying entirely on rubber tension. Altogether this represents nearly three years of work cleaning up the design and removing all those features that contribute to competition nerves. A comparison of Mk. I's 1943 times gives a fair indication of the improvement: Gamage Cup, 1943—agg. 484 secs.; M.E. No. 2, 1943—agg. 484·9 secs.; Mark II Gamage Cup, 1946—agg. 1,237 secs.

Newcomers to this highly developed branch of duration flying must not be misled in thinking lightweight necessarily means flimsy. The reverse is the case with Mick Farthing designs. Fuselage is stoutly constructed of 3/32 sq. hard balsa, mainplane leading edge is ⅜ sq., and trailing edge ¾ in. by ⅛ in. Very few of these models ever end their days in a crash—they are far more likely to be lost o.o.s. Fitted with an efficient dethermaliser there is no reason why they should not last the season, and give good flights when other types are grounded.

Full-size plans are available from AEROMODELLER Plans Service, Ltd., Newarke Street, Leicester, price 2s. post free.

The designer piles on the turns. The last critical hundred are going on and Mick Farthing walks in with a somewhat tense expression. His helper, too, wears that anxious look so common to rubber fans.



A 34" SPAN LIGHTWEIGHT DURATION MODEL

MICK FARTHING MK II

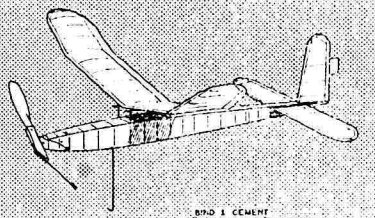
DESIGNED BY
MICK FARTHING

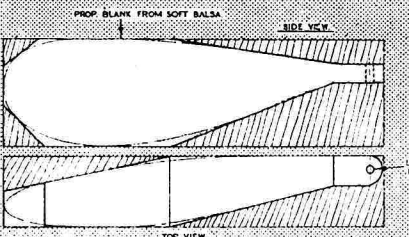
2/-

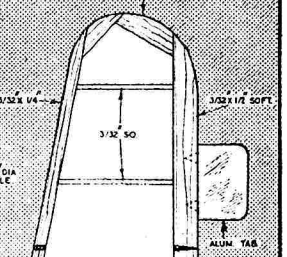
ALL WOODS USED UNLESS OTHERWISE STATED ARE BALSA

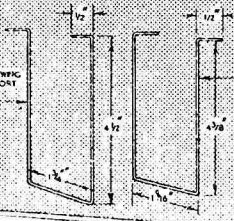
COVERING & DOPING

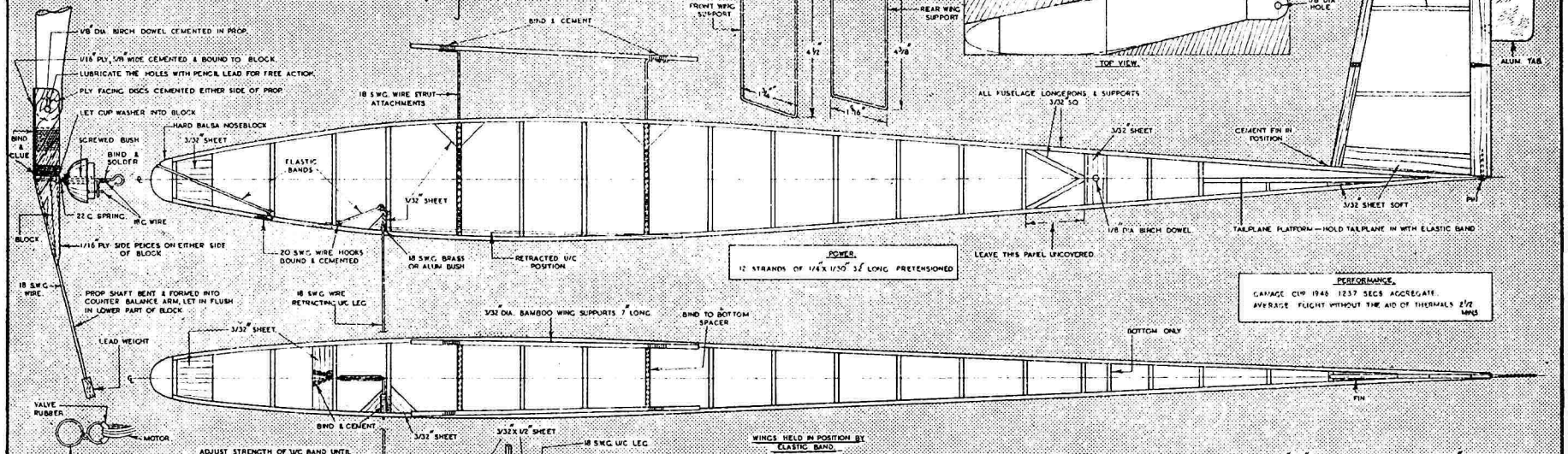
COVER ALL SURFACES WITH LIGHTWEIGHT TISSUE & WATER SHRINK WINGS & FUSELAGE ONLY APPLY ONE COAT OF BANANA OIL TO WINGS & FUSELAGE. DO NOT WATER SHRINK OR DOPE FIN & TAILPLANE.











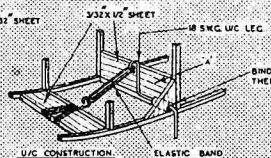
POWER.

12 STRANDS OF 1/4" X 1/30" 3' LONG PRETENSIONED

PERFORMANCE.

GARAGE CUP 1946 1237 SECS AGGREGATE.
AVERAGE FLIGHT WITHOUT THE AID OF THERMALS 2 1/2 MINS

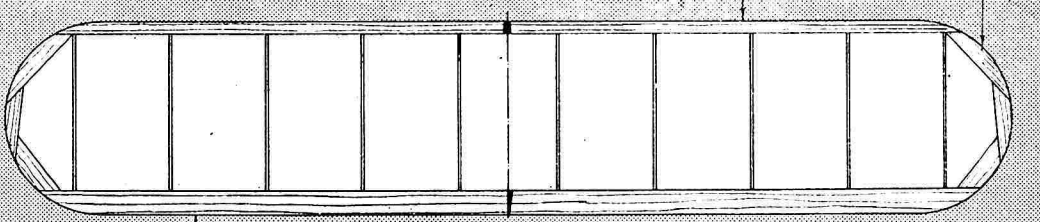
ADJUST STRENGTH OF U/C BAND UNTIL LEG IS JUST RETAINED VERTICAL BY WEIGHT OF MODEL WHEN ON GROUND, TO SNAP UP ALONGSIDE FUSELAGE ON TAKE OFF



U/C CONSTRUCTION.

NOTE — WIRE BENT UP INSTEAD OF WHEEL.

WINGS HELD IN POSITION BY ELASTIC BAND.

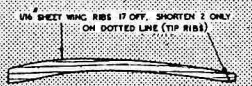


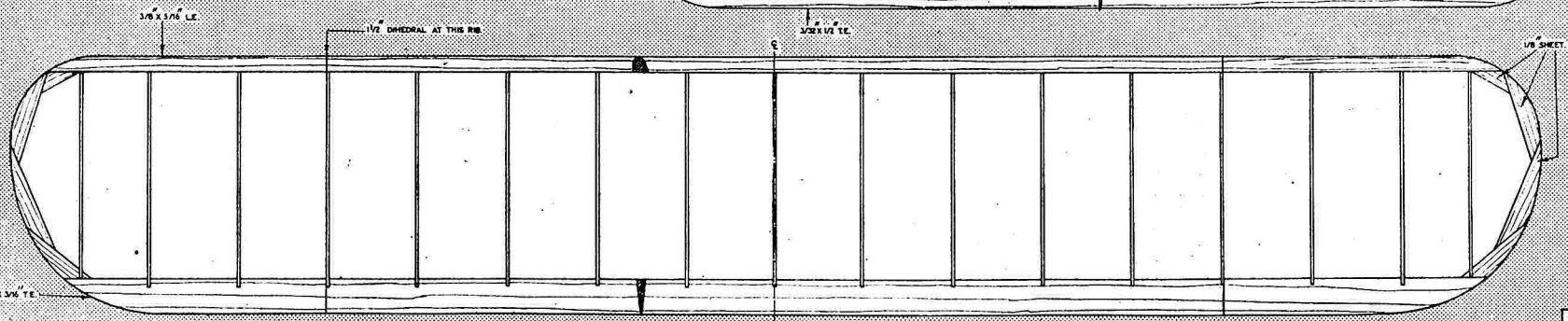
MATERIALS REQUIRED.

SHEET
1 SHEET OF BALSA 1/16 X 3" X 36"
1 " " " 3/32 X 3 X 24"

STRIP
9 STRIPS OF BALSA 3/32" X 3/32" X 36"
1 " " " 3/8" X 5/16" X 36"

MISC.
20" OF 18 S.W.G. PIANO WIRE.
4" OF 20 S.W.G. PIANO WIRE
3/16" = 18" " BRASS OR ALUM BUSH
1 PIECE OF 1/16" PLY 5" X 3"
1 BALSA BLOCK 8" X 3 3/16" X 1 1/2"
1 " " 2 1/2" X 5/8" X 5/8"
PIECE OF THIN ALUMINIUM 2 1/2" X 1/8"
14" OF 3/32" DIA. BAMBOO DOWEL
2 1/4 " 1/8" " BIRCH DOWEL





D 246

CIVIL AIRCRAFT No. 34.

THE DE HAVILLAND 104

DOVE

BY E · J · RIDING

This machine is now used as a demonstrator, all the flight development and handling trials being carried out on the second prototype, G-AGUC.

DE HAVILLAND commercial aircraft have given yeoman service on airlines all over the World for the last twenty-five years, and at the beginning of this year it looked as though the faithful Dragon Rapide was due for a new lease of life following the release of impressed machines from the R.A.F. Since last Autumn, however, rumours of a replacement type to be called the Dove—presumably in honour of the Peace—have materialised from Hatfield in the form of the first D.H.104, G-AGPJ.

The demonstration of this machine at the U N.O. display at Radlett in February of this year showed beyond doubt that the Dove would be a worthy successor to the long line of successful civil designs produced by the De Havilland enterprise. In its brief career the Dove advanced from a private venture design to be later adapted to specification 5B of the Brabazon Committee. The dorsal fin has been added to improve control when flying on one engine and this, together with minor alterations to the size of the tail surface trimmer tabs, and nose wheel shock leg, and the addition of the "cockatoo" aerial support have been the only visual departures from the original design.

For all-round passenger comfort, visibility and silent running, the Dove is as yet unsurpassed, and it is understood that 180 machines are on order for customers all over the world. Production is to be in the region of five or six a week from the Hatfield factory.

At the moment, nine Doves have been completed, and these have been issued with the following registration letters:—G-AGPJ, G-AGUC, CF-BNU, VH-AQO, G-AHRA, G-AHRJ, G-AHRI, G-AHRB and VP-YER.

The standard model seats eight passengers and two crew, but for short hauls the lavatory and rear baggage compartments can be cleared to accommodate three extra seats.

The first prototype, G-AGPJ, made its maiden flight on the twenty-fifth anniversary of the formation of the D.H. Company from the ashes of the old Aircraft Manufacturing Co., Ltd., on September 25th, 1945.

Construction.

Fuselage: All metal monocoque, built in three portions, the centre one being integral with the wing centre section. Wings: Single spar, metal covered. Rudder, elevators, ailerons and flaps: Metal with fabric covering. Four fuel tanks, two each of 26 and 39 gallons capacity are housed in the centre portion of the wing between the engine nacelles and the fuselage.

Power is supplied by two 270/285 h.p. direct injection, geared and supercharged, inverted D.H. Gipsy Queen 70 engines, driving D.H. hydromatic constant speed feathering and braking three-bladed airscrews.

Colour.

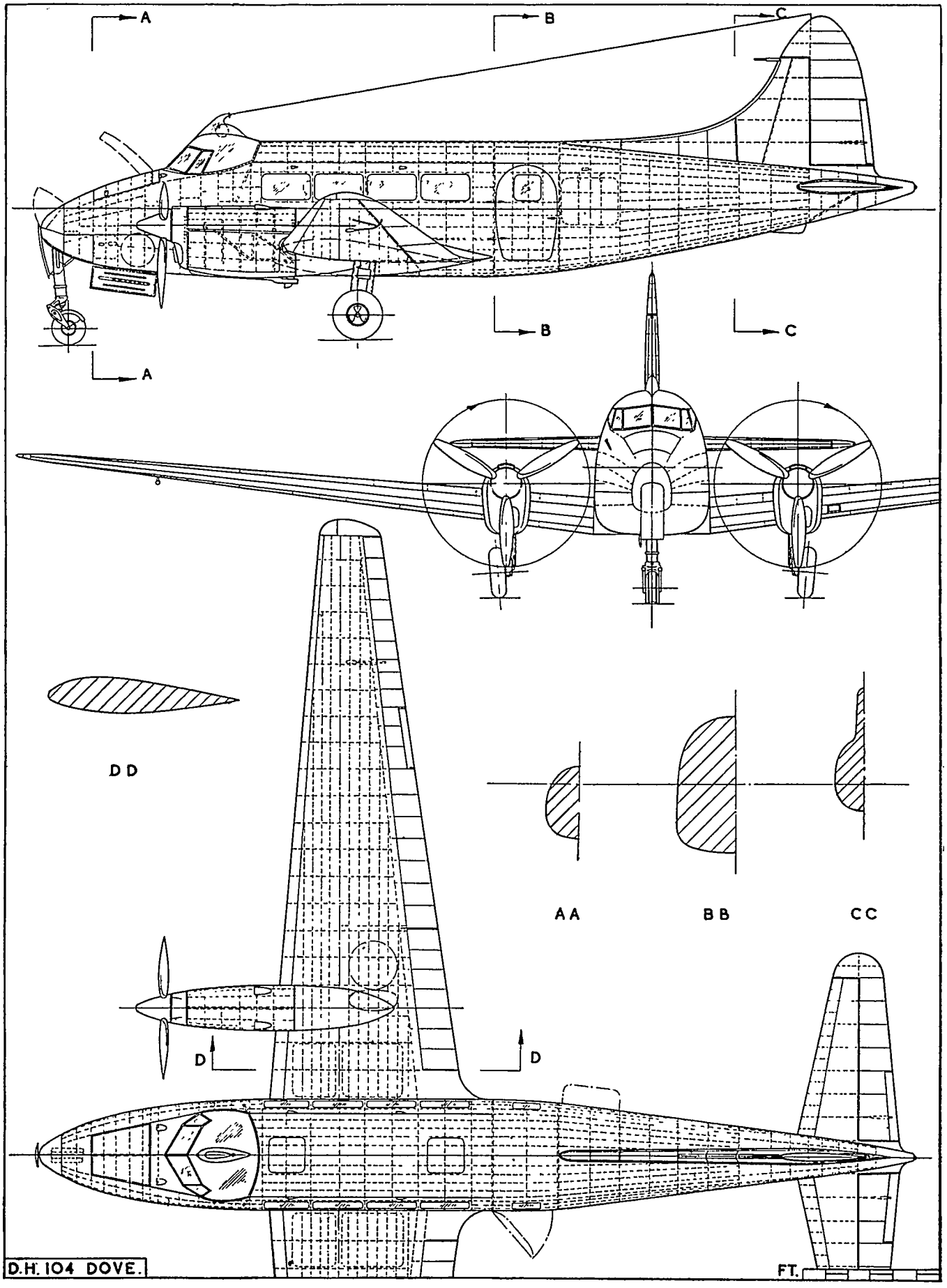
Prototype G-AGPJ, natural metal finish all over, fabric parts doped aluminium. Letters and nose apron dull cobalt blue, outlined in white.

Second prototype, G-AGUC, is similar but with deep maroon letters outlined in white. This month's cover painting by C. Rupert Moore, A.R.C.A., shows this machine as it was before it was found necessary to add the anti-dazzle nose apron, which is of the same colour.

Specification.

Length: 39 ft 4 ins. Span: 57 ft. Height: 13 ft. 4 ins. Wing area: 335 sq. ft. Weight (empty): 5,625 lbs. Weight (max.): 8,500 lbs. Speed (max.): 222 m.p.h. Speed (cruising): 155 m.p.h. Ceiling: 18,500 ft. Price: £14,000.

Photo: P. A. Renter.



D.H. 104 DOVE.

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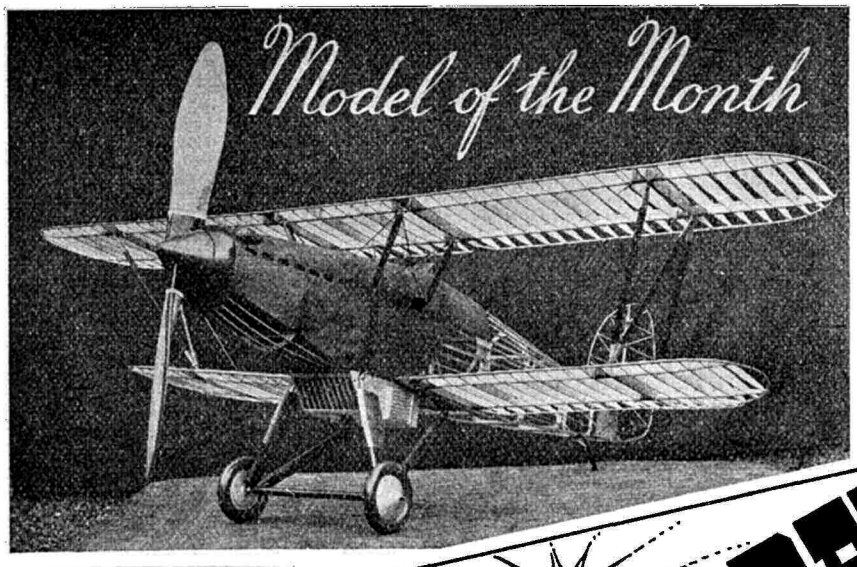

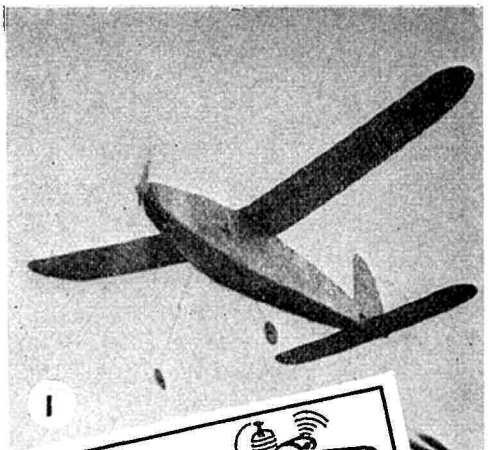

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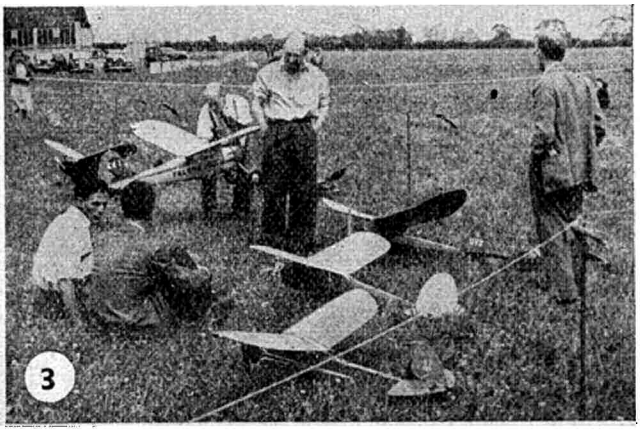

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MODEL NEWS

SELECTED ITEMS BY FLIAR PHIL

MALMSTRÖM

THE long days have departed, and Fliar Phil makes the most of the few fine days left before getting down once again to his winter building programme.

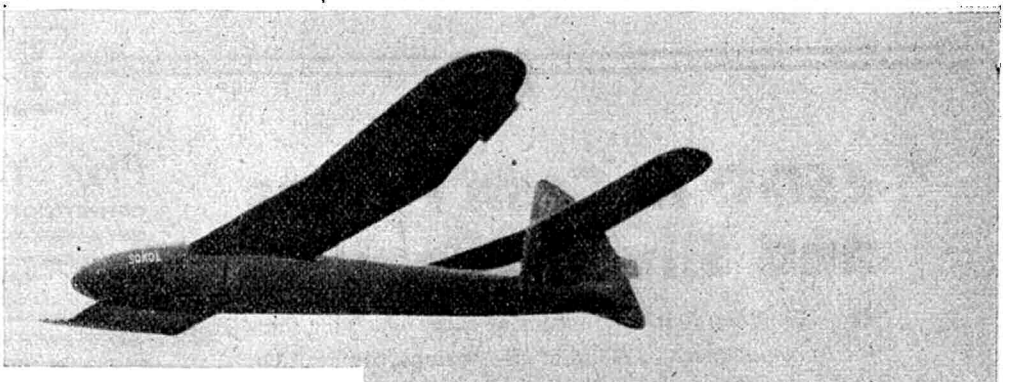
Our Model of the Month is a tribute to the skill of Mr. H. T. Jackson, of Watford, whose *chef d'œuvre* it is. Built many years ago, when the prototype Fury was only just flying, this truly wizard flying scale model features refinements far too numerous for cataloguing here. An eight-skein motor geared down 2 : 1, correctly streamlined rigging, vernier tailplane adjustment; these are only a few of the details which make this model way out of the rut. Mr. Jackson's interests turned to locomotive building, and the model became an exhibit to spur on the members of the Watford club, but he is thinking of staging a come-back with a jet project with which he is at the moment experimenting. Good luck, Mr. Jackson!

To Photo 1, in which an old Plans Service favourite makes an appearance at Eaton Bray. This model of the G.H.20 was built by the research staff when the plan was first issued and still clocks its two minutes without thermals and without difficulty.

The Victory Championships, held at Eaton Bray on July 14th, saw a hearty tussle for most of the generous cash prizes offered, and there was no doubt as to the quality of the flying. E. J. Buxton, of St. Albans, lightweight devotee and former Mick Farthing "mechanic," won the duration event with the aid of the model shown in Photo 2, his time being 387 secs.; not bad in any weather!

Photo 3, taken at the same meeting, gives a view of the competitors' enclosure during the petrol event. Old-stagers Eddie Keil and G. W. W. Harris can be seen with their models.

Our S.O.S. for news of elusive Mick Smith has so far brought no



results, but Fliar Phil sees signs of his workmanship in this beautiful petrol model in Photo 4, taken by F. J. Standerwick, of Iver, Bucks. The model was photographed at the Northern Heights Gala Day, at Langley, so can anyone put us in touch with its designer ?

Leaving the flying field (pun unintentional), we turn to a fine example of the solid modeller's art in Photo 5. This delightful Brisfit, minutely detailed as the photo shows, has twelve 20-lb. bombs, Lewis gun and Scarffe ring, tropical radiator, navigation lights, etc., all modelled to dead scale by K. A. Winkley, of Bristol.

A visit abroad would be unusual if it did not yield many photographs of places and personalities, and Fliar Phil extracts Photo 6 from his album to give an insight into the intensive programme of research into unorthodox models taking place on the Continent. Arnold Watteyne, our well-known Belgian correspondent, canard expert and experimenter, is seen with a new " rotator-plane," a helicopter type of model which is receiving much of his attention nowadays.

Whit-Monday visitors to Eaton Bray saw a genial figure wrestling with a large sailplane during the squalls which attended that occasion, and many recognised our old friend L. G. Temple. The elegant model was the A.P.S. Sokol, which demonstrated its heavyweight gliding qualities even in those weather conditions (Photo 7).

Last on the Model News list is another model which is shortly to join the A.P.S. range. In Photo 8, F. G. Birden's " Allwing " glider, something new in tailless glider designs, takes a bow. The model shown here is an early version, which later development turned into the " Floating Kidney," joining Plans Service shortly. The name, by the way, was given unanimously by the Research Staff after watching the first test flight.

Till October, Fliar Phil bids " adieu," beaches himself on a piece of Brighton rock and throws his pencil out to sea.

DAILY EXPRESS

BRITAIN'S THIRD NATIONAL MODEL AIRCRAFT EXHIBITION

in association with The **AEROMODELLER**

★ £500 in Cash Prizes and Silver Trophies

● This is the first announcement of the year's big show for Aeromodellers. A list of the various competitions is given in the centre column. Decide now which will have your entry. Enter, too, for the "Dorland" Model Contest, details of which are given in the right-hand column.

The Exhibition—bigger and better than ever before—is again to be held at

★ DORLAND HALL

LOWER REGENT ST., LONDON, S.W.1

● Lord Winster, K.C., Minister of Civil Aviation, will open the Exhibition on Thursday, 12th December. Many attractions have been planned, including four models IN FLIGHT. So that entries can be sent without fear of damage, special stout boxes for despatching models are available at a low cost. All entries will be fully insured.

Write now for Entry Form and Rules to "The Aeromodeller," Allen House, Newarke Street, Leicester.

No Entrance Fee to Pay!

Plan Your Entry Now—Competitions for All!

COMPETITION NO. 1

Class A—NATIONAL CHAMPIONSHIP.

Open to Competitors above the age of 16 years for the finest entry irrespective of type.

Prize—£25 and Solid Silver Trophy, to the value of £30, to be held for one year.

Class B—JUNIOR CHAMPIONSHIP.

Open to Competitors of 16 years and under for the finest entry irrespective of type.

Prize—£15 and Solid Silver Trophy, to the value of £20, to be held for one year.

COMPETITION NO. 2.

NON-FLYING MODELS.

Class A—FOR MODELS OF 1/72nd SCALE AND UNDER (built by Competitors above the age of 16 years).
First Prize, £5; Second Prize, £3; Third Prize, £2.

Class B—FOR MODELS OF 1/72nd SCALE AND UNDER (built by Competitors 16 years of age and under).
First Prize, £5; Second Prize, £3; Third Prize, £2.

Class C—FOR MODELS ABOVE 1/72nd SCALE (built by Competitors above the age of 16 years).
First Prize, £5; Second Prize, £3; Third Prize, £2.

Class D—FOR MODELS ABOVE 1/72nd SCALE (built by Competitors of 16 years and under).
First Prize, £5; Second Prize, £3; Third Prize, £2.

COMPETITION NO. 3.

DURATION MODELS.

Class A—DURATION MODELS OF ANY TYPE (built by Competitors above the age of 16 years).
First Prize, £5; Second Prize, £3; Third Prize, £2.

Class B—DURATION MODELS OF ANY TYPE (built by Competitors 16 years of age and under).
First Prize, £5; Second Prize, £3; Third Prize, £2.

Class C—"WAKEFIELD" FORMULA DURATION MODELS (built by Competitors above the age of 16 years).
First Prize, £5; Second Prize, £3; Third Prize, £2.

Class D—"WAKEFIELD" FORMULA DURATION MODELS (built by Competitors 16 years of age and under).
First Prize, £5; Second Prize, £3; Third Prize, £2.

COMPETITION NO. 4.

FLYING SCALE MODELS.

Class A—TO ANY SCALE (for Competitors above the age of 16 years).
First Prize, £5; Second Prize, £3; Third Prize, £2.

Class B—TO ANY SCALE (for Competitors of 16 years of age and under).
First Prize, £5; Second Prize, £3; Third Prize, £2.

COMPETITION NO. 5.

MODEL WATER PLANES.
(Seaplanes and Flying Boats.)

Class A—(For Competitors above the age of 16 years).
First Prize, £5; Second Prize, £3; Third Prize, £2.

Class B—(For Competitors of 16 years and under).
First Prize, £5; Second Prize, £3; Third Prize, £2.

COMPETITION NO. 6.

MODEL SAILPLANES.

Class A—FOR MODELS UP TO AND INCLUDING 48-IN. SPAN (built by Competitors above the age of 16 years).
First Prize, £5; Second Prize, £3; Third Prize, £2.

Class B—FOR MODELS UP TO AND INCLUDING 48-IN. SPAN (built by Competitors of 16 years of age and under).
First Prize, £5; Second Prize, £3; Third Prize, £2.

Class C—FOR MODELS EXCEEDING 48-IN. SPAN.
First Prize, £5; Second Prize, £3; Third Prize, £2.

COMPETITION NO. 7.

FREE LANCE PETROL MODELS.

First Prize, £5; Second Prize, £3; Third Prize, £2.

COMPETITION NO. 8.

FLYING SCALE OR SEMI-SCALE PETROL MODELS.

First Prize, £5; Second Prize, £3; Third Prize, £2.

COMPETITION NO. 9.

TAILLESS MODEL AIRCRAFT.
(Powered or Glider.)

First Prize, £5; Second Prize, £3; Third Prize, £2.

COMPETITION NO. 10.

EXPERIMENTAL MODEL AIRCRAFT.

First Prize, £5; Second Prize, £3; Third Prize, £2.

COMPETITION NO. 11.

FREE LANCE MODEL AIRCRAFT ENGINES.

First Prize, £5; Second Prize, £3; Third Prize, £2.

COMPETITION NO. 12.

MODEL AIRCRAFT RESEARCH EQUIPMENT.

First Prize, £5; Second Prize, £3; Third Prize, £2.

● *Competitors are classed as over or under 16 as at December 1st, 1946.* ●

—and a Building COMPETITION—

THE "DORLAND"

National Model Aircraft BUILDING CONTEST

for the best built Model from the 'Aeromodeller' plan of the 'Dorland'

● The "Dorland" is an attractive semi-scale model for which plans and instructions are now ready. Prizes will be awarded to the best built models received from each of twelve areas into which the country will be divided. There are no rules, other than that the model must be built to the "Dorland" plan (3/- from Aeromodeller Plans Service) and that a simple performance certificate must be submitted by the entrant.

CASH PRIZES OF £20
and Silver Trophy valued at £20 for each winner of two classes, Second Prize £10, Third Prize £5 for each of two classes.

Each Area Winner will receive £2 10s.

● SENIOR Class Competitors of above 16 yrs.

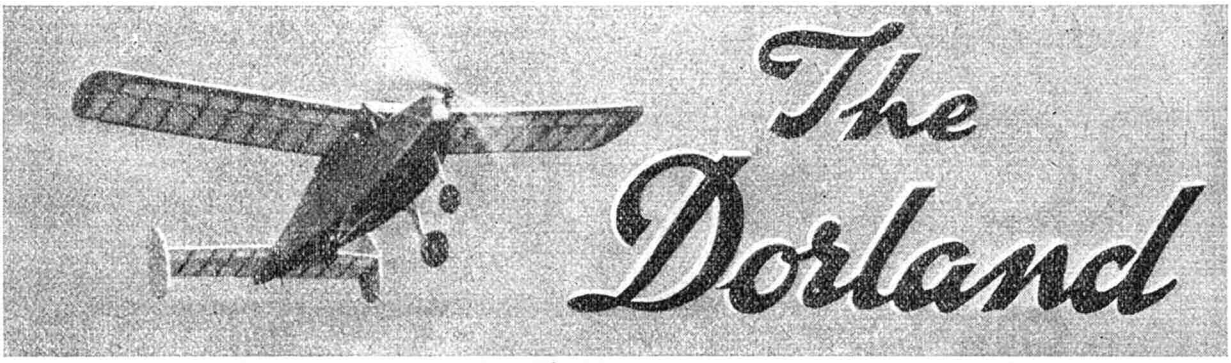
● JUNIOR Class Competitors of under 16 yrs.

Models to be built by the entrant to the "Dorland" plan. A performance certificate to be submitted signed by three witnesses confirming that the model has achieved a flight of 60 seconds minimum duration for the Seniors and 30 seconds minimum duration for the Juniors.

All Winning Entries will be on SHOW at DORLAND HALL where final Judging takes place.

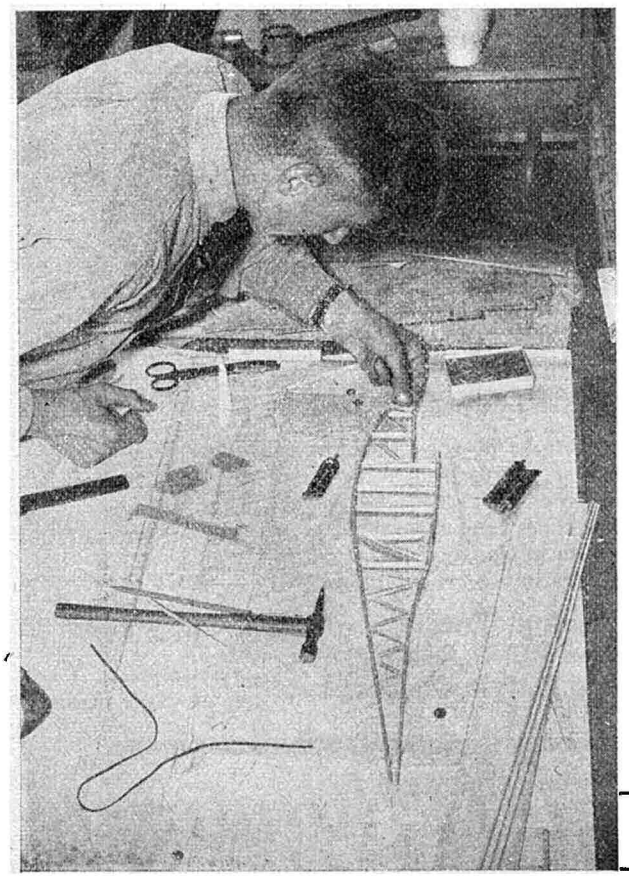
★ *Look-out for a further announcement to be given in the October "Aeromodeller"*

Exhibition Opens on Thursday 12th December to Saturday 11th January



A 35" SPAN SEMI-SCALE MODEL DESIGNED BY THE AEROMODELLER STAFF

THE whole strength of the AEROMODELLER Research Department was mobilised to produce the "Dorland," and, without undue self-praise, feel that their efforts have resulted in a model that combines the best features of the semi-scale and duration formulæ. The specification demanded a design that, while within the capabilities of the veriest beginner, was yet sufficiently pleasing in lines to attract the expert. The general appearance is reminiscent of the latest trends in civil aircraft, with its tricycle undercarriage and twin fins, while normal slabside construction and flat lower surface to the wings ensure that the major portion can be built on the plan Performance will satisfy the most carping critic—its take-off run is short and exceptionally steady, the climb truly remarkable. In the air its twin fins lend excellent directional stability, keeping it headed into the lifting wind long after most models have turned. In the unfortunate event of a hard landing the sturdy construction and sprung nose wheel take care of even the nastiest prangs. But we have said enough, it is hoped, to rouse the urge to build and possess a "Dorland."



Fuselage.

Lay a sheet of greaseproof paper over the drawing, pin top longeron in position, steam two bottom longerons together and pin one on plan. Add uprights and diagonal braces and also the sheeting for the rear motor peg. When first fuselage side is completed, carry straight on building the second side on top (see Fig. 1). When dry, lift from plan and separate two sides with a razor blade.

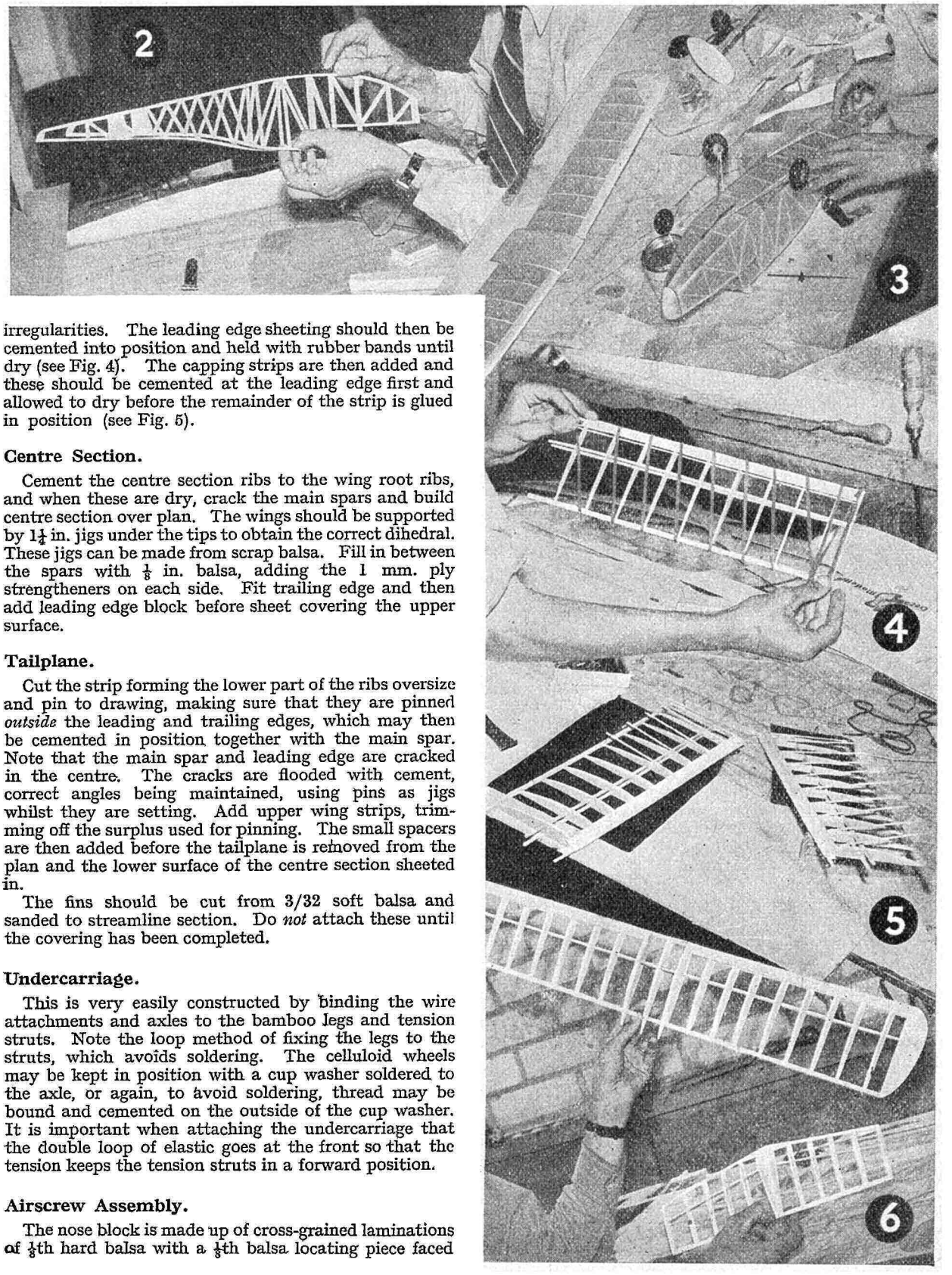
Whilst fuselage sides are drying, construct centre keel and prepare 1/32 in. sheet side strengtheners. Add strengtheners to sides after separation; note that they are cemented on the *inside*.

Cement two sides together at the rear of the fuselage and grip with a bulldog clip; insert cardboard templates and hold in position with rubber bands. Square up fuselage and check for alignment, then fit and cement nose formers in position, holding with pins and rubber bands. Attach the centre cross-pieces first, both at the top and bottom of the fuselage; follow with the remainder. Fit former No. 2, cement, and then insert keel. Add formers 1 and 3. When dry fit nose stringers, undercarriage attachment plates, also the various attachment hooks and front undercarriage tube, binding keel fore and aft of this tube. The nose and the tailplane platform should then be sheeted in. Note that the windows and tailplane fairing are added *after* covering.

Mainplanes.

Pin down leading and trailing edges and lower spar, making sure that the spar is long enough to mate with its opposite number at the centre section. Cement ribs in position, and when dry, add top spar and the 1/16 spars that support the sheeting. Build up laminated wing tips, shape, and cement in position. When dry, remove wing from plan, fine sandpaper being used to remove

Fig. 1. The two fuselage sides are shown here pinned down on the plan. Note the greaseproof paper preventing the framework sticking to the drawing.



irregularities. The leading edge sheeting should then be cemented into position and held with rubber bands until dry (see Fig. 4). The capping strips are then added and these should be cemented at the leading edge first and allowed to dry before the remainder of the strip is glued in position (see Fig. 5).

Centre Section.

Cement the centre section ribs to the wing root ribs, and when these are dry, crack the main spars and build centre section over plan. The wings should be supported by 1¼ in. jigs under the tips to obtain the correct dihedral. These jigs can be made from scrap balsa. Fill in between the spars with ⅛ in. balsa, adding the 1 mm. ply strengtheners on each side. Fit trailing edge and then add leading edge block before sheet covering the upper surface.

Tailplane.

Cut the strip forming the lower part of the ribs oversize and pin to drawing, making sure that they are pinned *outside* the leading and trailing edges, which may then be cemented in position together with the main spar. Note that the main spar and leading edge are cracked in the centre. The cracks are flooded with cement, correct angles being maintained, using pins as jigs whilst they are setting. Add upper wing strips, trimming off the surplus used for pinning. The small spacers are then added before the tailplane is removed from the plan and the lower surface of the centre section sheeted in.

The fins should be cut from 3/32 soft balsa and sanded to streamline section. Do *not* attach these until the covering has been completed.

Undercarriage.

This is very easily constructed by binding the wire attachments and axles to the bamboo legs and tension struts. Note the loop method of fixing the legs to the struts, which avoids soldering. The celluloid wheels may be kept in position with a cup washer soldered to the axle, or again, to avoid soldering, thread may be bound and cemented on the outside of the cup washer. It is important when attaching the undercarriage that the double loop of elastic goes at the front so that the tension keeps the tension struts in a forward position.

Airscrew Assembly.

The nose block is made up of cross-grained laminations of ⅛th hard balsa with a ⅛th balsa locating piece faced

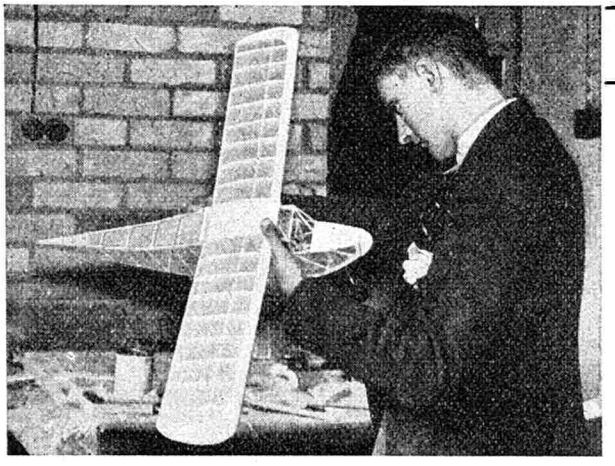


Fig. 7. The prototype nears completion, here the mainplanes are being checked for fit.

with the 1 mm. ply centre-piece cut from the front former. A 16 s.w.g. screwed bush should then be firmly cemented in position, together with the nose-retaining hooks if these are desired.

The airscrew is carved in the usual way from the block dimensions given on the plan, or a standard 12 in. hardwood airscrew may be purchased and cut down to size.

The airscrew shaft is shaped from 16 s.w.g. and a simple pin-type freewheel fitted. A ball thrust race is recommended, failing which, two cup washers may be substituted.

Covering.

The best possible grade of tissue should be obtained and applied with photo paste or dope in the usual way. If the new British tissue resembling blotting paper is used, note that this should not be water-shrunk. This tissue was used on the prototype and is thoroughly recommended, for when doped, it is exceptionally strong in spite of its flimsy appearance in its natural state. Do *not* cover the end of the tailplane ribs, as this prevents a strong joint being made when the fins are cemented in position. Give the flying surfaces one coat of clear dope and the fuselage two coats. Colour and trimming may be applied according to individual taste.

Assembly.

Cement fins to the end of the tailplane. Assemble model and check for alignment *before* conducting any flying tests.

Power.

Ten strands of $\frac{1}{4}$ in. rubber are employed, tensioned by the " Lance " method. That is to say, before attaching the bobbin to the airscrew shaft, divide the motor into equal strands and then pass the bobbin through the centre of the motor a number of times until it is shortened sufficiently. (See perspective sketch on plan.) The motor will stand 750 turns in safety, our test motor breaking at 788 turns.

Some of our readers may not yet be in a position to obtain ample supplies of natural rubber in this size, in which case we give the following alternative:—12 strands of 3/16 in. or 20 strands of 1/8 in.

Trimming and Flying.

Final trimming may be obtained by means of the fins. Coats of banana oil are applied if weight is required at the tail, and if the reverse, the fins may be sanded down to a thinner section.

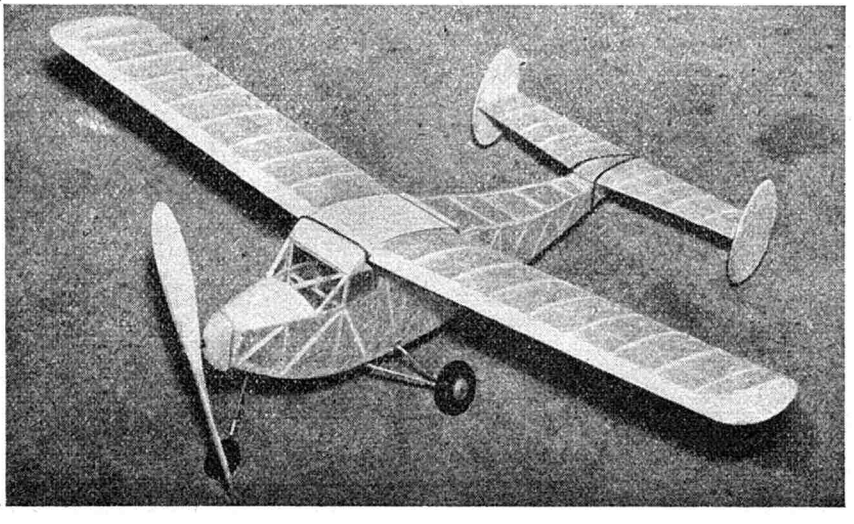
A satisfactory glide should first be attained over long grass and then R.O.G. flights may be attempted. Two hundred turns were given on the prototype for the first flight, this prevents the model from attaining too great a height in the event of further adjustment being necessary under power. Increase the number of turns by 50 per flight, adding any further side or down-thrust if necessary, but this should not be found necessary as it has already been built in on the plan. The model should circle against torque, very little rudder being needed.

R.O.G. test flights with the prototype were as follows :—

200 turns—20 secs.
400 turns—45 secs.
600 turns—71 secs.

Conditions during test flying: dull weather, gusty winds varying from 20 to 30 m.p.h. Date: 8th August, 1946.

Fig. 8. Note the sturdy and compact look of the completed models.



DOUBLE EXPOSURE

A McGILLICUDDY SESSION IN CAMERA by R. JAMIESON

AS the Maestro reached the door he turned and gave us another round of the guns. "Ach! You're daft, the whole lot of you," he roared. "Because you've no brains yourselves you'll no listen to folk with ideas. You'll never get the money, and if I had any I'd just keep it to myself."

In the silence that followed the slamming of the door no one spoke. Auchengargle M.A.C. were in serious financial difficulties, and McGillicuddy's suggested way of raising the wind had been very coolly received. He had suggested holding a flag day, with the prettiest girls in town to do the box rattling and selling on a commission basis. The few honest minds present had at once pointed out that this would be dishonest; that permission would have to be obtained, and that in any case Auchengargle M.A.C. was not on the list of registered charities.

The Maestro had brushed all objections aside.

"Ach! Half the time folk buy flags they don't know what the thing's in aid of," he had said. "When a lassie rattles a box at you and smiles, you just pay up your tuppence and never look at the flag—we could call it Aeroplane day."

But his plan was turned down, and he walked out in disgust.

With the Maestro safely out of the way, McSwindle pulled a crumpled newspaper out of his pocket with an air of great excitement. "Look!" he said.

It was a copy of the "Teuchle Toorie Times," offering £50 in prizes for snapshots. It was their "Happy holiday snaps" competition, and there were sections for bathing beauties, local beauty spots, sports and pastimes, etc., etc.

"A picture of my new seaplane, just taking off—that would be almost certain to win the sports and pastimes section," McSwindle averred.

That seemed true enough. The model was a very nice piece of work; and a snap such as he suggested would have a good chance. I had a camera, but—alas—no spool for it.

"Snooky Munroe has a spool," McSwindle told me. "He's got it hidden in the club here—scared his brother pinches it."

"He'll half kill us if he finds out, I objected. "He wants that spool to take pictures of his girl friend when she comes here on holiday—and you know how scarce these things are—can't buy them anywhere."

"That'll be all right," McSwindle assured me. "Snooky is done with women—I saw him last night and he was calling them all the names he could think of."

"Did you ask him for the spool?" I demanded.

"Not exactly," McSwindle said, "but—och! we've got to take a chance. Lend me your camera, Bob; we'll show that old twister that he's not the only one in the club with brains . . . "..

It was a golden summer's day when McSwindle, the writer, the camera, the borrowed spool and the model set off for the beach to take what we fondly hoped would be the prize-winning snap. The seaplane's proud owner had already decided on the caption for the picture. "We'll call it 'Mr. M. T. McSwindle's beautiful model seaplane taking off on its maiden flight'" he said.

I objected that his proposed title was rather long and cumbersome, but by this time we had reached the beach, and the shrill cries of the revellers turned his mind to another tack.

"I've got two young friends of my niece staying with us," he informed me, "and I sort of half promised to take a snap of them in their new bathing costumes; they call them two-piece costumes—but och! we've no time for that kind of nonsense—and there's only eight pictures on the spool—we can't afford to waste any taking pictures of lassies in bathing costumes. We'll just say we never saw them."

Knowing McSwindle's weakness where ladies was concerned, I steered him tactfully to a secluded corner of the beach. On the shore of a calm little cove we assembled the model; I removed my shoes and stockings, and waded into the shallows with the model, while Swindle—well versed in the jargon of Hollywood—began crawling about on his stomach in search of what he called camera angles.

While thus engaged, the peace of the tiny bay was suddenly shattered by shrill calls of "Yoo-hoo, caught you—there you are," and similar greetings, and in an instant the blushing camera man was surrounded by a bevy of lissome damsels, becomingly unattired in what the magazines describe as "Stunning beach wear."

McSwindle was stunned all right. From my watery stance knee-deep in the shallows I protested in vain. I exhorted him to remember the path of duty; that we

could only take eight pictures—that we were trying to win a competition—that the spool didn't belong to us. I might as well have talked to the clubroom wall. Indeed, it is doubtful if he even heard me, half deafened as he was by the eager chattering and laughing of the girls.

" Take Joan by herself, then Mary and I together. Then one of Morgg sitting on the breakwater, and another of Margaret with her feet in the water—and after that take us all with you sitting in the middle."

Collecting the model, I waded ashore. Before I realised what was happening I had the humiliation of being obliged to take a picture of McSwindle—grinning fatuously—sitting in the midst of a group of girls in bathing costumes. It seemed as though we were bewitched, and, with a sudden sense of disaster, I saw the fatal figure " 8 " appear in the little red window at the back of the camera. All of our one film was exposed—and we hadn't taken a single picture of the model.

The moment the last film was taken, the girls—fickle jades—dashed off. When the spell of their presence was removed, McSwindle seemed to come to his senses.

" Bob ? " he asked in despair, " what are we going to do now ? "

" It's your fault," I told him sternly, " you encouraged them.

" Ach ! You're just as bad as me," he retorted, " you helped them to pose, didn't you ? "

While we were engaged in this futile wrangling, a shadow fell over us, and we looked up to see the Maestro gazing at us sternly.

" Bob ! " he said to me, " do you know anything about a camera spool that Snooky Munroe had hidden in the club ? "

I said nothing, but the guilt must have shown on my face. McGillicuddy shook his head sadly.

" A sad day for the club, Bob, when you start interfering with other members' private property."

" But we wanted to take a picture of Mac's seaplane for the competition."

McSwindle produced his copy of the newspaper. The Maestro read about the prizes and handed the paper back.

" Well—did you get the photos ? " he asked McSwindle.

The seaplane owner hummed and hawed, shuffled his feet and tried to change the subject ; but McGillicuddy was adamant, and, bit by bit, he elicited the whole sordid story. When he learned the fate of the precious spool, his anger was terrible.

" I'm ashamed of you both," he roared. " You're a disgrace to the club. To think that a couple of grown men—and accomplished aeromods, too—should so far forget themselves as to waste a whole spool taking pictures of silly lassies in bathing costumes. If the spool had belonged to you it wouldn't have been so bad but you snitched it. And to think that you had the chance to put the club on it's feet—and do some good for the aeromodelling movement at the same time."

" What are you beefing about ? " McSwindle retorted. You were going to pick good-lookers to sell your flags, weren't you ? "

" That's different," the Maestro replied. " That was business. Taking pictures of girls in bathing costumes is just a waste of time and money. But that wasn't what I came here to talk about. Snooky Munroe is looking for his spool—his girl friend is here, and he wants some pictures of her. He knows that Bob is the only member with a camera. He's just about wrecked the clubroom looking for his film—but he's bound to remember soon that Bob has a camera, then he'll put two and two together—and come thirsting for your blood."

" What are we going to do ? " I asked in fear. Snooky Munroe was apt to get tough when roused.

McGillicuddy gave a sarcastic snort. " I wouldn't have thought," he said bitterly, " that two lads so full of bright ideas would have come to me for advice—you never listen to my suggestions in any case."

" But if Munroe finds out we took his spool," McSwindle wailed.

The ever-resourceful Maestro stepped into the breach.

" I think you'd better give me the spool," he said, " and I'll take the blame for the whole business."

" But what'll you say to Snooky ? " we stammered in our gratitude.

" Ach ! I'm going away for a few days' holiday," he assured us, " and by the time I get back Snooky will have forgotten all about his spool."

" But let this be a lesson to you," he continued sternly, as I extracted the film from the camera and handed it to him." Never waste a good spool taking snaps of lassies in bathing costumes when you've a nice-looking model to take pictures of."

* * *

So the next few days passed uneventfully. McSwindle and I sympathised with Snooky in the loss of his film. We even encouraged him by enlarging on the Maestro's perfidity, and assuring him of our full support when the reckoning for the stolen film should come. But McGillicuddy triumphed as ever. When the result of the competition was announced, McSwindle gazed at the paper listlessly. Then, suddenly, his face went the colour of beetroot. He raised his clenched fists and gave vent to a bellow of rage that shook the rafters.

As the paper fluttered to the floor, I saw the cause of his anger. " First prize in our happy holiday snaps competition has been awarded to Mr. H. B. McGillicuddy for his beautiful study of a bathing girl. He calls his exquisite picture ' Mermaid Ashore,' and assures us that he took it on our own beach at Teuchle Toorie . . . "

GADGET REVIEW By "Consus"

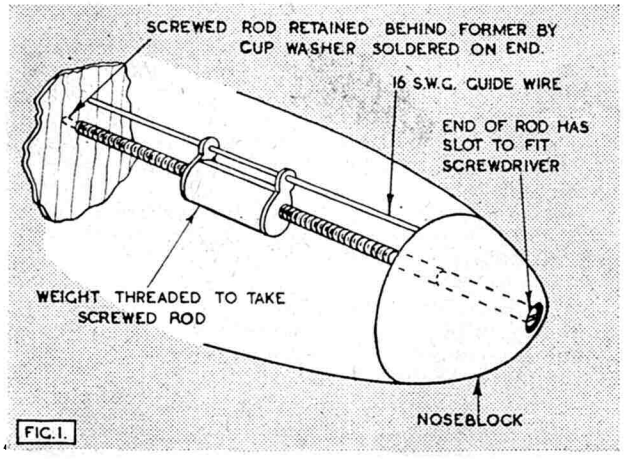


FIG. 1.

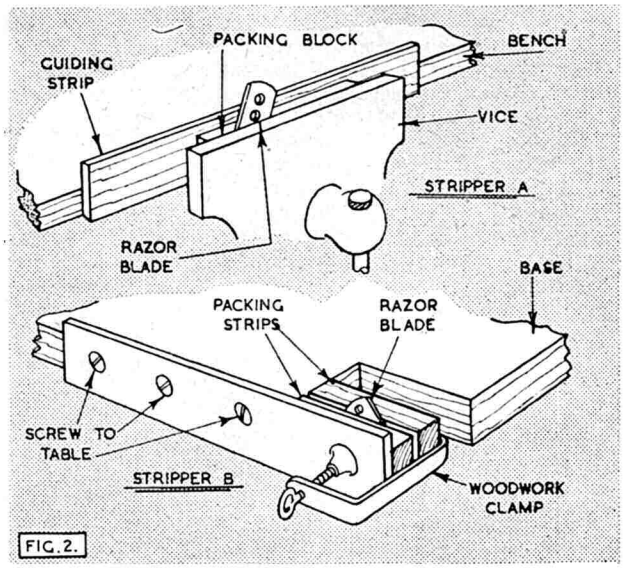


FIG. 2.

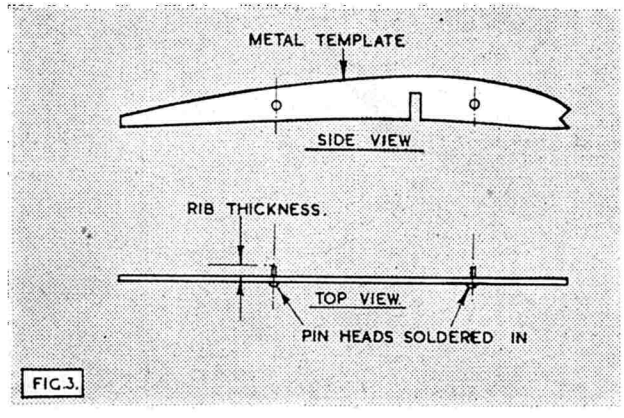


FIG. 3.

WITH winter months ahead, there will be plenty of time available for getting down to the design and construction of that super model which will fly off with all the honours next year. Gadgeteers will already be racking their brains for more amazingly efficient devices to aid their thermal-hunting, so Consus co-operates once again with some more ingenious ideas from his postbag.

Many modellers alter their glider's trim by twisting the noseblock, which in turn moves an adjustable weight on a threaded rod. This method has obvious disadvantages, neatly overcome by D. STOLLERY, of Halifax, who fits his models with the device shown in Fig. 1.

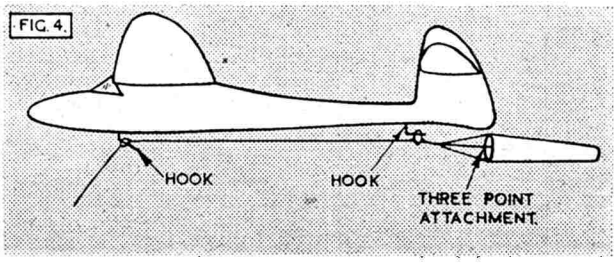
Also from D. STOLLERY comes the idea for the two simple balsa strippers shown in Fig. 2. No actual construction is necessary, the razor blade and suitable size packing pieces being merely inserted in the vice or the clamp. The width of packing between the blade and the guide governs the width of the strip cut.

To cut every rib accurately in a constant chord rib is a ticklish business with the aid of an ordinary template, but T. WOODERSON'S improvement (Fig. 3) ensures that the template will not slip and halves the cutting time.

Many gadgeteers have devoted a lot of thought to the problem of glider launch. B. S. SIMMONS, of Cranfield, has discovered a simple system to prevent a glider "hunting" on the line (Fig. 4). Two hooks are fitted as shown, and the towline is equipped with two rings at suitable positions. Note that the forward hook should be longer than the rear hook, in order to allow the rear ring to disengage first, thus preventing a tug on the tail stalling the model off the line. A small, light drogue is attached to the rear ring, on enough line to prevent any fouling of the fin. A drogue about 8 in. long by $1\frac{1}{2}$ in. diameter is big enough for models up to 5 ft. span, a good material to use being light silk. The ends should be kept open by means of 24 s.w.g. wire hoops.

Another gadget for the glider boys is contributed by H. P. KOLLS, of Bournemouth (Fig. 5). This device prevents a heavy landing tying a towhook in knots, by the simple method of doing away with the towhook! The drawing is self-explanatory.

Fair's fair, so we give the solid fan a look in with a method of representing wheels originating from S. FLEMING, of Denmark Hill. He uses the female half of a press stud recessed into a wooden wheel of suitable shape and size. This, as Fig. 6 shows, gives a most realistic appearance.



Both the experimenter and the ordinary ones amongst us will welcome a really good way of making wooden tubes for spars, sailplane booms, etc., suitable both for cylindrical or tapered shapes. K. McLENNAN, of Glasgow, sent us the method sketched in Fig. 7. The wood (balsa or ply) is first well soaked in water until it is pliable and soft, then laid on a sheet of strong paper and rolled round a suitable dowel or former. The paper prevents the wood splitting by ensuring equal pressure along its length. The whole is then bound tightly until dry, when the former is greased, the paper removed, and the edges of the wood sanded and glued in a scarfe joint. The tube is kept bound on the former until set.

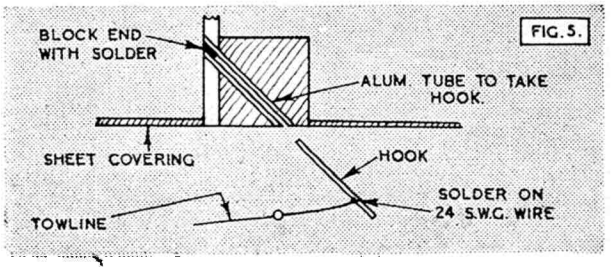
Spr. H. DODD, of Liverpool, recently gave us the gen on a neat low-wing fixing used commercially in Germany. Fig. 8 shows this in detail. It will be seen that the ply tongue is retained in the fuselage by means of two strong spring clips.

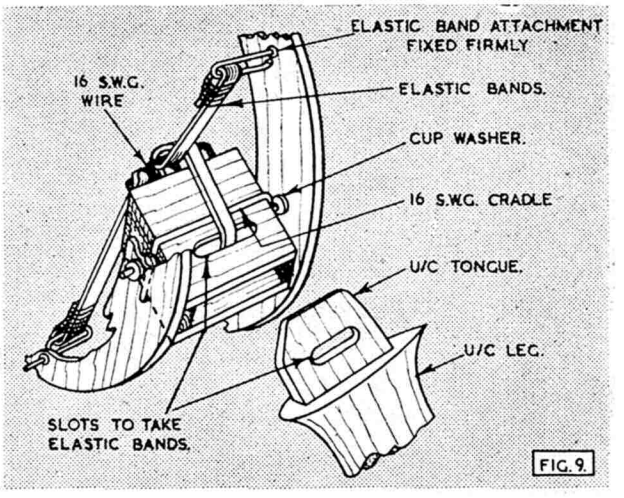
Our last sketch this month shows a knock-off undercarriage designed for petrol models by R. T. FAULKNER of Deepcar, Sheffield. We decided, however, that the fixing as it was was not a very good proposition, so modified it to the semi-knock-off form shown. The ply tongue of the leg is plugged into the strong ply box swivelling on a wire cradle in the fuselage. The slots coinciding, rubber strip is threaded as shown to give sideways springing, and at the same time a leg will knock backwards but will be returned by the rubber strip. The number of strands of rubber used depends on the weight of the model.

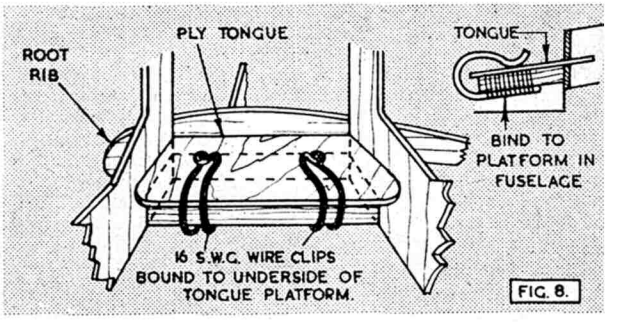
Everyone knows, so N. RICE, of Liverpool, informs us, how hard it is to get a tight aerial on a solid. Be this as it may, he sends a novel method of ensuring that the aerial shall be as tight as desired. The aerial is made from thin fuse wire, which is fixed in position as tautly as possible. When set, light a match and run the flame up and down the wire, when it will be found (to use his own words) " the wire goes very tight ! " (*and very hot, too* !—ED.). If by any chance the aerial is once again loosened by the efforts of admiring friends, the process may be repeated indefinitely. Another idea from this chap again applies to solids, being a method of swivelling guns without a hinged attachment. Make the transparent section through which the gun protrudes by putting a film of thick clear dope over a wire frame of the right proportions and, when set, fix the guns in position and it will be found that they can be swivelled in any direction.

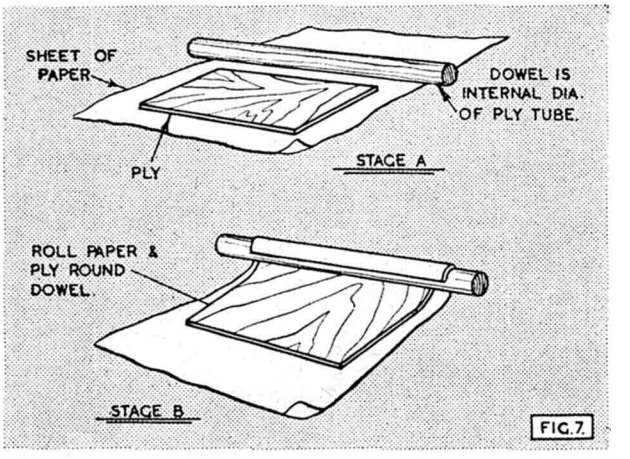
Quick and trouble-saving is the way S. J. FLEMING, of Denmark Hill, gets the appearance of rivet lines upon his solid scale models. He runs an ordinary cog out of an old clockwork motor over the required position of the rivet line, exerting steady pressure all the time. This results in a very good representation.

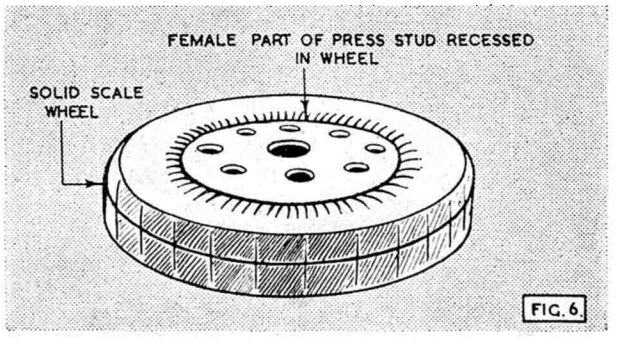
That lot ought to keep all my gadgeting friends busy for a while, so till November Consus bids Adieu, and Happy Landings.





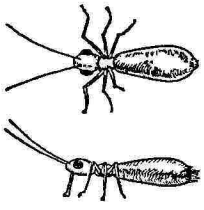






Readers' . . . . . Letters

The Editor does not hold himself responsible for the views expressed by correspondents. The names and addresses of the writers, not necessarily for publication, must in all cases accompany letters.



DEAR SIR,

After two years of unflagging research I have at last solved the problem of the poltergeist, Gremlin, or what you will, which caused myself and many brother aeromodellers to stand, breathless, ready to slash open their beloved models to find out the reason for that little tick, tick, tick which disturbed their peace of mind throughout the summer months. At last the mystery is unfolded. The cause is an insect, and I caught him myself a few days ago. I ran him to earth in the tail of a Wakefield model, cut a neat and rapid circle round him with my scalpel and allowed him to fall into a dish of alcohol, as I could think of no pleasanter death. As I cannot identify the insect, I should be very glad if any of your readers can supply any further information from the description and enlarged sketches given above.

The insect is about 1/16 in. long, a pale amber colour and transparent, with its internal organs showing as a dark line down its side. It is in shape not unlike a flea. It has two large bulging eyes, a narrow thorax, with six legs and two long antennæ. It has a long proboscis and a hairy tail, and it makes its noise by standing high on its legs and rapping its posterior on the taunt tissue which covers the model. This, of course, magnifies the sound somewhat. It normally moves slowly, but when frightened will scurry away at high speed. If the model containing the insect be touched, the insect will "freeze," but will start its antics once more if a ticking watch be brought near. Its ticking seems to be a mating call.

Well, there is the information. The ticking generally occurs chiefly between July and September, but may happen at any time.

So, hoping to atone for all the trouble my original letter caused and for all the potential world-beating models cut to pieces in fruitless Gremlin hunts by frantic aeromodellers, I sign myself,

Yours with relief,

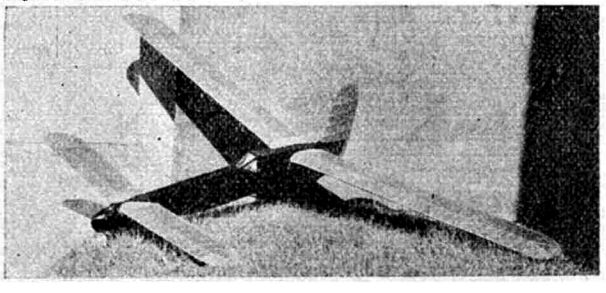
Coventry. GRAHAM SAXBY.

DEAR SIR,

I was interested to read the article on Canard models in the June edition of the AEROMODELLER. Since then I have built three gliders, all of 5 ft. span, and only on the third did I have Mr. Knight's trouble of the model turning on its back. This was found to be due to insufficient incidence on the front wing, and once this was rectified, the model behaved perfectly, pulling out immediately even when deliberately stalled from the line. The models show no tendency to "wander" ion the tow line, going up dead straight and coming off into steady circles in all weathers.

Bexhill D.M.A.C. N. J. BUTCHER.

One of Mr. Butcher's Canards weighing 13 ozs. and of 5 ft span with a best flight to date of 1 min. 37 secs.



DEAR SIR,

I should like to make a few comments on recent articles and correspondence on tailless and "canard" model aircraft in the AEROMODELLER which I have found most interesting. Although I am all in favour of developing unorthodox types, I consider the orthodox glider will have a greater future than the tailless type, as the latter must of necessity have reflex trailing edges which tend to decrease the lift coefficient as well as increasing the drag, thereby reducing the efficiency of the layout. Any attempt to improve the performance by making the trailing edges less reflex results in decreased stability as no improvement results, and launching is made more difficult.

I disagree with Mr. R. H. W. Annenberg when he says in his correspondence on tail-first aircraft that the lift per unit area of the elevator must considerably exceed that of the main wing. If the aerofoils are suitably chosen, they can both be operating at efficient angles of attack, while maintaining stability. Given suitable aerofoils I do not think the best results would be obtained with the elevator on the point of stalling, as the main plane would be operating sometimes in the disturbed air from the partially stalled elevator. This could to some extent be overcome by placing the elevator low on the fuselage, and the mainplane high. This might also have the beneficial effect of facilitating "stalled" three-point landings as the leading plane would experience an increase in lift coefficient on approaching the ground, causing a "float" effect.

It is a very small step from "canard" designs to tandem wing aircraft, and it is a mystery to me why the latter are comparatively rare, unless it is because of their high moment of inertia. They are eminently suitable for the installation of an airscrew at both ends of the fuselage, which could be contra-rotating, thus eliminating torque effects as far as possible.

Finally, I would like to express my appreciation of the AEROMODELLER; in my opinion it has been steadily improving in the quality and variety of its articles, and now caters very well for all tastes.

Teddington, Middlesex. M. M. GATES.

DEAR SIR,

It was with great interest that I read Mr. Knight's letter in your July issue, concerning difficulties he has experienced in the flying of Canard type models.

For some years now I have been experimenting with this fascinating type, my intention being to investigate the spinning troubles experienced in the 1903 type Wright biplane. This type, due to relatively small side area, is more prone to spin than the fuselage type and I found that one cure was to fit "Side Curtains" over the interplane struts of my biplane elevator, on the assumption that, in a sideslip or incipient spin, providing that there was also some rear side area, the forward "Side Curtains" tended to retard the sideslip forward, thus restoring equilibrium.

Recently, however, on reading "The Wright Brothers," by Fred C. Kelly, I was surprised to find that these pioneers had applied the same remedy in one of their later machines, the only drawback from their viewpoint being that the rate of turn was adversely affected. This fact, I think, speaks for itself. This disadvantage is, perhaps, not important from a modeller's viewpoint.

As a rule I dislike controversy, but I feel that the Canard has long been neglected and I should welcome the views of other modellers on this subject.

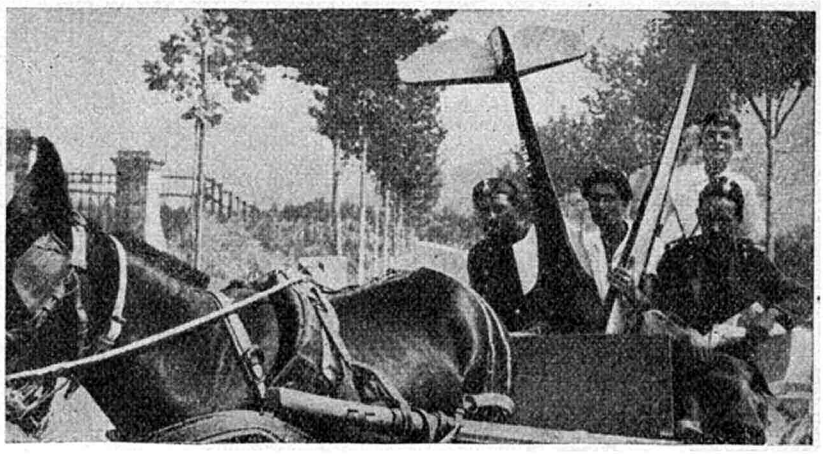
Fraserburgh. JAMES F. MURISON.

The subject of Cunards has provoked a spate of correspondence from our readers and we shall be publishing further letters next month.—[Ed.]

Over to You

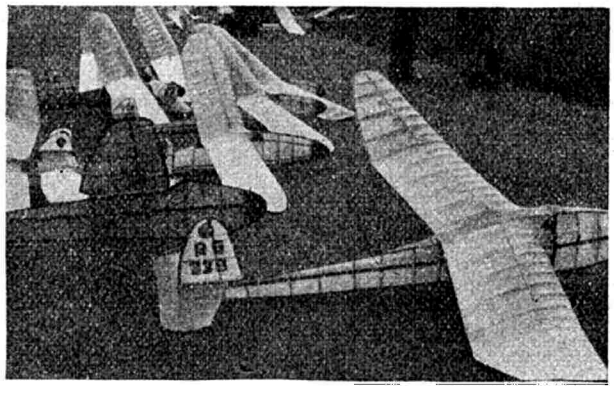
THE BOFFIN'S NEWS OF MODELLERS OVERSEAS

Not even a Boffin could hope to compete
With birds of the air and other elite,
But by dint of contriving
And strenuous striving
Built a "Dorland" and had them all beat.



Rand Revival.

M. Rutherfoord, Secretary of the Rand Model Aeronautic Club, sends us news of renewed activities after their enforced wartime eclipse. During this period many of their original records had been lost so that this revival is virtually a complete reorganisation. From an initial membership of thirty-six in August, 1945, the figure sprang to seventy-three by Easter of 1946 when the first club exhibition was held at the Witwaterstrand Agricultural Society's Show, at Milner Park, Johannesburg. A co-operative effort was made in conjunction with other South African Model Clubs and a large building of four main halls used for the display. Other publicity included a feature broadcast in Afrikaans. By the time the exhibition closed, club membership stood at a hundred and forty. Modelling in South Africa is definitely on the upgrade, thanks, no doubt, to this spirited effort. We learn from our correspondent that the South African Model Aeronautical Association has also held its first post-war meeting. We hope to have early news of plans for their representation in the international competition field next year.



Danish Developments.

Our friend Per Weishaupt writes of the annual contest between the leading clubs of Denmark and Sweden. This took place on the German-built Beldringe aerodrome near Odense. In a very close contest the Stockholm " Vingarna " Club beat Odense by 538·5 secs. to 511·3 secs.—these figures being the team average. A successful five-day summer camp was held in July, when forty-six modellers took part. Apart from the usual events there was a " theory contest " in writing. Kjell-Ake Andersson of Sweden took both the diesel event and the principal hand-launched glider contest. Danish modellers cleaned up the rest of the events in no uncertain style.

Early Bird.

R. Neuflize, of Paris, mentioned recently in Boffin's column, has now sampled flying at Eaton Bray and hopes to be back again shortly to have another go. His model had a rocket-like climb and proved an excellent advertisement for French diesel engines. Lost on this occasion, it has now been returned by a local farmer, who found it after reaping.

Heading: Donkey Serenade—Italian modellers solve the transport problem.
Centre: Line-up of Swiss sailplanes at a recent Alpine meet.
Bottom: Some of the diesel entries at this year's French Nationals.

MONTHLY MEMORANDA

By O · G · THETFORD

Convair Colossus. *World's largest bomber, the Convair XB-36, spans 230 ft. weighs 250,000 lbs., and mounts six pusher 3,500 h.p. Wasp Major four-row radials.*

Republic Photo.

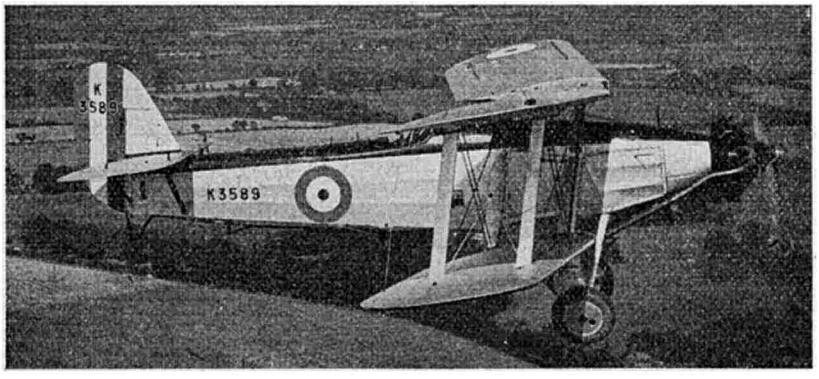
Where the Rainbow Starts. *Originally developed for Army reconnaissance as the XF-12, the Republic Rainbow is now being modified as a 46-seater airliner with a cruising speed of 400 m.p.h. for 4,100 miles.*

Martin and Kelman Photo.

Dicey. *This former Army Bell P-39 Airacobra is being entered by a sporting pilot for the National Air Races in the U.S.A. Only armament and armour has been removed, otherwise it is a standard P-39. Note the diced rudder and experimental civil licence NX61446 on fin.*

(Below.) **Before the Stringbag.** *The Fleet Air Arm's standard torpedo-spotter aircraft before the Swordfish was the Blackburn Baffin, equipped with Bristol Pegasus engine.*

Flight Photo.



R.A.F. Squadron Markings.

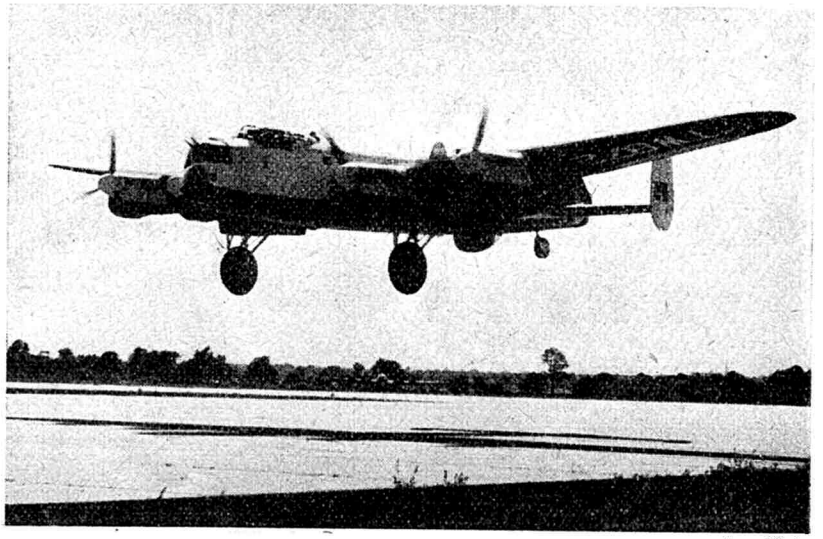
To answer individually each of the many letters I received in response to my recent request for information on R.A.F. Squadron markings would be impossible, so may I take this opportunity of thanking collectively the many keen enthusiasts who made their contribution? The information sent in was of immense value and interest and has been incorporated in a long illustrated article in course of preparation for a future issue of the AEROMODELLER.

In the meantime, we are publishing a further list of R.A.F. code squadron letters, but this time without squadron numbers. These markings have still to be identified and, though even in their present state they will be of interest to solid modellers, we once again invite the co-operation of readers who can offer positive identification of any of the units mentioned.

Code Letters and Aircraft.

"AA"—*Wellingtons and Stirlings*, "AB"—*Spitfires*, "AC"—*Seafires and Barracudas*, "AH"—*Spitfires (Norwegian)*, "AI"—*Dakotas*, "AK"—*Hurricanes*, "AL"—*Wellingtons and Lancasters*, "AN"—*Halifaxes*, "AP"—*Spitfires*, "AS"—*Ansons*, "AY"—*Halifaxes*, "BL"—*Blenheims*, "BM"—*Halifaxes*, "BN"—*Catalinas*, "BQ"—*Spitfires*, "BS"—*Stirlings*, "BT"—*Beaufighters*, "BW"—*Whitleys*, "BX"—*Beauforts*, "BY"—*Halifaxes*, "BZ"—*Defiants*, "CR"—*Mustangs*, "DA"—*Catalinas and Sunderlands*, "DD"—*Halifaxes*, "DG"—*Halifaxes*, "DH"—*Halifaxes*, "DL"—*Spitfires*, "DN"—*Stranraers*, "DO"—*Halifaxes*, "DQ"—*Sunderlands*, "DR"—*Lancasters*, "EE"—*Beaufighters*, "EH"—*Hurricanes*, "EP"—*Wellingtons*, "ET"—*Whitleys and Halifaxes*, "EU"—*Halifaxes*, "EJ"—*Beauforts*, "EX"—*Stirlings*, "EY"—*Ansons, Halifaxes and Whitleys*, "FA"—*Hurricanes*, "FI"—*Bermudas*, "FJ"—*Hurricanes*, "FL"—*Spitfires*, "FM"—*Hurricanes*, "FN"—*Hurricanes and Spitfires*, "FT"—*Spitfires*, "FV"—*Blenheims*, "FX"—*Mustangs*, "GA"—*Buffaloes*, "GE"—*Whitleys*, "GG"—*Lancasters*, "GH"—*Halifaxes*, "GL"—*Herefords*, "GN"—*Spitfires*, "GO"—*Hurricanes*, "GP"—*Lancasters*, "GR"—*Liberators*, "GS"—*Northrop Seaplanes (Norwegian)*, "GV"—*Halifaxes*, "GW"—*Spitfires (French)*, "GY"—*Halifaxes*, "GZ"—*Hurricanes and Spitfires*, "HB"—*Mustangs*, "HQ"—*Wellingtons*, "HU"—*Beaufighters (Canadian)*, "HX"—*Mustangs*, "HY"—*Battles*, "II"—*Lysanders*, "IK"—*Halifaxes*, "IL"—*Halifaxes*, "IN"—*Lancasters*, "IR"—*Spitfires*, "JA"—*Halifaxes*,

" JH "—*Spitfires*, " JJ "—*Tempests*, " JL "—*Oxfords*, " JR "—*Hurricanes and Beaufighters*, " JS "—*Hampdens*, "JT"—*Defiants*, "JV"—*Hurricanes*, "JW"—*Wellingtons*, " JX "—*Hurricanes*, " KC "—*Sunderlands*, " KH "—*Tomahawks and Spitfires*, " KO "—*Lysanders*, " LB "—*Blenheims and Halifaxes*, " LD " — *Halifaxes*, "LI"—*Lancasters*, "LM"—*Wellingtons*, " LN "—*Lancasters*, " LQ "—*Halifaxes*, " LR " — *Hurricanes*, " LW "—*Blenheims*, " LX "—*Lysanders*, " LY "—*Wellingtons*, " MB "—*Beaufighters*, " ME "—*Beaufighters*, " MH "—*Whitleys and Halifaxes*, " MQ "—*Battles and Bostons*, " MT "—*Spitfires*, " MW " — *Beauforts*, " NA "—*Lancasters*, " ND "—*Halifaxes and Lancasters*, " NE "—*Mosquitos*, " NF "—*Stirlings*, " NG "—*Beaufighters*, " NH "—*Albacores and Wellingtons*, " NM "—*Wellingtons*, " NV "—*Hampdens*, " NW "—*Hurricanes and Defiants*, " OG "—*Halifaxes*, " OH "—*Lancasters*, " OM "—*Bostons*, " OK "—*Mosquitos*, " ON "—*Spitfires*, " OO "—*Lysanders*, " OR "—*Lancasters*, " OS "—*Halifaxes*, " OW "—*Lancasters*, " OX "—*Hurricanes and Mustangs*, " PG "—*Lancasters*, " PI "—*Mustangs*, " PK "—*Mustangs*, " PL "—*Hampdens*, " PM "—*Halifaxes and Lancasters*, " PN "—*Beaufighters*, " PP "—*Wellingtons*, " PT "—*Halifaxes*, " PX "—*Whitleys*, " QD "—*Wellingtons*, " QO "—*Hurricanes*, " QS "—*Stirlings*, " RA "—*Defiants and Mosquitos*, " RE "—*Blenheims*, " RP "—*Oxfords*, " RS "—*Thunderbolts*, " RT "—*Blenheims*, " RU "—*Tomahawks*, " RO "—*Beaufighters*, " RV "—*Halifaxes*, " RX "—*Blenheims and Mosquitos*, " RZ "—*Mustangs*, " SA "—*Typhoons*, " SB "—*Mosquitos*, " SG "—*Whitleys*, " SH "—*Bombays*, " SM "—*Spitfires*, " SN "—*Spitfires*, " SO "—*Gladiators*, " ST "—*Beaufighters*, " SV "—*Halifaxes*, " SW "—*Spitfires*, " SY "—*Blenheims and Mosquitos*, " TD "—*Buffaloes*, " TE "—*Blenheims*, " TP "—*Hurricanes*, " TT "—*Halifaxes*, " TU "—*Beauforts*, " TX "—*Wellingtons*, " UA "—*Hudsons*, " UG "—*Hurricanes*, " UL "—*Bothas*, " UP "—*Mosquitos*, " UV "—*Whitleys, Wellingtons and Lancasters*, " VH "—*Mustangs*, " VL "—*Spitfires*, " VR "—*Wellingtons*, " VX "—*Hudsons*, " WH "—*Sharks*, " WL "—*Whitleys and Halifaxes*, " WN "—*Blenheims*, " WR "—*Beaufighters*, " WS "—*Lancasters*, " XG "—*Hampdens*, " XJ "—*Blenheims*, " XO "—*Blenheims*, " XV "—*Tomahawks and Mustangs*, " YG "—*Blenheims*, " YQ "—*Ansons*, " YY "—*Whitleys*, " YI "—*Sunderlands*, " ZB "—*Halifaxes*, " ZE "—*Spitfires and Blenheims*, " ZF "—*Spitfires*, " ZG "—*Whitleys*, " ZH "—*Typhoons*, " ZJ "—*Beaufighters*, " ZK "—*Gladiators, Whirlwinds, Hudsons, etc.*

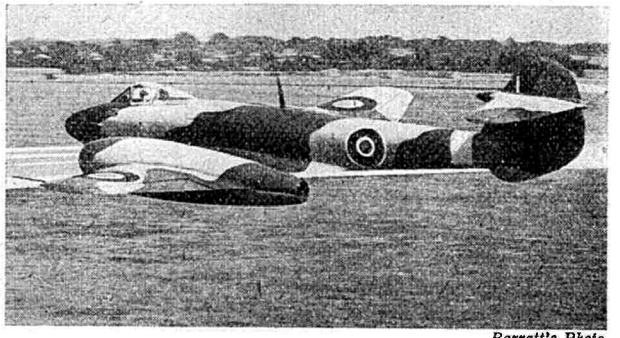


Acme Photo.

Operation Goodwill. *TW 872, one of the Lancasters of No. 35 (Bomber) Squadron, R.A.F., now touring the U.S.A. on a goodwill mission.*

B.O.A.C. Photo.

Apprenticed. *The first Handley Page Halton (civil Halifax VIII) for B.O.A.C., registered G-AHDU and christened " Falkirk "*



Barratt's Photo.

High Speed Flight. *A Gloster Meteor IV. jet fighter of the R.A.F. High Speed Flight at Tangmere. This particular Meteor, flown by the C.O., is EE 530.*

(Below) **Northolt "Regular".** *One of Air France's Languedoc 161 four-motor airliners as used on the London-Paris run, photographed at Northolt.*

AEROPLANES DESCRIBED XLIII

THE FAIREY FIREFLY IV

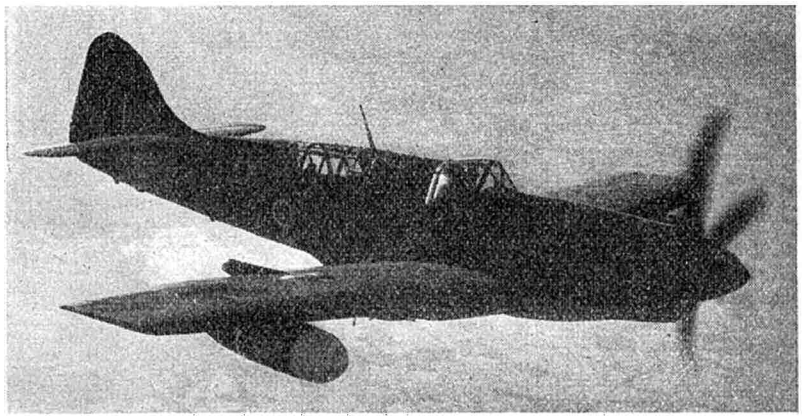
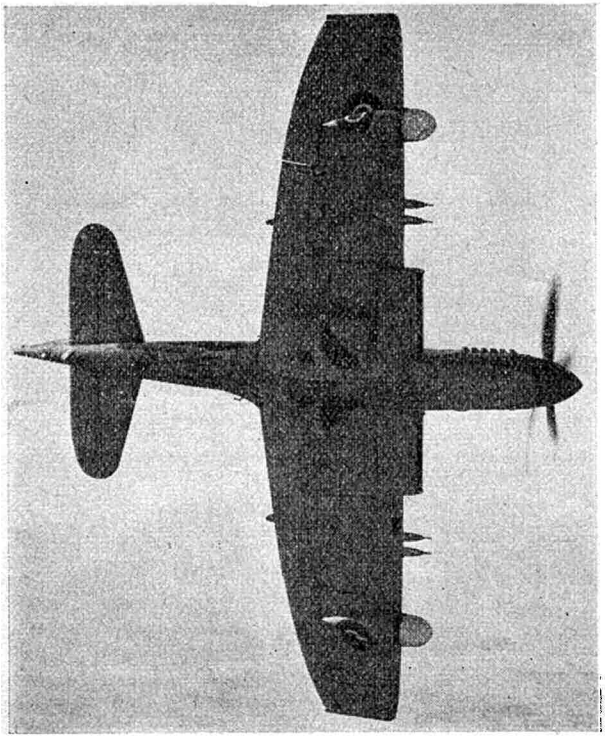


Photo: Charles E. Brown.

THE Firefly IV is the post-war successor of the highly successful Firefly I which first saw action over Norway in 1944 and was just getting down to beating up the Japs when the war ended. The Mark IV is in full-scale production at the Hayes factory of the Fairey Aviation Co., Ltd., and arrangements have also been made with the Dutch government for the construction of the type under licence by Aviolanda Maatschappij voor Vliegtuigbouw N.V., a company first formed in 1926.

Major changes in the Firefly IV include the removal of the "beard" radiator and its replacement by twin leading-edge radiators, the installation of the two-stage Griffon 72 motor, the reduction in wing area resulting from the square tips, and the introduction of a revised fin and rudder. The clipped wings improve the rate of roll and a high-gloss finish replaces the matt camouflage of the wartime Mark I aircraft. Even camouflaged Firefly IV's have the gloss finish, which makes a notable contribution to performance. The fuel capacity of the Mark IV has been increased by the use of streamlined containers beneath each wing, though on the night-fighter version one of the containers houses radar instead of fuel.

Flight Photo.



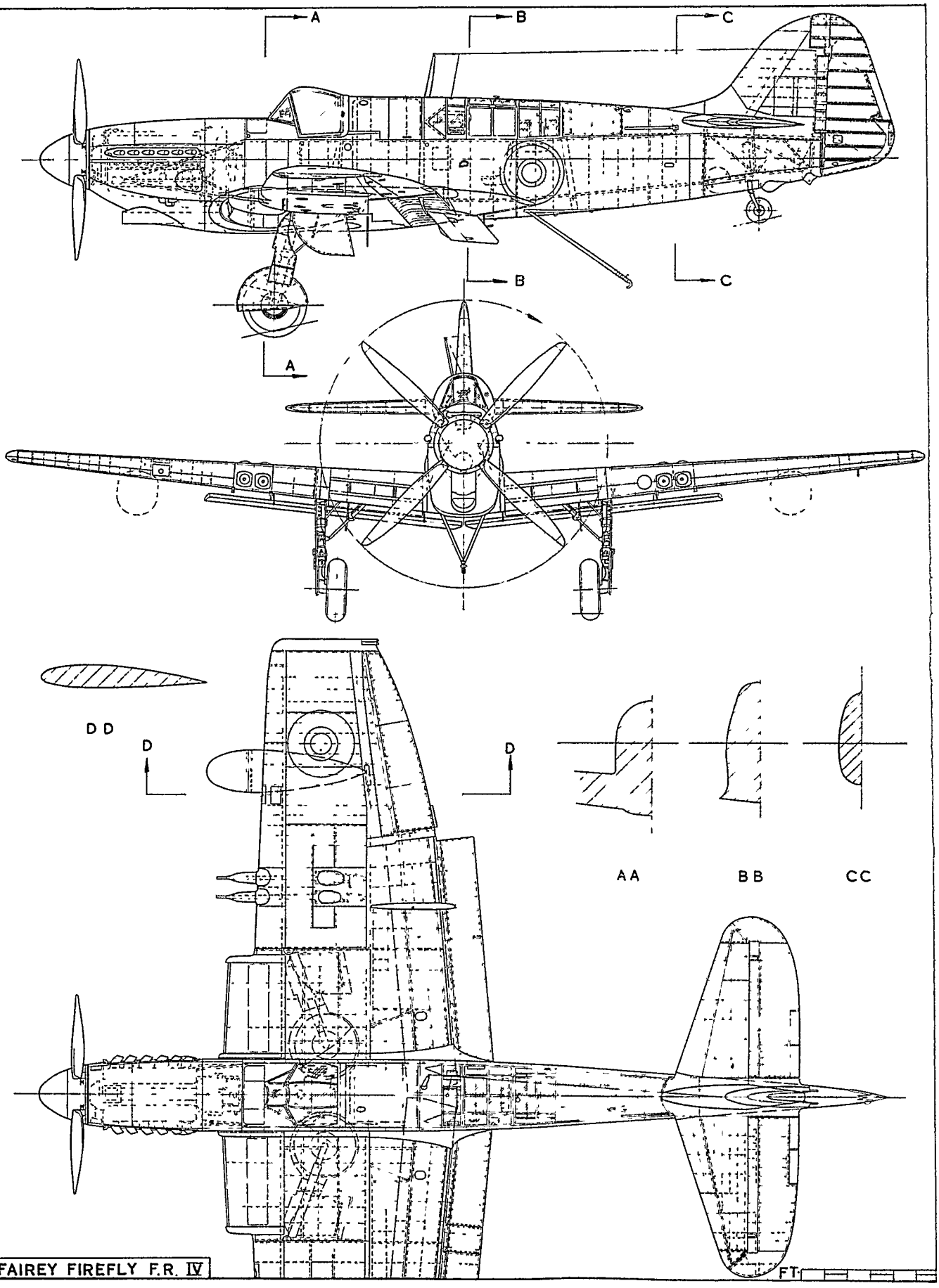
It was originally intended to install the new two-stage Griffon in the Firefly III, which had a radiator position similar to the Firefly I, but this project was abandoned because of the poor aerodynamic characteristics of the nose entry. Only one Firefly III was built.

Two prototype Firefly IV fighters were built and are numbered Z 2118 and MB 649. The earlier machine was originally produced with normal elliptical wings and the standard Mark I tail unit, but was later modified to full Mark IV standards. The prototype Firefly IV mounted the Griffon 72 motor, but this is replaced in production aircraft by the Griffon 74.

Apart from an overall strengthening of the airframe to take the higher-powered motor, the construction of the Firefly IV is similar to that of the Firefly I (described in the AEROMODELLER for February, 1945) and is all-metal with light alloy stressed skin. Fairey-Youngman retractable high-lift flaps improve the deck-handling qualities and bestow an outstanding speed range.

Firefly IV squadrons of the Royal Naval Air Arm began to form up in the late summer of 1946 and production aircraft are numbered TW 687, TW 688, TW 689, etc. No. 816 Squadron was one of the first units to be equipped with the type.

SPECIFICATION: Two-seat fighter-reconnaissance monoplane for carrier-borne operations.. One Rolls-Royce Griffon 74 twelve-cylinder, liquid-cooled, Vee motor of 2,245 h.p. at 9,250 feet. Four-blade constant-speed Rotol airscrew. All-metal construction, with folding wings. Span: 41 ft. 2 ins. Length: 37 ft. 11 ins. Height: 14 ft. 4 ins. Wing Area: 330 sq. ft. Loaded weight: 13,200 lb. Wing loading: 40 lb./sq. ft. Maximum level speed: 386 m.p.h at 14,000 ft. Rate of climb: 10½ minutes to 20,000 ft. Normal range with 192 gallons (no external tanks): 660 sea miles. Maximum range with 418 gallons: 1,300 sea miles. Duration at normal range: 4 hours. Duration at maximum range: 6½ hours. Armament: Four fixed 20 mm. British Hispano cannon in the wings and provision for sixteen 60-lb. rocket-projectiles or two 1,000-lb. bombs beneath the wings.

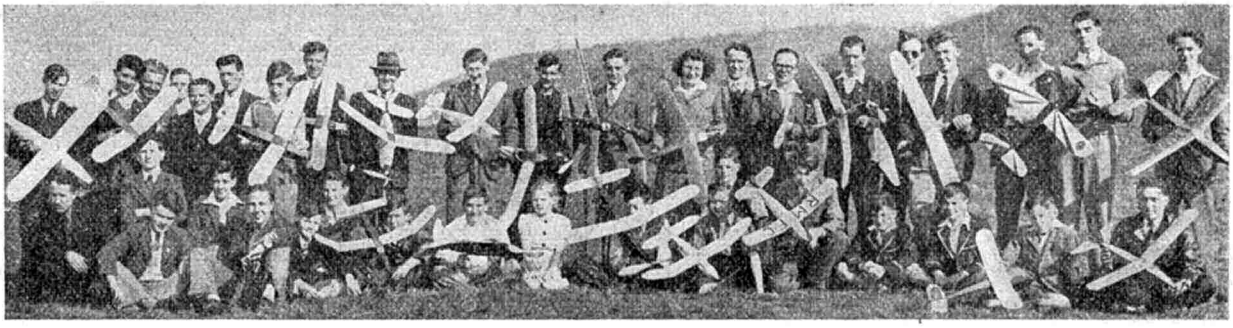


FAIREY FIREFLY F.R. IV

FT

CLUB NEWS

BY CLUBMAN



This photograph, sent by B. Morgan of the Cardiff M.A.C., was taken at an area rally, the occasion being the Gamage Cup. Clubs represented are Bargoed, Rogerstone, Aberdare, Mountain-Ash and Cardiff.

WELL, well, what a furore my disclosures in the July issue has created! It seems that it only wanted the spark touching off to wake up a number of people who have laboured long under a grouse, and it is astonishing to find how many clubs and individuals have a grievance to air—but why wait until now?

Whilst thanking my many correspondents for their good wishes (and condolences!), with the same breath I tick them off here and now for hanging on to their grouses and not taking them to the right place without delay. A grievance is invariably cleared up quickly if tabled immediately, but if slept upon it grows out of all proportion. (As a matter of interest, whilst most of my correspondents were, as expected, from the provincial clubs, I also had letters from quite a number of London modellers, so it appears that some matters are of general rather than isolated interest.)

A very interesting communication was received from a prominent Scottish modeller, and it was my pleasure to read extracts from this letter to the Extraordinary General Meeting held in London on the 21st July. I think I am right in stating that the disclosures were a bit of a shock to many at that meeting, but at any rate gave them much food for thought.

As expected, the "rebels" made a determined effort to lever yet another Council Member from office—this time the Chairman, Mr. A. F. Houlberg. Charges of inefficiency were levelled by the very last person to make such charges, and—need I say it—the motion was lost. However, it did one very good thing. Mr. Houlberg is, in my opinion, one of the fairest persons to hold office in the S.M.A.E., and if any fault could be argued it is that he does not exercise his chairmanship strongly enough in his endeavour to give all sides a full hearing. On the occasion mentioned above he did, to my complete enjoyment, get up on his hind legs and let rip in no uncertain manner—and I trust that he continues to do this and curb the unrulyness of certain elements that has been only too evident of recent months.

I write these notes a few days before the holding of the Bowden International Contest, but from preliminary notices, we are at last getting something of the international flavour in our more important contests. According to the official notice, entries are expected from Ireland, Holland, France and possibly Belgium, and I trust the event has the very best of weather and conditions to open up once again this most important aspect of the model hobby.

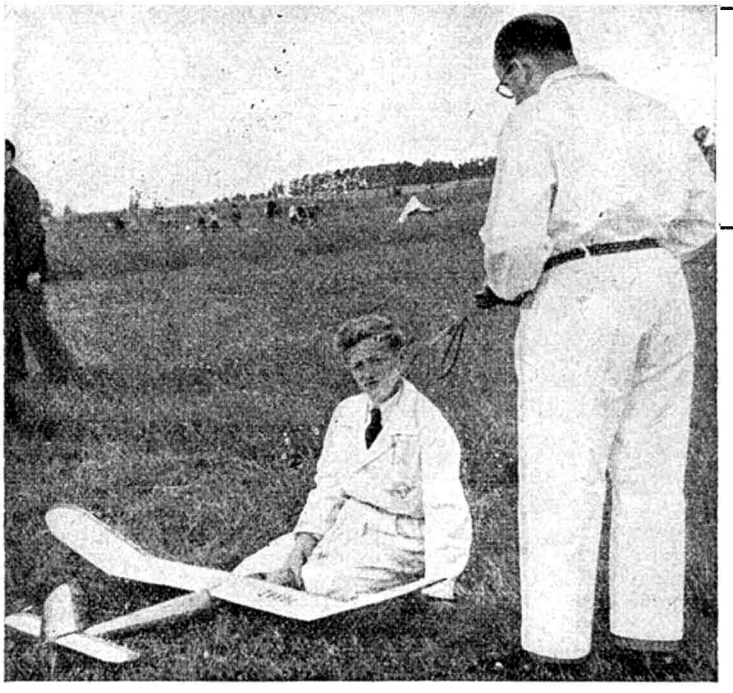
I was always under the impression that we (or should I say, especially, me?) built and flew our models somewhat slaphappily! Apparently this is not the view of our American cousins. A recent letter from Carroll Moon (the "Clubman" of *Air Trails*) states: "*Your more studied approach to problems is certainly unique in this country. You really seek out the answers, using formulæ, graphs, maths, and other such 'illegal' methods. Over here we simply build them and fly them. We learn the hard way, but we have a great deal of fun.*"

After giving some details of a speed control-line event he attended (where, incidentally, the winning model sped around for a new A.M.A. record at the terrific lick of 111.45 m.p.h.) he blithely talks of the next meeting he proposes visiting—a mere 90 miles from home. As he says: "*This activity is a bit upsetting to friend wife, but she married a modeller and should have known better.*"

An astonishing breakaway (I might almost say renegade step) from the current progressive march of aeromodelling is noticed in the new A.M.A. rules in the U.S.A. The new ruling in "gas" contests is the substitution of hand-launching for the more advanced rise off ground, this reversion being "in the interests of safety." Whether this last factor is in aid of the model, flier or spectator is not stated, but a hint was dropped by Carroll Moon when he told me that many fine models are wrecked owing to the poor take-off facilities at most meetings, but I, for one, would be sorry to see the R.O.G. requirement washed out in this country. To my way of thinking, if the job can't get unstuck, it is not worthy of competing with another model that may be a bit short on flying performance, but can act like the real thing. What do you think?

A new type of contest is proposed by Mr. H. J. Taplin, Chairman of the Midland Area, and it is hoped to run an initial event shortly. Briefly, the contest calls for "control in free flight" as distinct from such control as radio, etc., with points awarded for various manœuvres, etc. Mr. Taplin has been flying successfully a model fitted with special cams working on a timing device, different manœuvres being executed according to the cam fitted.

I am asked to announce that, for administrative reasons, and in order to site the headquarters in the geographical centre of the country, the A.B.A. staff is moving into quarters at 70, London Road, Leicester, as from August 12th. All communications, etc., should be sent to that address.



As now worn—A study of members of the Antwerp M.A.C. at a recent Belgian model meeting near Brussels. All these aeromodellers wear spotless white overalls with the Club wings in blue on the breast pockets. This enables their fellow members to be distinguished at a crowded meeting; besides giving an air of uniformed efficiency. Maybe British Clubs will follow suit when the Coupon Gremlin is demobbed !

Congratulations to the NORTHERN HEIGHTS M.F.C. on a terrific success with their first post-war Gala Day. The full results were squeezed in last month as a " stop press " notice, but the following report gives the picture in full. Over 12,500 competitors and friends attended the event in glorious weather, and a bumper entry of 268 competitors was booked for the Sailplane event alone. Mrs. Sidney Camm presented the prizes, and the crowd was further entertained by a flying display staged by Hawker test pilots, led by Mr. W. Humble flying a " Sea Fury." All told, a great day, and the club wishes to thank wholeheartedly all those who made the Gala the undoubted success it was.

News has just been received that permission has been granted to the holding of a National Model Aircraft Rally at the Stanley Park Aerodrome, Blackpool, on Sunday, September 8th, 1946. The event, which is sponsored by the *Daily Dispatch*, will be organised by the Manchester and District Council of Model Aero Clubs and the Blackpool and Fylde M.A.S. Main events will be Open Rubber, Open Glider, Duration Petrol, and the *Daily Dispatch* Senior and Junior Model Glider Trophies, the latter contest restricted to Northern modellers only. A Flying Scale and Novelty events will also probably be included. Full particulars, etc., can be obtained from Mr. R. Lawton, 10, Dalton Avenue, Whitefield, Nr. Manchester, or Mr. W. Titterington, 17, Brownlea Avenue, Dukinfield, Cheshire. (This is one event I should have liked to be in on, but shall be on holiday in the south, and petrol just won't run to it these days.)

The WALTHAMSTOW M.A.S. is pleased with the success of F. E. Deudney in winning the Concours class at the Northern Heights Gala Day, another worth-while announcement being a flight of over 15 mins. o. o. s. by S. Sutherland's F.A.I. sailplane.

The CARSHALTON M.A.C. had rather bad weather for their " Premier Glider " contest, a smashing time being had by most competitors. The postponed event resulted in K. Prior aggregating 6 : 05, but D. Hocking a little later copped a riser and clocked 7 : 32 o.o.s. Since then, D. White has put up the club glider record to 18 : 45 o.o.s. with his " King Falcon," other records being Rubber H.L., 1 : 31·4 by K. Prior, and Tailless Glider, 48 secs. by Hocking.

C. E. Price, of Fairford, Glos., paid a visit to Eaton Bray on the 7th July, and, flying a doubled up " Vander " glider, caught a beautiful thermal. Result, model o.o.s. after 20 minutes. Whilst reporting this to the control tower some ten minutes later, all were astonished to see the Vander again, heading for E/B at a great height. Just as Price was congratulating himself on getting the model back, the machine struck another riser, and after being kept in sight for a further 10 minutes, finally cleared off and was recovered eventually from Berkhampstead.

The Southend M.A.C. and the Southend (A.T.C.) M.A.C. have amalgamated to form the new SOUTHEND & D.M.A.C. Clubroom is at A.T.C. headquarters, London Road, and is open on Mondays and Fridays.

The MAIDSTONE & D.M.A.C., now over 40 strong, enjoyed their first fine day's flying at Detling Aerodrome on the 23rd June, and also had their first introduction to those elusive beings—thermals. Glider flights were winch-launched from a 250-foot line, and the record was twice broken, best time being by I. G. Beresford's " Mick Farthing " with a flight of 10 : 05 o.o.s. A. J. Smart came first in the rubber event, his 1 : 30 also being a club record. Altogether, four " Micks " and one " Thermic 50 " were lost during the afternoon, and opinions on thermals are now very divided !

As the result of a successful gala day held at the beginning of July, the NORWICH M.A.C. is to organise a further event later in the season. The last event was well attended, about three dozen models taking the air in three contests, four models being lost during the day. A. Raffle won the rubber event with an aggregate of 8 : 48, L. Claydon set an aggregate of 7 : 08 in the glider event, while J. Palmer only had a ·3 seconds error for the nomination comp.

During September, the SHEFFIELD AIR LEAGUE (which now incorporates the Sheffield Aero Club and Sheffield M.A.C.) will hold a glider contest open to local modellers, for the Wilkinson Shield. Several other trophies will be competed for at the same time.

The WOLVERHAMPTON M.A.C. send in their list of club records, which should interest you for comparison with your own figures. S. Ward holds four of the senior records, as follows: Heavyweight Glider (tow), 3 : 54, (H.L.), 2 : 46 ; Duration (H.L.), 5 : 00, (R.O.G.), 3 : 10. J. Ryder holds the Lightweight Glider time with 20 : 11, tow-launched, and D. Hill is the Junior Glider champ. with a time of 6 : 05.

Two good flights were put up at a recent meeting of the PORTSMOUTH & D.M.A.C. Member Harris's " Korda "

went o.o.s. after a time of 18 : 58, this being closely followed by another flyaway by Ellis's model which clocked 18 : 13. Both models were retrieved an hour later, undamaged and only some fifty yards apart. Nice accommodating thermals they have down Pompey way!

Canard type gliders were successful in gaining first and third places in the glider contest held by the BEXHILL D.M.A.C. with times of 1 : 08 and 0 : 58, respectively. A model of this type holds the club record of 1 : 47.

The ST. ALBANS M.A.C. has been going great guns lately. P. Brown won the " Flight Cup " with a time of 5 : 21 at the Northern Heights Gala, his model being a " Mick Farthing Lightweight." Owing to the loss of this model, the club team was weakened in the team event and had to be content with fifth place, but some consolation was gained by Buxton's third place in the open duration event. This chap also won the seaplane event at Eaton Bray with a time of 7 : 41, second places in both the rubber and glider events also going to St. Albanites. Good work, chaps—keep it up.

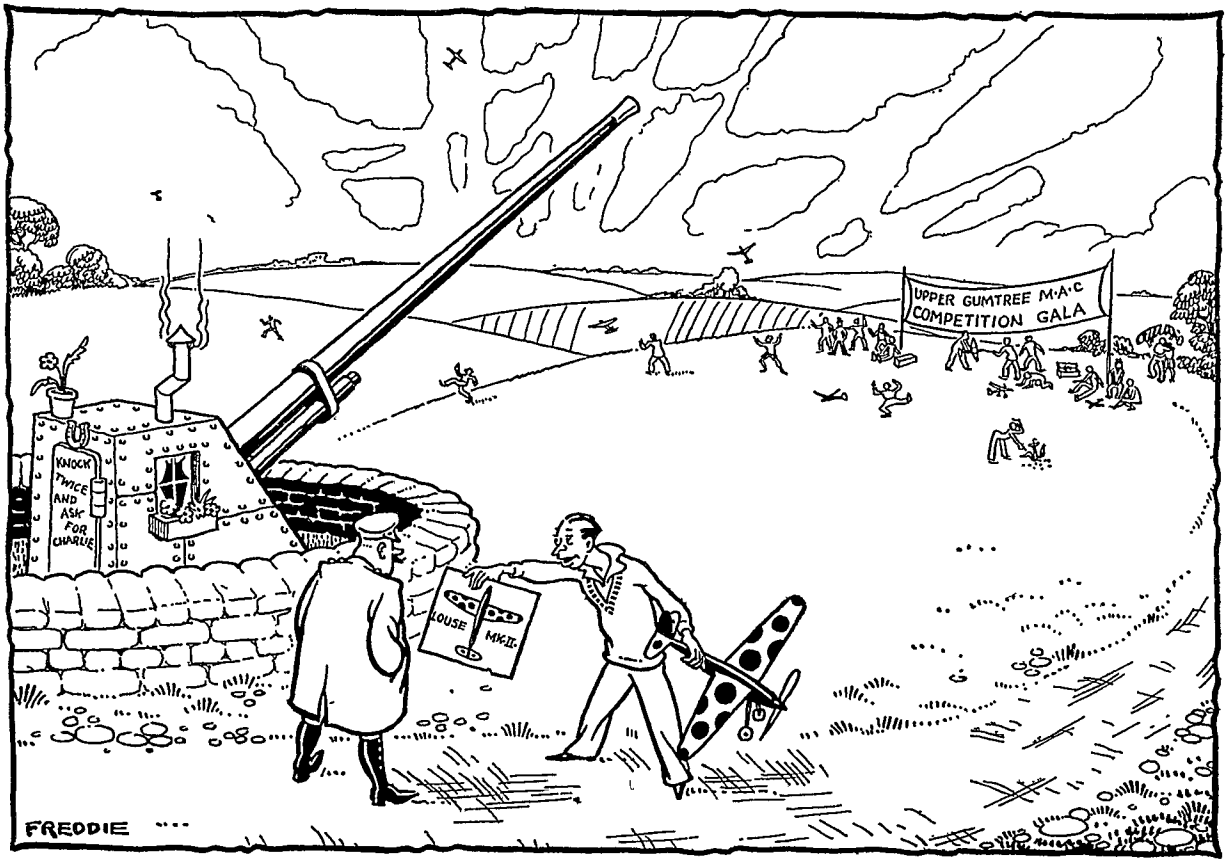
Worth-while flying has also been seen in the MERSEY M.F.C., the present glider record of 10 : 45 o.o.s. being held by W. Litherland's " King Falcon."

Since the recent reorganisation of the YEOVIL & D.S.A., much progress has been made, and an exhibition is projected for the autumn, plus a gala day to be staged on September 1st. One of the contests will be for tailless craft, and all modellers are welcome. A good field and club room are available—plus a special " built-in " thermal!! Clubs in the district are asked to contact Secretary Roberts, 1, Foxhole Villas, East Coker Road, Yeovil, with a view to consolidating inter-club relations.

" Indignant Young Aeromodeller's " letter (see July issue) has brought many replies, both sympathetic and others, giving reasons why they themselves adopt the policy of barring youngsters. One club gave as its main objection the responsibility of looking after these young fellows, but I think that is a bit weak as an excuse. After all, what responsibility are they asked to undertake other than providing them with facilities to learn, build and fly their models. No club sets itself out to be a dictator of behaviour other than the usual requirements for proper conduct of the group. The Wallasey club, while restricting the age limit to over 14, do not turn keen youngsters away, but give them all the information and help they can and note the keenness (if sustained), and rope the worth-while applicant into the fold when he reaches the age minimum. Not bad as a compromise between the two extremes.

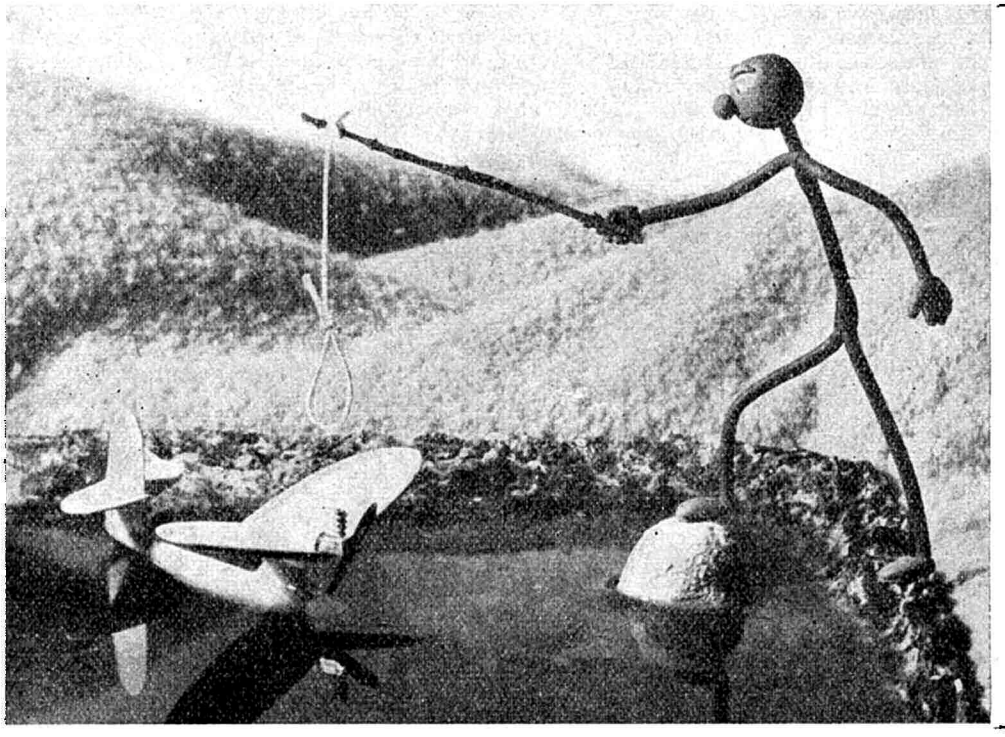
Variable weather has seen some good times put up by the WALTHAM & ENFIELD M.A.C., best time being 10 : 34 by J. Warren's " Excelsior III," a 53-inch span medium-weight sailplane; 7 : 00 o.o.s. by M. Broad's lightweight; and 4 : 39·5 with a 46-inch span heavy-weight. Recently a flight of 7 : 40 was obtained by W. Spence's " Mick Farthing Glider."

Contest Sundays with the BRISTOL & WEST M.A.C. have been almost universally dud, with the intermediate Sundays tip-top. Ain't it always the way! The week following Weston Cup Sunday six out of eight



" ALL — EXCEPT THAT ! "

BEN TWYRE • By J. H. MAXWELL



Because Ben Twyre is prone to dote
Upon his latest flying boat,
He says rude words he didn't oughter
Each time it sinks beneath the water.

gliders were lost—and all recovered with the aid of the local press. A. H. Lee put up the best time in the club's effort for the National Cup, aggregating 4 : 28 with his Wakefield model, while Bob Moon clocked 4 : 45 with a slabsider to win the Packer Cup—the first time this has been pulled off by a junior member.

Two records have gone the way of all such things in the WILLESDEN & D.M.A.C., A. Setchfield raising the Wakefield class to 7 : 30, and S. Tydieman the open glider to 5 : 51.

Inter-club contests with the Portsmouth and Eastleigh chaps form the main news from the SOUTHAMPTON M.A.C. this month. P. Cock, recently returned from Egypt, has raised the club record to 12 : 30, while Mr. Mountain placed high in the petrol comp. during the club's visit to Eaton Bray. Incidentally, I am told that the younger members still smell of Howard Boy's 4½d. rockets!

In spite of the spasmodic weather, CHINGFORD M.F.C. continue to turn out on Sunday afternoons on Chingford Plain. Many pre-war members are turning out once more, and many good flights have been obtained, the best so far being 11 : 58 by S. Brown's medium-weight sailplane, 10 : 25 with a light job of D. Hinstridge's, and 7 : 24 (a new club record) by S. Cameron's "Rocketeer" in the rubber-driven class.

Thirty members of the CROYDON & D.M.A.C. took a coach to the Northern Heights Gala and won the Team event, second in the Glider, and third in the Power event.

The PRESTON & D.M.A.C. have really got down to flying this season, and the duration record has risen accordingly, being broken six times in one day, final figure being S. Greenall's 6 : 45·9. The club's annual duration contest resulted in a win for C. Sharples, who aggregated 2 : 23·8, followed by R. Maxwell, 2 : 18·5, and L. Gardner, 1 : 50·5.

Irish news this month comes from the ULSTER M.A.C., whose W. Little won the open glider event with a time of 5 : 42, flying an "A.T.O. 30." D. Woods, who travelled from Dublin for the event, lost his model before the competitions started. Three-and-a-half hours later the model was seen to land, and it was returned the next day. All in the game, isn't it?

The two biggest events with the BUSHY PARK M.F.C. last month were in connection with the Keil Trophy. Mr. Gunter won the trophy outright, although there was some mix-up over ten points that the time-keeper had forgotten to include!! He was using his "Kid" model, Ohlson powered. Mr. Guest flew his high-wing job for 10 : 55 on a 40-sec. engine run whilst test flying before the competition, but couldn't repeat in the official flying.

The EDGWARE M.A.C. was formed ten years ago, and after various lapses, is now going strong once again. Mr. C. Burchal, well-known old-stager of aeromodelling, is the chairman of this club, who number many experts and successes in its annals. Old members are invited to get in touch once again and assist in getting the club back into its pre-war position once more.

Perfect weather resulted in two records going west in the KINGSBURY M.F.C. J. Bowerman raised the H.L. rubber record to 15 : 43 with his "Coot II," while a week later G. Miles pushed the tailless glider record up to 7 : 30. This latter flight is believed to be a new British record. On the same day Bowerman's "Raffity"

flew o.o.s. after 3 : 40, the model landing at Twickenham.

A number of old clubs are starting up again, and until fully established, I do not propose to count these in the new clubs section. Those notified this month are: Aintree & North Liverpool M.A.C., F. Jones, 21, Wolfenden Avenue, Bootle, Liverpool, 20; Sevenoaks & D.M.A.C., F. Dabnor, 8, Ryewood Cottages, Rye Lane, Dunton Green, Sevenoaks; Wanstead M.A.S. and Aldersbrook M.A.S., E. H. Hilton, 54, Barclay Road, Leytonstone, E.11.

Distinct from the above are those wishing to form new clubs in their areas. Those interested please get in touch with: K. T. Lucas, 16, Oakwood Road, Coppull, Nr. Chorley, Lancs.; R. V. Baldwin, 22, Burlingham Place, Eastbourne; J. Rogers, 55, Four Oaks Common Road, Four Oaks, Sutton Coldfield.

And so we reach the end of yet another month's reports. The recent weather has not been too helpful, but here's hoping it eases up for the remainder of the season. Records have been well and truly walloped this year, though there are still any number of British records that need tackling, so let's get down to it before the winter sets in. This year has seen the start of real model flying after the war lapse, and I think we can congratulate the movement generally on having come out so strong. Next year should see great things, so here's to the still greater prospects ahead for our chosen hobby. Till next month, this is your scribe signing off as

THE CLUBMAN.

NEW CLUBS

HASTINGS A.M.C.
T. A. Skinner, 7, Mildenhall Drive, St. Leonards-on-Sea, Sussex.
PHOENIX M.F.C.
D. Howard, 1, Rosedale Gardens, Dagenham, Essex.
EASINGTON M.F.C.
T. A. Tempest, 51, Station Road, Easington Colliery, Co. Durham.
DARLINGTON M.A.C.
F. A. Waller, 9, Abbey Road, Darlington.
BRIDGEND & D.M.A.C.
D. A. Bicknell, 9, Heol Llansantffraid, Sarn, Aberkenfig, Bridgend, Glam.
LONG EATON M.A.C.
O. W. Horne, 11, Cranmer Street, Long Eaton, Notts.
AXBRIDGE & D.M.A.C.
A. Weave, 16, Parkfield, Axbridge, Somerset.
AYLESBURY M.F.C.
A. C. Evan, The Laurels, Walton Street, Aylesbury, Bucks.
NORTH DOWNS AEROMODELLERS.
M. H. R. Clark, 61, Brockenhurst Avenue, Worcester Park, Surrey.

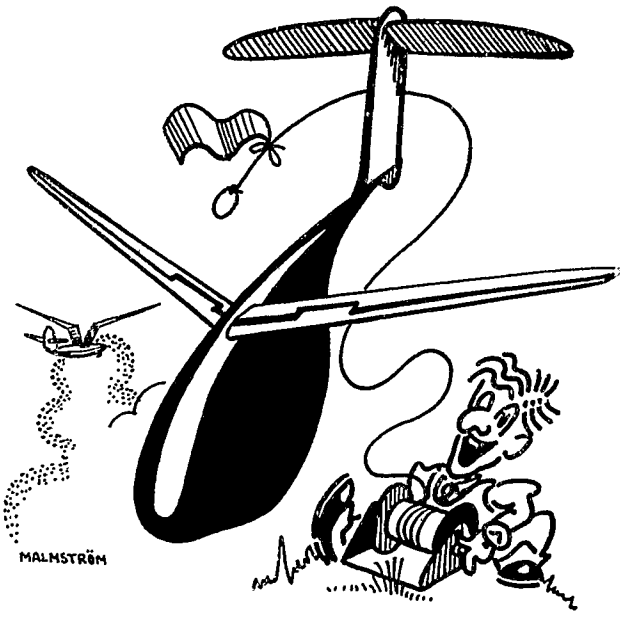
SECRETARIAL CHANGES

NORTH HULL M.A.C.
E. Storey, 31, Weighton Grove, Hull, Yorks.
CAMBRIDGE M.A.S.
P. Firman, 26, New Square, Cambridge.
SURBITON & D.M.F.C.
D. C. Butler, 111, Somerset Avenue, Hook, Surrey.
SWINDON M.A.C.
R. Dutton, Royston Hotel, Victoria Hill, Swindon, Wilts.
DUNDEE M.A.C.
W. N. Guild, 18, Kenilworth Avenue, Taybank, Dundee, Angus.

BANK HOLIDAY GALA RESULTS

Name.	*Club.*	*Time.*
PETROL.		
1. Gregory	Harrow	2 : 32.5
2. S. Lanfranchi	Bradford	1 : 47.7
3. Wilson	Hayes	1 : 35
DURATION.		
1. K. H. Lloyd	Harrow	5 : 21
2. A. J. Barr	Coventry	3 : 26
3. C. L. Houghton	Luton	3 : 20
GLIDER.		
1. Aitken	Bedford	11 : 2
2. D. Fash	Pegasus Power Club	7 : 51
3. Barrel	Coventry	3 : 7

CARICAPLANES No. 11



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(a)	Rubber-driven models and sailplanes		6d.
(b)	Petrol planes and petrol-driven race cars ..		2/6
(c)	N.G.A. Lapel Badge		1/3
(d)	Transfers : Large, 1d. each quantity ..... Small, 2 a 1d. each quantity		
(e)	Models insured for O.O.S. Number of models ..... at 2/- per model. The following details to be given on separate sheet for each model :—Type; span; length; rubber-driven or glider; colour; and any special feature.		

I enclose P.O. / cheque No. .....to cover the above items for.....

NAME (BLOCK CAPITALS).....

ADDRESS (BLOCK CAPITALS).....

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R.A.F. 31	S/4	EIFFEL 400	S/22
R.A.F. 32	S/5	EIFFEL 431	S/23
R.A.F. 33	S/6	GRANT X-8	S/24
CLARK Y	S/7	GOTTINGEN 387	S/25
CLARK Y-H	S/8	GOTTINGEN 398	S/26
N.A.C.A. 97	S/9	GOTTINGEN 413	S/27
N.A.C.A. 98	S/10	GOTTINGEN 426	S/28
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N.A.C.A. 4409	S/12	GOTTINGEN 532	S/30
N.A.C.A. 4412	S/13	GOTTINGEN 602	S/31
N.A.C.A. 4415	S/14	SIKORSKY GS-I	S/32
N.A.C.A. 6409	S/15	N.22	S/33
N.A.C.A. 6412	S/16	N.60	S/34
N.A.C.A. 6512	S/17	C.72	S/35
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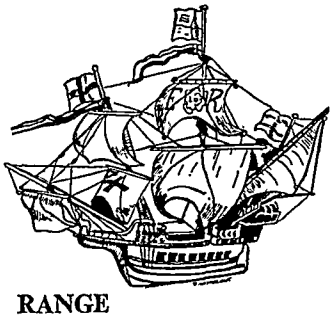

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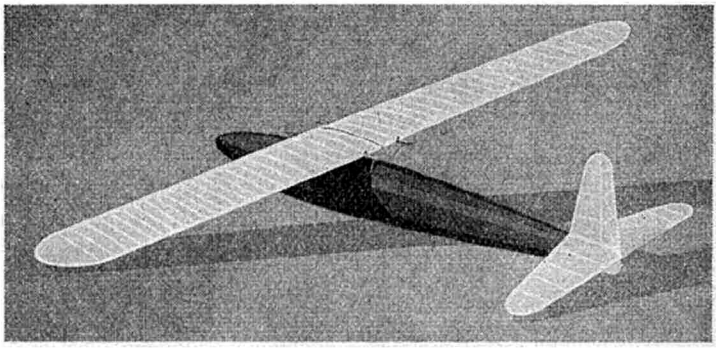

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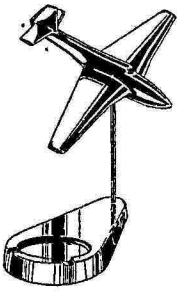

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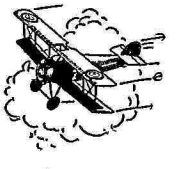

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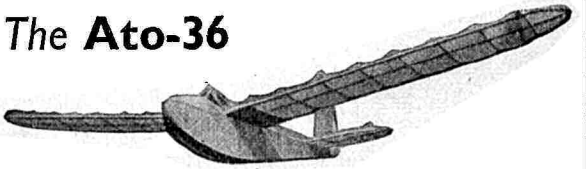

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"Model Airplane News," 1933–46, AEROMODELLER, 1940–46, "A.T.C. Gazette," 1941–46. Details, offers.—3, Silverknowes Drive, Edinburgh.

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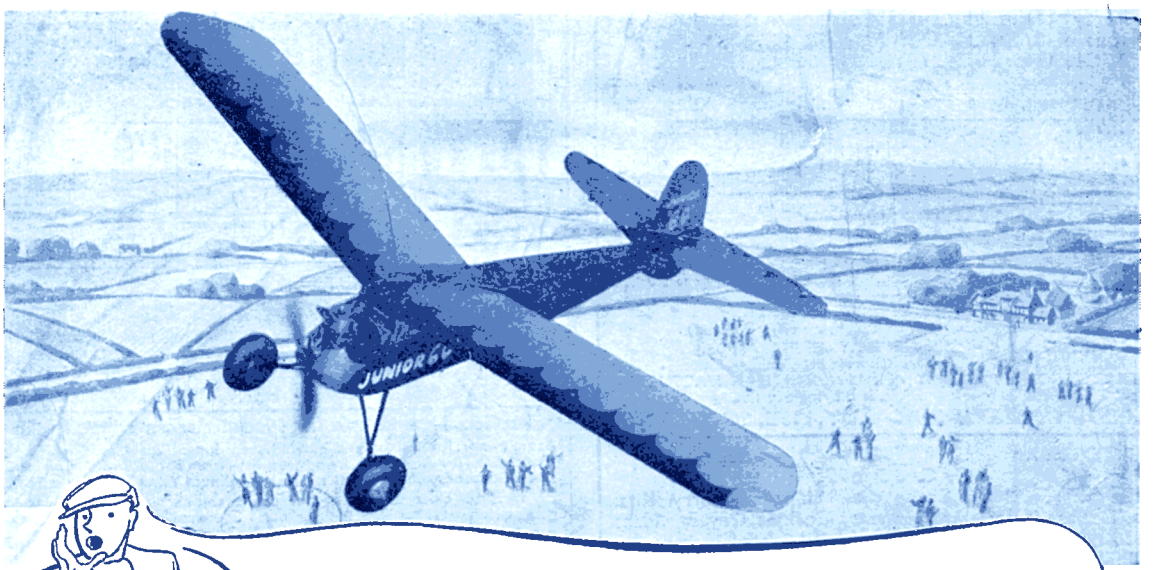

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