

AEROMODELLER



NOV.
1949

1/3

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41 in. SPAN DESIGNED FOR ENGINES
FROM 1 TO 2 c.c.

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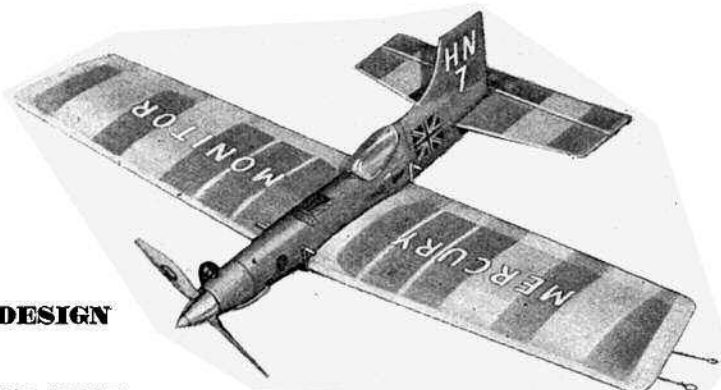
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Phone : HALIFAX 2729

Check THESE FEATURES ONE BY ONE FOR YOURSELF

- ★ SUPER-QUALITY KIT
- ★ ADVANCED DESIGN
- ★ EXCLUSIVE STRUCTURAL DESIGN
- ★ MANOEUVRABILITY
- ★ SLEEK SEMI-SCALE APPEARANCE
- ★ EXTRA RUGGEDNESS
- ★ KNOCK-OFF WING AND BUILT-IN CONTROL SYSTEM



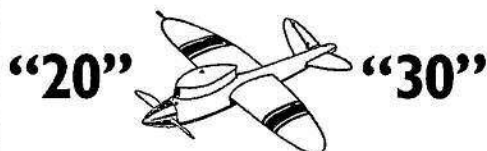
The Monitor is a short-coupled high-speed, low-wing monoplane which can be depended upon to perform every possible stunt on lines, yet is stable enough to respond perfectly with beginners. Recommended for Yulon 5 c.c. and Amco 3-5 c.c. The kit is complete in every detail (except dope) and includes accurately printed and cut top-quality Solarbo, excellent plans and instructions, tank, spinner, cockpit-cover, "hardware" cement, tissue, "decals," etc. A de-luxe kit for a super model.

27/6

FROM YOUR LOCAL MERCURY STOCKISTS.

AND YOU WILL BE CERTAIN TO CHOOSE A MERCURY

SPEED ON LINES! Two New DeBolt SPEED WAGONS



Hard upon the established success of the world record-breaking DeBolt Speedwagon, comes news of the DeBolt Speedwagon 20 and DeBolt Speedwagon 30 which Mercury are making in this country under exclusive licence from Harold DeBolt in U.S.A. These smaller versions of this magnificent speed-job will delight users of small engines. Ask your own Mercury supplier for release dates and prices. They will be ready soon as authentic American Dry Kits.

The Mercury Kit of the DeBolt Speedwagon made under licence in Britain pleases the most exacting modellers, and is worthy of this world record-breaking plane. Kit includes pre-formed fuselage, printed ribs, wheels, and everything except dope and fuel tank, which should match the engine.

29/6

GILI - CHOPPER—The plane with a pedigree. Sail-plane enthusiasts everywhere acclaim this new masterpiece by ace-designer Phil Gullmont. This is a 44-inch job designed particularly for contest work. The kit by Mercury is complete except for dope, and costs

12/6

Monitor

To Remind you

MERCURY MAGNETTE C/L
Intermediate Stunt Trainer 25/-

MERCURY MARLIN C/L
Acrobatic semi-scale job for Elfin 1-8 19/6

MERCURY MARLIN MITE C/L
For E.D. Bee, Mills 0-75 13/6

MERCURY DeBOLT SUPER-BIPE
Advanced stunt-trainer.. .. 29/6

ELFIN 2-49 c.c.—One of Britain's quality diesels 89/6

ELFIN 1-8 Supreme in its class 79/6

ALLBON ARROW
The new 1-49 c.c. G. Plug Speed Unit now on sale at Mercury Appointed Stockists 55/-

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MERCURY Balsa TOOL
The finest yet produced. Simple, strong and well finished. Handle, 2/3 Four assorted blades 6d. each

MERCURY STUNT - TANK KIT 2/6
Racing G. Plug/Spark Ignition (Pink Label). (See page 734) 4/6

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Pre-tested and checked for mile radius operation. A lightweight, dependable job that requires no knowledge of radio. With valves, less batteries 12½ gns.

AEROLAC Clear lacquers in 7 glowing colours. 4 oz. 2/6. 2 oz. 1/6. Thinners 2 oz. 1/-

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North 4272—Two Lines.

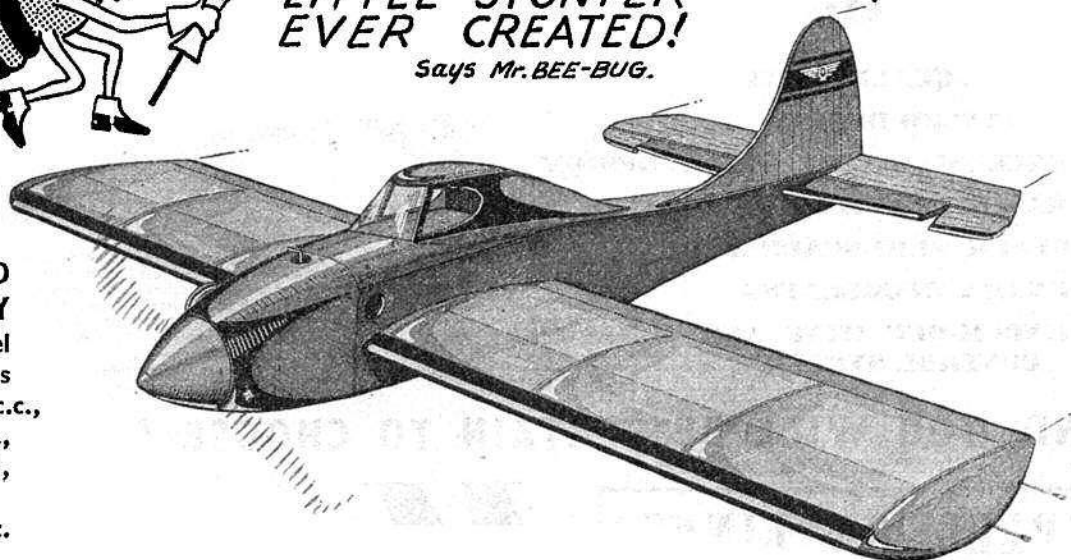
The BEE-BUG

22" SPAN
LIGHTWEIGHT
STUNT
MODEL



IT'S THE SNAPPIEST
LITTLE STUNTER
EVER CREATED!

Says Mr. BEE-BUG.



DESIGNED
EXPRESSLY
for small Diesel
motors such as
the E.D. Bee 1 c.c.,
Amco .87 c.c.,
Mk. I & II,
and the
Mills .75 c.c.

HERE IT IS!—the Little plane with the BIG performance. Specially designed for your small diesel motor. No longer need you believe that large engines are needed for all the stunts "in the book"—this little job will do them all!

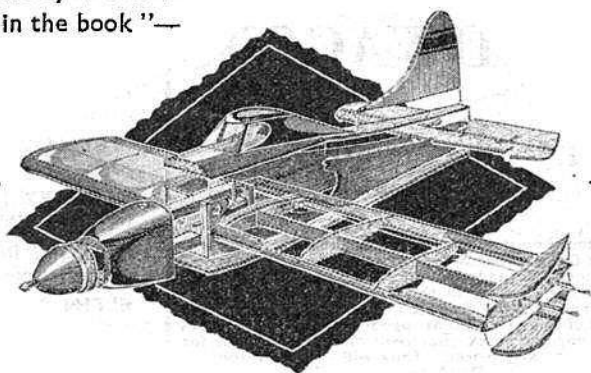
Phil Smith designed and tested the "Bee-Bug" in many forms before he finally evolved this simple-to-build, easy-to-fly, full range Stunt model. All the "snags" have been found and eliminated for you! Just look at these features—

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- ★ Short tail moment arm gives it a tight looping radius.
- ★ 6½ ozs., all up!

The Model is hand-launched and does not incorporate an undercarriage.

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THREE-FORTY-SIX



Another amazing Diesel from the E.D. Stable. Suitable for Model Planes, Boats, and Cars. Excels on control-line and can be fitted to the radio controlled "Queen."

DEVELOPS POWER EQUAL TO ANY 5 c.c. ENGINE ON THE MARKET

Put your money on the THREE-FORTY-SIX—it's a record breaker.

SPECIFICATION

Cubic Capacity	3.46 c.c. (.21 cu. ins.)
Bore	.656
Stroke	.625
Weight	5½ ozs.
Height	3 ins.
Width	1½ ins.
Length (with extended prop. hub and spinner)	4½ ins.
Engine Bearer Centres	9/16 ins. x 1 9/16 ins.
R.P.M.	10,000
B.H.P.	.250
Fuel	The E.D. Standard Fuel fully mixed, can be used until well run in 3/- per bottle The New E.D. Competition Fuel (adds 1,000 R.P.M.) only to be used on well run-in engines. Immediately available 3/6 per bottle
Compression Ratio	Variable to infinity
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Running Position	Upright and inverted
Controls	Needle Valve and Compression Vernier
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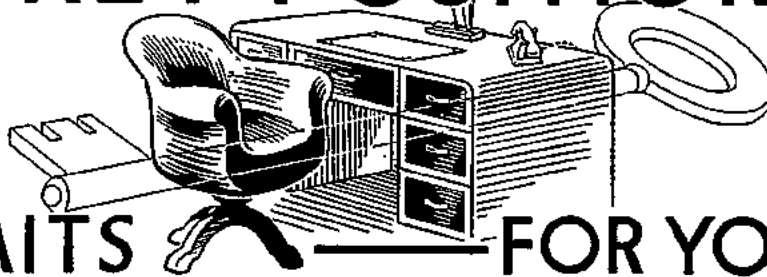
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TO HIMSELF

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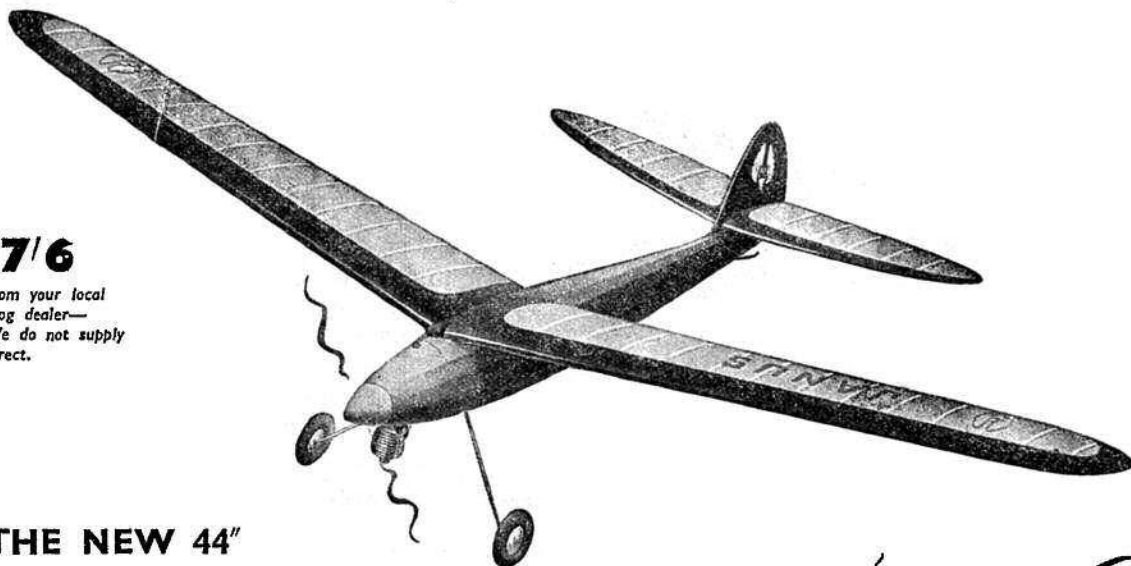
FROG



SUPER CONTEST MODELS

17/6

From your local
Frog dealer—
We do not supply
direct.



THE NEW 44"

"JANUS" CONTEST POWER MODEL

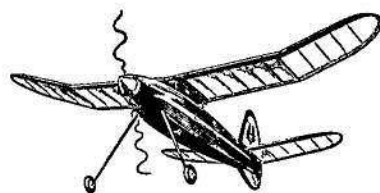
The FROG "Janus" is good! Over three years of intensive development work were put into this magnificent model and the results show it to be amply justified. Fitted with a Frog "100" or "160" motor the "Janus" has a fast, clean take-off followed by terrific climb and a soaring, thermal hunting glide, whilst a parachute dethermaliser brings it down safely after the 5 minutes are up. It is the ideal model for duration and ratio contests. The Kit is—as usual—absolutely complete and to the highest FROG standards. It includes cut-out wing and tailplane ribs, fuselage bulkheads, etc.: shaped and slotted trailing edges and all other wood parts cut to shape. A special feature of the "Janus" is the new FROG quick-reference scheme of numbering all wood parts to correspond with the drawing. All accessories such as shaped wire undercarriage legs, plastic wheels and spinner, cowling parts, etc., are supplied. Construction is simple and straightforward from the fully detailed drawings.

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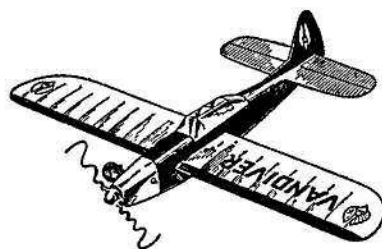
"STARDUST"—37" span rubber powered duration model. A certain "tops" in contests .. **10/6**

"VANDIVER"—26" span Control Line stunt model. Famous the world over for smooth aerobatics **13/6**

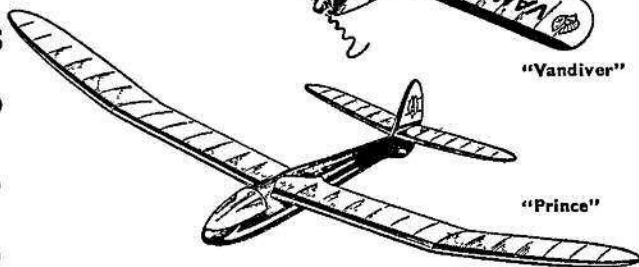
"PRINCE"—60" span contest sailplane. A super kit for a magnificent model **25/-**



"Stardust"



"Vandiver"



"Prince"

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Flying Models
& Engines

International Model Aircraft Ltd.

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PENGUIN
Plastic
Scale Models

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The new Improved Balsa Cement 5d. & 9d. Impervious to Hot and Glo Fuels. Deep penetrating, dries very quickly. Crystal Clear. Oilproof. Resists Heat. Will not Jellify. Everything a good cement should be.

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Grain Filler, 2 ozs. 1/3,
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4 ozs. 2/9, 1/2-pt. 4/6
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Tissue Paste, Jars 7 1/2d.
Large tube 7 1/2d.
Model Dopes, 17 bright
colours, 1/3, 2/3 & 4/-
Waterproof Finish .. 9d.
Rubber Lubricant .. 9d.



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Here is an original departure in British G. Plug Design—a small, light-weight speed unit that is going to add punch to the 1.5 c.c. class. The 1.49 c.c. Arrow is remarkable value and is ready for immediate delivery at 55/-

E.D. 3-46

When E.D. bring out a new engine it makes NEWS. This job, the largest in the E.D. Range, is a first-class piece of power-engineering. As advertised 92/6

K.K. ZIPPER HYDROPLANE

With K.K.'s name behind it, this newest water-speed job can be depended on completely 32/6

E.D. HYDROPLANE

This first-class speed job now supplied at the new price of 42/6

FROG JANUS

Another fine example of Frog Design. This 44-in. F/F plane for 7 to 2 c.c. engines costs 17/6

PREMIER PIPER GRASSHOPPER

A fine 60" scale F/F job, for 5c.c. engines. 45/-

GILL-CHOPPER SAILPLANE

Mercury's finely-kitted job by ace-designer Phil Guilman. 12/6

MERCURY No. 7 FUEL

The remarkable new racing fuel for G. Plug or Ignition that is already helping make new records. In 8-oz. bottles, PINK LABEL. 4/6

SELECTED FROM OUR No. 5 EASY-REF. LIST

CONTROLLINERS

Mercury Monitor—Ideal Speed/Stunt	27/6
Halifax Millsbomb II	18/6
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Shaw's Dervish	19/6
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K.K. Gipsy (Wakefield)	10/6
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K.K. Junior 60*	39/6
Halifax Jaguar (1948 Wakefield)	21/-
All the K.K. Slickers	...
Halifax Hermes	18/6

* Suitable for Radio Control.

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Mills 0.75	65/-
E.D. Bee	45/-
E.D. Comp. Spec.	77/6
Allbon 2.8, Mk. II	96/-
Amco 3.5	97/6
Yulon 5 c.c. G. Plug	135/-

We are sole London retail distributors for Yulon Engines.

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K.K. TRUFLEX UNBREAKABLE PROPS save you money because of their ability to stand up to hard wear. They are scientifically shaped, with types for all jobs. We carry the full range as advertised.

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Complete Outfit (less batts.)

Transmitter	12 1/2 gms.
Receiver	£7 12 0
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E.D.

Range of control guaranteed up to 1,000 yards, but can be operated over greater distance. Complete (less batts.) with valves and clockwork servo. £14 10 0

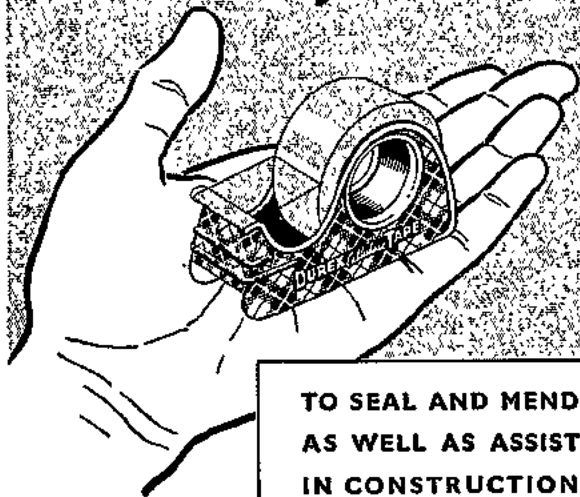
R/C EQUIPMENT MAY BE PURCHASED ON EASY TERMS

HENRY J. NICHOLLS LTD.

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A Model Repair Outfit in the palm of your hand!

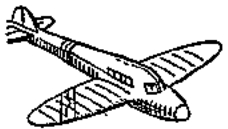


TO SEAL AND MEND
AS WELL AS ASSIST
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"DUREX" Tape-it!



MENDS SPLIT PROPS



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A broken 'plane wing... a split prop... these and other repairs carried out in a jiffy with "Durex" Cellulose Tape. Clean and easy to handle, it sticks at a touch, is as transparent as glass and comes in for a thousand and one home repairs. You pull it out from the neat dispenser as required without mess or sticky hands. A boon to every model maker and a great help in all planning and constructional problems. Use it for mounting snaps in albums, for sticking parcels, repairing torn books and every other sticking job.

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"DUREX" Cellulose TAPE

Has every Sealing Job TAPED

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BALSA WOOD!!!

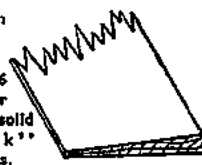
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3 Section

BALSA
1/4" x 3" x
1/8" .. 1/6
Ideal for
wings on solid
"Chuck"
Gliders.



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1" x 1"	2/- doz.
1 1/4" x 1"	2/6 doz.
1" sq.	1/- doz.
1 1/4" x 1"	1/6 doz.
1 1/2" x 1"	2/- doz.
1 3/4" x 1"	3/- doz.
1 7/8" x 1"	4/- doz.
2" sq.	2/- doz.
2 1/4" x 1"	3/- doz.
2 1/2" x 1"	3/6 doz.
2 3/4" x 1"	4/- doz.
3" sq.	3/6 doz.
3 1/4" x 1"	4/- doz.
3 1/2" x 1"	5/- doz.
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4" sq.	6/- doz.

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1/2" x 3"	1/2 each
3/4" x 3"	1/2 each
1" x 3"	1/2 each
1 1/4" x 3"	1/4 each
1 1/2" x 2"	8d. each
1 3/4" x 2"	8d. each
2" x 2"	10d. each
2 1/4" x 2"	1/- each

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3/4" x 1"	2/9 doz.
1" x 1"	3/- doz.
1 1/4" sq.	2/9 doz.
1 1/4" x 1"	3/- doz.
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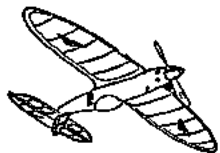
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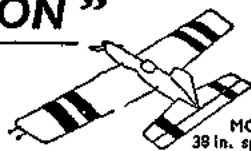
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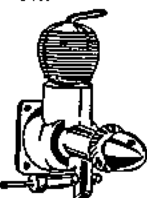
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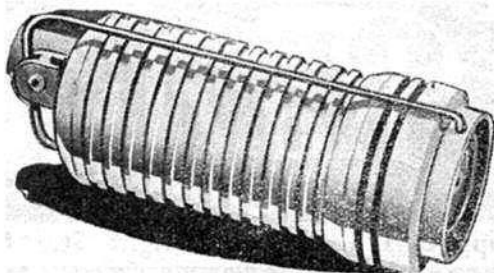
THIRD W. Henderson, 3 minutes 48 seconds, with a 28-second engine run using a Jetex 200.

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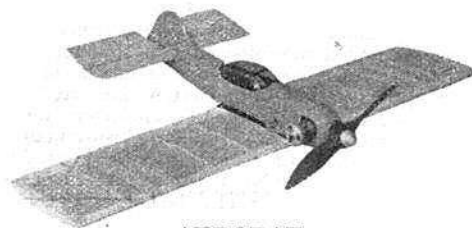
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Contents

VOL. XIV. No. 166 NOVEMBER, 1949

1949 Club Survey

IN this issue we publish Mr. Rushbrooke's 1949 Club Survey which will undoubtedly make interesting reading for not only club officials but many thousands of our readers. We would like to thank Club Secretaries throughout the country for their co-operation in providing the information from which the survey has been compiled. The increase in Clubs is very satisfactory and even more so the increase in membership.

To our mind, the most startling figure—admittedly it is an estimate—is that of 64% for the percentage of Club Members who are flying power driven model aircraft. This means that close on 10,000 members of model aeroplane clubs in this country should be protected by Third Party Insurance. From information in our possession, however, it is clear that not all these members are insured. If a percentage figure of anywhere near 64 applied to the rest of the aeromodellers in this country, then we doubt very much whether even 1 in 10 was covered by Third Party Insurance. So, once again, we stress the point of all modellers being protected by Third Party Insurance. Particularly does this admonition apply to those who fly power driven model aircraft; but since the insurance for those who fly rubber driven models and gliders is literally a matter of pence per annum, we see no reason why this essential protection should not be made use of by all.

Trade Directory

Just published is the latest issue of the Aeromodeller Trade Directory of Model Shops throughout the country, something like 1,000 names and addresses being given. Printed in handy booklet form of 16 pages this trade directory is available to model shops proprietors and readers of the AEROMODELLER free of charge, but on receipt of a stamped addressed envelope of size not less than 9 by 6 ins.

The work involved in compiling this directory and the cost in publishing it is substantial, but it is part of the AEROMODELLER service to produce it and make it available free to traders and readers. For the reason that it is *issued free*, we feel it is reasonable to ask readers to provide a stamped and addressed envelope when applying for the directory.

Your Questions Answered

In this issue we re-introduce our popular pre-war feature "Questions and Answers". Readers are reminded that this feature is "their" feature. The questions and answers are not "written up" in our Editorial department. The questions are "genuine" as received by us and the answers (if not right every time!) at least will be genuine efforts on the part of our Editorial Staff to help our readers. We intend to make this feature a regular one and will look forward therefore to a steady in-flow of questions. Readers should bear in mind that for questions to be published with the answers it is essential that they are original and of general interest.

Especially for the Beginner

Commencing in our Christmas issue, which incidentally will be the usual 100 page double number and published on November 25th, we shall be introducing another feature which also we hope will remain a permanency. This will be a special section for beginners and is being inaugurated in response to the many new readers we have been obtaining. It is not easy to find a suitable writer to conduct a beginners' section because many an expert aeromodeller may lack the facility to explain in easy-to-understand language that which is to him so-easy-to-understand! However, we shall be pleased to introduce the Rev. F. Callon, a keen and experienced aeromodeller, who will commence his series with a description of a novel yet simple to build model glider and will be pleased to answer, in his monthly articles, beginners' questions.

Deliveries

We are still getting complaints from readers—some of them quite new ones—of the difficulty they are having in obtaining copies of the AEROMODELLER regularly each month. Most of these complaints are from out-lying districts but we wish to emphasize that there is now sufficient paper to provide

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a copy for everyone and that there is no sound reason why a copy of the AEROMODELLER cannot be obtained in any part of the country. Any reader who still experiences trouble is invited to write in to our Head Office at the Aerodrome, Eaton Bray, not forgetting to give the name and address of the newsagent with whom he has placed his order.

International Sailplane Class

In this issue we publish in "Readers' Letters" correspondence from two prominent sailplane enthusiasts regarding the setting up of an International Sailplane class similar in standing to the Wakefield formula for rubber driven models.

P. T. Guilmant, following conversations with Scandinavian enthusiasts during a recent trip to Denmark, suggests we give the Scandinavian International class serious thought. Equally R. F. L. Gosling who has conversed with Van Hattum and Frank Zaic amongst others whilst in Holland at the Dutch Nationals, put forward a similar suggestion. Their technical specifications are slightly different but the common aim, already shared by many, to establish an International class for annual contest is excellent.

We invite the consideration of every sailplane enthusiast to the suggestions put forward by Messrs. Guilmant and Gosling together with their own opinions, so that the establishment of a suitable class can be speedily accomplished.

International events such as these are a spur to the advancement of design and the promotion of sportsmanship and should therefore be encouraged to their fullest extent.

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ESTABLISHED 1935

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Editor :

C . S . RUSHBROOKE

Assistant Editor :

H . G . HUNDLEBY

Public Relations Officer :

D . J . LAIDLAW - DICKSON

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A PIRATE ABROAD I Max Coots, centre
stooping, listens on his portable detection set
to an unknown transmitter that held up pro-
ceedings in the Taplin Trophy. The gentleman
who is troubled by this transmitter is one of
the Hook Brothers, two R/C enthusiasts from
the Zombies Club.



Mis-use of Airfields.

The behaviour of visiting (and resident) aeromodellers on flying fields, particularly those of the Service variety, has been coming in for some hard comment recently, and the following letter just received from the secretary of the Merseyside M.A.S. brings us to the stage where we feel editorial comment and castigation justified.

Mr. Alexander writes as follows: "The Northern half of the North/South S.M.A.E. competitions were flown this year at Sealand Aerodrome. The meeting was marred by two things (1) the unpardonable rudeness and downright refusal of some of the competitors to obey the R.A.F. personnel in charge of the airfield in the matter of keeping the main runway clear, and (2) the disgusting mess of litter and bottles left behind by some of the competitors. Sealand Aerodrome will not be used for next year's North/South competition because, for the above reasons, the Commanding Officer has withdrawn his permission for aeromodellers to use the field.

"Perhaps (though I doubt it) it will make those people who were to blame more careful in future when they realise, through their irresponsible and thoughtless actions, they have lost for aeromodellers on Merseyside and the Wirral the use of the only first-class flying ground in the area, and for the S.M.A.E. the use of one of the best flying grounds in the country.

"I think that I may claim to speak for the more responsible element of our Movement when I say that such behaviour—the fouling of another's nest—does more harm than any other action. If, by a miracle, we obtained the use of another first-class flying ground in the area, could anyone blame us if we

adopted a parochial attitude and refused to hold any large meetings on it?"

Having been present at Sealand during the contest in question we can sympathise with the Merseyside Club's feelings, as although we did not witness any of the incidents complained of regarding keeping the main runway clear, it was impossible for anyone to overlook the untidy state of the airfield, which is all the less understandable in view of the fact that rubbish receptacles were available and should have been used for their proper purposes. Probably the modellers responsible thought that the R.A.F. personnel would be only too pleased to clear up after them!

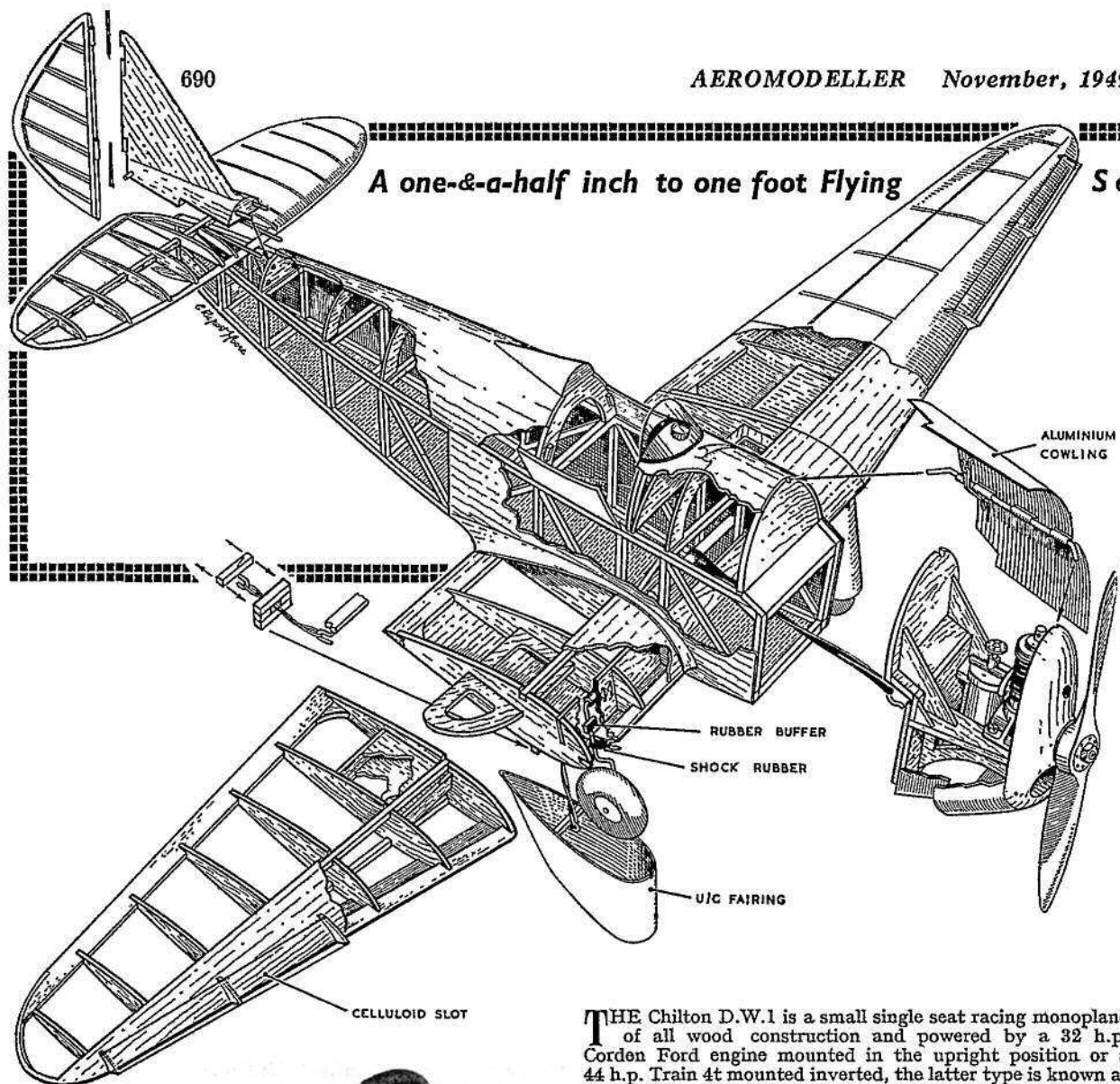
This careless attitude and lack of respect for facilities is hard to understand in view of the constant moans we hear from modellers that "they have nowhere to fly." If the conduct witnessed at Sealand is any criterion the fact that they are "homeless" is not to be wondered at, and that they are gradually losing what they have is nothing more nor less than their own downright fault.

Possibly no reader will admit that the cap fits him personally, but we are of the opinion that it is a very large cap, which fits the whole of the Movement at present, and this journal cannot condemn too strongly the "couldn't care less" attitude of the vast majority who are so grossly misusing facilities placed at their disposal by the Services and other airfield owners.

Editorial Vacancy

We would draw the attention of all readers to the vacancy on the "AEROMODELLER" staff advertised on page 740 of this issue.

A one-&-a-half inch to one foot Flying Scale



THE Chilton D.W.1 is a small single seat racing monoplane of all wood construction and powered by a 32 h.p. Corden Ford engine mounted in the upright position or a 44 h.p. Train 4t mounted inverted, the latter type is known as the D.W.2. The Chilton was designed in 1936 by two ex-D.H. technical school students who founded the Chilton Aircraft Co. and put the machine into production at Hungerford. Several of them are still on the Civil Aircraft Register: one, G-AFGH a Corden engined version is jointly owned by members of the Denham flying club.

Cover shows this latter machine rounding a pylon, closely pursued by H. K. Hughes' Tiger Moth in the Grosvenor Challenge Trophy Race at Elmdon on August 1st last.

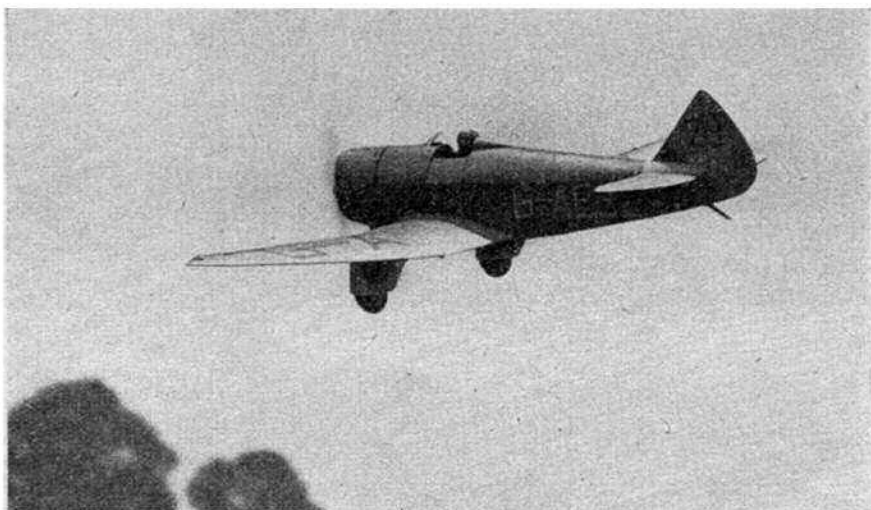
The Chilton was piloted in the race by H. Bilborough of the Denham Aero Club.



John M. Greenland, . . . Age 18½, Student at the de Havilland Technical School, Hatfield. . . Elder son of Sq. Ldr. H. J. Greenland, Test Pilot at Hatfield. . . First started solid modelling in 1942, progressed via gliders and semi-scale to rubber driven and powered scale flying models. . . Has never been a member of any club. . . The Chilton Monoplane is his fourth contribution to the Aeromodeller.

Model of the Chilton D.W.I

DESIGNED BY
J · M · GREENLAND



About a fortnight previous to the race, AFGH had sustained serious damage as the result of a forced landing near Watford, but with the assistance of the present owner of AESZ (now stationed at Thruxton, near Andover) who supplied various components needed for the repair work, the machine arrived at Elmdon on the day before the race was due to take place. A Train engined version, G-AESV, is owned by Squadron Leader Porteous. Reference to E. J. Riding's Civil Aircraft No. 27 in the February, 1946 issue of the AEROMODELLER will provide information as to the colour schemes, registrations and history etc., of the full-sized machine. The model is a replica of the prototype D.W.I G-AESZ. It has a red fuselage, silver wings and tail unit, the registration is in red on the wings and silver on the fuselage. The number 29 is in black on the fin and was the machine's racing number in the 1937 Isle of Man race. Rugged and simple construction is used throughout, the model can be taken apart into six separate pieces which are easily carried about or stored away. Two engines have been tried out in flight, the Clan '9 c.c. and the Amco '87 c.c., the Amco gave the better performance since it is the lighter engine. However, almost any engine of under 1 c.c. that will swing the scale size propeller at over 5,000 r.p.m. will be suitable. The pilot shown in the photographs is a paper pressing made in the same way as is described for the undercarriage trousers.

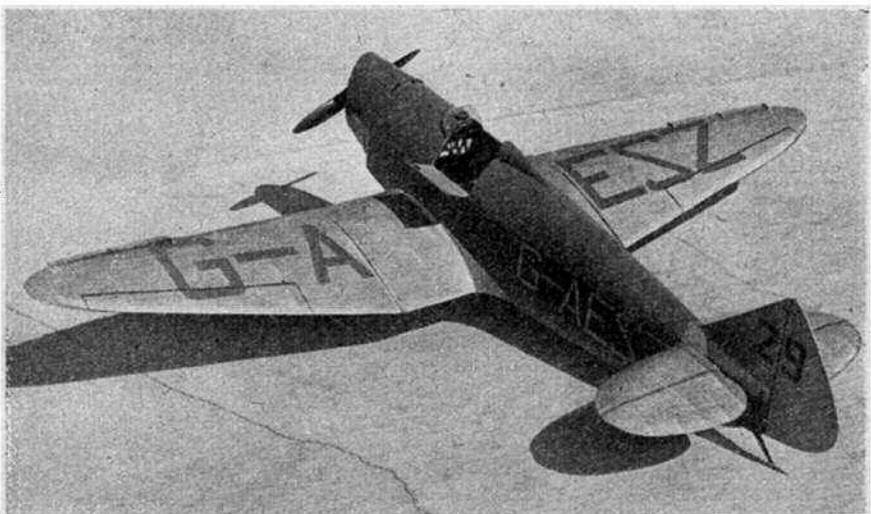
The finish on the model is Titanine cellulose dope sprayed on to clear doped rag tissue the letters being drawn on with a soft pencil and printed by hand.

Construction.

All the main components, fuselage, wings, etc., are so simple to build that anyone who has built one or two duration models can tackle

them with ease. The only parts likely to cause difficulty are the engine cowling and undercarriage trousers. The top cowling is made of 26 gauge aluminium and is in two halves hinged together along the centre line. The 16 s.w.g. hinge pin is inserted at one end into the fuselage and at the other, forward end, into the nose of the "power egg," this makes it impossible for the cowling to come off unless the "power egg" is detached from the fuselage. It is advisable to make a paper template before cutting out the aluminium panels, there is no double curvature so there is no beating to be done, the metal can be easily cut with scissors and trimmed with a file. The hinge is made by leaving $\frac{1}{4}$ in. tongues at the CL which are wrapped round a piece of 16 s.w.g. wire interlocking alternately with the opposite panel. They should be spring loaded to hold them shut by means of a simple coil spring or rubber band. The lower cowling is of $\frac{3}{64}$ in. sheet celluloid, moulded to shape by heating in front of the fire and bending with the fingers until it fits, it is a permanent fixture to the engine bearers. There is an exhaust and oil outlet in the bottom as shown on the plan, the engine attachment bolts are accessible through the air intake.

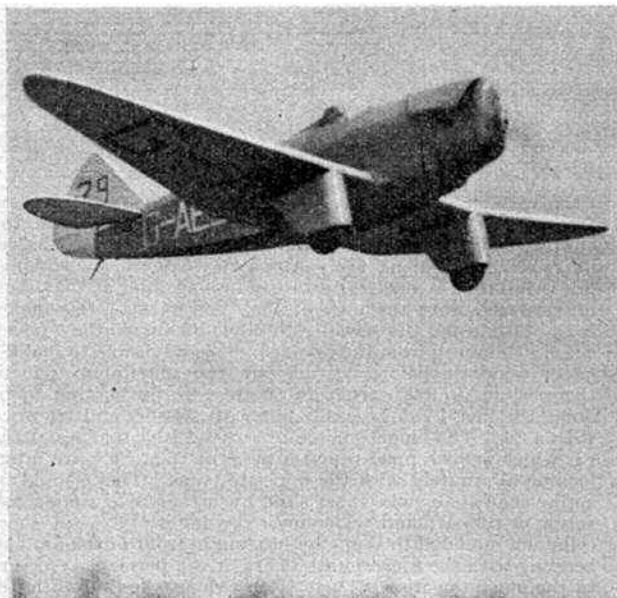
Each undercarriage leg is of 16 s.w.g. steel wire passed through a piece of brass tubing $\frac{3}{8}$ in. long which is bound securely to the undercarriage stress spar with strong thread and coated with plenty of Durofix. The shock absorbing is in a backward direction, rubber bands being stretched round the



Simple to build, easy to fly, and capable of withstanding the usual punishment, are features of the Chilton. Note the hinged cockpit side on the photo right, and the "real aeroplane" look enhanced by the "pilot" in the flying shot above.



" Aeromodeller " Photos.



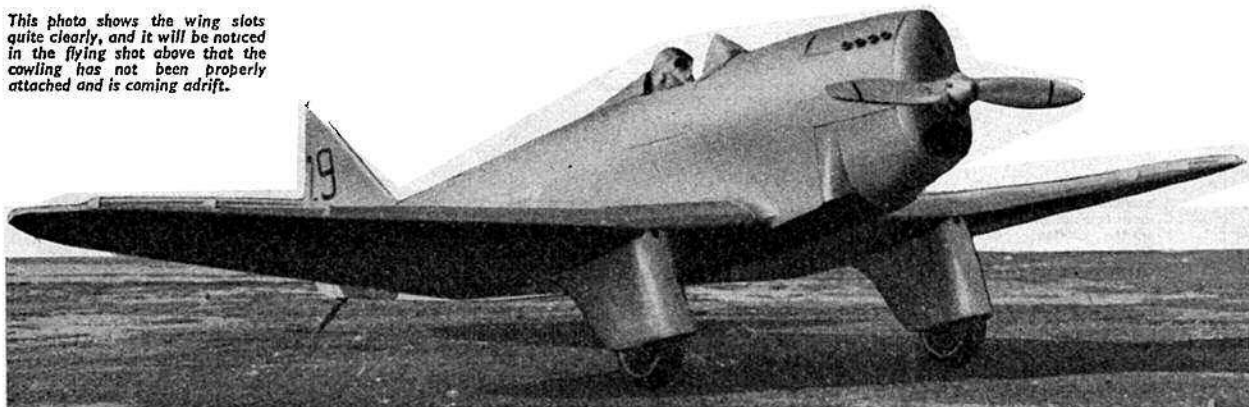
undercarriage leg to a 20 s.w.g. wire hook on the leading edge, externally, pulling the leg forward against the undercarriage stress spar. Backlash shock absorbing is taken by a $\frac{1}{2} \times \frac{1}{4} \times \frac{1}{8}$ in. piece of soft rubber stuck to the stress spar as shown on the plan. The leg, springing, and half of the wheel are hidden by a pressed paper trouser which is made by pressing 4 or 5 layers

of paste soaked newspaper into a plaster mould. The mould is made by building a balsa "model" from two pieces of $\frac{1}{4}$ in. sheet balsa temporarily cemented together carved to shape, and then cellulosed to a very smooth finish after which the two halves are separated and cast in plaster of Paris by laying them on a sheet of glass and pouring plaster over them. A plasticine wall is built up round the job to keep the plaster in shape until it is set. The whole job, including the actual paper pressings can be completed in an afternoon, and is a good deal simpler than carving each trouser from solid balsa, furthermore, should one become bent or crushed it is easily replaced. Note that the trousers are sprung, being held on with a rubber band stretched to the hook on the L.E. and passed through a kind of bridge as shown on the drawing.

While being tested with the Clan '9 c.c. engine a metal airscrew was used, this was made up from a piece of $\frac{1}{4} \times \frac{1}{4} \times 7\frac{1}{2}$ in. Dural Strip filed to section and then bent to the required pitch and polished. Later the Amco '87 c.c. engine was fitted and a wooden airscrew used of $6\frac{1}{2}$ in. diameter. Originally the model was fitted with a counter balanced rudder as fitted to Bagley's Nieuport and G. E. Fisher's Sopwith Pup but it was found to have no advantages and was finally scrapped. Two tailplanes have been used, the first was exactly scale size cut from "sheet" balsa with a symmetrical section. The model managed to R.O.G. with this, but was longitudinally unstable. An enlarged tailplane of $\frac{1}{2}$ in. greater span and a very high lift section was then fitted, built up construction being used, this was set at a lifting angle of 2° and the model performed satisfactorily.

The model has a very high flying speed and glides well, it is advisable to fly it over either very long grass or very, very short smooth grass such as an aerodrome where it can land without hitting lumps of mud, etc. The take off is most realistic, flying speed is gathered in about 25 yards, after which the model becomes airborne and holds a height of approximately 18 ins. for a further 12 yards or so, then climbs steeply up turning slightly to the left.

This photo shows the wing slots quite clearly, and it will be noticed in the flying shot above that the cowling has not been properly attached and is coming adrift.



LIL ZOWIE

DESIGNED BY
B. T. FAULKNER
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THE AEROMODELLER PLANS SERVICE
THE AEROCROME, STAMBRIDGE, NR LEIGHTON BUZZARD, BOS

ALL WOODS UNLESS OTHERWISE STATED ARE Balsa

POWER

ORIGINAL COVERED WITH E.D. BEE.
BUT ANY DIESEL OF SIMILAR POWER
& WEIGHT CAN BE INSTALLED.
LINE LENGTH .30 FEET

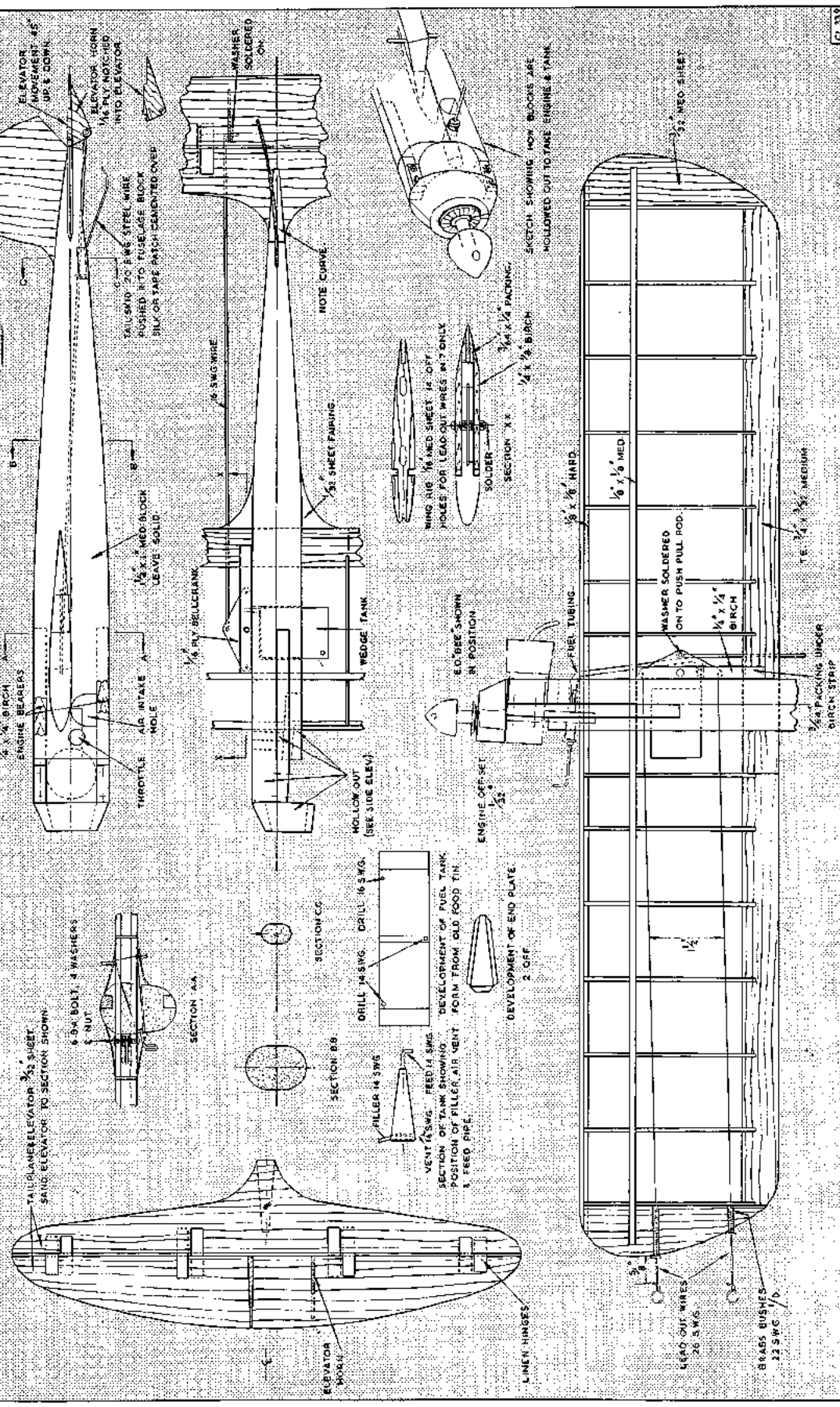
- STRIP**
- 1 STRIP OF 1/8 X 1/8" HARD BALS.
 - 1 " 1/4 X 1/8 X 5" MED "
 - 1 " 1/4 X 1/8 X 7" "
 - 1 " 1/2 X 3/16 X 1/2" "
 - 2 SHEETS OF 3/32 X 3/32 X 36" MED BALS.
 - 10 1/2" OF 1/8 SWG WIRE
 - 27 " " " "
 - 27 " " " "
 - 1 1/4 X 1/2 X 13" MED BALS.
 - 5/8 X 1/2 X 1 1/2" "
- MATERIALS REQUIRED**
- MISCELLANEOUS.
 - 1/4 X 1/8 X 5" BIRCH
 - 1/2 X 3/16 X 1/2"
 - SCRAPS OF 1/4" BALS.
 - 10 1/2" OF 1/8 SWG WIRE
 - 27 " " " "
 - 27 " " " "
 - 1 1/4 X 1/2 X 13" MED BALS.
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HAVING purchased an E.D. Bee 1 c.c. diesel, this small stunt model was designed for it, based on six previous models which had been systematically developed for the Mills diesel.

It was gratifying to find that Li'l Zowiee was very pleasant to fly, so pleasant, in fact, that after the "pilot" had been taunted by a friend outside the circle, it was looped on the twelfth circuit of its first flight. Since then it has flown inverted and done a horizontal eight.

It can be said, without hesitation, that this plane is a really good kite and for this reason, and because of its obvious cheapness, the design might be appreciated by other readers of the AEROMODELLER. The model and engine together cost only £2. 10s. 0d.

Another point in its favour is that it can be built in three evenings: the original took only six hours, and the appearance of the finished model is very pleasing.

Method of Construction

Wing. This is quite straightforward, being built on the plan. Note that the Leading Edge must be packed up $1/8$ in. and the Trailing Edge $5/32$ in. before starting to build. The brass bushes for the lead-out wires should be well cemented in grooves in the wing-tip, and the holes for them are cut in seven ribs only. Note that the wires sweep back slightly to the wing-tip. This helps to keep the nose of the model pointing out of the flight circle.

Tailplane and Elevator. This is shown clearly on the plan. Notch the ply elevator horn into the elevator in the position indicated, the hole for the push-pull rod having been drilled accurately to ensure the correct movement. After the tailplane and elevator have been hinged together, cement into slot in fuselage. The fin can now be steamed to the correct curve to give offset and fixed in place.

Fuselage. Cut the engine bearers to length and chamfer to give engine offset. Carve and sandpaper the block to shape and chisel out $1/4$ in. \times $1/4$ in. slots to take the engine bearers. Cement these in place. Hollow out the front of the fuselage for the air intake and drill holes for needle valve and choking, where indicated on the side view. If this is done with the engine in place, cover the exhaust ports with adhesive tape to avoid dust entering the engine. Cut the $3/32$ in. slot for the tailplane and cement strongly in place.

A slot of the correct shape having been cut through the fuselage, the wing can now be fitted. Now add the birch

bellcrank carriers and attach the bell crank. It is important to use the correct bellcrank and elevator horn, otherwise the model will be over-sensitive.

The push-pull rod and lead-out wires should be fitted next, 45° up and down movement being allowed.

The next step is to fit the wedge-tank, for which it will be necessary to enlarge the wing slot slightly. See Section "A" as a guide. Ascertain that this does not interfere with the bellcrank or control wires before attaching permanently. The $1/32$ in. sheet fairings can now be added to the wing roots. **Finishing and Covering.** The fuselage, tailplane and elevator should receive two or three coats of clear dope smoothing with fine sandpaper between coats. At the nose, soak the wood well with dope or banana oil as a protection against fuel.

The original model was covered with light grade rag tissue, the fuselage being doped light blue, the wings orange and the fin trimmed with red and white horizontal stripes.

The wire hoop shown in the sketch was fitted to the original model as a safeguard against breaking wooden props. It is looped around the front engine bolts and held in place by the nuts. It works well and will protect the prop. at whatever angle the nose of the model touches the ground.

Flying. For calm days use 30 ft. line of heavy button thread or carpet thread. When there is a wind reduce the length to 20 ft. Due to the position of the bellcrank at 50% chord and the sweepback of the wires, the lines will be tight at any angle.

First flights should always be made in calm weather and if there is a slight breeze, the model must be launched downwind. It is general practice to hand launch these small models and the helper should run forward a few paces to give the model sufficient flying speed and keep the nose of the model pointing out of the flight circle when launching.

Before advancing to the first stunt note that the general rule, and the most important, is to start the manoeuvre with the wind at your back. This uses the wind as an aid to keeping the lines tight. Although the actual position in that half of the circle will vary with the particular stunt, the wind should always be either on your right cheek, left cheek or the back of your neck. The best stunt with which to start, is the wing-over, i.e., cutting the circle in half by flying the model through 180° over your head. If your little model will complete this stunt with tight lines the whole way over, it is safe to say that it will do whatever you ask of it.



Lulu

A 50" SPAN LIGHTWEIGHT
CONTEST GLIDER THAT
CAN BE CONSTRUCTED
IN APPROXIMATELY 4 HOURS

DESIGNED BY
J. BARKER

J. Barker . . . 22 years . . . modelling since 11
. . . single . . . member of Grantham Zoomers
. . . by profession an engineering draftsman . . .
has built all types except R/C . . . prefers
light-weight rubber . . . feels that F.A.I.
stands for Federation of Antiquated Ideas!

THE machine is a contest type and as such will probably require to be built rapidly. Following the method outlined below, the first two I built took four hours apiece to build, which is a reasonable time.

Fuselage. Cut the sides out of 3/32-in. sheet both together and then join by formers F3 and F4. Pull in tail and nose and insert other formers. Bend tow hook from 16 swg and fix with strap. Note that tow hook requires no binding and is accessible if it comes loose on comp. days. Add wing and tailplane dowels, tailplane seat and the celluloid tube at rear of body. The tail fixing band passes through this tube and gives a neater, easier fixing. Note that both wing dowels are in front of the formers, keeping the wing firm in position, and stopping twisting. This particular shape reduces drag by following the downwash, gives favourable C.L.A. position and keeps C.G. well forward.

Fin. This is a simple structure of 1/8-in. stock and is fixed to the body, thus preventing shifting between flights. The reasons for its shape are as follows:—

It leaves a large amount unblanketed on the line, and on the floor it keeps the tailplane from snagging. And also, more

important, it keeps the machine in a tight turn with little rudder offset.

This is the opposite reason why most people put them on, but I am afraid that they over-estimate the momentum of a lightweight job.

Tailplane. This is again a simple structure of 1/8-in. stock and requires no building instructions. The flat section is, of course, in line with modern theory.

Wing. From starting construction to getting all necessary parts pinned down onto the plan takes about 20 minutes using the method below.

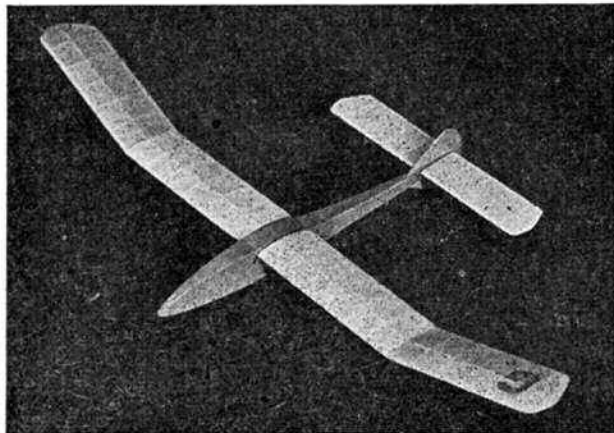
Commence by cutting front and rear rib templates from ply. Now take a 3-in. wide sheet of 1/16 in. and cut off five rectangles 3 ins. wide \times the length of the front template (1 5/8 ins.) and five off 3 ins. wide \times the length of the rear template (2 7/16 ins.). Now place these rectangles on top of one another and divide the 3 in. width into five again and then you have a full set of rib blanks and two spares. Next pin two pieces of 3/16 in. square, one 1/2 in. long and one 1 1/2 ins. long, on to your building board in the form of an L. Now slip two rib blanks with the template on top into this jig and trim away the excess. Continue for other ribs. In this way the ribs are speedily and very accurately cut.

Note that the trailing edge stock is also used for the tips and the main spar stock is used for dihedral braces and gussets. The fairing is mated up to the fuselage and don't forget the strip of celluloid to stop the bands biting into the trailing edge.

Covering. Cover wings and empennage with lightweight tissue (but not rag tissue) and dope. Take great care of the tailplane during this operation. Doping of course depends on the quality of the dope and tissue, the way you put it on and the type of weather you intend flying in, but in any case don't use too much and keep off high gloss varnish preparations, etc. I would recommend weighting to position C.G. next to prevent spoiling the body finish.

Finish the sheet fuselage by any of your favourite methods and get as high a gloss on as possible to keep it in sight.

Flying. If you have built it pretty true and the C.G. is right, don't worry too much about a calm day to test it on. Don't waste too much time hand launching but make sure she's flying straight for the first two flights.



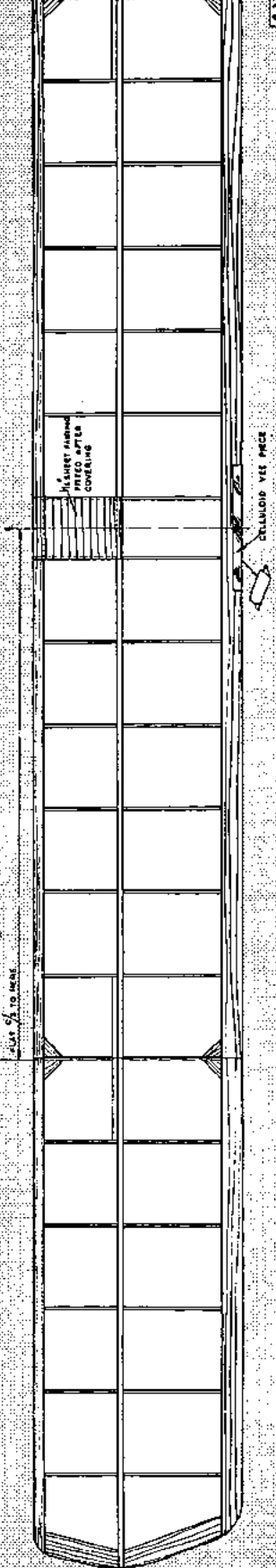
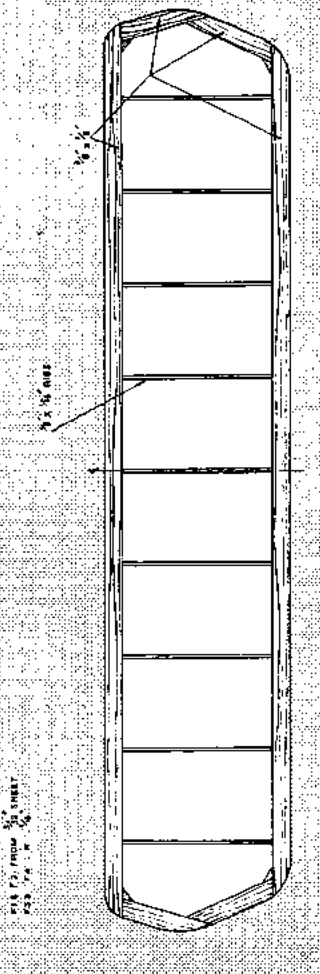
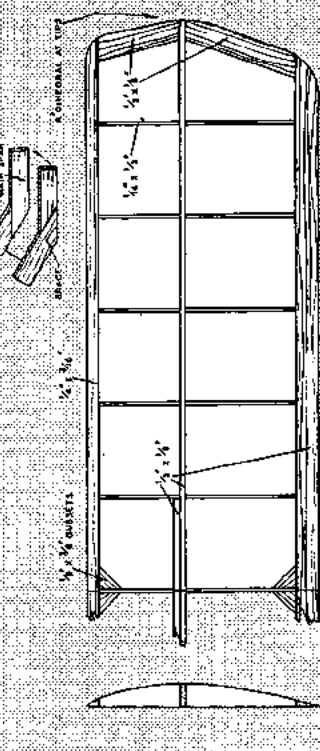
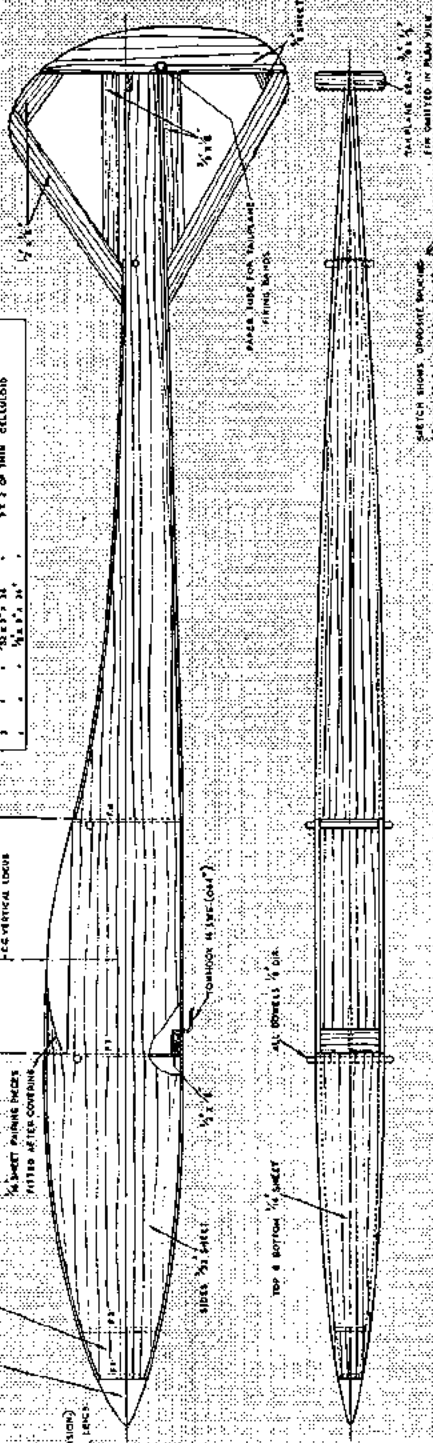
LULU Mk II



DESIGNED BY
J. BARBER
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IS PROHIBITED. PRICE 3/-

NOTE: ALL DIMENSIONS IN THESE PLANS ARE IN INCHES.
ALL DIMENSIONS ARE GIVEN IN FULL.
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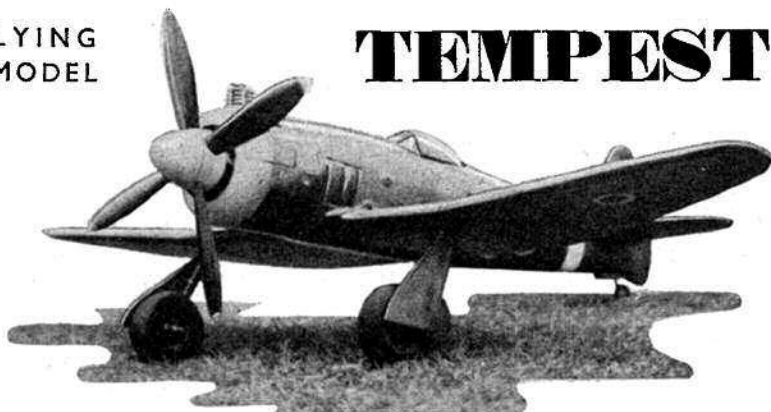
MATERIALS REQUIRED	
STRIP	MISCELLANEOUS
1 STRIP OF 1/8" X 1/4" X 34" BALSA	5' OF 3/8" DIA DOWEL
2 STRIPS OF 3/8" X 1/4" X 34"	2' OF 1/2" DIA PIANO WIRE
1 SHEET OF 1/8" X 1/4" X 34"	1 HARD BALSIA BLOCK 1 3/8" X 5/8" X 1"
3 SHEETS OF 1/8" X 1/4" X 34"	5 1/2' OF 1/8" THIN CELLULOSE
3 "	1/2" X 1/4" X 34"
3 "	1/2" X 1/4" X 34"



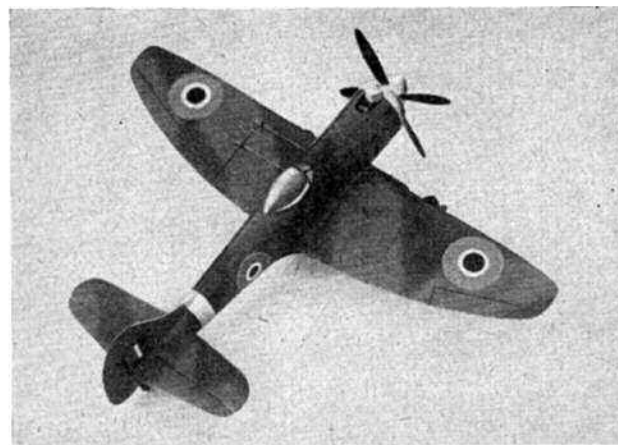
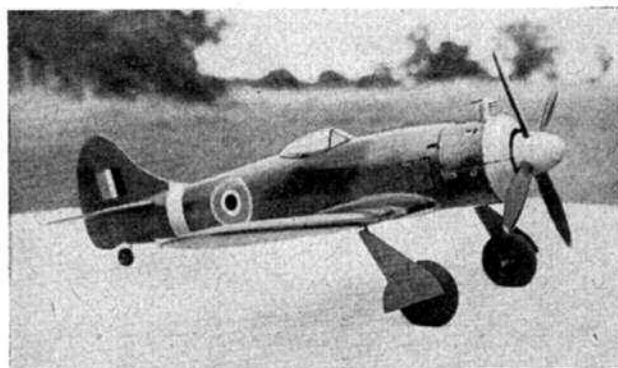
A $\frac{3}{4}$ inch to 1 foot FLYING SCALE CONTROL LINE MODEL

By H · J · PRIDMORE

H. J. PRIDMORE . . . 21 years of age . . . unmarried . . . occupation fruit grower and salesman . . . Hobbies, aeromodelling and photography . . . has been aeromodelling for 9 years . . . prefers free flight power and control line scale . . . has large flying field practically on doorstep!



TEMPEST II



THOSE who prefer scale fidelity with their control-line flying will enjoy the clean, sleek lines of this Tempest II and its snappy flight performance. A third line engine cut-out-come-blip-switch makes landings a treat, and is useful in an emergency. It is not a beginner's model but has no vices, and for those familiar with control-line flying is a handsome addition to their stable.

Fuselage, etc. Commence as usual by pinning fuselage keel to drawing and cementing one set of half formers in position. Check that all formers are vertical and cement on one strip of $\frac{1}{2}$ in. \times $\frac{3}{32}$ in. planking along datum line of fuselage. Remove structure from drawing and add formers and planking strip to other side. Next build up wing centre section directly on to fuselage, taking care to ensure accuracy. Reference to the sketches on the drawing should make assembly clear. Install undercarriage and cover top of C/S with $\frac{1}{16}$ in. sheet and bottom with $\frac{1}{32}$ in. Continue bottom sheeting up to fuselage keel. Next make and cement tail unit in position. Note that the sheeting on each side of fin continues on to fuselage keel for additional strength. Install bellcrank, etc., and commence to plank fuselage with $\frac{3}{32}$ in. sheet. Use strips about $\frac{3}{8}$ in. wide, tapering towards tail. Bevel edges of strips where necessary to obtain good finish. Cement ply firewall to F.1 and fit engine bearers. These must be a tight tap in fit so as to remain secure. If desired, $\frac{3}{8}$ in. sq. hardwood bearers may be used in place of dural. Install engine cut-out plate and choke lever. Next, thoroughly dope compartment between F.1—F.2 to prevent oil saturation, and add the top balsa blocks to complete.

Cowling. Glue the hardwood cowling bearers in position. Laminate cowling ring from $\frac{1}{8}$ in. sheet and cut in two halves. Cement lower half to bearers, and add the attachment dowels in top half. Cowling plates are of $\frac{1}{32}$ in. sheet aluminium. Bottom plate is attached to bearers by small wood-screws, whilst the top plate is removable for access to engine, and is secured by two 20 s.w.g. clips.

Wing Panels. These are built up over the drawing as usual and covered with $\frac{1}{32}$ in. sheet balsa top and bottom. These panels may be permanently cemented to the centre section if desired, omitting attachment dowels and tubes.

Airscrew. For scale appearance a four-bladed airscrew is used. This was found to give very good results on original. Carve or purchase two standard 10 in. dia. airscrews and half-joint together.

Finishing. Cover entire model with good quality tissue using ordinary paste for adhesive. Water shrink tissue on wings and centre section, and apply three or four coats of full strength dope to entire model. Standard camouflaged colours used are as follows. Top surfaces shadow shaded dark green and dark sea grey, under surfaces medium sea grey. It is recommended that the colours are sprayed on for best results. Usual R.A.F. roundels are carried, whilst many Tempests have a white spinner and cowling ring, and a white band encircling fuselage just ahead of tailplane.

Flying. A calm day should be chosen for initial flights. First check that C.G. position is correct and offset rudder to maintain adequate line tension. On the original 30-35 feet flight lines gave best results.



THE 1949 NORTH

INCLUDING KEIL TROPHY, HAMLEY TROPHY,

SEALAND



THE northern section of the "split" power meeting staged on September 25th was held at Sealand Aerodrome, which is a grand spot for a contest once the wind has made up its mind! The Area officials responsible for this part of the meeting had laid on everything at the far end of the drome expecting the wind to come from its usual direction, but arrival on Sunday morning found that what little breeze there was at that time was in the opposite direction. After time lost in transferring the whole of the take-off organisation from one end of the drome to the other, the contest got under way with a very light breeze blowing from the hangars.

Coach loads of modellers had come from all over the North and Midlands, and the 'drome was soon littered with modellers, boxes and (unfortunately) a lot of rubbish, which gave the organisers a No. 1 size headache at the end of the day. This sort of thing can only be tolerated for a short while, particularly on a Service 'drome, and we have every sympathy with Mr. Gosling who bore the brunt of the C.O.'s displeasure at the state of the ground towards the close of the meeting.

Flying was, on the whole, of a high standard and competitors rolled up rapidly for their attempts at the Keil and Hamley trophies. Support for control-line speed was disappointingly small although the one or two experts who did perform put on a good show. Full marks to whoever produced the yoke type pylon in use—this is a first-class effort.

Only five competitors showed up for the radio control event, and it was obvious that the majority had very little experience and were trying out almost new machines. "Chuck" Doughty (winner of the similar event at this year's Nationals) had trouble when his machine failed to respond to signals right from the start, and ended up by crashing some distance from the take-off point. He didn't bother to bring the fuselage back and held a Vikings funeral.

One other competitor, who shall be unnamed, also lost control only to find on examination that he had failed to wind up the actuator!!

This event (also the other contests) took place at the far end of the airfield following a 180 degree change in wind direction after lunch, and the breeze had strengthened considerably by the time the radio control models were in operation. This brought about a considerable amount of drift, and every entry at one time or another went out of signal control. The highest points scorer was Mr. A. S. Ingham of Blackburn, who obtained 80 points by executing a perfect take-off plus a left and right hand turn before wisely deciding that his model was too far away to risk further manoeuvres and brought it into a landing, but unfortunately too far away to score any marks.

"Gig" Effaender of Macclesfield placed top in the Keil Trophy flights and also set up the top speed in the control-line speed. Full marks, however, go to Miss Joan Bush of the Liverpool M.A.S. who proved she was every bit as good as the fellows in flying a neat little cabin model into third place in the Hamley.

Heading photo shows C. H. Davis taking off almost as rapidly as his model, which incidentally is an all-metal McCoy Invader. Top, from left to right, Judges Haulberg, Nicholls and Rippon with Allen of West Essex controlling on right. Top centre, left, Mrs. Dillon and Barnes recording at the Northern Meeting; and right the Northern Commentator "golden voice" Holmes on the job. Lower centre, left, a Fairlop Competitor caught tuning, right L. Marshall and F. Cock start a Radio Queen. Left, R. Stovold on the right starting his record-breaking jet.



SOUTH MEETING

TAPLIN TROPHY AND SPEED CONTEST

FAIRLOP

THE southern section of the North South meeting was at Fairlop, which in contrast to Sealand is probably the worst site for a contest that could possibly be found. Its oft quoted accessibility is a dubious advantage as several thousand spectators including such hazards as dogs, prams, bicycles, cars and motor cycles, all of which pass through the take-off areas in a steady stream, found it only too accessible. Our sympathies were with the organisers who with four different contests to run had trouble enough, although ropes and stakes would have helped considerably! However, in spite of all the contests ran well enough, only the Speed event being tardy in starting. In this entries were received in 7 different classes but surprisingly enough some 60% did not register flights. Stovold put up, subject to confirmation, a new British Jet Speed record of 133.5 m.p.h. and the sight of his and Foskett's models circulating at these high speeds within a few feet of spectators some 4 and 5 deep, was an alarming one. We shudder to think of the results and repercussions should an accident have occurred and trust that safety regulations will be more strictly applied in the future.

Power flying in the Keil and Hamley events was a noticeable improvement over that seen at the Nationals, the only bad spin-come-crash we witnessed and we blush to mention it, was performed by maestro Gussie Gunter!

The Taplin Trophy for radio controlled models was undoubtedly the event of the day and was the most successful event of this nature that we have witnessed to date. In the early stages a Pirate transmitter held up proceedings and it was uncanny even in this radio age to see one of the Hook Brothers machines clicking from left to right rudder with no visible signs of transmission. All efforts to locate the offending transmitter failed but fortunately it did not prolong its stay on the air. There were of course the usual unfortunates who either lost control or spun in and Pete Cook provided a new angle by catching a thermal that whisked his model to a tremendous height, no control given having the slightest effect. L. Marshall gave a splendid demonstration with a Radio Queen and although a gust of wind spoilt his first spot landing the second was impeccable with the model under perfect control the whole time.

Full honours must however go to the Ashdowne family of Southend. The 14 year old son, who teamed with his father and flying a "Falcon" equipped with Mercury receiver and E.C.C. transmitter, gave an astonishing performance. His control was first class and when the motor cut at several hundred feet he lost height by means of steep turns finally bringing the model up the runway for a perfect approach to touch down just in front of the judges!

One feature of the flying was a reluctance on the part of most models to turn right against torque and it would seem that many are not trimming to allow for the effects of torque.

Top, 14 year old F. Ashdowne, Taplin Trophy winner, somewhat dwarfed by his R/C "Falcon." Top centre, left, one of the Northern competitors in the Taplin Trophy. Right, Ron Marks of Birmingham despatches the usual "Banshee" in the Keil Trophy. Lower centre, left, Claydon of East Ham refuels his 3.5 c.c. Arco powered speed model, right, "Roly" Scott of St. Helens who raised the Class I record, subject to confirmation. Right shows Buffery lighting fuse on Judges "Janus," and an unusual Mills Mark II speed model by Tommy Tucker.



BELGIAN INTERNATIONAL MEETING AT EVERE

REPORTED BY D · J · LAIDLAW-DICKSON

BELGIUM'S most ambitious international meeting, held at Evere Aerodrome, near Brussels, from 2nd to 5th September, was blessed with everything they could have wished themselves—except the participation of the British team which failed to materialise. However, some very representative flying was seen from Belgian, French, Dutch, Swiss and Czech models in good strength. To add to the international flavour Frankie Zaic was a welcome guest and the writer as the sole British representative.

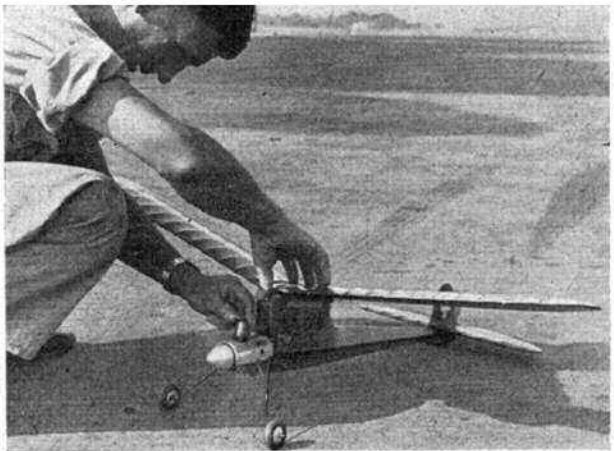
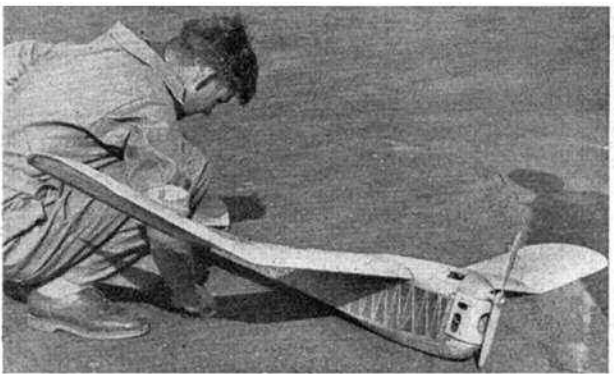
The Air Force had placed the greater part of their Officers' Mess at the disposal of the organisers, and from the very beginning it was obvious that this was going to be an aeromodelling rather than a social function! An old canteen had been equipped with tables for the modellers' workshop, and there was something of history repeating itself to find Morisset already at work on the Friday afternoon with a whole new glider under way. This incidentally was completed in time to place third on the following morning! A true continental menu, assisted by the resources of the officers' bar, made the proceedings of the Comité Sportif, held to discuss rules that evening, a thoroughly enjoyable event. Everyone had their say for some three hours, and at the end the rules remained almost exactly as they started but a number of exciting red herrings had been happily chased hither and thither in the happy fashion of all continental discussions.

Four events were held starting with the Daumerie Cup for gliders of 1½ metres span, followed by a Wakefield formula rubber event in the afternoon. Then on Sunday followed Power/Ratio in the morning and F.A.I. Gliders in the afternoon. Several innovations in the running of the contest proved interesting, and in the main, successful. To prevent loitering with intent to catch thermals each contest session was divided into three one-hour periods, one round per hour, and in that hour one flight had to be made by each team member. Thus a team of four *must* make a flight every quarter of an hour, neither faster nor slower. The commencement of each round was announced on the very adequate P.A. system provided by the Ministry of Education. To find the winning team the total of the two best flights of each entrant was divided by the total team flights, which must be not less than nine. This rule provided opportunities for team management in deciding whether or not to continue after nine good flights—and slide rules and headaches were increasingly in evidence. Each team had a set of timekeepers to deal with their flights exclusively, teams changing timekeepers after each round. In this way it proved perhaps the fairest contest both in time-keeping and in weather chances that we have attended, as good eyesight and thermals were evenly distributed.

In the Daumerie Glider event Fillon proved an easy winner with a simple highwing job that was lost after a second flight of 322.7 seconds. Bollinger of Switzerland took second place, while best Belgian was Ferber at fourth. Bodmer's small low-wing took fifth with a best flight of 110.8 secs. This low-wing enthusiast also produced a low-wing Wakefield, though he had little opportunity to prove it as its first flight ended in a beautiful power dive, when the remains were reverently cremated. V. d. Caaij found that his Tandem Glider B.D.12 exactly met the specification but flew impressively without any particular good fortune.

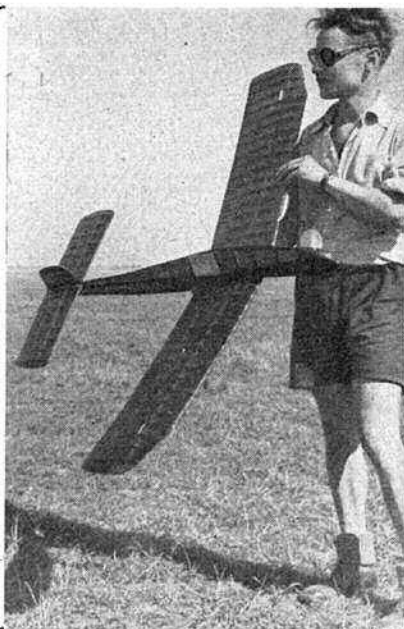
The Wakefield event gave the home team an opportunity to shine after their Cranfield mishaps, and sure enough the wing-trembling team pattern performed with the advertised vertical climb and neat peel-off to take second, third and fourth places, but the wily Dutchman De Kat stole their thunder to some extent with a well flown total including one maximum.

Saturday had proved a fine day marred by morning breezes which cleared away for a perfect Wakefield, but Sunday excelled itself with a real scorcher, so that timekeepers had to be hauled forth for duty from the all too inadequate shade of the car park, while a "coke" stand did a flourishing trade.



Top left: Swiss novelty! Small sailplane "Hui" successfully flown by Bollinger. Left upper centre: Young Joostens Junior with Belgian Wakefield "group design" which proved more successful than at Cranfield. Left Lower Centre: Shoulder wing power model designed by Willy Tauss and typical of Swiss trend, here flown by Bollinger. Bottom left: Willy Tauss with his latest power model—powered by 2.4 c.c. Mills.

Right: Low-wing enthusiast Badmer with his Daumerie Trophy entry: this limited span class is slowly gaining Continental popularity. Far right: Dutch team members readying their power models under watchful eye of team-manager Van Hattum. Right centre: Morisset of France assisted by Bernard line up tall trim of glider built between Friday afternoon and Saturday morning. Bottom right. Dutchman De Kat adjusts his Banshee in the power event; after long attachment to "Bowden Contest" types Dutch modellers are now going after high-climb designs.



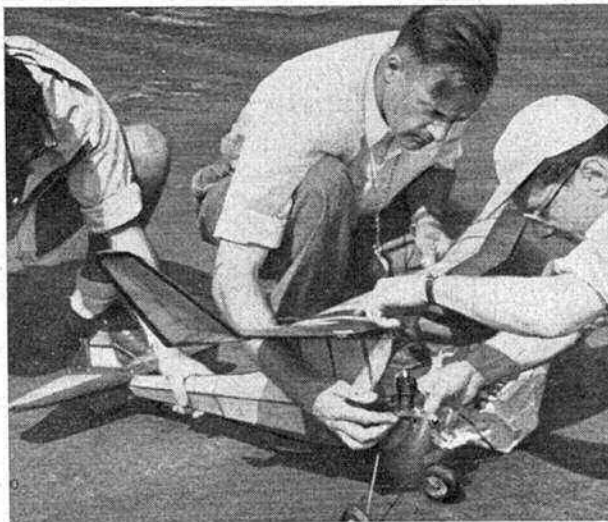
For the power/ratio event the Belgian "standard model" was well to the fore, the original design in the hands of Lippens, Sysmans and Deschepper and the latest narrow fuselage type flown by Joostens Junior. V. d. Schenk and Luxemburg of Holland flew their well tried models, though there is a growing Dutch interest in the Banshee type as flown by de Kat; Swiss high wings and moderate pylon designs by Willy Tauss and Datz were attractive but failed to perform as well as they looked—probably insufficient trimming, while Bollinger flew his version of Tauss's shoulder wing, deep fuselage model, which went flatteringly until the Super Tigre engine gave up the ghost. The French contingent favoured well faired-in high pylon types of moderate size, except Fillon with an outside 10 c.c. job which had the doubtful honour of making best prang of the day!

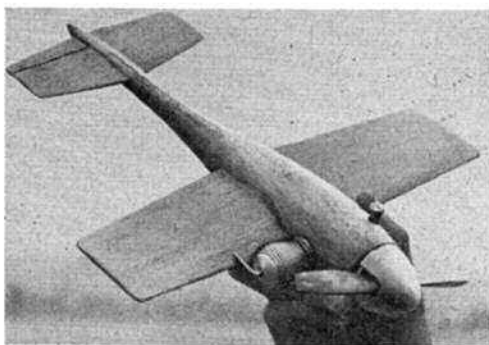
Final event was the F.A.I. Glider contest, attracting entries of all shapes and sizes. The Dutch boys have the big stuff well under control and their flying was the usual delight to watch, everyone off at the top of the line without fuss or bother. Vriend made best time of the day with 370 secs. o.o.s., in the one genuine thermal of the contest which was shared by ultimate winner Sysmans with 316 secs. Only Luxemburg, of the rest, was able to beat 200 seconds, average being about 150 secs. in still air. Thanks to hard work by proxies and valiant efforts by the only Czech present Czechoslovakia managed to take second place in the team figures, behind Holland, with Belgium a close third.

No control-line event was scheduled but local talent made the most of the runways and showed considerable improvement over earlier flying. Novelty was stunt flying by night in the light of car headlamps which went well until someone lost a Go-Devil at the top of the loop with the usual results.

Highlight of the meeting was the ceremonial presentation of awards in the lofty panelled assembly hall of the ancient Hotel de Ville at the hands of the Lord Mayor and Ministers of Education and Defence—the first time ever that such a ceremony has taken place in a national capital's town hall before so impressive an array of official government support. Of the many trophies awarded for team and individual flying most impressive was the symbolic flying wings given by the Belgian Air Force.

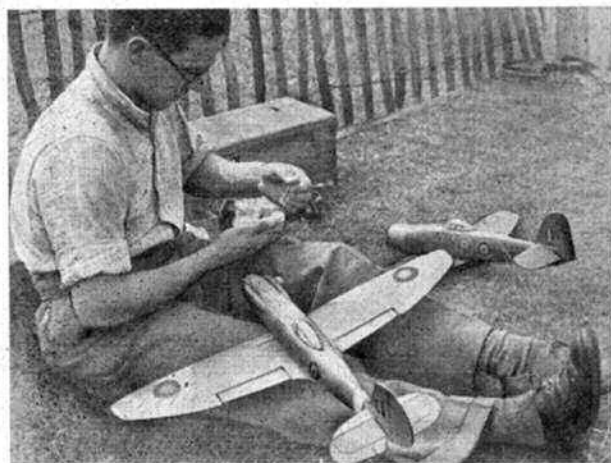
We would congratulate the Belgian Model Aircraft Federation on another splendid contest which combined enough formality to make visitors feel officially welcome and yet contrived to retain the essential good fellowship of a real aeromodellers' do.





ALL HERTS RALLY

The field Entry Table staff were kept busy throughout the day and did yeoman work. Above: Tiny Class II Elfin powered speed controller flown by W. D. Free to new pylon-based record claim at 86 m.p.h. Right: Val Turner dusted off a favourite glider for a day's outing and let someone else worry about running the contests on this occasion. Below: Scaliner Phil Smith reads his flap-controlled scale Spitfire, with the Fury in the background.

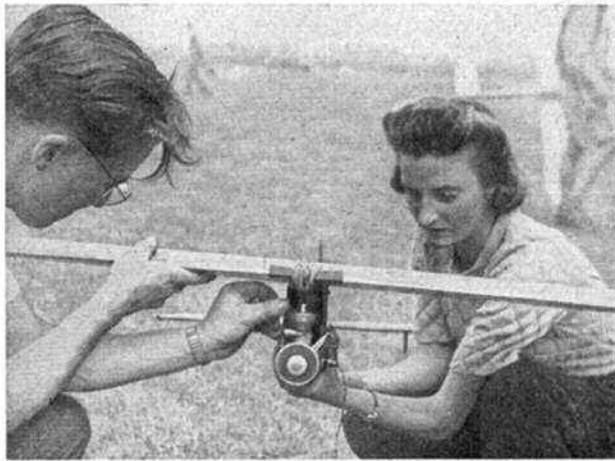
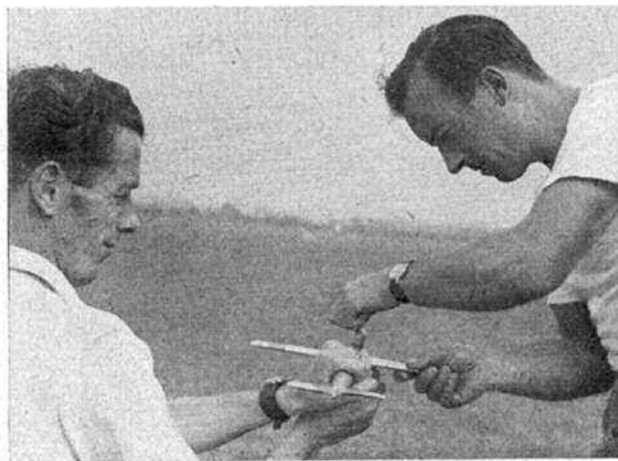


Ron Moulton starts up his Delong 30 powered Powerhouse with the aid of a fair helper. On the left: Tommy Tucker sorts out a spot of trouble before flying this baby into a place in the speed control event.

BRILLIANT sunshine, large crowds—well over 5,000—and some outstanding flying ensured a well deserved success for the All Herts Rally at Radlett on Sunday, 28th August. It was noteworthy that, under the five-minute rule, fly-offs were necessary in all the free flight categories. Apart from local Ted Buxton who took the open rubber event it was something of a field day for the visitors, with the prizes spread well round territorially to, amongst other clubs, Croydon, South Birmingham, Leigh-on-Sea, Southend, Guildford and West Essex. Most interesting event was undoubtedly speed control line, where a suitable record pylon had been erected, and passed for the S.M.A.E. by Val Turner, who, incidentally was for the nonce a contestant. Most competitors fought rather shy of it, but those with record ambitions took firm hold including D. Foskett of Guildford who set up a new jet record at 120 m.p.h., and W. D. Free of Surbiton in Class II at 86 m.p.h.; both of course subject to confirmation.

The Mayor and Mayoress of St. Albans presented the prizes after judging the Concours d'Elegance, a pleasant sign of the growing interest of civic authorities in the activities of the more enterprising clubs. Apart from the contest flights a number of enthusiasts brought along radio-controlled models for successful demonstration flights while P. E. Norman thrilled the crowds with his free flight speed-stunt scale model Tempest that is now virtually trim-perfect.

"Aeromodeller" Photos.



DUTCH NATIONAL & AEROMODELLER CAMP CHAMPIONSHIPS

DESCRIBED BY VAN HATTUM



GOOD results were obtained by Dutch modellers on August 21st, when the year's Championships were decided. Entry was unusually large as the elimination trials in May had all been cancelled owing to rain and wind and all clubs entered for those events were allowed into the finals. Thus, entries numbered over 200 and take-off points were kept busy all day. Competitors came from all over the country, travelling by train, bicycle—some over 80 miles—coach and car. The field was dominated by sailplanes, mostly original designs and in this class the year's Champion was W. Luxemburg with a total score on points of 459. He was followed by J. v. d. Caaij, well-known in England, who flew his famous tandem into fourth place in the general classifying. First in the class of sailplanes built to a design other than the entrant's was Mv. Nouhuijs, followed by F. v. d. Woude. Van Nouhuijs put up the highest score of the day with 480 points. The rubber-driven models brought victory to young C. de Vries with his Wakefield, probably the youngest Champion Dutch model aviation has seen. In the power-driven field P. Berends became Champion. Club-Champion sailplanes was 's-Hertogenbosch. Rubber-driven: no teams entered. Power driven: Arnhem.

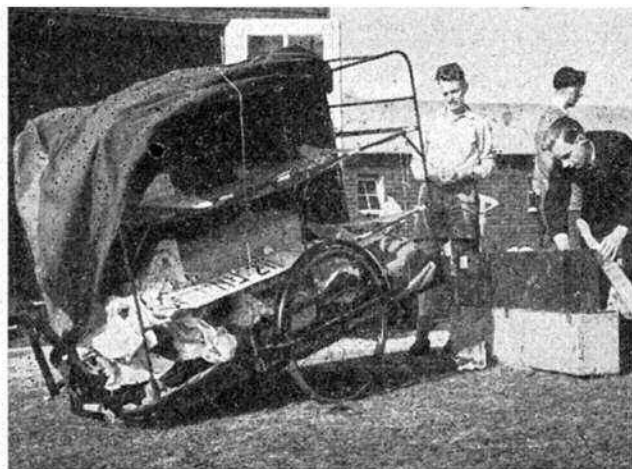
The contest took place at Ermelo, near Amersfoort, and was part of a most successful modellers' camp, lasting from August 20th to 27th.



Heading photos show, left, The Y.M.C.A. hostel where competitors were housed and fed; Inset, official table with Van Hattum Centre, and de Kat in white cap; Right, Van Hattum, Frank Zaic and R. F. L. Gosling. Above S. W. Holleman with his sailplane of 2½ metres span. Right, Klaven with his 3½ metres span 'Holland-Clipper.'

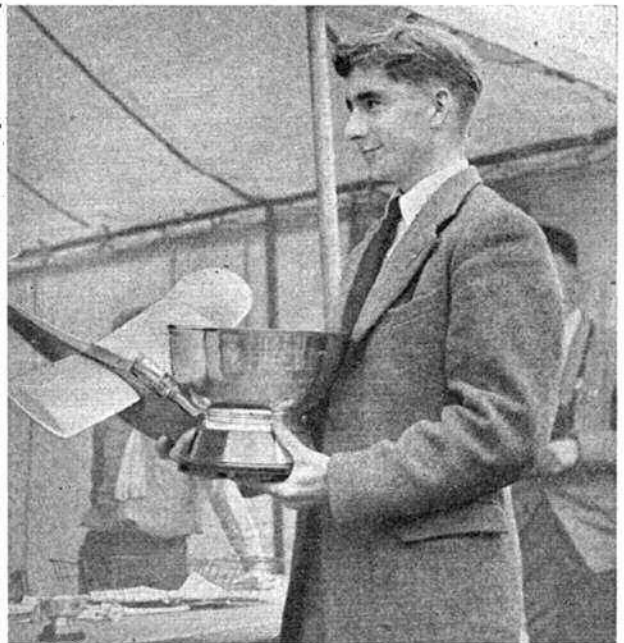


A new line in two tier traillers, which incidentally held more than a dozen models and was bicycle-towed by the Nymegen Club R. Waas of Nymegen with his 15 feet tailless model.



1949 JETEX CONTEST

R. A. Twomey on the right is shown holding his winning model as he receives the magnificent I.C.I. Challenge Trophy



FLAIRLOP, basked in sunshine, no wind, a red and gold banner and two marquees, denoted the finals of the Jetex contest on Sunday, 18th September, for the I.C.I. Challenge Trophy and £55 in cash prizes. One of the marquees contained prizes and also those rare commodities, timekeepers! The other, teas for the officials and competitors, who incidentally had their expenses paid and were generally treated like honoured guests instead of the usual necessary evil!

It was announced at 1.30 p.m. that the officials had everything under control and if the contestants were ready, flying would commence. This an hour before the scheduled time, and with timekeepers a-raring to go. An event unheard of in contest history.

The sky was full of thermals for those models gaining sufficient height and many of the jets were quick to take advantage. Several had climb at the expense of wing area and just could not hold thermals, others, in particular the Argentine entries, had beautiful glides but a poor power climb and suffered as a result. Those equipped with undercarriages were slightly at a disadvantage as hand launch was the order of the day and there were of course the people who even managed to spin in models where no torque existed!

We noticed the varying ages of competitors, from young boys to grey-headed dads, and the capers cut by Ed Stoffel, who was taking the pictures, proved that photography at model meetings is not all beer and skittles.

All-in-all it was one of the friendliest and most efficient contests we have attended and Messrs. Wilmot Mansour are to be congratulated on their organisation. One unusual feature was the absence of noise, the quiet hiss of the jets being a

welcome relief from the blare of engines, besides obviating the need for loud speakers.

RESULTS

		Total flight	Engine run.
1. R. A. Twomey	Pontyclun	9 mins. 54 secs.	28 secs.
2. C. Hadland	Hampton	2 " 58 "	15 "
3. W. Henderson	Farnborough	3 " 48 "	28 "
4. F/Lt. Bradley	Cranwell	3 " 28 "	28 "

1949 ISLE OF MAN RALLY

FOLLOWING on the success of last year's inaugural meeting the Isle of Man Rally this year attracted a much larger entry, the Hayes club alone sending a group of nine, obviously on the recommendation of members Wilson and Marshall, who apparently found last year's trip well worthwhile.

Once again held to coincide with the Isle of Man Grand Prix races, free flight contests took place on the Monday and Wednesday in glorious weather. The same conditions attended the motor cycle events, but Friday, the day scheduled for the control-line stunt and speed contests, brought a break in the weather and these events were practically washed out.

The first day of the meeting saw the opening of the Rally by His Excellency the Governor of the Isle of Man, Air Vice-Marshal Sir Geoffrey Bromet, K.B.E., C.B., D.S.O., and once again Sir Geoffrey displayed great interest in the models and activities throughout the series.

The first event was a Concours, which produced a line-up of some pretty good examples of the aeromodellers art, top marks going to Josh. Marshall of Hayes, who succeeded in two classes. One of the best looking entries at the meeting was a radio control machine brought over by Mr. F. Lumb of Huddersfield, but unfortunately the field used was hardly suitable for the flying of such a model and the owner decided against flying in the park at the control-line events.

A very good range of models was brought across by Mr. R. C. Poad of Darlington, and the stately flying of his Jetex-powered glider was a feature of the meeting.

In view of the difficulty of travelling out to the airfield at Jurby (venue of last year's events) a smallish field just outside Douglas was used, the breeze fortunately being in a favourable direction which carried models across a shallow valley.

I. V. Dowsett (Brentford and Chiswick) put in some hectic work in an effort to oust A. H. Wilson from his possession of the Governor's Cup, and started off in fine style on the Monday by winning the rubber duration contest and placing second in the glider event. However, Wilson, by virtue of winning the

glider and tail-less classes, plus a third in the rubber and second in the power event, once again proved the best modeller present, getting ahead of Dowsett and fellow clubman Marshall.

Tommy Comber of Liverpool did some extraordinary good flying with a dwarf version of the Banshee to win the free flight power event, whilst Poad thoroughly deserved his Jetex contest success with three consistent flights.

Although we had to leave before the Rally was completed we were able to witness Mr. F. M. Ellis (East Liverpool) put up a speed of 79 m.p.h. during the control-line section, and the results show that he carried on to win the aerobatics class.

The meeting finished up with a dinner when the competitors were the guests of the Manx M.A.C. and the awards were presented by the Mayor of Douglas.

We are certain all those newcomers to the contest this year will confirm our opinion that this is a very pleasant way to spend a week, and have no doubt that many more modellers will make the Isle of Man a venue next year.

GOVERNOR'S CUP

		Pts.
A. H. WILSON	Hayes	360
I. V. Dowsett	Brentford	326
J. D. Marshall	Hayes	218

TEAM PRIZE

Hayes and District M.A.C.

RUBBER DURATION

I. V. DOWSETT	Brentford	6 : 34
J. D. Marshall	Hayes	6 : 18
A. H. Wilson	Hayes	5 : 59

GLIDER DURATION

A. H. WILSON	Hayes	5 : 18
I. V. Dowsett	Brentford	5 : 16
J. D. Marshall	Hayes	4 : 05

TAILLESS DURATION

A. H. WILSON	Hayes	4 : 54
P. J. Hedgman	Hayes	4 : 02
W. Poile	C/M	3 : 30.5

JETEX DURATION

R. C. POAD	Darlington	3 : 51
T. Comber	Liverpool	2 : 48.9
I. V. Dowsett	Brentford	2 : 29

POWER DURATION

T. COMBER	Liverpool	7 : 48.5
A. H. Wilson	Hayes	4 : 30
S. G. Young	Belfast	3 : 12.75

C/L STUNT

F. N. ELLIS	East L'pool	264 pts.
W. J. Ford	Liverpool	174 "
A. Sinclair	Manx	132 "

C/L SPEED

F. N. ELLIS	East Liverpool	66.5 m.p.h. (handicapped)
D. Teare	Manx	43.3 "
W. J. Ford	Liverpool	42.8 "

American News Letter

BY BILL WINTER

Hubert Entrop with his 95 oz. Orwick 64 powered giant flown at the Nationals. Removable wing sections and different tips make possible spans of 16, 18 or 20 ft. With over 100 flights to its credit it disappeared o.o.s. at 31 minutes!



THE Eighteenth National Model Airplane Contest, held at the Naval Air Station, at Olathe, Kansas, brought out about 1,200 of the nation's top modellers who put on a most spectacular and interesting show. Some events, notably U-Control flying scale and radio control, could have been successful shows on their own. Others, like the Pan American pay-load and free flight, by their performance and trend, gave pause to every thinking model builder. But even rubber and indoor events, while essential the same as always, managed to display an infinite variety of minor design variations that strongly supports the feeling that rugged individualism is—shall we say?—running rampant.

Looking back on the week-long pleasant affair, it is difficult to concentrate on the most interesting trends for the last day of the meet was marked by a cloudless sky and the mightiest thermals of all time. The writer, for one, will never forget the scene. Mere white pin points against the blue, seemingly stationary for many minutes at a time, marked vanishing ships that easily attained heights of six and 7,000 feet. Aircraft reported models at that height. At one point, Hugh Entrop's twenty-foot free flight (patience, please!) disappeared after 31 minutes, the timer, as rules require, remaining on the take-off spot to stop at the ten-minute limit. Dick Everett was said to have made 48 minutes with his R.O.W. model (total single flight but over ten-minute limit) and a half hour merely insured you a place in that event. Pan American weight lifters soared for 30 minutes and more until, they, too vanished from sight. Dick Gelvin got his Rudderbug radio job in a thermal and, after 14 turns of a spin, took his hands off the controls, stood up, and lit a cigarette, so help us! The model was left in the spin but seemed to lose no appreciable altitude. At times it was so high that control had been relinquished while all hands watched to see the direction of travel, then control was resumed. Eventually, after twenty odd minutes, Gelvin got the job close to the spot for his landing. At that he placed seventh!

Let's look at some of these times: Carl Rambo, alias the "arm", piled up 1,141 seconds for first in Class B Open in the pay load event. Nor was this a freak time, for a number of other builders gained fantastic totals. Over in R.O.W., E. L. Enticknap had 1,293.5 seconds (in-sight times). In hand launched glider, Ray Accord got 885 seconds. Ray, incidentally, is new national champion. D. Gas, Junior, went to Roger Baron, who had a three-flight total of 1,118 seconds. Friend Enticknap topped that with the perfect 1,800 seconds in Open, D gas.

Radio control, once the wind departed, saw three days of continuous flights, one ship getting off the instant its predecessor landed. Some seven or eight Rudderbugs fairly overwhelmed opposition. For the most part flights were reliable, long, and, to the spectator, deceptively easy. With time rationed to 30 minutes (flight time) per entrant, radio was bitterly fought out with more practised entrants making every shot count on every flight. An impressive number of near-by landings were made. In fact, good landings were more the order than the exception. Walt Good finally took first.

An old timer would have blinked his eyes in free flight gas. The removal of wing loading restrictions finally has had its

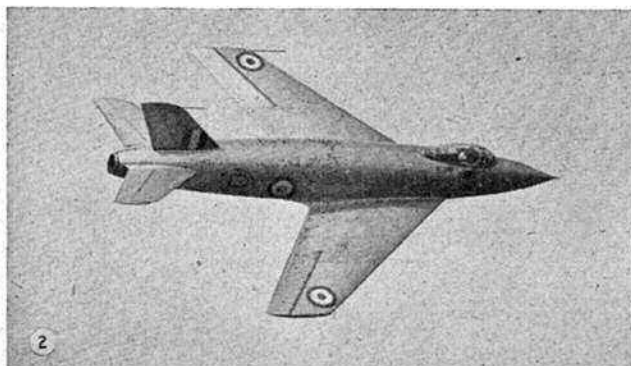
radical effect. Class A models are built as big as some old C jobs (before the days of D). Five hundred to 600 square inches is nothing to get excited about on an Arden '199, a breed of engine, incidentally, that took dozens of places. A job can compete favourably with any of the larger ship and to get comparable loadings, the builders of the monsters would have to go into super monsters. Even the baby Spitfire, were in there pitching, being good for four minutes in a good airplane without wind, drift to take the ship quickly out of sight. Big jobs levelled off in time at six-seven minutes in the rain. Everyone agreed that something radical is happening to the class structure, and that two, maybe even one class, will take the place of the present A, B, C, and D. Designwise, old reliable kits, like those potent Sailplanes, can't stand up to the unlimited wing area of originals, now that power makes possible the same high climb in vogue before the rules had been changed in 1947. Optimum wing loadings are down in the neighbourhood of five ounces per square foot, whereas old rules called for ten ounces. Designwise, extremely long moment arms are much in vogue and ignition is divided between glow and spark, the latter in the bigger airplanes mostly.

U-control scale was a real show-stopper. In fact, this free fighter sat entranced an entire afternoon as the scale jobs went through their paces. At least nine multi-engined jobs were counted, including a B-29, a B-17, a B-25, a Black Widow—which pulled up and lowered its gear. The four-engine pilots had control boxes under their left arm, and busily manipulated switches controlling engines with one hand while hanging on with the other. The amazing thing was that all these multi-engined jobs flew well and the B-29 was one of the finest placed winners. Special starting rigs were used for such ships. Some of the Coast chaps did all stunts with ships that would match exhibition models in detail and perfection of finish. As usual, the mob of spectators attested to these events great appeal. Big thrill was the huge B-17 doing mild wing-overs.

In speed the Little Rock boys managed to gather three firsts, two seconds, one fourth, two fifths, and a sixth. Speed times ran to 129 in D Junior, 140 in D Senior, and 147 in D Open (by Harold DeBolt): 124.14, 130.43, and 132.84 in B, Lew Mahieu setting the latter: A speed, 105.88, 113.92, and 116.88 (deBolt again!) Best time in indoor stick (Don Donahue) was 1,347.8 in cabin 1,156.6 by George De La Mater. Manuel Andrade hung up 61.2 in indoor hand-launched glider, considerably off record time.

As much as we would like to, it is not possible to give full details of the many events, which included hand launched glider, CO-2 tow-line, and others. Bob Cart did do 145.16 in Jet Open Class. High point in stunt was 369, by Bob Dailey. In free flight, both gas and rubber, a much higher percentage of the average model was given to balsa, with profile solid fuselages on some gas models, and balsa skin, sometimes on wings, occurring frequently.

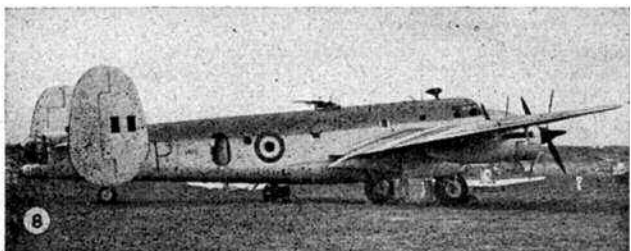
The most interesting ships, however, didn't get into the meet. These were improvised Jim Walker hand-launched gliders with OK Cub engines, tethered two-at-a-time to pylons in work hangars for exciting midnight races.



We present here a selection of photographs taken by our Chief Photographer at the Tenth Flying Display and Exhibition of the Society of British Aircraft Constructors held at Farnborough on Sept. 7th to 12th inclusive.

This year the display was notable for the fact that out of 58 aircraft on view, nearly half of them were entirely new types, nine were powered by turbo-prop. units, fifteen by turbo jets and the remainder by piston driven engines. High lights of the Show were the first public appearances of the Delta-Wing Avro 707, the Brabazon I and the Canberra B.I.

1949 S.B.A.C.



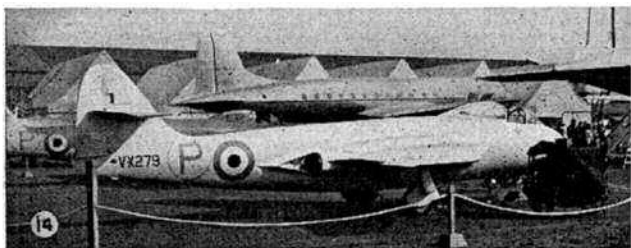


1. Bristol Brabazon I G-AGPW. (Eight Bristol Centaurus.)
2. Vickers-Armstrong-Supermarine 510 VV.106. (Rolls-Royce Nene 2.)
3. Handley-Page Hermes IV G-ALDA. (Four Bristol Hercules 763.)
4. Handley-Page Hermes V G-ALEU. (Four Bristol Theseus Turboprops.)
5. Cierva W. II Air Horse VZ.724. (Rolls-Royce Merlin 24.)
6. Fairey Firefly V WB.310 R.A.T.O.G. take-off. (Rolls-Royce Griffon 74.)
7. Avro 707 Delta Wing VX.784. (Rolls-Royce Derwent.)
8. Avro Shackleton G.R.1. VW.131. (Four Rolls-Royce Griffons.)
9. Armstrong-Whitworth AW.55 Apollo G-AJYN. (Four A-S Mamba 2 Turboprops.)

10. Auster Autocar J.5B G-AJYK. (D.H. Gipsy Major 10.)
11. D.H. 113 Night Fighter G-S-2. (D.H. Goblin.)
12. Short S.45 Solent 3 G-AHIU "Solway". (Four Bristol Hercules 637.)
13. Gloster Meteor F.kM.8. VZ.438 (Two Rolls-Royce Derwent 5.)
14. Hawker P.1052 VX.279. (Rolls-Royce Nene.)
15. D.H. 106 Comet G-ALYG. (Four D.H. Ghost.)
16. English Electric Co., Canberra B.1. VN.799. (Two Rolls-Royce Avons.)
17. Miles M.60 Marathon 2 G-AHXU. (Two A-S Mamba Turboprops.)

SHOW AT FARNBOROUGH

By E. J. Riding





OHLSSONS, McCoy Redheads, Doolings, Dynajets and all the other good things of life in abundance! It was the aeromodelers dream come true and when I stepped out of the huge Skymaster as an emigrant to Canada, I could hardly wait to get to the nearest model shop. And there they were for sale to anybody with money in his pocket—and no black market prices either!

Although practically all American motors and accessories are available in Canada, prices are rather higher than in the States due to the tariff, nevertheless they are still quite reasonable, taking into account the fairly high wages that prevail.

My first trip to a Canadian model meeting was, however, something of a disappointment. Canadians are good guys, all of 'em, and were anxious to know all about "the game" in England and the flying was interesting—to a point. There was, however, little variety.

As it was only a local club meeting, I may have been deceived, but it seemed to me that U-control had almost completely swept the board. I was told that free-flight is not dead and that a few of the boys still had free-flight jobs in flying trim for contest work, but that rubber had pretty well "had it".

The standard of U-control flying was good although the models were very much "typed". The formula is constant chord wing with square tips, about four feet in span, fuselage fairly short either diamond shaped and planked or cut out silhouette fashion from thick sheet. The motors are usually "sidewinders", tailplanes fairly generous in area, and fins very small and well-advanced along the fuselage. They flew well but sluggishly, except those with the higher-powered motors.

For stunt work, fore-shortening of the fuselage appears to be common. Some of the models had the tailplanes so close to the wing that from some attitudes they looked like tailless jobs. Stunt models are usually, although not always, small, and are invariably high-powered. Crashes were frequent and disastrous. Cutting out of the motor when the model was almost over the flyer's head appeared to be a situation from which the model was irretrievable. Although the weather was quite calm about one third of the models I saw flying cracked up during the afternoon, nearly always from this position.

While the majority of the models were strictly to formula and the flyers were obviously more concerned with the actual process of flying the crates rather than their aesthetic appearance there were a few interesting exceptions.

One chap had a really attractive low wing job with motor

inverted and cowed, perspex cabin and tail surfaces which were reasonably realistic. It was trimmed in silver and blue and it flew well but he did not attempt anything spectacular. Being a semi-scale fan myself, possibly I am prejudiced but to me it was the most pleasing model on the field. Other modellers apparently did not share my opinion. I heard one bystander say "Yeah!—it's a nice job. But what will it do?". Super-performance is still the accepted criterion to most Canadians.

There were a number of biplanes present which also made a pleasing change. Again, they were very much to formula, span about two feet, square fuselage with wings heavily staggered and fin well-advanced. They flew well and could be stunted with ease, the extra wing area slowing them up considerably. It was a pleasure to see them float in after the motor cut out and they were certainly less prone to crack-ups than the monoplanes. Even when they did make a rough landing they always came out intact—more or less.

The most interesting job was a World War I Nieuport, an almost ideal choice for scale modelling. It appeared to be almost exactly proportioned and flew extremely well, until a rough landing removed one wing. The fuselage was planked and the narrow lower wing was of solid balsa.

No particular motor was predominant—the boys seemingly being very catholic in their tastes. Glow-plugs were the most common although they have by no means swept the board. Orthodox engines are still common—although "fancy" fuels are the order of the day. Engine trouble was frequent but not as common as it used to be in England before the arrival of the diesels and shaking hands with "the boys" left me in urgent need of a bath.

Speed jobs—there were a couple flying—were, to use a Canadianism, "reely somethin'". Two of the local boys apparently became dissatisfied with the commercially obtainable "hot" speed motors and have set up a small plant to custom-build individual glow-plug engines which they sell under the name of "Monarch".

The first time I heard one of these motors start I confess I took a couple of paces backwards. They are, I should think, about 12 c.c. English rating and have tiny toothpick props and colossal spinners.

A mechanical starter was used and when the engine fired the howl was ear-splitting. Although the model I saw flying with one of these motors was fairly large, nearly three feet in span, its speed was astonishing. I had never seen anything quite like it. It seemed to be easily controllable although the terrific speed it maintained even when stunting made it difficult

In case any of our readers are planning a trip "over there" we regret to announce that the lady is married and the fortunate gentlemen is her husband! It's a family affair with Mr. and Mrs. Alan Ford of Weston, Ontario, taking part in Eaton's Model Aircraft Rally mentioned in the article.



to follow the exact form of the manoeuvres and I don't think I was alone in wondering whether the unfortunate and undoubtedly dizzy individual in the middle of the circle knew what the model was doing either.

Possibly I do him an injustice but the only manoeuvre it didn't do was a nose dive in to the ground. If it had done, a mechanical excavator would probably have been required to reach it. In fact, it came in to quite a good landing when the motor cut out.

Fixed undercarriages or none at all were the rule. I saw no "dollies" although I was told that they are used for all contest work.

The biplanes were the best on take-offs. It was a pleasure to see them drone around on the short grass and take-off like 1939 Gladiators.

Undercarriageless models were launched usually into a semi-stall which was quickly righted.

The plastic U-reely controls were almost universal. I only saw one home-made control device. Several times I saw modellers wind in their models and then literally grab them out of the air although I had the feeling that this was only a stunt rather than recognised practice.

Recognisable kit models did not appear to be predominant although so many American kits are available that it would be difficult to definitely identify any particular models as home-designed. Nevertheless there were signs of a certain individuality although the basic formula remained.

The tendency for larger motors is, as in the States, more pronounced than in England. Ardens and similar small motors were in the minority.

Similarly, the tiny prefabricated models becoming popular in England were noticeably few in number. I saw only one flying although there were a number "cracked-up" lying around the field. They were so small, some less than a foot in span, that I got the impression they were built only for fun. The one I did see flying travelled so fast and was so small that it was difficult to make it out as a model aeroplane until it touched down.

The diesel was represented by only one make—the Drone, of which there were two on the field. They flew rather large models somewhat sluggishly and I gathered that diesels are

not likely to become very popular unless some means is found to hot them up.

Most orthodox American engines are so reliable that the supreme advantage of diesels, their ease of operation, is really no advantage at all. The Canadian modeller, like this American, worships at the shrine of performance and no other.

I saw no British diesels although a few are available in the shops. The Mills and E.D.'s stand little chance, whatever their merits as engines, simply because of their small size. The Eta is, to North American tastes, a much better bet but the price, about £10 at the present rate of exchange, hardly allows them to compete with orthodox engines of the same capacity which can be purchased for less than a quarter of that figure.

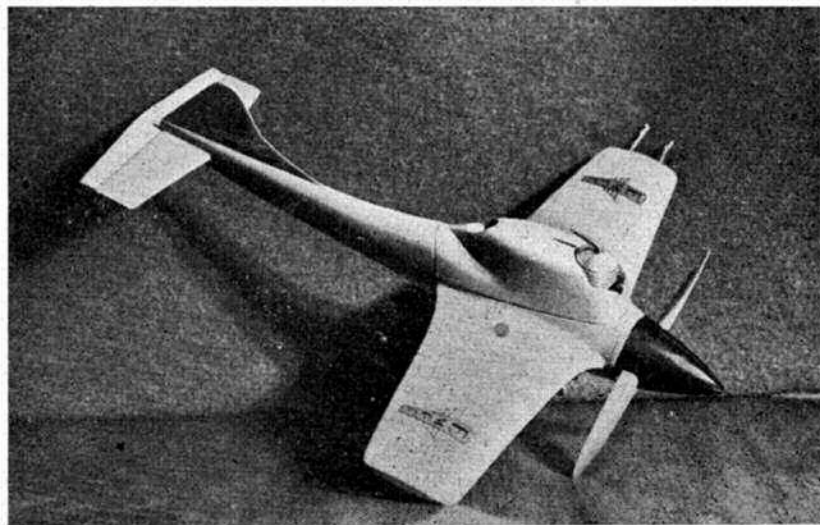
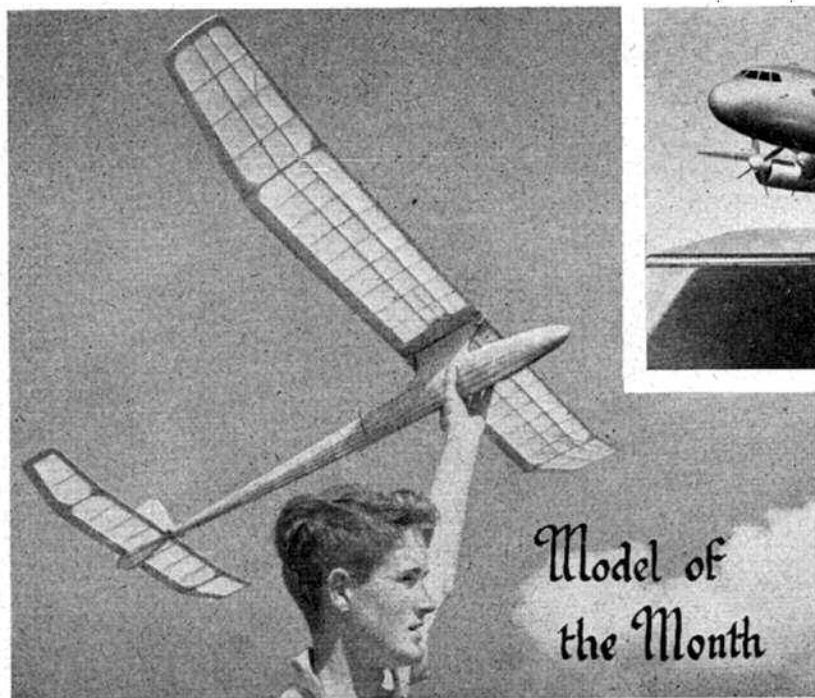
The main Canadian annual contest is apparently that sponsored by Eatons, a chain store, which is held early in the year.

At the 1948 meeting, a crowd estimated at 25,000 arrived. Entrants for the various contests numbered about 300, some contestants travelling as much as 3,000 miles. Prizes amounted to about £200 and there were competitions for all types of models although of course gas jobs predominated.

Unfortunately I was not able to be present at this meeting at which the accompanying photographs were taken but flying was obviously of a very high order and the display of U-control aerobatics given by Leon Schulman who came up from New Jersey apparently astonished the crowds.

Messrs. Eaton's, the chain store that lends invaluable support to the hobby, attracts a galaxy of models and modellers to their huge meetings. Here are (left) American ace Leon Schulman with a powered autogyro, (centre) the winner of the power contest (no pylon!), and (right) an entrant in flying scale control-liners with its entrant.



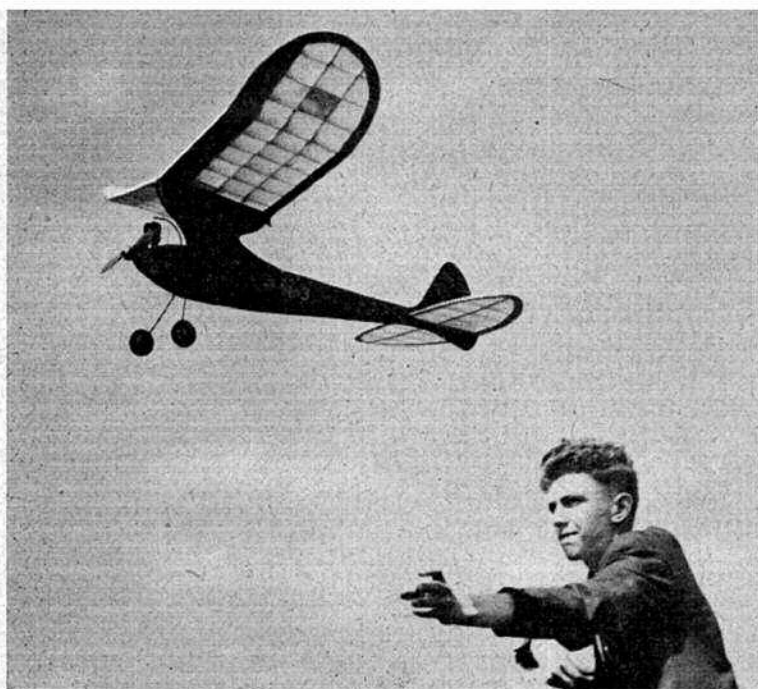


ALTHOUGH Fliar Phil has always had a sneaking sympathy for the gentleman who tried to make Westminster a better place (and indeed often wishes he had postponed his little joke a couple of hundred years or so . . .), he is forced to take a dim view of any attempt to part him from hard won mazuma—what with 69½ per cent. purchase tax on thermals and the three-month wait he's had for a building licence for his latest model . . .

At any rate no licence was needed for our Model of the Month, for there are no bricks and very little timber in Keith Foster's "Yogi" sailplane illustrated here. Of his own design this model has a wing span of 72 ins. and placed fourth in the *Daily Dispatch* Rally, Glider Event, at Woodford Aerodrome last August. The designer, last year's club champion, is still ahead of the field in this year's events. The excellent photo is by C. Christianson.

David Jackson is probably well-known to readers for several interesting commercial designs—themselves notable for their feminine titles. However, a lesser known activity of his youth (!) is featured in the top photo on this page, which shows a very fine 1/72nd non-flying scale model of the Avro Tudor II. The interior is hollowed out and fully detailed with seats, carpets, and instruments, plus an extra specially detailed bar (a bhoy after me own heart!). The model is finished in silver and the whole job took 500 hours.

A high-minded gentleman who is fully in agreement with the sentiments of that past correspondent of ours on a controversial subject, the Purist, D. P. Golding sends along the photo, centre left, of his very attractive cabin monoplane which he has christened "Purist's Plea." Fliar Phil doesn't admire pylons either—



but in fairness he wishes to point out that the semi-scale school are in nearly as much of a rut with their high-wing cabin jobs.

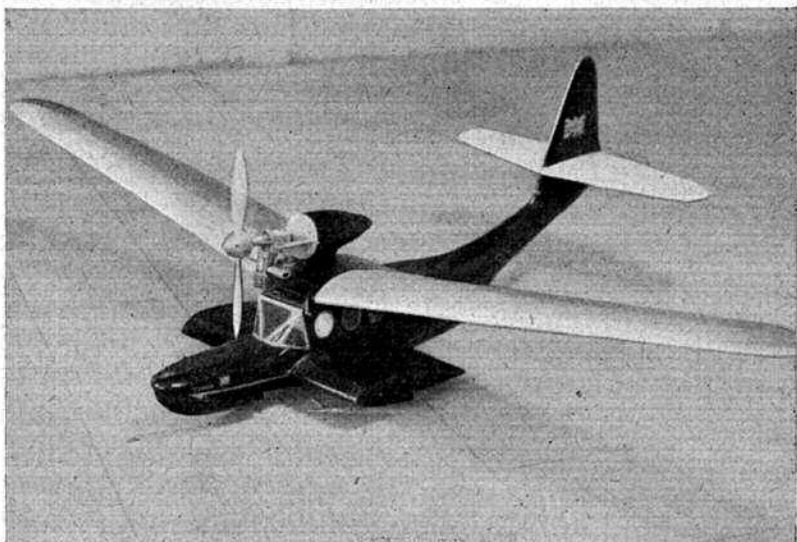
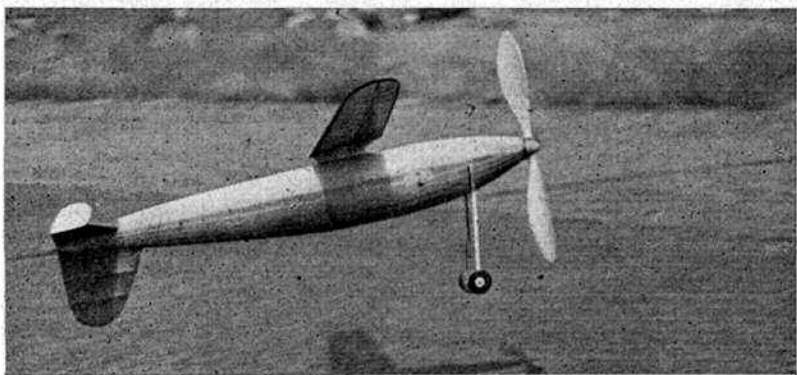
A. Stokes of Eastbourne had designed and built this attractive little Elfin-powered speed job, bottom left, which by its appearance promises great things. The photo wins high marks for Derrick S. Ross.

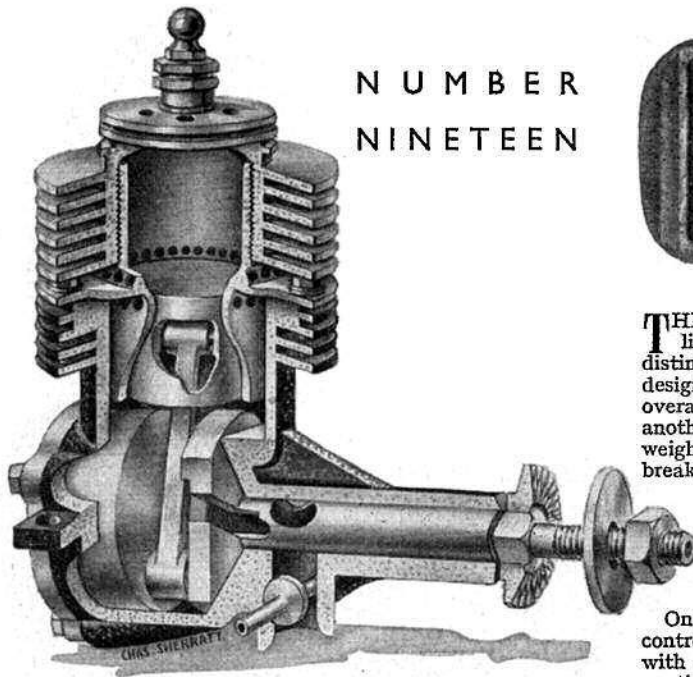
Those action shots are coming in with a vengeance now, and a good thing too. Top left shows R. Amos gliding his pylon power model, Claude McCullough's "Gnat" powered by a Bantam 199. The model has a span of 40 ins. and the all-up weight with battery is 17 ozs. Successes to date include fourth place in last year's International Power at Fairlop, and the Ilford Club record.

With the country becoming increasingly diesel diseased it is almost a curiosity to find someone who like Grannie, still puts their faith in elastic . . . Amongst their number, to judge by the 1 in. to 1 ft. flying scale "Messenger," top right, is F. W. Dee of Farnborough, who designed and built this attractive model. Weight is 6½ ozs. and wing area 200 sq. ins., and the photo is by R. Fail.

The masterly touch of Weltini-wielder Ed Stoffel is evident in our take-off shot, centre left, which he took at this year's Wakefield Trials at Fairlop. The intriguing model is N. Wilson's effort, of which we have no further details.

Our last is a worthy effort from the depths of darkest Germany, a Mermaid flying boat built by R. C. Howell whilst with the B.A.O.R. Shown in the Rhine Army Hobbies Exhibition it collected for its proud constructor, a very tasty Certificate and a Special Award of five beautiful smackers. Nice work, indeed.





NUMBER
NINETEEN



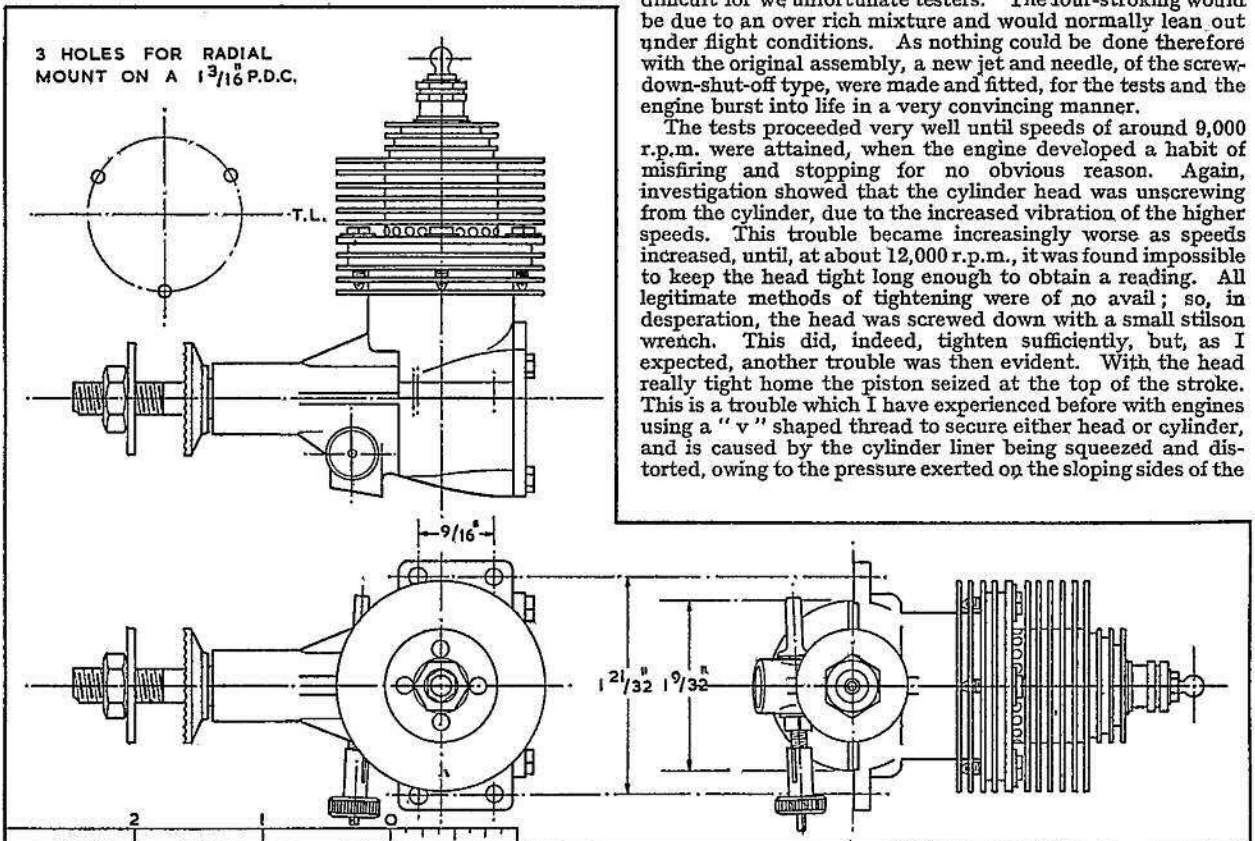
THIS 5 c.c. engine is probably the most compact, and lightest in weight, of any of this capacity, and this distinction seems to have been achieved by simplicity of design and by the use of a large bore/stroke ratio. Thus, the overall height is only $2\frac{7}{8}$ ins., although the glowplug adds another $\frac{1}{2}$ in. to this. Overall length is $3\frac{3}{8}$ ins., and the weight, less tank, is $5\frac{1}{2}$ ozs. During the tests no mechanical breakages occurred, so that it would seem that this lightness has not been obtained at the sacrifice of mechanical strength. Power output is also extremely good.

All this would sound like perfection, were it not for a difficulty which occurred during the tests, and which did, in fact, bring them to an untimely end. But more of this anon.

On first trying the engine it was found that the needle control was most unresponsive, and the engine started easily with fuel dripping heavily from the carburetter intake, and continued to run with the needle screwed right home. The needle could also be withdrawn almost entirely without much effect upon the running of the engine, because in no position of the needle was it possible to get the engine to run without four-stroking. On the assumption that this engine was designed especially for control line work this insensitivity of the needle valve adjustment is a good feature, but makes life difficult for we unfortunate testers. The four-stroking would be due to an over rich mixture and would normally lean out under flight conditions. As nothing could be done therefore with the original assembly, a new jet and needle, of the screw-down-shut-off type, were made and fitted, for the tests and the engine burst into life in a very convincing manner.

The tests proceeded very well until speeds of around 9,000 r.p.m. were attained, when the engine developed a habit of misfiring and stopping for no obvious reason. Again, investigation showed that the cylinder head was unscrewing from the cylinder, due to the increased vibration of the higher speeds. This trouble became increasingly worse as speeds increased, until, at about 12,000 r.p.m., it was found impossible to keep the head tight long enough to obtain a reading. All legitimate methods of tightening were of no avail; so, in desperation, the head was screwed down with a small stilson wrench. This did, indeed, tighten sufficiently, but, as I expected, another trouble was then evident. With the head really tight home the piston seized at the top of the stroke. This is a trouble which I have experienced before with engines using a "v" shaped thread to secure either head or cylinder, and is caused by the cylinder liner being squeezed and distorted, owing to the pressure exerted on the sloping sides of the

The YULON '30' MARK TWO





thread when tightened up really hard. "V" threads used in this manner always compress the inner component.

As the design stands, it is difficult to see how the head could be locked, although the use of a finer pitch thread, in place of the present 20 t.p.i., might help matters. I am, however, rather at a loss to see why this screwed head should be used at all, in conjunction with the small holding-down screws for the cylinder liner, as it seems that these screws might well be lengthened and used to clamp the whole head assembly in position. The head and liner might then be plain bored and turned, and the somewhat heavy steel flange on the liner would be unnecessary.

In fairness to the manufacturers I would mention that with the engine clamped rigidly in the test rig vibration is intensified, and transferred to the various movable components, whereas under flight conditions, vibration would be absorbed to some extent by the model and this unscrewing of the head might not occur.

TEST

Engine: Yulon 5 c.c. Glowplug ignition.

Fuel: "Mercury" Competition Glowplug Fuel.

Starting: Extremely easy at all times, but engine seems to require to be very "wet", with fuel dripping from carburetter.

Running: The engine ran extremely well at all tested speeds, and the needle control is not critical. Chief requirement seems to be that the engine has plenty of fuel.

B.H.P.: The Yulon may be placed in the "hot-stuff" class, with circumferential exhaust porting, and a high power output usually associated with this design. As will be seen, the curve is unfinished from 12,300 r.p.m., for reasons already stated. At this speed the output was 3.10 b.h.p., and although flattening considerably, the curve was still rising. The dotted continuation indicates what would probably have occurred had tests been possible. The flatness of the curve indicates well the general character of the engine, which responded without fuss to the various loadings.

Checked Weight: 5.75 ozs.

Power/Weight Ratio: .863 b.h.p./lbs.

Remarks: The tests at the higher speeds were attended with difficulty, and readings were somewhat erratic; the curve has, therefore, been considerably "smoothed". It is probable that higher output figures may have been found on a straight test.

GENERAL CONSTRUCTIONAL DATA

Name: "Yulon 30" Mark II.

Manufacturers: Yulon Engineering Co., 53, Woodland Road, Northfield, Birmingham 31.

Retail Price: £6. 15s. 0d.

Delivery: 7-14 days.

Spare: Full repair service from Manufacturers.

Type: Glow Plug.

Specified Fuel: Methanol 5 pts., Castor Oil 2 pts., Amyl Acetate 1 percent.

Capacity: 4.95 cubic centimetres, 0.302 cubic inches.

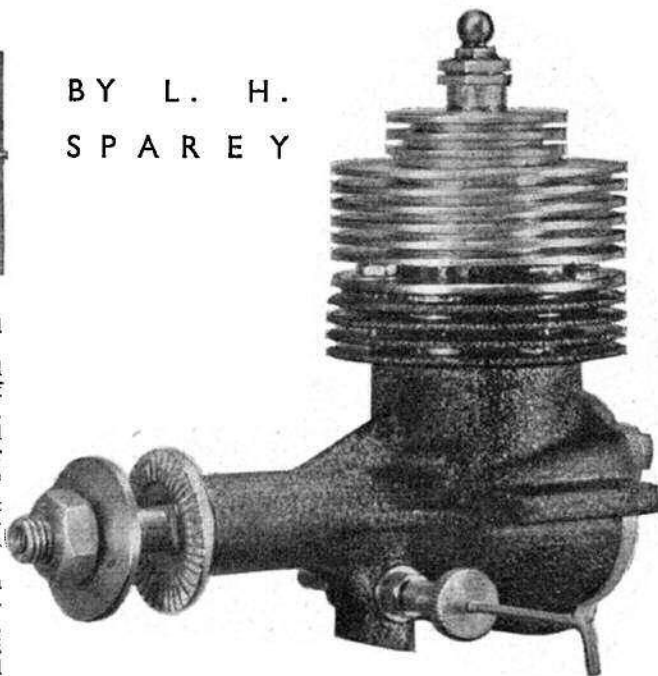
Weight: 5 ozs. bare.

Compression Ratio: Not disclosed.

Mounting: Beam and radial, upright and inverted.

Recommended Airscrews: Free

BY L. H.
SPAREY



flight:—10½ × 4 in., C/L stunt: 9 × 6 in., C/L speed: 7 × 10 in.

Recommended Flywheel: 4 to 6 ozs.

Tank: Not supplied.

Bore: 0.746 in.; stroke: 0.691 in.

Cylinder: Meehanite honed and polished. 3 ports.

Cylinder Head: "Testal" low expansion alloy. Screw thread attachment. Spherical combustion space.

Crankcase: D.T.D.424. Anodised black crackle finish.

Piston: Meehanite, honed and polished. Flat top, no rings.

Connecting Rod: Light alloy. Both bearings honed and polished.

Crankpin bearing: Plain.

Crankshaft: Silver steel finished with heavy durachrome deposit. Honed and polished.

Main Bearing: Plain-direct in crankcase-honed and polished.

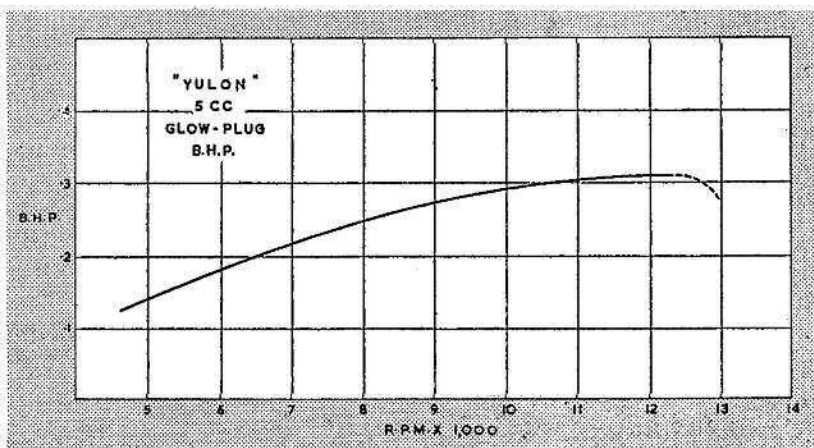
Little End Bearing: Plain.

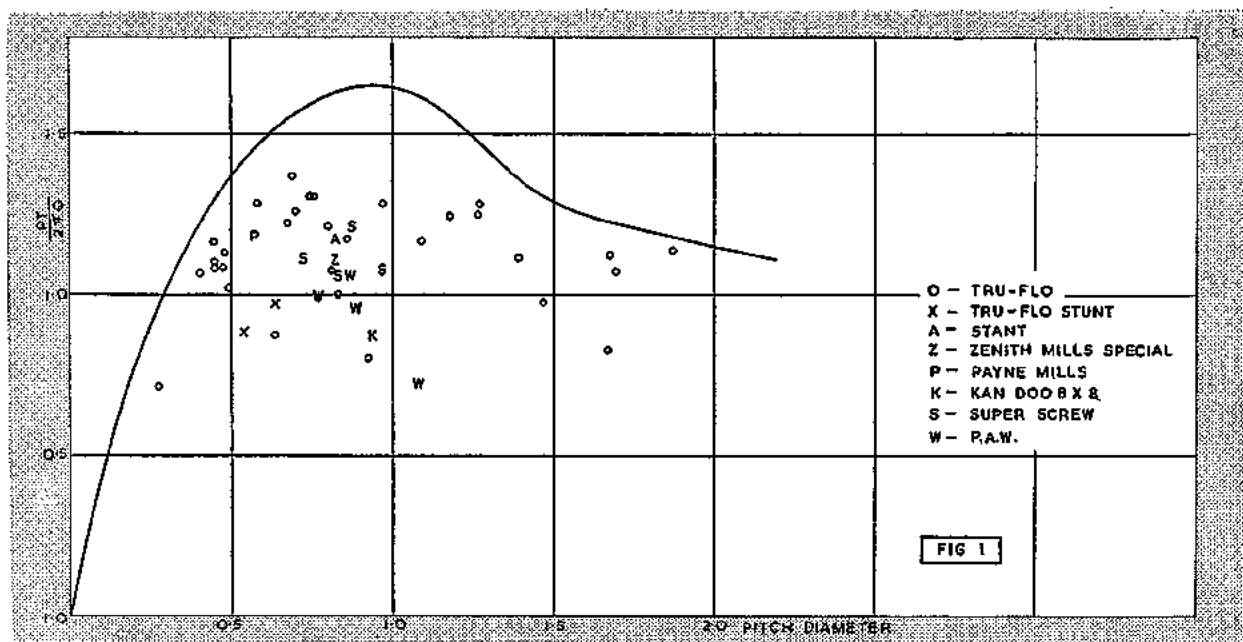
Crankshaft Valve: Shaft type.

Plug: K.L.G. "Miniglow" ¼ in. standard reach.

Special Features: Delapena Honing and Polishing equipment used throughout. All components selectively matched.

Crankshaft tapped 6 B.A. for spinner fixing. First British engine of its class to get down to 1 oz. per c.c.





PROP REPORT Part II. By P. R. PAYNE

IN the September issue preliminary static results were given for the "TRU-FLO" range of propellers, and it was pointed out that the efficiency can be fairly accurately determined by plotting the expression

$$\frac{\text{PITCH} \times \text{THRUST}}{\text{TORQUE} \times 2\pi}$$

against pitch/diameter ratio. This was done for the "Tru-Flo" and a number of other examples, and only for very low pitches did these come near the "maximum possible efficiency" line. Because of this, we felt it was important to measure the actual pitch of the props submitted to us, and not rely on the manufacturer's figure.

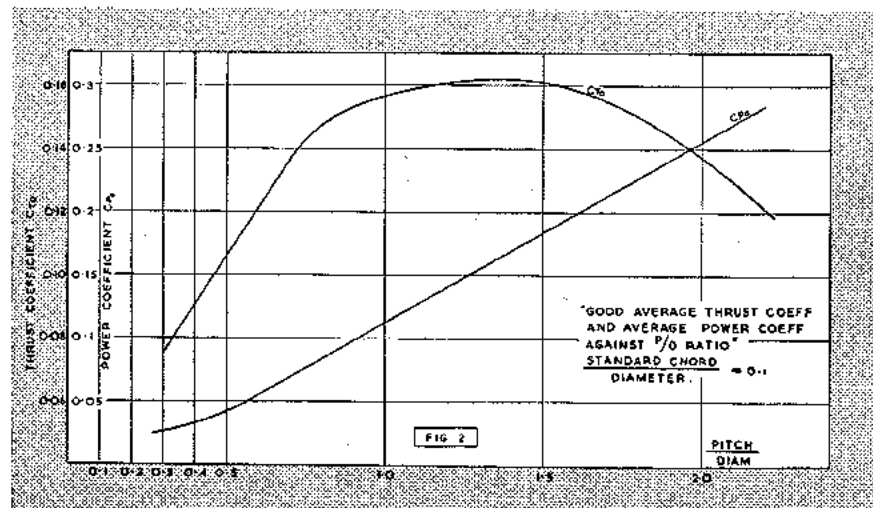
The results can only be described as remarkable!

So far from the stated pitch being a "rough guide" as we suggested last month, it is in many cases definitely misleading. To take some of the more serious cases, the "Tru-Flo" 8x12 is actually 8x15, the 10x10 and 10x12 are respectively 10x11.8 and 10x16.78, and Super Screws have brought out a classic 8x4 which is 7.75x5.88. The blade angle

at seven-tenths of the radius is often as much as 3° greater on one blade than the other, and thus the figure we have quoted is the mean pitch.

These unfortunate facts do not necessarily affect the performance of a propeller, but only the choice of a suitable one for a given engine and model. (If an 11x10 prop is needed you may choose between the "Tru-Flo" 11x12, or 12x12 (cut down) or the P.A.W. 11x12, all of which are more or less 11x10).

Table 1 gives the correct pitches for all the designs tested in column 3, and in column 4 the chord of the blade at seven-tenths of the radius. Since weight is often of great importance, this is given in column 6. Surprisingly few models seem to take this factor into account, but considering the examples given above, for instance, the "Tru-Flo" 11x12 weighs 0.6775 ozs., whereas the P.A.W. weighs only 0.4435 ozs., although it is also slightly less efficient: it may be then, that in cases where weight is of primary importance the P.A.W. would be the best prop.



On columns 7 to 11 Table 1 continues with the aerodynamic characteristics of the airscrews. As explained last month Q/n^3 and T/n^3 are the slopes of the torque and thrust curves, and the actual values for a given engine speed may be obtained by multiplying these values by the square of the engine speed in revs./sec. Torque is in inches, ozs. and thrust in ozs.

Efficiency.

The curve in Fig. 1 corresponds to maximum possible efficiency, and as explained last month the distance between this curve and a point for any one propeller is a measure of its efficiency: that is, the further away a point is from the curve, the less its efficiency.

Of the various designs tested it is obvious that the best are

"Tru-Flo's": but since there are also many poor ones we are inclined to regard this only as illustrating the bald statistical fact that if enough props are produced, some of them *must* be good. None of the other designs are consistently bad, but it does appear that the orthodox blade form is superior to the peculiar shapes introduced by some manufacturers.

In any case the acid test of efficiency will lie in the wind tunnel tests shortly to be made: the $PT/2\pi Q$ method is not intended to be anything more than a rough and ready comparison.

"Tru-Flex" Propellers.

Table 2 gives the results of some tests, and it is immediately apparent that thrust and torque are not linear functions of the revs. squared. This phenomenon can only be due to the prop "washing in" (i.e. increasing in pitch) with increasing revs., but is impossible to calculate this variation, as the diameter also increases. We hope to measure both variations by using very small galvanometer mirrors in conjunction with high speed photography.

"Stunt" Propellers.

Within the limitations already stated, the Kan-doo 8x8 was one of the poorest tested; this is probably due to the rough unvarnished finish and the extremely large chord at the tip. It is thought that its use would only be worthwhile on a really "draggy" box-like stunt model.

In contrast the two "Tru-Flo" stunt designs gave a fairly good performance, as good as the "Truflex" examples in fact. Unfortunately both types are inordinately heavy, and although this is expected of a flexible prop, the "Tru-Flo" 9x6 is far too heavy at 1.112 ozs. especially since the 10x6 weighs only 0.885 ozs.

The "Stant" 8x6 is also fairly efficient and is also reasonably light. Whilst there is nothing exceptional about it it is of interest to note that it makes a curious "metallic" noise when running which is quite unique.

The "Zenith" Mills special is fair average in every particular.

"Super-Screw" Propellers.

The best of these is the 8x4 the blade shape of which is nearly normal. Their efficiency is about the same as the "stunt" propellers, and they are rather heavier than normal.

P.A.W. Propellers.

These give a consistently poor performance on the static rig, and frankly we are rather surprised by this. It is hoped that they will show a better performance in the wind tunnel.

"Tru-Flo" Propellers.

As remarked above many of the designs in this range have a good performance. As with most other types, however, the quoted pitch cannot be relied on, and it is doubtful whether the L.S.A.R.A. values apply to any examples other than those actually measured, in view of the manufacturing technique used.

Statistical Data.

An interesting side-light on the work achieved to date is the amassing of statistical data for use in prop design. Generally speaking, it is found that the thrust and power (or torque) co-efficients vary with the ratio. b/D , where b is the chord of the blade at 0.7 Radius and D is the diameter. Thus, if we take say, $b/D=0.1$ as the standard ratio and multiply actual test results by $0.1/b, /D$, where b/D is the ratio for the test propeller, we can draw curves of thrust and power co-efficient against Pitch/Diameter as in Fig. 2. Here the power co-efficient is the average value, but the scatter for thrust is so great that the line drawn corresponds only to "good" airscrews.

In addition a considerable number of interesting facts are coming to light, but which are unfortunately outside the scope of these articles. To meet this case we are preparing an L.S.A.R.A. Report which will be issued on completion of the tests.

PROPELLER SUMMARY—STATIC CASE

TABLE (1)

"TRU-FLO"

Makers Size Ins.	Actual Diam.	Size Pitch	Chord (0.7R)	Pitch Diam.	Weight (ozs.)	Q/n2	T/n2	Cpo	Cto	PT 2πQ
7x4	7.04	4.9	0.6675	0.696	0.256	-0.0028	-0.00493	-0.571	-1.119	1.373
7x5	7.04	5.33	0.568	0.757	0.263	-0.0031	-0.00476	-0.637	-1.108	1.305
7x6	7.04	5.69	0.5285	0.808	0.245	-0.0040	-0.00476	-0.683	-1.108	1.077
7x8	7.04	8.94	0.548	1.270	0.227	-0.0060	-0.00542	-1.23	-1.23	1.285
7x10	7.04	10.35	0.482	1.470	0.238	-0.0070	-0.00416	-1.44	-0.944	0.979
7x12	7.04	10.73	0.436	1.670	0.285	-0.0070	-0.0034	-1.43	-0.771	0.830
8x4	8.0	3.93	0.849	0.492	0.4475	0.00445	-0.00756	-0.484	-1.005	1.02
8x8	8.0	7.76	0.668	0.970	0.53	-0.00845	-0.0089	-0.88	-1.17	1.287
8x10	8.0	10.12	0.581	1.265	0.491	-0.011	-0.0085	-1.15	-1.13	1.248
8x12	8.0	15.0	0.551	1.875	0.4725	-0.016	-0.00765	-1.67	-1.015	1.140
9x4	9.0	4.01	0.889	0.446	0.472	-0.0061	-0.00111	-0.354	-0.923	1.163
9x5	9.0	4.26	0.835	0.473	0.454	-0.0072	-0.01151	-0.416	-0.955	1.084
9x6	9.0	6.71	0.762	0.746	0.4625	-0.0109	-0.0133	-0.631	-1.107	1.303
9x8	9.0	9.80	0.697	1.09	0.558	-0.0153	-0.01145	-0.885	-0.992	1.167
9x10	9.0	12.53	0.6515	1.393	0.558	-0.0222	-0.0124	-1.287	-1.030	1.14
9x12	9.0	15.26	0.546	1.695	0.487	-0.0219	-0.00968	-1.27	-0.805	1.073
10x4	10.0	4.02	0.910	0.402	0.524	-0.0099	-0.0165	-0.344	-0.898	1.067
10x5	10.0	4.47	0.818	0.447	0.545	-0.0097	-0.0148	-0.333	-0.806	1.087
10x6	10.0	6.99	0.822	0.699	0.5201	-0.0158	-0.0179	-0.52	-0.975	1.260
10x8	10.0					-0.024		-0.78		
10x10	10.0	11.80	0.652	1.180	0.589	-0.0268	-0.01775	-0.92	-0.966	1.245
10x12	10.0	16.78	0.654	1.678	0.575	-0.0377	-0.0159	-1.22	-0.865	1.128
11x4	11.0	3.04	1.092	0.276	0.649	-0.0115	-0.017	-0.246	-0.861	0.715
11x5	11.0	4.92	0.872	0.448	0.518	-0.0136	-0.0191	-0.29	-0.855	1.100
11x6	11.0	5.30	0.835	0.481	0.5025	-0.0162	-0.0217	-0.345	-0.972	1.130
11x8	11.0	6.95	0.810	0.632	0.544	-0.0294	-0.0233	-0.627	-1.042	0.877
11x10	11.0	9.13	0.824	0.830	0.722	-0.0355	-0.0247	-0.76	-1.103	1.007
11x12	11.0	10.20	0.709	0.926	0.6775	-0.044	-0.0218	-0.936	-1.076	0.804
12x6	12.0	6.96	1.005	0.580	0.7575	-0.0296	-0.0344	-0.707	-0.903	1.287
12x8	12.0	8.06	0.885	0.672	0.784	-0.034	-0.0324	-0.785	-0.88	1.223
12x10	12.0	9.60	0.891	0.800	0.831	-0.045	-0.0358	-1.02	-0.94	1.214
12x12	12.0	10.33	0.855	0.861	0.836	-0.0476	-0.0340	-1.10	-0.893	1.174

"TRU-FLO"—STUNT

9x6	9.0	5.76	1.027	0.64	1.112	-0.013	-0.0138	-0.755	-1.105	0.973
10x6	10.0	5.41	1.100	0.541	0.855	-0.0175	-0.018	-0.899	-0.982	0.886

ZENITH—(MILLS SPECIAL)

—	8.5	7.07	0.841	0.832	0.464	-0.0118	-0.01163	-0.913	-1.215	1.111
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KAN-DOO

8x8	8.0	7.5	1.077	0.9371	0.442	-0.0164	-0.012	-1.720	-1.597	0.874
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SUPER SCREW

8x4	7.75	5.58	0.755	0.72	0.367	-0.00457	-0.00565	-0.561	-0.854	1.117
8x8	8.165	7.94	0.981	0.97	0.621	-0.0103	-0.00882	-0.964	-1.074	1.082
9x8	8.75	7.55	0.975	0.863	0.728	-0.0108	-0.01093	-0.722	-1.017	1.213
10x10	9.938	8.06	0.953	0.812	0.9275	-0.0187	-0.0157	-0.663	-0.878	1.078

P.A.W.

10x8†	10.0	8.9	0.9095	0.89	0.623	-0.0279	-0.0189	-0.957	-1.030	0.965
10x8*	10.0	8.43	0.919	0.843	0.570	-0.024	-0.0194	-0.824	-1.058	1.083
11x8	11.0	8.43	0.801	0.767	0.4275	-0.0264	-0.01975	-0.562	-0.735	1.003
11x12	11.0	10.77	0.7405	1.077	0.4435	-0.0436	-0.0184	-0.930	-0.695	0.724

"TRU-FLEX"

Red	7.813	3.30	0.878	0.422	0.4725	} Varies see Table 2.
White	9.25	3.35	1.025	0.362	0.8275	
Brown	10.875	5.70	1.167	0.524	1.335	

STANT

8x6	8.0	6.6	0.9565	0.824	0.451	-0.0091	-0.0102	-0.954	-1.360	1.180
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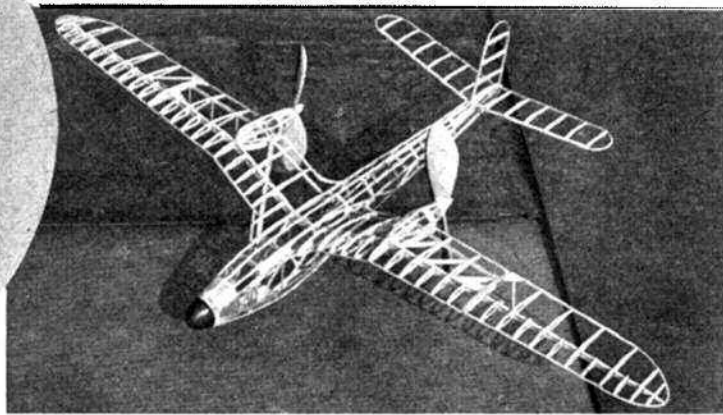
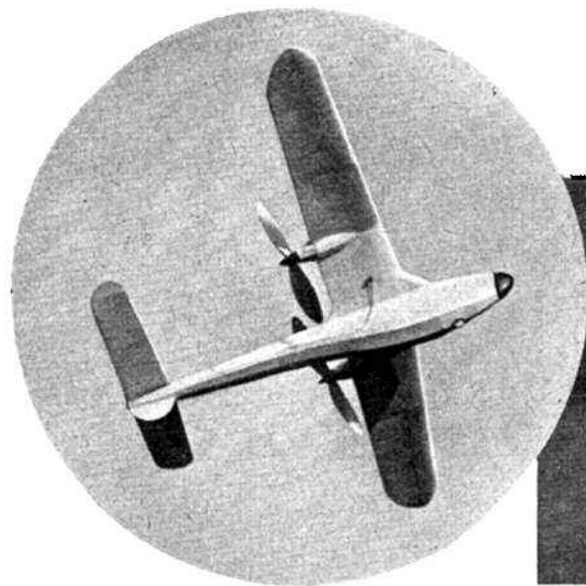
* Varnished. † Unvarnished.

"TRU-FLEX" PROPELLERS—STATIC CASE

TABLE 2

R.P.M.	Torque in. ozs.	Thrust ozs.	Q/n2	T/n2	Cpo	Cto
RED						
3,000	0.6	0.706	-0.0024	-0.00282	-0.271	-0.399
4,500	2.0	2.115	-0.00356	-0.00376	-0.402	-0.531
6,000	4.0	4.94	-0.004	-0.00494	-0.4515	-0.698
7,500	6.8	8.47	-0.00435	-0.00542	-0.491	-0.766
WHITE						
3,000	1.5	1.765	-0.006	-0.00706	-0.305	-0.526
4,500	4.1	4.23	-0.0073	-0.00752	-0.37	-0.55
6,000	8.0	9.17	-0.008	-0.00917	-0.406	-0.682
7,500	14.0	16.6	-0.00896	-0.01062	-0.455	-0.791
BROWN						
3,000	5.2	5.3	-0.00208	-0.00212	-0.473	-0.831

C. RUPERT MOORE CONCLUDES WITH PT. 12 THE FLYING SCALE MODEL



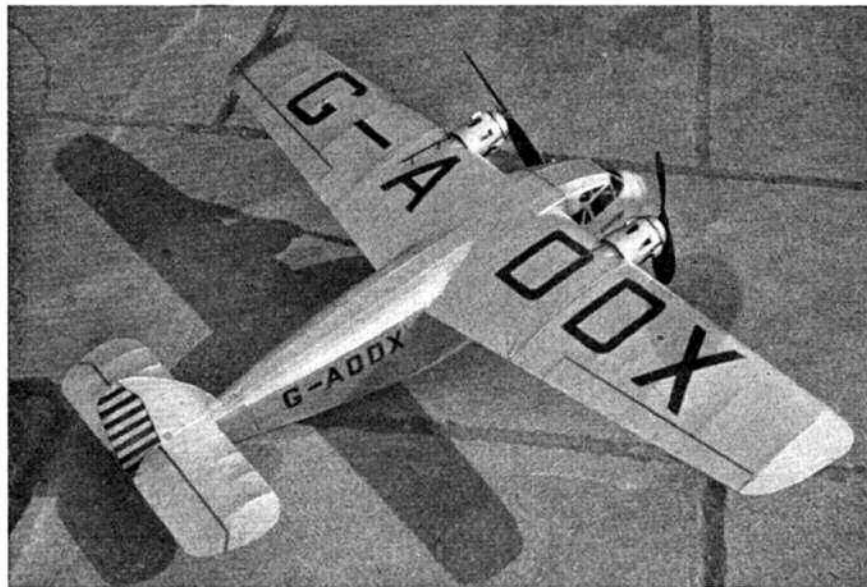
IN McGillicuddy's Year Book I was represented as claiming that the "Moore Drive" would make a barn door fly. Not possessing a barn door I have been unable to carry out this particular experiment but there is no doubt that this angular drive has made possible the building of flying scale models of most multi engine types which have a reasonable duration.

In spite of public demonstration I found prejudice very stiff even among some of the most advanced aeromodellers, and my efforts were condemned out of hand frequently before the "unbeliever" had even seen the model. The objections were "I don't believe in soft solder," "You must have added loads of weight" or "The friction must be prohibitive". Soft solder of course is absolutely reliable if done as described in the last issue, *i.e.* get rid of *grease*, use only *Tinmans Solder* and reinforce with *fuse wire*. During the past 20 years I have only had one failure of solder and that was last year when flying *Viper* again, a stub axle fractured, 14 years after soldering!

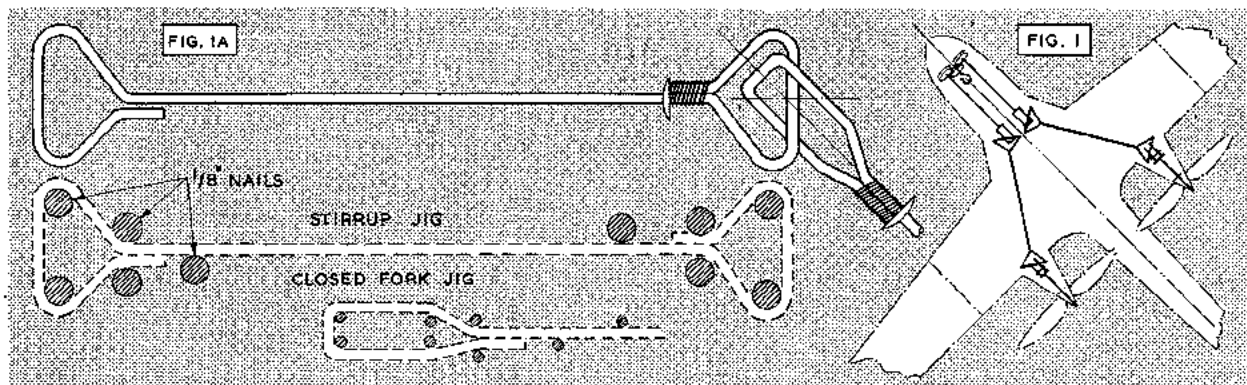
To disprove the second charge of excessive weight I designed and built my "Twin Gull" (which is in Plans Service), to Wakefield specifications. In spite of the title of this article I show photographs of this duration model as it was produced solely to prove a vital point and it certainly is the ideal beginners' twin model. The complete structure weight, covered and doped was 5 oz., the total mechanism including all bearings, bearing spars, shafts, gears and freewheels accounted for 1½ oz. The layout of the "Twin Gull" reduces the size of the undercarriage to minute proportions. The front wheel of the tricycle being half buried and the rear legs retract under the wing roots, the total weight of the undercarriage including all springing is only 3/16 oz. A single airscrew of a diameter to give a similar swept area to the area swept by the two smaller airscrews weighed 50% greater than the two smaller ones is single airscrew ½ oz., two smaller airscrews ¼ oz. together. Contra rotating airscrews, therefore cancelling out torque, make reduced tail areas acceptable. This model weighed 7.9 oz. all up. Let me

make it clear that I do not suggest a twin layout is preferable to single screw for competition work, that is not the problem I set out to solve, what I do claim is that I have proved it possible to build a twin screwed model below the weight regulation for the Wakefield Cup and still retaining a duration models performance.

The saving of most if not all the drives weight by the reduction in size of airscrews and undercarriage is a common feature of twins, in fact I find the wing loading of either single or twin



The heading photos show the author's twin pusher "Twin Gull", a Wakefield model which weighs only 7.9 ozs. all up, and was built to prove that light twins were possible and could fly well. Left is the author's attractive scale Short Scion. Both models, of course, are equipped with the patented Moore drive, detailed in the diagrams.



engined flying scale model very similar. Viper and Castor are within 8% of each other's weight while the Typhoon and Blenheim are identical at 9 oz. per square foot.

The twin pusher layout for the Twin Gull was chosen solely because two joints only were required, each side as against four each side for a tractor layout, Fig. 1. The weight of either tractor or pusher would be about the same because the longer shaft in the pusher equals the extra fork and stirrup needed in the tractor.

The difficulty of handling piano wire was one of the many snags in the original drive and accuracy demanded stirrup leads and closed forks as well as open forks being built up units. It was suggested to me that untempered silver steel might do the job and I was amazed to find it entirely satisfactory. Building became comparatively simple, through a tracing from the plan are knocked nails of suitable diameter around which the soft silver steel is bent, Fig. 1. After the bearings have been drilled in brass strip and slotted on, the necks of both stirrups and closed forks are bound and soldered. The open forks of course have still to be built up from brass strip and piano wire prongs. The propeller shafts also must be of piano wire. If one has the knowledge of tempering, the drives suitable for Castor can be found thus from 16 S.W.G. silver steel and then hardened.

Except for the use of the starter bobbin the handling of the Twin Gull is very like any other model. The nose block puts out for stretch winding.

Trimming is as usual except for thrust line, because the airscrews are behind the centre of gravity the whole thing is reversed. In spite of this, one still packs the top of the nose block to add downthrust. Instead of giving sidethrust for circular flight slight variation in downthrust on either side is used.

Another interesting feature of twins having contra rotating props is the effect the direction of rotating has on stability. I make nacelle nose blocks interchangeable so that both outward and inward rotating can be tried. By outward I mean if wheels were substituted for airscrews, these wheels would roll away from each other towards the wing tips. On three models, I found longitudinal stability improved by having outward rotation.

Although the Scion flies perfectly well with airscrews revolving in an inward direction I have found this feature a decided disadvantage on most models and feel this model might be improved by outward revolution. I was very interested to read in the R.Ae.S. journal this month that experiments on the Breguet 460 confirms that outward rotation has a decided effect on stability on that machine. Outward revolving airscrews have one very great advantage, when an airscrew is knocked off it flies outwards away from the fuselage while inward rotation often causes the airscrew to pierce the fuselage.

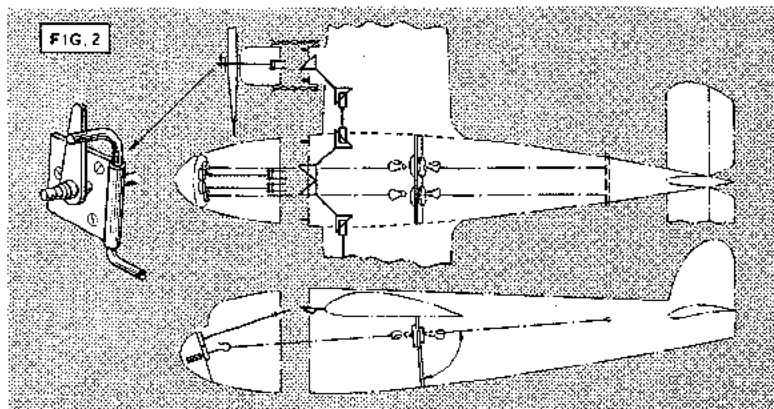
Friction was the last objection. If the Twin Gull is held by the nose pointing tail first without rubber in place, and one walks forward the whole mechanism revolves by air pressure alone. Furthermore, the rubber motor completely unwinds itself. This is so with all my models when gear boxes are removed but naturally multi gears prohibit this.

The final simplification of this drive is shown in Fig. 2. At a point exactly over the centre point of the stirrup bars just forward of the centre section leading edge spar, the fuselage is cut off and locating pegs arranged so that the nose is held in place by the tension of the motors. The forks engaging these stirrup bars are open forks so that they are free to separate.

The gear box is built into the nose and is not removable. The forward slope of the gearbox is caused by the necessity of having the gears at right angles to the pilot shafts. Quite large angles between the rubber line and shafts can be used with safety. For stretch winding the whole nose is pulled off.

The secondary gearbox used on "Castor" is dispensed with and a series of joints used instead. Each shaft makes an angle of 135° to the next. The stirrups and closed forks passing through the wing are made of silver steel as for the Twin Gull. To cut down the number of skeins a diaphragm having two holes is fixed half way between nose and tail hooks. Each of the two skeins is fitted with a plug 2/3 of the way along the skein, the usual "Moore Diaphragm."

This simplification shows a saving over the method used on "Castor" of:—2 joints at gearbox end of pilot shafts, 2 Universals at opposite end of pilot shafts—2 telescopic shafts—4 wing clips—2 wing rests—1 secondary gearbox and a reduction in the length of shafting. The price of this is the addition of 4 joints. Each stirrup has been reduced to simple bent wire as well as half the forks. This is the method used on the Short Scion and the Blenheim. The final refinement of course is the self setting freewheel described in the Typhoon article.





Dear Sir,

It must be about eighteen months ago since I last purchased a kit and I have been thinking of buying another but I have hesitated from doing so for the following reasons.

Practically every kit I have purchased I have found that the kit of materials itself is insufficient to enable me to finish the model for the simple reason that the *quality* of the materials in the carton do not live up to the label on the carton which very often states such remarks as "selected balsa strip and sheet". The wood strip in my opinion is not selected. The sheet may be alright (as long as it is not too tough), but a little more care may be exercised in selecting the strip for the various components it has to build. It is not even sufficient just to have the lightest balsa supplied as some of the strip may have to be used for the leading edges of the wings or tail planes. It is also of very great importance to have balsa strip of *equal* toughness to manufacture the fuselage of a slab-sided so that both sides line up accurately. I would be very surprised to find a manufacturer who took the trouble to cut the four longerons balsa strips from one sheet for his kits. Balsa has such varying degrees of toughness that it is imperative that the strip for longerons be cut from one sheet and the strips numbered as sheet may vary in toughness from one side to the other. The wood strip for wings also needs to be of equal toughness—not, for instance, to have the wood for the centre spar of a power model like I had once supplied in a kit, hard for one wing and medium for the other. In the last kit which I bought to build a power model some of the wood strip intended for the fuselage crutch structure was not only as tough as spruce but also *crooked*—I had to use some of my own stock to replace same.

In another kit of a power model which I purchased, the tubing for the detachable undercarriage was not only of *aluminium*, it was not even seamless!

One last thing I would like to mention and that is the props which are sometimes supplied partially shaped. It is quite possible to make an efficient airscrew out of the one partially shaped, but it is the hardest thing there is in making the model when it comes to drilling the hole for the prop shaft.

What is the use of paying for kits which do not come up to building requirements? At the moment the only advantage in buying kits, is the printed sheet that makes building easier.

Bristol.

J. C. WILMOT.

Whilst a deal of reader Wilmot's remarks are true of many kits they do not apply in all cases as will be seen from our kit review in the December issue. The cure does in any event lie in the hands of the purchaser who should return the faulty kit to the manufacturer with a request for replacement or better still refuse the kit in the first place. (ED.)

Dear Sir,

During 1950, the Swedish Aeromodellers are running an International Glider Competition, the date being close to the "Wakefield" Finals.

This competition will be for Class A.2 Gliders, which is the intermediate "Nordic" Class, in the list of classes now adopted by all the Scandinavian countries. The Scandinavians are hoping to get their Classes recognised by the F.A.I. and

adopted as standard International Classes; and it may well be that before the 1950 Flying Season opens such a list of Classes will be recognised by the F.A.I.

Some think it necessary to have Glider Classes in this country, and to give some idea of the Scandinavian Classes, here are the main details:—

- A.1 CLASS—PRIMARY CLASS—(Intended for Beginner)—
 Maximum wing plus tailplane area=18 sq. decimetres (or 278.6 sq. ins.).
 Minimum wing loading=8 grams per sq. decimetre (or 2.62 ozs. per sq. foot).
 No minimum fuselage cross-section area is called for.
- A.2 CLASS—"NORDIC" CLASS—(Proposed International Class)
 Total wing plus tailplane area=Between 32 and 34 sq. decimetres (or between 495.3 sq. ins. and 526.3 sq. ins.).
 Minimum weight of 410 grams (or 14.46 ozs.).
 (Note: This is minimum total weight, not weight per sq. decimetre, this is to simplify checking models in competitions.)

Cross section to F.A.I. Specification, i.e., $A = \frac{St}{100}$

- A.3 CLASS—ADVANCED CLASS—
 Minimum wing plus tailplane area=40 sq. decimetres (or 619.2 sq. ins.).
 Minimum wing loading=12 grams per sq. decimetre (F.A.I. Loading (or 3.93 ozs. per sq. foot)).

Cross section to F.A.I. Specification, i.e., $A = \frac{St}{100}$

- A.4 CLASS. This is for record claims for hand-launched gliders of any class.
- A.5 CLASS—Automatic control (compass, sound waves, etc.) of any class. (Not from the ground.)
- A.6 CLASS—Radio control (from the ground).

It is hoped that a system of glider classes will be adopted by the Society, and it is hoped too that a glider team may be selected to go over with the "Wakefield" Team to compete in this International Glider Event in Sweden.

The gaps between the classes have been left to facilitate checking of models prior to competitions, and to make a clear distinction for record purposes.

Such a system of classes will solve the vexing business of having to fly a three foot model against friend Yeabsley's "Sunspot"!

Kensington.

P. GUILMANT.

Dear Sir,

For some time I have felt the need to establish an International Class for Model Sailplanes. In rubber powered models the Wakefield type is already universally recognised. As things are at present. At International Sailplane contest such as the Anglo-Dutch and the Swiss glider contests, models of 4 foot span compete with models of 11 foot span, and it is obvious that other qualities being equal, the larger model has the advantage, being more efficient and staying in sight longer owing to its size. It is logical, therefore, that some rule should be introduced.

While at the Wakefields at Cranfield I discussed this matter with some of our foreign visitors and found that they all favoured the idea. Later while in Holland, at their Nationals, I had long discussions with Frank Zaic and van Hattum and after considering various possibilities, we came to the conclusion that what was wanted was one class to be established for International Competitions, and it was suggested that the simplest way was on total area and F.A.I. loading. The suggested areas to be between 50 dm² (775 sq. in. (?) and 60 dm² (930 sq. in. (?)). This would bring in a large number of contest sailplanes already flying and is a reasonable size, not too large for transport and not too small to be inefficient.

If such an International Contest Class were established and approved by the F.A.I. we felt certain that it would stimulate competition, and give a better means of comparison in sailplane performance than is possible at present. It would also, I feel, lead to those happy International relations which were so manifest at this year's Wakefield.

Liverpool.

R. L. GOSLING.

Can you supply me with a good formula for the making of rubber lubricant?—(R. L., Brentwood.)

A reliable mixture is two parts soft soap, one part glycerine, and one part castor oil. Thoroughly mix (some heat may be required) and it may be necessary to add a little water to aid amalgamation.

Can you recommend any good books or other "gen" on the subject of Radio Control?—(S. T. H., Darlington.)

The only book so far published on the subject—"Radio Control for Model Aircraft," by Peter Hunt—is now out of print, but we understand that further books dealing with this subject will shortly appear on the market. Try contacting the Secretary of the Radio Controlled Models Society, Mr. G. C. Chapman, Pine Corner, Firwood Rise, Heathfields, Sussex.

If the blades of an airscrew are likened to two miniature wings, has "sweepback" ever been tried on them?—(G. M., Lancaster.)

Many forms have been used, including sweepback, and sweep forward, and we know of one American experiment where the blades followed a curved (scimitar) pattern. All these met with varying degrees of success, but the general consensus of opinion is that there is not a great deal to be gained by these unorthodox layouts, the advantages nowhere near compensating for the additional complications of construction.

How can I determine the bore of a cylinder for a given capacity where the length of stroke is known?—(C. B., Brixton.)

The formula for finding cylinder diameter for a given capacity and length is as follows:—

$$D = \frac{C}{L} \cdot 7854$$

Where D = Diameter in centimetres.

C = Capacity in cubic centimetres.

L = Length in centimetres.

Example:—A cylinder of 30 c.c. with length of 1.125 ins. will require an internal diameter of 117.5 mm.

Can you tell me the F.A.I. specifications for model aircraft?—(W. T., Malton.)

Briefly, these are as follows:—

	Minimum	Maximum
Surface area (wing plus tail)	—	16.14 sq. ft.
Loading	3.93 oz. sq. ft.	16.38 oz. sq. ft.
Total weight ..	—	11.023 lbs.
Motor capacity ..	—	10 c.c. (0.61 c. in.)

Fuselage cross-section area (minimum) is determined by the formula — for aeroplanes, and — for gliders, the

symbol ST representing the surface area found by totalling mainplane and tailplane areas.

Full details of the F.A.I. Regulations are to be found in the 1949 S.M.A.E. Handbook, price 1/6 or 1/9 post free from Londonderry House, Park Lane, London, W.1.

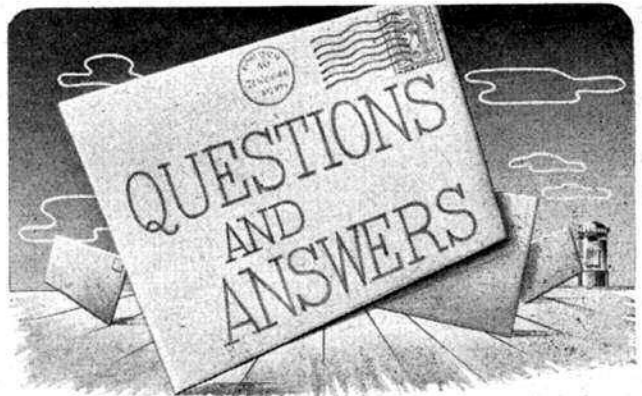
Has any method other than Radio been used for the flight control of models?—(W. H. B., Shrewsbury.)

A form of compass steering has been tried out in Switzerland with a certain amount of success, but the most promising was that employed by Mr. H. J. Taplin, whereby a rudder control was operated through various motions by means of clockwork operated cams. These were cut to various contours to produce different flight patterns, and some very successful flights resulted. The method did not gain popularity, however, probably in view of the imminence of reasonable control by means of radio.

Do you have to have a licence to build a Radio Control unit?—(P. E. L., Beaworthy.)

No—neither (as yet!) do you have to be licensed to operate a transmitter for the purpose of controlling a model. For full "gen" contact the Radio Controlled Models Society.

Whilst my diesel engine will run well and at high revs while on the ground, as soon as it becomes airborne it starts misfiring, and continues to do so while the model is flying. What is the remedy?—(E. D., Keyham.)



Your trouble is a fairly common one, the usual cure being to set the throttle to give a slightly over-rich mixture with the model stationary. This "leans" out in flight and should thus give correct running whilst airborne.

I often see the letters O.O.S. in Club News. What do they mean?—(H. G. M., Middlesbrough.)

Purely an abbreviation for the term "Out of sight." Other general abbreviations are:—

H.L. .. Hand launched.

R.O.G. .. Rise from ground.

C/L .. Control line.

R/C .. Radio control.

ZX;xl .. Model pranged/lost/unstable, etc., etc., etc.

How can I enter the Wakefield Trophy Contest?—(W. G., Wigan.)

To qualify for the British Wakefield Team (total number of six) you must qualify via a district (Area) elimination meeting, followed by the Selection Trials. The latter contest is confined to high placing modellers who have proven their ability in their district contest/s, and top six men at the Trial form the official Team.

The Wakefield Contest is limited to teams of six from any country recognised by the Federation Aeronautique Internationale, the Trophy being in the custody of the Society of Model Aeronautical Engineers.

What is the difference between a Canard and a tail-first model?—(D. M. W., London.)

None—the term applying to the type of model where the smaller (stabilising) surface leads the mainplane in flight. Not much used, but has extremely stable flight qualities.

Textbooks and other authorities state that the model airfoils under $3\frac{1}{2}$ " chord are very inefficient. Why is this, and does this apply to the series of L.S.A.R.A.?—(P. O'K., Charing.)

The $3\frac{1}{2}$ " criterion was advanced years before we knew anything about scale effect at model speeds. We remember it was only a rule for the minimum tip chord which would give reasonable stability on a certain type of model, and its later extension as a rule for practically anything was quite unjustified. There is no such thing as a critical chord in a general sense, although there is a critical value of Speed x Chord for individual sections.

The L.S.A.R.A. laminar flow sections have a better performance at low values of Speed x Chord than orthodox sections, so that one would expect a small model thus equipped to have a lower sinking speed than with an ordinary section.

I observed a radio equipped sailplane competing in the Radio Control contest at the 1949 British Nationals. How was this permitted?—(H. G. M., Swansea.)

What you saw was a power assisted sailplane, a small engine being mounted above the centre section on a removable power egg. This machine competed in the sailplane event the day previous (minus the engine of course), the use of radio being allowed at this date in order to give as much encouragement as possible to the development of this very important innovation.

Miles Hawk Speed-Six



AIRCRAFT DESCRIBED
No. 25 BY E. J. RIDING

DESIGNED purely as a racing aeroplane, the Speed Six was contemporary with the Hawk Major and Falcon. Basically it consisted of a Hawk Major airframe from which the centre plane had been removed, and the outer planes attached directly to the fuselage structure. The front cockpit was deleted to make way for the mounting of the Gipsy VI engine, and the undercarriage legs were positioned outboard of the airscrew arc in order to obviate slipstream drag.

The tailplane was similar to the Miles Hawcon, and later models were equipped with the 220 h.p. Gipsy VI.R, a special racing version of the Gipsy VI, originally produced for the Comets in the Mac Robertson race to Australia in 1934.

The first Speed Six, G-ACTE was entered and flown in the 1934 King's Cup race by Sir Charles Rose, but it was eliminated in the third round of the first heat. The following year saw three machines entered—G-ACTE, G-ADGP and G-ADOD, flown respectively by W. Humble, the late Luis Fontes, and his sister Ruth. G-ADOD had an open cockpit, but the other two were totally enclosed. Although Tommy Rose finished second on G-ADOD in the 1936 race at 184.5 m.p.h., the Speed Sixes never quite managed to beat the handicappers in the pre-war King's Cup races.

In 1936 G-ADOD was entered and flown by Clouston in the Johannesburg Race, but was written off in a crash at Gwelo, near Salisbury, Rhodesia, brought about by oil pressure trouble. G-ACTE's racing successes included first place and fastest time in the International Air Trophy at Shoreham, winner of the London-Newcastle race at 183.75 m.p.h. and third place with fastest time in the Manx Air Race during 1936.

Although entered for the 1939 King's Cup (cancelled on account of the war), G-ADGP's successes in air racing have taken place mainly during the post war years.

In 1946, G-ADGP was retrieved from a London mews where it had been stored during the war, and re-conditioned by Miles Aircraft Ltd., at Reading.

The rear decking was re-designed, and the existing bubble

canopy fitted, the machine making its first public appearance at the Isle of Man air races in June, 1947, where, piloted by Tommy Rose it won the Manx Air Derby at 181 m.p.h.

With the collapse of Miles Aircraft Ltd., G-ADGP was acquired by its present owner, Mr. R. R. Paine, Technical Director of Wolverhampton Aviation Ltd., who kindly posed the machine for our heading photograph.

In addition to gaining second place at 184 mp.h. in this year's King's Cup race, Mr. Paine attained an average speed of 188.75 m.p.h. in the main race at Thruxton on August 21st, which, incidentally is the fastest average speed yet put up by this machine.

Construction. All wood. Fuselage built up from four spruce longerons with spruce cross members and plywood covering. Wings of normal Miles pattern two spar construction with spruce and ply ribs and ply covering. Miles type split trailing edge flaps. Fabric covered tailplane, rudder and fin. Twenty gallons of fuel are carried in each wing root tank. Power is supplied by a six cylinder in-line aircooled inverted 220 h.p. de Havilland Gipsy VI.R engine driving a fixed-pitch metal airscrew.

Colour. Before the war, G-ADGP was painted as follows: Fuselage black all over with white registration letters, wings white with black letters.

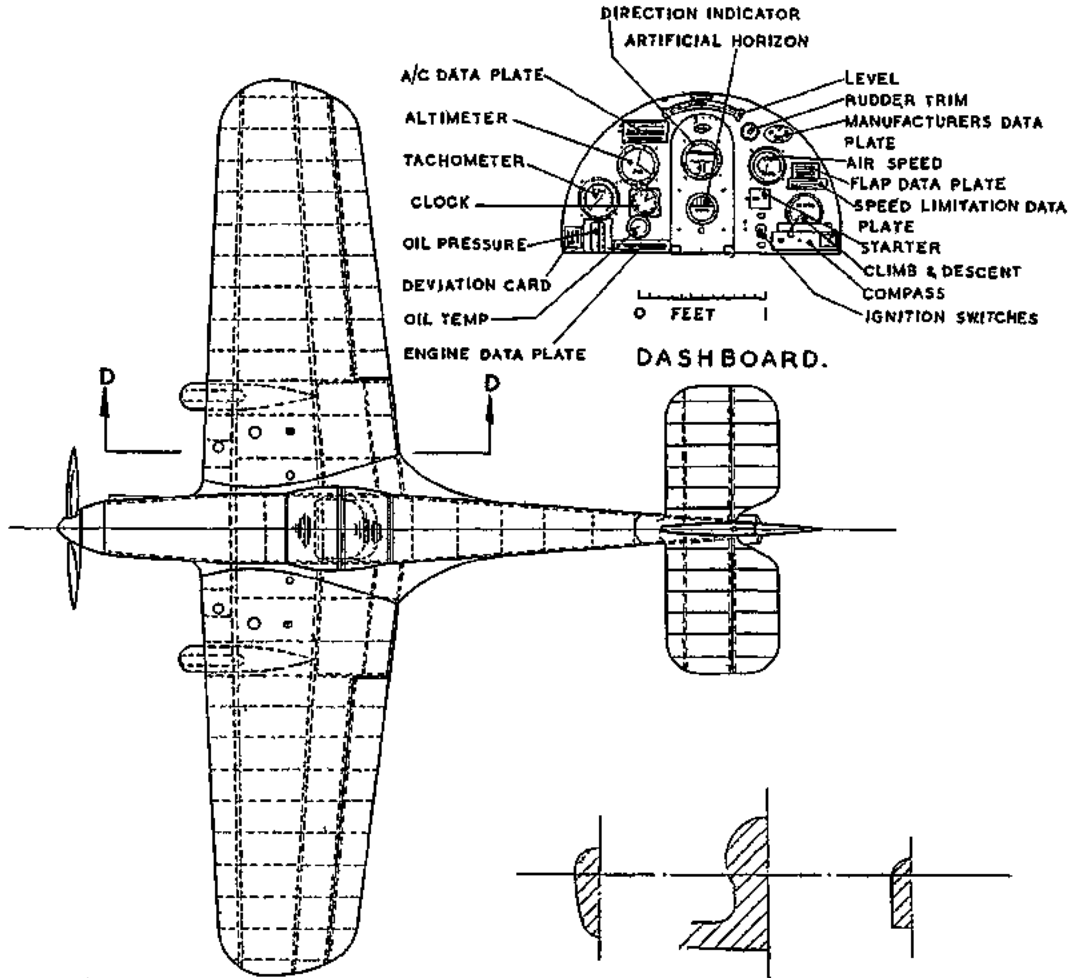
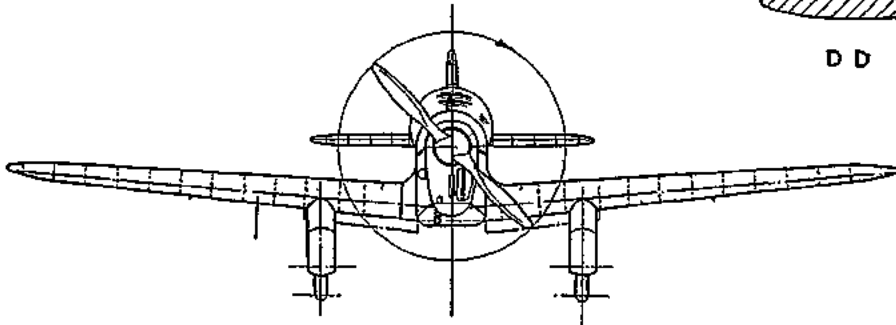
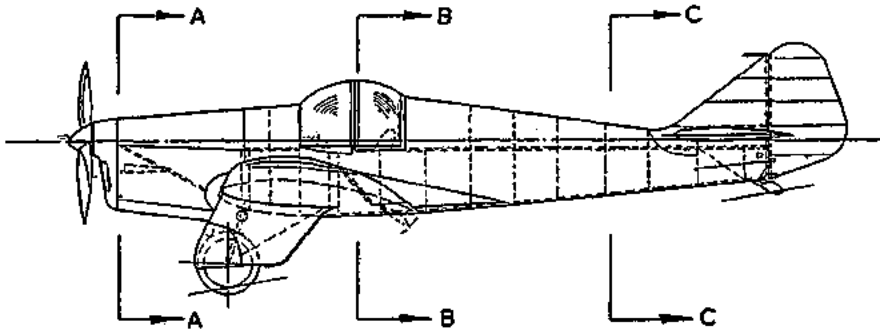
G-ADOD was cream all over with red letters. Since 1946, G-ADGP has been cream all over with maroon letters on the fuselage and wings. In the 1949 King's Cup, the racing numeral "12" was painted on the fuselage and wings with removable black paint.

Specification. Length: 24 ft. 6 ins. Span: 23 ft. 0 ins. Height (Tail up) 7 ft. 6 ins. Wing Area: 165.75 sq. ft. Tare Weight: 1,500 lbs. Loaded Weight: 2,000 lbs. Max Speed: 185 m.p.h. Cruising Speed: 170 m.p.h. Landing Speed: 70 m.p.h. Duration at Cruising Speed: 4½ hours.

½ in. to 1 in. reproductions of the G.A. drawing may be obtained price 1/- from Aeromodeller Plans Service. Copies of the photographs (6 ins. x 4 ins.) price 2/- each from Eaton Bray Studios.

"Aeromodeller" Photos





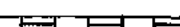
MILES M.2-L HAWK SPEED SIX

AA

BB

CC

FT.



1949 AEROMODELLER CLUB SURVEY

BY C · S · RUSHBROOKE

Number of Clubs operating (as at Sept.

1949)	514	(333)
Total Membership	14,012	(9,313)
Average Membership per Club	28	(35)
Clubs having full/part use of Clubrooms	372	(210)
Fees paid: Weekly	33%	(36%)
Monthly	9½%	(6%)
Annually	57½%	(46%)
Affiliations to the S.M.A.E.	72½%	(36.3%)
Youth Movement	10%	(25%)
Percentage flying Power driven models	64%	estimated

(Figures in parenthesis are from the 1946 survey)



IN view of the rapid growth of the Aeromodelling Movement in recent years, and the fact that it is three years since my last attempt at analysing the position, in June of this year a questionnaire was sent out to all the known clubs in the country asking them for various details from which to compile a further survey. Whilst it was easy to do this, getting the necessary response was fairly complicated in view of the fact that although we boast that our records are as up-to-date as possible, we cannot cope with cases where changes of secretaryship have occurred without notification to ourselves. Thus in a number of cases these questionnaires went to the wrong people and, in some cases, owing to change of address, etc., never reached them at all. However, cross reference having been made, we did finally reach most of the current club secretaries, and the following survey is based on information volunteered.

I cannot, of course, guarantee that the figures given are 100% correct, the constant flux in club membership, etc., making this impossible. A very careful check of all sources of information confirms my opinion that the following statistics are at least 95% accurate.

The first outstanding item is the increase in the number of clubs operating, there being quite a large jump from the 333 notified in October 1946 to the current 514, an increase of

approximately 54%. Being fully aware of the fact that a number of clubs are "five minute wonders" the important fact emerges that the vast majority are clubs of long standing, and the increase is indicative of the general widening of the Movement as a whole.

The number of modellers now working in organised groups has risen from just over 9,000 to over 14,000, of whom some 9,000 are flying power models. I hesitate to surmise just how many of these are properly insured, but I am certain that a very large number of power model flyers are operating today who still ignore this very elementary and commonsense precaution. I only trust that club officials realise the responsibility of their position and encourage their members fully to cover themselves against possible third party claims.

One adverse feature that appears is that the average number of members per club has fallen from 35 to 28, which taken in conjunction with the increase in the number of clubs, would indicate that some of the former large groups have tended to split up, thus bringing about a number of smaller closely knit groups operating in smaller areas.

One of the most surprising features elicited from this survey is the fact that in spite of the general public's unthinking opinion that model aeronautics is a game for kids, the ratio of senior to junior club members is 2 : 1.

It is very gratifying to see the enormous increase in the number of clubs affiliated to the S.M.A.E., the current percentage of affiliations being 72½% of the whole of the club movement. This is very encouraging and confirms the opinion that the Society is now fulfilling its place in the world of model aeronautics.

The quoted figures indicate a very healthy state of affairs in the organised Model Aircraft Movement, and confirm the writer's opinion that the best way to advance in either practice or theory in the hobby is to join organised groups of fellows with similar tastes, for the lone hand must inevitably stay in a fairly narrow rut by force of circumstances.



Top, shows the Leicester Club's canteen provided by Mr. Dalby a founder member. Mrs. Dalby shown pouring a "cuppa" acts as manageress, altogether a happy innovation for any club. Left shows a well fitted club room belonging to members of the Thlrsk and District M.A.C. who are shown getting down to business.



RE-AFFILIATIONS. In view of the fact that many Club Secretaries find a great deal of difficulty in eliciting details of individual members' Insurance and Registration (thus creating delay in effecting re-affiliation), in future this information is waived. All that is required from now onwards is a list of members indicating Senior or Junior.

USE OF R.A.F. AIRFIELDS. Agreement having been finalised with the various Ministries, the Society is now able to undertake the securing of permission for the use of R.A.F. airfields on behalf of its member clubs, who must in all cases adopt the following procedure:—

- (a) Approach the Officer-in-charge to ensure his co-operation.
- (b) Apply via the Area Secretary, giving the following information:—
 1. Full designation of the R.A.F. Station or Airfield.
 2. Whether permission is required for week-ends or for certain specified days only.
 3. Types of models that will be flown.

Applications will be forwarded to the Air Ministry via the Society, and on advice that the request can be entertained, the applicant Club will receive a Simple Agreement Form for completion, which shall be signed over a 6d. stamp by two guarantors from that Club.

This form will be accompanied by an Insurance proposal form which must be completed and returned with the premium. (Full annual premium will be 25/-, irrespective of Club Membership, with a first premium adjusted on a pro rata basis.)

Duplicate policies will be lodged with the Air Ministry and the Society, and endorsements will be issued in respect of each applicant for indemnity. Clubs will not therefore hold a policy, but will be assured that the cover exists since it is a condition precedent to the use of the airfield.

It should be clearly understood that this cover is entirely separate from individual Third Party Insurance, which continues as before.

ANNUAL ELECTIONS. In accordance with the Constitution, half the present Council retires in November. To institute this procedure, the retiring members were decided by draw at a Council Meeting held on September 17th, resulting as follows:—

Retiring:	CHAIRMAN	(Mr. A. F. Houlberg)
	VICE-CHAIRMAN	(Mr. C. A. Rippon)
	SECRETARY	(Mr. D. A. Gordon)
	TECHNICAL SECRETARY	(Mr. H. J. Nicholls)

The remaining members of Council, who are due to retire in 1950, are:—

TREASURER	(Mr. H. W. Barker)
COMPETITION SECRETARY	(Mr. H. R. Turner)
RECORDS OFFICER	(Mr. C. S. Rushbrooke)
PRESS SECRETARY	(Mr. P. E. Wilson)

The above of course relates solely to the Main Council, and must not be confused with Area Committee elections.

ANNUAL GENERAL MEETING. The Society A.G.M. will take place at Londonderry House, London, on Sunday, November 20th, 1949. This will commence at 11 a.m., and it is hoped that as many members as possible will attend.

The evening preceding the A.G.M. will be devoted to the annual social function of the Society, which this year takes the form of a **DANCE & PRIZEGIVING.**

In the past many have expressed the desire for more dancing and/or time for getting together, and it is hoped that this year's function will meet all tastes. Tickets are 15/- each, obtainable from the Society's offices, and include buffet supper. Held in the magnificent ballroom at Londonderry House, from 7.30 till 11.30 p.m., this affair should be a milestone in the history of the S.M.A.E.

IMPORTANT TO SECRETARIES. Complaints having been received that club members are not always informed of quite important items of information that concern them, it is stressed that the S.M.A.E. News-Letter (also Area News-sheets) should be made available to your members.

BRITISH NATIONAL RECORDS. The following British Records were ratified at a Council Meeting held on the 20th August, 1949:—

CLASS "A" POWER	
H. E. Springham (Saffron Walden M.A.C.) on 12/6/1949	25 min. 01 secs.
HELICOPTER (RUBBER)	
J. A. Tangney (Croydon & D.M.A.C.) on 26/1/1949	1 min. 56 secs.
J. S. Richmond (Wolves M.A.C.) on 3/7/1949	1 min. 58.4 secs.
CONTROL LINE SPEED—CLASS II	
D. W. Free (Surbiton M.A.C.) on 19/6/1949	80-357 m.p.h.
CONTROL LINE SPEED—CLASS IV	
C. A. Shaw (Zombies) on 19/6/1949	118-421 m.p.h.

A claim by W. Dean for the Class V record was disallowed owing to the fact that the flier had not built the machine.

The following Records claims were submitted for ratification in due course:—

FLOATPLANE (POWER)	
J. R. Stainer (Canterbury Pilgrims) on 14/8/1949	2 min. 59.4 secs.
CLASS "C" POWER	
F. A. Chatwin (Birmingham M.A.C.) on 11/9/1949	3 min. 12.5 secs.
TAILLESS GLIDER (H.L.)	
M. A. King (Belfairs M.A.C.) on 31/8/1949	1 min. 24.3 secs.
T. Comber (Liverpool M.A.S.) on 4/9/1949	2 min. 01 secs.
H. F. Wilde (Chester M.F.C.) on 4/9/1949	3 min. 17 secs.

MERIT CERTIFICATE AWARDS

CLASS "B"		CLASS "A"	
No. 248	J. O'Donnell (Whitefield)	No. 268	H. O'Donnell (Whitefield)
No. 301	T. S. Rhead (Wigan)	No. 308	B. J. Williams (Whitefield)
302	R. H. Lewis (Winchester)	309	J. A. Bowyer (Chester)
303	H. Banner (Merseyside)	310	W. T. Tinker (Ewell)
304	J. P. Beaton (Aberdeen)	311	F. Dodd (Chester)
305	R. G. Harris (Regents Park)	312	T. W. Newman (Wallasey)
306	C. P. Williams (Erdington)	313	H. J. Knight (North Kent)
307	W. Smith (Erdington)		

RECORD CLAIMS & F.A.I. REGULATIONS. The Records Officer reports that a number of claims for British Records have had to be refused owing to non-compliance with regulations. It is pointed out that loading is calculated by totalling the areas of the supporting surfaces (i.e. mainplane PLUS tailplane), the minimum loading on the resulting sum being 3.93 ounces per square foot.

The MAXIMUM engine run for free flight Power Class records is 30 seconds.

Competitors in Control Line Speed events who wish to attack existing records are advised to ensure that conditions for this class of record are met. Two claims were recently disallowed owing to the non-use of a Yoke type pylon, and a further two were discounted owing to the models being timed over a ¼-mile course instead of the obligatory ½-mile as laid down in the Rules.

No provision is made for proxy flying or team entries for the purpose of setting up British National Records. The flier must be the builder of the model used.

CONTEST CLOSING TIME. The Society announces that all National Contests shall terminate at 7 p.m. B.S.T. A number of competitors have apparently been under the impression that this was only a war-time measure, but this is not so, and the above stated time is the official "deadline."

POWER UNIT DEFINITION. In order to avoid certain difficulties in future Power contests, the type of power plant permissible is now defined in accordance with F.A.I. Rules (Para. D, subject (B) in the 1949 Handbook, page 12), which states:—"Motors in which the motive force is obtained by combustion or by the expansion acting on one or more pistons having a reciprocating motion".

CLUB NEWS

BY CLUBMAN

COMPARISONS between aeromodelling in this country and America are always difficult to make as the conditions under which we operate are so widely different. I do not mean so much from the weather angle (although this year has been exceptionally good for Great Britain), but mainly in the direction of assistance and sponsorship—mainly financial—which our American cousins seem to find without too much trouble.

My reasons for raising this matter is the news just received that the Plymouth Motor Corporation is currently sponsoring efforts to enable America to claim some of the F.A.I. world records, so many of which are held by the U.S.S.R. A recent meeting resulted in an official flight of 85 kilometres per hour, bettering the Russian by 16 k.p.h. Flights were made on a 100 metre course between parallel markers; the machine was photographed throughout the flight for recording purposes and had to be ready within 30 minutes for a return flight in the opposite direction.

It has always amazed me the extent of financial support which can be gained for the more important meetings in the States (although it came as something of a shock to find they were unable to secure financial aid to send their Wakefield team over here last July).

This difference in conditions was emphasised during conversation with a prominent American at the Wakefield, who volunteered the information that he had been paid \$300 (equivalent to a sum of £75 sterling) just to take charge of a control-line meeting for one day. In addition, other officials and timekeepers had been paid some £15 per day each and many hundreds had been spent in advertising and other publicity promotion; on top of this the organisers had rented a big baseball park for the event. The result of all this was that the hardworked(!) officials had to cope with all of 14 competitors, most of these having been drummed up by the worried officials from amongst their friends in order to give them at least some justification for pocketing the cash!

How different are conditions over here where our Governing Body has to struggle to get prizes, advertising and even help on the field to run an affair like the British Nationals with many hundreds of competitors. It makes you think.

Perusal of the many foreign publications that reach us indicates a great deal of interest in this year's Wakefield Contest, and in every case high praise for the organisation carried out by the S.M.A.E. Strangely enough the only criticisms that have appeared so far have come from within our own ranks, mainly from people who thought they should have been provided with a special catalogue of train and bus time tables, conveyances from and to the Aerodrome and probably a welcoming committee to salaam to them as they entered the gates. It is high time some people learned to look after themselves and dropped this attitude of expecting to be spoonfed at every turn. They knew where the event was, they knew when it was, and surely it is high time anyone who cannot take it from there wrapped up and stayed at home.

News from the Commonwealth is always interesting, and I. F. Stowe of New South Wales, Australia, gives some information which I think will interest you. He writes . . . "Modelling out here is still only on a small scale, a fact which keen British aeromodellers often lose sight of. I support this statement by one significant fact—after all these years there is no single shop in Sidney (or N.S.W.) which caters exclusively for the aeromodelling trade. The dollar position puts American supplies out of reach of us and 95% of the engines seen here are Mills, E.D. or Frog, the only three makes so far



The North Eastern Area held their Control Line finals in conjunction with the Durham and Houghall Agricultural Show on September 3rd. Here are some of the finalists including the winner W. Jackson. They are from left to right, D. L. Shawcross, C. Stevens, Mr. S. L. Blair (Non-contestant Chairman of Show Committee), C. T. Applegarth Chairman of North Eastern Area, W. Jackson, K. J. Birch and W. Ford.

available from our shops. Control-line flying has a much wider following than free flight but efforts are being made to stimulate the latter branch. Tow line gliders are next in popularity, models usually being quite conventional, for the most part built from A.P.S. plans. Rubber power is not strongly followed and there were less than 30 entrants for the whole of the N.S.W. eliminations for the 1949 Wakefield."

The "Rootes Trophy", an award confined to North country clubs, has again been won by the ASHTON M.A.C. with a score of 1,442 points, their next nearest rivals being Sheffield with 1,356. Whitefield placed third with 1,302.

The All Control Line Rally which made so brilliant a debut last year at Dover, will take place at Brighton in 1950 on Easter Monday. As a means of financing the event, clubs within the SOUTH EASTERN AREA are invited to take out £1 shares on a subscription basis, and in return take a share of whatever profits result.

Well, the pinching racket is still with us, and details of two such incidents are sent in this month. Cpl. G. Winkley of R.A.F., Cheadle Hulme, had E.D. Comp. Special A/1161180 stolen from Fairlop on the 28th August, and J. A. Thompson's E.D. "Bee" E560/9 suffered a like fate at Langar. Any news of these engines will be welcomed.

Highlight of the season as far as the BRENTFORD & CHISWICK M.F.C. are concerned was their Gala on August 14th. In perfect weather, the wide open spaces of Chobham Common proved very acceptable to the modellers, the recovery service coming in for special praise. Results:

Gliders	Johnson	Hayes	19: 28.6
	Marcus	Croydon	17: 54.4
	Gardiner	Fulham	16: 54.5
Rubber	Higgins	Pharos	10: 50.6
	Brench	Hayes	8: 29
	Burton	Hayes	8: 02
Power	Smith	Mansion House	13.5 ratio
	Stone	Slough	12.01 "
	Marcus	Croydon	10.8 "

From those times you can guess that thermals were out in full force. B. & C. will stage an indoor Gala this winter if enough support can be assured. Those interested are requested to contact the secretary.

Nearly 600 entries were received for the "Daily Dispatch" Rally held at my old stamping ground, Woodford Aerodrome under the auspices of the MANGHESTER & DISTRICT COUNCIL of M.A.C.'s, and this, coupled with fine weather and a crowd of over 10,000 made for a great day. An 'out of town' in the person of G. J. Roberts (Five Towns) won the championship, whilst 'Gig' Eifflander again showed his prowess in the Power and C/JL contests. Full results:

Glider	C. Christlanson	Sale	9: 52
	P. J. Ashton	Rochdale	9: 37.6
	J. O'Donnall	Whitefield	8: 58.8
Rubber	R. Woodhouse	Whitefield	9: 07
	J. R. Parsons	Sgeffield	8: 49
	G. H. Guimeraes	Crosby	7: 08.9

Power	J. G. Eifflander	Macclesfield	26.
	G. J. Roberts	Five Towns	17.
	A. C. Higson	Macclesfield	12.
C/Line	J. G. Eifflander	Macclesfield	267 points
	P. Ridgeway	"	266 "
	S. Allen	London	
Radio/Control	G. Honnest-Redlich	Surrey	
Jetex	D. Sallaway	Rechdale	1:26.5
	C. J. Davey	Blackpool	1:26

The 2nd Annual Rally staged by the **HUDDESFIELD AIR LEAGUE M.A.C.** was not too well blessed with weather, a fairly stiff breeze causing a number of prangs, but this did not stop a number of models clocking over the five minute mark. 37 clubs were represented, and the 200 entrants kept the time keepers busy throughout the day. C. J. Davies of Blackpool made best time of the day when winning the rubber event, his machine clocking 6:00 o.o.s. Results:

Glider	H. Tubbs	Leeds	6:53.9
	R. Newton	Blackpool	6:06.5
	J. Owen	"	5:46
Rubber	C. Davies	Blackpool	7:41
	R. Woodhouse	Whitefield	6:30
	Picham	Wigan	5:37
Power	Arden	Ashton	5:40
	Bailey	Cheadle	4:32
	Faulkner	Cheadle	4:05
C/Line	J. G. Eifflander	Macclesfield	267 points.
	P. Ridgeway	"	265 "
	Cooke	Rotherham	255 "

Held at Thorney Island R.A.F. Station on Sept. 18th, the Southern Countries Rally staged by the **PORTSMOUTH & D.M.A.C.** attracted 256 entries. The precision power event again showed a very high standard of flying, the leaders being separated by only one point, and gave judges Houlberg and Smith a real job of work.

Precision	H. L. Vincent	Bournemouth	49 points.
	C. Savage	Portsmouth	48 "
Sailplane	F. H. Boxall	Brighton	8:29.2
	R. Polhill	Chichester	6:24.4
	G. Duffery	N. Heights	6:06.2
Rubber	C. Fisher	Basingstoke	4:09.7
	K. C. Walsh	Easteleigh	3:35.5
	R. Jeffery, Jnr.	Reading	3:32
Power	M. Campbell	Eastleigh	78 points.
	S. F. Turner	Chichester	72 "
	R. Jeffery, Sen.	Reading	71 "
C/L Stunt	W. H. C. Taylor	West Essex	276 points
	L. Steward	"	267 "
	W. Morley	"	266 "

The last of the Rallies reported this month is the **FORESTERS M.F.C.** event held at Langar on the 11th September, for the first time under ideal conditions. As a result the general standard of flying was much higher than last year, although certain members of the public complained about the lack of spectacular prangs! Eifflander made the trip to show that his winning streak is not confined to Northern events, and I look forward to seeing him in the Gold Trophy event next year against the Hewitts, Pete Cock, the West Essex boys, etc.

Glider	A. S. Clarke	R.A.F. Swindon	9:36
	B. P. Chandler	"	7:41.5
	M. Hanson	Silhill	7:21.5
Rubber	P. J. Royle	Littleover	9:52.7
	H. W. Revell	Northampton	7:25
	S. C. Marshall	Boston	6:38.7
Power	G. A. Titchener	Mansfield	4:43
	R. T. Abbey	Coventry	3:55.2
	P. Ridgeway	Macclesfield	3:13.4
C/Line	J. G. Eifflander	Macclesfield	268 points.
	A. Hewitt	S. Birmingham	246 "
	B. C. Ravine	Wellingborough	245 "
Champion	P. Ridgeway	Macclesfield	

An inter club contest is not 'news' these days, but when it is of the kind conducted by the **ERDINGTON & D.M.A.C.** it requires space. Held on a decentralised basis, this event was with the Western Suburbs club of Sydney, Australia. Strangely enough, the English club had fine hot weather for their flights, whilst the Aussies had it rather cool with a stiff breeze. The results were interesting, and as follows:

Glider	D. Smith	Erdington	15:38.6
	A. Meader	Sydney	7:59.2
	C. Scarratt	Erdington	5:58.4
Rubber	A. Butler	Sydney	8:43

Rubber	A. Lonoam	Sydney	5:47.4
	K. Gray	"	5:06
Power	M. Smith	Erdington	5:16
	D. Finnister	"	5:09.1
	C. Wheatley	Sydney	2:21.4

The **ISLE OF THANET M.A.C.** power duration record recently "went for a burton", when D. Semmence set up a new figure of 16:21 following a 14 second engine run, flying his "Southern Dragon" fitted with a Mills Mk. II. The model was last seen at some 1,200 feet heading towards France! Other records in this club are:—Rubber—P. J. Davies 9:10.4; Glider—M. R. Morris 18:06 R.T.P.—J. Pidler 1:13.

Bromley having challenged the **RAVENSBORNE M.F.C.** to a team contest, the groups met on Fairlop on September 4th. Top time of the day was made by E. Walker of Ravensbourne whose glider remained in sight for 5:44.4, and the Ravens eventually ran out the winners with a score of 1:025 to Bromley's 957.

BOSTON D.M.A.C. have won the Butlin Trophy for the second year in succession, closest rivals being Lincoln and Swindon.

A novel type of contest held by the **KINGS SCHOOL (Peterborough) M.A.C.** was a flight duration event in which all types of models participated on a handicap basis, D. Witt winning with a power model averaging 4:17. Runners up Francis and Slater flew rubber jobs. Pity the details of the handicapping are not given—I'd be interested to see any rules which put power, rubber and glider on a comparable footing.

Gordon Hallam of the **LEICESTER M.A.C.** won first prize at a local M.E. Exhibition with his beautiful low wing job, with Geoff Dunmore second, and Mrs. Stothers third. Jack Marsh recently set up a formidable club power record with a flight of 20:21 from a 10½ second engine run. (I should know—I timed it, and were my eyes dewy at the finish!)

Three members of the **PRESTON & D.M.A.C.** flew in the Huddersfield Rally, and lost two power jobs and a glider. Expensive outing what! B. Maxwell won the club Birbeck Cup with a time of 6:51, with J. Hurst next with 6:24 and G. Fare third some way behind with 2:33.

K. Forty of the **GLOUCESTER & CHELTENHAM M.A.C.** launched his glider from Staverton on August 21st from a 50 ft. towline, and, after remaining in sight for 32 minutes, away it went. Recovered some hours later, it was judged to have been airborne for over four hours.

The annual visit of the **MERSEYSIDE M.A.C.** and others to the Clwyd Hills slopes saw some very good hillside soaring, and the breaking of a British Record. The notorious Clwyd gales were, for a change, not in evidence and flying commenced in bright sunshine. Many entrants brought along real heavyweights, no doubt prompted by previous experience. Among these, two models flown by members of the Chester M.F.C. were outstanding, and although they did not place in the final results, they made some very impressive flights, forging well out into the valley before making a turn. Vastly different from these jobs was that flown by young D. Rigg, to win the Junior event. A small 26 in. span parasol model, it was of almost "chuck-glider" dimensions. Rigg's younger brother, Brian, ran him a close second flying a 44 in. span model of fairly high loading. These two youngsters have been consistent performers of late.

Tailless gliders were much to the forefront, there being about half a dozen of this type in the contest. It is not surprising therefore that the standing British H.L. record for this class was broken a couple of times during the day. First, Tom Comber, of the Liverpool M.A.S. raised the record to 121 secs., o.o.s. the flight being made after he had incorporated unbracketed wing tips, on the field! (Or should we say hill?). Returning later in the afternoon, weary from his long search of the bracken shrouded hillside, he was greeted with the news that his record had already been bettered!!

Frank Wilde, of the Chester M.F.C. choosing a moment of semi-calm, got his tailless away in just the right direction and it was only clocked off when its dark red colouring became invisible in the valley below—with no identification marks it was given up for lost. His time: 3 min. 17 secs.—a new record.

By mid-afternoon fliers were crowding the launching points, and timekeepers were kept hard at it for the rest of the day. One flight which must have been well in excess of the orthodox H.L. glider record was witnessed, but was apparently a "test" flight and not officially timed. It was watched by crowds of excited spectators for some four minutes—after having flown unnoticed for about an equal period. Turned out to be a model belonging to one Fitzpatrick, of the Southport club.

Immediately after this "show-stopper" came Jim Amos's winning flight of 269 secs. His model, a Senior Gull, went o.o.s. and has not been recovered to date. Runner up was R. A. Alexander, flying a modified "Albatross" for 264.2 secs. This model, too, must have approached the record but went o.o.s. behind the hill. It was thought that he had lost himself as well as his model until he returned over two hours later to an anxious coach-full of modellers who, seeing him return complete with model, settled themselves comfortably for the journey home.

A really hot speed team is being got together in the EAST LONDON M.A.C. following their successes at the All Herts Rally. Gliders have been not neglected, and J. MacNess made a flight of over 7 minutes at the same meeting, unfortunately not getting the model back in time for a second official flight. The glider record stands at 7;27, and the H.L. rubber (which has been rather neglected) at 4:10.

The LUTON & D.M.A.S. has had a busy time lately, starting with a scale comp. held (as usual) in a howling gale. Bob Minney managed a flight of 30 seconds with his troop-carrier glider, with R. Clements flying his well built Piper Cub into second place. The following week saw fine conditions for the Farrow Shield and K. & M.A.A. events, but whilst top performances were put up in the former event, the K. & M.A.A. flying was very patchy. Minney's glider went away without D.T. at 11:00 on its second flight, whereupon J. Hinks announced he would put his Wakefield parachute on his glider—result, model flew away with the chute open. Then, E. Clark—after the usual low comp. flights—decided to have a test flight. This produced an o.o.s. of 19 minutes!

The NORTH WIRRAL M.A.C. (formerly Moreton M.A.C.) scored a great success at the Merseyside Regional Rally at Sealand on September, 11th, winning the C/L Stunt, Power ratio senior and junior classes through the efforts of R. Godwin, A. T. Beverley and F. Walton.

The newly formed COMET POWER CLUB held its first official meeting on September 18th. Speed, stunt and radio control are the main interests of this club, the current speed record standing at 91 m.p.h.

The FIVE TOWNS M.A.C. announcing their most successful season since they started, list among their "scalps" the Championship at the Northern Rally, and three firsts at the Evesham Rally on September, 18th.

Preliminary notice is given by the SOUTHERN CROSS A.C. of the Club's third annual exhibition of models, to be held in Brighton next Easter in conjunction with the Area C/L Championships. Full details from the club sec.

Upland lads took top places in all three events in an inter-club contest with the BY-PASS (Sutton) M.A.C. the By-pass boys taking second place each time. Truscott got a ratio of 9:02 in the power event, Smith scored 7:00 in the rubber class, and further won the glider event with an aggregate of 4:19.5.

The OLDHAM M.A.C. open glider record now stands to the credit of F. Massey with 9:15, another notable effort being J. Green's 16 minutes plus with a similar machine, unfortunately not officially timed.

Members of the RUGBY M.E.S. have been getting interested in radio control flying lately, with Howard Boys as the chief exponent getting in some good flying. Steve Burton lost his "King Falcon" glider just before the Langar Rally on a 10:06 o.o.s. flip. As luck would have it, he got it back a couple of days later, only to lose it again on his second flight at the Rally.

Roland Scott of the ST. HELENS M.A.C. tops the club list for successes this year with three club comps. to his credit, and a claim for the British Class I Speed record. J. Howard holds the club glider record with a flight of 9:31.

If the owner of a diesel engine job flying during the evening

of September 5th in the Alperston, Middlesex area cares to contact R. E. Cross of 60, High Worple, Rayners Lane, Harrow, this gentleman can tell him the whereabouts of his model—or what remains of it. I understand the engine is quite serviceable even after launching an unprovoked attack on a railway viaduct.

J. Tuffill of 1, Avenue Court, Avenue Road, Penge, S.E.20, offers £1 for information regarding his blue and white "Ethereal Lady" (Frog 180) last seen travelling S.W. from Epsom Downs. The label carrying his name and address came unstuck just after launching.

D. Cassidy of 2, Gillibrand Street, Kew, E.4, Melbourne, W. Australia, asks me to find him a pen pal. He is 16, and interested in anything with an engine in it.

And now for this month's tall story. K. R. Elliott of Nairobi, British East Africa tells the following; "During a meeting of the Nairobi M.E.S. a member sent off his Amco powered Frog Fairey Sailplane. It climbed rapidly to about 400 ft. where its engine cut out, and it began to glide gently. When about 300 ft. up it attracted the attention of a sparrow hawk, which was flying over the field at that moment. The bird, apparently thinking it an enemy, began to attack the plane by diving and pecking at the wings. The glide rapidly changed to a tight spin, the hawk leaving it to crash. There was little damage to the machine". Well, I've seen birds in this country make a pretty close investigation of a model, but never yet seen one try to get to grips with one.

Cheerio till next month, and carry on that testing and worrying out designs for next year's Wakefield. What's the betting a streamliner will confound the critics next time?

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J. W. Stafford, 56, Goldsmith Street, Mansfield, Notts.

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R. W. Gill, 30, Rowan Road, Sutton Coldfield, Warws.

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K. Gresty, 8, Croft Lane, Toff Road, Knutsford, Ches.

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R. W. Sturt, 39, Globe Road, Stratford-on-Avon.

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J. Clemmett, 1, Stephen Street, Bury Road, Bolton, Lancs.

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VIKINGS M.A.C.

D. J. Guthbert, 17, Loudwater Road, Sunbury, Mdx.

SOUTHAMPTON M.A.C. (New address)

F. W. Shearn, 4, Wycliffe Road, Midanbury, Southampton.

KIRKCALDY M.A.C.

Miss Ina Mason, 6, York Place, Kirkcaldy, Fife.

BELFAIRS M.A.C.

D. Whitnall, 24, Arundel Gardens, Westcliff-on-Sea, Essex.

SAFFRON WALDEN M.A.C.

J. B. Peasegood, 14, Summerhill Road, Saffron Walden, Essex.

TUNBRIDGE WELLS M.A.C.

D. A. Barnby, Lower Flat, 20, Guildford Road, Tunbridge Wells, Kent.

BOLTON M.A.S.

R. Hardman, 7, Wyeh Street, Bolton, Lancs.

BIDEFORD & D.M.A.C.

R. J. Clark, 73, High Street, Bideford, N. Devon.

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P. D. A. Foulkes, 31, Yew Tree Lane, Northenden, Manchester.

ADVERTISEMENT NOTICE.

In our last issue the address of Messrs. A. A. Hales was given incorrectly. Their correct address is 45, Blake Road, London N.11, to where all enquiries should be addressed.

CONTEST RESULTS

THE LADY SHELLEY CUP (TAILLESS)
Flown September 11th, 1949. 12 entries.

1. Hughes, D. R.	Merseyside	341
2. Bennett, B.	Regents Park	238
3. Collins, E.	Port Talbot	226
4. Twomey, B.	Cardiff	202.5
5. Yeabsley, R.	Croydon	190.2
6. Templehagen, B.	Plymouth	188

WESTON CUP

Flown September 11th, 1949. 77 entries—2 no score.

1. Royle, P. J.	Littleover	789.2
2. Haisman, B. V.	Liverpool	755
3. Revell, H. W.	Northampton	745
4. Smith, E.	Icariana	691
5. Monks, R.	Birmingham	653.5
6. Alexander, R. A.	Merseyside	586

THE KEIL TROPHY

Flown September 25th, 1949. 142 entries—54 no score. (79 N. 63.5.)

1. Howard, J. A.	North Kent	15.48
2. Knight, H. J.	"	14.73
3. Eifflander, J. G.	Macclesfield	13.9
4. Bateman, D.	Luton	12.26
5. Gorham, J.	Ipswich	12.2
6. Brain, J.	F.M.A.L.	12.13

THE HAMLEY TROPHY

Flown September 25th, 1949. 45 entries. (28 N. 17.5.)

1. Bailey, A. S.	Cheadle	336 Error
2. Treadaway, P.	Belfairs	490
3. Bateman, D.	Luton	540
4. Newman, T. W.	Wallasey	560
5. Bush, J. Miss	Liverpool	580
6. Faulkner, F.	Thames Valley	640

THE TAPLIN TROPHY

Flown September 25th, 1949. 21 entries—14 no score. (3 N. 18.5.)

1. Ashdown, F. H.	Southend Senior	72
2. Marshall, L. J.	West Midland	63
3. Hook, E. J.	Zombies	39
4. Honnest-Redlich, G.	Ile of Thanet	38
5. Ingham, A. S.	Blackburn	30
6. Wallis, E.	Surbiton	10
7. Morelli, T.	Ile of Thanet	10

THE PLUGGE CUP

WINNERS North Kent. 1192.3776.

THE CATON TROPHY

WINNER Revell, H. W. Northampton. 2061.3

CONTROL LINE SPEED CONTEST

Flown September 25th, 1949. 48 entries—34 no score. (12 N. 36.5.)

Class 1.		
1. Scott, R.	St. Helens	70.92 m.p.h.
2. Ashford, J. C.	Ilford	46.5 "
Class 2.		
1. Beverley, A. T.	Wallasey	80.36 "
2. Tewkesbury, R.	Malden	77.57 "
Class 3.		
1. Evans, D. W.	Weston	58.07 "
2. Ruston, E.	Rotherham	50 "
Class 3a.		
Chester, J.	Zombies	99.5 "
Carter, J. C.	Croydon	89.12 "
Class 4.		
1. Shaw, C. A.	Zombies	110.4 "
Class 5.		
1. Keyte, J.	Zombies	118.4 "
2. Kemp, D.	Guildford	104.6 "
3. Bosley, S. S.	St. Georges	85.71 "
Class 6.		
1. Stovod, R.	Guildford	133.5 "
2. Foskett, D.	"	120 "

L.S.A.R.A. NEWS.

THREE new reports become available to non-members:—

TECHNICAL NOTE No. 3 (class "B") Airscrew Performance. Data by R. Turner, B.A. (Cantab.). Price 1/2.
REPORT No. 36 (Class "B.C.") *The Hamilton Wind Tunnel* by D. Henshaw. Price 8d.

REPORT No. 37 (Class "B") *The Critical Reynolds Number* by D. Henshaw. Price 4d.

Many members took the opportunity of visiting the Cove H.Q. when in Farnborough for the S.B.A.C. show. Mr. Bethwaite of New Zealand nearly caused a wholesale migration by describing a perfect valley for glide testing "back home". Mr. Sharpe, a new member has an all-metal, swept-back wing job powered by three cordite rockets which climbs at 260 m.p.h. A recent check on overdue subs and report floats showed 120 members were "in the red" to the tune of £100 an average of 16/7½d. per head. What about you?

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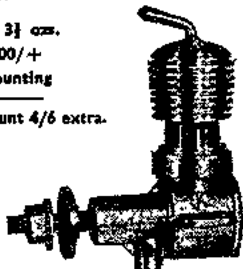
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1 length Sheet Balsa $\frac{3}{16}$ " x 3" x 6"	2	$\frac{1}{2}$
12 lengths Sheet Balsa $\frac{1}{16}$ " x 3" x 24"	6	0
4 lengths Sheet Balsa $\frac{1}{16}$ " x 3" x 24" (cut out for Ribs)	2	0
3 lengths Sheet Balsa $\frac{1}{8}$ " x 3" x 36" (Cut out for Formers and Wing Platform, etc.)	3	0
1 length Sheet Balsa $\frac{1}{8}$ " x 4" x 36" (Cut out for backbone)	1	4
1 piece Block Balsa $\frac{3}{8}$ " x $\frac{3}{8}$ " x 6"	1	1
1 piece Block Balsa $2\frac{1}{8}$ " x $3\frac{1}{8}$ " x 5" (Cut out for spats)	1	3
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1 piece Dowel $\frac{3}{16}$ " x 9"	2	
1 piece Celluloid 20/1000" x 2" x 12"	5	$\frac{1}{2}$
1 piece Dural 4" x 4"	2	$\frac{1}{2}$
1 pair 2" streamlined Rubber Wheels	2	0
1 length 16 s.w.g. Piano Wire 36" long	4	
1 length 14 s.w.g. Piano Wire 36" long	6	
1 length 14 s.w.g. Brass Tube 4" long	6	
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1 Plan	5	0
4 tubes Balsa Cement	1	8
1 tube Joy Plane Tissue Paste	7	$\frac{1}{2}$
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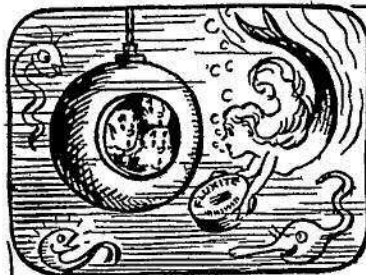
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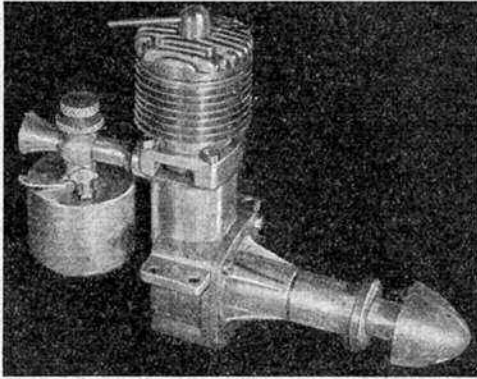
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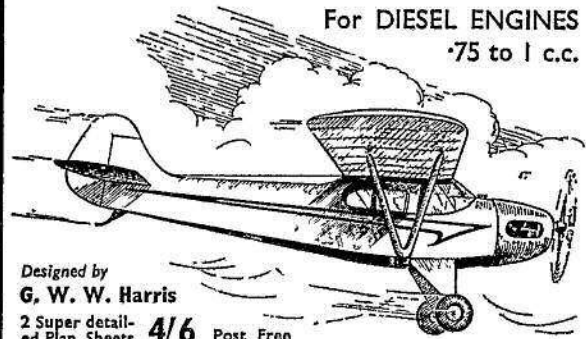
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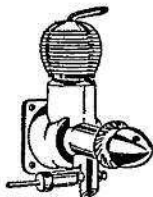
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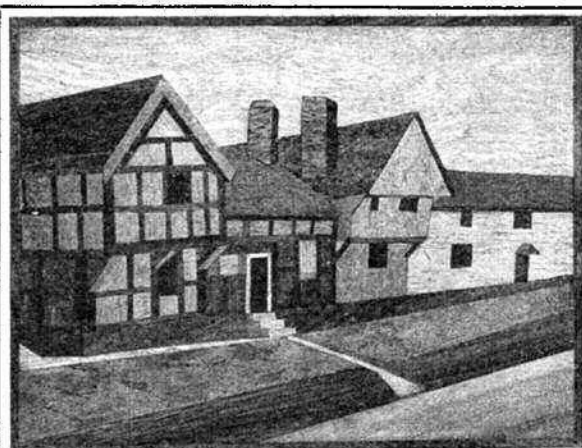
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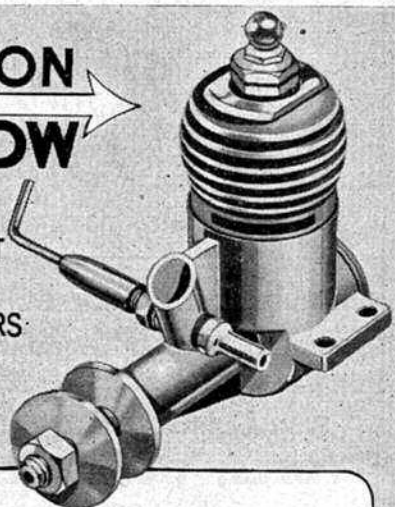
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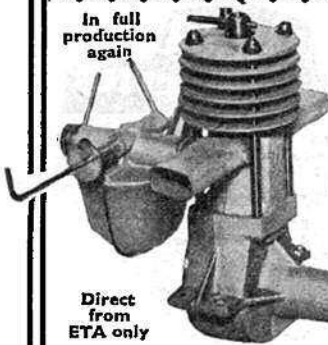
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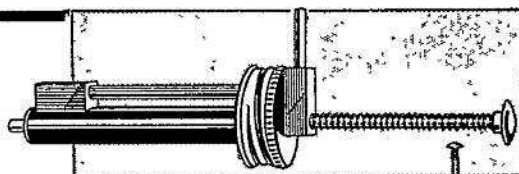
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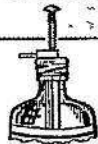
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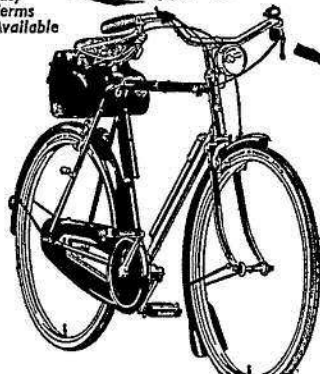
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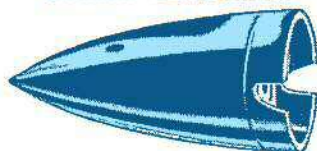
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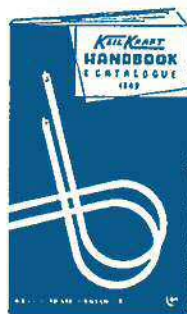


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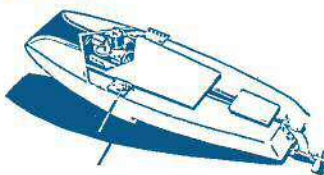
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