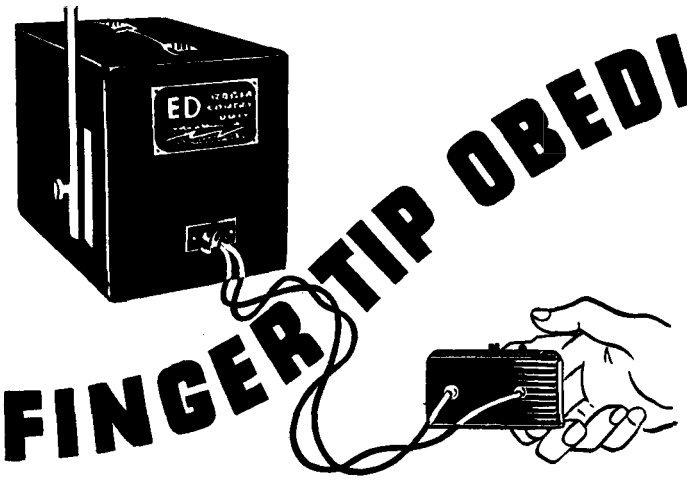
AERO MODELLER

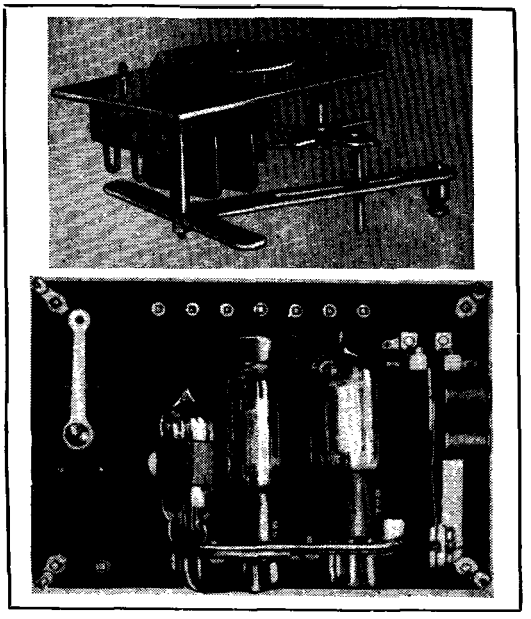
OCTOBER 1951

- FULL ILLUSTRATED REPORTS ON THE BRITISH NATIONALS AND THE CONTROL-LINE CHAMPIONSHIPS AT KNOKKE
- TOP CLASS 'JETEX' DESIGN BY DICK TWOMEY
- FULL SIZE PLANS FOR A HALF-A POWERED "S.E.5a"

1'6



FINGER TIP OBEDIENCE



E.D Radio Control Units

Launch your plane—make it climb, make it dive—manœuvre it where you will within a radius of 2 miles plus and enjoy the novel experience of being a pilot without leaving the ground. That is what E.D. Radio Control Units offer you, and it is all done by the simplest manipulation from the transmitter. These sets are designed to be absolutely foolproof — *NO DETAILED TECHNICAL KNOWLEDGE* of radio is required.

E.D. MARK I R/C UNIT

Range up to 3 miles. For larger models (flying equipment approximately 30 oz.) consisting of a 2 valve battery operated transmitter with pre-tuned L.F. modulator and H.F. oscillator circuit and guaranteed frequency stability; 3 valve circuit receiver with single tuning control; escapement with clockwork controlled sequence servo and sectional 8 ft. aerial. Price complete (less batteries) **£17 19s. 9d.**

E.D. MK. III MINIATURE R/C UNIT—ALL UP WEIGHT ONLY 7¾ oz. RANGE 1,000 yds. PLUS

Specially designed to meet the requirements of smaller models. Consisting of one valve transmitter of 3A5 Twin Triode type with up to 4 watts input; CRASH PROOF receiver of small volumetric size (weight 1¾ oz.) escapement (weight ¾ oz.) with meter and battery sockets and plugs, on-off switch and potentiometer; and sectional 8 ft. aerial. Price complete (less batteries) **£9 17s. 11d.**

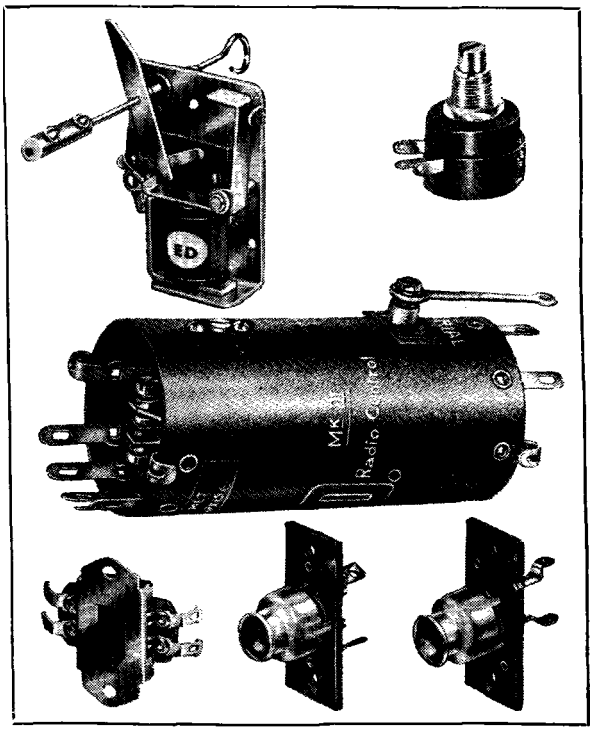
Prices separately: Transmitter **£5 14s. 9d.**

Escapement **£1 2s. 11d.**

Receiver (including meter and battery sockets and plugs, on-off switch and potentiometer), **£3 14s. 5d.**

All the above prices include Purchase Tax.

Radio Control Model Aircraft Kits to suit either E.D. Radio Unit are manufactured by: "Keil Kraft," "Verons," "Mercury" and "E.Ds."



E.D. KINGSTON ON THAMES

ELECTRONIC DEVELOPMENTS (SURREY) LTD

DEVELOPMENT ENGINEERS

1223 18, VILLIERS ROAD, KINGSTON-ON-THAMES, SURREY, ENGLAND.

Beam Power

THE SECRET OF THE NEW FLIGHT CONTROL MARK 4 TRANSMITTER

The most efficient Radio Control Transmitter yet designed

Using special BEAM POWER TETRODE VALVES

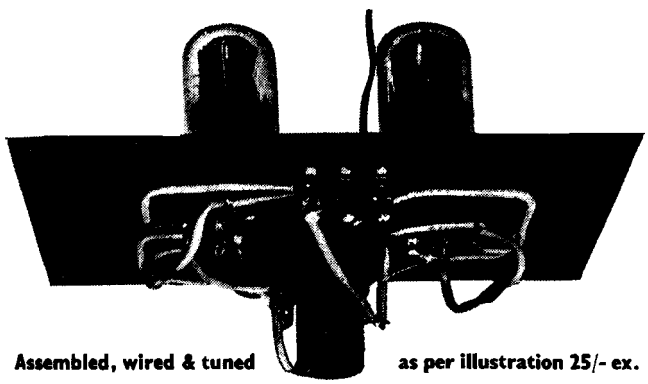
MAXIMUM RADIO FREQUENCY OUTPUT

★

NOW READY!

The Mk. 4 Transmitter Instruction Manual. Price 3/6

Postage 2½d.



Assembled, wired & tuned as per illustration 25/- ex.

LOW BATTERY CONSUMPTION

★

You can build this Transmitter in a few hours from the Flight Control Kit of components and valves. Complete with specially arranged drawings and instructions.
Price (including Valves and including P. Tax on valves) **£2.15.7**

Write for further details.

Specialists in ***Radio Control***

FLIGHT CONTROL

And of course the famous FLIGHT CONTROL MK. III R/C EQUIPMENT is still available from stock.

Components for the Mk. III Transmitter (with instructions) £2.11.8
Components for the Mk. III Receiver (with instructions) £2.19.1
Wiring diagrams and instructions only 4/-

SOME **NEW** ITEMS FROM OUR LATEST LISTS

Balanced 'V' Dipole Aerial with fitting and polar patterns. (Complete set of 12" copper plated rods) ... ... per set 5/6

For the Mk. III or Mk. IV R/C Transmitters.

The Type 1 Frequency Meter for 27 mc/s. Checks the frequency of any R/C Transmitter or Receiver. Complete with instructions 18/6
Individually calibrated from a crystal controlled meter.

VALVES

The Mullard DCC 90 Twin Triode (inc. P. Tax)	...	£1.15.10
The Hivac XFG1 Gas-filled Triode (inc. P. Tax)	...	£1.1.4
The 3Q5G, Mullard or Brimar (inc. P. Tax)	...	16.6
The Brimar 3D6 (Beam Tetrode) (inc. P. Tax)	...	16.6

VALVEHOLDERS

B7G Amphenol. For DCC 90, 3S4, etc.	... ...	each 1/6
B8G Amphenol (Loctal). For Brimar 3D6	... ...	each 1/6
Octal Amphenol. For 3Q5G, DL 33, etc.	... ...	each 9d.

ESCAPEMENTS

E.D. Mk. III, 2 pawl	... ...	each 18/-
E.C.C. Type 3, 2 pawl	... ...	each 17/6

FLIGHT CONTROL (Dept. A.)
783, Romford Road, Manor Park, LONDON, E.12

TRANSMITTER AND FREQUENCY METER COILS

A new range of Tuning Coils specially designed for 27 mc/s Transmitters, etc. Amphenol base mounting formers. High 'Q' windings ... ... each 3/6
(Write for further details.)

OTHER ITEMS USEFUL TO THE R/C ENTHUSIAST

Milliamp Meters, 0–5 m/a., ex-Govt. Moving Coil. Brand new	each 7/6
Siemens type 73 relay brand new and boxed	27/6
Low Current Bulbs (for aerial tuning, etc.) 6v. 0·06 amps	each 1/-
Coil Formers. Amphenol. Base mounting. Low-loss. ¾" dia.	each 9d.
Coil Formers. Paxolin. Useful for frequency meters, etc. ¾" dia.	each 3d.
Toggle ON/OFF Switches. Good quality	each 2/6
100 k. ohm Carbon track ½ watt Variable Resistors ...	each 2/6
Interlocking Aerial Rods, 12" long (8 or 9 for ¼-wave) ...	each 6d.

We regret having to announce an increase in the cost of the Mk. III receiver kit, due to the now higher price of the type 73 relay, namely **27/6**

SEND A S.A.E. FOR OUR LATEST LISTS.

WE STOCK—SLEEVING, P.V.C., P.V.C. COVERED WIRE RESISTORS, CONDENSERS, H.T. and L.T. BATTERIES etc., etc.

Please include 6d. Postage on all orders under £1.

ESTABLISHED 1935

AERO MODELLER

INCORPORATING "THE MODEL AEROPLANE CONSTRUCTOR"

VOLUME XVI
NUMBER 189
OCTOBER 1951

"Covers the World of Aeromodelling"

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FAIRLOPEAN PRECAUTIONS

RECENTLY, negotiations have been sought with the Ministry of Civil Aviation in order to reach some agreement regarding the use of Fairlop Aerodrome by S.M.A.E. members. The Ministry were prepared to fence the 'drome where necessary, and provide gates at the main entrances, and it was thus hoped to secure better control over racing motor-cyclists and other members of the general public who have, quite frankly, made Fairlop something of a hazard for aeromodellers—and others.

Considerable expenditure would of course be involved, and Clubs using the 'drome were to be asked to contribute a nominal sum per annum; the amount we understand to be £1 per Club. So far, however, only 22 of the fifty or more Clubs regularly using Fairlop have signified their willingness to contribute this meagre sum to ensure facilities at the only favourable space within the London area.

However, it is now announced that, far from any probability of facilities at Fairlop improving, there is every likelihood that permission to use the aerodrome will be permanently withdrawn! This is the result of complaints received by the Ministry of Civil Aviation from a farmer whose land adjoins the aerodrome, alleging that serious damage has been caused by people retrieving model aircraft.

Conjecture as to whether the damage is caused by S.M.A.E. members, small boys, or other members of the public is quite beside the point, since the Ministry have decided that the easiest way to prevent further complaints is to eliminate their source, and the receipt of one more complaint will result in the loss of Fairlop and all its facilities to the aeromodelling fraternity.

Since the loss of the 'drome would mean the end of organised model flying in the London districts, the London Area Committee has decided to punish offenders to the limit of its disciplinary powers, and will recommend the expulsion from the Society of any Club whose members aggravate the present strained relations existing between them and the local farmers.

Though we have long stood out against the allocation of too many Centralised National events to Fairlop, we nevertheless fully appreciate the importance of this conveniently situated open space to the very large numbers of aeromodellers in and around the London area, and it passes our understanding that any Club is not prepared to pay even a substantial fee for the regular use of so handy a flying ground as afforded by Fairlop. We feel that the London Area Committee would be fully justified in issuing an ultimatum to the defaulting Clubs, notifying them that they will use every means in their power to prevent their members from flying until such time as they "toe the line" and collaborate properly with the Committee.

One thing is certain—until such time as *all* aeromodellers realise that they have obligations to both the Movement and the public in general, we can only continue to receive the "sticky end of the stick". Whilst we should like to believe that S.M.A.E. members are blameless on the subject of trespass and damage, we cannot accept this statement unreservedly, for far too many individuals seem to lose all sense of propriety when chasing a vanishing model, blithely charging through all obstacles in their frantic endeavours to retain the model in sight, and retrieve the flyaway in time for the next round.

Cover Picture . . . .

Taken at the British Nationals, held for the first time in South Wales, our cover shows R. Densham of the Exeter M.A.C. launching his multispar E.D. Mk. IV powered 1¼ times "Hell's Angel" model in the Sir John Shelley contest, held in perfect conditions.

Indoor Records Exchanged

The first official British Indoor Nationals, held in the Corn Exchange, Manchester, proved to be a most interesting meeting, deserving of better support. Only 12 entries were received for the free-flight event, and two for R.T.P. Speed—a type of contest that could be well (and best) forgotten. Against this there were 31 entries for the newly introduced Chuck Glider contest, an event that proved both amusing and instructive.

A fully illustrated report of this meeting will appear in our November issue, but we immediately put on record our appreciation of the organising excellence of the North Western Area Committee, and the Editorial amazement at R. T. Parham's collection of microfilm covered free-flight models. This well known exponent of the indoor modeller's art had travelled up from Worcester, and proceeded to break no less than five British Records with machines that were to all intents and purposes untested. (As Reg stated, " there's not much room for testing in a pre-fab ! ")

Two of the records were already held by Parham, and we look forward to a renewed attack on the Free-flight Stick records that have stood since before the war. The new records are :—

Fuselage R.O.G.	7 min. 30 secs.	(6 : 42)
Fuselage H.L.	7 min. 15 secs.	(6 : 55)
Tailless R.O.G.	2 min. 28 secs.	(1 : 46·2)
Tailless H.L.	2 min. 29 secs.	(1 : 25·8)
Helicopter	2 min. 09 secs.	(2 : 00)

(Figures in parenthesis are the old records.)

We confidently look forward to a renewed interest in indoor flying now that the ice has once more been broken, though of course we are still up against the old difficulty of suitable halls, etc., for adequate practice.

Reg. Parham prepares an indoor autogiro at Manchester.

National's Appreciations

The efforts of the Swansea club at the 1951 Nationals should not be passed without due credit. Being assured of a fairly large camping population at Fairwood, attempts were made to lay on the necessary catering, but no local firm could be found to do the job.

Nothing deterred, a committee was formed who obtained the requisite catering licence, and the club itself attended to the preparation and serving of some hundreds of meals during the period of the meeting—a service much appreciated by those who had travelled long distances. Special mention should be made of genial 65-year-old Albert Ace (winner of some hundreds of cycling cups and as sprightly a character as one could meet), for it was largely his drive that produced such good results. We particularly like the story of his friend who, on being told that lettuce were hard to obtain, provided a whole crate of choice "heads"—"free, and only too pleased to help". That's the spirit that prevailed throughout the affair, and we commend the South Wales Area on its stout effort, and their very useful team of supporters.

A ten-man Committee, supported by Ron Lucas, the Area Chairman, had worked hard for some months to make this Nationals a success, and we have pleasure in recording our sincere appreciation of their good work.

"Fixit Wright and Tailskid Talby"

We have long held the opinion that pictorial tuition for the newcomer to aeromodelling is the finest method of putting over the hobby, at least as far as the magazine sphere is concerned. Furthermore, it is a principle of the AEROMODELLER to encourage the beginner to the fullest extent.

We have long admired the strip cartoon running in our American contemporary, " Flying Models ", which

features those two typical aeromodelling characters " Fixit Wright " and " Tailskid Talby " whose adventures in the aeromodelling world admirably illustrate what to do for the best, and what to do for the worst!

Our younger readers will therefore be pleased to know that by arrangement with "Flying Models" we are reproducing this splendid series of cartoons commencing with this issue. We trust that, not only will they amuse, but that " Tailskid's " misfortunes will point a moral to all.

Yet Another " Aeromodeller " Service!

Though not given overmuch to blowing our own trumpet, we feel bound occasionally to draw attention to the many and varied Free Services given by the AEROMODELLER to the Movement in general, as a result of which many groups and individuals are assisted in a variety of ways.

Being quite immune to the wisecracks (?) made from time to time regarding the whereabouts of the " other " Services, we have pleasure in announcing that the Fourth Edition of the " ' AEROMODELLER ' LIST OF MODEL AIRCRAFT CLUBS IN GREAT BRITAIN AND IRELAND " is now available from our offices, and may be obtained free on application, accompanied by a stamped addressed envelope. Last published in 1948, the list has been completely revised and brought up to date, though we are the first to admit that even at this early stage corrections are required.

This is no fault of ours, for it is an unfortunate fact that the average aeromodelling club changes its secretary far too frequently, and it is quite common for us to be notified of two or three changes within a very short period. However, we do claim to maintain the most up-to-date register in this country, and reference to our offices will produce fresh details where a change has taken place since the Fourth Edition went to press.

And Another!!

Having long appreciated the fact that many thousands of keen enthusiasts must seethe with impatience to know the final outcome of the Wakefield Contest, we were pleased to inaugurate yet another Service this year whereby every Club Secretary in the country received an " AEROMODELLER Newsgram " giving results only two days after the Contest in Finland. On receipt of a cable from our Editor, then in Finland, copies were rushed through the press, and posted to all parts of the British Isles on the morning following the contest.

That this Service was welcomed is evident from the large number of appreciative letters received from Clubs and Areas, thanking us for such prompt notification of the outcome of the Contest, and complimenting us on the thought behind this new Service.

The following appreciations are but two of the many received, and typical of the reaction to our Service :—

" On behalf of the Clubs in this Area, we wish to thank you for the very fine Service rendered to us in the copy Cablegram of the Wakefield results, and feel that this brilliant idea is a step in the right direction.

A. R. Lucas,
Chairman—South Wales Area Committee."

" Very many thanks for the " Aeromodeller " News-Gram with the Wakefield result. It filled a long-felt want, and was a very smart and well presented piece of work, done in very quick time.

R. G. Bruce,
North Kent M.A.S.

To say that we are gratified naturally states the obvious, but it is nevertheless pleasant to know that we continue to anticipate the requirements of the British Aeromodeller.

No Can Go To Yugo !

Stan Wade of the Loughborough College M.A.C., leading member of the British team selected at Digby for the A/2 Finals in Yugoslavia, has had to relinquish his place to the next man on the list, Peter Holland of Apsley.

Having just finished his studies at the College, Wade has been roped in for his term of National Service, and, despite efforts made to secure his deferment these were unsuccessful, and he cannot get leave to attend this important modelling meeting. We feel sure that if the right quarters had been contacted in time, permission could have been secured for his call-up to be put back a few weeks, for after all, an opportunity of this nature only comes once in the average lifetime. We deprecate the " duff gen " Wade received, which meant a fatal delay in his approach to the necessary authorities.

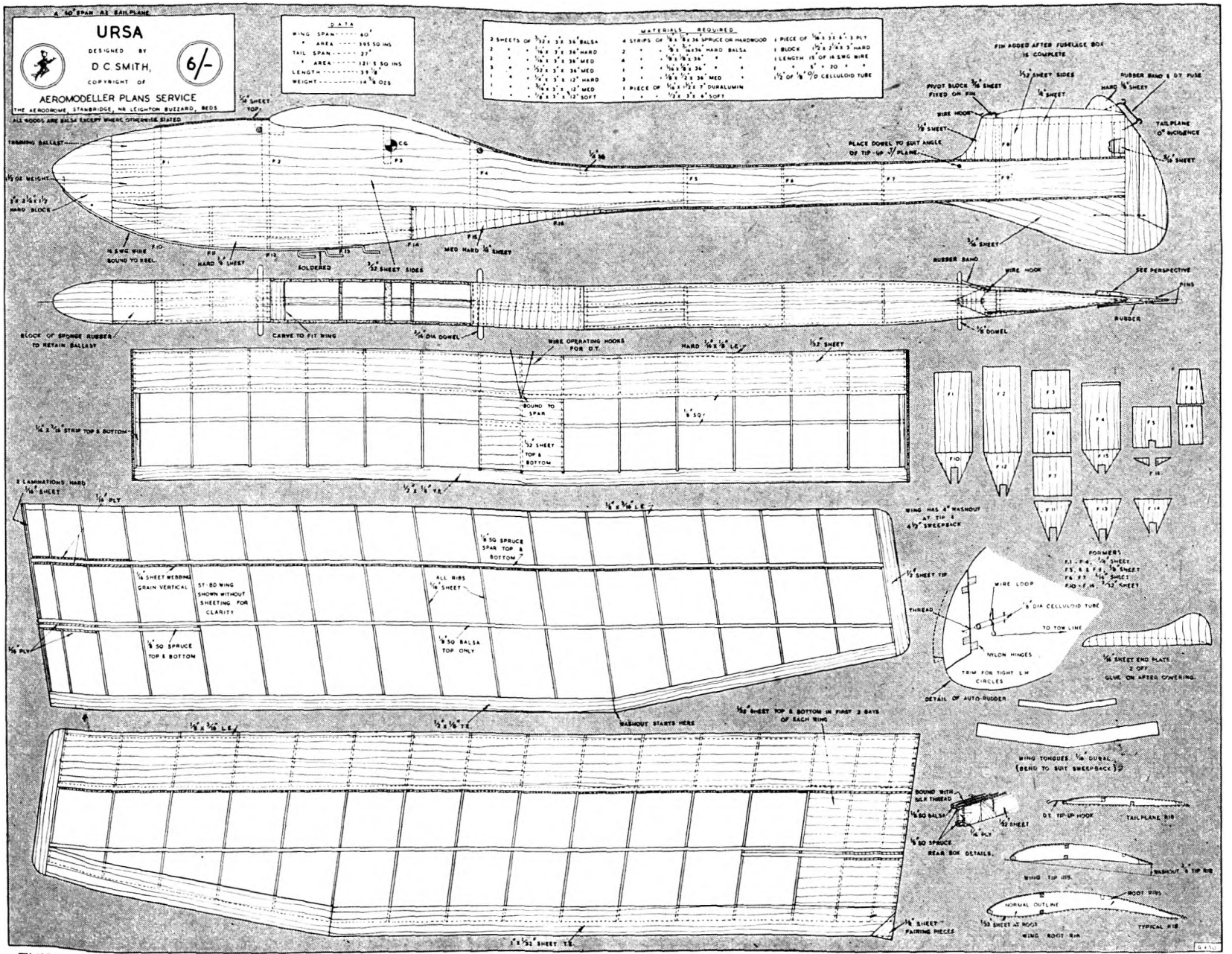
STOP PRESS

SWEDISH CUP (A/2 GLIDER) RESULTS

1st	CZEPA	AUSTRIA
2nd	PETKEVAKI	YUGOSLAVIA
3rd	HANSEN	DENMARK
4th	MONKS	GREAT BRITAIN

A fully illustrated report will appear in our NOVEMBER issue. Make sure of your copy NOW.

This photo, taken at the A/2 Trials, was indeed prophetic. Wade's nails are probably down to the elbows by now ?



THIS IS A 1/5 SCALE REPRODUCTION OF THE FULL SIZE PLANS WHICH ARE AVAILABLE PRICE 6/- POST FREE FROM THE AEROMODELLER PLANS SERVICE

A 60 INCH SPAN A/2 CLASS SAILPLANE

URSA

BY

D. C. SMITH

Aero student at Loughborough College . . . . Age 23 . . . . has constructed all types of model, including radio control . . . also has a liking for the unorthodox . . . . is the Conductor of the College orchestra

Unusual wing plan and 'Fin - top' tail mount identify Ursa on the field. Designer Smith has Mk. II here

URSA represents a deliberate and successful attempt to obtain a particular performance, and the various features incorporated in the model are the direct outcome of the aims with which the design started.

1. Minimum sinking speed in a tight turn to catch all available thermals.
2. Tow-up to be dead straight overhead, in any weather, with no waving on the line.
3. To pull out of any stall as soon as possible, survive spiral dives, and in general be more than a match for the ham-fisted (including the designer).
4. Be reasonably easy to build.
5. Be easy to see at long distances, and readily identifiable in the air.

URSA I was flown all through 1950, coming second in the area contests for both K.M.A.A. and M.E. cups, but it disgraced itself on a *test* flight at the Fairlop trials by catching a thermal at 6 feet altitude and getting lost. Finally, after being chipped, crashed, torn and trampled on by cows, it was rebuilt and christened URSA II for 1951, and came fourth in the S.M.A.E. cup. The winner of that contest, C. Aitkenhead, also of Loughborough College, used the same wing section. URSA III has now been built and incorporates slight structural modification which is mentioned in the building instructions.

Construction

Fuselage. This is simply made by cutting the sides out of two identical pieces of 3/32 in. sheet and glueing-in the appropriate formers. No jig (or even full-size plan) was used by the designer. The keel is fret-sawn out of rock-hard balsa, and the wire skid to take the landing shocks is bound and glued in place after soldering on the hooks. The fin is stuck in place piece by piece, and the rudder is hinged, as in control-liners, with silk tape. Cover with doped-on light Modelspan, and after rubbing down a second coat of clear, give two thin (50 per cent.) coats of black glossy dope.

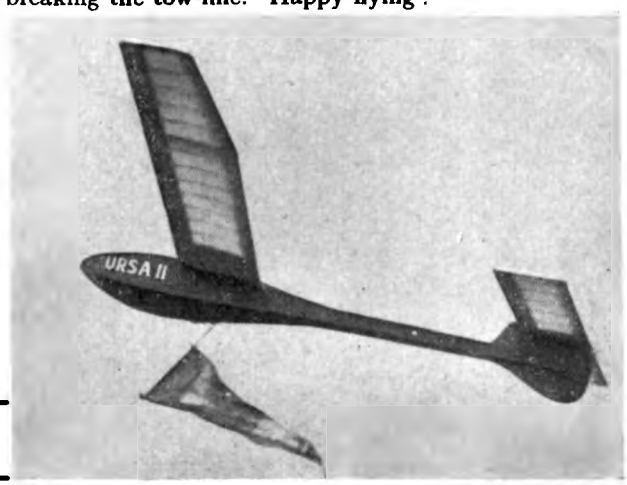
Towline stability was a design requirement which Ursa fulfils completely. A total of 12 m. 31 secs. placed Ursa III fourteenth in the trials at Digby.

Wings. Build on the plan, packing up the T.E. progressively outside the joint as indicated. URSA III boasts 1/32 in. sheet under the L.E. as well to complete the box and to make a much more warp resistant structure. Soft 1/16 in. sheet (sanded before construction) may be used instead of the hard 1/32 in. sheet shown if preferred. Use vertical grain on the webs and bind the ply box sides to the spar as well as glue them. The centre ribs are set at the required angle by means of a cardboard angle-piece. As a crash-proof feature the wings are stronger than the 16 gauge aluminium tongues, but one set lasted all 1950. Cover with light or heavy Modelspan, and dope twice, the second application having a small percentage of castor oil or camphor added.

Tailplane. Build and complete the sheeting while still on the board. Cover with light Modelspan and give two coats of thin dope before adding the tip fins. URSA III employs a box structure here, too.

Auto-Rudder and Dethermaliser. The former is a type used by most of the College lads and is very simple in operation. Adjustment is carried out by bending the pin in the rudder, or by drilling another hole in the celluloid tube. The D.T. is vital but very simple to instal and operate; use another length of fuse to ignite that on the model in high winds.

Flying. Hand launch on a calm day, with the C.G. in approximately the place shown. The model should exhibit a marked, but not too tight a turn to the left. Adjust for tow and glide with not more than 50 ft. of line. You'll find the model has an incredibly gentle stall and tows up best on the rear hook. Always use the rear hook for contests, and on very windy days put a fraction more weight in the nose, and run towards the model to avoid breaking the tow-line. Happy flying!



TWIZZLER

DESIGNED BY
R.A.TWOMEY.

COPYRIGHT OF
THE AEROMODELLER PLANS SERVICE.
THE AERODROME STANBRIDGE NR LEIGHTON BUZZARD BEDS.

3/-

ALL WOODS ARE BALSA UNLESS OTHERWISE STATED.

TRIMMING

WITH C.G. IN POSITION SHOWN TEST GLIDE WITH JETEX UNIT EMPTY UNTIL SATISFACTORY LEFT CIRCLE IS ACHIEVED. ALL ALTERATIONS TO GLIDE TRIM ARE MADE BY GIVING POSITIVE OR NEGATIVE INCIDENCE TO T/PLANE DO NOT TOUCH THRUST LINE OR WING INCIDENCE. NOW CUT ONE '200' CHARGE IN TWO & TRY POWER FLIGHT. MAKE ALTERATIONS TO RUDDER TO OBTAIN A STRAIGHT STABLE CLIMB. NOTE THAT RUDDER ALTERATIONS MAY ALSO ENTAIL T/PLANE ALTERATION, (IE TIGHTER THE TURN, THE MORE NEGATIVE INCIDENCE REQUIRED TO KEEP NOSE UP) INCREASE POWER BY INSERTING TWO '200' CHARGES BUT NOT LAUNCHING UNTIL THE FIRST HAS COMPLETELY BURNT OUT & THE SECOND CHARGE IS UNDER WAY. TRIM UNTIL THIS IS SATISFACTORY. FOR FINAL POWER TRIM CUT DOWN THE DIAMETER OF A '350' CHARGE UNTIL IT JUST FITS. YOU CAN THUS FIT TWO 350 FUEL CAPSULES INTO THE 200 UNIT & THE RESULT IS ASTONISHING. COMPLETE ENGINE RUN WILL NOW BE 10-15 SECS WITH A CORRESPONDING INCREASE IN POWER. LENGTH OF ENGINE RUN DEPENDS ON HOW MUCH AIR GAP THERE IS BETWEEN THE FUEL & THE INSIDE CYLINDER WALLS OF THE UNIT. THE LESS CLOSE THE FIT THE MORE THE POWER & THE SHORTER THE POWER RUN. WARNING: WITH THE '350' FUEL THE 'JETEX' METAL END CAP WILL NOT LAST FOREVER & ALSO THE ASBESTOS WASHERS MUST BE CONTINOUSLY REPLACED.

COVERING

ORIGINAL WAS RED MODELSPAN ON FUSELAGE & FIN. YELLOW WINGS & TAILPLANE WITH BLACK TIPS TO WINGS & TAILPLANE. THE WHOLE MODEL WAS GIVEN ONE COAT OF CLEAR DOPE.

DATA

WINGSPAN	28"
" AREA	140 sq"
TAILSPAN	13¾"
" AREA	53 sq"
LENGTH	23½"
ALL UP WEIGHT	2¾ OZS
C.G POSITION	50% OF CHORD

MATERIALS REQUIRED

STRIP	MISCELLANEOUS.
1 STRIP OF 1/16" x 1/16" x 36" BALSA	12" OF 1/8" SHEET
1 " " 1/8" x 1/2" x 36" "	SMALL PIECE OF 1/32" SHEET
1 " " 3/16" x 1/4" x 36" "	6" OF DOWLING
1 " " 1/4" x 1/2" x 36" "	3" x 1¼" OF 1MM PLY
SHEET	3"-4" LONG BUBBLE CANOPY
1 SHEET OF 1/16" x 3" x 36" "	
MODEL SPAN, CEMENT, DOPE, ETC	

BUBBLE CANOPY
BALSA BLOCK
1MM PLY PLATFORM FOR 'JETEX 200' UNIT
CUT OUT FOR WING
TIP-UP TAILPLANE DETHERMALISER
THREAD
TAILPLANE POSITION RIGGED AT -3° INC°
POSITION FOR 1/16" SPACERS DO NOT CUT AWAY FUSELAGE
SCRAP BLOCK TO ACT AS TAILPLANE STOP.
SHEET THIS BAY ON BOTTOM WITH 1/32"
FUSELAGE SIDES FROM 1/16" SHEET
1/32" SHEET, NOTE GRAIN
PIN.
1/16" DIA DOWELS
1/16" SQ STRINGERS
1/16" SHEET, NOTE GRAIN
C.G
PLY PLATFORM FOR 'JETEX' UNIT
PROTECT THIS PANEL ON TOP WITH A COVERING OF ASBESTOS PAPER
1/8" DIA DOWEL
RUDDER OFF-SET TO LEFT
1/16" SHEET GUSSETS
DIHEDRAL STARTS
1/4" x 3/16" L.E.
'JETEX' MOUNTING CLIP SCREWED ON AT THESE POINTS
T.E.
110°
FRONT
REAR
1MM PLY PLATFORM TO TAKE 'JETEX' MOUNTING CLIP.
C
B
TAILPLANE HAS 1" DIHEDRAL AT EACH TIP
1/16" SHEET TIPS
1/2" x 1/8" T.E.
A
3" DIHEDRAL AT TIPS
TYPICAL WING RIB. 15 OFF. 1/16" SHEET.
TYPICAL TAILPLANE RIB. 9 OFF. 1/16" SHEET.
1/8" SHEET GUSSETS
COCKPIT COVER CUT FROM 3"-4" LONG BUBBLE CANOPY. REVERSE & CEMENT TO FUSELAGE
ALL FORMERS 1/16" SHEET
1/2" x 1/4" L.E.
1/2" x 1/8" T.E.
1/8" SHEET TIPS

J. 448

★ FOR A NEAR VERTICAL CLIMB WITH JETEX 200, TRY . . . .

DICK TWOMEY'S LATEST

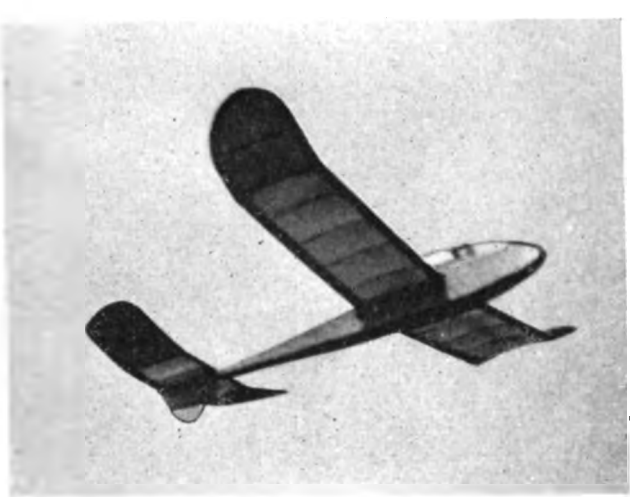
The

TWIZZLER

An easy to build, easy to fly, high performance JETEX model. 28 inch span, with detachable wing, designed for competition work with the JETEX 200

Designer Twomey and Twizzler will be a pair to watch at the Jetex contest.

CONVINCED that the high thrust line layout is the best for Jetex duration, Dick Twomey has developed the "Twizzler" (a name born recently in the excited broadcast commentary of the Supermarine Attacker upward roll at the "Daily Express" Air Show) from his renowned "Firecrest" design. He has found a simple way of doubling the power, while halving the engine run, which is perfect for open ratio competitions. The climb of the "Twizzler" is thus stepped up to over a 60 degree angle, and recently it established the best ratio in a power contest with a 3 min. 27·56 sec. flight giving a ratio of 20·5 : 1. The chief differences between this and other Twomey designs are reduced drag, with a slimmer fuselage, less fin area, faster wing section, enlarged tailplane with dihedral tips, light weight, and the off-set Jetex unit. Last year's model won the R.A.F. Championships, and "Twizzler" is undoubtedly an improved version. Study the designer's trimming gen on the plan for his novel system of boosting Jetex power.



CONSTRUCTION

Fuselage. Cut two fuselage sides from 1/16 in. sheet (medium) join them with former A and add 1/16 in. cross spacers. Cut away as shown for wing, which slides into position in one piece. Add ply Jetex platform, formers B and C, noseblock fin and rudder. Sand finished fuselage all over.

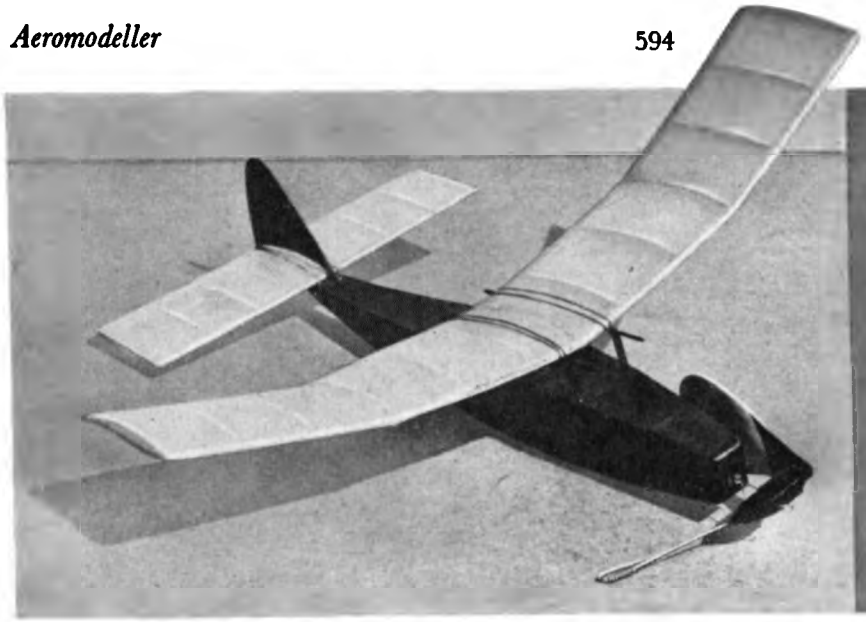
Wings. Build whole wing in one piece, flat on the plan. Then crack at dihedral points, prop up to required heights and cement dihedral gussets in place. (A "turbulator" was tried on the original model, but has been discarded as having no beneficial effect on such a small model.)

Tailplane. Simply constructed and must be kept free of unnecessary weight. Do not neglect to build in 1 in. dihedral under each tip as shown on the plan. Failure to do so would have grave effects on stability.

Jetex Mounting. Offset the unit 10 degrees to starboard, as shown. Then by "balancing" rudder against motor sidethrust you can achieve the best and most safe trim, a straight steep climb followed by a left-circling glide.——Happy "Twizzling"!

The plan on the opposite page is a ⅓ reproduction of the full size plans which are available price 3/– post free from the Aeromodeller Plans Service.

With all its fin beneath the tailplane, Twizzler shares this unusual feature with Ursa, on the preceding pages. A modified bubble canopy forms an attractive fairing to the power unit.



JUNIOR MISS

An easy, quick to build lightweight model of proven abilities, suitable for beginner and experienced flier alike.

by

VIC SMEED

TWO-HOUR flights—even unofficial ones—are not frequently encountered, especially with rubber models, and more especially with a midget rubber job. " Junior Miss " turned in one such flight, however, and the designer is still pinching himself ! The official time for this particular flight was a modest 6 mins. 17 secs. o.o.s., but the model was followed for twice this time before disappearing immediately overhead in a clear blue sky. A conservative estimate based on maximum possible drift speed and distance covered indicates that the actual time-in-air must have been a minimum of two hours. Unfortunately the finder had a four-year-old child, and a few scraps of balsa and a bit of well-chewed rubber was all that remained for ultimate collection.

The normal flight time which can be expected from a well-trimmed " Miss " is about 90 secs. plus, on full turns, but the model has a very flat glide and is susceptible to very small patches of lift, so that a dethermaliser (pop-off wing or 6 in. parachute) is a worthwhile investment.

Most of the construction can be made up with the scraps found on most modellers' work-benches, but even if all materials are purchased the total cost of the model, ready to fly, can hardly exceed 3/6. The time spent in building is about the minimum possible for a rubber job, and despite its small size, performance is good enough to intrigue the hardened rubber man. Transportation is hardly a problem—" Junior Miss " will tuck away in almost any odd corner of the box.

Construction

Follows conventional lightweight lines and is perfectly straightforward. Note that the wing and tailplane are double surfaced, being covered top and bottom with " Swedish " or " Jap " tissue, not Modelspan. The covering should be steam-shrunk and treated with one coat only of 50–50 clear dope and thinners to which has been added a drop or two of castor oil. Water or neat dope will twist the surfaces beyond use. New in this country is the " safety-pin " counter-balance on the prop, originated by Frank Zaic. Use the thinnest type of cored solder (about 1/16 in. o.d.) for the balance, and coil it round the shank of the pin. The solder is not secured to the wire in any way, and it is a simple matter to add or remove a turn to balance the prop exactly. The undercarriage, if R.O.G. is required, is merely a length of 1/16 in. × 3/16 in. balsa held to the fuselage side by means of a rubber band looped round the fuselage. This is renewable each flight if necessary.

Power is supplied by four strands of ¼ in. × 1/24 in. rubber, max. turns 725 approximately. Weight with motor should be about 1½ ozs. Put a few turns on the motor and allow to run until the tensioner stop engages, then, with prop folded, move the wing until the model balances at mid-chord. Check the glide and when satisfied mark the wing position clearly on the runners. Wind on about 100 turns and launch. The model should be too busy getting upstairs to worry about turning ; no downthrust should be required, but in the event of a sharp left turn a sliver of right-thrust may be advisable. The climb to aim for is straight up from the hand, when after about 30–40 ft. the model will suddenly half-roll and face the other way with no noticeable check in the vertical speed. The final part of the climb will then smooth off into widening left circles, " Miss " rolling easily into a right glide circle when the prop folds, due to the weight and drag of the counter-balance. Any peculiar glide characteristics may normally be traced to the prop-blade folding incorrectly—it should lie flat, parallel with the fuselage side. Minor adjustments may be made by warping the flying surfaces slightly, or if necessary by cutting and hinging a trim tab in the 1/16 in. sheet fin. These measures will not be needed if the model is truly and accurately built.

A 20" SPAN LIGHTWEIGHT RUBBER MODEL

JUNIOR MISS

DESIGNED BY
V. E. SMEED.
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THE AERODROME, STANBRIDGE, NR LEIGHTON BUZZARD, BEDS

3/-

THE AEROMODELLER PLANS SERVICE

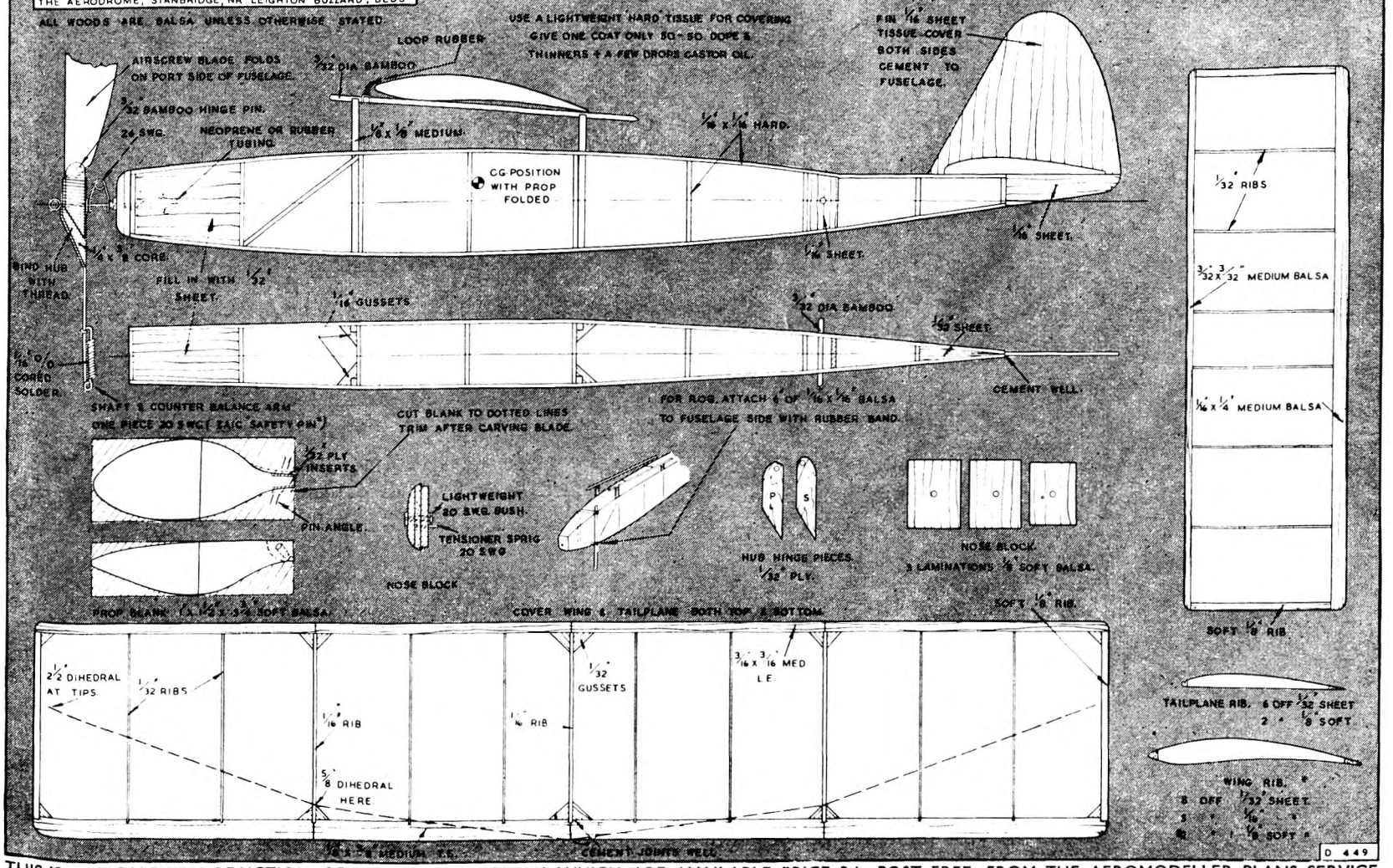
DATA.

POWER IS 4 STRANDS 1/4 x 1/24 RUBBER,
17 1/2" LONG, 725 TURNS MAX.
ALL UP FLYING WEIGHT 4 1/2 OZS
BEST UNOFFICIAL FLIGHT 2 HOURS PLUS
BEST OFFICIAL FLIGHT 6 MINS 17 SECS OOS
STEAM SHRINK TISSUE DO NOT WATER SHRINK

MATERIALS REQUIRED.

3 STRIPS OF	1/16 x 1/16 x 36" HARD BALSA	1 BLOCK OF 1" x 1 1/2" x 3 3/4" SOFT BALSA
1 "	3/16 x 3/16 x 20" MED "	14" OF 3/32" DIA BAMBOO
1 "	1/8 x 3/8 x 20" " "	10" " 20 SWG PIANO WIRE
1 "	3/32 x 3/32 x 10" " "	1 PIECE OF 2" x 2" x 1/32" PLY
1 "	1/8 x 1/8 x 12" " "	1 - 20 SWG BUSH
1 "	1/16 x 1/4 x 10" " "	SCRAP BALSA 1/32" - 1/16" - 1/8" SHEET

ALL WOODS ARE BALSA UNLESS OTHERWISE STATED



THIS IS A 1/3 SCALE REPRODUCTION OF THE FULL SIZE PLANS WHICH ARE AVAILABLE PRICE 3/- POST FREE, FROM THE AEROMODELLER PLANS SERVICE

1951

BRITISH NATIONALS

by C. S. R.

THE " Nats." seem fated in this country, for ever since the inauguration of an annual National event of this nature, the weather has seen fit to do its damnedest to wreck the plans of both competitors and officials.

The first Nationals took place at Gravesend in 1947, when everything was fine except for a high wind. Wind was again the culprit at Sywell in 1948, Fairlop in '49, and again at York in 1950. Opinions having been expressed that a change from the Whitsun holiday should produce better weather, this year's event was scheduled for the August Bank Holiday week-end, with the venue at Fairwood Common, to the rear of Swansea—and again the Weather Man saw fit to be unfair.

Though somewhat inaccessible to the majority of modellers, Fairwood proved to be an admirable ground in many ways, not the least of these being the very close proximity of some fine beaches and bays around the Gower Coast. The airfield itself is a derelict R.A.F. 'drome, from which operates the Swansea Flying Club, and is surrounded by miles of open—if somewhat wild—country. A plentiful supply of good tarmac runways meant easy arrangement of take-off areas, but we feel better use could have been made of the field, particularly on the Sunday. (One thing that must be realised when considering layout for a model aircraft meeting is the vital problem of " movability ", for far too often we see a meeting cramped in scope owing to static control points being maintained in spite of wind and weather changes.)

Bulk of the organisation fell to the South Wales Area, who in conjunction with the Western Area officials had put on what must be the best Area effort at a Nationals to date. In the past it has been usual to find general ground details undertaken by the " locals ", but the arrangement and staffing of the contests themselves thrown over to the Council's very undermanned numbers. This year the whole meeting was conducted by the Area officials, and Capt. Taylor was able to fulfil his proper function as chief director of operations, instead of his usual job of doing a bit of everything !

Owing to an unfortunate programme mis-print, the THURSTON GLIDER CONTEST was shown as taking place on the 6th instead of the 5th, and we offer our condolences to those stalwarts who brought sailplanes on the Monday, only to find that the contest had been concluded the day before ! In view of the vastly altered weather conditions, the Jury had no option but to declare the Sunday's results as final, and with one or two notable exceptions the " latecomers " accepted the decision with good sportsmanship.

Out of 131 entries for this event, only 61 actually flew, which was hardly surprising in view of the really shocking weather. A strong, gusty wind took models well out of the field, and the whole day was broken up with intermittent heavy showers. In spite of that, and through the friendly co-operation of both competitors and officials, the programme was concluded comfortably within the stipulated time brackets, and some surprisingly good towing and flying was witnessed.

Fellows with the outsize gliders seemed to have the advantage under such conditions, and this was very evident when Roy Yeabsley (Croydon) put his well-known large model into the air, towing up with the experience we expect from this acknowledged expert. A 5 min. maximum was his reward, this score also going to Wheeler of Birmingham, bringing the two into the lead at the end of the first round.

Attention was centred on these chaps towards the end of the day, and most thought Wheeler had it in the bag when he clocked 2 : 31 against Roy's 2 : 13, but Lamble of Chorleywood (who had scored 3 : 17 in the first round) came through with a maximum on his second attempt, and finished the winner.

Concurrently with the glider event, the rubber boys were battling it out for the MODEL AIRCRAFT TROPHY, though with the much smaller entry of 75, of whom only 33 flew. Here again flying was good in spite of the conditions, and it was a ding-dong affair between well-known chaps who had travelled from long distances in many cases. A glance at the results will indicate the usual names figuring in the top honours.

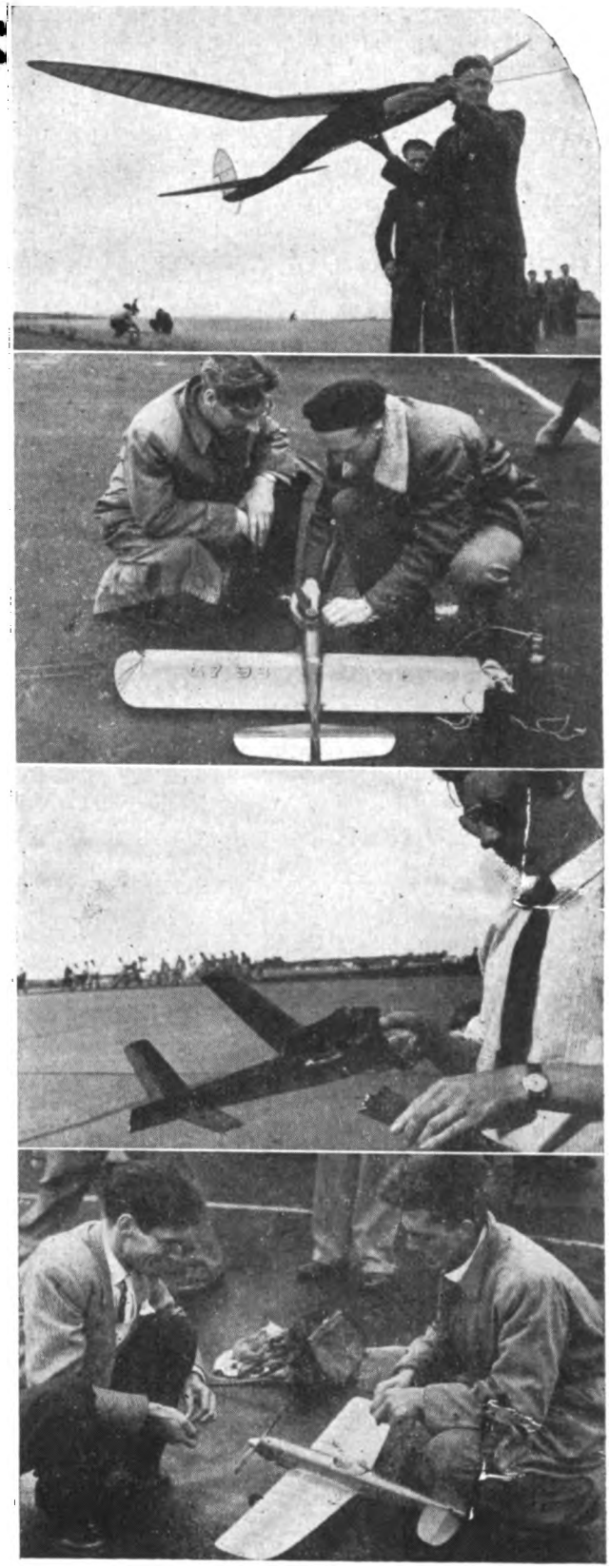
Dogged recovery won the Trophy for Ron Warring, for he spent 6½ hours in the fields looking for his missing model, this being a real snag all day. Gorham spent even longer searching for his model, but was unlucky, even though he knew the general location of the missing job. This was a pity, as he had scored 4 : 52 on his first flight, but was unable to return a time for the second round. However, the success of his clubmate, R. Atkinson, may have been some compensation to him.

The GOLD TROPHY attracted most of the spectators on August 5th—so much so that S.M.A.E. Chairman Mr. Houlberg had to walk across the field to shout for timekeepers to return to the free flight contests !

For the fourth consecutive year the Gold Trophy will rest at the Hewitt homestead in Birmingham, though this year it was younger brother Alan, and not Brian, who took the honours.

Held in blustery weather with frequent rain squalls, on a most uninviting exposed tarmac runway, the '51 Gold will be remembered as the hardest won and quickest finished. In less than three hours, fourteen of the 28 paid entries braved the elements, and of these fourteen, only four managed to work their way right through the schedule to a landing. Needless to say, these four placed highest in the results, for the remaining ten terminated long before reaching the high-pointed manœuvres, as is shown by the wide gap of over 110 points between 4th and 5th places.

First man out of the hat and ready to fly was that regular stunt competitor, Pete Russell of Worksop. His time for flying was an unfortunate choice, for it coincided



Top to bottom : Roy Yeabsley (3rd in Thurston) assists brother Don to launch : B. Horton (Penarth) advises A. V. Coles (Bristol) during the Gold Trophy contest : Mike Billinton surveys the results of lines parting company at high speed : The Hewitt Brothers discuss Brian's chances, but he failed to catch the younger member of the family.

with one of the most vicious wind-gusts of the day, and only his experience and the well tried " Monitor " avoided several tight moments when many another control-liner would have been blasted into the deck.

With Russell's flight reasonably highly pointed despite the weather, another top-notch flight could be expected from the second man in, the recently acclaimed European Stunt Champion, flying his Elfin 2·49 Knokke Special " Ambassador "; none other than Alan Hewitt. Alan hardly touched the prop before the diesel screamed into life, and after an unhurried move to the circle centre, he proceeded to delight the crowd with the fastest display of aerobatics we have ever seen.

Knowing he had a lot of leeway to make up, the trophy holder, Brian Hewitt, entered the circle with a model he had built especially for the '49 event. It was too good for him then, he said, so he used the old trainer, " Stunt King ", to win that year. Still with the same Yulon 30, Brian's re-vamped '49 model went through its paces with the zest we now recognise as a Hewitt trademark, overtaking Russell and Cooke on points, and placing within 7½ points of his brother's outstanding flight. Incidentally we are quite sure that Brian takes a coat of paint off his fin on every bunt !

In direct contrast to the Sunday, Bank Holiday Monday saw almost perfect flying weather, with a hot sun and very gentle breeze from a slightly different direction to the day before. (This was fortunate, as it gave another batch of farmers experience of retrievers !)

The top entry event took place on this day for the SIR JOHN SHELLEY TROPHY, though it is surprising to find only 134 entries in a power event, of whom only 69 actually put their models into the air. Models were soon screaming into the blue, though a number of potential winners had " gone for a burton " during test flying early in the day.

Pete Wyatt (Ipswich) soon showed the abilities of his new model by putting up a maximum on his first flight, a feat that he repeated later in the day to win with a maximum score.

Quite a number of good flights were seen, with models ranging from the tiny to extraordinarily large. Bennett of Whitefield finally placed second, flying a high aspect ratio Arden powered job, and Johnny Knight followed up his third place success in the " M.A." Trophy with a similar position in the power section.

Despite the magnificent conditions after lunch, less than 30 flights were made in the afternoon, and the winners were packed and ready to clear off home by 1 p.m., but had to endure an extra long processing delay from 4.45 to 6 p.m.

During this time the RADIO CONTROL men had been plugging away, but from the 11 entries only four flew, and it must be admitted that the standard of flying was not all that hot. Much motor starting trouble was

Above: The Scottish contingent must have had fun transporting their "small aircraft"! Left: Johnny Lamble (Chorleywood) launches for his 12th place in the "Shelley". Centre: Ted Hemsley (Bushy Park) tests prior to an R/C attempt. Bottom: E. C. Crumplin, Secretary of the South Wales area, on whom much of the success of the meeting depended.

endured, and by and large the R/C event seemed to be something of an orphan. Last year's winner, Chuck Doughty, was prevented from attending at the last minute owing to domestic troubles (the family is now four instead of three!), and the absence of the West Essex gang was a further detraction.

Sid Allen of Battersea was the only competitor to make any sort of a score, and we are led to surmise whether this event should not be made a special contest at a separate meeting, for the amount of time and space required to properly conduct such a contest only confuses when other competitions are in progress.

As the results show, the Nationals speed events were a clear cut inter-club contest between Bristol and Brixton. Fresh from Knokke, Mike Billinton had a field day, flying for himself and clubmate Taylor and establishing a new provisional record for the much neglected up to 3·5 c.c. Class III. The model used for this record was built hurriedly in two days of the previous week, and had a McCoy 19 motor.

Coles made a 102 m.p.h. flight with his E.D. 2·46 job during tests, but three consecutive contest flights in hotter weather reduced the figure by over 7 m.p.h.

THURSTON CUP (GLIDER)

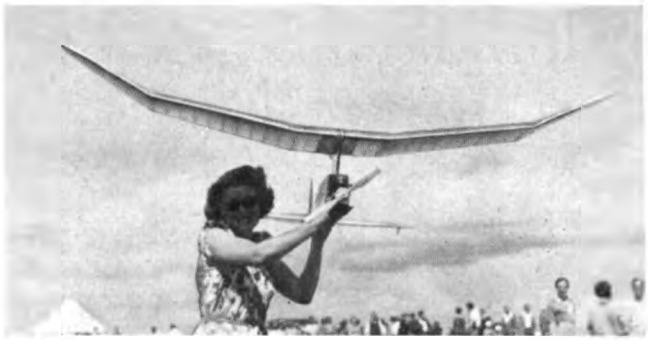
1.	Lamble, J.	Chorleywood	8 : 17
2.	Wheeler, B.	Birmingham	7 : 31
3.	Yeabsley, R.	Croydon	7 : 13
4.	Twomey, R.	Cardiff	6 : 02
5.	Neve, N.	Brighton	5 : 57
6.	O'Donnell, J.	Whitefield	5 : 43
7.	North, P.	Cardiff	5 : 33
8.	Ralph, J.	Glevum	5 : 17
9.	Yeabsley, D.	Croydon	5 : 09
10.	Richmond, J. S. (J)	Wolves	4 : 49
11.	Giggle, P.	Brighton	4 : 44
12.	Whittall, L.	Birmingham	4 : 27

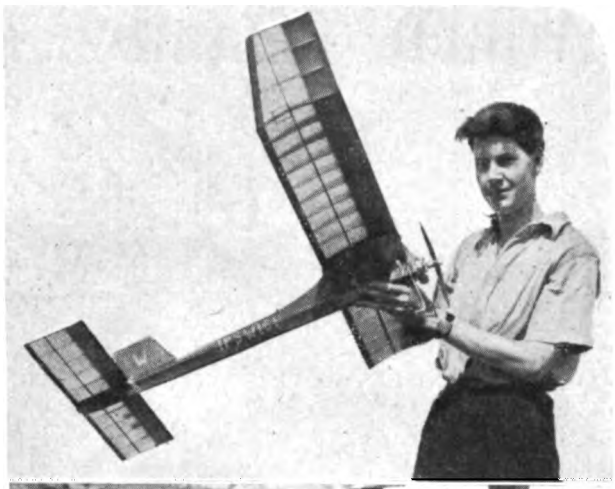
MODEL AIRCRAFT TROPHY (RUBBER)

1.	Warring, R. H.	Zombies	6 : 27
2.	Atkinson, R.	Ipswich	6 : 16
3.	Knight, J. B.	Kentish Nomads	5 : 16
4.	Gorham, J.	Ipswich	4 : 58
5.	Marcus, N. G.	Croydon	4 : 49
6.	Copland, R.	Northern Hts.	4 : 45
7.	Evans, B.	Swansea	4 : 32
8.	Rumley, D. H. (J)	Kentish Nomads	4 : 24
9.	Butt, J.	Eastbourne	4 : 08
10.	Wrigley, A.	Whitefield	3 : 56
11.	Woolls, G.	Bristol and West	3 : 50
12.	Williams, A.	Swansea	3 : 44

CONTROL LINE SPEED

Class II	Coles, A. V.	Bristol and W.	94·546 m.p.h.
	Taylor, R.	Brixton	86·26 "
Class III	Billinton, M.	Brixton	95·008 "





Above: Mrs. Max Coote adds the feminine touch during the "Shelley Cup" event. Right: Power comp. winner Pete Wyatt shows his International class model, demonstrating typical Ipswich tendencies. Centre: "Now, just whose figures are correct"? Capt. Taylor tries to sort out the processing of the "Shelley" winners. Bottom: Frank Holland (Swansea) deals with a young enquirer.

Similarly, a fast 85 m.p.h. flight in Class I tests could not be repeated by Coles in the contest.

Flying took place over one of the smoothest tarmac surfaces ever used for speed competition, and though slightly inclined, was a perfect site and deserving of a greater entry. Administration of all C/L flying was by the Penarth Club.

Lady Whitten-Brown presented the prizes at the end of a rather hectic two days of flying, and the proceedings wound up with a word of thanks to the local fellows, especially the Swansea club members who had done so much to make the Nationals a success. Though the entry was smaller than before, this was perhaps to be expected in view of the location, but nevertheless—apart from the first day's weather—we think everyone had a good time.

Support was wide-spread, modellers travelling even from Ireland and Scotland, and the efforts of the Swansea boys in setting up their own catering arrangements were well appreciated by all and sundry. We can now only speculate for next year's Nats., for having tried Easter, Whitsun and now August Bank Holiday, it only leaves Christmas to be given a chance!

SIR JOHN SHELLEY TROPHY (POWER)

1.	Wyatt, P.	Ipswich	10 : 00
2.	Bennett, A.	Whitefield	9 : 26
3.	Knight, J. B.	Kentish Nomads	7 : 35
4.	Buskell, P.	Surbiton	7 : 27
5.	Butcher, N.	Croydon	6 : 53
6.	Bol, M.	Willesden	6 : 23
7.	Ward, R.	Croydon	6 : 19
8.	Setchfield, A.	Willesden	6 : 13
9.	Knight, H. J.	Kentish Nomads	6 : 06
10.	Wrigley, A.	Whitefield	6 : 03
11.	Morgan, B.	Cardiff	5 : 59
12.	Lamble, J.	Chorley Wood	5 : 47

S.M.A.E. RADIO CONTROL TROPHY

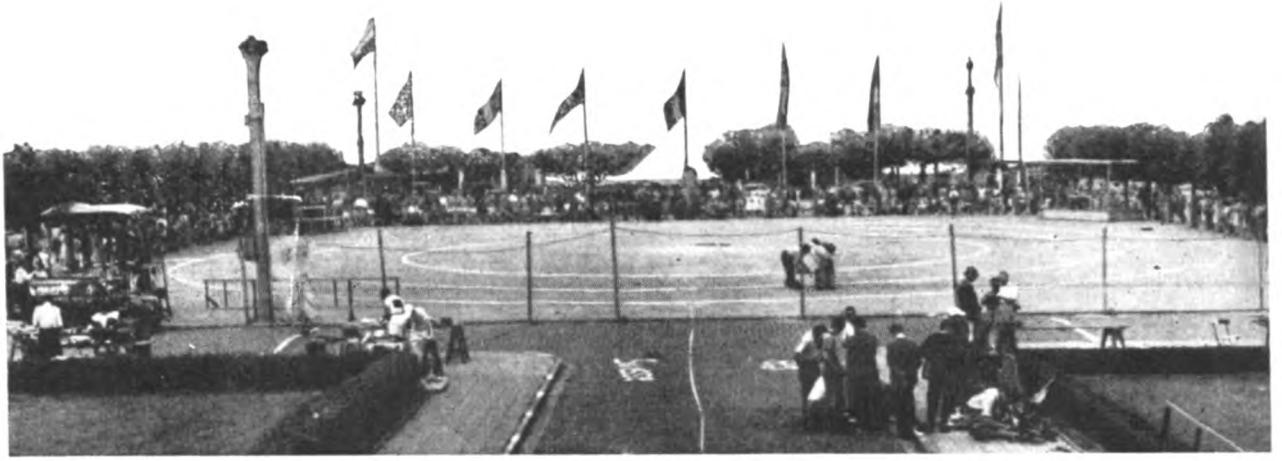
1.	Allen, S.	Battersea	250 points
2.	Hemsley, O.	Bushy Park	64 ,,
3.	Goodman, R.	Bushy Park	50 ,,

GOLD TROPHY (C/L STUNT)

1.	Hewitt, A.	Sth. Birmineham	330·5
2.	Hewitt, B.	Sth. Birmingham	323·0
3.	Russell, P.	Worksop	312·0
4.	Cooke, R.	Rotherham	307·5
5.	Smith, P.	Chingford	202·5
6.	Coles, A. V.	Bristol and West	173·0

Class IV	Taylor, R.	Brixton	112·24	,,
Class VI	Billinton, M.	Brixton	128·29	,,
	Taylor, R.	Brixton	100·8	,,
Class VII	Hopkins, B.	Bristol Phœnix	124·42	,,

WORLD RECORDS KNOCKED AT KNOKKE



THAT six out of seven trophies were carried home by British team members from the highly successful Third European Control Line Championships, and First World Speed Championship held at Knokke, is sufficient indication that on this occasion our aeromodelling was right on top of its form. When we add that two speed class records were substantially broken, while a third was also well passed (though alas the model failed to pass the re-scrutiny by the processers) it can be appreciated that this meeting did indeed merit its title of European and World Championships.

As usual, the triple townships of Knokke, Le Zoute and Albert Plage had really gone out of their way to make competitors welcome and to ensure the best possible flying conditions. A glance at our illustration of the flying circle will indicate a small circular stump on the extreme right—this is the remains of a lamp-post, which with another, not visible, was removed by the local authorities to enable safe, trouble-free flying for the 10 c.c. speed models. This is typical of the towns' efforts to make the meeting the deserved success that it was.

Once again Monsieur Victor Boin, in his dual roles of President of the local Sports Development Committee, and of the Royal Belgian Aero Club Managerial Committee, had organised everything just so, and arranged a splendid selection of prizes, which followed the typical Belgian silverworkers' style in five large cups, and an even larger one for the Championship. The jet event was rewarded with a silver oyster butterdish, symbolical of the seaside nature of the venue.

Five countries entered teams, embracing Belgium, France, Holland, Switzerland and Great Britain. Entries had also been promised from Sweden and Italy, but last minute hitches prevented their participation. Most of the old familiar faces were in evidence, including Arnold Degen from Switzerland—this year without his elegant moustache—Dr. Millet, the jolly French speed king, and his fellow worker, Monsieur Labarde. Others included young Laniot, the French stunt expert and his

Heading: Flying circle, judges' boxes, and ample pits at Knokke. The British team are in right foreground. Centre left: Alex Houlberg receives the Championship Cup from the Burgomaster, with M. Victor Boin, left, looking on approvingly. Bottom left: Public processing on the seafront the day before flying.

rival, Malfait. Speedster Meuwli and his amusing team-mate Peclet were also in evidence, though this year the Swiss were dogged by misfortune and finished bottom of the list.

Our own British team, selected on contest merit, more than justified its presence. Under the management of Eddie Cosh, fresh from his Finnish adventures, we had Alan Hewitt (South Birmingham) and Ken Marsh (West Essex) for stunt, Peter Wright (St. Albans) and Billinton (Brixton) for the three speed classes with Dunn and Claydon (East London) to provide jet entertainment.

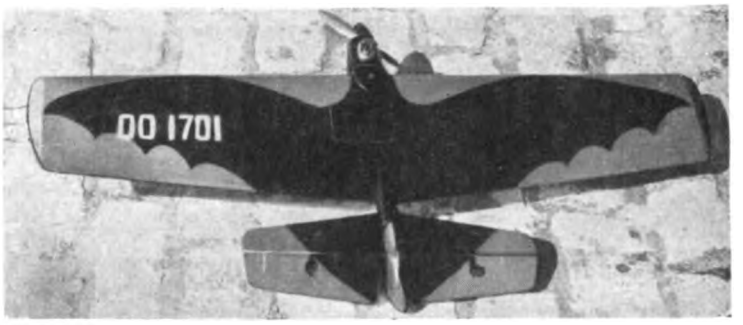
Unlike the previous year, when it was possible to house the entire entry under one hotel roof, this year—on account of the crowded holiday season—it was necessary to split visitors into three separate establishments, which may have reduced some of the high jinks but did not prevent a very pleasant get-together on the final evening at the Villa Butterfly, where Marsh's musical strength, if not his virtuosity, was well received by an uncritical audience.

The contest opened on the Saturday evening with an outdoor Concours d'Elegance on the seafront, followed by processing. Here, judged by M. Victor Boin, Alex Houlberg and M. H. Gillman, Secretary-General of the F.A.I., Peter Wright proved a surprise winner in the Speed section from the " favourite ", Dr. Millet, with one of his beautifully finished all-wood models ; while Alan Hewitt's superb " Ambassador " was well ahead in the Stunt section.

Our own team therefore started Sunday's flying programme with an initial lead of 20 points, plus the excellent boost engendered in everyone's morale. The day was inclined to showers, but warm, and soon proved the ideal weather combination for speed, as most models were giving a little more than their usual best.

It was on this day that all the highest speeds were put up, with Hewitt making a fine show in the 2·5 c.c. Class at 159·292 k.p.h.—a speed which he for some time refused to credit, being about 8 m.p.h. better than he had ever done before with the model. (The 2·43 c.c.

Top left : The flying Dr. Millet with his latest polished wood speed model. Top right : Peter Wright with his record breaker—companion model was concours winner. Centre right : the French team and their models. Bottom right : The Belgian team—taken when prangs had somewhat reduced model strength !



Above: Dutch team man shelters under pit table for repairs. Right: "Bat" motif seen on a Belgian spare model.

engine, by the way, was one of "Gig" Eifflaender's home-built creations straight from his stunter, lent for the good of the cause.)

In the 5 c.c. class Wright put up a record for himself at 202·247 k.p.h., well ahead of his nearest rival, again Kreulen of Holland at 187·5 k.p.h. Only in the 10 c.c. class did British efforts fail, and here no times were clocked for them as they failed to provide the necessary laps. Meuwli of Switzerland here took the honours at 219·512 k.p.h. from Labarde at 209·302 k.p.h. and Cordier of Belgium at 200 k.p.h.

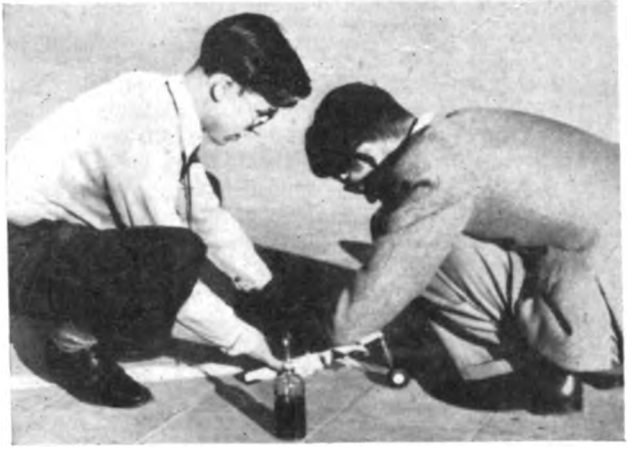
Stunt found Alan Hewitt in the lead, with 1,634 points, from Marsh with 1,474 and Vallez of Belgium at 1,325. Hewitt was outstanding, though foreign competition is getting keener, and some individual figures were superior. No one, however, seems capable of a good square loop, though Hewitt interpreted the rules as requiring four consecutives, and duly obliged.

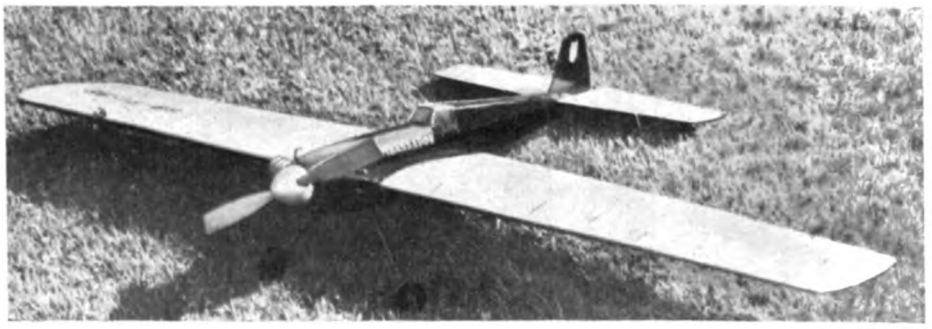
Though not counting in the championship, a number of jet flights were made by Dunn and Claydon, much to the joy of the crowd. One fire was swiftly extinguished and the damaged model repaired to fly again the following day.

On Monday, the British team were leading by 90 points from Belgium, with Holland, France and Switzerland following in that order. The day was fine and sunny, but an unkind wind made stunting more of a problem, and some of the trickier speed models definitely hazardous.

This second day's flying served to confirm Hewitt as

Centre left: Malfait assists Labarde, in cap, to get started in the 10 c.c. speed. Bottom left: Ken Marsh with his stunt model that performed so well. Below: Mike Billinton and Peter Wright get in some pre-contest test flying.





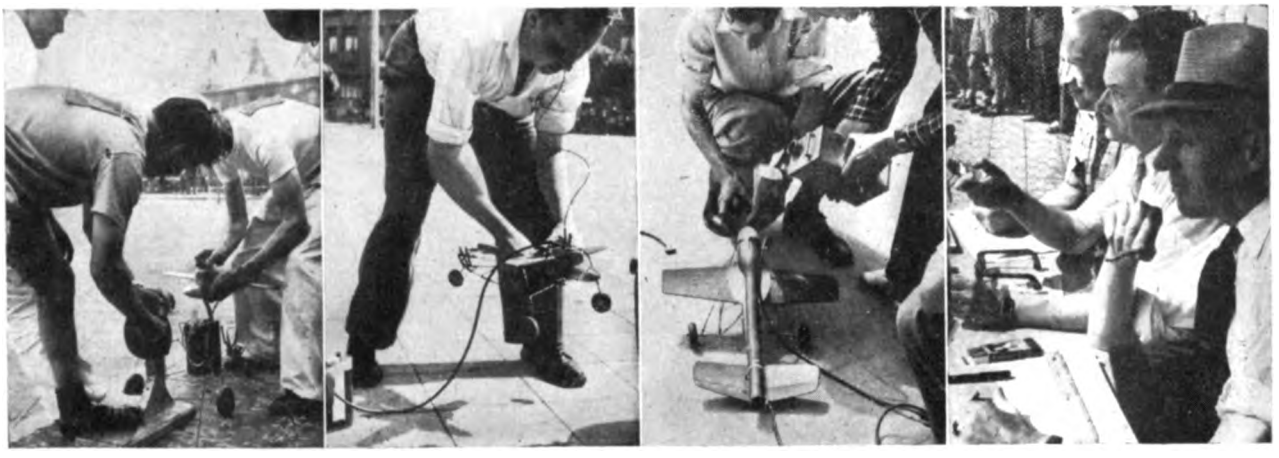
European Stunt Champion, though Marsh lost his second place to Vallez of Belgium. Laniot was the best Frenchman at seventh place. Some very complete prangs enlivened the entertainment, even Hewitt wiping off the tail of his Ambassador when putting on a special show for a visiting V.I.P. (who was not even looking !).

In fact, this second day must be regarded as something of a Black Monday for competitors generally ; for several lovely speed models bit the dust for good and all, and flyers generally were well satisfied to have produced a timeable run. Billinton was able to clock a good run at 208·9 k.p.h. in the 10 c.c., which on being halved for average placed him No. 8 in the final placing, and helped to ensure the ultimate British victory.

All flights being concluded, there was time for a general " spit and polish " before attending the Prize Giving at the Town Hall. Eddie Cosh found the attractions of sea bathing and local beauty nearly too much for him and had to be dragged from his supper to attend in time, but suitably enough, Alex Houlberg accepted the major trophy on behalf of the team. Following the presentation we were gratified by a spontaneous ovation from other countries present—a form of approval for the winners that we do not remember to have heard before. Altogether it was a grand meeting, excellently organised both as to accommodation and site, and all concerned must be congratulated on putting over a Third European and World Championship so well.

Top left: Alan Hewitt's concours and stunt winner " Ambassador " Top right : Alan Hewitt with his Eifflaender-engined record breaker.

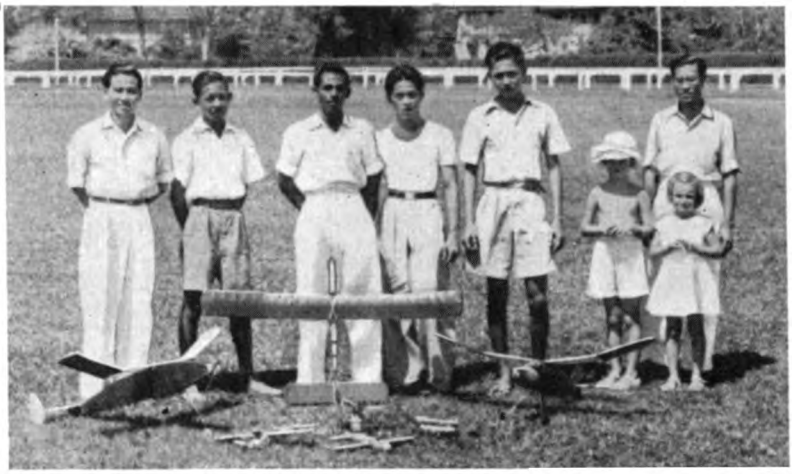
Centre right : Laniot Jnr. leading French stunt and junior speed champion with his model. Bottom, left to right : Degen winds up starter for Peclet ; Lippens assists Cordier ; Dunn and McNess with their jet model ; timekeepers Babusiaux, Chapart and Borgniet hard at work.

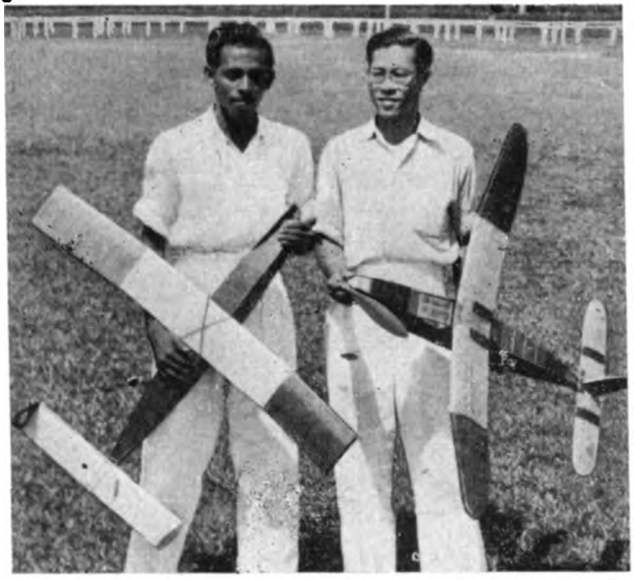


MALAYA MODELS

by

Sqn./Ldr. R. B. LORD, A.F.C.





DESPITE almost perfect weather conditions, model flying in Malaya is not as popular as one would expect. Even after allowing for the hot, and to Europeans oppressive, humid atmosphere and the effect it has on one, it is surprising to find only a small percentage of Malays and Chinese enjoying this hobby.

Unfortunately this disappointing situation is not helped by the seeming lack of enterprise on the part of the large stores in failing to provide for the needs of modellers. Balsa wood is not plentiful and even cement is sometimes difficult to obtain. There is a small selection of materials and accessories available in Singapore, but in Kuala Lumpur there is very little except old stock, and it is left to Penang in the north to offer the best selection to the enthusiast. Perhaps that is why the Penang aeromodellers invariably walk away with the annual competitions! I feel there is a lesson to be learnt by the Singapore and Selangor clubs!

In the Federation, Penang and Kuala Lumpur support local clubs, the Selangor Modelcraft Society having an excellent flying field in Kuala Lumpur race course. Here each Sunday some half dozen regular enthusiasts may be seen with a variety of models. Strangely enough (or do we *never* learn?), despite recurring "fly aways", there is a complete absence of names and addresses on models, or any type of dethermaliser. Thermals are difficult to *avoid*, and all types of gliders and power models are apt to mount higher and higher until out of sight! One unlucky individual chased his model for 3 miles only to see it descend to some 10 ft. and then, catching another "riser", climb away into the distance until lost to sight over the dense bandit-infested jungle! I wonder if the local banditry emulate the "Fairlop fiends" and wait downwind ready to ambush errant models with malicious intent!

Average times for rubber powered models is 3 mins. on 470 turns. Rubber (despite cracks about "coals to Newcastle") is extremely difficult to obtain, and in the climate it is difficult to maintain it in good condition. Airtight tins and a place in the ice box or refrigerator are the accepted methods of preservation.

The Royal Air Force stations of Seletar, Tengah, Kuala Lumpur and Butterworth all have clubs, and a new one is forming at the Royal Naval Air Station at Sombawang under the guidance of Lt. Comdr. Stevens.

ON OPPOSITE PAGE

Bottom :—C/L speed boys Chem Kooi Chye and Cheah Theam Swee, latter's model E.D. Mk. IV powered.

Centre: Malayan Wakefield enthusiasts T. S. Shiphein (left) and Hew Kon Choon. Latter's Korda has best flight of 12¼ mins. to its credit.

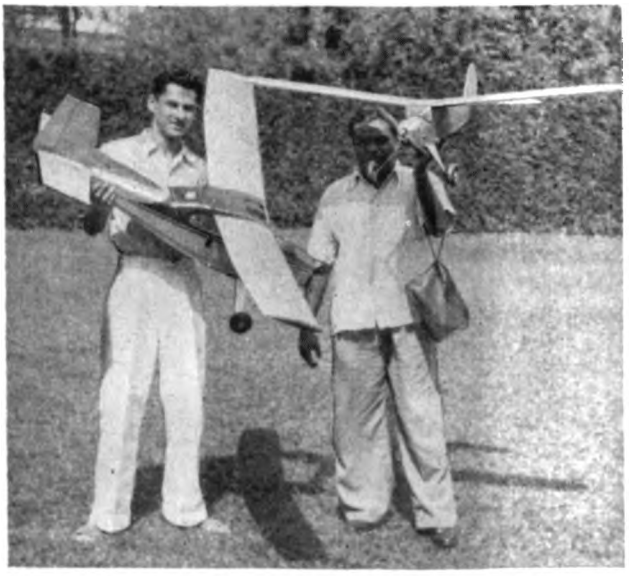
Heading: Members of the Selangor M.A.S. at a Sunday morning session on Kuala Lumpur Racecourse.

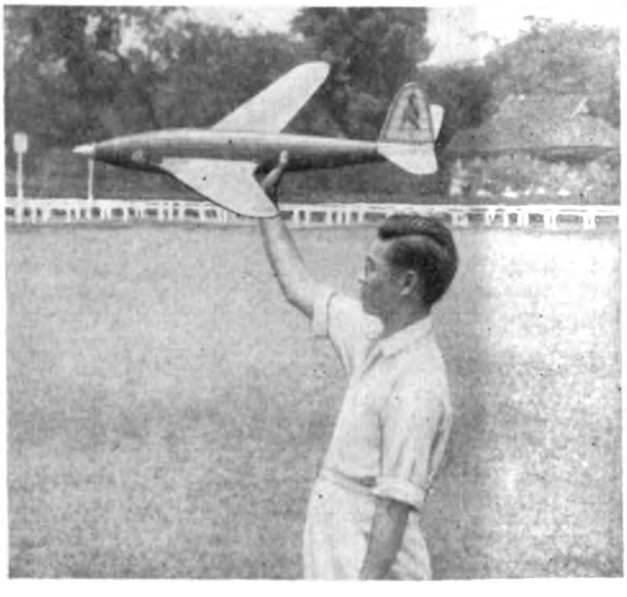
THIS PAGE

Right: More of the Selangor club. D. K. K. Lee on right holds the "Norseman" won by S/Ldr. Lord in the 1950 Wakefield Draw and presented by him to the club.

Below: Concours winners D. K. K. Lee, ("Luscombe Sedan") and Dr. Nicol Fonseka with his "Centurion".

Bottom: Hew Kon Choon and an O/D "Comet" glider, developed from an old Wakefield.





The Maintenance Base at Seletar is the most active of these. The Club is run by Flt. Lt. R. W. Partner of Air Traffic Control and has 30 members, of whom 20 are really active. Club premises are situated in a barrack block annexe which unfortunately precludes 3 members of the Women's Air Force from joining. (Pity !)

Flying conditions at Seletar are full of hazards. The runway is near the Straits of Johore, which are 3 miles wide. The water is very shallow and prevents the retrieving of lost models except in the main channel. Swimming is OUT—there are 10 ft. long sharks ! The prevailing wind is from the south and models invariably drift out across the Straits.

As if these " built-in " hazards were not enough, the local brand of kitehawk sometimes attacks models that have dared to fly into their element. There is a story of one such incident during the last competitions. A sailplane (five ft. span) was about to set course across the Straits when it was attacked by a large kite. The first few passes caused the model to stall, the kite not actually striking the glider. However, the kite struck at, and hit, the model on its next attack, tearing a large hole in the leading edge of the wing. The model spiralled down, landing at the water's edge, to be retrieved by a grateful owner. The victorious bird flew away triumphant, no doubt mentally chalking up " one glider confirmed ".

The Club at Tengah had a well known speed control-line personality in Fg. Off. J. W. Hedges. He is a stunt man now with a Musketeer (Yulon 30). His room was full of models, and I spent a fascinating evening there looking at various 10 c.c. engines, including a Hornet and a much-envied bag—full of propellers—part of his field equipment ! I did not count them all, but 60 would be a conservative estimate! He has returned to the U. K. now.

At Kuala Lumpur the club membership varies between 8 and 30, interest being divided between control-line stunt, gliders and Jetex powered models. The club is about to start work on a radio-controlled " Skyskooter ", in the hope of limiting the possibility of its disappearance in a thermal vertically overhead !

At the moment the attention of modellers is centred on the Annual Model Meeting at Seletar. The Seletar Trophy goes to the best Club on a points basis in all events, and the Sanders Glider Trophy will also be competed for, but tell it not to the kites!

YOUR MODEL SHOP No. 2.

E.L.S. Model Supplies

THE aeromodelling enthusiast has one modelling need that, change the trend as one may, seems likely to remain an essential part of virtually every model put into the air or static. That necessary item is wood, whether it is balsa from overseas, or native hardwoods that fill the gap in time of shortage. How very pleasant therefore to operate a model shop as part of a larger concern that has for a very long time been established as timber merchants with their own sawmill just behind the shop.

That is how E.L.S. Model Supplies of High Street, Sutton, came into being. Until quite recently they occupied part of the shop space devoted to E. Law & Sons, well-known suppliers of balsa and other woods to aeromodellers the country over. Their frontage was not in those days particularly elegant, being the rather austere result of bomb damaged windows and first aid repairs. Then, happily, the necessary permits came along to do the job properly, so that we have the twin shops of E.L.S. Model Supplies and E. Law & Sons looking bright and Festival-like in this most suitable year, 1951.

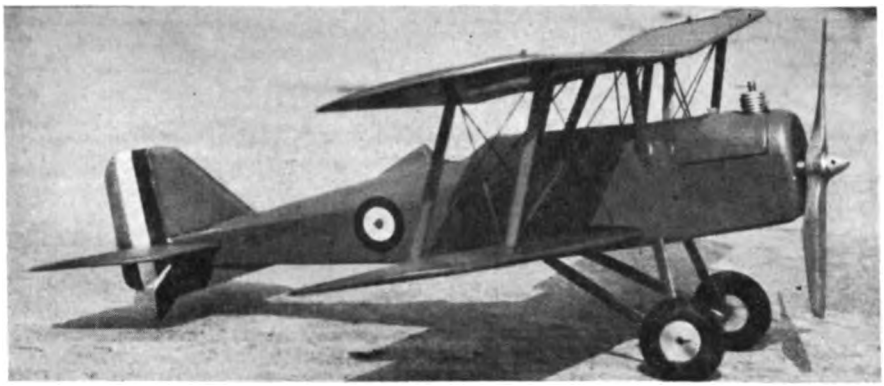
Having those convenient wood facilities so near at hand it is not surprising to learn that the staff were almost entirely responsible for the interior layout and fittings that make the shop so pleasantly and conveniently shelved. Equally, we were not disappointed in the hope that their stocks of wood should be all-embracing—practically every size and grade in strip, sheet and block balsa being available, plus a good range of hardwoods suitable for odd aeroplane parts and the enthusiast for such other forms of modelmaking as boat building and the like.

Add to these facilities a young and active director of the parent firm in the person of Mr. Ian Davies, who is no mean model builder himself, with some fine examples of boat and model aircraft productions to show for his post-war leisure hours, and a really keen contest modeller as Model Shop Manager in the shape of Norman Butcher, and we have all that is needed for a most successful venture.

Norman Butcher needs little introduction to south of England enthusiasts—he will be seen on his new shaft-drive Sunbeam motor-cycle wherever there is quality control-line flying in the offing. Particularly do we think of him when old-time scale models are mentioned, for his early initiative did so much to establish them in the early C/L days of a few years back. His out-and-out stunt designs have also carved their niche in the aeromodelling hall of fame.

The new shop actually opened its doors, bright with polish, as recently as 22nd June of this year, but already they have tripled their original turnover that relied so much on postal business by a thriving counter trade that needs to be seen to be appreciated. We were over there on a dullish Monday, but even the sun came out in High Street, Sutton, when Norman switched on the working model railway layouts in the window, which quickly produced the usual crowd, many of whom were not content to stay outside. Kits, balsa, kites, engines, all changed hands while we chatted; and meanwhile the day's mail order requirements managed to get packed—all with nice stiff bits of scrap wood to ensure their undamaged arrival.

We do indeed wish this bright offshoot of E. Law & Sons every success, and if the right staff, the right stuff, and loads of enthusiasm can do the trick they should have no need of lucky risers to keep their sales curves constantly soaring. So, if you lack a bit of this or that, think of E.L.S. Model Supplies—they can probably supply it by return of post if you live too far away for a jaunt over to the shop.



presenting . . . .

FULL-SIZE PLANS

for

RAY BOOTH'S

16¾ inch SPAN

KALPER-POWERED

S.E.5a

THE S.E.5a needs no introduction to most aeromodellers. Probably more scale models, both flying and solid, have been made of this machine than any other type, and our American friends in particular have long favoured the S.E.5a for scale modelling.

The model, which is one of the smallest free flight power models in the country, was constructed to prove that a scale free flight power model need not necessarily be complicated in design or require a large number of building hours to complete.

Following the success of the writer's "Avro 504K" (featured in the December '49 issue of AEROMODELLER), a number of local modellers expressed a growing interest in flying scale machines, but a large number of modellers were inclined to reject them on the grounds that they took too long to construct. With the S.E.5a model therefore, the primary design considerations have been simplicity combined with robustness. The original survived some terrific "prangs" in atrocious weather.

Construction is quite straightforward and should not present any difficulties, even to the newest recruit to this hobby of ours. The completed machine, which weighs 4¾ to 4½ ounces, should balance about 3/16 inch aft of the lower wing leading edge. With the c.g. at this position, the aircraft is, in actual fact, somewhat nose heavy, but this tendency is countered by rigging the tailplane at –3° incidence. When fitting the motor, ensure that the thrust line is offset 2½°–3½° to the right.

Since the wing loading is rather high (about 7 ounces to the square foot) the model glides rather fast. Consequently, it should be glide tested over long grass.

Most readers will be aware that the position of the full size S.E.5a's undercarriage made the aircraft extremely prone to nosing over when being handled on the ground. For initial R.O.G. test flights, therefore, it is essential that a smooth take-off area be chosen.

The baby S.E.5a (Kalper ·32 c.c.) in the upper photo bears favourable comparison with the real thing (Hispano-Suiza) above. Dummy engine blocks would complete the realism.
(Photo, courtesy Imperial War Museum.)

Throttle back the motor until the model just becomes airborne after a run of about six yards. Under no circumstances should a right turn be attempted under power, though steep left hand turns were accomplished with the author's model without difficulty.

The interplane struts are attached to the wings by 1/32 rubber passing through the hollow struts and then through the aluminium tubes fitted in the wings.

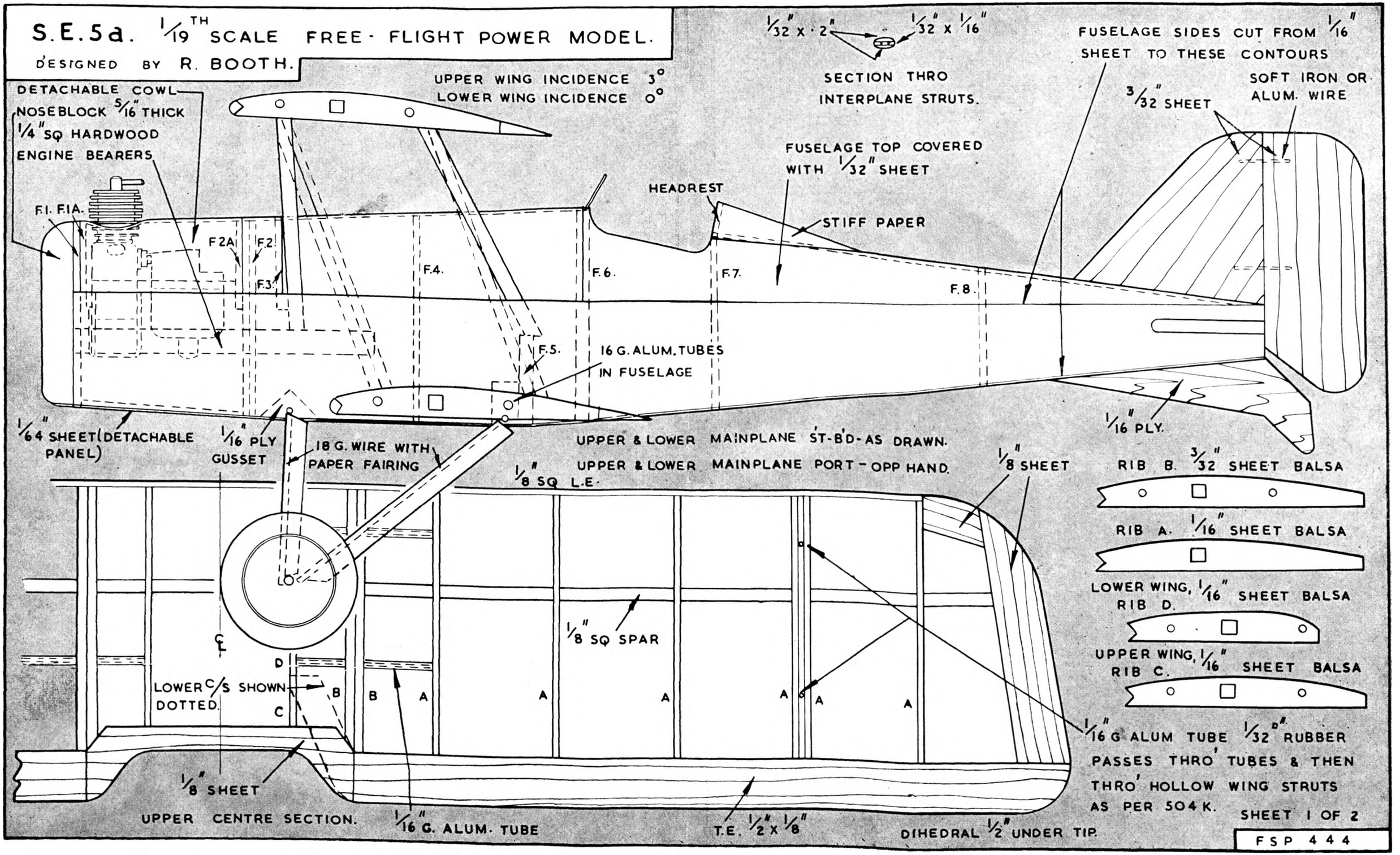
To ensure accuracy during assembly the centre section wing is held in position by the two 1/8 inch sheet balsa jigs as shown on the plan. Pins pushed through the inboard pair of ribs and into the top of the 1/8 in. sheet jigs hold the centre section in position until the 1/16 in. ply struts have been located and cemented up. Allow to dry thoroughly before removing jigs.

Flying, landing and incidence wires are made from 1/32 in. rubber and wing dowels are cut from 1/16 in. bamboo. 18G brass tubes are fitted into the fuselage for the undercarriage wires. Guns and other details can be made from scrap balsa.

Only 16¾ inch span, yet diesel powered, this is the smallest flying scale power model we have yet seen. There is just about 100 sq. ins. wing area to support the 4¾ ounce weight.

S.E.5a. 1/19TH SCALE FREE-FLIGHT POWER MODEL.

DESIGNED BY R. BOOTH.



SHEET 1 OF 2

FSP 444

TAILPLANE

3/32" SHEET BALSA

1/16" PLY C/S STRUTS.

NOSE BLOCK

5/16" BALSA

F.1A.
1/16" BALSA

F.2A
1/16" BALSA

3/8"

1 7/8"

3 1/16"

2 7/8"

BOUND WITH 1/32" RUBBER

1/8" BALSA

F.7.

1/16" BALSA

PINS THRO' SIDES.

F.1.

1/16" PLY

UPPER CENTRE SECTION
WING JIG.

F.8.

1/16" BALSA

HEADREST.
1/16" BALSA.

F.6.
1/8" BALSA

F.3
1/8" BALSA

F.2.
2 OFF

ONE - 1/16" BALSA
" - 1/16" PLY

F.4.
1/16" BALSA

F.5.
1/8" BALSA

SHEET 2 OF 2

FSP 444

Happy competitors line up in heading photo. No prize offered for finding Henry J.! The B.A.F.O. men were flown to and from by U.S.A.F. Dakota shown above. Left: Capt. Glasgow tunes his McCoy 49, aided by Cpl. Teesdale. Below: F/Lt. Stephens, Henry J. Nicholls, S/Ldr. Couch and Harry Hundleby examine T/Sgt. Bluemel's S.E.5a.

ON the morning of the day of our departure for this meeting Henry J. and myself conversed, somewhat despondently, on the telephone and reached the conclusion that the possibility of our attendance as judges at that late stage was about nil. We had been waiting for several days the necessary letters of authorisation from the American Air Force authorities, which up to that time had failed to materialise. Consequently, the writer went to Hendon to finish the almost impossible task of judging the magnificent collection of scale models assembled there. At 5.45 p.m. came an urgent message to phone Henry, who announced that our Dakota was on its way to Bovingdon and would be taking off at approximately 7.30 p.m. Then ensued much road burning of the Editorial Austin Seven which eventually arrived at the airport, somewhat hot under the radiator, as our American crew were walking in the gates, following a meal at the Local, preparatory to take off. The entrance of Henry's M.G. a second or two later defies description.

Two-and-a-half hours later we flew straight down the runway of Wiesbaden Aerodrome, home of the 7150 Air Base Group, United States Air Force, where we were welcomed by Captain Glasgow, Chairman of the " Wings and Wheels " model club. For a while it looked as though we would spend the night in the Guard Room, as we were still without the necessary " Orders," but the timely arrival of another good aeromodelling friend, Captain De Morest, with the all-important documents, made us free men again. Following a call at the Base model club the next obvious call was the officers' mess bar and then to bed in what was once a Luftwaffe fighter pilot's abode !

Germany undoubtedly put on her best weather for the contest the next day and, as we gathered on the baseball diamond for the Concours and Control Line events we were happy to meet the Base Commander, Col. Roberts, Jun., by whose kind permission the meeting was held at Wiesbaden, and also the R.A.F. team, who had been flown down from Buckeburg the previous day by our indefatigable hosts the U.S.A.F.

The Concours was divided into two classes, flying scale and ordinary free flight models. In the former, Cpl. Newman, of R.A.F. Gatow, lead the field with his magnificent Westland Wyvern, powered with an Elfin

2·49, followed closely by T/Sgt. Bluemel, U.S.A.F., who produced an S.E.5a., in unusual but correct white camouflage. In the Free Flight section S. F. C. Dunlap, U.S.A.F. Frankfurt, took first and second places with his Hogan 45 and Thermic glider respectively. A Jersey Javelin of L.A.C. Shoult's, powered with an E.D. Bee, followed closely in third place. One stipulation of the Concours was that all models were to make qualifying flights and many of the leading men had anxious moments —especially the Wyvern owner who had difficulty in starting his motor. T/Sgt. Bluemel started O.K. but suffered from a misplaced C.G., with the result that his S.E.5 flew in at him on the lines and sustained damage to the rigging. Hasty repair work on the Sergeant's part however, plus a few ounces of lead in the right place, enabled him to qualify, as did Cpl. Newman with the Wyvern which really made a splendid sight in the air.

The Control Line events were long delayed through the inability of the contestants to start their engines, and it was a pleasure to watch the one exception, Capt. Glasgow, handling his various speed jobs and, furthermore, getting them off the dolly into the bargain. He made only one official flight with a McCoy 49 powered " Hell Razor " of 96·3 m.p.h. and then went on to win the Stunt with a Fox 35 powered " Chief." Incidentally, your scribe tried this model out himself during a quiet moment and found it one of the smoothest stunt jobs yet, looping almost in its own length without a trace of mush.

In the afternoon, contestants gathered on a quiet side of the ever-busy airfield for the free flight events under perfect weather conditions. Entrants in the Concours soon made their qualifying flights, L.A.C. Shoult's D.H. Beaver being most realistic in flight.

The B.A.F.O. lads had things very much their own way in the Free Flight events, although Lieutenant Trouberg U.S.A.F., put up over 5 minutes with a model of his own design to take the lead in the power contest. He was subsequently pipped at the post by S.A.C. Crowther, flying a Halfax Hermes, which was chased by car for some 10 miles before vanishing into Germany.

Capt. de Morest proved himself most adept at Jetex flying with all-sheet models possessed of astonishing climbs. He too was beaten at the very last minute by " Flook," a model designed and flown by S.A.C. Redgwell, R.A.F.

As the writer lay on his back watching L.A.C. Tuff's winning glider circling lazily in a thermal, he reflected that this was the most enjoyable contest he had attended for many years. Maybe it was the perfect weather conditions; maybe it was the novelty of holding a contest between the Air Services of two nations, maybe, and most probably, it was the friendly and informal atmosphere that pervaded the whole trip, from the time of our arrival to our somewhat tardy departure.

One and all agreed the meeting a great success and, already, plans are under way for a return match, which should provide keen competition, especially with the Americans' top line free flight modellers in attendance. They were, at this time, away at the American Nationals competing for the " Wings and Wheels " Club.

We ourselves can only repeat—thank you, "Wings and Wheels," paragons of aeromodelling hospitality. H. G. H.

B.A.F.O. v. " WINGS AND WHEELS " CLUB (U.S.A.F.)

CLASS RESULTS

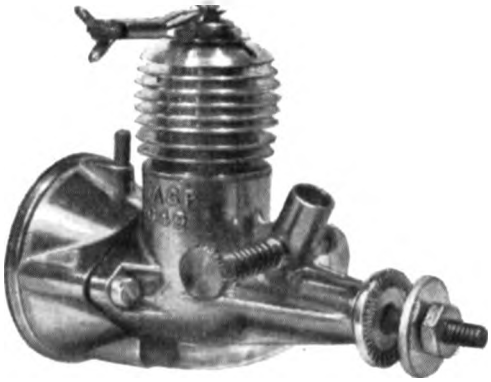
CONCOURS D'ELEGANCE		
Scale Flying Models	Cpl. Newman	R.A.F.
Open Flying Models	S.F.C. Dunlap	U.S.A.F.
CONTROL LINE SPEED	Capt. Glasgow	U.S.A.F.
CONTROL LINE STUNT	Capt. Glasgow	U.S.A.F.
OPEN RUBBER	Cpl. McVey	R.A.F.
OPEN GLIDER	A.C. Tuff	R.A.F.
FREE FLIGHT POWER	S.A.C. Crowther	R.A.F.
JETEX	S.A.C. Redgwell	R.A.F.

FINAL POINTS:

B.A.F.O. — 96 " WINGS AND WHEELS " — 63

F/Lt. Sharpe congratulates A. C. Tuff, glider winner top left; while American Sgt. R. I. Haven demonstrates recovery service. Below, and Right: Concours winners, Cpl. Newman starting the Wyvern & T/Sgt. Bluemel with S.E.5a.

Bottom right: B.A.F.O., M.A.A. Chairman S/Ldr. Couch and U.S.A.F. Capt. Glasgow examine a " Minnow ".



The

ATWOOD "WASP"

ONE of the most recently introduced American motors in the popular "Half-A" group is the Atwood Wasp, made by the Atwood Manufacturing Co., Pico, California. It follows a design used in many British miniature diesels, with radial porting and rotary crankshaft induction, and has a low stroke/bore ratio.

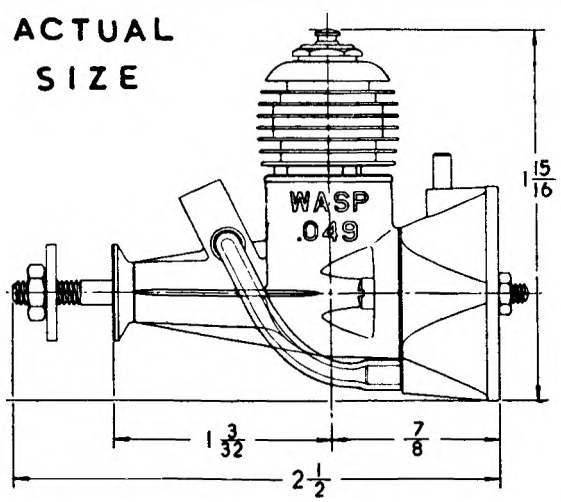
With its short connecting rod, the Wasp has a squat appearance, as reference to the actual size three-view drawing will show. It is supplied with an equally squat Glowplug to match, giving an overall height of only 1 15/16 inches, as against the 2½ inches of a British diesel of similar capacity. Even allowing for the depth of the diesel contra-piston, the comparison emphasises the neatness of the Wasp.

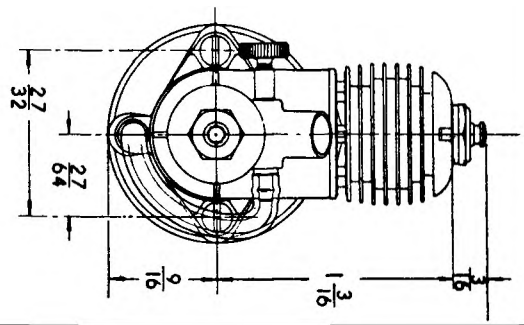
The test of this small American engine is most interesting, not only as a comparison with British products, but as indicating that the American tradition of high revs. per minute is still maintained. Nor is this engine remarkable *only* for this feature, because it is probably the lightest engine, having regard to its capacity, that we have yet handled. The total weight, *including tank*, is but 1¼ ozs., consequently, the power/weight ratio is outstanding.

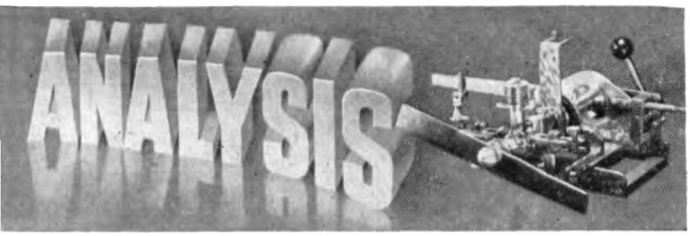
It must be further remarked that the die-castings of this engine are very fine indeed: in fact, the whole engine has the appearance of having been polished! I have examined the castings carefully, however, but cannot see any evidence that they have been finished on a buffing-bob. This can usually be detected by a rounding-off of any square corners and sharp edges. A similar effect is seen also with "barrel polishing"—in which the components are revolved in a drum containing sawdust and some polishing agent—but the engine shows no signs of this. If this die-casting is straight from the mould it is the best I have yet seen. The design throughout is compact and pleasing.

Serving as a sump cap as well as mounting plate, the tank is an accurate die-casting of excellent quality. It is supplied detached, and can, we understand, be replaced by a plain sump cap to lighten the motor.

The engine includes a most ingenious glowplug clip, for attaching the leads from the battery to the plug. It consists of two spring clips, fastened together but insulated from each other. One clip embraces the electrode of the plug, while the other clips on to the body.







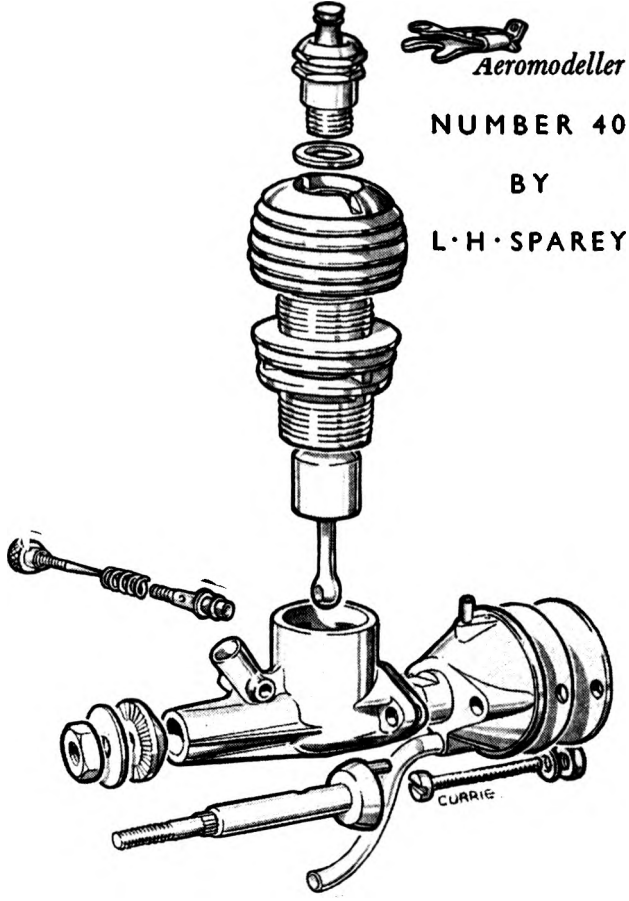
NUMBER 40

BY

L·H·SPAREY

Two insulated wires connect these two clips to the battery terminals. In this manner, both the "earth" and "live" connections are made direct to the plug, and all earth wires and sockets are dispensed with. Once the engine is running, the clips may be pulled away in one movement.

Supplied in a smart display box, the motor comes complete with a special 5½ in. by 3 in. yellow plastic airscrew and special spanner for the cylinder head, plug and shaft nut.



TEST

Engine : Wasp, ·049 cu. in. (·803 c.c.).

Fuel : Mercury No. 5, Glowplug.

Starting : The engine started well when the maker's instructions were followed; namely, by priming with fuel through the exhaust port with a drop or two of castor oil in the venturi. When hot, this process was not necessary. Needle setting was critical.

Running : This engine did not seem happy at speeds below about 6,000 r.p.m., but ran excellently above this, especially at the extremely high speeds. The top range was remarkable, and an unrecorded run at 17,600 r.p.m. was obtained.

B.H.P. The Wasp engine takes full advantage of its great speed to pile up horsepower in the high range. Maximum was reached at 15,400 r.p.m. with an output of ·0995 b.h.p. Such an output for an engine of ·803 c.c. capacity is remarkably good, and exceeds any result previously obtained for engines of this class.

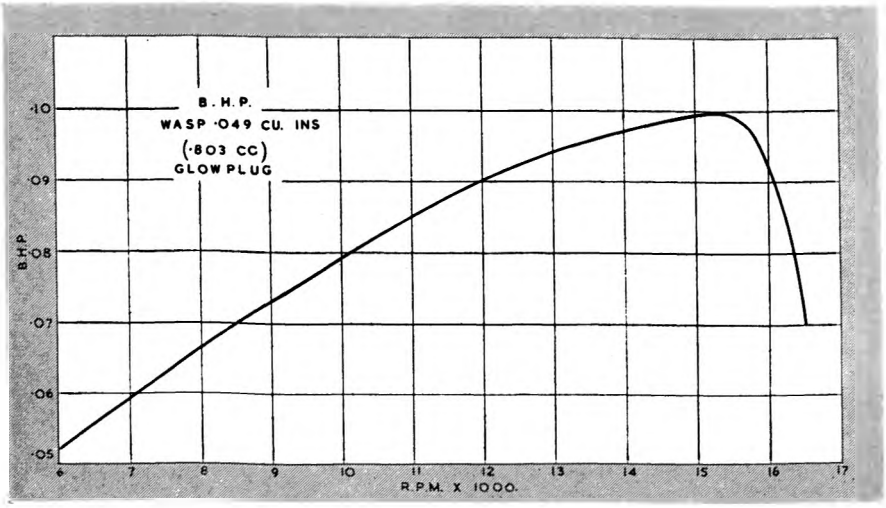
Checked Weight : 1·5 ozs. (including fuel tank).

Power/Weight Ratio : 1·06 b.h.p./lbs.

Remarks : This is a very fast engine, with a remarkable power/weight ratio. The needle control is inclined to be critical, especially at high speeds. The cylinder head should be well tightened, with the spanner supplied, as there is a tendency for the head to loosen when the engine is running at high speed. The needle valve is rather too near to the propeller for comfort in handling.

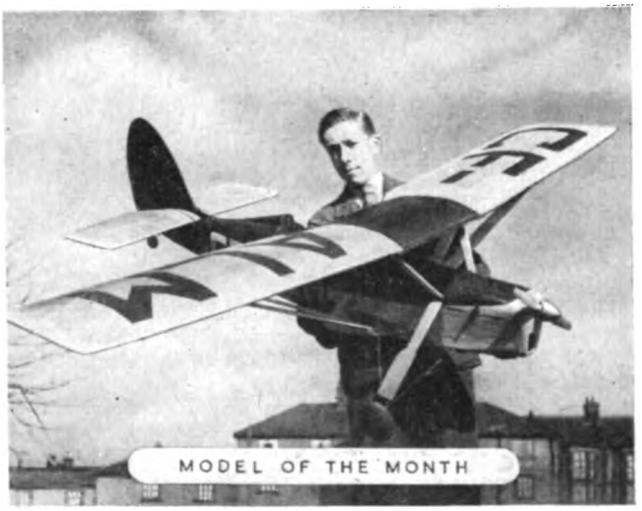
GENERAL CONSTRUCTION DATA

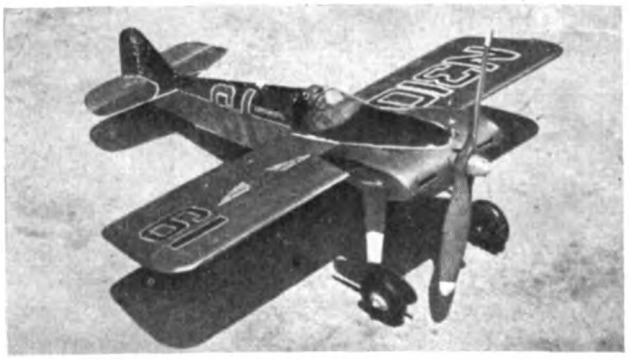
Name : Wasp ·049.
Manufacturers : Atwood Manufacturing Co., U.S.A.
Retail Price : $6.75 (£2. 8s. 4d. plus duty and P.T.).
Delivery : Not available in Gt. Britain.
Type : Glowplug.
Bore : ·421 in. **Stroke :** ·356 in.
Stroke/Bore Ratio : ·846.
Capacity : ·803 c.c. ·049 cu. in.
Mounting : Radial. **Airscrew :** 5½ in. × 3 in.

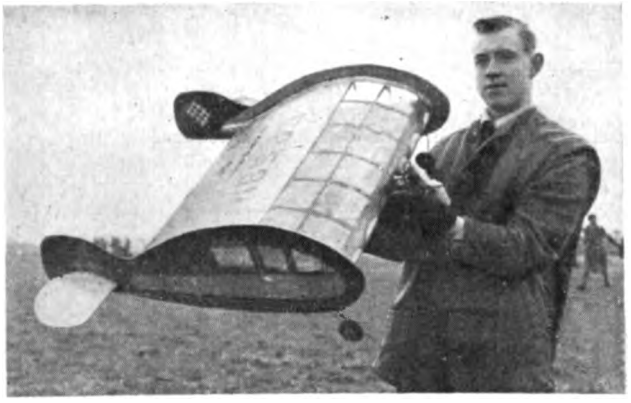


MODEL NEWS

SELECTED ITEMS BY FLIAR PHIL







FLIAR PHIL hopes that he is not setting too bad an example to junior aeromods in this month's heading, which illustrates his latest stroke of genius. Of course, not every prehistoric monster is suitable for incorporation in a model, but Phil's choice happened to be just right to provide a set of ribs for his latest model which he calls " Bag-o-Bones " !

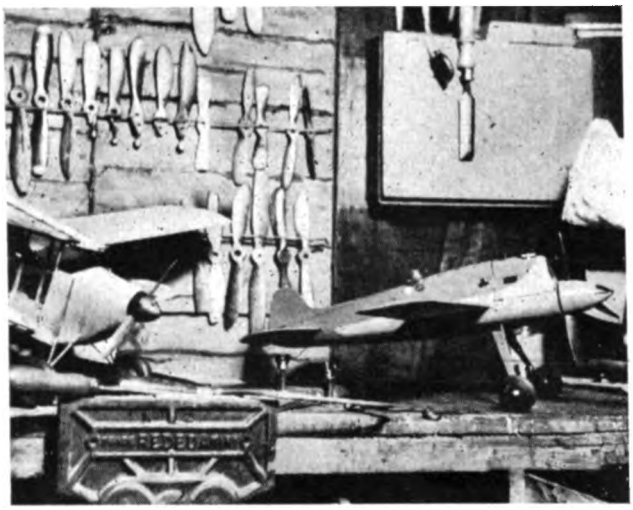
Les Duffy of the Grays and District Model Club poses with his 86 in. span " Curtis Reid Courier " which Fliar Phil selects as " model of the month ". This extra large free flight, flying-scale model (it has a wing chord of over 16 ins.) is powered by an American 7·5 c.c. Rocket petrol engine. The high wing and general layout of this little known full size aeroplane make it ideally suitable for free flight scale. So much so, that fellow club member Neil Griffiths has built a 43 ins. version.

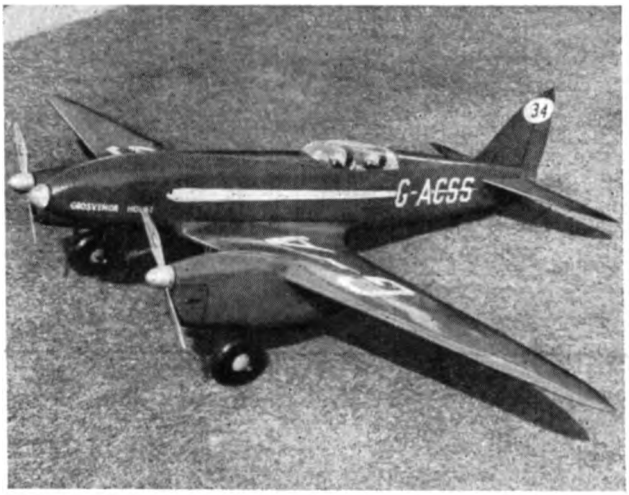
Top left is a very realistic gold and black team racer all the way from Tony Shennan of Blakehurst, Sydney, Australia. Named " Golden Gal IV ", its power is Elfin 1·8 and flying speed approximately 60 per ! With an area of 77 sq. ins. this neat little model comes within the Australian ½A team racer regulations. Note the natty duralumin undercarriage with the silhouette type spats.

Few modellers have selected the famous, or should I say infamous, " Stuka " dive bomber as an ideal subject for flying scale. E. Byfield of Smethwick made this one over a year ago for his Elfin 2·49 diesel and designed it for control line sport flying. Recently it has proven so smooth in flight that Mr. Byfield has used it as a team-racer—the others had better look out when this " Nazi " piece of work gets weaving in the circle.

My, my ! That is really the thickest airfoil section Fliar Phil has seen used on a model aeroplane, down there at bottom left. M. Sheppard of the Epsom Club is continually turning out experimental models. This is a 1 pound 12 ounce unique flying wing, powered by Mills 1·3 c.c. diesel, and with a celluloid panelled leading edge. With a total of 700 square inches wing area, the " Greenhouse " has an actual thickness of 6 inches. The centre of gravity is 50 per cent. chord, and small elevators aid stability. Note the door in the " side " and end-plates.

It is not very often that Fliar Phil receives a photograph of an aeromodeller's workshop. J. Darnell of the Watford Model Aero Club shows a corner of his in the





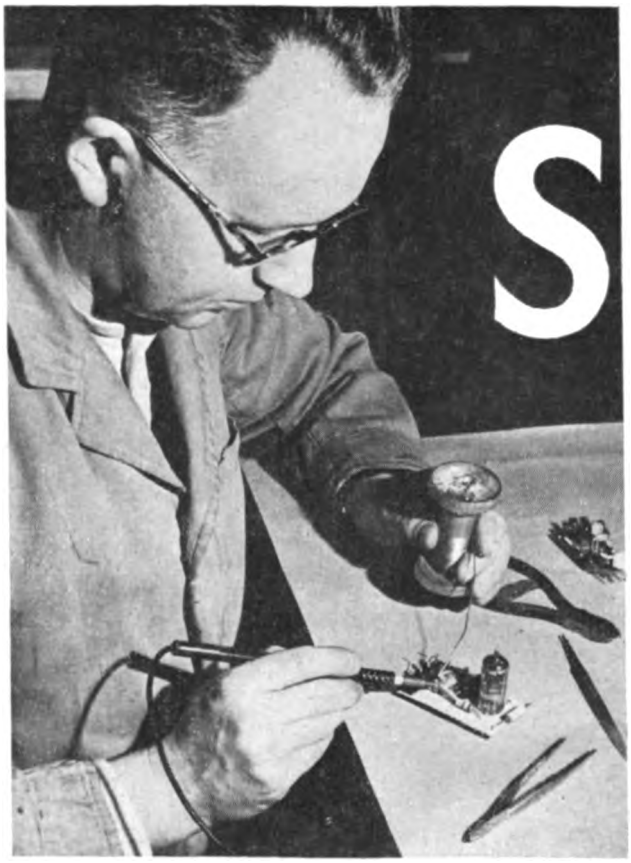
next photograph. In the foreground is his own designed team racer and the wall displays a very handy collection of airscrews, including, F.P. notes, a few one-blade conversions, presumably to give broken airscrews a second life. The photo was taken by fellow club member R. Batchelor with an Agfa camera using an exposure of 8 seconds at F. 5·6 and only one 200 watt bulb. How about more workshop pictures, bods ?

Top right is a model which gives the Curtis Courier a close run for the model of the month title this time. The plane is a 1/7th scale control-line model of Scott and Black's DH88A " Comet ". Wing span 6 ft. 6 ins., length 4 ft. 5 ins., powered by two inverted Frog 500 motors, weight 9½ lbs. The model has not yet flown but has already won two concours prizes at Luton and Hatfield. It was built by J. Phypers of Luton, an apprentice at the De Havilland Technical School. The canopy and landing light were constructed from sheet perspex pressed in the gas oven. Photo was by Ken Wingrove of the Luton Club. It is hoped to make test flights on 90 ft. lines in the very near future, and if we can encourage a few other modellers to make large control-liner multies, we might well have a new class in team racing—Class " EXP." Just imagine a 6 ft. Gemini or Mile Hawk Speed Six chasing this Comet around the circle on 90 ft. lines—it could be most exciting !

Ouch ! ! Better not stand too close to Ted Hindell of the Battersea Club when he decides to launch his " Cloud Scythe "—do you get the point ? Designed by German S. Strojek of Osnabruck, this ultra high-aspect-ratio design is one of the most successful that appeared in the 1950 " Aeromodeller Annual ". Span is 86½ ins., and the long nose almost completely eliminates the need for ballast. Note that there is practically no fin, yet stability is as good as any towline tugger would want.

The next pic, and completing the model miscellany for this month, is from that keen Bhoy of Northern Ireland, Norman Osbourn.

It contrasts with the " Cloud Scythe " in every way possible—no fuselage, of course ; a huge fin, and quite low aspect ratio. G. Drew of the Belfast Club is the proud owner/designer of this 48 in. plank. Power unit is an E.D. Bee, and wing section a fairly thin reflex type. Keen eyes will perceive inset trim tabs at each wing (or, should F.P. say, plank ?) tip.



ESPECIALLY for the BEGINNER
Part XX

Soldering

BY THE REV. F. CALLON

EVERY aeromodeller should be able to solder, for there are lots of jobs connected with the hobby which cannot be done properly by any other method. Wheels have to be put onto under-carriage wires, stops onto the propeller shafts of rubber models, certain types of free-wheeling arrangements call for a fixed washer or a short extra length of projecting wire: and later on, when you become an R/C fan, all the electrical joints must be soldered.

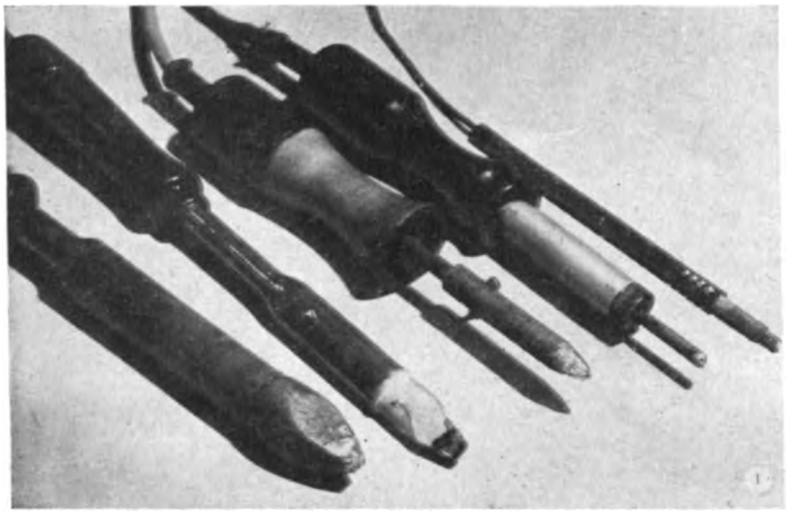
Soldering Irons

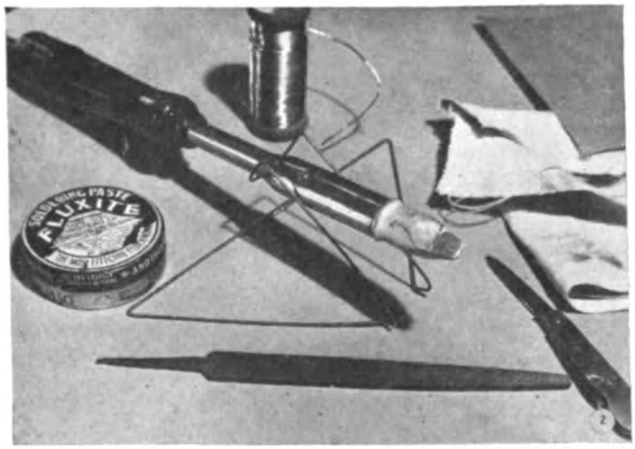
The old-fashioned type of iron was merely a block of copper fixed to a wooden handle, and it had to be heated by being placed in a fire or gas jet. The only point in its favour is its cheapness, for it is very difficult to use successfully unless you have had a lot of practice. Its main disadvantage is that you can never be quite sure whether the temperature is right; when the iron is too hot, the solder runs off the job like water, and when it is not hot enough the melting point will not be reached.

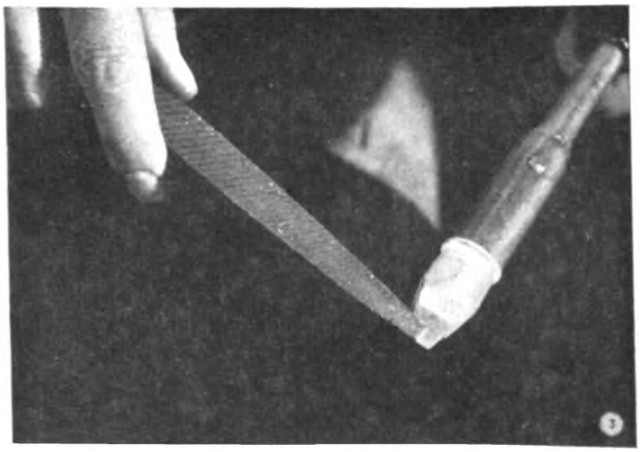
Electric irons suffer from none of these defects. They are clean and easy to use, and retain the correct heat all the time they are switched on—except in the case of certain extra large types. Fig. 1 shows a selection of electric irons, costing about £1 each. The three on the right are intended for small, intricate jobs, while the one on the extreme left is rather large for our needs. The second from the left is ideal, being sufficiently large to retain its heat during use, and at the same time not too cumbersome. This particular model, a medium sized SOLON, cost 19s. 6d.

How Solder Works

Solder is a mixture of lead and tin which melts at a relatively low temperature, and when applied to a metal at the same temperature it works its way into the surface something after the manner of balsa cement seeping into the pores of balsa wood. If the metal being soldered is dirty, greasy, or not hot enough, the molten solder will stand up in blobs like water on grease-proof paper, and a "dry" joint which will not hold is formed. In order to make sure that the surfaces are quite clean, resin or some special paste such as Fluxite is applied along with the solder. This is also necessary for another reason, for when a metal is heated it tends to become dulled or "oxidised", and the flux cleans this away. For normal jobs where the surfaces are quite clean, and with "easy" metals such as copper, brass and tin ordinary cored solder is quite effective without the help of any extra flux. Cored solder of the "Arax" type, as the name implies, is really very thin tubing with the inside of the tube filled with resin; the resin melts onto the heated joint along with the







solder, making for quick, trouble-free work. With more difficult metals such as steel, a more active agent like Fluxite or Baker's fluid will be found useful, though "Arax" can be used without any additional flux on such metals. (N.B.—Aluminium cannot be soldered by ordinary methods.)

Cleaning the Job

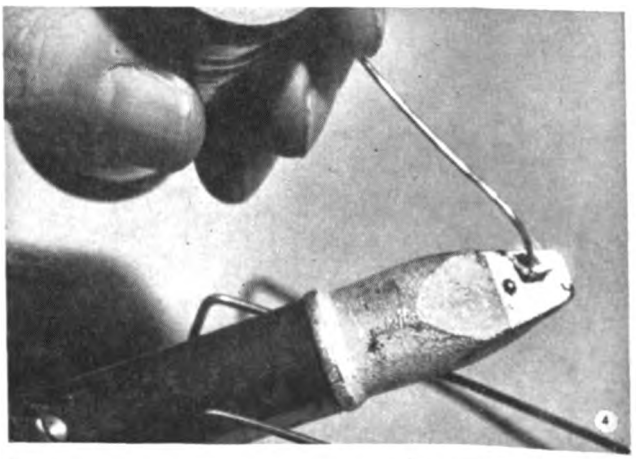
All grease, dirt and oxidisation should be removed from the surfaces before any attempt is made to solder a joint. A penknife makes a good scraper, and a file or sandpaper should be used until the metal shines like new. The head or "bit" of the iron must also be cleaned, although with careful use this does not need to be repeated often.

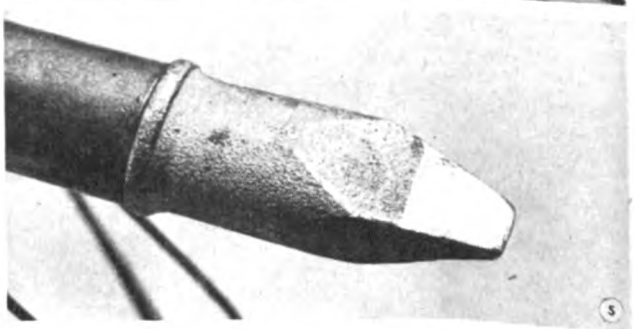
Tinning

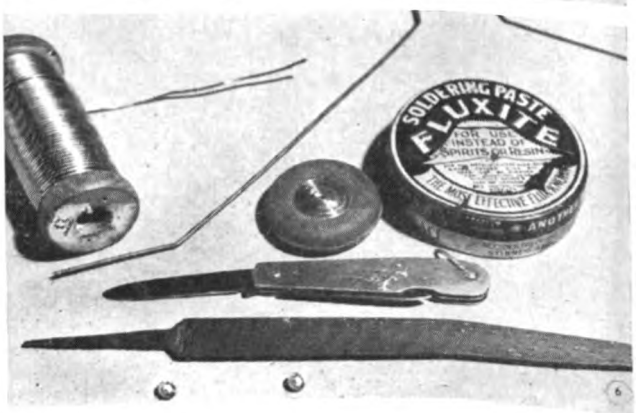
One of the secrets of successful soldering is to transfer a thin coat of solder onto the surface of the joint before soldering them together. To do this, hold the end of the iron against the metal and press the solder not onto the iron but onto the metal itself; this ensures that the job is sufficiently hot to avoid a dry joint, for if it is not hot enough, it will not melt the solder. If difficulty is experienced in getting the solder to melt, there is not much harm in cheating a little, by moving the solder onto the iron for a second or so and then back onto the metal. Move both iron and solder up and down the surface until there is an even coat all over, then shake off the surplus molten solder while it is still hot. Two surfaces tinned in this way can often be welded together merely by the application of the hot iron, or with the addition of very little solder.

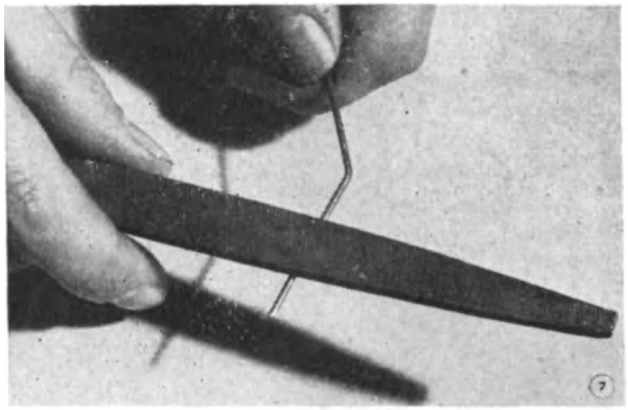
Preparing the Iron

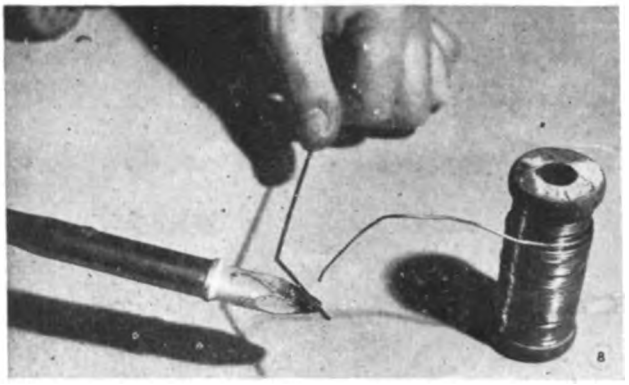
We will take it that you have acquired a brand new electric iron and want to get down to work as soon as possible. Fig. 2 shows all the equipment you will need: flux, a file, a penknife, a piece of clean rag, sandpaper and a coil of cored solder. The iron is seen resting in a wire "Grasshopper" frame—a very useful accessory, since it means that no holes will be burnt into the table when the iron is put down. You can bend a frame like this out of 16 s.w.g. wire in a couple of minutes—and you might even make your first soldering job by the joining of the two ends together. Another advantage of an iron-stand like this is that you can bring the job up to the heat without needing a third hand, for one hand will be











occupied in holding the job and the other the solder. The alternative method is to prop the job up securely in some way and approach it with the iron in one hand and the solder in the other, while sometimes it is more convenient to pull out a short length of solder (it can be bent like very soft wire) and bring the iron and the job up against its end.

Plug in the iron, and allow it to warm up for about five minutes. New irons generally have their bits treated with some sort of aluminium substance to prevent oxidisation, and this substance must be filed away from the last half inch or so all the way round—see Fig. 3. The "gold" coloured copper will show through, and this must be tinned. No Fluxite will be needed. Just press the end of the cored solder onto the heated copper bit (Fig. 4) and then remove it, leaving a molten blob on the metal. The blob will tend to spread a little, but it is a good idea to wipe it gently over the surface of the bit, using your piece of clean rag for the purpose. When this has been done all the way round the bit, the iron is tinned and ready for use, and should have a smooth, silvery tip as in Fig. 5. This tinning process will only have to be repeated very seldom, if the iron becomes dirty or oxidised for some reason or other.

And now for a quick run through the various stages in an actual soldering job—fixing a rubber wheel onto the leg of a detachable undercarriage.

Equipment

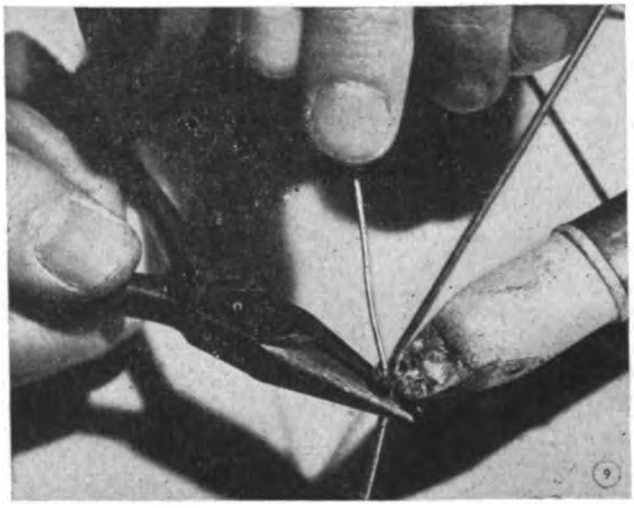
Fig. 6 shows what you will need: a coil of cored solder, Fluxite, penknife and file (for cleaning), two small cup-washers, and of course the wheel and undercarriage wire. The clean rag seems to have got temporarily mislaid, but as Fluxite is messy stuff, we will need it to clean up the job as soon as the joints have been made, and before they have had the time to cool down properly.

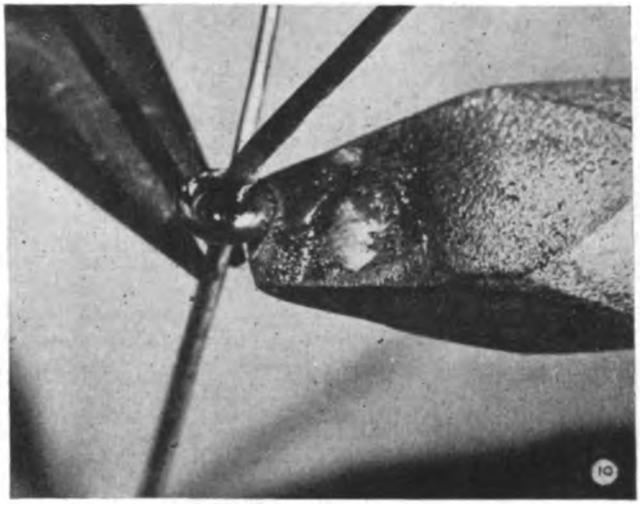
Method

Fig. 7 shows the first part of the job with the file being used to clean the axle. This can be finally polished up with fine sandpaper.

Tinning comes next as shown in Fig. 8, where the iron is being held under the axle, and the job brought up to the end of the coil of solder. If the solder does not run smoothly all round the wire, dip the hot axle into the tin of Fluxite and repeat the process; then shake off the surplus solder before it hardens. The entire length of the axle should be tinned, so it is just as well to test whether the wheel can still revolve smoothly when slipped over it. If it is a very tight fit, the wheel boss should be enlarged slightly with a drill; but remember that the skin of solder round the centre of the axle will easily wear thin with the friction of the turning wheel, so we do not want too loose a fit at this stage.

Now slip the first cup-washer onto the wire and up to the end of the axle, hollow side away from where the





wheel will be. Grip the axle under the washer with a pair of pliers and bring the unit up against the end of the iron until it is thoroughly heated. Then lower the end of the coil of solder into the cup (see Fig. 9) and fill it. No Fluxite will be needed here, for the axle is already tinned, and the cup washer (being made of tin itself) does not need any persuasion to accept the molten solder provided it has been properly heated.

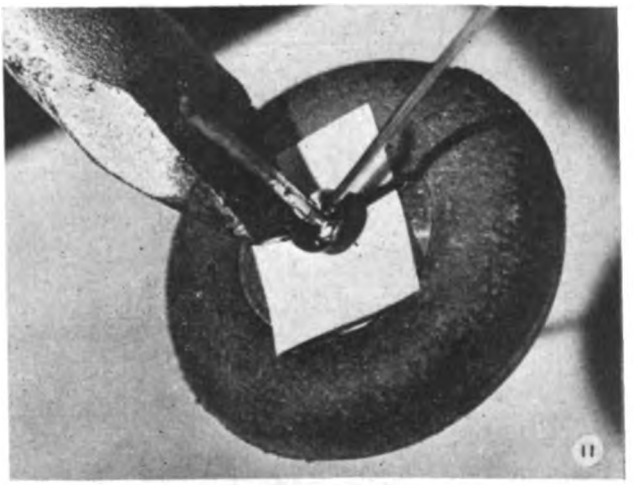
Now, withdraw the iron very carefully, and hold the job as steadily as possible. If you watch intently, you will see a faint " cloud " pass over the shiny surface of the molten solder in the cup after a few seconds. This means that the joint has set, and is firm enough to be handled at once. Zam-Buk or some such ointment should be applied as promptly as possible to the blisters on your fingers !

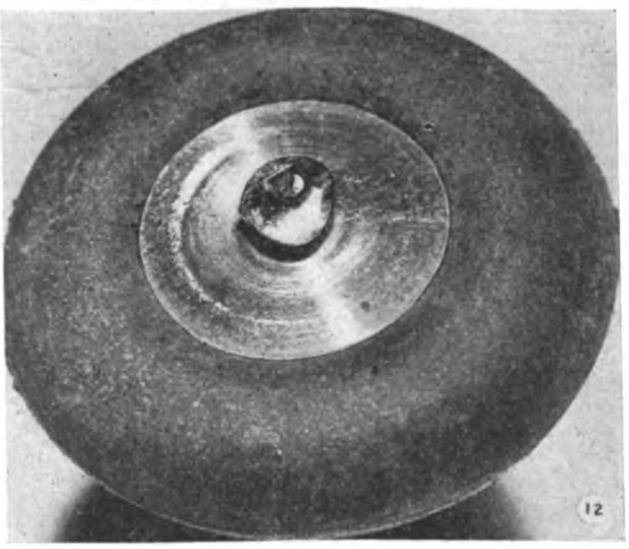
If the washer has set lop-sided on the axle, bring the iron underneath it once more (Fig. 10), and as soon as the cupful of solder melts once more, gently " jockey " it into the correct position and hold it steadily to set again.

Fixing on the Wheel

Now lower the wheel over the axle down against the first washer, and force a small square of paper over the wire and against the near side of the wheel boss to give clearance and to prevent the solder from running down inside. Drop the second washer over the wire, hollow side away from the boss, heat the unit thoroughly with the iron, then push the end of coil of solder into the cup and fill it—see Fig. 11. (The best method here is to prop up the undercarriage wire so that the axle points vertically upwards, and approach it with the iron in one hand and the solder in the other.) Gently withdraw the iron and the solder, and watch carefully for the dull film to pass over the shiny surface of the joint, thus giving the " all clear " for the final stage of the job.

Tear away the square of paper, and snip off the surplus length of axle close up to the joint. Fig. 12 is a top view of what the result should look like. The wheel used here looks rather huge, but as a matter of fact, it was only 1½ inches in diameter, the original photograph being several times larger than life size.





A Few Final Suggestions

Don't use Fluxite more than is necessary ; if the job is really well cleaned you can often get by without it, and it is messy stuff as has already been stated.

Always work with a clean iron. Once your iron has been tinned it is generally sufficient to give it a wipe over with the clean rag every so often as the job progresses.

If you are at all doubtful whether a joint is " dry " or not, test it with a pair of pliers. A good solder joint should stand up to a lot of rough usage. Remember that the solder has to work its way into the surface of the metal and for this to happen, the metal has to be really hot. It is no use sticking a blob of solder into a cold corner and expecting it to hang on like a gusset.

Fuse wire which is nothing but tinned copper, can be a great help in some soldering jobs, such as when two wires have to be soldered lengthwise against each other. To do this, first tin the wires along the portions where they are to touch, and when cool, bind them together with fuse wire. Then re-heat the job and run a line of solder down the binding.

Solder can also be used for weight in the nose of a glider when the model has a solid noseblock. Drill a hole of ¼ inch diameter or more and drip melted solder into it from above off the end of the iron. Care must be taken not to scorch the model, and cheap, plumber's solder, sold in sticks and containing a large percentage of lead, should be used for the job. The top of the hole can be filled in with plastic wood afterwards.

If you can possibly get hold of ARAX cored solder made by the Multicore people you will find that the specially prepared flux it contains is very active in cleaning joints, and makes for speed and efficiency.

Tailpiece

There will be all sorts of jobs around the house where you and your soldering iron can make yourselves useful and popular, but if you want to be a success in the eyes of the household, don't let molten solder drop onto varnished surfaces ; it can easily scrape off, but the varnish comes with it. And if a molten blob drops onto the carpet you may as well sell your iron at once, for it will take more than a vacuum cleaner to remove it !

FIXIT WRIGHT

TAILSKID TALBY

"TAILSKID" TALBY IS THE KIND OF A MODEL BUILDER WHO JUST CAN'T BE BOTHERED BUILDING A PLANE RIGHT. "WHAT THE HECK— A GOOD PAINT JOB WILL COVER UP ALL THE MISTAKES ANYHOW" HE THINKS, "SO WHY BE FUSSY?" ON THE OTHER HAND "FIXIT" WRIGHT KNOWS THE PAINT JOB ISN'T WHAT MAKES A MODEL FLY. THROUGH PATIENT HOURS OF WORK AND CAREFUL STUDY OF THE PLANS, HE TURNS OUT SOME BEAUTIFUL FLIERS AND HAS CAPTURED SOME WORTH-WHILE HARDWARE.

GEORGE HELD

WHAT ARE YOU WASTING YOUR TIME FOR STUDYIN' THOSE PLANS. YOU KNOW HOW TO BUILD A PLANE, DON'T YOU?

YOU'D DO BETTER IF YOU'D READ YOURS. THERE ARE PLENTY OF DETAILS THAT MEAN A LOT WHEN IT COMES TO FLYING THESE PLANES.

FLYIN' HE SAYS! AT THE RATE YOU'RE GOING, YOU'LL NEVER FLY IT. I'LL HAVE MINE DONE IN NO TIME.

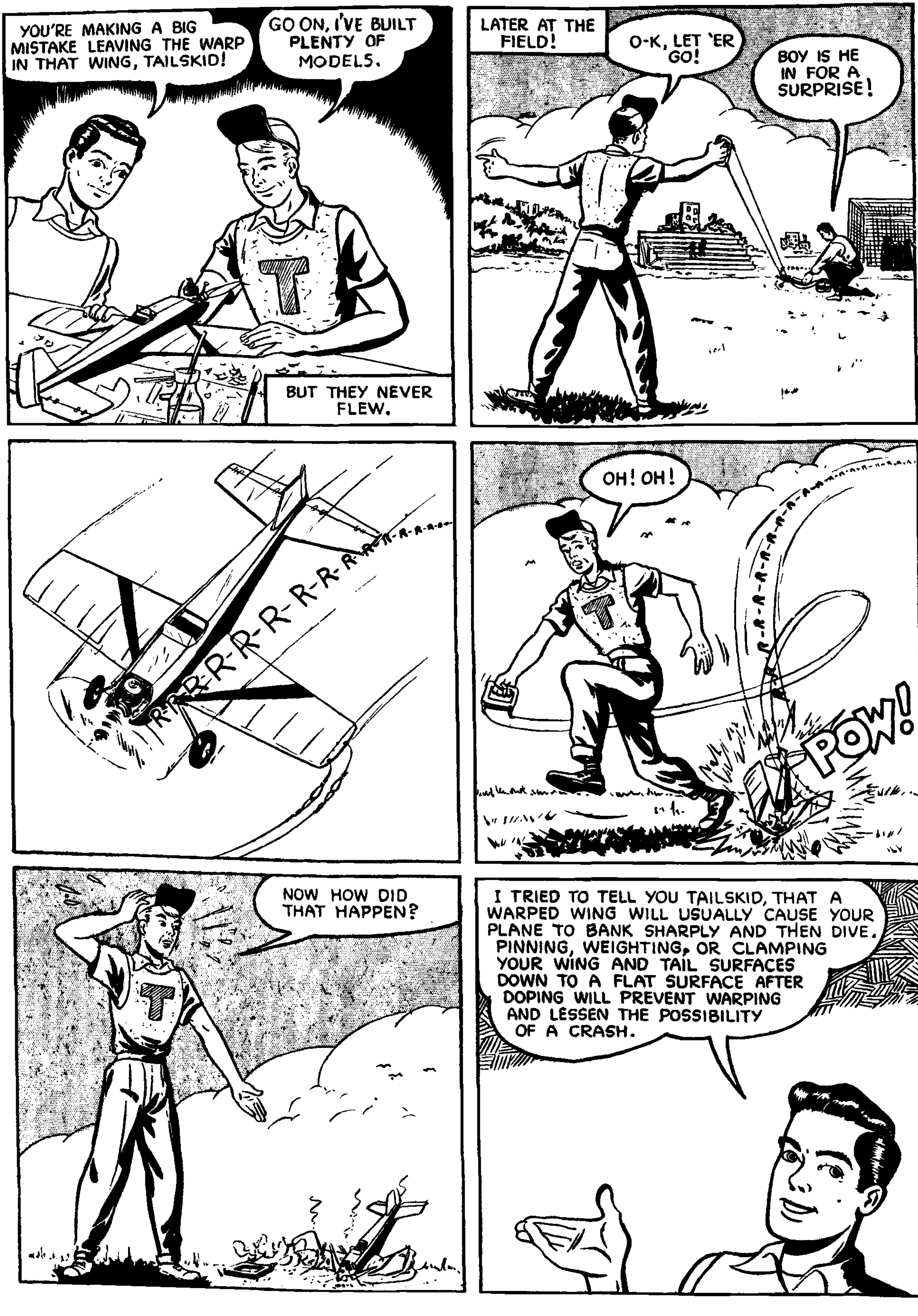
THERE THE WING IS COVERED AND SPRAYED. I'LL JUST LAY IT ON THIS RADIATOR AND DRY IT IN A HURRY!

SURE, TAILSKID NEVER WILL LEARN THAT A NEWLY DOPED WING ON A NICE HOT RADIATOR CAN QUICKLY SPOIL A GOOD JOB.

I'LL HAVE THIS PLANE IN THE AIR BEFORE YOU'RE HALF FINISHED!

IN THE GROUND YOU MEAN!

"FIXIT" IS RIGHT— LOOK AT THE WARP IN THAT WING!



YOU'RE MAKING A BIG MISTAKE LEAVING THE WARP IN THAT WING, TAILSKID!
GO ON, I'VE BUILT PLENTY OF MODELS.
BUT THEY NEVER FLEW.
LATER AT THE FIELD!
O-K, LET 'ER GO!
BOY IS HE IN FOR A SURPRISE!
R-R-R-R-R-R-R-R-R-R-R-R-R-R
OH! OH!
POW!
NOW HOW DID THAT HAPPEN?
I TRIED TO TELL YOU TAILSKID, THAT A WARPED WING WILL USUALLY CAUSE YOUR PLANE TO BANK SHARPLY AND THEN DIVE. PINNING, WEIGHTING, OR CLAMPING YOUR WING AND TAIL SURFACES DOWN TO A FLAT SURFACE AFTER DOPING WILL PREVENT WARPING AND LESSEN THE POSSIBILITY OF A CRASH.

Readers' Letters

EVANS EXPLAINS

DEAR SIR,

I have read your account of the 1951 Wakefield Finals in Finland with interest and, as usual, it is a remarkably accurate account of all that happened at that meeting, though I cannot agree that I was a "good Team Manager."

Regarding the American models, I was not under the impression that they were based on the Everitt design, which was not more than average in length. They were however a copied design in all but one respect, and this omission was the cause of their failure.

The original I am told had a high pylon, which was left out on the models seen in Finland. This is of no importance in itself—however, this model was flown with the C/G about one inch behind the trailing edge, which in turn would need an increased positive setting on the stabiliser to produce the normal glide. This set-up means that the angular difference between the wing and stab. is small.

This combination does not always show faults unless extremely high power is used, when the stab. starts to produce lift a little faster than the wing, with consequent reduction in climb. (Remember those first circuits—flat and fast ?) Correction can come through another force, i.e., centre of resistance *above* thrust line, which, if of sufficient magnitude, would produce the necessary nose-up couple—which *should* have been the pylon.

If you remember, the Americans fitted more powerful motors ; Ellila's model would not take off, but, having stood and released some power, it took off quite properly and was lost !

Yours sincerely,

Northampton. E. W. EVANS.

TIME GENTLEMEN, PLEASE !

DEAR SIR,

Having read "Contest Reflections" (Sept. issue) may I offer a possible solution of the lack of public support for the Wembley Stadium meeting.

In my opinion this was undoubtedly due to lack of publicity. As an example of how ignorant the majority were as regards date, time and even the existence of the contest I instance my own experience. After travelling up by train from Yeovil and arriving at Wembley, I enquired in a local toyshop (selling model aircraft kits) about the time of public admittance to the Stadium. You can imagine my surprise on being told by the assistant behind the counter that they were not aware that such a contest was being held ! I made this enquiry owing to the fact that none of the "official" sources of information agreed on a time of admittance !

I must admit that the contest flying was the best possible, and I enjoyed every minute of it, but do please see that—if the contest is held again—the meeting is well and truly advertised, as I am sure it will meet with the success it rightly deserves.

Yours faithfully,

Yeovil. J. ROGERS, Jnr.

BOWDEN REACTS

DEAR SIR,

Mr. Howard wants to know my reactions to the "realistic" flight of the Meteor and the Canberra.

I get a great thrill from the almost vertical climb and controlled ending of the climb when I go considerable distances to see these aircraft in operation at the various aircraft "shows". But of course this form of "realistic flight" does not apply to the "Bowden Trophy", because jet motors are not permitted by S.M.A.E.

I might add that I am not opposed in any way to the model power duration flight competition, provided the people who enter are able to control their rocketing climb—in fact, I am all for it ! It is a very vital branch of aeromodelling—but as I explained in my original letter, this form of competition is very well catered for, whereas in my opinion the general purpose and experimental model is not well looked after in competitions. Hence my Trophy to encourage this branch of flight and models. A "live" model movement must have *all types* of model going full blast.

Something tells me by the tone of Mr. Howard's letter, that he thinks I favour only one type of model flight. This is quite wrong. He should see some of the quaint experiments I have indulged in !

Sandbanks, Bournemouth. COL. C. E. BOWDEN.

WARRING ELEMENT

DEAR SIR,

As a keen Wakefield flier, I have always had the greatest respect for Ron Warring, partly for his extensive theoretical knowledge, but mainly for his practical treatise on Aerodynamic and Structural Design.

Over the past year or so, however, both my fellow Wakefield fliers and myself have been repeatedly amused and annoyed by his somewhat unpredictable habit of grossly exaggerating the difficulties involved in trimming Wakefields. In the past, we have simply "laughed up our sleeves" and forgotten him, but his latest is such a "classic".

He states, quite bare-facedly, that "a piece of tissue paper packing under the trailing edge of the tailplane can make as much as *forty seconds* difference to the total duration". This, as any serious Wakefield flier knows, is PURE UNADULTERATED "TRIPE". If it were true, we would assume that Mr. Warring uses a micrometer to adjust tailplane incidence, and varies said angle of incidence according to the tension of the tailplane covering, which, we would be led to believe, would cause an *even greater* variation in the lift of this component.

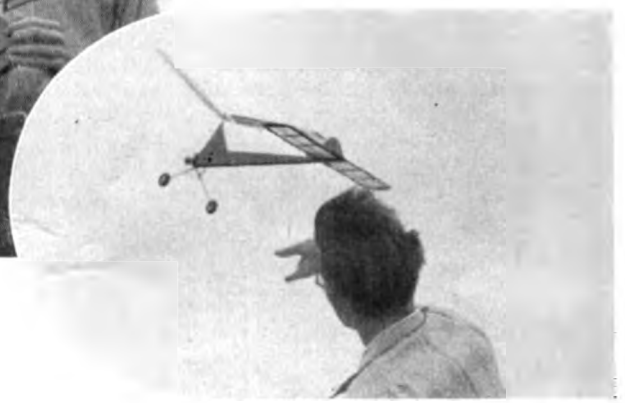
Why these obviously absurd claims ? If they are intended to suitably impress the un-informed, causing them to look on Wakefield and flyers with awe, I hardly think they will encourage more modellers to turn their hand to Wakefields by giving a false impression of the difficulties associated with Wakefield flying.

Surely then, Mr. Warring's exaggerations are defeating the very purpose for which his articles are being written —to educate the newcomers to Wakefield flying, and attract more modellers to this fascinating and satisfying branch of model flying.

Please, Ron, cut out these exaggerations while you still have SOME friends left on this side of the world.

Sydney, N.S.W., Australia. A. LONERGAN.

EATON BRAY NEWS



Dennis Neale and Alan Baker of Egham club are Autogiro specialists. In their recent holiday at the Sportsdrome they logged dozens of flights, many over the minute mark. Photo right shows Den Neale demonstrating the rapid rate of climb.

AT least once each season a new novelty introduces itself to aeromodelling, and no matter how pointless it may seem to the die-hard conventional types, the idea always manages to bear fruit among the experimenters and eventually becomes so successful as to be commonplace. How remarkable it is that many of these little ideas with unseen big futures should emanate from the Eaton Bray Sportsdrome! Remember the beginning of control-line? That was demonstrated at the 'Bray long before it took on; then Howard Boys, with his rocket powered tailless models; the earliest radio control experiments; glider towing by power jobs, not forgetting model flying saucers. All of these, and many another less popular idea passed their earliest tests on the 'Bray, and during the past month, two of the happy band of campers have been showing their diesel powered Autogiros.

Powered Autogiros are not really new; but the kind that can fly like Dennis Neale's design has not been seen before—anywhere. Two years ago, Den was talked into trying his hand at rotary wing types by an old-time modeller at his local shop. At first his efforts met with mediocre success, and he swayed back to convention. Then, purchase of an Albon Dart ·5 c.c. diesel started the Autogiro idea off again and, after reasoning out the general principles of design, he settled on the one shown above, and met with immediate success. We know why the layout is good—now! And later, we hope to be able to present plans for your own experiment.

E.B. "on the air".

Talking of experiments, the special FFF (fly for fun) day on August 26th was a rousing success. Our surprise, from up our sleeves, was the visit of the B.B.C. recording unit and Commentator Ron Pantlin interviewing campers and modellers, with supporting " noises off " for presentation in the " Hullo There " programme over the Light Programme on August 30th.

Pressure of the press date prevents a complete description this month; but we shall be giving the highlights of this meeting in November issue.

Camping Report

Mass descent on the Sportsdrome by the Bromley club for a collective holiday of nothing but aeromodelling opened August with a bang. They brought over 50 models with them and, believe it or not, increased this figure during their stay and returned with over sixty. At one time we were beginning to wonder if our 24 ft. by 36 ft. workshop was large enough to cope! Chief cook and bottle washer for the lads was club secretary J. Hawkins, who is *still* in plaster after his unique accident at Fairlop last April. An Albon Javelin powered radio model crashed in a spin, colliding with his leg and breaking it. We hope that the plaster will soon be lifted, and congratulate Mr. Hawkins for his continued enthusiasm despite the tough luck aeromodelling has given him.

Spen Valley Club modellers spent their annual holiday in the dormitory, and after a glorious fiesta of building and flying, left with six new models. Local cornfields claimed a few of the jobs they had brought with them, but there is every hope of early return of the lost property now that the crops have been cut. The local farmers are always co-operative with the return of quite a bunch of " found-in-corn " weather beaten models.

During their week, the Spen Valley, Egham and Middlesbrough campers were treated to some radio controlled demonstrations by Fred Turner, including some neat spot landings on the concrete take-off disc. Earlier in the season, Fred had so impressed visitors from Exeter, Harry Stillings and Sam Hecker, that they promptly set about the model with rule and pencil, and intend to duplicate the job for their own set. Perhaps Harry wanted to replace his nicely finished M. S. Wasp biplane which, after having resisted temptation in Devon air, caught one of the Eaton Bray thermals and disappeared upwards. We can happily report that the Wasp has since been " found-in-corn " and returned.

RADIO CONTROL NOTES

BY HOWARD BOYS

A NUMBER of readers have been getting good results with Mr. Bolton's receivers, described in these notes in the May issue. Mr. Robert D. Rose mentions one of these in the following letter. He writes :—

" I have followed with interest the articles in your excellent magazine re Radio Control, and after a series of experiments on the radio side am now in the midst of my first Rudder Bug. I notice that most of your readers rely on a receiver using the gas triode, but having owned one of these valves which only seemed to survive the time it takes to properly adjust the relay I have now joined the ranks of the more robust receiver builders. Please pass my appreciation to Mr. Bolton of Nottingham for an excellent circuit published in the May issue. I have built a receiver using a combination of his receivers 1 and 2 using E1=45 volts, E2=22½ volts, and am getting 3 ma. rise with ease.

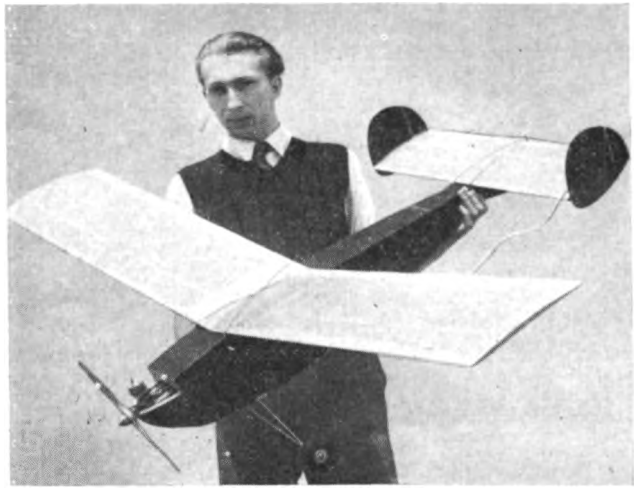
Why struggle for a 1 ma. drop when for the sacrifice of a couple of extra ounces one can obtain a current change that really works the relay. I know the lightweight radio controller will jibe at this, but what is the competition ? Is it to see who can build the smallest model, or will it be the most ' Obedient ' that wins the day ?

Then there is the item that worries me most, the price. My receiver, including relay, cost little more than the actual valve which gave up the ghost before it was even installed in the fuselage. Admitted I am a Government Surplus hunter, but I believe that with a few more articles on the acquiring and use of this stuff we would see appreciably more than twelve entries for the Internationals regardless of the advert bloomers.

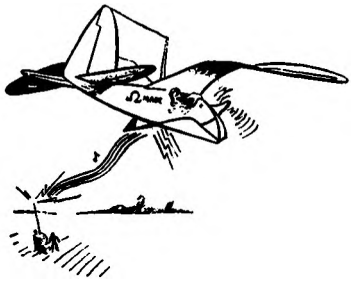
By the way, if you see an old metal box on the flying field with a wire ' V ' sign sticking out at the top, don't kick it over. That's my transmitter, and, after all, it cost me 30/— —and it's on frequency !

The writer here feels that some comment should be made on the Hivac XFG gas triode. In the first place this valve allows the use of lighter batteries, and the less weight carried in a model the less damage in a crash, no matter what the size of model. This lighter weight allows a smaller model, and the smaller the model the less damage in a crash, providing the smallness is not for the purpose of obtaining high speed. Next, the current change is about 1 or 1½ ma., which is plenty for operating a ½ ounce relay of good design. Regarding valve life, this is short, and is practically the only point against the gas triode. If, however, the economy in low tension battery is taken into account, the cost of upkeep is not so much greater, if any, than a hard valve receiver. If definite figures could be obtained for the cost of running a receiver for two or three seasons' flying, it is quite likely that the hard valve type would be greater. One slight disadvantage of the gas triode is the change of characteristics during its life, and results in people thinking its life is less than it really is.

As the valve grows older the tuning capacity needs to be increased, and the coil decreased. This is not difficult and can be done in either of two ways. A three to thirty pf tuning condenser can be used and as this is increased



ODE TO A RADIO CONTROLLED MODEL.



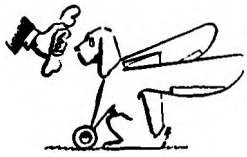
Oh, labour of love,
Thou bird so graceful to the admiring eye.
Wilt thou realise my ambitions,
And really fly ?

Many hours you've taken,
And great was the cost.
Wilt thou obey me,
And never be lost ?
Or shall I perceive thee,
On wings of the morn,
Fleeing unheeding,
Leaving one so forlorn ?

Or with 'scapement immobile,
And left wing so low,
Will I watch thee go spinning,
With spirits so low ?
Or will there be triumph,
By the press of that switch.
Wilt thou do my commanding,
With never a hitch ?

Will I loop thee and roll thee,
And steer thee to fame.
Wilt thou command admiration,
As an obedient " plane " ?
But, whatever the end,
Please heed my demanding.
Let me just have
One perfect-spot landing.

R. D. R.

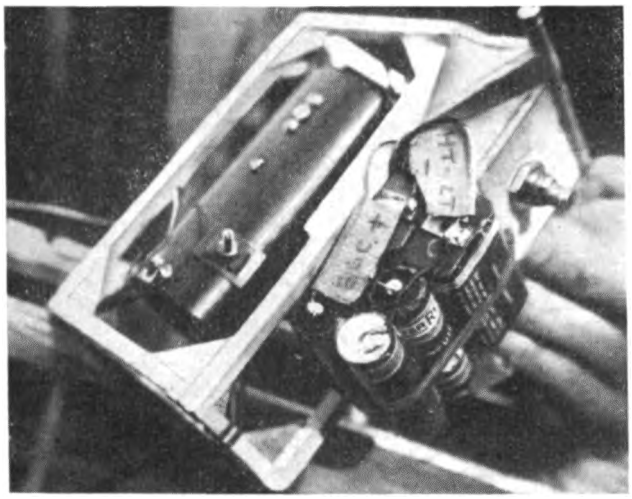


during the valve's life, turns are taken off the coil to make the receiver tune to the correct frequency. Alternatively, a coil with an adjustable dust iron core can be used, the core being withdrawn as required. If the usual 5,000 ohm variable resistance is used in the H.T. positive lead, this should be set to maximum resistance to begin with and the anode current set to about 1·3 ma. by means of the tuning condenser, the coil being made to suit. As the low tension battery runs down in use, the resistance in circuit can be reduced to maintain the current. As the valve gets older the resistance will have to be reduced with a new low tension battery. When there is not much resistance left to go with a new battery, then the tuning condenser can be increased. It has taken the writer a number of crashes to learn this method. The crashes thought to be due to valve or L.T. battery were almost certainly due to a transmitter fault after all; at least one was, anyway!

For the home constructor, the gas triode is easier to deal with, results being obtained with less trouble than a hard valve. There is not a lot of trouble getting a satisfactory current change, and sensitivity is there, too.

Regarding sensitivity with the Hivac XFG1, the writer recently had the opportunity of testing an E.C.C. receiver. This proved to be absolutely the most sensitive receiver yet tested, and gave about 20 per cent. greater range than the writer's home constructed one, even though the valves were changed round. This receiver (E.C.C.) incorporates a pre-set condenser in the tuned circuit that can be altered to obtain a long life from the valve, the tuning being carried out by an adjustable iron dust core in the coil. This receiver also has something the others haven't got—a bakelite case. Few people seem to realise how much trouble can be caused by a tiny speck of dust or dirt in the gap or contacts of the relay, and a case is a big help in avoiding such trouble.

A method of obtaining the same amount of control, engine "on" or "off", is to use twin rudders well outside the slipstream. One such model was seen flying recently at Eaton Bray and it had been built by Mr. A. E. Epps of the Slough club. Wing span was 62 ins., engine, E.D.2·46 driving an 11 in. prop, the tailplane span being 25 ins. The receiver was a rebuilt E.D. Mk. 3 on a flat baseboard. An E.D. actuator in the fuselage operated a crank in the centre of a rod coupling the two rudders. The scheme was very effective. (See photo.)



Some time ago the writer promised to report on Mr. F. G. Birden's symmetrical actuator used for proportional control, and described in the June issue of these notes.

The original actuator was tested in a 4 ft. span model and gave excellent results. It was modified slightly by removing the stops and limiting the movement to about 100 degrees by means of a tension spring which also returned the rudder to almost centre with no battery power applied. A No. 8 battery provided sufficient power with a current drain of ·4 amps and control was about all that could be desired, giving full turn when required, engine on or off.

A similar actuator was then made carefully to reduce the magnet gap to a minimum. The idea was to increase the efficiency and reduce the battery power required. It was then realised that to be really successful the electro magnet had to be as powerful as the permanent magnet. A further actuator was constructed with a permanent magnet ¾ in. diameter, 1/16 in. thick, with a hole 5/16 in. diameter. This last actuator has proved very successful on a 44 ins. span Mills Mk. II powered model and will operate with half a No. 8 battery. The drain is only ·15 amps at 1·5 volts. This is even better than the previous best magnetic actuator, and the earlier actuator has solved the trouble experienced with aileron control on a Flying Wing.

Now, a few notes about the Radio Control Day at Eaton Bray. The most noticeable thing was the way Mr. Wallis, the E.C.C. man, kept flying his model. Flight after flight with no trouble at all. If no one else was ready, away would go the "Telecommander." It must have made as many flights as all the others put together. Everyone was Flying For Fun, as far as the usual spate of troubles would allow, in the true Eaton Bray friendly way. S. A. Miller of Luton put up some very good flights with a model that was up to his usual high standard of finish, which made it look as though nothing had ever gone wrong with it. Radio was E.D. Mk. I. George Honnest-Redlich had his Radio Queen with radio working on 465 mc/s.

Mr. R. P. Hains, of Three Bridges, had an interesting outfit. The model, a Bowden Meteorite, flew quite well but control was vicious due to large rudder movement. The E.D. Mk. 3 radio, complete with batteries was fixed in a cradle that could be easily withdrawn from the fuselage. The engine was a stranger, and proved to be home-made and 1·25 c.c. Mr. Hemsley made a good flight, demonstrating his two-speed engine control. At low speed the model seemed to just maintain height. On the glide there was not sufficient control to land the model anywhere near the transmitter, and this proved rather disappointing after just having been told by someone else that it was the finest model in the country! Mr. F. G. M. Drewe of the Apsley club had an interesting home-made radio outfit. The receiver used the XFG1 valve and had easily replaceable tuning coils to obtain longest possible life. The transmitter used two 6J5 valves in a tuned plate-tuned grid circuit and a vibrator supplied H.T.

Now a correction to finish with. In the article by Mr. G. Sommerhoff in the August issue the two resistances R1 and R2 should be 3300 ohms and not 33 ohms.

Photo: Left. A. E. Epps (Slough) and his model. Right: R. P. Hain's Receiver Unit.

TRADE REVIEW

Five recently introduced kits have passed Aeromodeller tests with flying colours. New radio control accessories from Flight Control to aid the home constructor.

Junior Mercury Mallard (14/4 inc. P.T.)

34 ins. wing span, 25½ ins. length. Our weight 8 ozs. For engines up to ·87 c.c.

Packaging. The strong cardboard box is ample protection for contents; it should withstand the roughest of post handling.

Quality of Contents. Excellent selected and graded balsa, fuselage sides are pre-cut and L. edge and T. edges are pre-shaped. The block is also pre-cut. All sheet balsa is clearly and accurately printed.

Completeness. With the exception of cement, wheels and of course, dope, the Junior Mallard may be termed a complete " dry " kit. Additional pieces of $\frac{1}{16}$th sheet would have been welcome for strengthening.

Ease of Assembly. The Mercury policy of providing pre-formed and ready cut parts, enabled the test model to be built in 11 hours. The simplified form of construction facilitates building with the minimum of tools and equipment.

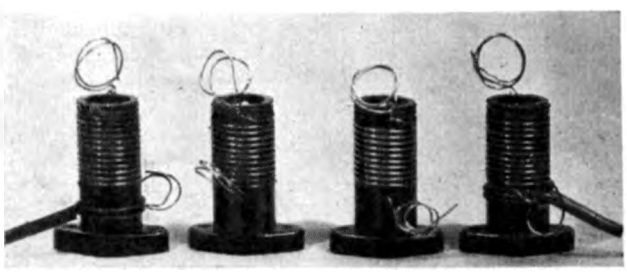
Assembly instructions and sketches show installation for three different engines and the step by step building system ensures speedy and accurate assembly.

Instructions. Plan and building instructions are very complete, particular attention should be given to the engine thrust settings, which are listed, as these will assist in trimming. The tip-up type dethermaliser is both simple and efficient. It is a definite " must " if you value your model.

Value. At 14/4 (including P.T.) the kit is considered excellent value and will provide a model with contest performance for beginner and expert alike. It complies with all F.A.I. specifications.

Flying. The original which was powered with an Amco ·87 was trimmed with the settings as shown on the plan and in the booklet. During the initial flights great care was taken to avoid a right-hand turn under power, the ·87 c.c. diesel proved to be ample power to give a rocket-like climb. With the Allbon Dart a small amount of ballast was required to ensure that the C.G. came in the right place.

With the Amco ·87 c.c. and an 8 in. × 4 in. Stant prop., ratios of 16 : 1 can be considered average. Best performance to date: 4 mins. 45 sec. on 7 sec. engine run.



Ken Thomas (Coventry) refuels the test Mallard Jr.

Mercury Mk. II Team Racer (17/6 inc. P.T.)

18½ in. wingspan, 18⅝ in. length. Our weight 12 oz. with Frog 150.

Packaging. Is to usual Mercury high-standard (see Mallard).

Quality of Contents. Is similar to the same high standard of the Mallard. The ready-carved hollow-log bottom and extra hard engine bearers are especially good.

Completeness. A pilot, tank, wheels and spinner, plus cement and dope are all that are needed to complete the model. The completeness extends to nuts and bolts for the engine.

Ease of Assembly. Makes construction a real pleasure, as with the Mallard, building is aided by pre-formed parts, cutting the time to 9 hours. Vertical grain direction on the Fin would be better.

Instructions and plan are faultless. However, some modification is necessary if a 2·5 c.c. motor of the " wider " variety is to be used; though this can easily be effected by any intelligent modeller. The fuel and prop recommendations are good. Wing area is 4 sq. ins. over the minimum required and the motor is *fully* cowled.

Value. At 17/6, the Mk. II is well worth the money.

Flying. Powered by Supre Tigre G.20, the flying speed was just over 65 m.p.h. for 47 laps. For greater lappage, a Frog 150 was installed, giving an average of over 80 laps at 50–55 m.p.h., which could be further improved by experiment. It looks, and handles, " right ", and it can match any of the Class A winning performances as far as airspeed is concerned—the pit stops will be up to you!

Flight Control R/C Accessories

Latest addition to the Flight Control range of components for the radio enthusiast, is one of the neatest non-technical manuals we have seen, on their very technical Mark 4 transmitter. Complete details of how to build your own Tx, with six large diagrams and a full-size base drilling template thoughtfully enclosed, can be had for 3/6, and will, we forecast, be part of every radio-controller's library. Written for aeromodellers, the non-technical instructions leave nothing open to query, and are but one more example of this firm's expert speciality in the radio-control field.

A great boon to all R/C fans will be immediately recognised in the illustration at left. Ready-made tuning coils, designed for use with any oscillator circuit, they have a maximum tuning capacity of 30 pfd., and are available in four colour-coded types for application to any circuit. Priced at 3/6 (one is slightly cheaper at 3/–) the coils are wound on low-loss formers with base mountings tapped 4 B.A. The windings are in threaded grooves to prevent slipping, so eliminating the troubles associated with wobbly unsupported coils, and giving a high " Quality factor ". If there is any doubt as to which of the coils is best suited to your particular circuit, Messrs. Flight Control are ready with expert advice and will gladly pass on additional useful information.

Veron Scale–Jet Range (5/6 plus 1/2 P.T.)

Selected for test . . . **Thunderjet.**

18 in. wingspan. Our weight, with unloaded Jetex 50, 2 oz.

Of **Packaging, Quality** and **Completeness** we can say that this new Veron range of Jetex powered scale fighters rates with the best. There is ample material for construction, the transfers and a moulded cockpit hood make a realistic finish to each of the models.

Ease of Assembly is a keynote in this range. The Thunderjet was finished and ready to fly in less than 8 hours from opening the box, and that includes time for colour doping !

Plan and Instructions are foolproof and help to cut building time. The method of forming a Thunderjet nose orifice is not as simple as it appears on the plan ; but the neat groove for the partially enclosed Jetex unit is easily attained.

Value. Purchase Tax puts a crippling extra 1/2 on the purchase of these kits, which will be most popular with the junior who can least afford the extra burden. At 5/6 the value is excellent : but the final purchase price of 6/8 must be accepted in our new P.T. era of prices and values.

Flying. The colour dope finish made the test T'Jet heavy at 2 oz., and performance with Jetex 50 power was correspondingly mediocre. However, Eaton Bray camper's enterprise soon found a good application of this realistic model to catapult launch, and flights reaching 150 ft. altitude and lasting up to 30 secs. were repeatedly obtained. Flying speed is fast, and catapult launch with 3 yards of ¼ in. rubber puts the T'Jet into the air at an extra high scale-speed.

Frog Vanfire (29/6 inc. P.T.)

40 in. wingspan, 29 in. length, 270 sq. in. area. Our weight, with Frog 500, 28 oz. This is the tightest packed, most complete (except for cement), and most interesting stunt model kit yet reviewed. Opening the rather flimsy carton box, one is hit in the eye with the terrific number of sheets, lengths of pre-shaped strips, and collection of accessories from tape to paper tubes, strong bubble hood to tank parts and wheels to special plastic spinner. Reaching top grade in **Packaging** and **Completeness,** the Vanfire also rates high **Quality** with softish wood for lightweight multi-part construction.

Ease of Assembly is obvious in the 20 hour building time. **Instructions** are top-rate, the **Plan** is accurate, aided by the numbered parts system with "push-out" die cut ribs, etc. **Value** at 29/6 is exceptional. One could not hope to build the design from loose stock for less, rather, it would probably cost considerably more. We especially recommend this kit to " Hospitalised " aeromodellers, it avoids chopping and cutting to a large degree, and can be spread over many hours of enjoyable building time. Detachable wings also help.

Flying. The unconventional departure of providing " Knock-off " wings, as well as motor unit, has already raised signs of disapproval from hardened control-liners. We would hasten to dispel this view, for Vanfire is designed to be almost indestructible, and comes through unscathed where many another model would collapse like matchwood. We need hardly add that it will romp through the S.M.A.E. stunt schedule with ease, and is also good looking enough to collect a maximum for appearance points.

Veron Wyvern (23/6 plus 5/2 P.T.)

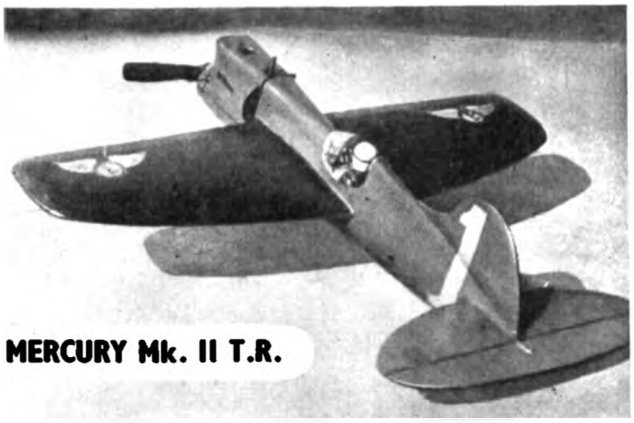
25¼ in. wingspan, 25 in. length. Our weight, with Amco 3·5 ; 12 oz.

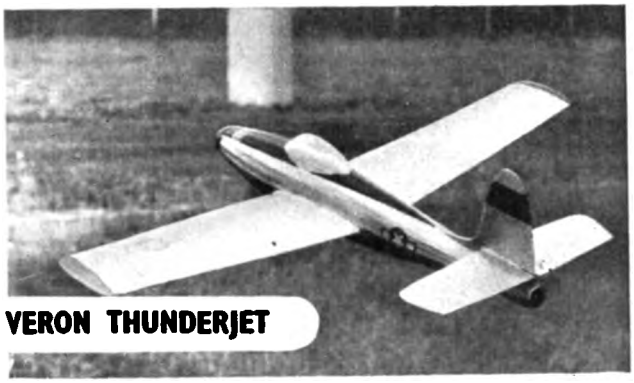
A really **Complete** kit, the Wyvern comes in a very strong flat box, and rates high in **Quality** as well as **Completeness** which extends to tank parts, bubble hood and special Aluminium spinner.

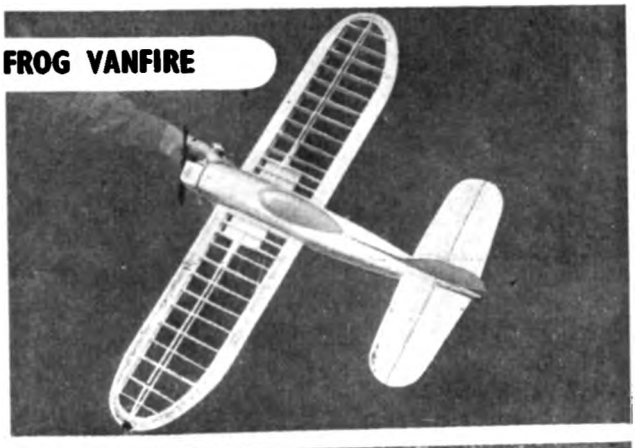
Ease of Assembly of the typical Phil Smith lightweight structure makes modelling a pleasure, and is helped greatly by the good **Plan** and **Instructions.** Building time is 15 hours, and final accuracy in scale compared favourably with the Wyvern being built in the Dagra workshops.

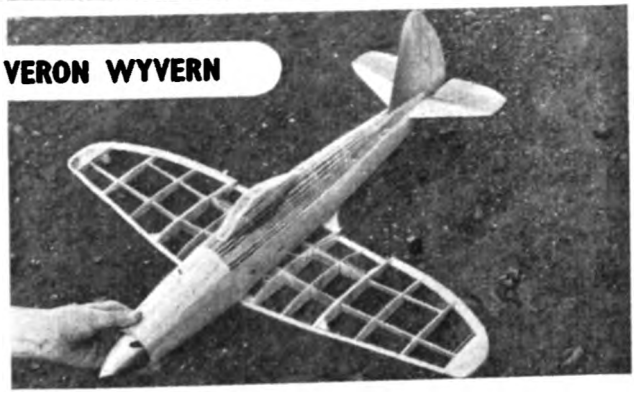
Value. At the inclusive price of 28/8 is good.

Flying. Demonstrations of Veron Wyverns at recent contests have proven its stunting capabilities. It is a fast flying model, and goes through manoeuvres with a smoothness that may well be attributed to the flap/elevator combination that is a feature of all the excellent Veron control-line range.


MERCURY Mk. II T.R.


VERON THUNDERJET


FROG VANFIRE


VERON WYVERN

CLUB NEWS

I NOTE from our South African contemporary that they are attempting to get their Postmaster-General to issue permission to use the 27 metre band for R/C work. As it is anticipated that most British and American sets in the future will be built to this frequency, it does seem advisable to get in on this band without delay. It is further suggested that the S.M.A.E. be approached on the subject of a " postal contest ", with the S. Africans flying to our rules, and us using the S.A. regulations. Should be interesting, and I'm all for any system of bringing about closer relations between ourselves and other countries. The Wakefield is rather too specialised and restricted to adequately bring this about, but a general contest on the lines suggested would be interesting.

Well, the C/L boys certainly did their stuff at the Knokke meeting, and retrieved British prestige in no uncertain fashion. Our poor showing in the speed classes last year gave many of us an inferiority complex, but it is evident that whereas the Continentals have more or less remained where they were in 1950, our chaps have taken the lesson to heart, and the improvement was most marked. (We do, however, deprecate the panic move that sent two extra chaps with Jet models, particularly as (*a*) their presence was not obligatory, and made no difference to the Championships, their efforts being purely in the form of a demonstration and not contributory to the team score; and (*b*) the fact that the S.M.A.E.'s already strained finances had to bear the full cost of these additional team members, guests being limited to the original team.)

Thanks to the Commanding Officers at R.A.F. Martlesham Heath and Debden, also the hard work put in by R.A.F. clubs and the Saffron Walden M.A.C., the **EAST ANGLIAN AREA** have had four very successful meetings this year, and facilities at both 'dromes have proved first class in every way. July 1st was the first time Debden has been visited, when weather was perfect and times high. A. Longstaffe of Balfairs recorded three maximums in the " M.E. Cup ", while Ipswich headed the list with a total aggregate of 39 : 35.

July 1st appears to have been an exceptional day all over the country, and the **MIDLAND AREA** again found R.A.F. Pershore to be an ideal field for high durations. In the " M.E." event no less than 27½ per cent. of the flights made were maximums, and the top two men scored trebles, making a fourth flight necessary to determine the first placing. Models were soaring straight up, and much trouble was experienced with inoperative D.T.'s, conditions being just too strong for normal working. Entries were down on previous Area comps., the fellows obviously taking a breather from the hotly contested Eliminators that brought such huge entries earlier in the year. Birmingham still lead in the Plugge Cup event, and the Midland clubs are naturally rooting for them at the final contest to decide the fate of this Club Championship, i.e., the " Farrow Shield ", on September 2nd.

The **SOUTH-EASTERN AREA** flew off the July 1st meeting in two sections at Brighton and Manston Aerodrome, the latter venue surprisingly supplying more wind than that far-famed spot, the Chattri. Moreover, the Manston fliers had to put up with a " girder infested ammunition dump, several huts, houses, etc., trees and corn ". In spite of all that, fine times were recorded, Bill Gravett chalking up a treble maximum with his 15 ft. span sailplane.

What's wrong with the **WESTERN AREA**? Having been delegated together with the South Wales Area to organise the 1951 British Nationals, only four members turned up at a committee meeting held especially to go into details with the visiting S. Wales delegate who had travelled especially to discuss details with the Area. No quorum being available, it was not possible to hold an official meeting—a state of affairs I can only deprecate. Apathy evidently affects the flying meetings as well as business affairs, for in spite of good weather at Lulsgate on July 1st, attendance and entries were very poor, two only in the 1·5 c.c. power contest, and twelve in the " M.E. Cup " event. (Not even a decent club meeting ! !) May we hope to see an improvement way down West, for they have some very good men who can always figure well up in any contest, and it is a pity to record such backsliding.

Inter-club knockout and C/L demonstrations figure well in the **NORTH-EASTERN AREA** programme, the latest result to hand being the success of Durham City M.F.C. over Blaydon by 601 points to 523. Strong winds and rain affected this match as well as the Bishop Auckland v. North Shields event, which finally went to the latter club with a score of 491 to 302. We regret to record the death of the Blaydon M.A.C. treasurer, Bill Graham, who will be sadly missed in both the club and his Area.

SOUTH MIDLAND AREA are naturally pleased that Peter (The Beard) Holland will be going to Yugoslavia for the A/2 Contest, this being the result of top-man Wade (Loughborough) having been yanked in for National Service, and thus unable to attend.

The **NORTH-WESTERN AREA** Championship meeting at Blackpool produced some good flying, and the method of running these events is deserving of wider application. Three flights are allowed each competitor, and the *lowest* flight counts as the official score. Thus we find that in the Glider event, the winner, F. Faulkner (Whitefield) made flights of 5 : 00, 2 : 59 and 3 : 33, his second round time giving him the contest even though many higher times were recorded. E. Lord of Accrington won the Power section, and B. Picken the Rubber class. Reliability and recovery are the keynotes of such a contest, for if three flights are not recorded, the score

for that individual is nil, so it's no good running up extra high durations and losing the model!

R.A.F. FIGHTER COMMAND Championships were held at R.A.F. Station, Middle Wallop, on the 16th and 17th June, when 175 entries were received from 16 Stations. Two Landrovers were laid on for model recovery, and the degree of co-operation received from the Station Commander and Staff was magnificent. All classes of model flying were catered for, and the weather played ball and remained good throughout the two days of flying. One outstanding event was the spectacular crash by L.A.C. Dyer's Class IV speed model at well over 100 m.p.h. The model was actually timed for two laps at 180 km./hr., but unfortunately Dyer lost control when temporarily blinded by the sun. Another spectacle was the flying and team work by the West Malling Team Race crew when winning the Class A Team Race. Unfortunately no times are given with the results, so it is difficult to compare with other events, but it appears honours went well round the various Stations in what must have been a very enjoyable week-end away from duty.

The annual Power Gala Day organised by the **BRIGHTON D.M.A.C.** is a well established event, and August 12th brought 40 stalwarts together from 14 clubs to battle it out in strong winds and frequent heavy showers. J. Minsull (Brighton) and Norman Marcus (Croydon) both caught the same thermal, putting up times of 4 : 51 and 4 : 45, these proving to be the best times of the day. Results :—

Class A	H. Rutter	(Clacton)	7 : 28
	N. G. Marcus	(Croydon)	7 : 13
	J. Minshull	(Brighton)	6 : 54
Class B	P. Allaker	(Surbiton)	4 : 13
	G. Wakelin	(Sittingbourne)	3 : 09
	G. Holloway	(Willesden)	2 : 49
Class C	R. Mead	(Northern Hts.)	1 : 55

Only one flight was made in the Class C section—surely a class of model that could well be dropped nowadays. Rutter was declared the Gala Champion.

Thermals have apparently hit the **WINCHESTER M.A.S.** ground at long last, for their latest news-sheet contains words of advice on the subject of the fitting of D.T.'s—but not of the parachute type! Club records have taken a beating recently, the present claims being as follows :—

A/2 Glider :	T. Roberts	6 : 07·8
Open Rubber :	H. J. Childs	3 : 47·2
Wakefield	H. J. Childs	2 : 52·6
Open Power	B. Shaw	4 : 10·2
Class B Power :	P. H. Ivory	8 : 35

The **WEST COVENTRY M.A.C.**, in conjunction with the Coventry and D.M.A.C., organised an exhibition at the local Festival Show for a period of two weeks. A large marquee housed the models, which were many and varied, an engine test bench and C/L demonstrations proving popular attractions. A "Norseman" glider was built during the show to educate the public in the art of building, the model subsequently being presented to the winner of a draw. Both clubs benefited as a result of this effort. The Club Cup for open Power/Ratio was won by junior P. J. Hopkins with an average ratio of 11·6, whilst the R/C comp. attracted five entries and was won by T. Williams, who had apparently benefited by his practice at Eaton Bray.

FIVE TOWNS M.A.C. seems to have struck a dull patch recently, main reason being the loss of Meir Aerodrome during the summer months. As their alternative ground is poor for free flight, the C/L section is going strong, giving demonstrations far and wide, two-in-a-circle dog-fighting, setting the crowd back on their ears.

Radio control is getting a lot of attention with the **FORESTERS M.F.C.**, but the repair bill must be reaching staggering dimensions! Frank Trapp flew his "Junior 60", but due to a sticking actuator it won't be in the air again just yet. The Bolton/Weston team did well at the Walsall Rally, but stalled and pranged when attempting a loop. To cap it all, Frank Potter's beautiful 11 ft. span R/C sailplane shed its tail when half-way up the line, and the results can be imagined!! Scale jobs are popular, the latest being a Kalper powered Sopwith Tabloid, a Mills 75 "Proctor", and a twin Amco 3·5 C/L de Havilland "Comet".

SOUTH BRISTOL M.A.C. have a new club transfer featuring the famous suspension bridge, and I am told that should a member have a touch of the "Britfix Blues" the idea is to just jump. It being some 200 feet high, one should be able to easily obtain his "A" certificate! Power records in this club are held by junior member Colin Smith, but the best of the lot must surely be Ron Hillman's glider record of 9 : 10—made with his 56 in. powered model, fitted with a hook and a big piece of string!

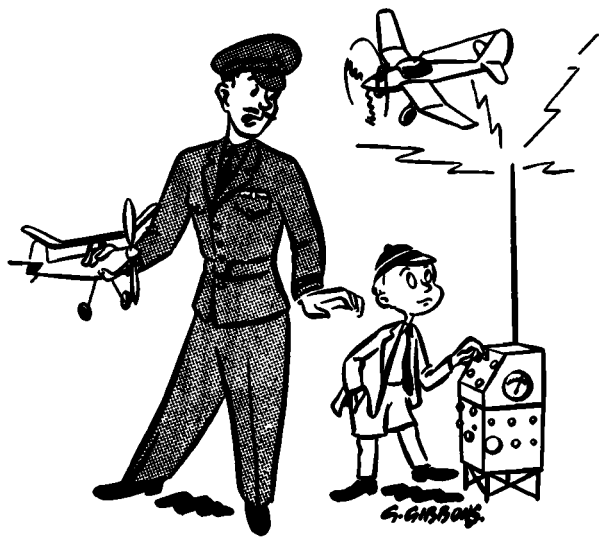
The Swansea trip proved too much for **BELFAIRS M.A.C.** member Pete Treadaway, his car giving up the ghost somewhere in Bucks. As he was transporting hitch-hiking Willmott's models, they had no entries at the Nats!! A fairly successful season culminated in the club's first 900 secs. aggregate, A. Longstaffe collecting this score in the "M.E." team glider event. The club total however was not particularly good. This club is having another bash at their annual Hand-launched Glider Gala at Hadleigh slopes, the first attempt on July 22nd being rained off.

Regret to note that the **HALSTEAD & D.M.F.C.** has disbanded owing to lack of active support. Strange this, for we have new clubs coming up each month, and quite old-established groups fading away. Anyone know a reason?

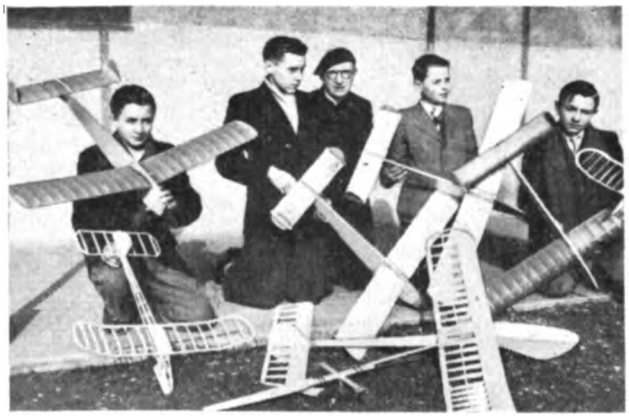
Apropos the above, it is pleasant to record the revival of the **CUPAR & D.M.A.C.**, which has been re-organised and is in a flourishing state. Sub-sections have been formed covering a large area in East Fife, and a number of district rallies have been entered without seriously endangering the prize list!

Pete Smith of the **CHINGFORD M.E.C.** won the R.A.F. Middle Wallop stunt contest, and followed up with a third in the same class at the Wembley affair. At first he was placed sixth, but a further check showed that someone couldn't add up right, his credit being 228 instead of 328!

Members of the **HALIFAX M.A.C.** journeyed to York on July 1st for the Area events, J. Magson placing top individual in the "M.E." event with 10 : 14. The club team totalled 32 : 57, all flying Nordics, four models being lost. E. North was unlucky in the Area rubber contest, when his Wakefield clocked a maximum on its first flight, only to be smashed by a farmer on landing. In the second round of the Northern Area knock-out trophy, Halifax beat Bradford by 16 : 33 to 13 : 29, this bringing them up against Barnsley in the semi-final.



"Psst .... Sonny—How many turns do you think I ought to give this darned thing!"



Our old friend, the Amiable Amiard, continues to do good work at his seminary in Normandy, and is here seen with some of his latest batch of aeromodelling recruits.

With almost perfect conditions, Halifax triumphed by 31 : 09 to 19 : 27, bringing them to the finals against the winners of the York v. Spen Valley contest. Magson was top man with 12 : 00, fourteen-year-old D. Haley placing second.

Another club to be interested in inter-club knock-out events is the **SOUTHERN CROSS M.A.C.**, who aggregated 1,602 seconds on the 15th July. Bill Gravett brought out a new 13 ft. span tailless glider, and aggregated 9 : 24 in the Lady Shelley Cup contest, at the same time setting up a new club tailless record of 8 : 08·6.

Owing to noise complaints from nearby householders, the **WALLASEY M.A.C.** have lost their C/L ground, but are fortunate in having good relations with the local Council, who are endeavouring to find them a new field. Six demonstrations have been given in recent weeks which, besides attracting new members, is very good for club finances ! No less than five " Leprachauns " are now being flown in this club, and it seems a full size airfield will soon be needed if the tendency for top size models continues.

Another club to have field difficulties is the **LEICESTER M.A.C.** who have now shifted from Leicester East aerodrome to Rearsby, home of the Auster planes. It appears that the Chief Constable of Leicester has the shooting rights on the old 'drome—and what can one do against police opposition ? Once again, members gave C/L demonstrations at the annual Abbey Park Show, attracting large crowds.

VICTORIA M.F.C. report a " British Record that wasn't". On July 1st, Tom Watson released his standard " Mallard " (Elfin 2·49) and with a 12 second engine run, the job flew off towards Fairlop station, Watson in hot pursuit. On reaching the vicinity of the station, said " Mallard " cocked a snoot at Tom, and returned over the take-off point, to finally disappear at great height towards the Southend road. The whole flight was estimated at around the 50 minute mark, fellow members watching the proceedings from a recumbent position ! No stopwatches—no record ! ! The same day, Danny Green cast his modified " Firebrand " skywards, to have the job land in telephone wires at Seven Kings. Said flier promptly phoned the exchange, who promised to retrieve the model in due course. Upon reaching home that night, there was the " Firecracker " safe and sound ! Not content with that, the G.P.O. has refunded the phone charge with a polite letter. Emergency call ! ! A suitable letter of thanks has been sent to the Seven Kings staff for their help.

A considerable amount of flying has taken place in the **WHITEFIELD M.A.C.** in the past month, mainly due to contests each Sunday. The O'Donnell boys have been well in the picture as usual, whilst R. Faulkner won the Area Glider Championships, flown at Blackpool. These events are conducted on the poorest flight of three basis, and Faulkner's times were 5 : 00, 2 : 59 and 2 : 38, the last counting as his official score. S. A. Ward placed fourth in both the glider and rubber classes, and secured the Championship. Six members travelled to Swansea for the Nationals, Bennett placing second in the Sir John Shelley with his Arden 099 powered, high aspect ratio machine. Times were 4 : 25 and 5 : 00.

R. P. Roles of the **GLEVUM M.A.C.** has pushed up the club lightweight sailplane record to 6 : 01 o.o.s. J. Ralph has gained his " B " certificate, the first member to do so. Flying his " Clipper " on the morning of June 2nd, he clocked 3 : 13, 3 : 01·2 and 4 : 56·8, this last time being a new club Wakefield record.

CARDIFF M.A.C. obtained top place in the South Wales Area section of the " M.E. Cup " in spite of thermals appearing at quite the wrong times. Pete North aggregated 7 : 14, Johnny Giles 6 : 12, J. Phillips 5 : 05, and tie for fourth team place went to Steve Munroe and N. Cherrett who both scored maximums and lost their models doing so. Meetings of this club are held every alternate Thursday evening at Austin's Café on City Road.

And that brings us to the end of general club reports for this month. However, before closing, I must touch on a tricky subject, but one that has always been with us in " Club News " columns. That is the subject of non-publication of certain material, and our own position must be made clear in order to avoid misunderstandings.

Club P.R.O.'s must realise that it is not our job to write their reports for them—instance the lad who baldly stated that " Harry Blogs has smashed four models in three weeks ; Sid Smith's mum won't let him build models any more since he spilt dope over the piano ; Clubman, please make what you can out of that." Well, what would you do, chums ?

That is, of course, the exception, but many reports verge on the ridiculous, crediting us with second sight and psychopathic powers. Then there is the club that puts out a newssheet full of purely local interest, and expects us to weed out the reportable material. This just cannot be done, and we ask all P.R.O.'s (or others responsible for sending in reports) that merely submitting a copy of the club magazine is not necessarily suitable for a report. Providing your report is concise, and, what is more important, contains news of general rather than purely local interest, it will be published in " Club News ", but we have neither the time—nor, let's be honest, the inclination—to do your job for you.

I know it's difficult to appreciate all requirements, but please remember, *you* have just one report to cope with—I have dozens !

The CLUBMAN.

Albert Briggs of Park M.A.L. prepares his control-line scale " Fortress " for a flight at the Wembley Stadium national meeting. Multi-engine starting is something of a problem.

CONTEST CALENDAR

September	16th.	BRITISH CHAMPIONSHIPS and TAPLIN TROPHY ; Southern Counties Rally. Thorney Island, Hants.
	29th.	I.C.I. Challenge Trophy Finals for "Jetex" Models, Fairlop.
	30th.	DAVIS CUP FINALS. Fairlop.
October	7th.	UNITED KINGDOM CHALLENGE MATCH. Heathfield, Scotland.
	14th.	FLIGHT CUP & FROG JUNIOR CUP. (Decentralised.)
	28th.	HAMLEY TROPHY. (Decentralised.)
November	17th.	S.M.A.E. Annual Dinner and Prizegiving.
	18th.	S.M.A.E. Annual General Meeting.

SECRETARIAL CHANGES

CRESWELL & D.M.A.C.
T. E. Myatt, 7, Wood Avenue, Creswell, Nr. Worksop, Notts.
BELFAST M.F.C.
N. Osbourne, 41, Albion Street, Belfast, N. Ireland.
BLACKPOOL & FYLDE M.A.S.
S. Newton, 13, Peter Street, Blackpool, Lancs.
CHORLEYWOOD M.A.C.
P. J. Holden, 102, Malvern Way, Croxley Green, Rickmansworth, Herts.
CUPAR & D.M.A.C.
A. P. Winton, 45, Dalgairn Crescent, Cupar, Fife.
STOCKTON & D.M.F.C.
A. W. Sample, Bridge Street, Yarm, Yorks.

Roy Collins (West Essex), designer of the A.P.S. "Flamingo" launches his 1951 version in the Keil Trophy contest. The model differs little from the published plan, and has proven a consistent high performer including one terrific duration of over 48 minutes.

WORLD SPEED CHAMPIONSHIPS AT KNOKKE— 28–30 JULY, 1951

CONCOURS D'ELEGANCE

Individual Class—Speed

1.	P. Wright	Great Britain	292 points
2.	Dr. Millet	France	281 ,,
3.	Gordijn	Holland	273 ,,
4.	G. Lippens	Belgium	272 ,,

Individual Class—Stunt

1.	Hewitt	Great Britain	284 points
2.	Vallez	Belgium	246 ,,
3.	Malfait	France	242 ,,
4.	Suls	Holland	241 ,,

WORLD CHAMPIONSHIPS—Speed 2·5 c.c.

1.	Hewitt	Great Britain	151·075 km/h
2.	Wright	Great Britain	142·579 ,,
3.	Claydon	Great Britain	141·812 ,,
4.	Kreulen	Holland	139·097 ,,
5.	Billinton	Great Britain	131·074 ,,
6.	Janssens	Belgium	106·875 ,,
7.	Cordier	Belgium	105·109 ,,

Speed 5 c.c.

1.	Wright	Great Britain	201·682 km/h
2.	Kreulen	Holland	186·533 ,,
3.	Cordier	Belgium	182·279 ,,
4.	Dr. Millet	France	179·108 ,,
5.	Labarde	France	174·345 ,,
6.	Lippens	Belgium	171·169 ,,
7.	Vallez	Belgium	170·783 ,,
8.	Janssens	Belgium	163·710 ,,
9.	Hagedoorn	Holland	77·672 ,,
10.	Gorijn	Holland	75·630 km/h
11.	Dupuy	France	56·426 ,,

Speed 10 c.c.

1.	Labarde	France	204·651 km/h
2.	Laniot	France	194·139 ,,
3.	Dexobry	France	190·609 ,,
4.	Dr. Millet	France	186·495 ,,
5.	Malfait	France	184·507 ,,
6.	Hagedoorn	Holland	160·919 ,,
7.	Meuwli	Switzerland	109·756 ,,
8.	Billinton	Great Britain	104·046 ,,
9.	Cordier	Belgium	100·000 ,,
10.	Veenhoven	Holland	98·901 ,,
11.	Vallet	Switzerland	91·370 ,,

Jet

1.	Dunn	Great Britain	214·926 km/h
2.	Claydon	Great Britain	126·760 ,,

AEROBATICS

1.	Hewitt	Great Britain	3200 points
2.	Vallez	Belgium	2779 ,,
3.	Marsh	Great Britain	2723 ,,
4.	Janssens	Belgium	2613 ,,
5.	Cordier	Belgium	1988 ,,
6.	Suls	Holland	1463 ,,
7.	Laniot	France	1264 ,,
8.	Gobeaux	Belgium	752 ,,
9.	Meuwli	Switzerland	511 ,,
10.	Claydon	Great Britain	397 ,,
11.	Malfait	France	326 ,,
12.	Dezobry	France	271 ,,

Team Placing for the Third Championships of Europe

		Elegance	2·5 c.c.	5 c.c.	10 c.c.	Acro	Total
1.	Great Britain ...	20	30	40	200	70	360
2.	Holland	70	60	80	100	210	520
3.	Belgium	60	90	120	250	140	660
4.	France	50	150	160	50	280	690
5.	Switzerland ...	100	150	200	150	350	950

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Described in full in the A.P.S. Catalogue & Supplement

G/341	WALTHEW GLIDER by Roland Scott. The famous beginner's model of "It's Designed for You". 29 ins. span. **2/6**	G/282	LIGHTWEIGHT by Mick Farthing. A parasol wing model of simple construction. 34 ins. span. **3/6**
G/106	AEGEUS by R. H. Warring. Another beginner's glider with a satisfying performance. 42 ins. span. **2/6**	G/120	CURLEW by K. W. S. Turner. A small model of pleasing lines and satisfying performance. 46 ins. span. **2/9**
G/102	AEOLUS by R. H. Warring. Efficient "pod and boom" design, creator of which needs no introduction. 48 ins. span. **2/9**	G/357	FLYING BOMB MK. 8 by O. Mischler. High aspect ratio parasol wing glider with laminar flow section. 39 ins. **3/-**
G/263	ARNHEM by T. Hervey. Simple construction and scale appearance suitable for the beginner. 30 ins. span. **1/6**	G/228	MICK FARTHING GLIDER; another lightweight by the expert in this type of design. Span 40 ins. **2/6**
G/107	FIGHTER GLIDER by D. M. Dent. Based on single-seat fighter design, this glider is most realistic in flight. 42 ins. **2/9**	TG/240	A.V.10 by Guy Borge. The ideal beginner's tailless, designed by a French expert. 40 ins. span. **3/-**
G/317	COBRA by R. Twomey. One-time record holder by successful designer; circular fuselage, elliptical flying surfaces. 48 ins. span. **3/6**	TG/251	FLOATING KIDNEY by F. G. Birden. A baby flying wing of unique shape, as suggested by its name. 15½ ins. span. **3/-**
G/144	HOTSPUR II by R. H. Warring and Bill Dean. Flying scale model by two famous designers. 46 ins. span. **4/-**	TG/298	BUZZARD II by C. S. West. Swept forward wings and high fin make this design out of the ordinary. 48 ins. span. **2/6**
		TG/241	CROWFLY by S. R. Crow. A model with excellent duration and of bird-like appearance. 32 ins. span. **3/-**

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Bench tested Frog 500, good condition, 50/–. E. Manuel, 1, Crowther Lane, Swanland, North Ferriby, East Yorks.

Two Piper Cubs, E.D. Bee engines, excellent fliers, £2. 10s. 0d. each. Allbon 2·8, not run in, £2. 10s. 0d. Morley, 66, Hermitage Road, Harringay, N.4. Phone Sta. 9529.

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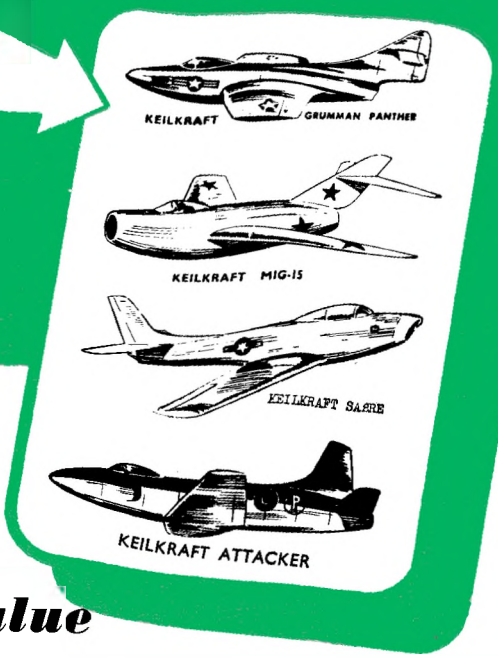

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