AUGUST 1960

1'6

MODEL aircraft

Full report of the BRITISH NATIONALS

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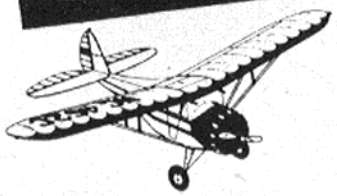

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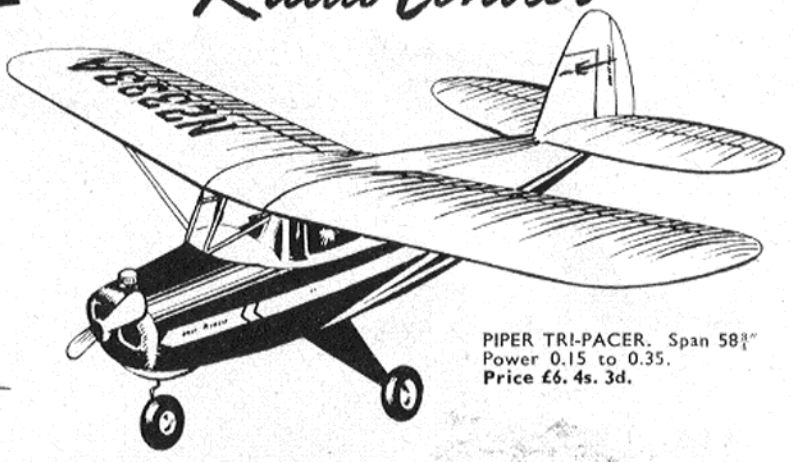

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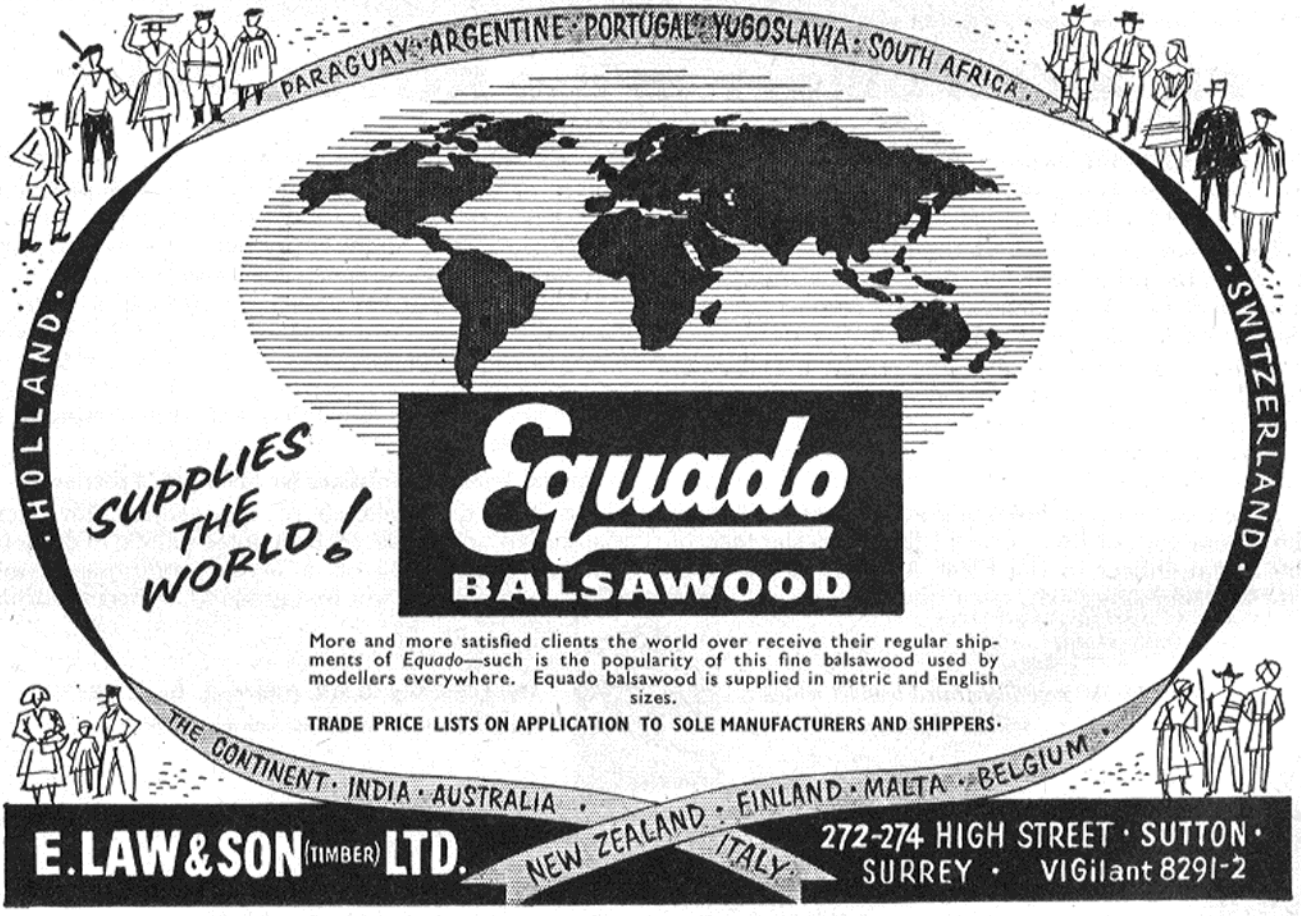

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MODEL aircraft

AUGUST 1960

No. 230 VOLUME 19

The official Journal of the SOCIETY OF MODEL AERONAUTICAL ENGINEERS

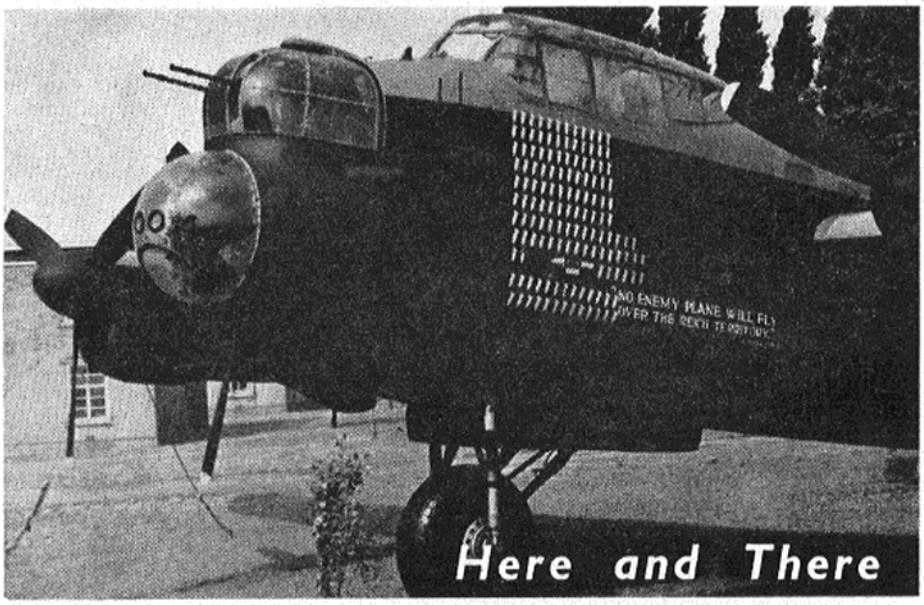
IN THIS ISSUE

Published on the 20th of each month prior to date of issue by

PERCIVAL MARSHALL & CO. LTD.
19-20 NOEL STREET, LONDON, W.I.

Telephone: GERrard 8811

Annual subscription 22s. post paid. (U.S.A. and Canada $3.)



Here and There

EVERY visitor to this year's Nationals at Scampton must have admired the beautifully preserved *Lancaster* shown in our heading photo. Flown from Scampton during the war, this aircraft completed 130 missions, and we salute the enterprise of the persons responsible for its preservation. Positioned by the main gate it attracts attention from every passing motorist and judging by the interest of modellers we should be seeing a few C/L replicas at next year's Nats.

Whether these models should be flying at Scampton or at a Nationals held on any other aerodrome where a considerable part of the available space is out of bounds is another matter. However, before we go on to criticise this and certain other aspects of the meeting let us first of all voice our thanks to those without whom there would not have been a meeting at all. To Comp. Sec. Sam Messom for the months of preliminary paper work that occupied him full time every night of the week; Treasurer Harry Barker who this year, and last year, found a venue and supervised all local arrangements; the areas, clubs (and individuals of each) who manned the gate, sold programmes and ran competitions, members of the Scampton M.A.C. and Youth Club for their hard work in preparing the sites, and lastly the Commanding Officer of Scampton, Group Captain H. Burton, D.S.O., M.B.E., for granting permission to use his aerodrome, and the station personnel for their co-operation throughout the meeting.

Everyone who attended the Nationals owes a hearty vote of thanks to all these people, but in spite of the terrific amount of preliminary work that a few people put into this meeting it has always struck us that when it actually comes to the pinch the Nats are not run, they just seem to happen. This year, with only a few days to go before the contest, the class " A " team race was in danger of being cancelled because there was no-one to run it, and as many noticed, combat was restricted to one day—again through lack of organisational support.

This is no new problem, but it is becoming more acute and the reasons are many, not least among them being the fact that to the best of our knowledge not one of the clubs who has made itself responsible for the running of an event has ever received an official letter of thanks from the Society.

From this, one fact stands out—the S.M.A.E. council does not appear to take the Nationals seriously. We may be wrong, but that is our view and it is also the prevalent

view among modellers. To organise a meeting of this stature is beyond the scope of one man, particularly when, as in this case, as competition secretary of the Society he is also responsible for all the other centralised contests including the trials which this year were a mere two weeks before the Nats. Even as willing a worker as Sam Messom must have been feeling the strain.

If this annual uncertainty concerning the running of contests at the Nationals is to be avoided next year then the time to start is now. The council have powers to appoint or co-opt an officer whose sole responsibility would be to organise this meeting, and if that is not sufficient work for one honorary officer for one year, we would like to know what is.

Reverting to our first remarks the first job of such an organiser would be to find a 'drome, all of which could be used. This at least would make the F/F competitors happy.

To close on a happier note, although to us the Nats appear to " just happen," we are all pleased that they do in fact " happen " and are looked forward to and enjoyed each year in spite of all the critics !

The Valkyrie on the cover

A YEAR ago, for the first model cover of our new series, we used a photograph of Arthur Evans' remarkable Sikorsky *Amphibian* which he entered in the 1959 Nationals. Although we thought the Sikorsky to be a highly ambitious and original choice, it seems almost orthodox compared with Arthur's 1960 Nationals entry, a 1909 *Valkyrie*, which we feature on this month's cover.

This is no mere static display model but a real live free flighter ! Although the wind finally won at Scampton, the beautifully built *Valkyrie*, powered by a Cox Hopper, did fly very successfully before the contest, when, with only a couple of hours to go before the judging, Arthur, with more courage than we could ever muster, carried out a test flight, " just to perfect the trim " !

It Can be done

SCALE modellers are frequently frustrated in their efforts to reproduce accurately full size aircraft, by the difficulty of obtaining reliable information. This snag is no longer an excuse for those who wish to build a model of the de Havilland *Mosquito*, for the prototype of this famous design is being permanently preserved and maintained by de Havillands. It is housed, as the accompanying photograph shows, in its own hangar which was paid for with money raised by public subscription, contributed by private individuals from all Commands of the R.A.F. and the war-time *Mosquito* sub-contractors, from Rolls-Royce down to " two-man firms."

The hangar has been built in the grounds of Salisbury Hall where this very aeroplane was designed and built in 1940.

Details of when the *Mosquito* can be viewed are given on advertisement page xv of this issue.

A Book of Engine Tests

TO anyone contemplating the purchase of a new engine, or wishing to compare the performance of various ones before deciding which to buy, there is only one standard of measurement—the Engine Tests conducted by Peter Chinn each month in MODEL AIRCRAFT.

The tests of some engines have been so much in demand that the back issues of MODEL AIRCRAFT in which they appeared have completely sold out. However, modellers who have been disappointed in their quest for a special test can now obtain a new book containing a selection of the most popular of Peter Chinn's reports.

Titled " Model Aircraft Engine Tests " it contains 23 tests of motors of all types, and even if you are not at the moment in the market for a new motor, at 5s. there is plenty of good reading for the engine enthusiast, while as a book of reference it will never be out of date.

Silencers

IN our February issue we offered £10 in cash to the reader who submitted the most practical design for an engine muffler. This offer is still open but not through any lack of response.

Several times we have been on the point of closing the offer and nominating the winner, only to have yet another muffler arrive at the office. From this it is obvious that modellers have not given this matter much consideration in the past, but our offer has stirred many who have been thinking about it into activity.

This is just what we intended, so our offer will stay open for several months yet to allow time for everyone who has written telling us of his ideas to submit a sample.

Briefly the £10 will be awarded to the person who produces the most efficient muffler which is simple, light, compact and readily adaptable to various motors. We are only interested in practical results, not theoretical designs, so send your muffler, securely packed, to MODEL AIRCRAFT, 19-20, Noel Street, London, W.1.

The Grahame-White Trophy

THE name Claude Grahame-White has been connected with British aviation since its earliest days. It is now perpetuated by his widow, who has recently donated a trophy to the Royal Air Force Model Aircraft Association. The trophy is to be awarded to the station whose club members obtain the most points at the Association's Annual Championships.

Next month's MODEL AIRCRAFT will carry a report of the 1960 R.A.F. Champs which this year were again held at Debden.

World Championship Teams

THE teams who will represent Great Britain in this year's World Championships have now been selected from the results obtained at the Trials reported in our last issue.

They are:

Radio: S. E. Uwins, F. van de Bergh and C. H. Olsen—Team manager J. E. Johnson.

C/L Aerobatic: R. E. Brown, F. Warburton and D. Day.

Team Race: K. Long, D. Balch and G. Yeldham. C/L team manager R. Edmonds.

Actually in T/R only Long was definitely selected from the trials, the remaining two places being filled after the next four placers made three further flights at the Nationals.

It will be noticed that no speed team is listed. At the time of going to press we understand that it is considered that

Continued on page 247

Hungary's Championship Team

SHOWN in the photo are the team which will represent Hungary in this year's Championships. Reading from the back (left to right) they are Simon, Beck, Toth, Krizsma, Frigyes, Ordogh, Egervary and Masznyik, missing is third team race flyer Azor. All are using Moki engines—" 35s " in stunt, 2.5 diesels in team race and 2.5 glo in speed. According to a test in the latest issue of the magazine *Modellezes* this latter engine gives 0.51 b.h.p. at 21,100 r.p.m.

The 1960

POWER TRIALS

Held at Wigsley

THE 1960 Power Team Selection Trials enjoyed the now usual first class Trials weather; true, the breeze was a little troublesome on the first day, swinging almost 180 deg. and freshening, but the contest staff were on top of the job and quick to move the " office " to a more favourable position.

Some first class flying was seen, together with one or two spectacular prangs, and max's were plentiful, with well over 100 being recorded during the first day. At the end of the fourth round, four competitors looked pretty well placed, K. Glynn, J. R. Simeons and the two Manvilles all having maximum scores. Simeons dropped 25 sec. in the fifth round, the two Manvilles were both unfortunate enough to have over-runs too late to make a second attempt, thus leaving Glynn top of the list.

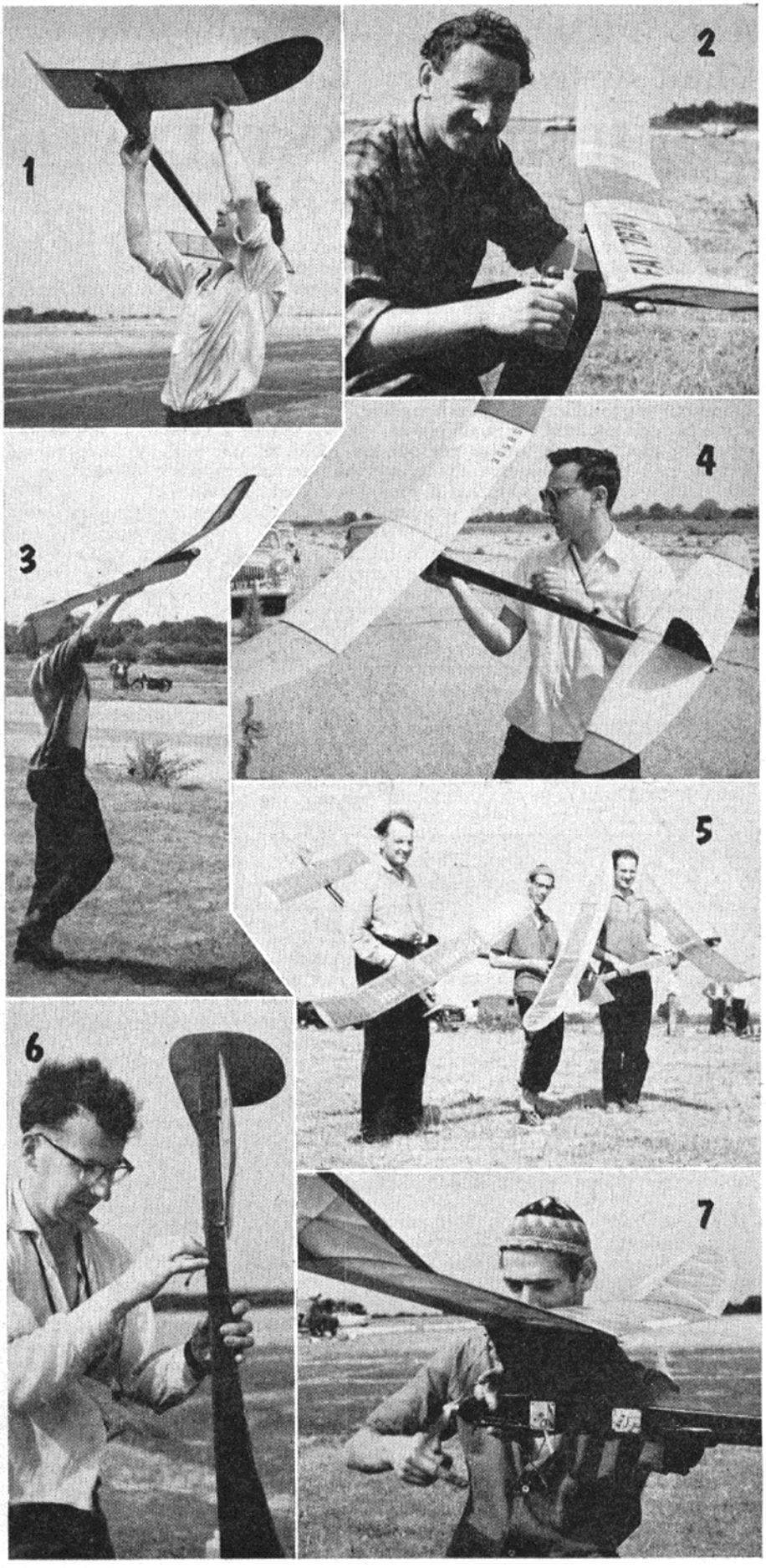
Conditions on the second day were almost perfect as the breeze had lessened considerably and steadied. Max's again came thick and fast, nearly 50 per cent. of the total flights recorded being over 3 min.

Glynn dropped 68 sec. in Round 6, to allow Simeons to slip into top position with Jays and Posner equal second. Round 7 saw no change in the leaders except that Young crept up to fourth position. Both Jays and Glynn dropped more valuable seconds in Round 8, Young moved up to third, and the only remaining change was for Young and Posner to exchange positions in Round 9.

Except for Posner's nails, everyone seemed to have enjoyed an excellently organised and controlled meeting, the only noticeable shortcoming was the entire absence of processing—a point commented on by many taking part.

Final placings:

1. J. R. Simeons (St. Albans) ..	29.30
2. A. G. Young (St. Albans) ..	28.34
3. D. Posner (Surbiton) ..	28.14
4. K. J. Glynn (Surbiton) ..	27.38
5. V. Jays (Surbiton)	27.36
6. A. W. Spurr (Tees-side) ..	27.14
7. D. Willmott (Essex) ..	26.52
8. J. West (Brighton)	26.38
9. T. W. Smith (Eng. Elec.) ..	26.36
10. J. H. Manville (Bournemouth)	26.22



1. **Pete Buskell launches for his disastrous second flight when the model came in under power and disintegrated.**
2. **A smile from the team manager—George Fuller, placed 11th in trials after a shaky start. Vast experience of power flying earned him the manager's position.**
3. **A. G. Young, 7th at end of first day's flying steadily improved his position to finish second.**
4. **Vic Jays prepares to launch for his third flight—and third max.**
5. **The team, left to right, J. R. Simeons (St. Albans), D. Posner (Surbiton) and A. G. Young (St. Albans).**
6. **John O'Donnell having lost No. 1 model here prepares his reserve—a PAA-loader !**
7. **Dave Posner prepares for his third flight.**

ALL FROM ONE—concluding his series on the Galloping Ghost system, Peter Lovegrove describes—

EQUIPMENT, INSTALLATION and FLYING

I USED to tell people that high all-up weight killed the *Galloping Ghost* system, even with plenty of power up front. Although I have altered my views a bit, and would no longer make that statement unreservedly, it is still my honest opinion that a reasonably light 4 ft. span model, with a 2.5 c.c. diesel, is far and away the most relaxing one to fly.

So keep your radio weight down, and if you can afford one of the modern tone receivers, then I urge you to get one and learn what trouble-free flying is like. I must impress on you, that if you have " duff " radio equipment you are wasting your time with the G.G. Every miss on the radio side will mean a crash and possibly a model completely written off.

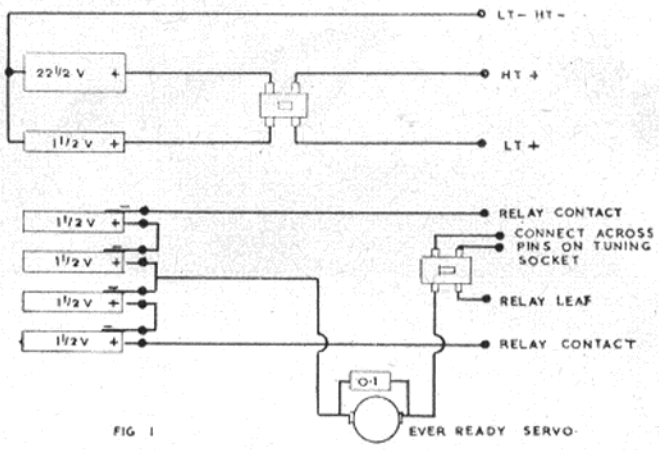


FIG 1

In Fig. 1 I have shown the wiring set-up I use for a tone receiver (in this case a " Unitone "). The H.T. battery is one small B122 with the connection made by fitting soldering terminals to the leads, and then securing these terminals to the battery by means of self-tapping screws. There is one size made which is exactly right, and I have never had any difficulty with this type of connection. If the screws are too long do not force them in, or you will wreck the battery, instead, use washers to take up the excess length.

The L.T. battery is one half of a pen cell, held in a paxolin tube fitted with strips of brass for end contacts. No. 8 batteries can be used for the actuators if you wish (Charles Riall used them successfully for many months), but without doubt, Deac cells are far superior and much cheaper in the long run. I use four Deac 450D cells which have soldering tags fitted and so need no special holder, as do the smaller disc-type 225 DK cells. Four 450D's will give about two hours' continuous flying from a full charge. They yield about 2.5-2.7 volts each way I find, and now cost about £2 for the set. That voltage, by the way, is ample for any G.G. servo, whether a Mighty Midget, Ever-Ready, or T.K.3. I am currently flying with a McCoy 0.19 and my E-R throws the control surfaces quite freely in the very strong slipstream.

Although I have specified an Ever-Ready motor for *Loopstick*, you can use a M.M. if you wish to save yourself the mechanical work of modification (described last month).

A friend of mine is soon to try using a Japanese TK3 servo (cost 4s. 11d.) fitted with Frog Tornado gears and operating off 1½ volts each way. He is, in fact, using just two 450D cells. So you see, the servo is not really so critical as first articles, published in America, gave us to believe.

Test Flying

For your initial attempts, it is strongly recommended that you have your model in pylon racing trim. This does not mean that you should have the thing going round like a rocket, but that the c.g. should be fairly well forward, and the wing at a reasonably large angle of attack so that you can fly with neutral or slightly down elevator. In this condition the model will waggle very little in flight and is quite stable; it is quick to recover from awkward situations too.

With a new model on this system you should carry out a couple of test glides to find out whether your control system is coherent in actual use. If you can use a slope to give a protracted glide, so much the better. But do not set too much store by test glides; there is only one way to test your gear and that is by powered flight.

On *Loopstick* have your engine going flat out if 1.5 c.c., and fairly fast if 2.5 c.c. In my experience too low power causes more trouble than full power, since it gives the plane no help just when you need it to get out of a mess. With this trim, when the stick is pulled back to recover from a dive, the model will climb but not loop—this gives you time to think. With less power the model would stall and drop out of the sky upon pulling the stick back.

Practise straight, and climbing flight, and large diameter turns first. Make your first turns by moving the stick slightly to the left or right and then adding a little up-elevator, while still holding the same rudder setting.

As the model comes out of the turn, just let the stick return to neutral and give a little down-elevator to restore the flying speed.

Watch the model carefully when the engine cuts. If the nose drops sharply, so that the stick has to be pulled hard back for a reasonable glide, then pack up the wing L.E. or move the c.g. back a little. Adjust the downthrust accordingly.

Pylon Racing

Trim with the forward c.g., and high angle of attack already described. This means that for fast flying you must push the stick forward, when you will be using the very fast pulse rates. Under these conditions the control surfaces will waggle very little, and drag is reduced, consequently the flying speed increased and more down elevator is needed to counteract the excess lift which results! It is surprising how much down-elevator is required, and a great deal of practice is needed to get it correct, otherwise the correction tends to be over-applied and a sort of switchback flight pattern results.

Stunts

The following notes are only to be taken as an indication of how you can do the stunts in the S.M.A.E. schedule, as so much depends on the model's trim, power and configuration (and you) but they will act as a guide to start with.

Firstly, move the c.g. back, a little at a time, and decrease the wing angle

Continued on page 251

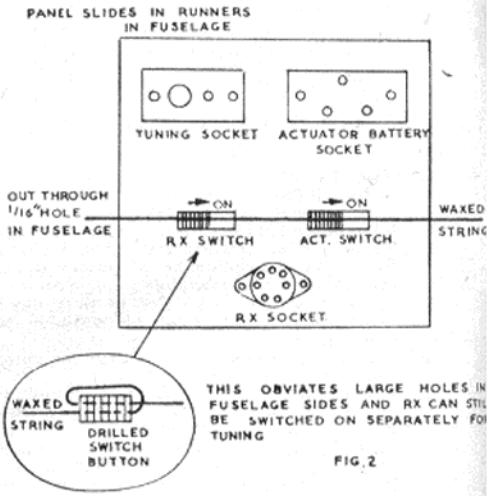
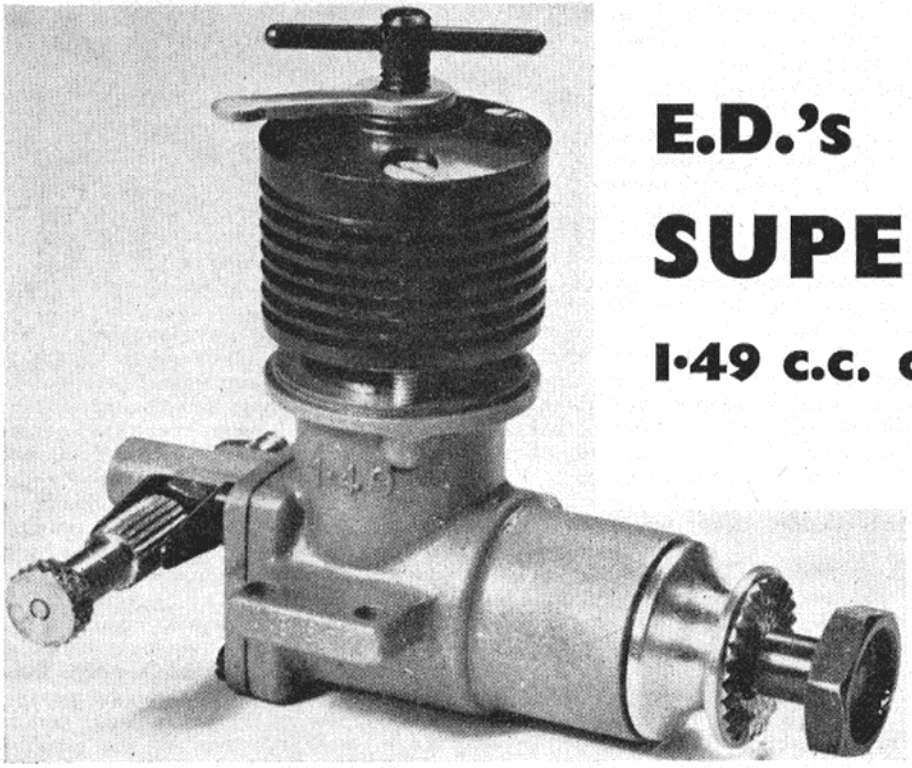


FIG. 2

This month's engine tests, the **McCoy Stunt '29'** and **E.D. Super Fury**



E.D.'s SUPER FURY

1·49 c.c. diesel motor

AS mentioned previously in MODEL AIRCRAFT, the Super Fury is a development of the original E.D. Fury which first appeared two years ago. Numerous alterations have been made, including the use of disc rotary valve induction, instead of a reed-valve, improved cylinder porting, a new piston and connecting-rod—the latter of high-duty aluminium alloy instead of steel—a revised crankcase of LM.2 aluminium alloy in place of the magnesium alloy case previously used, strengthened mounting lugs and new needle valve and prop hub assemblies.

The effect of these modifications on the Fury's performance has been to produce an immense improvement. Comparing test figures obtained two years ago with those achieved with this latest model, torque and b.m.e.p. are increased by approximately 28 per cent. —the latter to the notably high figure of 60 lb./sq. in., the b.h.p. peaking speed is up by a clear 2,500 and b.h.p. is improved by almost 45 per cent.

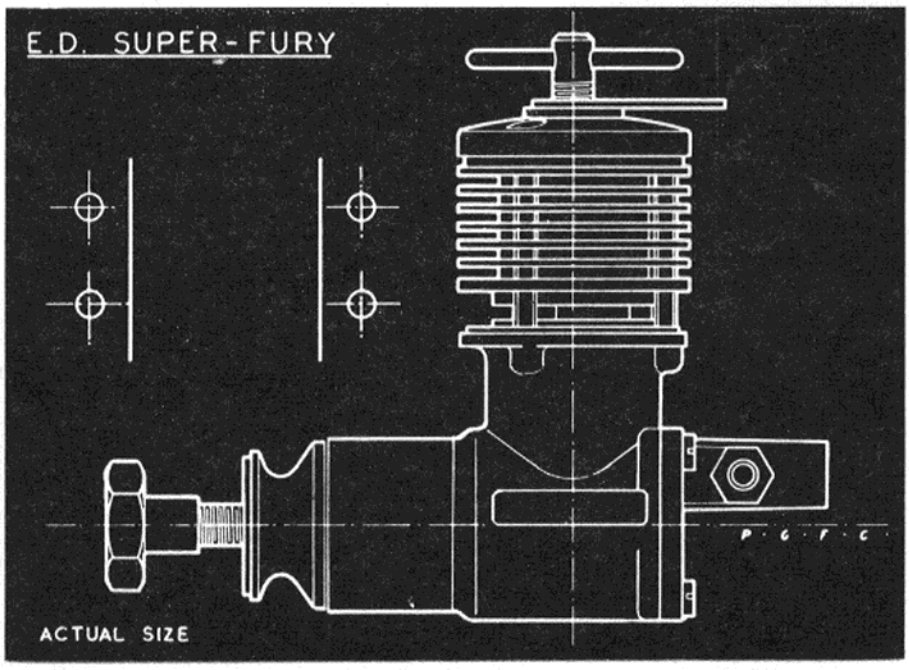
Among the special features of the design, the backplate unit is interesting. This employs a moulded bakelite valve rotor mounted on a $\frac{1}{8}$ in. dia. pin which is fully floating in a plain bearing in the backplate. The rotor is equipped with an alternative hole for the drive from the crankpin, located at 90 deg. from the standard hole, and marked with a letter "V." This simple but worthwhile refinement allows the engine to be run in the reverse direction if desired (such as for a pusher installation) and/or enables the needle-valve control to be fitted upright, instead of horizontally, by rotating the complete backplate assembly.

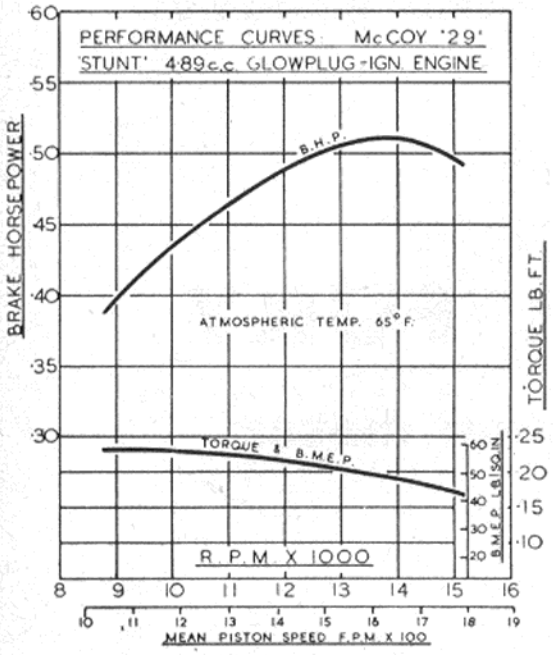
Another small but useful feature is the special sleeve nut, which is designed to assist in rapid propeller changing in team racing. Props should be reamed to a close fit on the sleeve. Slackening the nut then allows the prop to be spun off the shaft, complete with nut, and a new prop, already equipped with a spare nut, can then be quickly fitted.

The Super Fury has conventional radial slit type cylinder ports, the exhaust and transfer ports being of similar area and the latter located immediately below the former. This gives a generous exhaust timing with a considerable lag before the transfer opens. Transfer ducting from crankcase to the cylinder ports is, however, free and unrestricted and encompasses the full circumference of the cylinder skirt, the outer wall of which is barrel shaped to smooth gas entry into the transfer ports. The upper section of the cylinder liner is a very close fit in the finned cooling barrel, which should help heat transference. The appearance of the new model, incidentally, is much enhanced by its new matt finished castings.

Specification

Type: Single-cylinder, air-cooled, reverse-flow scavenged two-cycle compression ignition, with rotary disc valve induction and sub-piston supplementary air induction.

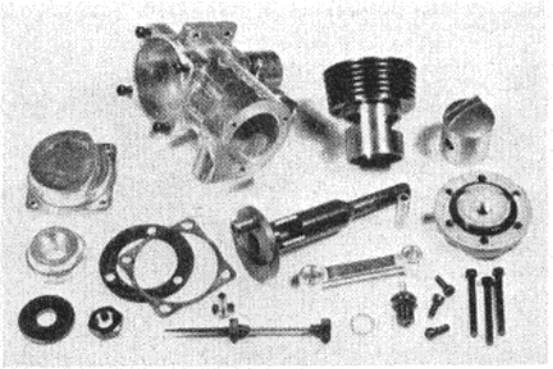




Bore: 0.500 in. Stroke: 0.462 in.
Swept Volume: 0.0907 cu. in.= 1.486 c.c.
Stroke/Bore Ratio: 0.924 : 1.
Weight: 4 oz.

General Structural Data

Pressure diecast LM.2 aluminium alloy crankcase and main bearing housing. Pressure diecast LM.2 alloy backplate with integral carburettor intake and attached with four screws. Non-counterbalanced, disc web crankshaft hardened to 65 Rockwell (tempered threads) with ¼ in. dia journal, running in one ¾ in. o.d. inner and one ⅝ in. o.d. outer ball journal bearing. Forged RR.56 aluminium alloy connecting-rod. Cast-iron, conical crown piston with pressed-in silver steel gudgeon pin. Hardened steel contra piston. Cylinder liner of special case-hardening high impact steel, hardened to 65 Rockwell, ground and wet honed bore. Liner flanged at exhaust port level and thereby clamped between crankcase and cylinder barrel with three long screws. Valve disc of moulded bakelite. Machined duralumin cylinder barrel and head unit, anodised blue. Brass spray-bar type needle-valve assembly with double ratchet tensioning device.



Test Engine Data

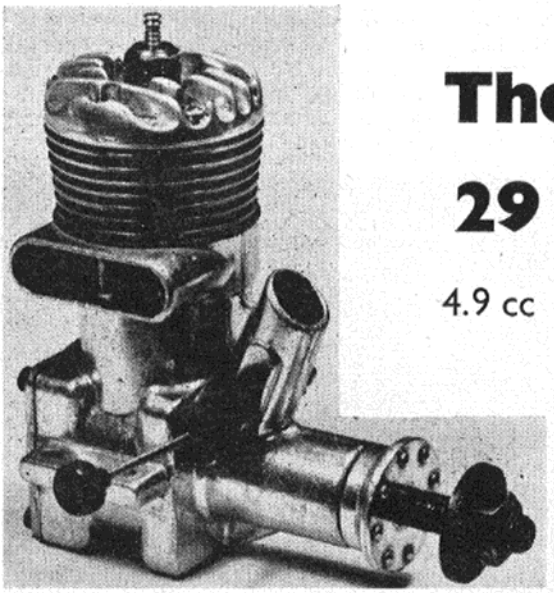
Running time prior to test: 4 hours (on E.D. Economic fuel).
Fuel used (for test): E.D. Super Zip.

Performance

The high performance of the Super Fury has already been remarked upon. The maximum output obtained of 0.172 b.h.p. at 14,600 r.p.m. is higher than that achieved at this speed by any other 1.5 tested in this series and has been equalled by only one other 1.5 diesel peaking at a somewhat higher speed—i.e. on a smaller prop.

This performance was achieved without any noticeable deterioration in the excellent starting qualities that characterised the standard Fury. "Teamrace re-starts" were easily obtained—i.e. the engine would restart, hot and lightly loaded, without altering the running settings. A marked vibration period was present when the motor was loaded for speeds around 8,000 r.p.m., but as this is well below the normally used r.p.m. range, it is of little consequence. Running characteristics at the higher speeds were excellent and the engine ran crisply and without any tendency to miss or spit at r.p.m. well in excess of the peaking speed on both the recommended E.D. fuels. Incidentally, the Super Fury seemed to be unusually clean running on these fuels. Very little smoke was

Continued on page 241



The McCoy 29 STUNT

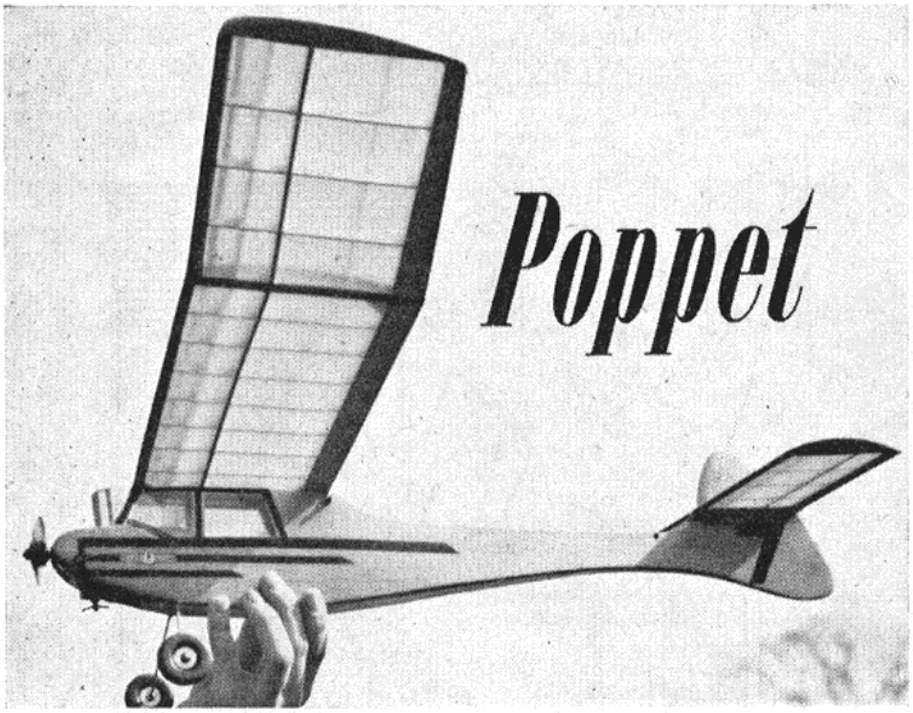
4.9 cc Glow plug motor

FOR the modeller who has used nothing more than a popular 1-2.5 c.c. motor, one of the objections to purchasing a larger, higher-performance engine has been its higher price. This has been true even in the United States, where the average 0.29 or 0.35 cu. in. (4.9-5.8 c.c.) engine costs around $15-$16, or two to three times that of the small motors.

The appearance of the McCoy "Red Head Stunt" 0.29 and 0.35 engines in 1957 altered this situation appreciably. Introduced at only $10 each (approximately £3 11s. 6d.) prices were later modified to $9.95 and $11.95 respectively, and the 29 model is now sold in the U.K. through Holt Whitney stockists at £4 18s. 6d. Recently, the 35 has been reduced to the unbelievably low U.S. price of $5.95 (£2 2s. 6d.) as a special pre-U.S. Nationals offer. Whether this will be continued and/or whether the 29 will be reduced to a similar figure is not yet clear, but this figure certainly sets an all-time record for price-cutting.

Under the McCoy label, some very famous engines have been produced, notably the Racing Red-Head series, examples of which are still winning speed and team race contests on both sides of the Atlantic. It has to be admitted that these modern "Red-Heads," which are of entirely different design from the relatively complex and costly racing models, are unlikely to set any world records for performance, but, despite their low price, they are far from being shoddy or inferior. In most respects they compare quite favourably with other engines costing much more.

The Red Head Stunt 29, which is the subject of this test report, is a shaft induction, loop-scavenged glow motor of conventional design. Like several other current production engines of this basic type, it uses a diecast crankcase embodying the main bearing housing and a one-piece cylinder with integral fins. One or two details are rather less orthodox, however. The baffled piston has a shallow domed head and the internal contours of the cylinder head are a little different from the customary patterns. The carburettor intake is rather longer and narrower than the type generally found on current front-induction 29's and unlike many U.S.



Poppet

A free flight sportster for engines up to 1 c.c.

Designed by Colin Read

I DESIGNED *Poppet* as an all weather sports model, capable of good performance, and yet able to withstand rough treatment. It will fly in most weather conditions, and was in fact trimmed in very rough conditions earlier this year.

The construction of the model is commenced by cutting two fuselage sides from $\frac{1}{16}$ in. medium sheet balsa. Two $\frac{1}{8}$ in. sheet doublers are cemented inside the sides at the nose, after which the formers are cut out and the undercarriage wire bent, bound and cemented in place. The undercarriage former, bearers and fuselage sides should then be securely cemented together. Next join the fuselage sides together at the rear, using a strip of $\frac{1}{8}$ in. sq. as a rear post. This strip is important, as without it the under-fin section will tend to sag. Carefully add the remaining formers and wing mount (M.1) and firmly cement the $\frac{1}{8} \times \frac{1}{4}$ in. hard balsa to the inner face of the fuselage sides to form the cabin.

When you are satisfied that the fuselage is perfectly aligned (particularly the triangular rear end), sheet the top and bottom, with the grain running from side to side. Add the tailplane mount, and fuel tank, fuel proof the inside of the engine mount, and add the upper cowling block. Finally, add the sheet around the engine, leaving an opening to enable the engine to be " choked," and cut a small fuel drain hole in the underside sheeting. It will be seen that with a Frog 0.80 the cylinder just protrudes below the fuselage underside, and this helps cooling considerably.

The wing and tailplane are built directly on the plan in the usual manner, take care to achieve a neat and warp-free framework and remember that the fin and tailplane should be built from very lightweight balsa.

Attach the cabin acetate *after* covering the fuselage with coloured Modelspan, this method gives a much neater finish, especially when a black tissue trim is used over the cabin frame. The original *Poppet* was covered in yellow lightweight Modelspan, using black tissue trim and three to four coats of clear dope.

Balance the model by supporting it on the finger tips under the mainspar. Add weights to nose or tail until the fuselage remains horizontal.

Prior to your first flight ensure that there is a little downthrust and right side thrust, this will prevent any violent manoeuvres. *Poppet* should fly a left spiral under power and glide to the right. Use the upper fin as a trim tab, but only make small adjustments at a time.

CONTEST CALENDAR

July 24th *MODEL ENGINEER CUP. Team Glider.
FLIGHT CUP. U/R Rubber. Area Centralised.
†Northern Area Concours d'Elegance. R.A.F. Rufforth.

July 30th/Aug. 2nd **WORLD CHAMPIONSHIPS POWER.** Cranfield.

" 7th St. Albans Gala, Chobham Common. R/G/P, R/C single, F.A.I. Power, 0.049 Power.

" 7th Rush Trophy Gala. Newcastle Town Moor. R/G/P, Combat. Details of entries, prizes, accommodation—A. Cordes, 23, Caroline Street, Benwell, Newcastle upon Tyne, 4.

Aug. 14th **SCOTTISH GALA.** Abbotsinch
K.L.M. TROPHY. U/R Power.
C.M.A. TROPHY. U/R Rubber.
GLIDER. U/R Glider.
TAPLIN TROPHY. R/C Rudder only.
TEAM RACING. Classes A & B.

Aug. 14th †Devon Rally. Woodbury Common, nr. Exeter. R/G/P, Combat, R/C.

" 14th. Sidcup C/L Rally, ½A, F.A.I., B, T/R Stunt, Combat.

" 21st AREA CHAMPIONSHIPS. Rubber/Power/Glider.

" 21st Southern Counties R/C Rally, Middle Wallop. Single, Intermediate, Multi.

Sept. 4th **NORTHERN GALA.**
GLIDER. U/R Glider.
HAMLEY TROPHY. U/R Power.
CATON TROPHY. U/R Rubber.
AEROMODELLER TROPHY, R/C Multi.
TEAM RACING. ½A, A & B.
PAN AMERICAN CUP. P.A.A. Load (American Class).
UNITED KINGDOM CHALLENGE MATCH.

" 11th †Croydon Gala, Chobham, Open Glider.

* Plugge Cup events.
†S.M.A.E. Sanctioned meetings.

Sept. 11th C. H. Roberts Cup—Rubber driven flying boats. Danson Park, Welling, Kent.

" 18th *KEIL TROPHY. Team Power.
FROG JUNIOR TROPHY. U/R Rubber/Glider.
Area Centralised.

" 18th S.A.A. Caledonian Shield.

" 25th †South Coast Gala. R.A.F. Tangmere. F/F all classes, R/C, C/L.

" 25th †E. C. Muxlow Trophy (N. Area). R.A.F. Rufforth.

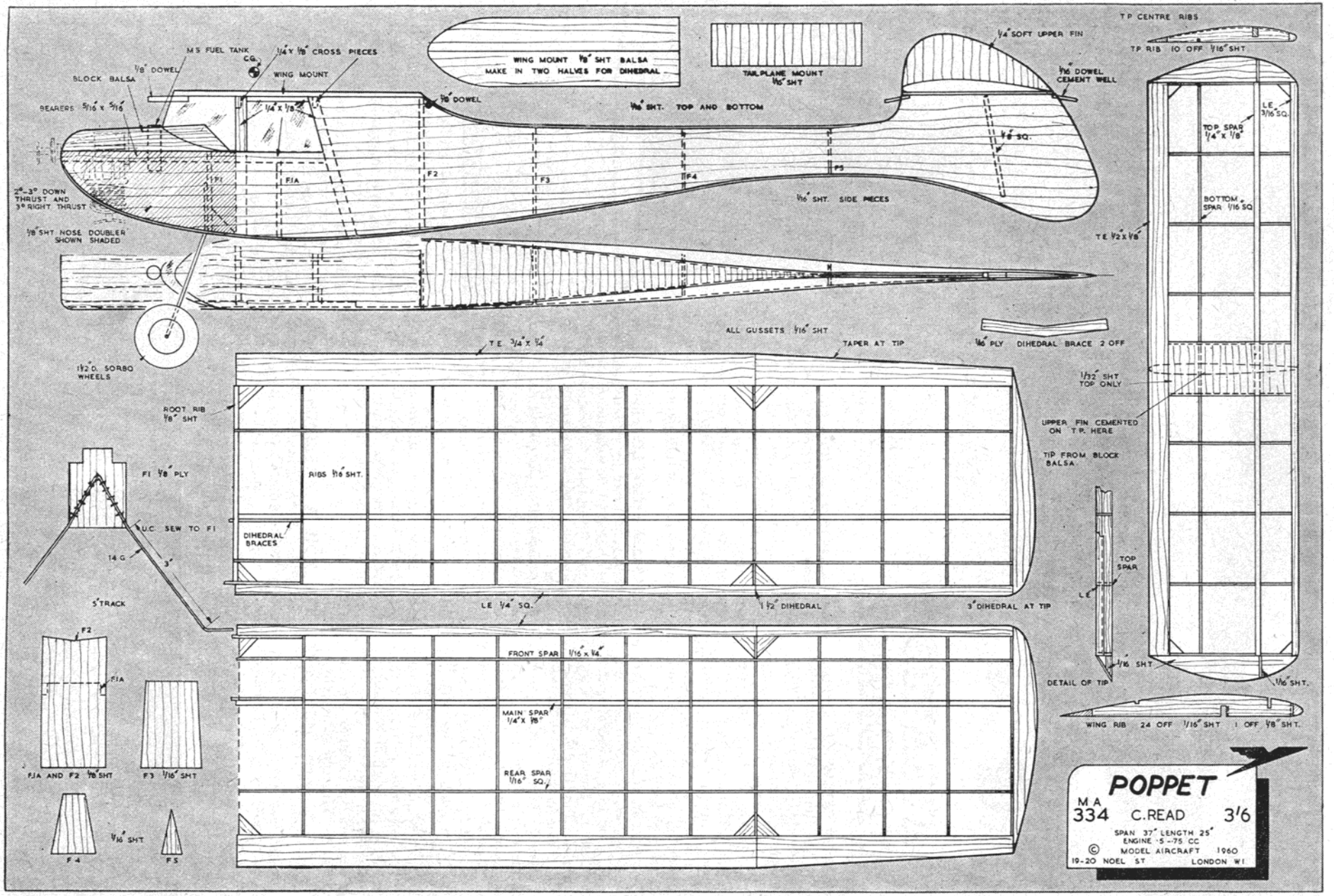
To be fixed Surbiton Gala, Chobham. R/G/P and 0.049 Power.

Oct. 9th *FARROWSHIELD. Team Rubber.
TEAM RACING. Classes ½A, A & B. Area Centralised.

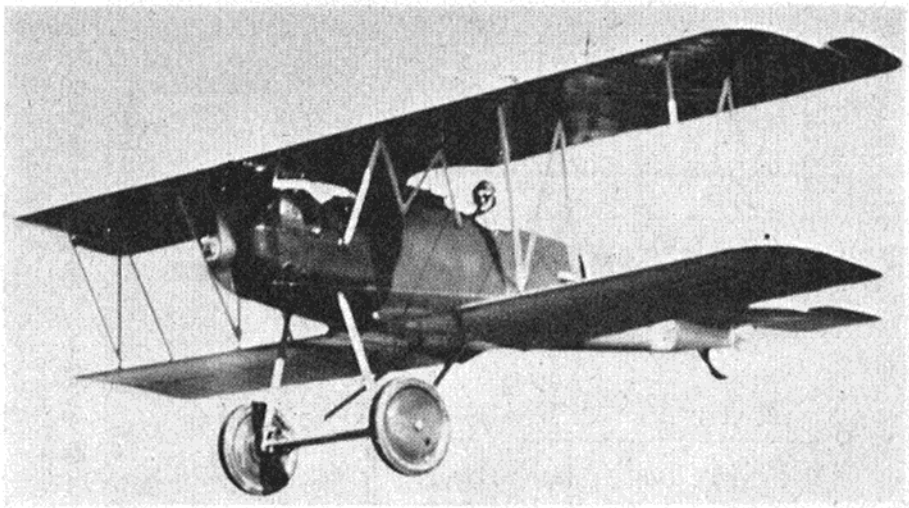
" 16th FROG SENIOR CUP. U/R Power.
C.M.A. Cup. U/R Glider. Decentralised.

" 23rd †Croydon Gala, Chobham, Power, Open and 0.049.

Nov. 20th †Croydon Gala, Chobham, Open Rubber.



FULL SIZE WORKING DRAWINGS ARE OBTAINABLE FROM YOUR LOCAL DEALER, OR BY POST FROM THE "MODEL AIRCRAFT" PLANS DEPARTMENT 19-20, NOEL STREET, LONDON, W.1, PRICE 3s. 6d., POST FREE



AVIATION NEWSPAGE

by J. W. R. Taylor

A CLOSE-UP VIEW of a Pfalz D.XII scout, like that at the top of this page, was liable to be somewhat lethal back in 1918. Fortunately for the cameraman, this particular D.XII is friendly, having been rebuilt recently by Bob Rust of Atlanta, Georgia.

Up to 1955 it was part of the famous Jarrett collection in New Jersey. When Frank Tallman bought the collection, he offered Rust a Spad 7 as payment for the work involved in making the Pfalz airworthy. This took nearly four years, which gives a good idea of the aircraft's condition when it arrived at Rust's home on a trailer. The 180 h.p. Mercedes engine was in fine condition; but the airframe needed many replacement parts and this was complicated by the double-curvature of the plywood monocoque fuselage. Special moulds had to be made for every new section, and it took nearly as long to find 29½ ft. lengths of spruce for the one-piece spars.

With the help of 40-year-old German drawings, Rust was able to restore the Pfalz perfectly to its original condition. The propeller is a precise copy by Flottorp of the one on a similar aircraft in the National Air Museum at Washington, and only the wheel brakes are non-standard.

Rust's rebuild was flown for the first time on January 3rd, 1959, by Tallman, and has since shown its paces in mock dog-fights with Tallman's Sopwith *Camel* at many air shows. For the record it spans 29 ft. 6 in. and is 21 ft. 5 in. long. Its performance when new would have included a top speed of around 120 m.p.h., rate of climb of 1,700-1,800 ft./min. and endurance of 1½-2 hours. The D.XII proved highly successful in action and, but for the arrival of the Fokker D.VII in May, 1918, might have been regarded as the best German scout of that period.

* * *

GERMAN FIGHTER pilots of this present day and age fly American; but the sight of Iron Cross insignia on aircraft as fast and formidable as the Lockheed F-104F (*below*) still takes some getting used to.

Photographed at Edwards Air Force Base, California, this two-seat *Starfighter* is one of those on which Luftwaffe pilots are doing their operational training before switching to the single-seat F-104G fighter-bombers that will form the main day fighter equipment for their air force in the early 'sixties. Its performance differs little from that of the G, with a max. speed of well over Mach 2, and it is capable of carrying the same armament.

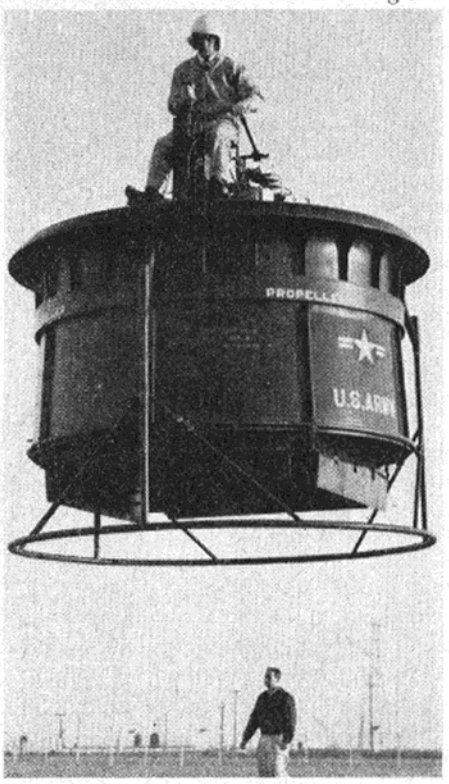
* * *

FIT FOR A PRESIDENT is the little Pober *Sport* lightplane illustrated below, which is hardly surprising as it was designed and built by Paul Poberezny, President of the Experimental Aircraft Association, America's home-builders' union. Powered by the inevitable 85 h.p. Continental C85 flat-four, it spans 23 ft. 1 in., has an empty weight of 570 lb. and cruises at 130 m.p.h.

As a curtain-raiser for the Association's 1960 fly-in at Rockford, Illinois, this month, the Pober *Sport* has been flown on a 10,000-mile circular tour of 44 cities throughout the States by E.A.A. member Anders Ljungberg. There could be no better proof of the quality of the products of American amateur constructors, and their fly-in should be quite a show, as the 1959 total of 80 participating aircraft promises to be beaten handsomely.

* * *

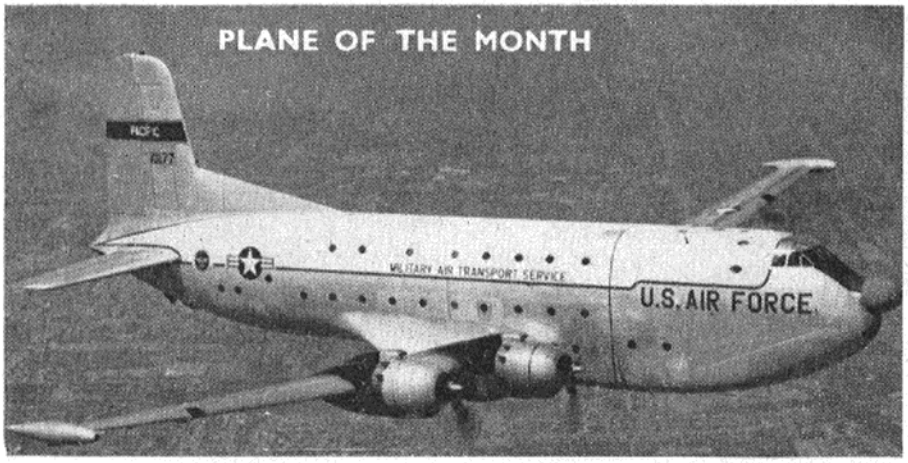
Pilot **OVER A BARREL** is riding the



latest version of Hiller's VZ-1E *Flying Platform*, built under contract from the U.S. Army. In the original 1955 model, the pilot stood over a shallow 6 ft. dia. duct, with only a twist-grip throttle in the way of controls. To change course he leaned in the direction he wanted to go. Power was provided by a pair of 40 h.p. Nelson H-56 two-stroke engines, driving co-axial contra-rotating ducted fans.

The second version of the VZ-1E, tested in 1958, had three H-56 engines, for greater safety, and an 8 ft. duct. The current model has a much deeper duct, a seat for the pilot, conventional helicopter-type controls and a higher forward speed.

Left: the Pober *Sport* U.S. "Homebuilt." Below: Luftwaffe *Starfighter*.



The Douglas GLOBEMASTER

ALTHOUGH it is overshadowed in size, power and payload by the newer C-133 *Cargomaster*, the C-124 *Globemaster* II is so bulky that it still looks the biggest thing in the air. Nor are appearances entirely deceptive, for it is capable of carrying without disassembly 95 per cent. of all types of equipment used by the U.S. Army Field Forces.

When the original XC-74 prototype of the *Globemaster* was designed and built during World War II, it was the largest landplane transport in the world. Its wings spanned 173 ft. 2 in., it was 124 ft. 1½ in. long, 43 ft. 8 in. high, weighed 155,000 lb. fully loaded and was powered by four 3,000 h.p. Pratt & Whitney R-4360-27 engines. New features included thermal de-icing, laminar-flow wings, reversible-pitch propellers, full-span flaps, and walkways in the wings for servicing the engines in flight.

The crew of up to 13 was accommodated on two decks. On top was the flight deck with separate bug-eye canopies to give the pilots a 260 deg. field of vision, and with a compartment behind for the flight engineer, radio operator and navigator, plus a galley and crew toilet. On the lower deck was a relief crew compartment with six bunks.

Equally impressive was the main cabin, 75 ft. long, 11 ft. 6 in. wide and 8 ft. 6 in. high, equipped with every known aid to rapid freight handling. A pair of travelling cranes, each with a four-ton lifting capacity, ran on rails the full length of the hold. A section of the floor, just aft of the wing trailing-edge, could be lowered as a freight elevator, and there was a side-door hoist capable of lifting two tons. Typical loads included 10 Wright R-3350 engines, two T-9E1 army tanks, two 105 mm. howitzers with tractors, ammunition carriers and crews, two disassembled P-47 *Thunderbolt* fighters, 125 troops or 115 stretchers. Range was 7,800 miles at 300 m.p.h.

By the summer of 1945, the C-74 was approaching quantity production to meet U.S.A.A.F. requirements plus a Pan American Airways order for 26 of a 108-passenger commercial model designated the DC-7. With the end of the war against Japan, the military contract was cut back to 14 aircraft, of which the first flew on September 5th, 1945. Pan-Am cancelled their order and the designation DC-7 passed eventually to a much smaller aircraft.

The capabilities of the C-74 *Globemaster* I were well-proven during the Berlin Air Lift. Biggest aircraft flown into the beleaguered city, it proved that a few large transports could have handled the operation more efficiently than the huge fleet of *Skymasters*, *Yorks* and smaller types. The only snag was that its heavy wheel loading broke up the runways and taxi-tracks at Tempelhof Airport.

Clearly, full advantage was not being taken of its load-carrying abilities while cargo had to be hoisted through the side door; so the U.S.A.F. asked for a re-designed model with nose-loading doors and ramp and a cabin high enough to take most of the larger Army vehicles then in use. The result, first flown on November 27th, 1949, was the YC-124 *Globemaster* II.

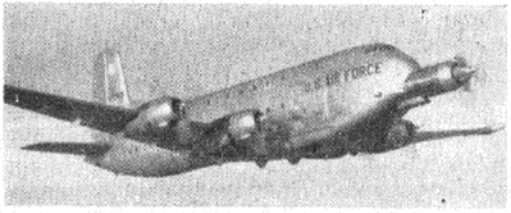
The prototype was converted from the fifth C-74 and became the YC-124A when it was re-engined with R-4360-35A's. Its hold was 77 ft. long, 12 ft. 10 in. high and 13 ft. wide, giving more than 10,000 cu. ft. of usable cargo space for up to 56,000 lb. of freight. With a temporary floor installed, it became a two-deck transport for 200 fully-equipped troops or 127 stretcher cases and 52 sitting casualties and attendants. Loaded weight, 175,000 lb.

In its C-124A production form, the *Globemaster* II was fitted with 3,500 h.p. R-4360-20W engines and over 200 were built. One was scheduled for conversion into the YKC-124B flying tanker in 1951, but was not completed in this form. Instead it flew on February 2nd, 1954, as the YC-124B with four 5,500 h.p. Pratt & Whitney YT34 turboprops, under a U.S.A.F. programme to evaluate the military possibilities of turboprop power. The only other experimental variant was a single C-124 flying test-bed, which carried the world's most powerful turboprop, a 15,000 h.p. Pratt & Whitney T57, in its nose.

In 1952, production was switched to the C-124C with 3,800 h.p. Ford-built R-4360-63 engines, APS-42 weather radar in a nose "thimble" and wing-tip heaters for thermal de-icing. These last two features were fitted retrospectively to the C-124A's, and when the last C-124C was delivered in May, 1955, a total of 446 *Globemaster* II's had been built. Many remain in service with M.A.T.S., and their bluff shape is likely to remain a familiar sight all over the world for some time to come.

Data (C-124C): Span 174 ft. 1½ in.; length 130 ft. 5 in.; height 48 ft. 3½ in.; loaded weight 185,000 lb.; cruising speed 272 m.p.h.; range with max. payload 1,232 miles.

Heading: the C-124C with radar nose. Left: a C-124A with nose loading doors open. Right: C-124 with P. & W. T-57 in the nose. Below, left: XC-74 prototype showing twin bubble cockpits. Below, right: the C-124A



TOPICAL TWISTS

by pylonius

Potted Plants

While others are welcoming in the silly season, engine lovers are now well advanced into the pot sprouting season. No engine fancier worth his brew is content with just a single pot up front; two is now *de rigeur* for both airfield and potting shed wear.

I should have thought that even the most fiendish prop flicker would have found enough noise and fury in the single potted unit to keep his mechanised nervous system in good vibrating order. True, he now has the modern jet liner to compete with in the public nuisance stakes, and might feel rather neglected now that the peace loving citizen is shaping up to the full size stuff. Some extra acoustic effects may be called for, and if two pots make twice the racket of one, the jet boys may have to look to their laurels.

On the other hand the extra pot may be there just to increase the aggressive bulk of ironmongery—rather like a warring tom-cat arching its back.

There is another theory, and that is that the engine designers are fast running out of single pot variants, but engine collectors need not be dismayed, the single potters are still coming off the stocks in vast and ingenious variety. As an added safeguard against any falling off in inventiveness the whole thing has been put on an international basis. Once a design is 10 years old, and decently forgotten, it can be resurrected by a distant country as a new design. By thus keeping the pot a-boiling, as it were, there is no danger of a 10 cylinder radial for at least 20 years.

Another fashionable gimmick is to achieve a startling decorative effect by disposing the pottery around the model in the form of small separate units. But it would seem that breaking up the power in this way is likely to have the same effect on the model.

Veil of Tears

Members of the American press were recently confronted with a curtain bearing the notice, " Behind this curtain is the hottest shape in the U.S. Air Force." Imagine their disappointment when the curtain was pulled back to reveal a rotten old aeroplane.

Well, a sort of aeroplane, that is. All that was missing was the wing, unless, of course, you examined the cockpit steps very closely.

Removing the only means of airborne support in this way was, I think, an unkind trick to play on the vintage flyer of 1996. Perhaps it's a good thing that the vintage type has more or less given up this silly model business anyway.

Marple-ous

We are informed that the recent C/L display at Wembley was witnessed by no less a personage than Mr. Marples. Needless to say the performance sent him into transports of delight, with the Combat flying giving a realistic impression of the excitement and incident of a traffic roundabout on a Bank Holiday. The only cause for misgiving is the thought of the compulsory fitting of streamers to all vehicles.

This, of course, is only one instance of control lining making the headlines, and I don't mean the type that furrow the anxious brows of the officials. Away in Hungary preparations are going ahead on an expenditure account that would cause a Cabinet crisis west of the Oder. A sunken loudspeaker is but one of the luxury gimmicks laid on for the occasion. And, no doubt, the security minded competitor will be searching his C/L handle for hidden microphones.

Were we to hold such a World Champs in our " toys for boys " country, things would be less munificent. We could imagine the S.M.A.E. council prostrated at the feet of some indifferent airfield C.O., begging for the use of a corner of the hangar apron. Ultimately, after consultation with the top brass at the Air Ministry, permission might be given on condition that the modellers supply the necessary labour to move the *Spitfire* and *Meteor* relics, and subject to the area in question not being required for A.T.C. band practice.

Hand-Made

Imagine my amazement, when skipping through the model journal, I was confronted with a picture of a piece of Epsteinish modern sculpture. That of a large snouted, heavy footed creature gazing stolidly into the infinite. At first I thought it must be some piece of work commissioned by Londonderry House to immortalise the forward and upward looking modeller. Perhaps to stand for all time on Chobham Common, facing Croydon.

Unhappily for my cultured speculations, the object turned out to be just another C/L handle. Must be losing my grip.

Another form of art is that of aesthetic model design: achieving those graceful lines and crafty configurations which make our airfields fit for human habitation. Unfortunately, the technical, anti-art boys seem to have taken over for the moment with a strictly orange crate approach. We can only console ourselves with the thought that somewhere behind the rough exterior beats a pure little radio set.

As far as some of the more horrific products are concerned, such designs should carry the warning: " This model is unsuitable for children and people of a nervous disposition."

A-Trophy

At one time club trophies were fought for in the heat and the sweat of the flying field battle. Now, according to the latest Club Reports, the annual hardware hand-out covers every possible merit other than a hard won bunch of max's. Most clubs, out of respect for the past, keep their ancient cups decently buried in the remotest cupboard, but some officials get the itch to revive the annual tradition, and that's where the head scratching begins. Faced with the cancellation of the only contest, owing to the entry having broken its wing, all sorts of non-flying clubroom talent must be unearthed. Possibly, a modern prizegiving list would go something like this:

Champion Engine Buyer: J. Bloggs.
Champion Left-Handed builder: J. Bloggs.
Airfield Lap Record (unsupercharged): L. Flether.
Best Club Attendance: B. Snoggins, Caretaker.
Quietest Junior of Evening: Noddy Wilkes.

Chobham P.B.I.

At one time the F/F contest was quite a casual sort of affair. You just heaved your model into the air, and if it hooked a thermal you hung on to collect the hardware, while if it made its usual sort of flight you just picked up the pieces with a nonchalant shrug and hied off home. No undue anxiety or exertion; just a pleasant day in the country.

What happens now is enough to make the blood curdle. In order to get the pot on to the sideboard you have to be up earlier than the first dickie bird, and prepare to make 14 return journeys across Chobham Common. Such an ordeal would strike terror into the heart of a trained commando, and is enough to frighten any would-be modeller into taking up toy trains. Still, tough as it is, it can be done, by George !

Tail Twists

I am asked by the manufacturers of Buty Cosmetics Ltd., to point out that the Butyrate shrinking compound mentioned in this journal has no connection with Butyrake, the well-known slimming pill.

One club complains that the F.A.I. eliminators are rapidly becoming a farce. This may be justified up to a point, but I should have thought getting through on the strength of one short qualifying flight was pie-in-the-sky rather than pie-in-the-eye.

A certain club states that finished models can be flown on its flying field. Wonder where they fly the unfinished ones ?

Another bright but breezy Whitsun at Scampton

Report and Photos by
N. Butcher & D. McHard

AS modellers from all parts of the country converged on Scampton on one of the most glorious Whit Saturdays for years, the same thought must have been uppermost in all minds—will the weather hold ? It did, more or less ! The first day's flying on the Sunday was under the hottest, though slightly breezy, conditions we can remember at a Nats, although a heavy thunderstorm late in the evening caused considerable inconvenience to the less experienced among the campers. Fortunately, by Monday morning the weather had cleared and although it remained rather more cloudy and cooler, while the wind was stronger and in the opposite direction to the previous day, it was still good flying weather.

This is the second year that the Nationals have been held at Scampton and once again a large part of the aerodrome was out of bounds. Luck was with the organisers however, as the wind was not blowing towards the out of bounds area, although due to a variability in the wind direction many early flights in the glider contest were all being blown out of the 'drome into adjacent corn fields. Fortunately, the wind steadied and a change of take-off point made better use of the available space. On the second day the wind was in a different direction, but steadied before the contest started and competitors had the use of almost the full length of the 'drome.

As we arrived at the aerodrome Sunday morning the contests were just getting under way and our first visit was to the most popular, if the number of entries is any guide, of all Nats events—the **Thurston Cup** for gliders. With almost 300 entries to cope with, the change of launching site necessitated by the variable wind early in the event, could have caused considerable embarrassment to the organisers. However, this difficulty was overcome and the contest proceeded smoothly, and with competitors assisting with time-keeping no undue delays occurred.

As usual the standard of flying tended to be very variable, and also as usual luck in finding lift played a not inconsiderable part in determining the results. We did notice, however, a great improvement in launching techniques and many fliers had obviously spent much time practising the thermal hunting tow, nimbly jumping lines and dodging other competitors and spectators, while still keeping the model under perfect control.

It was also particularly interesting to note the comparatively large number of lady fliers and assistants in this event, presumably because there is no dirty fuel to spoil those summer dresses. Moral—if you want to get a girl-friend —get a glider !

There were fewer " open " models flown than one would expect in an event of this type, most fliers being content to try their luck with A/2's. However, the best of these proved a match for the lightweights, several reaching the fly-off. In this, as with all unlimited fly-offs, the times obviously indicate thermal assistance, but a " maximum fly-off " is impractical at the Nats and few will argue with the final results, as all the top men flew consistently and Geoff Dallimer's model appeared to have that slight edge which brought him victory.

Happy smile from John Simmance, of Northwood as he holds aloft his beautiful pendulum controlled Sopwith " Snipe " after flying in the scale event.

J. M. Bodey flying his fine Douglas D.C.3, colourfully finished in the livery of Philippine Air Lines.

With 48 entries the **Lady Shelley Cup** for tailless models—rubber, glider or power—indicated an increase in interest in these " unorthodox " machines. However, the disparity in the times between first and sixth place shows that many fliers still have a lot to learn about this class of model. Once again Josh Marshall topped the results with a rubber design—or rather two. He started with his M.A. design *Joss-stick*, lost it on his second flight and used a reserve for his third. Needless to say, both models flew in the stable, one could almost say " orthodox," way that is associated with his designs.

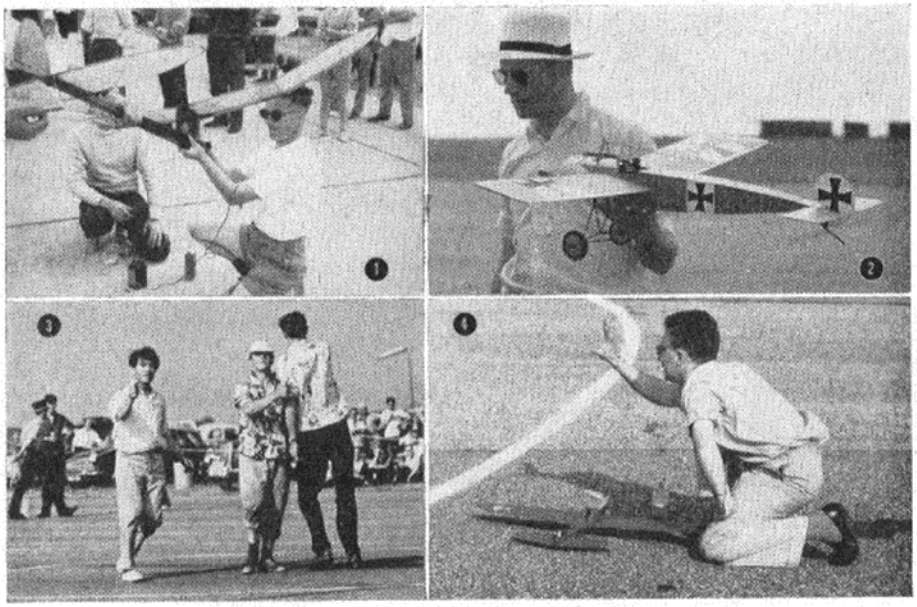
The performance of the PAA load models flying in the **Short Cup** definitely appears to be improving—either that or engines are becoming more powerful, if the angle of climb is any criterion. After years of trying, victory finally came the way of George Fuller, but only by 7 sec.—the margin that separated him from John O'Donnell.

In the C/L circle F.A.I. team racers—competing for the **Davies " A " Trophy**—were performing to their usual standard, which, on the model side, is very high, but from the handling, observing rules and consideration for other fliers' point of view, singularly low. At the moment this contest is a complete hodge podge—model specification and distance, F.A.I.—contest rules, S.M.A.E. Surely the intention when changing the " A " rules to F.A.I. was to provide international class experience, in which case the rules for running the contest, circle marking, *use* of segments, etc., should be enforced !

Great interest was lent to this event by the entry of Belgian Neri Benhard—winner of last year's Criterium d'Europe. Flying one of the nicest looking, and best built models in the contest he was ably assisted by fellow countryman Phillip Cohen, whose command of English must have been a great help in sorting out procedure. In spite of his model not being up to its Criterium standard of last year—the ball races on the engine had worn allowing considerable side play—he had little difficulty in reaching the final.

The final itself was most interesting. In addition to Bernhard, with his Oliver powered model, there was Mick Smith with a super tuned Rivers 2.5 and Tom Pasco with an Eta 15. (These latter two engines are making rapid inroads into the Oliver supremacy in team racing and it will be interesting to see how the situation resolves itself, there now being virtually nothing to choose between good examples of all three.) Smith, flying a monowheel design, definitely had the edge for speed, but all three models were very fast and the pitwork good. But Smith's extra speed counted as he was first " past the post," closely followed by Bernhard with Pasco not far behind.

Due to difficulty in finding a club to run it, **Combat** was reduced to a one-day event but the flying was good and many heats were very closely fought. Two circles were run for most of the time and this certainly helped deal with the entry.



1—Tom Smith gives his model a final check over before starting the Series VI Eta for his winning fly-off flight.

2—Third place in single radio was taken by this 1/12th scale Fokker EIIIa built by Dennis Thumpston, of Birmingham! He used Wright radio equipment.

3—Neri Bernhard fighting it out during a team race semi-final with two English competitors.

4—Five seconds to go—mechanic Phillip Cohen gives a visual count-down to his pilot Neri Bernhard.

Although flying wings, of all sorts, shapes and sizes, were in the majority, it is significant that an orthodox model came out on top. This is no isolated instance either, for the same pilot/model combination, Mike Kendrick, flying a *Black Ghost*, has shown the greatest consistency in all three Nationals combat events held so far—first in 1958, second in 1959 and again first this year. Some going—congratulations, Mike.

Without doubt, the biggest crowd drawer of the Nats is the **S.M.A.E. Cup** for multi-channel R/C models. This year the flying was the best yet seen at a Nationals, although not, in general, quite up to the standard witnessed at the trials a fortnight earlier.

Frank van de Bergh of Bromley repeated his trials success with two beautifully judged performances that put him some 700 points in front of clubmate, E. Coppard, who had 100 points lead over third man, J. Singleton.

A performance of particular merit was put up by 15-year-old Paul Rogers of High Wycombe, who lost his motor control on both flights, but even so obtained a really well earned 4th place. Paul, who is assisted by his father, only started radio 18 months ago but has all the makings of a potential champion.

The expected duel between Olsen, Uwins and Van den Bergh, unfortunately, did not materialise, only the latter showing his usual form. Olsen was plagued with a sick motor and in spite of landing halfway through his second flight to make adjustments—which caused a headache for the judges who had to decide whether this was permissible (answer no !)—it cut out before he could complete his flight, but the dead stick landing which followed was superb. Uwins had the misfortune to crash his model the day before the contest so was unable to compete.

The **Knokke Trophy** for C/L scale models, attracted 28 entries of the expected high general standard of finish, but once more the flying left much to be desired, even taking into account the wind which was blowing quite strongly at this time. The main trouble would seem to be that most models were underpowered and flown on too long lines for the conditions. With the multis it was mainly a case of starting trouble which was severely aggravated by the heat—the first engine overheating and stopping before the second could be started.

The "twins" suffered least and the D.C.3, shown in our heading photo, and Peter Wheldon's H.S.129 flew very well. One other "twin" which was outstanding was B. Randle's Fairey *Gannet*. This had 35 and 15 glo motors driving contra rotating props via an elaborate gear train. A most notable feat of engineering, this model also flew very well.

Eventual winner was George Fletcher's S.E.5a, built from a Frog kit with suitable "extras" added. He was closely followed by A. C. Day's Taplin twin powered Fokker D.7, and to make it an all W.W.1 event, Cesare Milani's Anderson Spitfire-engined Bristol *Fighter*, which was top marker in the concours part of the event, was third.

The second day started off colder and overcast, but the weather soon cleared, and although it was not so hot and rather windier, it was still good flying weather.

There were 277 entries in the **Sir John Shelley Cup** event (only 10 short of the Thurston), and as expected the competition was pretty fierce. Despite this fact, the same bunch of names began to accumulate at the top of the list until there remained only four contestants with triple maximums.

The most noticeable trend appeared to be the widespread swing towards larger motors in smaller models. In the breezy conditions prevailing, the characteristics of this layout were employed to their best advantage and in general the glide did not appear to suffer unduly.

With the launching point immediately beside the Open Rubber event, the timekeepers, many of them serving airmen, were often hard put to it keeping their "own" model identified when there were sometimes as many as 12 models all circulating in the same thermal ! To everyone's credit there were few arguments, and despite the large entry the organisers coped extremely well.

The eventual winner, Tom Smith of English Electric topped the four-man fly-off with a 5 min. 51 sec. flight. His usual impeccable model, powered this year with a series VI Eta 29, flew very consistently all day and the victory was well deserved. George French took second place 47 seconds behind followed by D. Edwards of St. Albans with 4 min. 27 sec.

Fourth man who reached the fly-off, Brian Eggleston of Baildon, had the misfortune to lose his model so could not fly, while former power champion, Ron Draper, had the galling experience of missing a triple max by only one second.

The Open Rubber event for the **Model Aircraft Trophy** attracted a large number of entries from all parts of the country and competition was very fierce.

Ten-year-old Michael Knight showed his fellow St. Albans clubmates the way, by clocking 9 min. 12 sec. in a very cool and professional manner. At this rate Michael is certainly a modeller to watch in future contests.

One noticeable feature which, we are pleased to say has been increasingly in evidence of late, was the general increase in the standard of construction and finish of the competing models. This improvement no doubt had some bearing on the fact that no less than 11 fliers reached the fly-off.

As some compensation for his bad luck in the Power, Coventry's Ron Draper came top with a fly-off time of 6 min. 42 sec., being followed by R. Lennox of Birmingham almost a minute behind with 5 min. 51 sec. Lennox, whilst replacing the propeller assembly under the tension of the fully wound rubber, accidentally crushed one of his nose longerons. He hesitated for some time, debating whether or not to put in some compensating packing, but, no doubt remembering the possible consequences of leaving a rubber motor wound too long he risked a launch, and, as his time (and our photo) shows, the model behaved perfectly !

The strain on the timekeepers' eyes may be judged by the fact that only 50 sec. separated the next four finalists. J. Wright of Peterborough landing third place. Contest nerves upset Elton Drew who, during the fly-off, undercounted by 100 turns and cursed all the way back to Glevum !

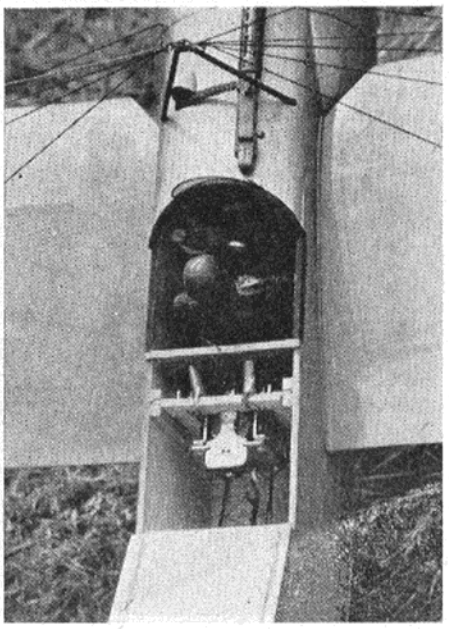
The wind played havoc with the majority of the F/F scale models, competing for the **Super Scale Trophy**, most of which were dismally underpowered for the conditions. There were some highly ambitious creations on display, and without doubt the most original choice was the 1909 *Valkyrie* bi-plane canard built by Arthur Evans and which we feature on this month's cover.

Built in true scale fashion, mainly from birch, with wire bracing, and full detail, the *Valkyrie* aroused much admiration. Although the morning was windy, Arthur took out his delicate-looking machine to carry out a test flight—this before the competition.

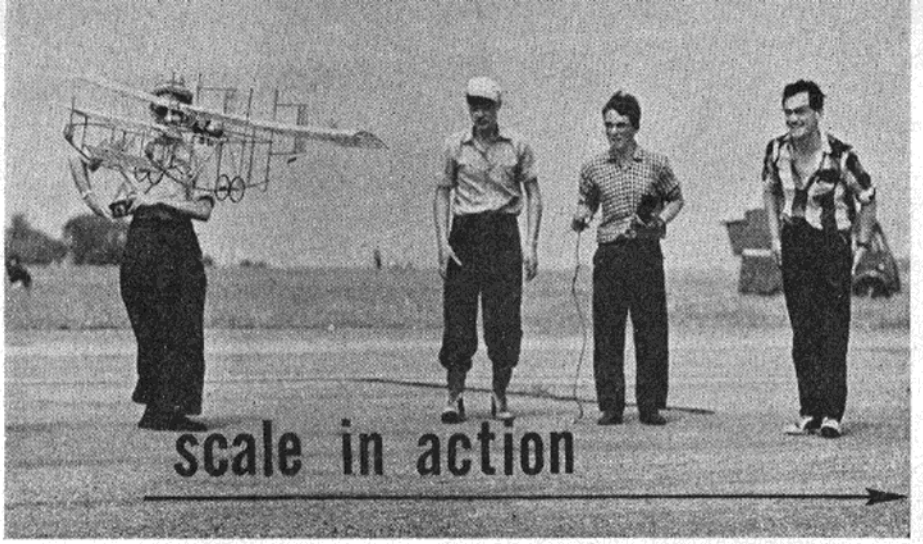
During the contest the *Valkyrie* rose from the ground quite stably, and although the ground speed was almost nil, it climbed to about 6 ft. Unfortunately, it did not turn, and the wind forced it into a stalled condition, from which it eventually came heavily to earth, and turned over. It was apparently undamaged, but following a further hand launch, it was fairly obvious that the crash had upset the delicate trim, and the model suffered considerable damage.

Arthur's attempt raised an appreciative cheer from the considerable crowd which this event always attracts and had the weather been a little calmer, it would almost certainly have been a victory cheer.

The winner was Bernard Newman, flying his version of the de Havilland *Beaver*, but



Dennis Thumpston opened the fuselage hatch, behind the fully equipped cockpit of his Fokker EIIIa, to show us the extremely neat Wright Relaytor installation.



even this model was underpowered for the windy weather, it also suffered from a sticking starboard wheel which induced continuous ground looping! It was eventually hand launched, but although thus loosing take-off points, it was so well placed in the construction marking, that the otherwise excellent flight put it into first place. You can read about the construction of this model on page 246 of this issue.

John Simmance of Northwood was second with a very fine model of a Sopwith *Snipe* which incorporated a highly ingenious single pendulum, controlling elevators, rudder and ailerons.

Third place went to last year's winner, Dennis Partridge of Croydon, whose little Cessna *Birdog*, powered by a very venerable Dart, showed all the big complex jobs how a take-off should be done! This was followed by a fine stable flight, but, unfortunately, failed to gain a higher placing owing to the fact that the model had very little in the way of scale detail for which judges George Fletcher and Ken Brookes could award marks.

The introduction of ½A team racing this year was popular and proved that this event has a definite Nats future. A great variation in model shape, moment arm configuration, etc., was evident as was also a decidedly catholic choice of engines—practically every 1.5 available appearing. Inevitably, and in our opinion unfortunately, this situation will shortly resolve itself, as with "A" racing, to a one or two make contest, for although model design does help, in the end it is the "mill" up front which provides the performance.

Mike Bassett's convincing performance with the prototype 1.5 Oliver will surely create a demand for this motor which is obviously better than any 1.5 currently available, although several of the older Oliver Tiger Cubs were in the running.

The flying itself tended to be rather "ragged," why we don't know, because most entrants obviously had previous T/R experience in other classes, but this will sort itself out in time, and there is no reason why this new class should not eventually rival "A" and "B" in popularity.

After a decline in recent years, a wider interest is evident in the Davies "B" Trophy. One reason for this could well be the availability of a good choice of motors, particularly the new series VI Eta 29, which appears to be the equal of the Carter-tuned McCoys which have held sway for so long. Whatever the reason this renewal of interest is a good thing—it would have been a pity if the most spectacular and "cleanest" of the team racing classes had died through lack of support.

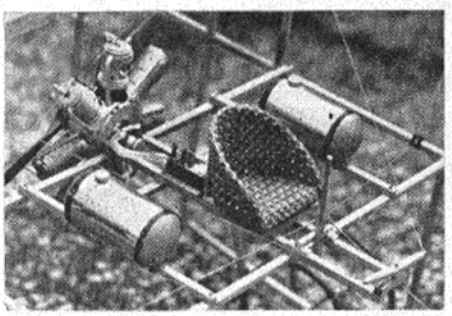
The racing itself was as close as ever in spite of the fact that several of the better known names were eliminated in early heats, and the final was extremely interesting. In this, the eventual winner Howarth (model proxy flown by Long and Davy) was using one of the new Etas. Pete Drewell had a Carter McCoy and Horton remained faithful to the Frog 500 he has used for years. Obviously considerably slower than the other machines, this latter model completes a final with only one stop (shades of 1950!) and thus takes some beating, especially if there is the least hold up on the ground. In the event, however, speed in the air paid, Howarth's model just having a slight edge over Drewell's.

As was not unexpected the flying in the Gold Trophy was excellent and attracted a large and appreciative crowd. Managing to reverse last year's placings, Ray Brown just pipped Brian Horrocks into first place, both of them leading third man Tom Jolley, who was featured on our last month's cover, by quite a large margin.

Of the one or two inevitable prangs, the most shattering, in the literal and non-literal sense, occurred towards the end of the contest when Brown took off for his second flight with reversed controls. It says much for his composure that he was able to use his reserve model to turn in a perfect flight and clinch his leading position.

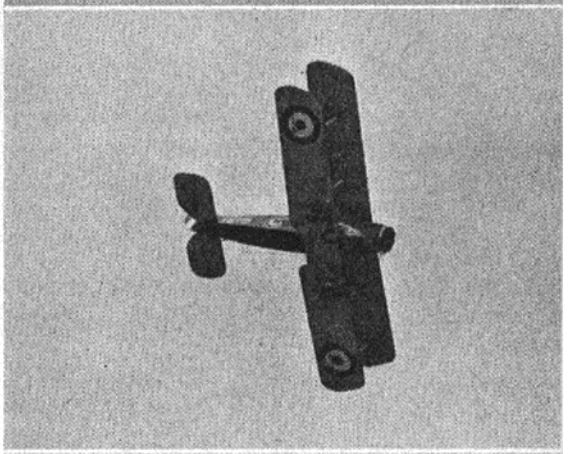
Brian Horrocks flew his Glo-chief 49 (not Sabre 49 as we stated in our Trials report) model with his usual precision and breath-takingly low pull-outs which delighted the crowd. There is so little to choose between these two that it will be interesting to see which

Close-up of the fine detail work incorporated in A. W. Evans' "Valkyrie." Note the beautifully woven basket work seat and the cleverly disguised Cox Space Hopper in the top cylinder of the dummy seven cylinder engine.



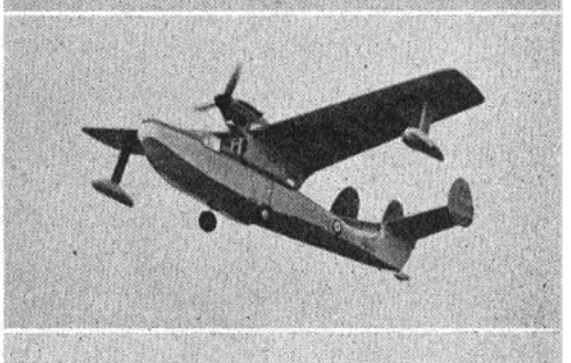
Above: plane on the cover airborne! A. W. Evans (right) anxiously watches his remarkable "Valkyrie" as it struggles for height following a successful take-off in the high wind—unfortunately the wind eventually won.

In the right-hand column reading from top to bottom we have—The F/F scale winning D.H. "Beaver" built by Bernard Newman (described elsewhere in this issue).



Multi flier J. M. Bodey's fine D.C.3 airborne on one engine.

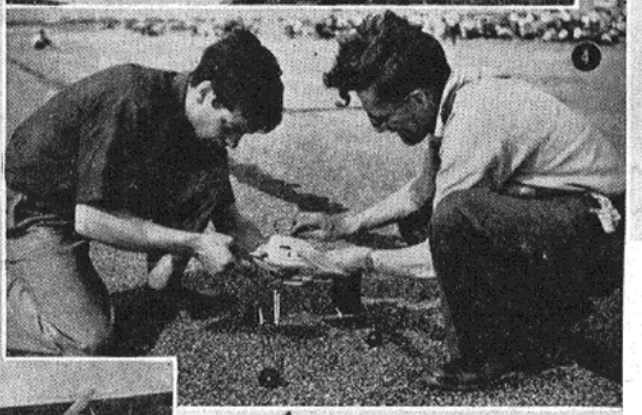
Captain Milani's fine Bristol "Fighter", first seen at the 1960 National Models Exhibition, was very realistic in the air.

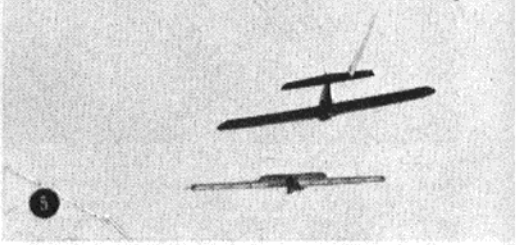


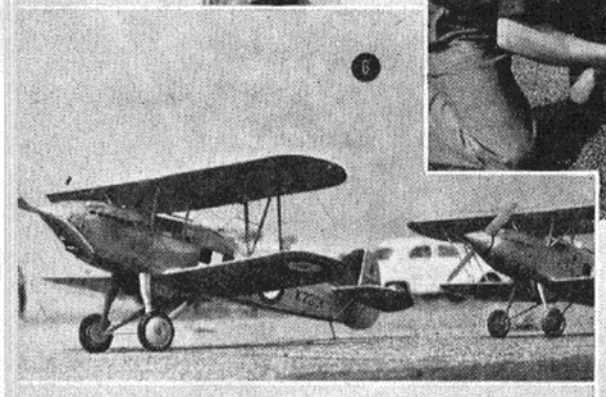
A. G. Noble built this F/F Supermarine "Seagull" (M.A. plan No. 83). It was somewhat underpowered for the prevailing wind.

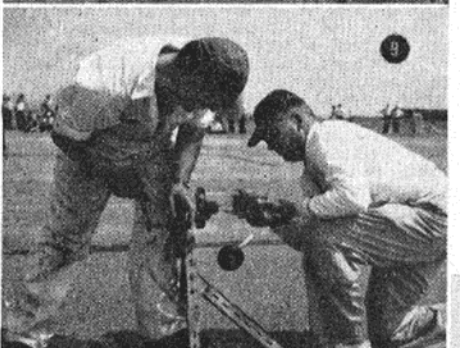
A. F. Clements, of Maidenhead, flew his life-like Sopwith "Camel" in the F/F event. Based on M.A. plan.

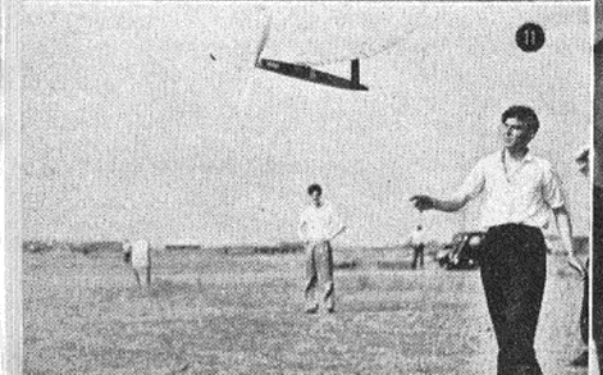
The plans of this Henschel H.S. 129 by Peter Wheldon appeared in the June M.A. (M.A. 330). This picture shows the model coming in to land on one engine (no cowlings!).

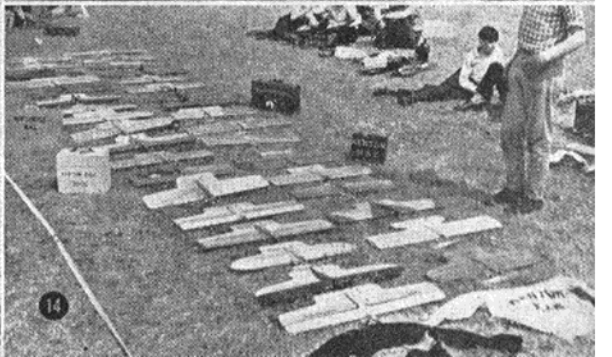












1—Classic rubber launch by R. Lennox, of Birmingham, in fly-off.

2—George French starts up for the power fly-off—he placed second.

3—Father holds the "Uproar" while the Jnr. Rogers wields the transmitter in Multi R/C.

4—Ron Irvine prepares his fibreglass body, pine wing and tail, Class I speed model.

5—Meekins/Kendrick combat models in action. The "Black Ghost" (M.A. Plan 295) is in very hot pursuit.

6—Not entered, but Capt. Milani's beautiful Hawker "Fury" (left) makes a fine picture alongside S. B. Perry's 1/12th scale Knokke entry of the same machine.

7—Ron Draper launches in the rubber fly-off.

8—Beautifully built A.2 by Borrill, of Boston.

9—Sonny Carpenter cranks the starter for Gus Johnson. Model is his swept forward wing Dooling 29 speed entry.

10—Enya 29 powered "Smog Hog" entered in Multi Radio by C. Thomas of Sutton.

11—The completely relaxed air that (sometimes) accompanies rubber flying is captured in this shot of a competitor launching in the Model Aircraft Trophy.

12—Dad holds while Michael Knight, of St. Albans, puts on those last few painful turns.

13—Beautiful yellow and red Bucker "Jungmeister" F/F by Hackett, of Chichester.

14—Some of the Northwood and Kenton Club's combat models in line astern!

1—1st in " single " radio was D. Knight (left) flying his biplane " Bi-Fli." G. White (right) was second using E.D. Black Arrow radio.

2—Josh Marshall, of Hayes, won the Lady Shelley, here he is seen adjusting the nose-block prior to his 3rd flight.

3—Engine manufacturer A. E. Rivers with Mick Smith, Dave Balch and the winning F.A.I. model. Guess what motor is used !

4—Beautiful S.E.5a Knokke Trophy winner by George Fletcher.

5—½A team race winner, Mike Bassett, is here assisted by second man, Dave Dew.

6—Donohue and Askew adjust their " Equaliser " during the R/C Multi event.

7—Fred Boxall hurries out to the rubber fly-off looking very confident !

8—Ray Brown with his reserve model. He wrote off model No. 1—inverted handle.

9—Ken Long " winding up " Howarth's Class " B " winner assisted by D. Willmot

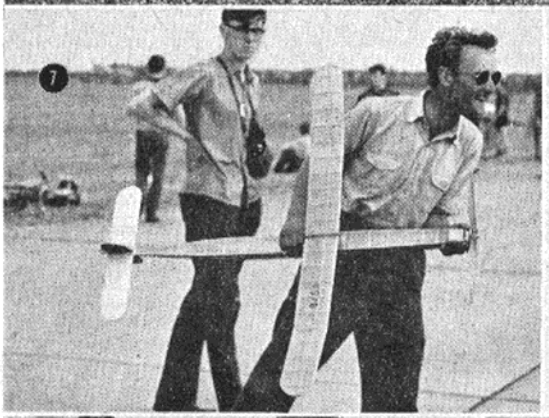
10—R. Andrews, of Reigate, flew this A.M. 3.5 powered low winger in the " single " R/C.

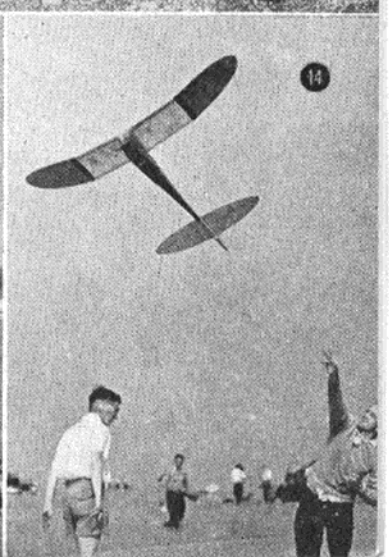
11—Smallest R/C ship there—although not in contest, Peter Thornton's Pee Wee powered, Remtrol equipped model made many successful flights.

12—Tideswell, of Baildon, with traditional sun protector, sets his D.T. fuse.

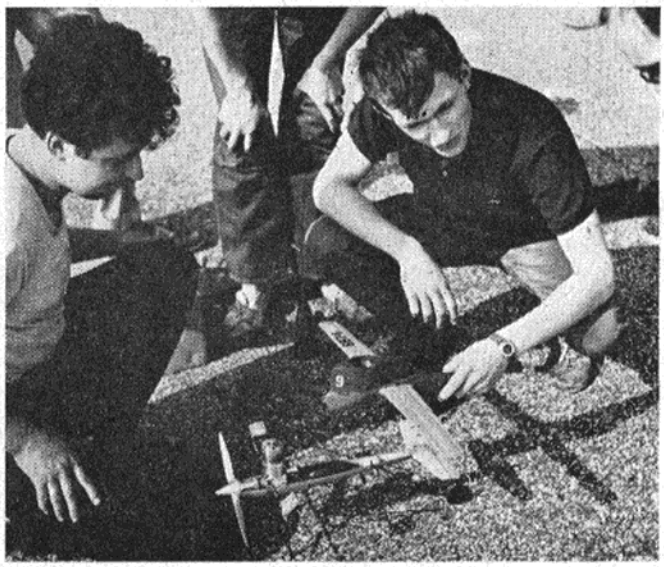
13—Bill Nelson, from Sheffield launches his rubber powered Lady Shelley entry.

14—Boardman (English Electric) gets his P.A.A. load entry away in a " lightning " climb.





Pete Drewell prepares his Checksfield/McCoy 60 speed model assisted by Terry King. Note filled pen bladder in pan.



Typical flying wing glider launch by J. S. Whittaker of Tunbridge Wells M.A.C.

one comes out on top next time they fly against each other.

The three Speed classes were flown on both days and produced some good times, while particularly outstanding was the consistency of visiting American modeller Gus Johnson flying for Cambridge. He was using monoline on both his 29 and 60 models, and although not appreciably faster than the normal two-line models in the latter class and definitely slower in the 29 class, he made this method of control look ridiculously easy after the erratic performances we have seen to date.

There is a definite increase in the interest shown in speed flying and the times recorded in the larger classes are by no means discreditable. Unfortunately, although there is ample interest in Class 1 (the international class) it would seem that at the moment we just have not got the motors with which to approach world speeds.

Radio single control for the **Ripmax Shield** turned out to be a bit of a fiasco, especially after the excellent multi event of the previous day. We feel that it would be infinitely preferable to run the "single" on the first day and follow with the more "professional" multi, in order to avoid the dismal anti-climax invariably presented by the current arrangement.

The take-off area saw a seemingly endless procession of non starters and radio failures, while most of those who eventually persuaded their models into the air put up very mediocre performances.

There were, however, one or two who were quite outstanding. The two top men, D. Knight and G. White for example, both of the "Wagtails" used the new E.D. Black Arrow equipment to provide some excellent flying. Knight flew an Enya 19 powered *Bi-Fli*, which was beautifully built and looked most impressive

Continued on page 247.

NATIONALS RESULTS

SUPER SCALE TROPHY 20 entries

1. Newman, B. E.	Blackheath	80 pts.
2. Simmance, J. L.	Northwood	68 ,,
3. Partridge, D.	Croydon	63 ,,

KNOKKE TROPHY 28 entries

1. Fletcher, G.	Croydon	86 pts.
2. Day, A. C.	West Bromwich	84 ,,
3. Milani, C.	Watford Wayfarers	81 ,,

GOLD TROPHY 46 entries

1. Brown, R.	Lee Bees	621 pts.
2. Horrocks, B.	Wolves	608 ,,
3. Jolley, T.	Whitefield	539.5 ,,
4. Day, D.	Wolves	533 ,,
5. Warburton, F.	Bolton	513 ,,
6. Day, K.	Lee Bees	510 ,,

DAVIES "A" TROPHY 102 entries

1. Smith, M.	High Wycombe.
2. Bernhard, N.	Belgium.
3. Pasco, T.	Thornaby.

DAVIES "B" TROPHY 51 entries

1. Howorth, D.	Wharfedale.
2. Drewell, P.	West Essex.
3. Norton, —	Wharfedale.

"½A" TEAM RACING 67 entries

1. Bassett, M.	Sidcup.
2. Dew, D. R.	Godalming.
3. Nixon, D.	Hinckley.

COMBAT

1. Kendrick, M.	West Bromwich.
2. Greenaway, R.	Hayes.

SPEED CLASS 1 (2.5 c.c.)

1. Gibbs, R.	Hornchurch	117.5 m.p.h.
2. Wright, P.	West Essex	115.9 ,,
3. Taylor, J.	Hayes	103.5 ,,

SPEED CLASS 2 (5 c.c.)

1. Stephens, P.	Belfairs	139.8 m.p.h.
2. Watson, J.	West Essex	131.6 ,,
3. Billington, M. A.	Brixton	131.6 ,,

SPEED CLASS 3 (10 c.c.)

1. Johnson, G.	Cambridge	156.4 m.p.h.
2. Drewell, P.	West Essex	152.3 ,,
3. McGladdery, R.	Hayes	118.3 ,,

THURSTON CUP 287 entries

1. Dallimar, G.	Stevenage	9.00 + 6.52
2. Wyatt, C.	Ashton	9.00 + 5.50
3. Borrill, J.	Boston	9.00 + 5.09
4. West, J.	Brighton	9.00 + 4.56
5. Simeons, J.	St. Albans	9.00 + 4.45
6. Cleghorn, W.	St. Albans	9.00 + 4.27

SIR JOHN SHELLEY CUP 277 entries

1. Smith, T. W.	Eng. Elec.	12.00 + 5.51
2. French, G. R.	Essex	12.00 + 5.04
3. Edwards, D.	St. Albans	12.00 + 4.27
4. Eggleston, B.	Baildon	12.00
5. Draper, R.	Coventry	11.59
6. Buskell, P.	Surbiton	11.55

MODEL AIRCRAFT TROPHY 138 entries

1. Draper, R.	Coventry	12.00 + 6.42
2. Lennox, R.	Birmingham	12.00 + 5.51
3. Wright, J.	Peterborough	12.00 + 5.30
4. Greaves, D.	Leamington	1200 + 5.13
5. Monks, R.	Birmingham	12.00 + 4.59
6. Barnes, J. E.	Liverpool	12.00 + 4.39

LADY SHELLEY CUP 48 entries

1. Marshall, J.	Hayes	5.57
2. Hendrall, B.	Heswal	5.15
3. Gates, G. K.	Southern Cross	4.00
4. Bow, B.	Bristol Aces.	3,48
5. Wingate, J.	Chichester	3.04
6. Woodward, T.	Foresters	2.55

SHORT CUP 21 entries

1. Fuller, G.	St. Albans	7.42
2. O'Donnell, J.	Whitefield	7.35
3. Sinden, R.	Teeside	6.13
4. Young, A.	St. Albans	4.52
5. Knight, D.	St. Albans	4,45
6. Glynn, K.	Surbiton	3.09

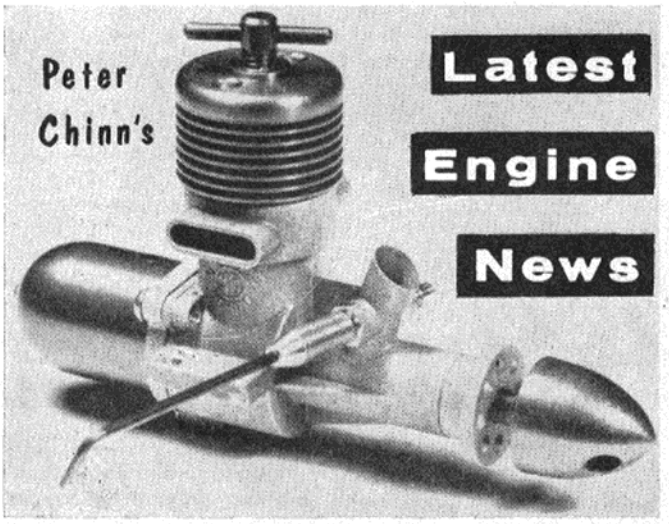
RIPMAX SHIELD 39 entries

1. Knight, D.	Wagtails	892 pts.
2. White, G. K.	Wagtails	618 ,,
3. Thumpston, D. E.	Sutton Coldfield	502.5 ,,
4. Collinson, A. R.	Baildon	359.5 ,,
6. Pearson, J.	Sutton Coldfield	320 ,,

S.M.A.E. CUP 43 entries

1. Van den Bergh, F. A.	Bromley	3,565.5 pts.
2. Coppard, E. H.	Bromley	2,844 ,,
3. Singleton, J.	A.R.C.C.	2,744.5 ,,
4. Rogers, P.	High Wycombe	2,690 ,,
5. Olsen, C. H.	C.M.	2,242 ,,
6. Johnson, E.	A.R.C.C.	637 ,,

Peter Chinn's Latest Engine News



Left—latest British addition to the 1 c.c. class: the well-made M.E. Heron.

Right—the new Japanese 7½ c.c. Kyowa 45 engine, which is available in standard and throttle-equipped versions.

EASY starting and notably good internal fits and finishes are the attributes of an entirely new British engine, the " Heron " 1 c.c. diesel made in the Isle of Man by Marown Engineering Ltd. Of conventional layout, the Heron is on the lines of the D-C Merlin-Spitfire-Sabre series, which is not surprising as designer Walter Kendall was formerly with Davies Charlton.

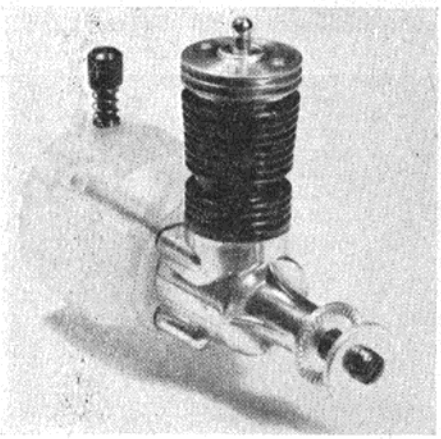
Unlike many small motors, the Heron has a bushed main bearing, in this case of meehanite, very finely finished, in which the case-hardened EN.34 crankshaft is an excellent fit. The piston and cylinder are also of meehanite. A fully-floating gudgeon-pin and a machined alloy conrod are used. Diecastings are sand-blasted and machined alloy parts (cylinder-barrel, spinner and tank) are anodised red.

Keilkraft, who are trade distributors for the Heron, will, we understand, have the new reed-valve Cobra 049 glow engine on the market by the time these words appear. We have had a prototype of this motor for some months. It is very much on the lines of the Cox Thermal Hopper, complete with Cox type cylinder and glowhead, ball and socket small end, counterbalanced crankshaft, etc.

U.S.A.

The first new Johnson motors, following the Johnson-Holland amalgamation, are being announced in the July issues of the American model journals. The new engines are the 35 Supreme stunt engine and 29R team-racing engine each priced at $17.95 (£6 8s. 3d.) and the 35 Combat Special at $19.95 (£7 2s. 6d.). Features of these new models include a special, lightweight, domed piston with skirt ports and a really massive crankshaft with ⅝ in. dia. journal (even bigger than the O.S. Max-III). This latter is relieved for a short distance ahead of the valve port in order to reduce drag.

Fox have announced a revised Combat 35—also at $19.95—with a new square intake front bearing housing (the first Fox with a detachable front end) rather like that of the Enya 29-3. An unusual refinement is the needle bearing main.



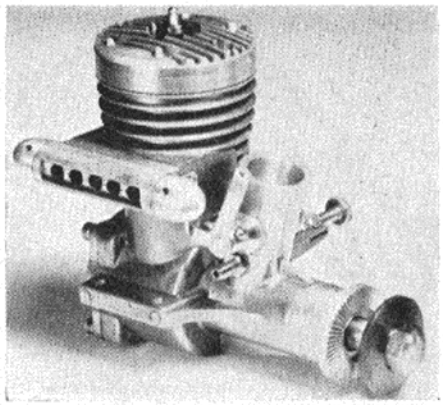
JAPAN

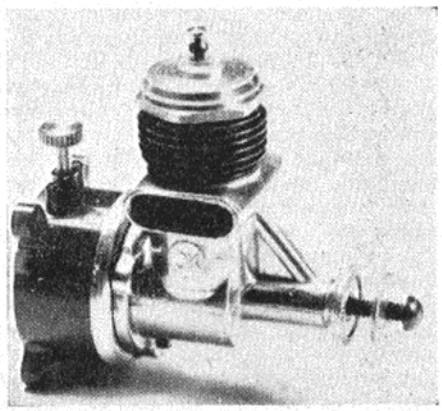
Just received from the O.S. factory is an experimental Max-D 15 (2.5 c.c.) racing glow engine. This engine has been produced at the request of speed enthusiasts in Japan and will be put into limited production only. It is based on the twin ball-bearing crankcase assembly of the Max-D 15 diesel which is, itself, still in the course of development. The new engine is intended for operation on very high nitromethane content fuels and is set up for a high pressure fuel system by means of a tapping off the rotary value and a metering valve at the back.

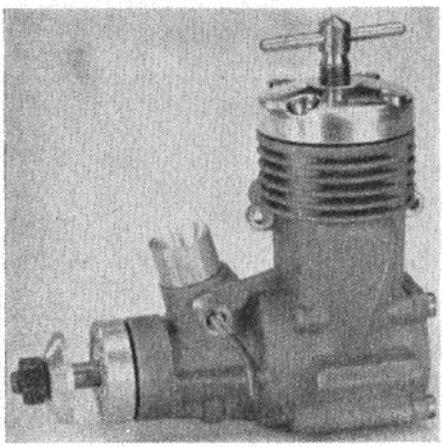
The Kyowa 45, which we mentioned " anonymously " in the March issue and of which photos of a prototype and its components we featured in our May column, is now in production and samples of both the standard model and of the throttle-equipped RC version have been received from the distributors, Oishi and Company. Beneath a clean and unpretentious exterior, this is a robust and well-made motor which could go a long way towards satisfying present needs for a durable engine for the bigger types of multi-channel models. A fairly light piston in conjunction with a generously counterbalanced, hardened shaft, having a 13 mm. journal and a rigid one-piece crankcase/cylinder - block/main - bearing casting, are used. Like the O.S. Max series, the Kyowa uses skirt transfer ports in the piston and liner. The piston is of meehanite, running in a heat-treated and honed liner. The cylinder head has a recessed copper gasket and is attached with six Phillips screws.

The R/C version features a semi-rotary exhaust restrictor, similar to that fitted to the O.S. Multi-speed engines, linked to a machined butterfly valve

Continued on page 248







Top right—the new American Cub 0.024 (0.4 c.c.) motor briefly described in last month's issue. This breaks with previous Herkimer designs in using reed induction.

Right—first production sample of the Italian 2.5 c.c. Super Tigre G.20 diesel. Like the Enya 15-D and MVVS 25-D, this new contest engine uses loop scavenging. Performance is said to be top class.

Left—K & B Aurora's new Tornado 049 sets new standards in easy starting without the use of starter springs. This engine was also described last month.

Radio Topics

NEWS AND VIEWS FROM THE WORLD OF RADIO CONTROL

FINALLY, after years of struggling around the fringe of success, you no longer have to be a millionaire, an American, or an electronics genius to achieve consistent multi performance. take your choice of E.D. or R.E.P. multi-channel equipment, for here is reliable British commercial equipment which is relatively inexpensive and good enough to capture two recent world records (Adcock flying with R.E.P. and Charlie Dance with E.D. Black Prince Six). E.D. also placed first and second in the Nationals (single) and R.E.P. first and third in the Team Trials. 1960 marks the year when multi first became a practical proposition for the ordinary model flyer in this country, and judging by the fact that neither company can make the equipment fast enough to satisfy demand, this is just what the customer has been waiting for for years. Now let's have some precision made servos—up to the Bonner standard—we'll pay the necessary price for them.

The R/C customer in this country has had it offered to him the hard way during the past decade with too much research and development rather than standard, stable, reliable equipment. Too many limitations with what he could buy, and too much doubt about the ultimate virtues of the new stuff as it appeared. It really does seem that at last we have got to the stage, where the modeller can fly R/C without having to fight out a course in electronics first—and the radio enthusiasts can still go on improving and developing new ideas. There's plenty of room for both—with the superhet field still wide open in this country to attract the latter.

* * *

Photos below show an Aerotone circuit adapted to a printed circuit devised and constructed by S. G. Hall. Printed circuit making is quite easy and well suited to amateur construction. Main job is the drafting one of laying out the circuit for printing on the base, where a little "know how" can save hours of trial and error. If you are not careful you can end up with one of those maze-type puzzles with a vital conductor missing!

Seriously, printed circuitry is thoroughly to be encouraged for all sorts of amateur assemblies. If there is a call for more working information we will condense a gen article on the subject in these columns shortly.

S. G. Hall's circuit modifies the original Aerotone design, using a Siemens double changeover relay to eliminate dual battery for pulse operation, with component values adjusted to enable the Rx to operate on 30 volts. Size (including relay) $2\frac{1}{2} \times 1\frac{3}{4} \times 1\frac{1}{8}$ in. and weight $2\frac{1}{4}$ oz. Now installed in a five-year-old Frog 45 for proportional rudder control.

* * *

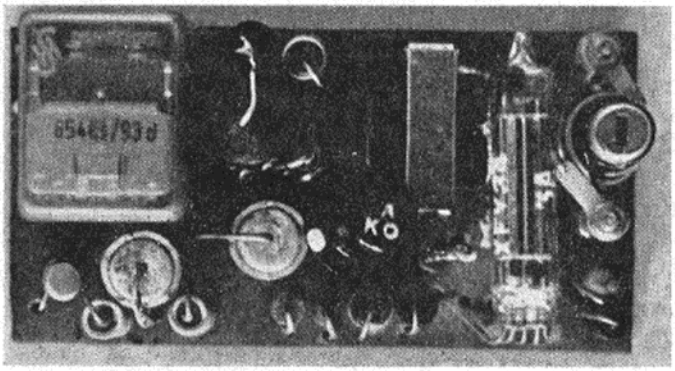
Difference of approach between a practical modeller and the man with practical electrical knowledge is that the former regards wiring simply as something that has to be connected up, whilst the latter regards any collection of individual wires as something which must be cabled up and properly supported. The latter should be regarded as a necessity—not an unnecessary detail. Why risk all the time, trouble—and cash—spent on the rest of the job when a further quarter of an hour or so will safeguard against broken connections? We used to be lax about this ourselves—until we accidentally wound the escapement leads up with the rubber motor. Everything still checked out O.K.—but we ran out of turns with a 10 min. motor run still to go.

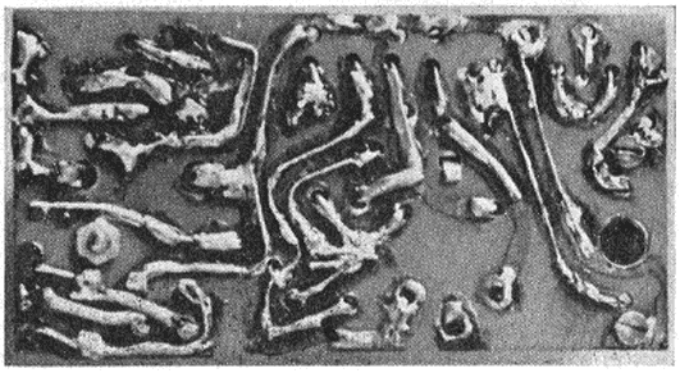
That raises two more points. People still use flimsy wire for escapement leads—and suffer a fantastic drop in voltage between servo battery and escapement coil without realising it. Three volts at the battery can drop to less than one and a half on some installations. No need to go to power cable proportions, but do use a sensible size of stranded wire.

Other point is that groups of separate insulated wires are made in flat strip form in America—containing up to 10 individual wires. Just lay the flat strip out as a cable form and strip back individual wires to length required at any point. We thought a similar product was available over here, but have not been able to trace it. First model shop to offer it should do a good business!

* * *

Comments from Howard Boys on flight smoothness and control response endorse the difficulty of flying proportional with slow response to rudder. He has actually monitored flights to check lag between control signal and visible response from model. Cure to one of his models, originally slow to turn, was





to lower the rudder position. Result—visible response in less than half a second. Claims, too, this works well on a delta model he is currently flying (17½ in. chord, 45 deg. sweepback, Mills 1.3 and McQue relayless radio), with rudder area equally disposed above and below the wing.

Response time, however, is very much bound up with overall design layout (and trim and weight distribution)—see later notes on low wings. Dihedral-fin area balance has much to do as regards how the turn develops—vicious or otherwise. For safe turns, we'll take ailerons every time!

* * *

Practical R/C is a lot older than many people think. Apart from very early reference to "coherer" systems, difficult to evaluate now, it was well established as a standard event at the American Nationals well before the war. Our old friend Chet Lanzo was an early participant, and speaking from memory we think it was in 1936 that he captured the first-ever R/C trophy.

The first ever successful radio controlled model aircraft flight is credited to the Good brothers, in 1935—although as with many other "official firsts" we have no doubt there will be other claims to dispute this. At any rate, right through the single-channel era the Good brothers reigned virtually supreme, with wins at the 1938, 1939 and 1940 Nationals, and further post-war successes.

Their original model, *Big Guff*, has recently been presented to the Smithsonian Institution and thus takes its place alongside other aircraft famous in American aviation history. The model has been resorted virtually identical with its 1939 condition. The wing and tail are the actual 1935 construction and the fuselage as re-made in 1938. Power unit, the equally historic Brown Junior spark-ignition motor.

Big Guff was fitted with two receivers (one operating on 56 megacycles and one on 60 megacycles), controlling escapements for rudder control plus either engine control or elevators. In actual fact, the majority of the 1,000 odd flights made were on rudder only. As the photo shows the design is not all that old fashioned, even by today's standards.

* * *

Query from reader G. N. Minifie as to where he can buy Mallory Mercury dry cells seems worth answering in this column, in case other readers have a similar difficulty. Actually these cells are quite widely distributed and should be obtainable from Boots, Timothy Whites, Currys and Halfords shops. If not in stock, they could order the sizes required. Otherwise contact Mallory Batteries Ltd., direct. Their address is Rainham Works, Rainham Road South, Dagenham, Essex.

* * *

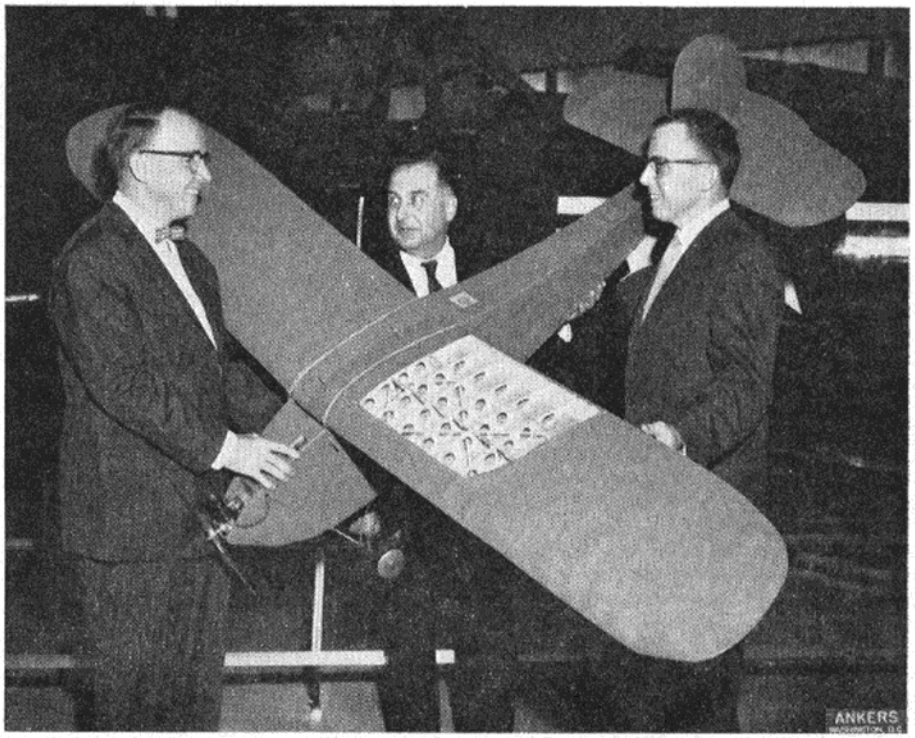
American catalogue "Radio Control Equipment Guide" available from Ed Johnson, price 10s. (5s. refunded against first order), summarises specifications of all current American equipment and accessories appropriate to R/C modelling. Also contains articles by Harold de Bolt (the whys and wherefores of *Live Wire* design); Bob Dunham on the lighter side of his life as Orbit manufacturer; Howard McEntee on "Intermediate"; John Jundt on transistors; and Ted Strader on proportional control. A most interesting commercial publication which reads like a magazine, and for the statistically minded there are abridged details of all the current American R/C model kits, engines, etc. And with import restrictions lifted, any of these American goods listed can, of course, be ordered by British modellers.

* * *

Query which has been put to use several times is—why low wing for better aerobatics and smoother control? This is not an easy question to answer simply—especially as adopting a low wing design does not automatically guarantee success. The type is that much trickier—design-wise and flying-wise.

* * *

One thing about a low wing, though, is that it takes better to neutral stability trim. By that we mean rigging with the wing and tail at zero incidence. With such a trim the model tends to fly on the path in which it is put, not automatically correct to a set flight attitude. As a result, having worked the trim out O.K., once you have put a low wing into a climb with a little up elevator it should stay in that climb, until caused to change flight path again by another control movement. Same with dives and other simple manoeuvres. So you get smoother manoeuvres without the model trying to revert to its normal flight pattern with neutral controls. On the other hand, no good "letting go of everything" for the model to sort itself out if you do get into trouble. You have to fly a neutrally stable model all the time.



The Good brothers (Walter left, William right) presenting "Big Guff" to Dr. Paul Garber, Curator of the Smithsonian Institute. (See text for details.)

E.D. SUPER FURY

Engine Test

Continued from page 226

generated and the limited amount of excess lubricant thrown out remained clear.

Controls were easy to adjust and generally non-critical, although a fairly fine adjustment of the compression screw was necessary to extract the final 100 or 200 r.p.m. on any given load. The compression locking lever was found useful at the highest speeds where, on the test engine, there was a slight tendency for the compression adjustment to run back.

Prop speeds achieved included 12,100 r.p.m. on a Trucut 8 × 4, 13,900 on a 7 × 4 and 15,700 on a 7 × 3.

Good quality construction, a twin ball-bearing shaft and fine performance seldom add up to a low-purchase price. The Super Fury is all the more remarkable, therefore, for the fact that it costs only 79s. 6d.

Power/Weight Ratio (as tested): 0.69 b.h.p./lb.

Specific Output (as tested): 116 b.h.p./litre.

ROVING REPORT

PEOPLE who should know are tipping America's Ed Kasmirski to win the World Championship R/C event in Switzerland—now only a few days off and the first R/C event to have F.A.I. world championship status. Whether the tipsters are right in their claim that Kasmirski can beat American champion Bob Dunham or the redoubtable Pappy de Bolt—or, for that matter, the cream of European multi-channel experts—remains to be seen, but one thing stands out, namely that Kasmirski has a superb model in his *Orion* low wing design—perhaps the most advanced R/C model flying today. Prior to designing *Orion*, Ed Kasmirski had flown the well-known *Astro-Hog* design in modified form. *Orion* is the result of an effort to improve on the *Astro-Hog*. It has slightly smaller wings, of tapered section, a smaller tailplane placed high and is better looking than the Astro.

Among *Orion's* many features is a form of Frise type aileron, giving increased drag on the aileron that is raised, thereby preventing the tendency towards an opposite yaw—a tendency inherent in all conventional aileron controls. In *Orion* the actual hinge line is placed below the lower surface, and well back from the leading edge of the aileron. Wing area has been reduced about 100 sq. in. by normal standards for a model of this class. The model is also cleaner, and, using a 0.45 cu. in. engine is, therefore, faster and better equipped to go through manoeuvres in windy conditions. Any tendency towards the wild and erratic flying usually associated with fast R/C models has been effectively dealt with by careful readjustment of control surface areas and movements. The tailplane area has also been reduced and has resulted in better landing and ground handling characteristics.

Orion was included as a construction feature in the June issue of *Model Airplane News* and the appropriate working drawings, M.A.N. Plan No. 71, are available in the usual way from the MODEL AIRCRAFT offices.

* * *

The hobby of model engine collecting has recently become " organised " with the formation of the Model Engine Collectors' Association in America. The Bruce Underwood Group, mentioned on previous occasions in these columns, formed the nucleus of the association which at present numbers some 40 members, including three in the U.K. and one in Canada. The total number of engines owned by M.E.C.A. members totals something over 3,500. Thirteen members own collections over 100, six of these having 200 or more and two have over 300.

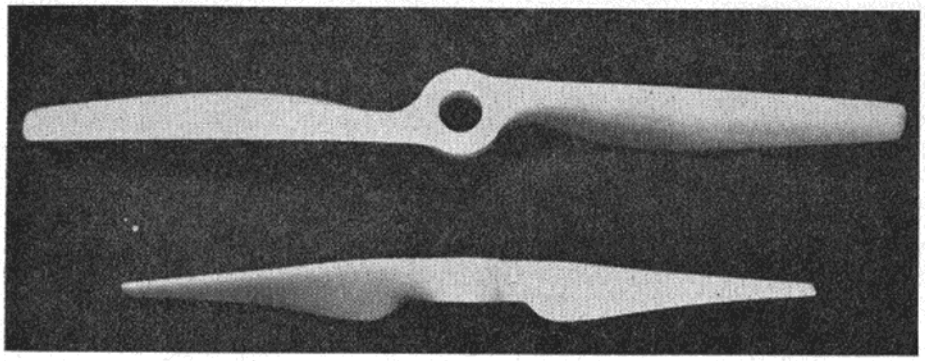
Emphasis is not necessarily on size of collections, however. Many members specialise in engines of particular types, periods or nationalities. The most popular group is the vintage American spark-ignition engine, of the 'thirties and 'forties, beginning with the Brown and Baby Cyclone and ending in the Anderson-Spitfire era. M.E.C.A. has its own bulletin, *The Model Engine Collector*, edited and produced by Joe Wagner in California, a real labour of love, like so many of the better model club publications.

Naturally, most collectors live for the day when they can drop onto something really exclusive. There were many interesting engines produced before the war of which surviving examples are now as scarce as the proverbial hen's tooth. American 1959 A/2 team member Bob Sifleet located a rare one recently which M.E.C.A. member Don Belote picked up for his collection. This was a pre-war Avion Mercury, one of the biggest model aircraft engines ever produced—a single-cylinder 25 c.c. which turned a 20 × 10 in. prop. But what shook Don and Bob was the model that had been built for it. " The wingspan was a full 12 ft. and the chord 26 in.," writes Don, " the fuselage darn near came up to my waist." Them were the days !

Andras Meczner, seen here at the last M.M.S, Internationals, will head the Hungarian power team at Cranfield. In the team eliminations he had a perfect 10-flight score.

" Polaris 1960 " latest team-racer by Czech champion Milan Drazek. Powered by works-modified Oliver driving 6.9 x 8.7 in. prop. High a.r. 39 in. span wing. Speed 93-96 m.p.h. A probable entry in the forthcoming World Championships.

Grish speed props, new style. See last month's issue for a description of these successors to the famous Tornado wood props.



OVER the COUNTER

WITH the availability of reliable and popularly priced British made R/C equipment, many modellers are stuck for a suitable model in which to install it. To this end the range of American Sterling kits imported for trade distribution by **Holt Whitney and Co.,** Whittall Street, Birmingham 4, will fill a definite gap in the market.

Seven models are available ranging from single channel trainers to scale designs for single or multi control at prices from £3 13s. 9d. to £6 4s. We have examined the kit of the Fairchild P.T.19 which is in the cheaper price range and is of excellent quality. (This model is now being built and will be fitted with single channel equipment. A full report of our experiences will appear in a future issue of MODEL AIRCRAFT.)

Also imported are the complete range of Fox and McCoy motors and any of these goods should be obtainable from your local model shop, but in case of difficulty write to Holt Whitney's and they will tell you the address of your nearest stockist.

Incidentally this firm is also the British agent for the New Zealand Wright R/C equipment, which did so well in the single channel class at the Nationals, but at the moment they only supply and service this direct.

* * *

The long awaited Sopwith *Camel* plastic kit from **Keilkraft** is now in the shops. Like its equally famous descendant, the Hawker *Hurricane*, also in the K.K. plastic range, it is to 1/72nd scale. The *Camel* is moulded in yellow plastic and one of the nicest things about this neat little model is the fabrication of the flying surfaces, being realistically thin, with an undercambered wing section. We consider the wing ribs to be rather "heavily" moulded on the wing upper surface, and there are no ribs shown on the wing undersides but these two points will no doubt be rectified by keen plastic builders. A feature worth mentioning is that the tiny rotary engine rotates with the prop, as it should do of course, but this detail is often overlooked by manufacturers. The *Camel* is colourfully boxed and costs 2s. 11d.

* * *

The Society of British Aircraft Constructors demonstrated the S.R.N.1 *Hovercraft* at Farnborough so we make no apologies for mentioning a "toy" model of this machine. The model in question is the latest addition to the excellent **Corgi** range of metal toys, and happily it is built to a scale only slightly under 1/72nd, so will find many buyers amongst collectors of model aircraft to this scale.

The S.R.N.1 is beautifully diecast and fully painted. It is mounted on three spring loaded ball casters which elevate the model to a scale operating height, price is 8s. 6d.

* * *

At the 1959 Northern Heights Gala, we were intrigued by the beautifully built and highly original 4 ft. span pod-and-boom pusher flown by Phil Smith of **Veron's.** This model has now been kitted as the *Velox* and has lost none of its fascination in the process.

Upon opening the well packed box, one is impressed by the beautifully uniform texture of the extensively prefabricated balsa in the kit. Other points worth noting are the fully preformed undercarriage, with wheels already attached, and the specially moulded large cockpit canopy, which is one of the finest we have seen, being fabricated from *really* clear thick acetate. An alloy spinner and special transfers are also included in this very complete kit which costs 39s. 6d. A specially designed 7 × 4 in. pusher propeller is available from Veron at 3s. 9d. post free.

* * *

A. A. Hales' latest venture is a dayglow transfer sheet measuring 9½ × 14 in. called Yeoman Glow. The first colour available is a really brilliant orange, which has been well received by contest modellers looking for an eye-catching quickly applied colour trim. Yeoman Glow costs 1s. 3d. per sheet.

Yeoman Viscotex is now well established as a very useful covering material falling half-way between conventional tissue, and the strong, but heavy, silk or nylon. It is easy to apply by the usual tissue-fixing methods and, in appearance, resembles a thick rag tissue. Here, however, the similarity ends, for Viscotex is immensely strong, almost as tough when doped as thin nylon, yet the surface finish obtainable is vastly superior. This material is highly absorbent and only full strength clear shrinking dope should be used to cut down the number of coats required. Viscotex is only available in white.

* * *

Following a policy of presenting not merely a range of engines, but of providing the various products that go with them—props, tanks, cut-outs, C/L handles, etc.—**Davies-Charlton Ltd.,** are now offering two fuels under the name "Quickstart," a diesel mixture and a glowplug blend. Both are available in neat half-pint or one-pint printed cans with filler spouts.

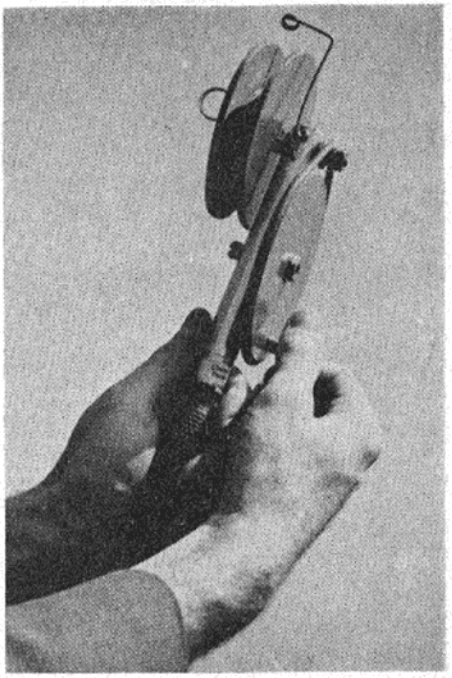
Judging by our test findings the glowplug mixture is particularly good value. It definitely contains power boosting nitroparaffin and the proportion is understood to be approximately 10 per cent. The actual additive used would appear to be nitropropane rather than nitro-methane and the power delivered by a number of engines when checked on this fuel would, in fact, seem to confirm the percentage mentioned. Decanted into a bottle, the contents of two cans tested, appeared rather cloudy. After standing for a couple of days the fuel cleared leaving a sediment at the bottom. This, however, was purely of a "flocculent" nature and immediately became suspended in the fuel again on shaking the container and would not, therefore, be at all harmful. Most other fuels suffer to varying degrees, the same minor "defect" which is due to the incomplete solubility of most castor lubricants in methanol.

Quickstart diesel is a mineral oil based fuel and gave entirely satisfactory performance when tested against other fuels in a number of popular small diesels. Both fuels sell at 3s. per half-pint and 5s. per pint. The glow fuel, in particular, seems to be a very good buy at 5s.

* * *

Each new flying season brings with it a new intake of model builders, many of whom wisely build a glider as a first model. For these new recruits and also, of course, for the older hands, the **Charon** Thermaster winch is a sound investment. (Photo below.)

The belt drive to the line pulley has a ratio of almost 7 to 1 and the line is



secured by a quick release pin to conform to the new rules, 164 ft. of line can be wound in 10 sec. The winch is obviously constructed with practical use in mind being very light in weight (9 oz.), and should find a ready market both at home and overseas. The price is 18s. 11d.

WHEN we go away for the holidays, we usually take too much with us and we always leave something important behind. At any rate, it seems important at the moment that we remember it, though in fact it might have proved of no more use than the unnecessary stuff which we took with us in the belief that it was essential.

One thing we shall not forget—a model aeroplane. Nothing will be more carefully packed, and nothing is more likely to justify its inclusion. Many hobbies belong only to the home or the club. Railway modelling, for example, is a fascinating recreation which grips those who come under its spell, but even the smallest layouts are seldom taken to the beach! Aircraft modelling, on the other hand, is ideally suited to the open-air. It positively demands an open space as soon as the flying model is ready for operation.

For many of us the holidays are primarily a time when we can fly for hours on end. The pleasure of going away is heightened by the anticipation of flying in new and attractive scenes, and if we are at home from school or college for several weeks, we shall still enjoy this activity. I may add that there are always new scenes to be discovered in our home districts, if we want a change from the familiar haunts.

Before we release a flying model in country unknown to us, we must be sure to make a reconnaissance of the terrain. Can anyone reasonably object to our being here? Shall we be annoying anyone, so far as it is possible to tell? Are there any overhead power-lines in the vicinity?

As members of the Wings Club it is our responsibility to be sure on these points, and to behave in a manner which will make no-one think unkindly of our hobby. When we anger a farmer by leaving a gate open or damaging his corn, we have not won a friend for the model aircraft movement.

We all want the movement to grow and thrive. Its popularity in 1960 is proved by the success of the Club. In these first six months the badge has become known in places thousands of miles apart, and across these distances happy pen-friendships have been formed. One Wingman has received no fewer than 12 letters and has replied to them all, with occasional flying intervals, I believe, to ward off writer's cramp!

Good flying, then, wherever you are. ALAN WINTERTON

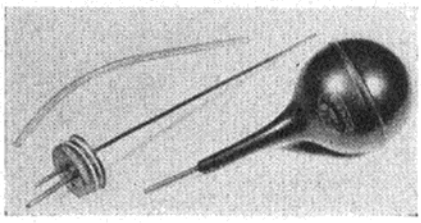
Peter Chinn's
ENGINE TIP
for Wingmen

MANY of the leading makes of fuels are now supplied in tins with filler spouts. These are a great help in avoiding mess and waste when filling fuel tanks through their usual small apertures.

There are, however, various alternative and simple accessories which can be useful. If, for example, you use a screw-top bottle, instead of a tin, you can easily make the vented filler spout shown in our photo. Choose a tinplate cap (rather than one of aluminium) and drill, or punch with a nail, two small holes in it to take brass tubing of about 3/32 in. diameter.

The spout (the shorter piece of tube) should be about 1½ in. long and is soldered into the cap so that it protrudes no more than ⅛ in. inside the cap. The length of the longer (vent) tube will depend on the size of your bottle—or you can use a short tube and attach a piece of plastic fuel tubing to its inner end. In either case, the total length of the tube should be sufficient to reach to within ⅛ in. of the bottom of the bottle. Don't forget to replace the cork or paper seal inside the cap.

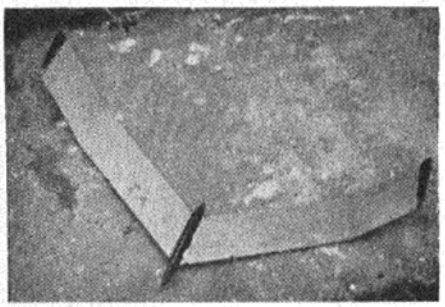
Another type of filler, which is useful for glowplug engines and especially for filling "balloon" or "bladder" tanks, is the simple rubber bulb syringe—available from chemists at about 2s. It has the advantage of being very quick to use, but must only be filled with glow fuel, since all diesel mixtures will rot pure rubber. The flexible rubber nozzle makes the bulb useful for filling tanks that are awkwardly placed. If you wish, you can extend the nozzle with brass or aluminium tube, as shown.



WINGMEN WRITE

In MODEL AIRCRAFT recently you printed an article "Slope Slider," which gave drawings for a simple slope soarer, made from all sheet. Being a quick, and easy model to build, I decided to make one, and how glad I am that I did.

I have had many a day's fun flying this small model. On a windy day launched vertically into the wind it would climb to 100 ft. or more. Unfortunately the model hit a large post, and broke both wings, putting it out



of flying condition. This photograph of the model was taken after at least 50 flights.—Brian Wilson, Newcastle, Staffs.

* * *

Recently I have built a small C/L model of my own design called *Polkra*. I fly it on 25 ft. lines with an E.D. Bee, and it reaches quite a speed. It also has a good glide for a model of its size. (18 in. wingspan).

I have a colour scheme of orange fuselage, red wings and silver and white tailplane.—Paul Jacobs, Picton, Stapthay, Som.

WINGS PALS WANTED

Ian Harding of, 1, Coriston Avenue, Sheldon, Solihull, Warwickshire, is interested in C/L team racing and F/F seaplanes. He would like to write to someone having similar interests, in any English-speaking part of the world.

Anthony Thorn is 15 years old and would like to contact someone who, like himself, is interested in model gliders and rubber duration models. His address 11, Jerome Court, Thornhill Estate, Bitterne, Southampton.

QUERY CORNER

I have a Mills 0.75 and a Frog 2.49. Would you kindly tell me if it would be possible to have a twin under such power, the planes I have in mind are your *Gemini* and *Henschel* HS.129?—T. Reeves, Tilshead, Salisbury, Wilts.

I'm afraid the power difference between these two motors is too great for successful Twin use. It is not necessary to use identical motors but they should preferably be of roughly similar power although a 1.5 and a 2.5 c.c. motor have made a successful combination. Always mount the most powerful engine inboard.—A.W.

Entry form for new members on page 247

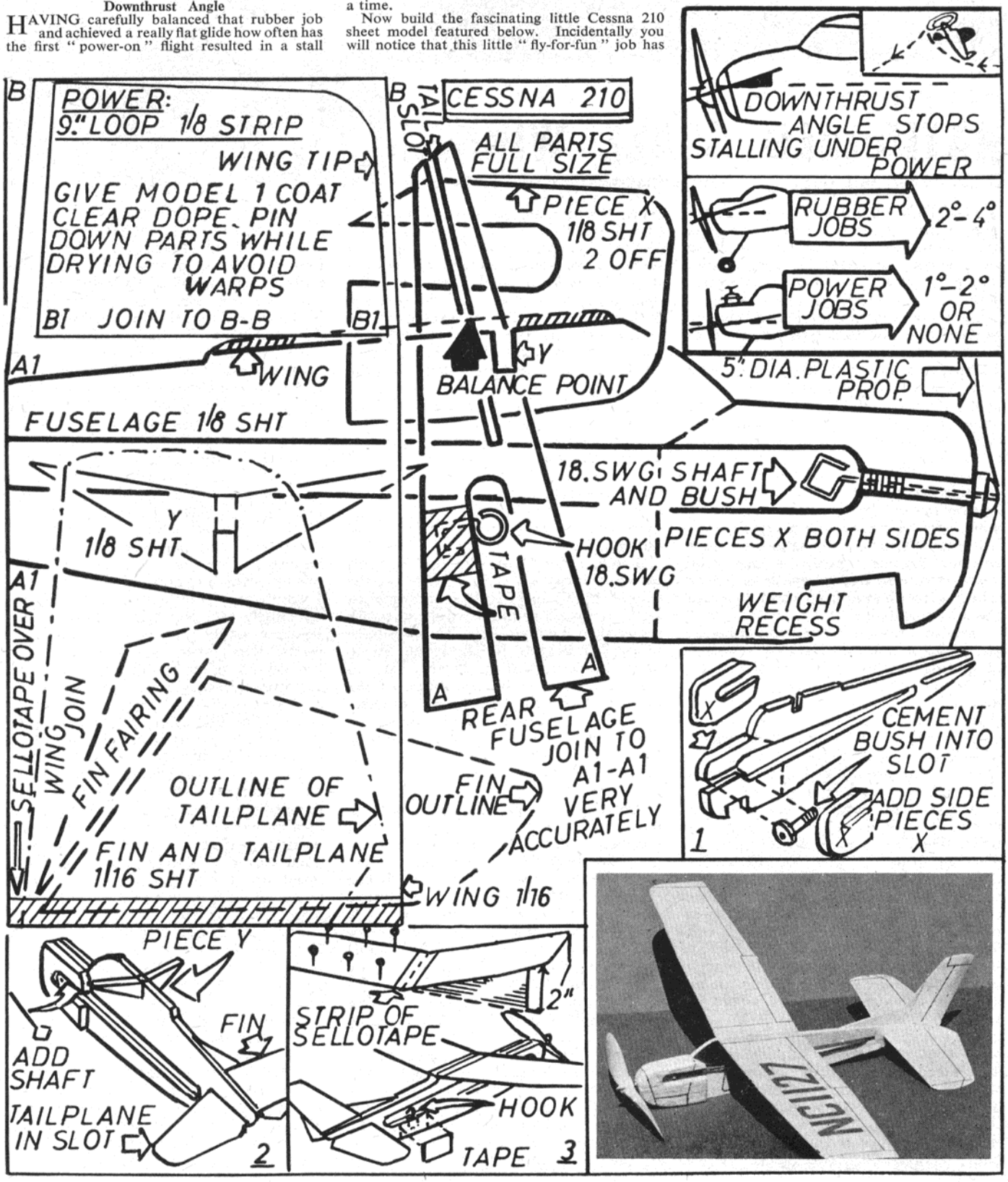
Model 'n Tip

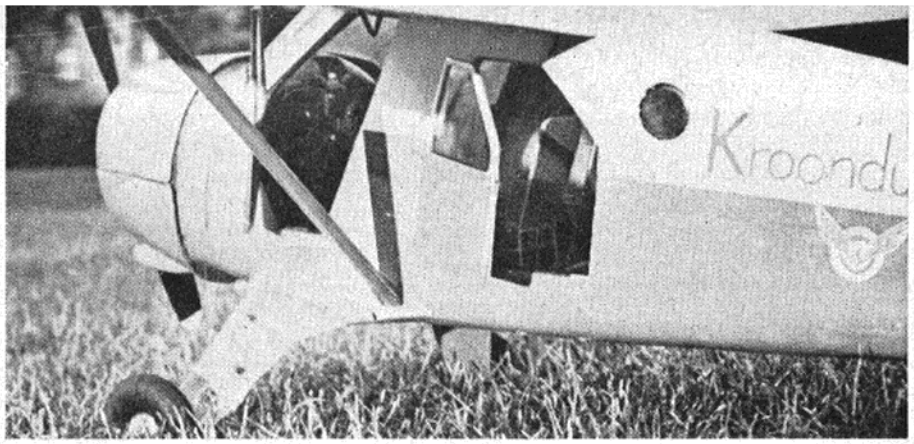
A special instructional feature for wingmen, with FULL-SIZE plans to build a flying model CESSNA 210 by **Ray Malmstrom**

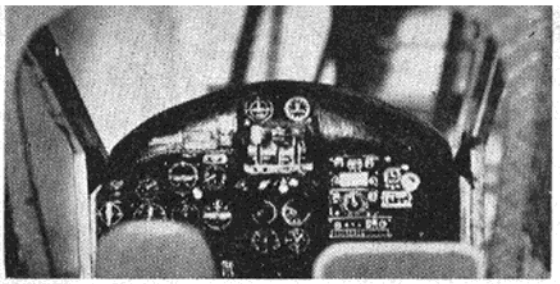
Downthrust Angle

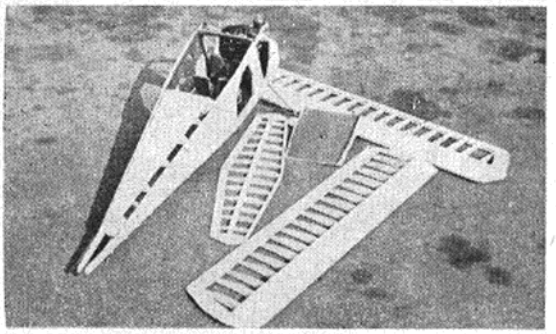
HAVING carefully balanced that rubber job and achieved a really flat glide how often has the first "power-on" flight resulted in a stall or loop? The way to cure this trouble is *not* to add more weight to the nose, or move the wing back, but to incline the propeller driving shaft at an angle to the centre (or datum) line of your model. This angle is called the *downthrust* angle and is obtained by inserting a small piece of balsawood ($\frac{1}{16}$-3/32 in. or so) between the top of the noseblock and the fuselage. Rubber powered models need more downthrust than engine-powered jobs and approximate degrees of downthrust for both types are shown in the diagram below. Remember when adjusting your downthrust, do so by a *small* amount at a time.

Now build the fascinating little Cessna 210 sheet model featured below. Incidentally you will notice that this little "fly-for-fun" job has downthrust already built in. The real Cessna 210 American light plane is one of the few high-wing designs to feature a retractable U/C. Our model, therefore, has no undercarriage to build and you will find it a real "quickie." It is just the thing for that small patch of grass (or a large hall). Take your time, and build this little job accurately—and lightly (decorate it with coloured ball pens). Buy a 5 in. dia. plastic propeller from your model shop. Test on a calm day over long grass. With lubricated rubber, maximum turns are 350.









Building my

NATIONALS SCALE WINNER

B. E. Newman describes the construction of his Beaver

BUILDING a model for any concours event requires a great deal of concentration and patience; building for scale concours demands more of both, plus a lot of research and attention to detail.

Before starting any building one has to determine the best type of model to build, remembering that a good colour scheme, and plenty of detail goes a long way towards gaining those deciding points. You can't expect points for detail if there is none! Remember, too, that the model *has* to fly—a point overlooked by many people.

Last year I built a D.H.C.2 *Beaver* for this event, and it flew well until a certain person decorated the port wing with his footprint. For this year's Nationals therefore, the same prototype was an obvious choice. It has good looks, is robust, has a variety of colour schemes to choose from, and looks as though it will fly.

Another reason for my original choice of the *Beaver* was the relatively easy task of getting plenty of information. De Havilland's of Canada supplied me with excellent photos and colour schemes, and MODEL AIRCRAFT have some clear detailed plans, which allow cross checks to be made all the time.

Having decided to build the *Beaver*, I laid out the outline plans on some wallpaper, and built the basic fuselage frame, to which the cabin floor was fixed. The floor consists of $\frac{1}{8}$ in. plywood, running from the back of the cabin, through the fire wall and underneath the engine bearers. The main cabin former, instrument panel backing, lower half of the radial cowling, and one former just behind the engine, are all fixed to this with Araldite. The bearers on this model are so short that to use an adhesive other than Araldite would be tempting fate.

For the main instrument panel I used some $\frac{1}{2}$ in. sheet balsa, suitably shaped and faced with scraper board, onto which I scratched the instruments, using Sellotape over the top to glaze them. A thin card with cut-outs for the instruments was placed over the whole panel section and doped black. A few pins, representing switches, etc., completed the job.

Next job was to repair the back fuselage. My son, two years old, thought it would make a good horse! For the sake of strength, I covered the fuselage with $\frac{1}{16}$ in. sheet all over, except for the door panels, and the cabin top, which, at the time, was removable. The interior of the cabin was then completed, the furniture moved in, and the doors fabricated from balsa, paper, celluloid, cusswords, and all the other paraphernalia that go to make up a simple looking thing like a door.

Hinges and door handles, both of the fully operational type, were made mainly of shim brass, using watch hairsprings for latch return springs, and nuts for handles.

The main undercarriage (the awkward trousered type, set into a bulge on the side of the fuselage) is sheet tin (or brass shim) wrapped round a wire framework soldered to the main legs. The tops have to be left flexible to allow the leg to move outward and backward, but, as these are covered by the bulge in the fuselage they can be left completely open. The fairing (bulge) was made from shaped balsa block and plastic wood, hollowed inside to take the trouser. In fact it was built after the trouser was soldered on.

An A.M.35 up front supplies the power, so this leaves only the wings, tailplane, fin and rudder, and wing struts to describe. The flying surfaces were normal type structures, with the addition of strips of wood on all control surfaces. On the full size machine these are corrugated for strength, as there is no internal structure. On the model the corrugations were represented by short lengths of $\frac{1}{16} \times 1/32$ in. balsa sanded down. Control surfaces were indicated by a groove cut with a broken hacksaw blade.

The wing strut fixings are rather unusual as I wanted to avoid using conventional wire hooks, etc., as anchorages because in the event of a heavy landing these allow the struts to spring out, and go straight through the wing. In the wing there are two short wire runners set spanwise about $\frac{3}{8}$ in. apart. At the strut attachment position, about half-way along these runners, there are two ply riblets, $\frac{1}{8}$ in. apart. Between these is fitted a wire loop slightly larger than the gap between the wire runners, the lower end of the loop being fastened to the wing strut. To fix the strut you just push the wire loop in between the wire runners, and the loop springs open rather after the style of a press-stud. The lower strut fixing consists of a drilled pin about $\frac{1}{8}$ in. thick fixed to each strut. These are a tight fit in a brass tube which is fixed in the undercarriage fairing. These pins are pushed into the brass tube and a soft brass wire shear pin inserted from below.

The last job, before fitting external detail and painting, was to cover the fuselage. I decided that, as the actual machine was of stressed skin construction, I would try to duplicate the appearance as closely as possible. This meant separate paper panels with simulated rivets, fixed over the balsa sheeting. Usually rivets on models are either bits of paper, 1/10th scale confetti, stuck on, or inverted due to using a cog from a clock. The first method takes too long, the second is hardly worth the bother, as it looks decidedly odd.

I decided to experiment with a clock wheel run over the back of the paper panels before these were stuck on. This idea proved to be a winner, the rivets looking perfect. Clear dope doesn't make any difference to them, they still stand up proud of the surface, but a good quality note-paper is necessary to get the best results.

For test flying, although a field of ripe corn sounds the ideal place (farmers: take note) I prefer a long stretch of concrete—a runway is ideal—and gradually increase power until the plane starts to ground hop. By this method you can soon determine whether the model is under or over elevated, or has too much left or right trim, without any chance of doing a lot of damage. Limit your fuel to give about 15 sec. engine run until you are satisfied that everything is O.K., and then build up slowly to maximum revs.

READER'S LETTER

DEAR SIR,—In reply to Jim Baguley's letter in the June issue of MODEL AIRCRAFT I should like to clarify one thing. Jim seems to have missed the point of my conversation with him re his remarks about my design (Part 1 of his article, Power Duration Models).

I objected to the remark "As one proxy flier found out." This is meant to refer I'm sure to Frank Hager's unfortunate experience with my models at the '54 Championships and says in effect that he did not handle the models sufficiently well.

This is not so, Silvio Lanfranchi has a film showing Frank releasing both models with perfect technique, and in fact both models were marginally unstable due to shortage of fin area.

This occurred due to my shifting the c.g. back some ¾ in. in order to obtain higher performance, I had no trouble with these models myself but did have with later versions rigged in a similar way. The version featured in the *Aeromodeller* Plans service had the c.g. much further forward and was stable if this c.g. position was used. Most people who have built it have had trouble getting the c.g. to the position shown and no doubt ran into the trouble previously mentioned.

The aeroplane I fly currently is in fact a complete redesign, the only feature of the original which remains is the wing planform.

In regard to Jim's articles, as he says these do not appear to have given rise to much dispute though I imagine this is due to most people leaving it to someone else to write.

My own main criticisms are that Jim's ideas on spiral slipstream effects, side area disposition, rate of roll and pull out appear rather vague. Also I would disagree with the reasons he gives for some of the unpleasant flight patterns experienced on occasions. For instance the under - elevated sweep - round mentioned in correspondence is more likely to be due to wrong fin area disposition, centre of side areas too high or c.g. too low than to the causes so far mentioned.

However, I imagine any selection of power fliers would disagree quite violently with each other on how to trim and why.

Yours faithfully,
P. R. BUSKELL

Claygate, Surrey.

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

The NATIONALS

Continued from page 238.

in the air, yes, there's something about a biplane that seems to have a universal appeal, even in these days of deltas and jets.

Third place surprise was D. E. Thumpston flying his *scale* Fokker EIIIa in a most convincing fashion. This job was a real eye-opener, and Mr. Thumpston is to be congratulated upon his courage in flying such a model in an open event under far from ideal conditions. To 1/12th scale, the model is very nicely built and is complete with fully detailed cockpit and pilot, while the Wright radio, which functioned perfectly, was particularly neatly installed as can be seen in our photo.

Let us hope that the efforts of these three entrants will inspire others to improve their own standards by next year. The equipment is now available, all that is needed is a little more care, patience and practice on the part of the modeller.

So another Nationals is over. In many ways it was one of the most enjoyable for a long time and the weather contributed in no small manner to this. Where next year's venue will be we have no definite news yet, but we sincerely hope that the entire site will be "in bounds" and that adequate space will be available for camping.

Although on the face of it providing a camp site is not the responsibility of the S.M.A.E., deeper thought will show that this is not so. The Nationals is for modellers from all over the country and a venue where they can all be accommodated must be found. Even assuming everyone could afford hotel accommodation—it would be far more difficult to find an aerodrome near a town with sufficient hotels, than it would be to find one with a large enough camp site !

HERE and THERE

Continued from page 222

none of the times recorded was of sufficient merit to warrant the expense of sending representatives in this class. (Top time at trials, 117 m.p.h., winning speed at last year's Criterium d'Europe 138 m.p.h.)

This decision sets a very notable precedent, and it is perhaps unfortunate for speed fliers that their chosen branch of the hobby is the only one in which a direct comparison between known probable winning speeds and their own performance is possible. Although in future the same will apply to team racing when heat times without whipping are set up this year.

However, the main point is that no prior notification that a minimum standard would be required was announced, and many fliers wasted a lot of time and money attending a meeting in which they stood no chance. A most unsatisfactory situation.

The broader question of full support and National prestige is closely tied up with team awards, and here we have been told that there are no team categories, either overall or for individual contests, this year. We sincerely hope that this is so, for if there is a team championship award, (à la Criterium d'Europe) then failure to send a speed team would completely destroy any chance of winning this and make it pointless to send anyone.

Assuming there is no overall award but there is a team speed category, then again there will be some red faces (we hope), for it is with a consistent—even if somewhat mediocre—performance that this contest has often been won in the past. For example at the last Criterium d'Europe our team were 13th, 18th and 19th individually, but second in team, beating Italy (individually first and third) and Hungary (second and fourth).

The teams who are being sent were selected on a very fair and rigorous basis and we wish them the very best of luck in Switzerland and Hungary.

This month's WINGS CLUB Feature appears on pages 244 and 245 If you are not already a member fill in this entry form NOW !

Dear Alan Winterton,

I would like to become a member of the Model Aircraft Wings Club. With this coupon I enclose a postal order for 1/- to help cover the cost of the badge transfers and membership book. *All membership applications must be on this form.*

Name in full.....
(Underline christian name normally used)

Address.....

.....

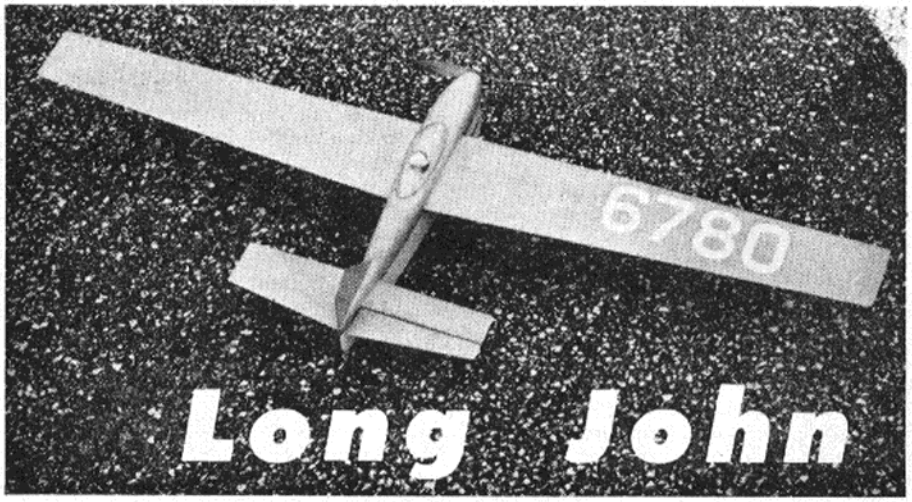
..... Date of birth.....

School or College.....

Name of other club or clubs to which I belong (if any).....

.....

Send to—MODEL AIRCRAFT WINGS CLUB, 19-20, NOEL STREET, LONDON, W.1.



F.A.I. class team racer designed by M. Basset, M. Greenough and E. Cheesman

THE result of the pooling of several modellers' ideas, *Long John* was designed when the 1959 competition season had already commenced. It was necessary, therefore, to formulate a design which would fly " straight off the drawing board " with some reasonable expectancy of success. To date six of these models have been built, all have performed well and have been easy to handle, both in the air and on the ground.

The best performance over 10 km. has been 5 min. 1 sec., including three pit stops, but we confidently expect that one stop can be eliminated, for with the model now doing 30 to 31 laps per tank, it should be possible to improve this to 35. Obviously the time to aim for, if one is interested in international competition, is around the 4 min. 30 sec. mark (without whipping). To achieve this time the airspeed of the model must be 98 m.p.h., but with one stop it need only be 90 m.p.h. Ten km. in 5 min. 15 sec. incidentally requires an airspeed of 94 m.p.h. so existing performance is approaching the theoretical goal.

In our opinion the Tornado 7 × 8 is the most suitable prop to use, but as these are now no longer in production, the Top Flite 7 × 8 power prop is a good alternative.

On the question of fuel we usually start with the " standard " 50 per cent. paraffin, 30 per cent. ether, 20 per cent. oil plus 3 per cent. amyl-nitrite mixture and go on from there, but we find that a fuel which suits one motor will not suit another. One point of interest is that a molybdenum disulphide additive seems to do more harm than good, tending to give inconsistent runs.

Constructional Notes

First seal off the exhaust port and intake on the engine (use Sellotape or similar method), cut the bearers to length, drill to suit the motor and bolt these to it.

Cut the wing from medium-soft ½ in. sheet or build up as shown, and glue the engine bearers (with motor attached) to it. Face each side of the wing round the bellcrank position with 1/16 in. plywood, mark the pivot position, and drill. Cut the bellcrank from mild steel, attach a 16 s.w.g. cycle spoke, for the push/pull rod, fit the 20 s.w.g. lead-outs and bolt the assembly in position, leaving the controls " flapping."

Cut the fuselage sides to shape, cut the opening for the wing and then slide the sides over the wing and cement them to the bearers. When dry, join the tail end of the fuselage sides. Cut the tailplane from ⅛ in. obechi and sand to section. Cut out the elevator and make a groove in this to take the wire control horn. Bend the control horn as shown and either bind or tape it into position. Cut the push rod to length, thread through the control horn and solder a washer on the end to retain the pushrod. Cement the tailplane into position. and check that the controls work freely.

Now bend the U/C to shape, bind to the ply former, and glue this between the fuselage sides at the correct location. Bend the tailskid to shape and bind to the obechi block. Sheet the fuselage bottom with ⅛ in. (grain crosswise), and add the top rear fuselage block. When dry, carve to shape. Select the wood for the lower cowling, and roughly hollow it out just sufficiently to take the engine. Cement the cowl block in place and carve the outside to shape. Remove the engine and finish carving the inside.

Temporarily glue down the top engine cowling block and carve this to shape, then sand the entire model to a smooth finish. Cut the fin groove in the rear top fuselage, shape the fin, and cement it into position. Fill in any small holes, etc., with plastic wood, and sand smooth. Solder on the wheel retaining nuts and make the tank.

Remove the top block, and fix the rear locating tongue, the front is held down with an anchor bolt. Hollow out the top to fit the engine and tank, and cut a hole for the pilot.

Cover the entire model with tissue, give several coats of sanding sealer, rub down, and then colour dope. Add the pilot and canopy. Complete the model by fuel proofing the inside of the cowling and outside of the fuselage.

LATEST ENGINE NEWS

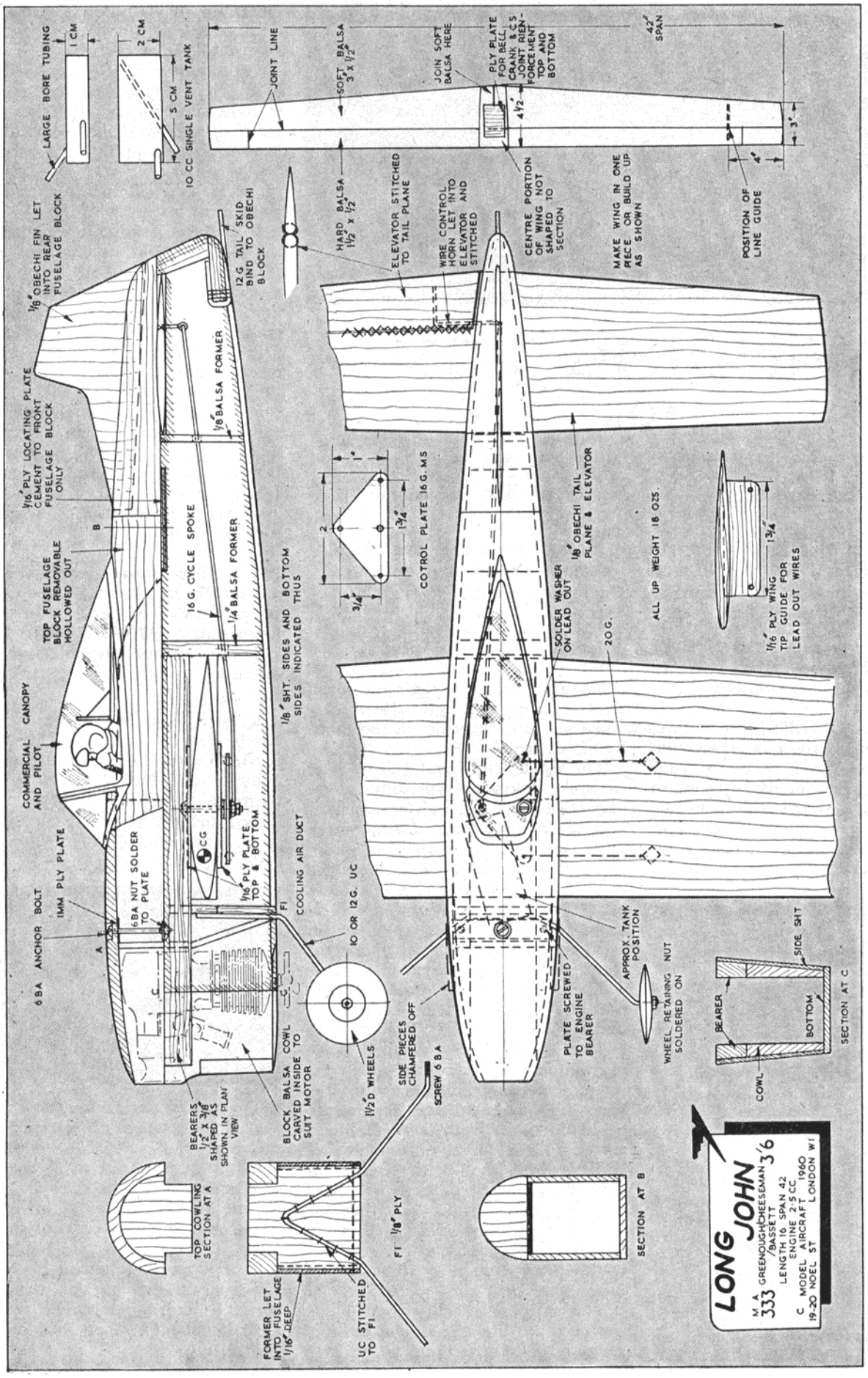
Continued from page 239

above the needle-valve, with a separate air-bleed slow running adjustment. Bore and stroke are 0.864 in × 0.755 in., giving a swept volume of 7.42 c.c. Weight of the R/C version is 10 oz.

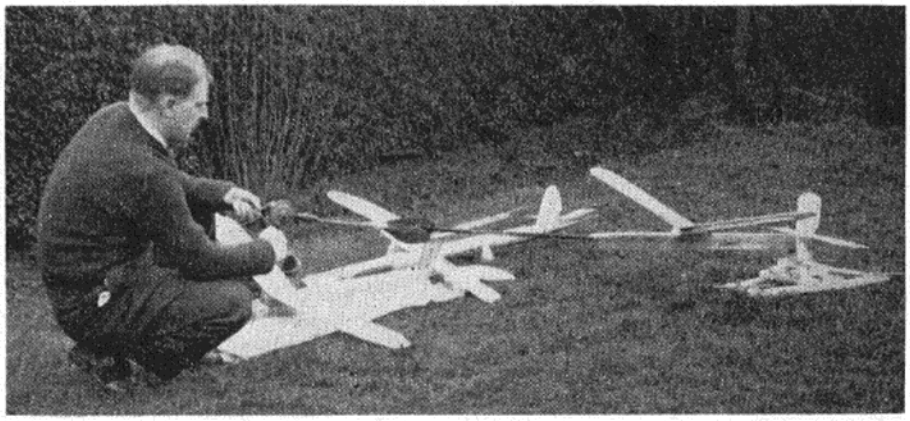
ITALY

Somewhat delayed due to the factory fire suffered by Micromeccanica Saturno at Bologna earlier this year, the new Super Tigre models should be appearing shortly. Of these, the new G.20 2.5 c.c. diesel, experimental models of which were mentioned some months ago in L.E.N. should be of especial interest to F.A.I. F/F enthusiasts. It features a loop-scavenged cylinder with flat top piston, twin ball-bearings and shaft intake. If it lives up to the promise of prototype models, this should equal, or better, the best diesel 2.5's yet produced.

Also due from Super-Tigre in coming months is a completely new large R/C engine. The initial models have been made in three sizes, 0.45, 0.51 and 0.56 (7½, 8 and 9 c.c.), though it is not known whether all three sizes will be put into production. All the new Super-Tigre engines, incidentally, are now to be made with an external finish to match the internal quality—sand-blasted matt grey castings and brightly finished machined parts.



FULL SIZE WORKING DRAWINGS ARE OBTAINABLE FROM YOUR LOCAL DEALER, OR BY POST FROM THE "MODEL AIRCRAFT" PLANS DEPARTMENT, 19-20, NOEL STREET, LONDON, W.1, PRICE 3s. 6d., POST FREE



WINDING JIGS FOR RUBBER MODELS

The use of a jig for holding rubber models while they are being wound dates to the earliest days of model flying, but here are two up-to-date designs by two leading rubber flyers.

For the "mechanised" flyer LEN RANSON describes a jig to attach to your "transport."

RUBBER-POWERED modelling is, of necessity, a social activity, and often you have to be on your best behaviour to induce someone to hang on to the model while you pile on the turns. But there are occasions when you are stuck for a human anchorage. Either you may wish to do a spot of lone hand trimming, or your flying field friends are otherwise engaged. At such critical times a dumb helper can be a very useful companion, with the desirable social asset of refraining from idle chatter when you are counting on those last hundred turns.

The usual lone hand gadget is of the spike in ground type, but a more attractive variation in this mechanised age is some form of attachment to a vehicle. No mallets or other cumbersome equipment need be carried, and there is no anxiety over the state of the ground. Furthermore, the model can be wound up in a sheltered location, an important factor on a breezy day.

The gadget itself is quite a simple one, and can be made up almost in a matter of minutes. The holding bracket is simply a U-shaped piece of duralumin or stout gauge aluminium, slotted to receive the rear motor peg. If made to the dimensions given in the illustration it should accommodate fuselages of most of your models, but, in any case, it is easy enough to prepare a number of such brackets. Make sure that the peg slot is recessed to a depth of not less than $\frac{3}{4}$ in., and that the rear peg itself is long enough to project about $\frac{3}{8}$ in. either side.

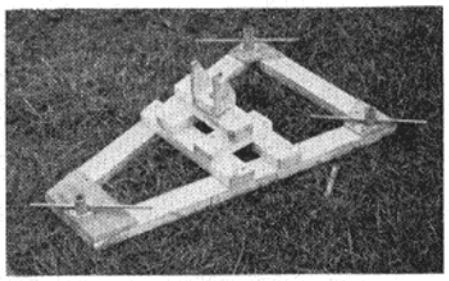
The purpose of the wood block spacer is to raise the model clear of surrounding obstructions, and to give clearance for underfins etc. Its depth can be modified to suit the nature of the fixing.

On a motor cycle the safest point of attachment is to the rear carrier, or to some similar rear projection. The winding pull, from behind, will give least risk of toppling the machine off its stand. If you have a combination you will find a number of convenient anchorages. On my own machine the headlamp bracket has the right sort of attachment point. If, however, use cannot be made of an existing bolt hole such as you will find on the cross strut of a carrier, make sure that the member to be drilled is of sufficient width not to be weakened.

The bland lines of the modern car will call for some ingenuity in siting the dumb helper, and I suggest you use the lid of the boot, in the open position, of course. Jalopy owners will have a fair assortment of projecting ironmongery to choose from.

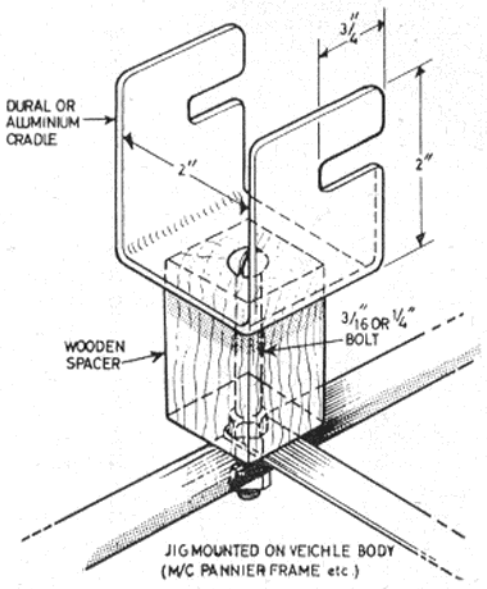
. . . for more general use, especially in places where transport fears to go (Chobham Common), RONALD NEW presents a rather more advanced design.

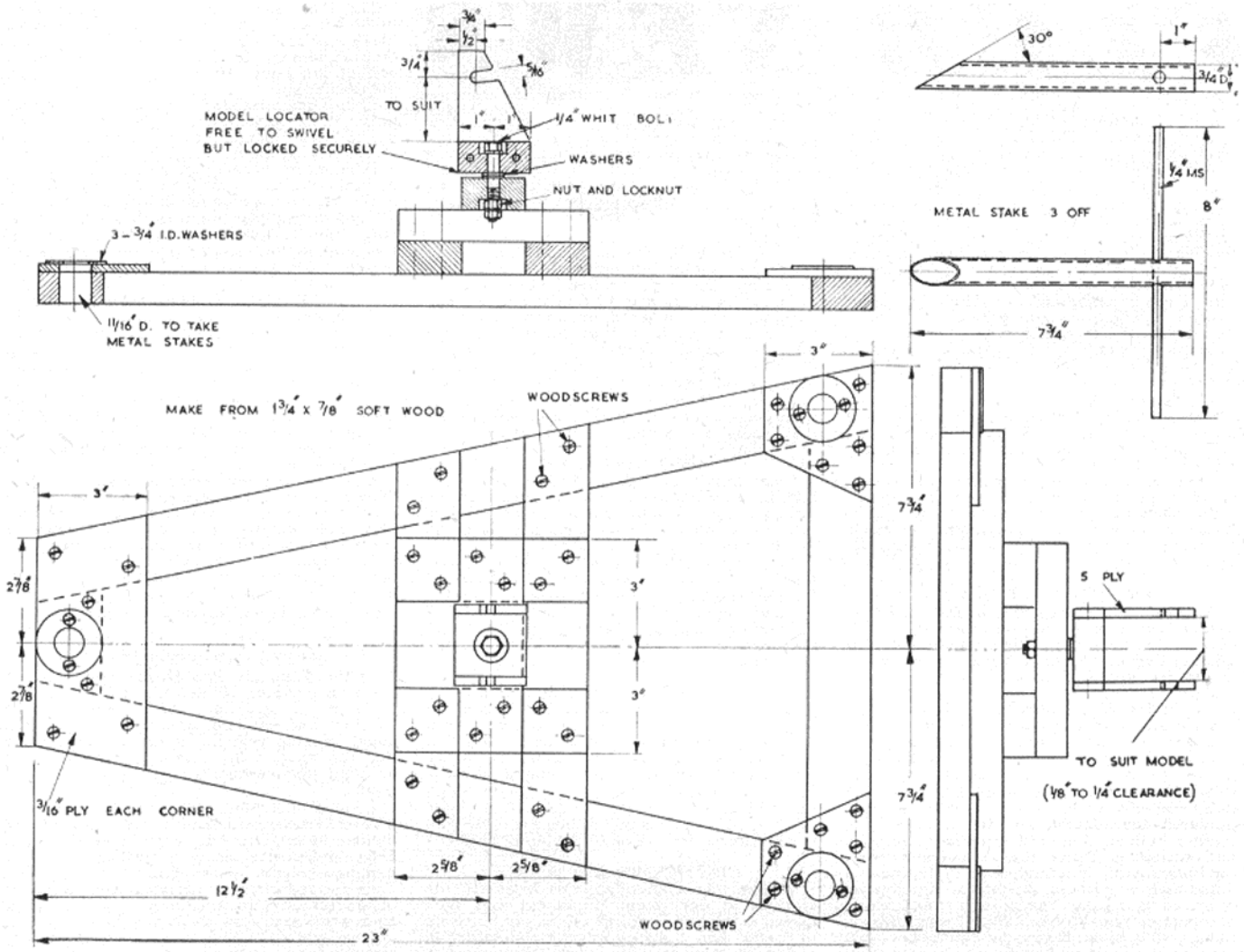
A WINDING jig provides the pair of extra and controllable hands essential to a modeller when putting on the turns and the accompanying drawing and photographs illustrate a winding jig for rubber driven models which I constructed some time ago and have since been using regularly.



The jig is constructed from a few feet of soft planed timber, scraps of plywood, $\frac{3}{4}$ in. O.D. galvanised conduit, $\frac{1}{4}$ in. mild steel rod and woodscrews, etc., the sizes are given on the drawing, which also clearly shows the method of construction.

To use, the stakes are hammered into the ground locating the jig through the washers at the three corners. To remove stakes, twist by means of the 8 in. long rods and pull gently upwards.





In use the model is placed between the two location plates with the motor peg nesting in the slots. I usually position the model downwind, as I have found that the model is held steady whilst carrying out adjustments to wing incidence, etc., in addition to holding steady for winding purposes. To accommodate various sizes of fuselages, two locators have been constructed, and these can be added to as necessary.

ALL FROM ONE

Continued from page 224

of attack to prevent excessive stalling. Do this cautiously, or you will end up flying a chunk of dynamic instability, and woe betide you! The effect of this c.g. and wing movement is to increase the controlling force of the elevator, and you will almost certainly find your model "switchbacks" until you learn to handle it, just like one's first flights with a C/L stunter.

Loops: Slight dive then hard up elevator. For consecutive loops give down elevator as you come out of each one to regain flying speed, then put on full up elevator again.

Spins: Pull back the stick gently from level flight until the model stalls—cut to slow engine if you have this control—and then lock on full or no-signal. One of these controls will be more vicious than the other. Use the vicious one for spins.

Rolls: For slow rolls, dive gently, put on up and then press the full or no-signal switch to the not-so-vicious side. For fast rolls, dive, level-out and press the vicious continuous signal or space. Using this method you can fly the model by transmitting a shorter continuous signal so use this dodge for a split "S."

Split "S": As above but when inverted pull on up elevator and release the full signal switch.

Immelman: Half loop as above and when you approach the top, wind on full rudder and neutral, or slightly down, elevator.

Cuban Eights: As for Immelman turns but done twice after lots more practice!

Spiral Dive: Slight down elevator and left or right rudder. This is easier on low power—if you have engine control.

Inverted Flight: Start from half roll or half loop; the latter is easier. But whether you can hold your model there depends on the model, the control box and the trim, so don't despair. If you muff it, use the half-roll technique on the full signal switch to recover, or push the stick to full rudder one way. Don't panic and use up elevator, that takes a great deal of height which you may not have after an abortive inverted attempt!

Bunts: Push the stick forward and hold and hope! Give yourself lots of height since this can be tricky.

Stall: Put the nose up and keep the plane in the near vertical position. Do not overdo it or you may get a loop. If you have engine control, cut to slow as she goes up.

Well, there you are and all you now need is lots and lots of practice!

CLUB NEWS

HAYES & D.M.A.C.

As a result of his showing at the C/L Trials, Dave Balch is to represent G.B. in team racing at the World Championships. Congratulations, Dave !

At the Nationals we were quite successful for a change, Josh Marshall won the Lady Shelley for the third time, and is to claim a possible British record for one flight: he flew his *Josstick* (MODEL AIRCRAFT plan) for 6 min. 15 sec. o.o.s.

Dave Balch with Mike Smith (High Wycombe) shared the honour of winning the Class A Team Race in 4 min. 59 sec. using a Mk. II Rivers Silver Streak and Robin Greenaway was second in Combat with another Mk. II Rivers Silver Streak.

In Class 1 Speed John Taylor placed third (Supre Tigre) Dick McGladdery fourth with a similar motor and Ian Russell fifth (MVVS). McGladdery was also third in Class 3 Speed, using a McCoy 49.

J. Brailsford pushed up our club record for 5 c.c. Speed to 124 m.p.h. with an ETA 29 series 6.

We would like to thank the S.M.A.E. Comp. Sec., Sam Messom, for his tireless work behind the scenes, in running the Nationals, and the Trials.

BRIGHTON & D.M.A.C.

We made our annual visit to the Nationals without managing to carry off any of the prizes, but John West reached the fly-off of the Thurston (placing fourth) and Fred Boxall the fly-off of the Model Aircraft Trophy.

OUTLAWS (CANNOCK) M.A.C.

Six bods, four team racers, two stunt jobs, two tents and enough fodder to feed an army were somehow persuaded into one Ford Zephyr for an epic weekend at the Trials (not without tribulations). Everything went fairly well, but in a week-end which in our humble opinion, produced the highest standard ever in this country both in stunt and team race, we were just outclassed. Pretty much the same story at the Nats, a good time was had by all, but no-one found their way among the prizes. For this we chartered a 2½-day coach and took along members of the Wolves, Walsall and Bilston clubs. Oh those Nationals experiences—last year, on the way back, we found a genuine pub with no beer ! This year we staggered thirstily out of the Newark traffic jam, into Nottingham at 10 p.m. prompt, only to learn that the hostelries in that part of the world close at that aforementioned early evening hour !

CROYDON & D.M.A.C.

At Scampton we were rather surprised to find ourselves first in C/L Scale, the man responsible being George Fletcher, flying a luscious Frog 150R powered SE5A from the Frog kit, with just the right amount of detail, stopping short of the Christmas tree effect seen on some models. We were also third in F/F scale, Dennis Partridge's *Bird Dog*, with an old Dart —impeccable take-off, flight and landing, but not enough scale frills to win.

Al Wisher goofed in Open Rubber after putting up two maximums. He used his number 4 tailplane on number 5 model by mistake and did 3 : 08.

Junior Brian Sulway turned in quite a worthy 7 : 18 in glider, his first major contest, flying a *South Cone*, a Partridge-designed low-drag version of *Nebula*.

In Power, Ken Smith's Frog 500 was startled by the hot weather and the model was off trim, Martin Dilly flew too early, in order to fly in the Gold on the same day and missed the lift on his first two flights with an E.D. 2.46 *Dixielander*. It wasn't worth it—over-keenness on tarmac during square horizontals sprained his Frog 249 M.A.N. *Peacemaker*.

Gordon Cornell's Super Fury model with a 7 × 6 nylon prop put the fastest time (4 : 29.5) in ½A T/R but was knocked out later, as was rival engine designer George Fletcher.

The less said about our gale-lashed efforts in the L.D.I.C.C. versus St. Albans the better; we lost. Light relief was provided by Martin Dilly and Jack North, who both fell knee-deep into water-filled pot-holes (Jack was still laughing at Martin's predicament when he joined him 2 sec. later). One unearthed St. Albans junior hopped birdlike onto the live rail of the railway apparently unaware of the 600 volts d.c. under his gym shoes !

Finally, congratulations from all of us to Rita and Dusty Millar on their recent marriage. Good luck.

CRYSTAL PALACE M.A.C.

As very few of our members were able to attend the Nationals this year, an impromptu Combat event (A and ½A) was held on the Sunday. The winner in each class was our secretary (Fiddle !). One competitor, who shall be nameless, decided after a few laps of the first round to do combat with a passing train instead when his lines broke ! However, this was the exception rather than the rule, and some good combat (most of it, surprisingly, from the juniors) was seen.

MONTROSE M.A.C.

Local wonder-boy, D. L. Petrie, took some back-days off and went down to the Nationals managing to do a treble maximum in the Glider with his Nordic to collect eighth place after the fly-off. Fly-off time 3 min. 40 sec.

He collected the most points with a third and second in the League U/R Rubber and Glider Comps flying at Broomfield with an M/A *Petrel*, but the own-design boys managed to catch him to take the top places in glorious weather and a crazy set-up of standing waves, downdraughts and the odd big risers.

S.M.A.E. SOUTH EASTERN AREA

Area meetings for early part of the season have been held at airfield venues, and have been most successful, in spite of mediocre weather. Some new names have been appearing at the top of results which we hope augers well for the future. Plans are going ahead for the South Coast Gala on September 25th, when we hope to " lay on " a first-class meeting for those who would care to come along to the Sunny South.

CHICHESTER & D.M.A.C.

Wing Cmdr. Gutteridge, who presented the trophies at our recent prizegiving, has now agreed to become president and we are fortunate in having such a distinguished aeromodeller in our club. The immediate reaction has been a spate of rubber models, there being 10 entries in our Rubber Trophy contest which was held early this year. Other trophy competitions held so far this year include R/C, which attracted five entries; Power—eight entries; Glider—14 entries. It is interesting to note that *Sans Egals* took first three places in the glider contest.

For light relief we are helping to organise and will participate in a U.S.A.C. Scramble to be run soon. The scramble is open to all types of model, F/F, C/L, R/C, the object being to log as many flights as possible, of 45 sec. or more, in 30 min. The ensuing chaos should be interesting !

EXMOUTH & D.M.A.C.

In the last round of the Club Aggregate Contest it was a refreshing change to have a few new names appearing in the top placings.

Ernie Mann, in his first year of contest flying, took the lead in Power from Alan Parker, who was second. Rubber continued to be a battle between Alan Parker and " Pop " Baudet, Parker taking first. Glider, which was the most keenly contested, proved to be a grand tussle between Tony Milum, " Pop " and Dennis Baudet, placings being, first, Tony Milum, second, Dennis Baudet, and third, " Pop " Baudet.

" 1960 Devon Rally " circulars are now ready, we have sent copies to most clubs, but if yours has been missed, and you are interested, please send s.a.e. to D. G. Baudet, Hon. Secretary, Exmouth & D.M.A.C., 80, Moorfield Road, Withycombe, Exmouth, Devon.

GLEVUM M.A.C.

Nine Glevum members attended the Nationals, camping over the weekend, four members enjoying the hospitality of South Bristol M.A.C. for sleeping accommodation. An enjoyable time was had by all despite the fact that most of us only spend two nights a year under canvas !

Stan Perry gained our highest placing—sixth in the Knokke Trophy with an E.D.346 powered Hawker *Fury*. The model made a realistic take-off, taxying from a standstill under engine control, but came to grief in the wind, spoiling Stan's chances.

Elton Drew managed to get three maximums in the Model Aircraft Trophy but came unstuck in the fly-off, miscounting by 100 turns on the winder—that's his story and he's sticking to it !

Other members were right out of luck. Charles Aitkenhead after getting a first round maximum in the Thurston was stricken with a bad attack of hayfever and had to return home. Unfortunately, this is likely to put Charles out of competitions for most of the remainder of the season.

WEST BROMWICH M.A.C.

We made the annual pilgrimage to the Nats., together with members of Brierley Hill M.A.C. Club membership has become somewhat depleted of late and the usual luxurious coach was not available due to this fact.

Mike Kendrick flew the Oliver Tiger *Black Ghost* combination to win the combat event for the second time; placing second last year and first the year before. These *Black Ghosts* sure are consistent !

Mike was our only entry in combat, due to difficulties in getting entries accepted, but a number of up and coming bods are making with this crazy streamer chopping caper and we expect to hold forth in force at future contests.

Tony Day (the club scale expert) flew in the Knokke Trophy with a beautifully built and finished replica of the Fokker D.VII powered by a Taplin Twin. He gained a well deserved second place.

WESTON CONTROLINERS

At the Nationals, Pete Heeley came third in the combat event. He flew his O/D model with a Rivers 3.5 up front. This motor is really fabulous and not even any of Kenton's wings could keep up with it. It is very unfortunate that Pete made a slight error of judgement and knocked the tailplane off at the bottom of a bunt.

Dave Christopher, our stunt expert, also achieved renown with his beautiful semi-scale jet model—he certainly had many inquiries. What Dave needs now is plenty of practice and we are making sure that he gets that.

As for the camping we must have been one of the luckiest clubs, with *three* calor gas stoves, an ex-army cook—the meals were excellent—and a huge tent—17 of us slept in it, three with camp beds. It certainly made a very enjoyable holiday, well worth the 400 miles we had to travel there and back.

LARNE M.F.C.

Together with the Belfast Model Flying Club we are organising the " Ulster C/L Nationals " at Maghaverry Aerodrome, near Lisburn, Northern Ireland (approx. 15 miles from Belfast), on Aug. 13th, 1960. Events (to S.M.A.E. '60 rule book): Stunt, " A " Combat, " ½A " Team Race, " A " Team Race. Entry fees: seniors 2s. 6d.; juniors 1s. 6d.

Pre-entry, please, if possible on or before August 1st, 1960, to L. Blair, 207, Ferris Park, Larne, Co. Antrim. Prizes will consist of engines and kits.

The F/F Nats will be held at a later date, possibly early September.

STEVENAGE M.F.C.

Most of last month we spent in preparing for the Nats as no doubt did most other people. However, we were somewhat dismayed on arrival at Scampton to find the completely inadequate camp site already full. We thus had the situation where half of our members were unable to get into the camp, and those who had arrived early were unable to get their car out again ! Fortunately, the glorious weather made up for this and the many other restrictions imposed on the use of the airfield.

The Thurston Cup seems to be following Pete and Mavis Giggle around for they brought it to Stevenage with them and now we have it back again through Geoff's win in the fly-off.

Sunday morning, 7.30, found Dave Platt, roped in to hold for Alan Paynes' open rubber job, surprised to find it had more " bite " than a 0.35—the hook pulled out of the winder ! Ouch ! After repairs, however (to the model), Alan came near to getting in that 10-man fly-off in rubber. Finally, one of our juniors managed to leave his coat hanging on the camp site fence

complete with new ETA Mk. V in the pocket. Anyone know whereabouts of same ?

As a contrast to the Nats the following week we put on a static and flying display during the annual " Stevenage Day " Festival, gale force winds, however, made flying difficult and eventually threatened to blow the static display away—marquee and all ! Our thanks to those who loaned models and wielded distemper brushes on the stand—now we see how they get those finishes on their models !

DAGENHAM M.A.C.

Our combat rally was won by Peter Tribe of Northwood with Ewen of Enfield second. Class B Combat was not to be catered for, but eight entrants turned up, so a comp. was arranged, which was won by Dave Platt of " Squares."

The whole rally was going smoothly until the local council members began to arrive for an important meeting in a building nearby so we had to move the circles elsewhere.

The raffle was unclaimed so if the person who bought the green ticket, No. 36, will contact us we will see that he gets the prize.

Our council are receiving complaints of noise from local residents and drew up new bye-laws restricting model flying. They sent us a copy, and we thought them unreasonable so they have asked us to discuss them with them.

Only one of our members, Alan Marsh, could make the Nats. this year due to transport problems. He would like to thank Northwood and Kenton Clubs for the help they gave him in getting to the Nats and also helping him reach the quarter finals in the Combat.

CARDIFF M.A.C.

We held an All-in Competition at Tre Lai Park, Cardiff, recently. Wind at the start dictated a 1½ min. max. Later improved conditions allowed 2 min. S. G. Morgan, flying J. Baguley's *Last Resort*, was the winner with a perfect score of 8 min. B. Flaherty and J. Phillips with 7.24 and 6.14 came second and third, both flying O/D gliders.

A feature of the afternoon was a first rubber fly-away for W. Plaisted. Never again will he be able to say, " No need to fit D.T's. to my jobs, they never get away."

ENFIELD & D.M.A.C.

Following our recent success in C/L rallies, Alec Ewen flew to second place in the combat event at the Dagenham Rally. Unfortunately, this success did not extend to the Nationals !

At this event Frank Stevens and George Allen could not repeat their practice times in the Class A race and Pete Hartwell was doing well in the semi-final until a split prop vibrated the motor loose. In the glider, Bob Moore was jubilant after getting his second max. only to have his hopes dashed by a big downdraft. The Nationals also saw the return of Jim Mosely, our power expert, who blew the dust from his model, started the motor and got the model into a perfect climb on full power first attempt. Needless to say, he was too late to enter.

ST. ALBANS M.A.C.

Whitsun week-end saw 24 members emigrate to Lincoln for the Nationals where a very enjoyable time was had by all. This year we organised and ran two contests, namely, the Thurston and Lady Shelley, which both went off well without too much chaos. Our members did very well in the F/F events; George Fuller has at last won the Short Cup after being dogged with bad luck during the last few years. Don Edwards reached the fly-off in the Sir John Shelley and came third with 4.27. Two members, Messrs. Simeons and Cleghorn, reached the fly-off in the Thurston Cup and took fifth and seventh places respectively with fly-off times of 4.34 and 4.29. In the Model Aircraft Cup our rubber pundits were all put to shame by Michael Knight who put up 9 : 12; he is just 10 years old ! Ian Crawshaw flew in the Lady Shelley Cup and managed to gain fifth place out of an entry of 18. Twenty-two of our members camped at the airfield and again we did a certain amount of organising as regards to tent positions and lanes for cars in the camping area.

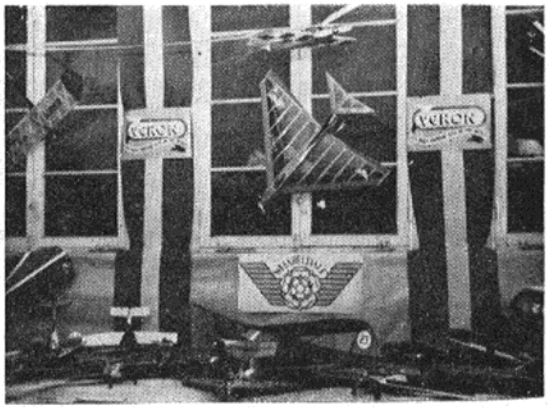
Our latest interest is ½A Power which makes a welcome change from flying larger 2.5 c.c. open power machines.

WHARFEDALE M.A.C.

Due to pressure of examinations only four teams were able to take part in the C/L team trials at R.A.F. Wigsley. The weather was good and this enabled the Long/Davy team, flying a very consistent ETA 15 powered model to put up three good times after a line breakage during their first heat. We have since been informed by the S.M.A.E. that this performance qualifies our entry for a place in the British team to visit Budapest later this year. New models have now been designed for this purpose.

Marking the height of the 1960 season, the Nationals was enthusiastically supported. Once again our successes were mostly confined to the T/R circle where entries in ½A, A and B were evident.

Class B was our most successful event with the Long/Davy/Willmott team flying Don Howarth's proxy entry to first place using a standard ETA 29 Mk. VIc in a new *Dalesman* racer. The final time (7 : 15.4) is the fastest ever done by a Wharfedale team. Third place went to the Horton/Baxter/Longstaff team who still persist in flying their remarkable 70-lap Frog 500 powered model.



A section of the display of models put on by the Wharfedale club at a recent local hobbies exhibition. In addition to static display, control-line flying demonstrations took place outside the hall, in spite of telephone wires running diagonally across the circle.

SUNDERLAND M.A.C.

We have been reformed only a few months and already have well in excess of two dozen active members. We meet every Thurdsay evening at " Chippy Stores " in Station Road, and have the use of a local airfield for Sunday flying. The main interest seems to be in C/L flying, although we do have one " rubber powered member " !

NOVOCASTRIA M.A.C.

We will be holding our annual club gala for the Rush Trophy on the Town Moor, Newcastle on August 7th, the events are Rubber U/R, Power U/R, Glider U/R and Combat. Entrance fee on the field, 2s.

MACCLESFIELD M.A.S.

After several postponements, the Rat Race was eventually held on our flying field and the ensuing fiasco proved to be very hard on models, pit men and neighbours' ears. Entries consisted of a minute 0.35 rat racer, a 0.29 model and an elderly 2½ c.c. stunt model; and it was just like combat. The 0.29 model retired early, leaving the other two to fight it out and at one stage the stunter was doing consecutive bunts to sort out some tangled lines. If speed had counted, the 0.35 would have doubtless won . . . but it piled in after having severely maltreated its pit-crew. Of course, the 2½ c.c. stunter won.

Now we've decided to have Open Combat: it's much safer.

When the Congleton club held their rally there was quite a large " Macc " contingent. Barry Corden, who came third in combat at Woodford, did very well until his reserve model was neatly sliced off the end of the lines. Then Gig Eifflaender flew his P.A.W. 1.49 c.c. model to win in stunt, competing against a number of the top stunt men with their big glow-models.

At the F.A.I. C/L Trials, "Macc" was represented by Gig Eifflaender, Pete Ridgway and Barry Corden, who finished up in fifth, sixth and seventh places, having suffered heavily at the hands of a glow-biased panel of judges. (*Who's biased ? Barry Corden surely was using a glow engine—Ed.*)

NORWICH M.A.C.

Leading up to the Nats, our open glider comp. was held at Thetford Heath, and was won by new member, " Andy " Anderton, with three max's, using his own design lightweight *Suspender* against exclusive A/2 opposition. F/F member, Mick Smith, was unlucky in the Glider fly-off at the Nats, missing by one second. C/L members were trying hard at team race, Secretary Joe Hemmings destroying his second Ollie Tiger this season with a perfect wingover . . . into concrete !

At the last club meeting (chewing over the Nats.), many comments were passed on the litter problem. It was noticed that with genuine competitors (also at the camp site), litter was being diligently taken care of, but the public were well to the fore with thousands of ice cream papers, lunch bags, etc., left to blow all over. Club chairman noticed one unintelligent-looking moron with a bottle of light ale at his lips (one eye on the chairman's daughter, one on the bottle) calmly drink it down and throw away, bottle nearly scoring a max. in the direction of the Gold Trophy. No comment !

PETERBOROUGH M.F.C.

Our club was formed in December last year and now has a membership of 31. The main interests are Combat, T/R and F/F. Any unattached modellers in the district are welcome to attend flying meetings at Westwood Aerodrome on Sundays, or to contact the secretary with a view to membership (see New Clubs).

ROTHERHAM & D.M.A.C.

In conjunction with the local Model Boat, Engineering and Railway clubs, we are to hold an exhibition at Rotherham's Town Hall Assembly Rooms on October 6th, 7th and 8th—the event to be known as " Rotherham Model Makers: Model Exhibition." Tentatively, we estimate that the forthcoming exhibition will have a potential attendance of 7,000-10,000 visitors.

SCOTTISH A.A.

Beveridge Park, Kirkcaldy, was once again the venue of the Scottish Aeromodellers Association's annual C/L competition. The weather was perfect and everything was set for an interesting day's flying. The Kirkcaldy Model Aero Club ran the show and was responsible for the splendid organising.

Combat: This event had the largest number of entrants of all. *Peacemakers* and wings were the order of the day, the power plants being mostly Olivers. The spectators were treated to some really good flying.

Wilson of Perth was the eventual winner.

Stunt: The stunt judge had quite a job on hand in placing the winners, but eventually, following a brilliant display of " through the book " flying, the event was won by C. Grubb of Kirkcaldy.

Team Race A: It was the West of Scotland that provided the most competition in this event. There was only one representative from England, Archibald of Oldham, who, although he had only a standard Oliver, won through to the third place. Ecurie Cadzow walked the field with their home-tuned Olivers, which were pulling their models round at over 90 m.p.h.

T/R B: There were only three entrants, all coming from the West of Scotland. Speeds were fairly high, bordering 100 m.p.h. although lapage was not so good. The models were powered by two ETA's and one Enya respectively. Result: First, Hill of Ardrossan: Second, McAlpine of Stevenson; third, Millar of Barnstormers.

Class ½A: This class has not caught on in Scotland at all, there being only one entry for the event !

NEW CLUB

PETERBOROUGH M.F.C. J. Fairchild, 71, Lawn Avenue, Peterborough, Northants.

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ENFIELD & D.M.A.C. R. E. Moore, 141, Morley Hill, Enfield, Middx.

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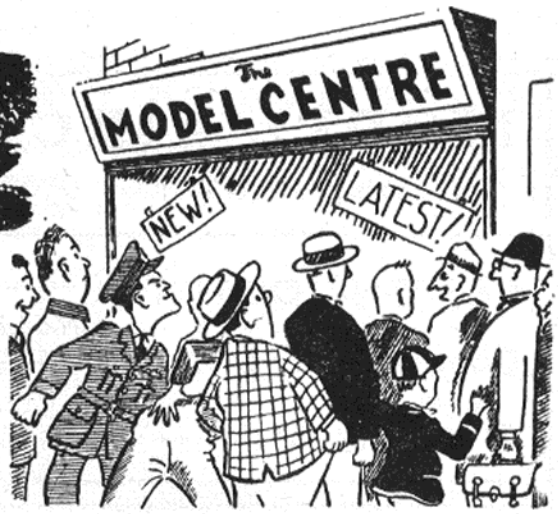

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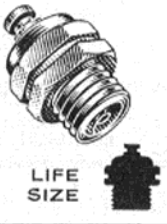

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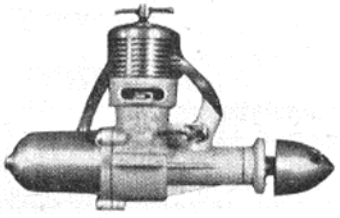

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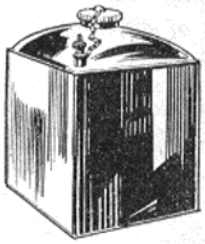

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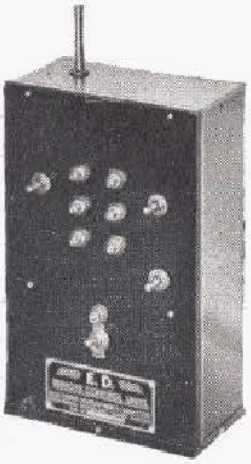

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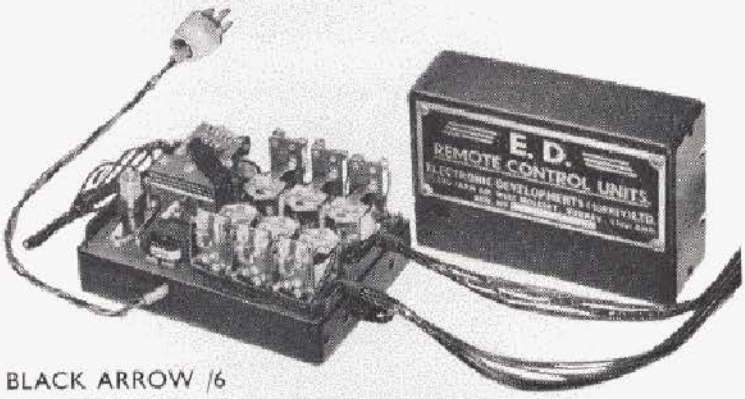

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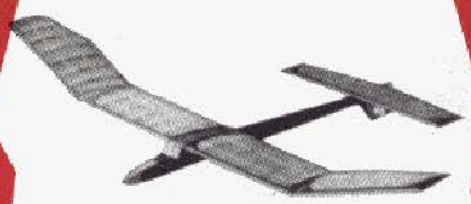

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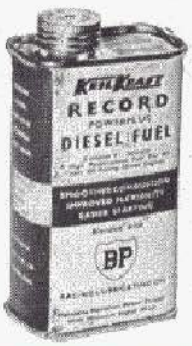

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