

JANUARY 1959

AERO MODELLER



FIAT G-91 3-view

O'Donnell on Contest Flying

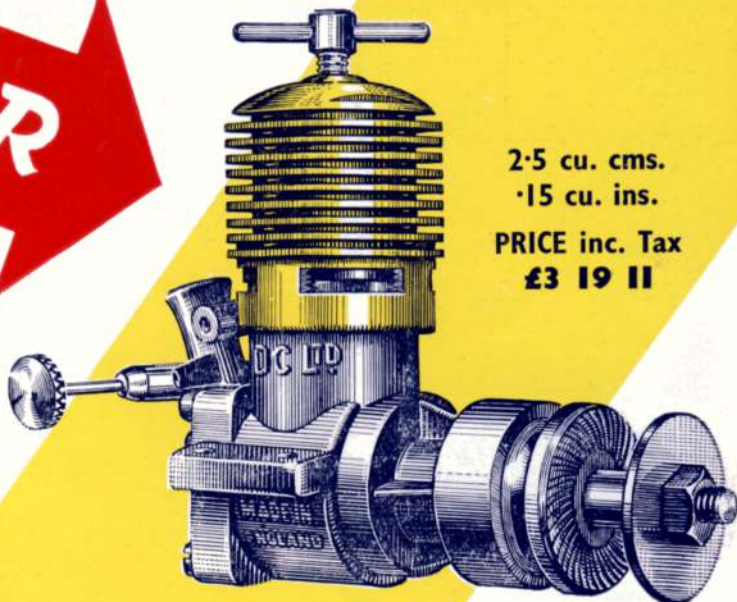
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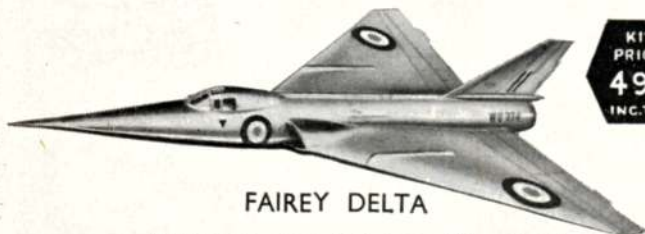
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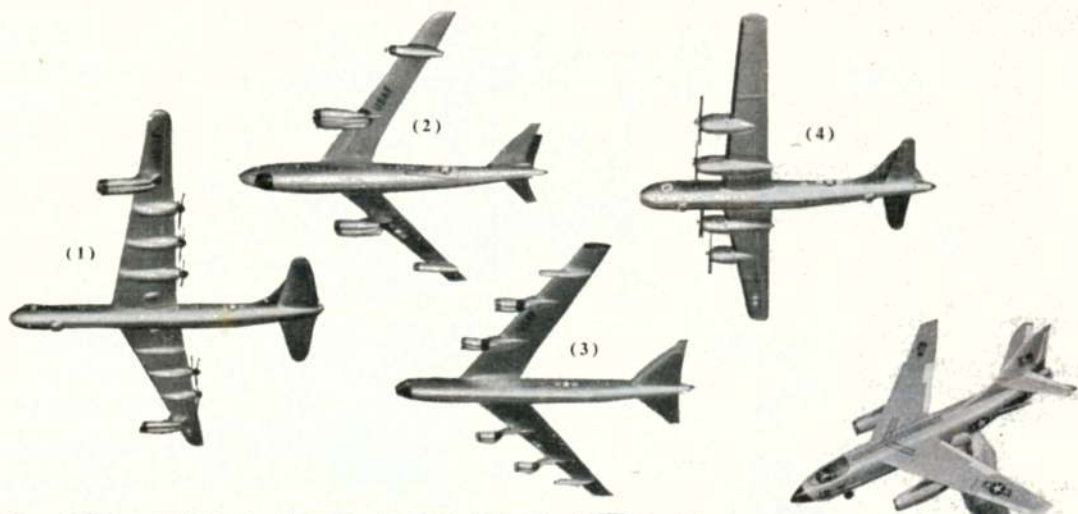


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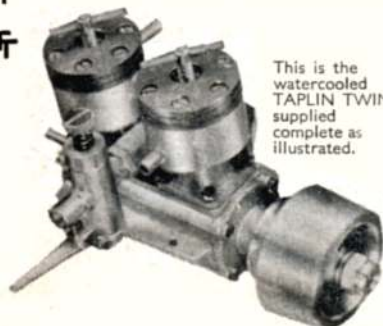
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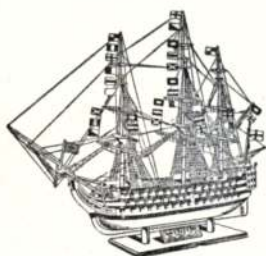
"ARK ROYAL"
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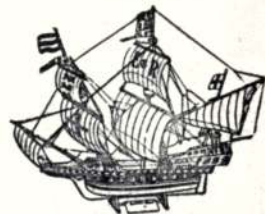
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43 TEMPLE ROW, BIRMINGHAM 1

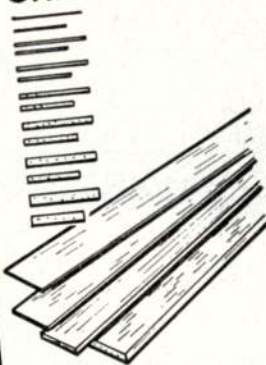
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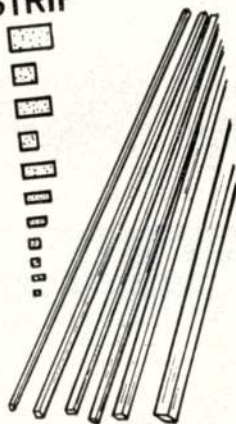
SHEET



36-in. lengths

1/32" x 3"	1/4	each
1/16" x 4"	1/4	"
1/16" x 3"	1/4	"
3/32" x 4"	1/2	"
3/32" x 3"	1/8	"
1/8" x 4"	1/3	"
1/8" x 3"	1/11	"
3/16" x 4"	1/6	"
3/16" x 3"	2/3	"
1/4" x 4"	1/8	"
1/4" x 3"	2/6	"
3/8" x 4"	2/1	"
3/8" x 3"	3/1	"
1/2" x 4"	2/6	"
1/2" x 3"	3/4	"

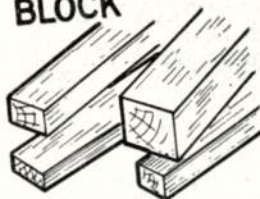
STRIP



36-in. lengths

1/16" x 1/16"	1 1/2 d.	each
1/16" x 1/8"	1 1/2 d.	"
1/16" x 3/16"	1 1/2 d.	"
1/16" x 1/4"	2d.	"
3/32" x 3/32"	1 1/2 d.	"
3/32" x 1/8"	1 1/2 d.	"
3/32" x 3/16"	2d.	"
3/32" x 1/4"	2 1/2 d.	"
1/8" x 1/8"	2d.	"
1/8" x 3/16"	2 1/2 d.	"
1/8" x 1/4"	2 1/2 d.	"
3/16" x 3/16"	2 1/2 d.	"
3/16" x 1/4"	3d.	"
1/4" x 1/4"	3d.	"
3/8" x 3/8"	5d.	"
1/2" x 1/2"	7 1/2 d.	"
1/2" x 1"	1/1	"
3/4" x 3/4"	1/1	"

BLOCK



36-in. lengths

1" x 1"	2/1	each
1" x 1 1/2"	3/3	"
1" x 2"	3/9	"
1 1/2" x 1 1/2"	4/1	"
1 1/2" x 2"	4/9	"
2" x 2 1/2"	5/6	"
2" x 2"	5/9	"
2" x 2 1/2"	7/3	"

MOULDINGS



36-in. lengths

1/4"	4 1/2 d.	each
3/8"	7 1/2 d.	"
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TRI-FILLET



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1/8" x 3/8"	4d.	each
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Heard at the HANGAR DOORS

Hurrah for Harry!

AFTER SIXTEEN YEARS Editor Harry Hundleby is leaving us. His story is the story of AEROMODELLER. When he joined M.A.P. as little more than a youth, though old enough to have been invalided out of a T.A. Regiment of the Royal Artillery, AEROMODELLER was a small circulation magazine just beginning to spread its wings. His vision and enterprise have been a major factor in helping those wings to climb to a circulation altitude of 50,000 and more copies monthly, and made it eagerly sought and treasured wherever in the world models are flown.

Originally engaged on the art side, he has turned his hand successfully to every department—editorial, layout, articles, design, photography, original research, advertisement canvassing—in fact everything short of actually printing an issue, though there was even an occasion when he made ready to do just that! In spite of all this, he has still found time to write a best-seller, *Simple Radio Control* (and what a job we had getting him to finish it!), play an active part in the affairs of the S.M.A.E. at both council and area levels, and an immense amount of "back room" work organising aspects of three highly successful World Championships at Cranfield.

We must too, speak of early days at Highgate, test flying models on Hampstead Heath; later at Eaton Bray, actually laying bricks that were to be our offices; miraculously finding money on trips abroad when we had improvidently spent our joint funds; life with Harry has always been invigorating and enjoyable.

Well, now he is making a move; we hate to see him go, but we really do enjoy saying "Thank you" just as loudly as we can. In the months to come we shall probably realise many of the other things he tackled in his stride when we have to do them. But, although he will no longer be sitting opposite us in the office, getting our mutual telephone flex all snarled up, he will be playing an active part in the aeromodelling movement, for on January 1st he commences operations as Sales Director of Davies Charlton Limited in the Isle of Man.

One of his principal jobs will be to bring the practical aeromodellers' needs before his new board of directors, so he will be keeping in touch at home and abroad, and it is no secret that some "long-felt wants" will be coming from the D.C. factory, plus a welcome surprise or two.

In saying "Cheerio Harry and Good Luck", we know we speak not only for all of us here but also for the many thousands of readers all over the world, who have enjoyed his monthly offerings for so many years.

Staff changes

Naturally, the departure of our Editor at the end of this year necessitates certain re-organisation of staff, not the least being the occupation of the Editorial Chair by our Assistant Editor, Mr. R. G. Moulton, who becomes Editor of AEROMODELLER as from January 1st, 1959.

Ron Moulton is too well-known to our readers to need introduction and brings many years of editorial experience, plus a real enthusiasm for aeromodelling, to serve your needs.

Mr. D. J. Laidlaw-Dickson, formerly Editor of our associate journal MODEL MAKER, has been appointed Editorial Director in sole charge of all Model Aeronautical Press publications including AEROMODELLER, MODEL MAKER and the various M.A.P. books.

Mr. C. S. Rushbrooke assumes responsibility for all advertisement matters as Advertisement Director and, resulting from Mr. Laidlaw-Dickson's increased responsibilities, Mr. V. E. Smeed has been appointed Editor of MODEL MAKER.



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

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No. 276 JANUARY, 1959

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"Mr. Aeromodelling", 1958, John O'Donnell receives the congratulations of S.M.A.E. Chairman, A. F. Houlberg, M.B.E., for winning the K. and M.A.A. Trophy 46 years after Alex had himself won it in 1912! After 16 years of devoted service to the F.A.I., Alex has announced his retirement as Chairman of the Models Commission.

Most recent of the many "behind the scenes" tasks for which many thanks are owed to Harry Hundleby, was the effective organisation of model recovery at the World Champs., Cranfield. Here, Harry is seen on opposite page, with radio intercom. operator Duncan Woods.

S.M.A.E. Contest News

The 1959 Nationals will again take place at Whitsun at a venue to be announced, and the North Western Area of the S.M.A.E. have agreed to organise an Indoor Nationals in Manchester early in 1959. This meeting may be used as a Trials event should a British team be going to Hungary for the proposed International Indoor later in the year. The U.K. Challenge Match will not take place in 1959 and it would seem that this event has died a natural death through lack of interest.

Glider competitors in the 1958 Northern Gala, who had their flight times disallowed under rule 36A have now had their recorded times reinstated, since it was shown that the breaking of the Society's Competition Rules was due to an error on the part of the organisers for which the Society accepts full responsibility. Winner of the contest is therefore Mr. Thorpe of Long Eaton.

Mr. D. Pierpoint, who refused to give an explanation as to why, when having made an entry as British Team member for the King of the Belgians Cup in Darmstadt, he failed to attend the contest, has been debarred from all S.M.A.E. contests for a period of two years.

S.M.A.E. Facts

Present composition of the Society's membership quoted officially at its last meeting is as follows: Senior Members 1,483, Junior Members, 352, Associate Members 6,082, Country Members 120.

The Council at the same meeting were unanimous in their recommendation, bearing in mind greatly increased costs, that the minimum possible fees which would enable the Society to carry out its normal activities were as follows: Senior 20s., Juniors 7s. 6d., Associates 5s. and Country Members 25s.

Associate Members with immediate effect will be required to pay the same contest entry fees as non-members when entering S.M.A.E. Contests. Since the major activities and expenses of the Society relate to contests, it seems only reasonable that Full Senior and Junior Members should be the only ones to benefit from low contest entry fees. Associate Membership was, in any event, never intended for the competition minded modeller.

F.A.I. award

"Big Dick" Edmonds of the High Wycombe Club, who won the team race event at the Brussels Control-line meeting, has been awarded an F.A.I. World Championships Plaque for his efforts. We congratulate Dick on this honour which seems to quell any doubts that existed as to whether the Brussels "Expo" Meeting was in fact a World Championship!

Jet Plans

The Fiat G.91 scale drawing on pages 22/23 of this issue is the first ever accurate plan of this new fighter shortly to equip the air forces in N.A.T.O. countries. Our Danish contributor, E. Tage Larsen, who prepared



this drawing also gave us another "first" in the Nord Griffon last January. That fantastic Delta has just been announced as capable of Mach 2.05 whilst climbing at a rate of over 300 ft. per second and at an altitude exceeding 50,000 ft.! Both these subjects are, in our opinion, ideal selections for model ducted fan projects.

"Au Revoir" but not "Good-bye"

IT IS sixteen years since I first made the acquaintance of AEROMODELLER readers. Sixteen happy and very fascinating years from my viewpoint, due in the main to the wonderful support I have received from aeromodellers throughout the world; to my many good friends in the trade; and last, but by no means least, the help of my colleagues at M.A.P. Ltd.

In handing over the reins of Editorship, I can think of no more fitting person than Ronnie Moulton who has backed me solidly these past nine years.

A real dyed-in-the-wool modeller, he has sufficient breadth of vision to subject his own particular modelling interests, in order to produce an AEROMODELLER of truly balanced editorial content.

In my endeavour to see that AEROMODELLER should promote and encourage aeromodelling at all times, I have never lost sight of the fact that its prime purpose is to provide first class reading material for enthusiasts whose tastes are as varied as the models they build and fly.

My colleagues in their new directorial positions and your new Editor support this policy to its fullest extent and I therefore, move to my new position, happy in the knowledge that this journal is in the best possible hands.

The sometimes difficult task of editing and producing this most famous of all modelling journals has always been made easier by the splendid co-operation of readers, contributors, and the many behind-the-scenes workers in the publishing industry.

I thank you all most sincerely for your great help these many years and reaffirm that I am saying "Au Revoir" and not "goodbye" as I continue to serve the cause of aeromodelling in my new position.

Harry Hundleby



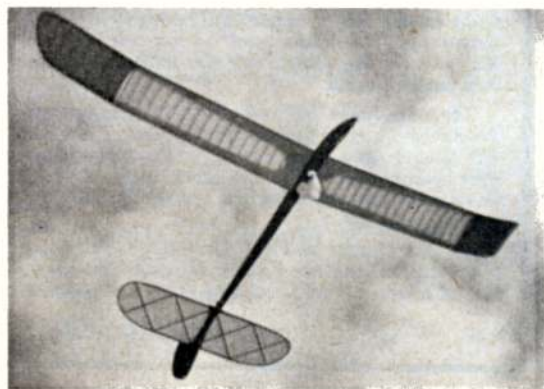
There's
always
next
year!

John O'Donnell
introduces our
new series
**EXPERTS'
FORUM**
to offer hints
and tips to
improve your
aeromodelling

PERFECTLY TRUE, but is it going to be a better contest season than last year? This is up to you, but a few ideas and opinions may assist the free-flyers to manage more maxs.

The choice of categories can only be made by the flier, but the old, old advice of specialising is still good. Pick the class that you think has most appeal and concentrate on it. This should give more successes (and satisfaction) than trying to develop rubber, glider and power simultaneously. When if you attain a reasonable degree of proficiency, and have a good stock of models, then is the time to add a further category.

For any real hopes of a successful season in average British weather, it is necessary to have a number of reliable models. This situation is not attained overnight and may require a lot of building hours this winter. However, considerable use can be made of the models (or debris) left from 1958. Contrary to some people's opinions, it is not necessary (and in some cases it is not desirable) to have a brand new model featuring Continental ideas out of "World News" or "Championship Technicalities". Last season's models are usually quite capable of winning next year's events if adequately maintained. Repairing is usually much quicker than building fresh models and has no effect on performance if done properly. The idea of *re-covering* models for the



new season is not recommended, as the weight penalty is high, and the warps have to settle down again. Sanding tissue off the structure is a terrible job in any case. Re-covering should not be necessary provided that patching is carried out regularly.

For new models, I would recommend the building of several reasonably orthodox models, ideally to a Club developed design, instead of one or two "super" models. The latter, in practice, rarely show an appreciable improvement in performance, can exhibit unexpected vices, and if lost or damaged can leave an embarrassing shortage of models for the next week's events.

Open versus F.A.I.

The other specialising question to be decided is that of choosing between Open and F.A.I. With the current rules, *Wakefield and International Power* have degenerated into events of strictly limited appeal with the emphasis placed on the power plant and not on the model. The model, in any case, is virtually useless for top grade Open events. This does not mean that the standard of the flying in the International Trials, etc., is low—on the contrary it is very high, but it is restricted to a comparatively few modellers.

So if you think that it is worth building special models for a handful of contests, obtaining a lot of good rubber and/or re-worked engines, and putting in enough time and effort to get to the top—then fly F.A.I. If not, and half measures are just a waste of time, leave it well alone.

Nordics are not quite in the same category as they will catch lift as easily as anything else in Open events.

Open Power

In recent years there has been a marked tendency to employ ball-race 2.5 c.c. diesels for Open Power. The reason for this is not obvious but may be influenced by Engine Analyses over-dwelling on max. B.H.P., Power per litre/c.c., etc. However, it seems a silly choice to pick an Oliver or similar style motor when the requirements are a high power to weight ratio. There is a readily available plain bearing 3.5 that has more power, less weight and is cheaper than the production ball-race 2.5s. But why stick to diesel! If power/weight is really what you want then glow has surely plenty to offer. There are one or two snags but these are hardly insurmountable. It is necessary to fuel proof, and it is essential to use "hot" fuel in some engines. Using the right motors, performance is probably limited more by consistency/trimming than by available power.

However, the most important item of a power model's hardware is not the engine—but the method of stopping it! A first-class accurate clockwork timer is required. These exist, but are neither cheap nor made in this country. As for whether they are worth the expense and trouble of obtaining, ask the people using them. I've not met anyone who will willingly go back to any other device.

Rubber

The main trouble with rubber models at the moment is rubber! Current supplies generally seem of poor quality, lacking power (Pirelli) or being prone to sudden catastrophic failure on considerably less than expected maximum turns (Dunlop). A temporary solution for Open models may be simply to use old motors and more turns than usual. As few Open Rubber fliers wind near the limit, last season's (or older) motors may still have

The current vogue for large size gliders is not very logical in J. O'D's opinion—this 108-in. beauty by Maurice Doyle of Belfast came to an early end when it was set alight by its d/t fuse, but performance until then was sufficiently impressive to encourage an immediate start on a replacement. Tail is 308 sq. in. and flat plate

some useful life left. For Wakefield this doesn't apply, as 50 gm. motors have had to be wound right up (and with sheet box fuselages the flier has the confidence to do this) and consequently have shown a nasty habit of fraying (or worse) after one or two doses of this treatment.

For Open Rubber I favour a model of roughly Wakefield size built reasonably light (3-3½ oz. structure weight, new) carrying a lot of rubber (5.4 oz.) and using a featherer. This set-up tends towards the theoretical "motor weight equals 2 x structure weight" idea; which is probably an ideal to aim at, provided it is achieved with a light structure.

To the question "why not a folder?" the answer is mainly glide stability. A long tensioned motor can knot up (even though it hasn't reached the bunch stage) and the resultant C.G. shift is more likely to affect a folder than a featherer model. The featherer acts as an automatic stall damper—and if a bad bunch causes real stalls, then the prop. usually breaks on landing instead of the fuselage nose. There is no doubt as to which is quicker to repair on the field.

Other people, of course, have different views, e.g., Birmingham seem convinced that a model of similar size and structure weight to mine is better off rigged (C.G. and incidences) in a completely different way, using about 4 oz. rubber, and fitted with a folder.

Prop. design is tied up with the power used. For still air large diameter high pitch props. turned very slowly by large cross-section motors give remarkable durations—but are useless in wind, as they don't seem to have enough static thrust to ensure recovery from power stalls. Something in the region of a 22 x 24 prop. with about 2½" max. chord is about right for a Wakefield area model. Power required is 14-16 strands of ¼ x 1/24 in. depending on quality.

If in doubt on prop. design, aim for about 550 r.p.m. (in flight). On the practical side, don't carve the blades too thin and ensure that the pitch can't change without visible indication. On the latter point, I would advise against wire hubs as folders as they can be bent without it being obvious.

Glider

Gliding at long last is being recognised as a thermal catching game. AEROMODELLER features in April, 1957, and March, 1958, have described how Lindner and Thomann go about thermal catching with their "still air" Nordics, and have tended to throw a little more light on to the importance of towline stability. If you agree that to win it is necessary to tow the model into lift every flight, why not design the model for this purpose, instead of for the somewhat hypothetical still air that contests aren't held in? Designs with the wing mounted directly on to a stick fuselage are seldom renowned for towline stability. If you like stick fuselages, my advice is to pylon mount the wing.

Lightweights have some advantages over Nordics, mainly due to slower flying speed. This is a decided advantage when trying to "kite" the model on the top of the line for a lengthy period. The current vogue in certain quarters for large size (8 ft. and larger) gliders does not seem very logical; as the size is no longer required for visibility with a 3:00 max. and may result in a turn diameter too large for low level thermals.

General

Contest technique is where many competitors fall down. "Bad luck" almost invariably isn't—bad management is a better description.

It is not bad luck if the D.T. fuse goes out, or the tail-

plane falls off if it doesn't, or if the timekeeper can't see your yellow and white model against a cloud, or if you launch cross-wind, or lose count winding, etc., etc. The idea is to make no mistakes and you then have more than a good chance of winning.

The ability (and willingness) to fly in wind is useful. If it is too windy for you to fly (or lose the model) you can't possibly win. Furthermore, it should be realised that losing models is probable if not inevitable—and if you fly power, this means motors as well. It is just a waste of effort to have a model that daren't be lost, as this automatically reduces your chances. Just as silly is declining to fly a reserve after losing the first model—after all, what is the reserve for?

Consistency is essential and can only be achieved by eliminating the minor things that go wrong. A lot of trimming is obviously required—but a lot of contest flying is also needed if you intend to progress. You can learn plenty at the many little Rallies which fill the contest season.

Warps seem to be something that most modellers are afraid of—and which they regard as the unpredictable, inevitable and unfortunate results of doping. This is a somewhat mistaken outlook as warps can be not merely useful, but essential in the trimming of some models. Unwanted warps should be steamed out, and intentional ones watched. To keep models on trim, it is vital that the warps are kept constant. This necessitates remembering (or listing) each model's warps, and rectifying any alterations. "Henley anti-warp boards" might be okay if you only own one or two models (or have to send models to be proxy flown) but are hardly a practical solution for a lot of models.

If all this sounds like hard work—well, remember some people like it that way!

Finally

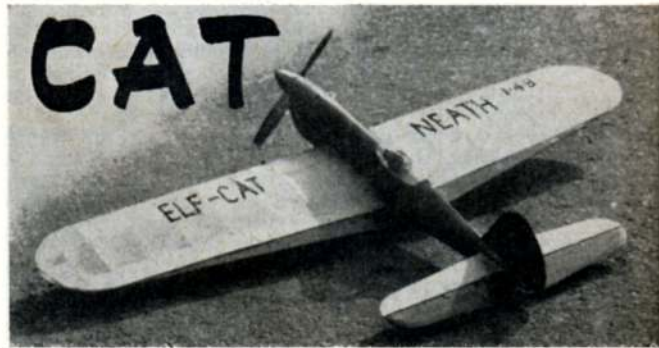
As for taking my own advice, I can only quote my immediate building programme and leave you to judge. First requirement is to finish repairing the wreckage from the 1958 Contest season. This, coupled with getting all my 1958 flyaways back, will put me in quite a good position for rubber (Open and Wakefield) and Open Power.

Top priority is therefore going to a new Nordic area glider, specifically intended as a thermal catcher, and an F.A.I. power model, enabling my existing models in these categories to be relegated to acting as reserves. Following these should be a new fuselage for existing Wakefield components, and a glow .19 Power model. After these I will probably have to start repairing the first casualties from the 1959 season!

Britain's Champ for six years running, John O'D set a record by collecting 8 SMAE trophies at the 1958 prizegiving

NEXT MONTH: World Champion team racer Dick Edmonds will tell his secrets for success





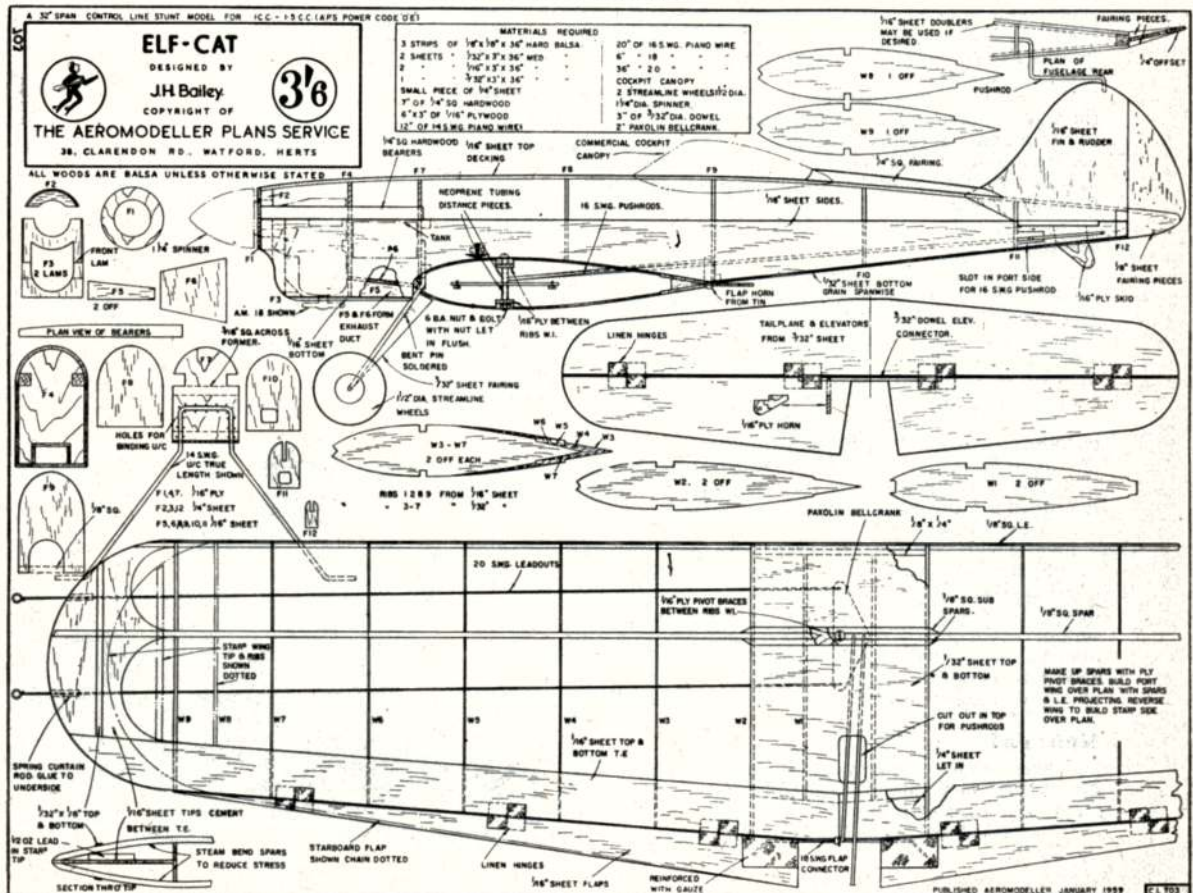
FULLY AEROBATIC CONTROLINER FOR 1-1.5 c.c. by J. H. BAILEY

THIS FAST FLYING little stunt design fills the bill for the comparatively recent increase in interest in the 1.5 c.c. size of engine. Designed originally for the Elfin 1.49, hence the name, it is well suited to any of the more powerful 1 c.c. diesels and will also accommodate all of the 1.5's, although in the case of the rear disc intake engines, it is necessary to make a slight alteration in former F.4 to allow for the carburettor to overhang the tank. With front rotary engines, the tank falls in line with the needle valve and provides slightly better performance.

By using a thick airfoil and small tail surface area, Elf Cat has a high degree of sensitivity and will perform the entire stunt schedule, aided in the attempts to do square manoeuvres by the small section trailing edge flaps. It uses an asymmetrical wingplan to maintain line tension under all conditions and its simple construction makes it an ideal model for the relative beginner.

A unique feature of this design is the system of bellcrank mounting. Instead of the conventional plywood plate, the bellcrank is supported by a pivot bolt which is

FULL SIZE COPIES OF THIS 1/4th SCALE REPRODUCTION ARE AVAILABLE AS PLAN CL 703 PRICE 3/6 PLUS 6d POST FROM AEROMODELLER PLANS SERVICE



located in the centre section by sub spars and ply reinforcements. This gives an unobstructed bellcrank movement and allows one to have ample pushrod wire projecting through the bellcrank without fear of tangling with the mount.

Construction begins with the fuselage sides being joined together by formers F.4, F.9 and F.12. Fit the intermediate formers, engine bearers and nose cowl laminations in $\frac{1}{4}$ sheet, then make up and fit the tail surfaces.

Now switch to the wing, spars for which should be made up with the sub braces in the centre and the wing then built into two stages over the plan for the asymmetric layout. Install the control mechanism and connect up the flaps, leaving the pushrod long enough to be fitted through the fuselage for final attachment at a later stage. Apply sheeting to the upper centre section, fit wings to the fuselage and after connecting pushrod and elevator horn, install tank and fit the undercarriage up behind the leading edge and bind it to F.7 with strong thread, applying a liberal coating of cement. Now install the tank and cover the fuselage bottom making sure that a clear air channel runs through the exhaust duct to exit beneath the wing centre section, which should now be sheeted over, also the upper fuselage.



Simple yet racey lines of ElfCat make it an easy-to-build good looker with full stunt performance. Flight pattern with a 1½ c.c. diesel is fast and sippy. Flaps help to tighten the looping radius and sharpen the square turns.

It now remains to cut away the lower cowling area as required by individual modellers for engine access, to fit the engine, the cockpit canopy and spine fairing, tail skid, wheels and undercarriage fairings. Give whole model several liberal coats of dope and colour decorate to suit your own taste—why not use our heading kitten as a cutout decoration?

What's the answer?

I HAVE always understood that a model must have a longitudinal dihedral angle to be stable—i.e., a difference of incidence between the wing and tailplane with the wing always at the greater angle. I am puzzled by many model plans—usually of models with outstanding records—which show practically no difference in rigging angle between wing and tail. How are they stable?



"After considerable calculation I've decided to put $\frac{1}{8}$ in. under the T.E."



"Is this downwash, Dad?"

Answer.—This is not an easy question to answer briefly. It is true that, for stability, the wing should have a greater angle of attack than the tailplane in flight. But angle of attack refers to the actual angle which the wing (or tail) is meeting the air in flight—not the angles at which these components are actually rigged (i.e., rigged incidence). In flight, too, the airflow over the wings is deflected downwards so that the direction of the airflow over the tail is different from that over the wings. As a rough figure this deflection is about one-half of the wings' angle of attack. Hence the effective angle of attack of the tailplane is decreased by this amount. That is why you can get an effective longitudinal dihedral angle with similar rigging incidences. Carried to extremes, one could still get an effective longitudinal dihedral with the tailplane rigged at a greater positive incidence than the wings. This is a rather tricky trim, however, since it relies on the wing maintaining its angle of attack to produce the required amount of downwash. If the wing angle of attack decreases, so also does downwash and the tailplane can immediately become too effective in generating lift. Models with extreme rigging, in fact, often take a long time to pull out of a dive (e.g., following a stall, or if upset in a gust). They may not even have any recovery at all if forced nose-down into a dive.



What would YOU do in a case like this? Think a moment, then twist the page for the solution to the problem which is printed below left.

Angle of Attack or not—it flies!



"Hope you've kept the plan—you're going to need it again!"



SOME IDEA of the system used in Switzerland to select their A/2 and F.A.I. power teams can be gained from results of the elim. which took place on October 25th/26th. Ten flights were required from each entrant, and they were made between 4.15 and 5.45 p.m. (near dusk) and from 07.20 to 9.45 on the second day. This precluded thermal aid to a large extent, and simulated conditions likely to be found at the 1959 World Championships. Leading the 50 A/2 entries in this third elim. was Paul Schmitter of Thun with an average of 2:43 and in power, Rudolf Schenker made a perfect time of no less than ten 180 maximums.

On November 1st/2nd, Hungary held her Championships for those who live in the southern part of the country. Two hundred and ninety-two modellers entered 401 models, and considering that the population of all Hungary is 10 million, this represents a high degree of enthusiasm. Surprisingly, they suffered rough weather for the comps—described as "Cranfield conditions", but times approached perfection just the same. Surely this is Erno Frigyes' year, for he won A/2, was third in Power and second in Wakefield; this on top of his earlier success when he became T/R Champ. (see photo) the previous month!

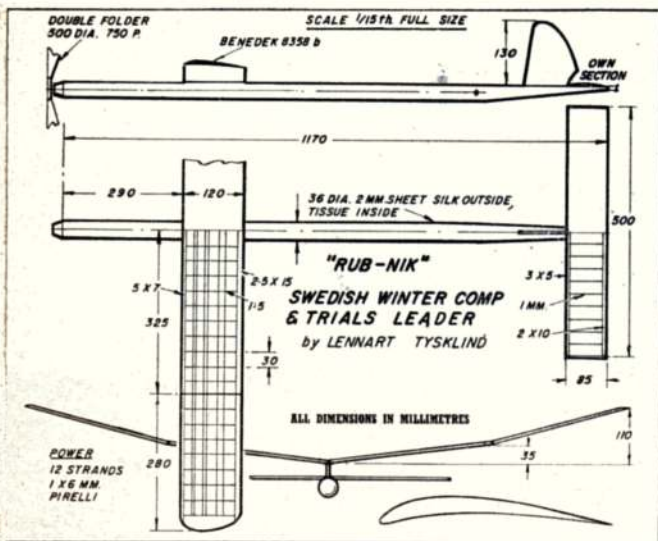
Second to Frigyes in team race was Laslo Azor, another Hungarian all-rounder who won the Wakefield and was eighth in Power at the free-flight Championships which were held at Szeged. Azor uses an Oliver Tiger and made best time of 5:15 for the 10 kilometres.

The Aero Club at Walldorf/Baden, Germany, had an International meeting with 181 competitors and 240 models from 42 German clubs and one from Zurich. Lothar Piesk, whose model was rated one of the best in Power at Cranfield, placed top of Power with 900 plus fly-off time, and in A/2, Will Oberdorf of Wertheim scored another perfect total with five maxs to emphasise the point that the 3-minute A/2 is not so very far away.

The Fourth Slope Soaring Championships in Poland on October 20th/21st attracted 33 entries, including six r/c gliders. The majority of the "free-flight" models employed magnetic compass steering, and the event was apparently run on a five-flight basis with 3-minute maxs (see photo). A week later over in Montreal Canada, the club there ran an A/2 event strictly to International rules, and with the purpose of giving competitors some practice. Conditions were freezing, with thin ice on



Bridgeport, U.S.A., is the location for our heading, with Al Pereira working on his powered scale Sikorsky S-58, an ambitious project which has been expertly tackled. Four lines lead from below the cabin, and control is via fully articulated rotor head. Next a truly colourful wedding in Monaco with local modellers doing the honours for Jacque Novaro and his bride. Left, from Hungary, Radocsi Nandor who scored a perfect 900 secs. with A/2 at Dunakeszi. Champion team racers are Frigyes, Azor and Simon who placed in that order with neat F.A.I. models



Left: Leading Swedish Wakefield design employs the tubular fuselage construction much admired at World Champs. Below, from Montreal M.F.C. newsletter, a leading Canadian A/2 with an average time of 2:45 in ten flights

waterpools and only one max was scored in 25 flights. Top time of 11:58 by Dick Foster and the overall 2:15 average of the top three men was not considered good enough by the participants, and more of these practice events (no entry fee and no prizes) are being urged by the M.M.F.C. Bulletin to raise the standard. Tam Thompson who placed third, was not flying his Stiletto (drawn below) on this occasion, and Mike Segrave, who was second, went on next Sunday to make five maxs in a row with his model—one of them lasting 16 minutes!

Polish R/C slope glider champion is E. Orsinski of Warsaw. Below is an A.P.S. Scytale by H. D. Pfan of Hilversum, Holland, in neat blue and white decor with Miles 5 c.c. diesel

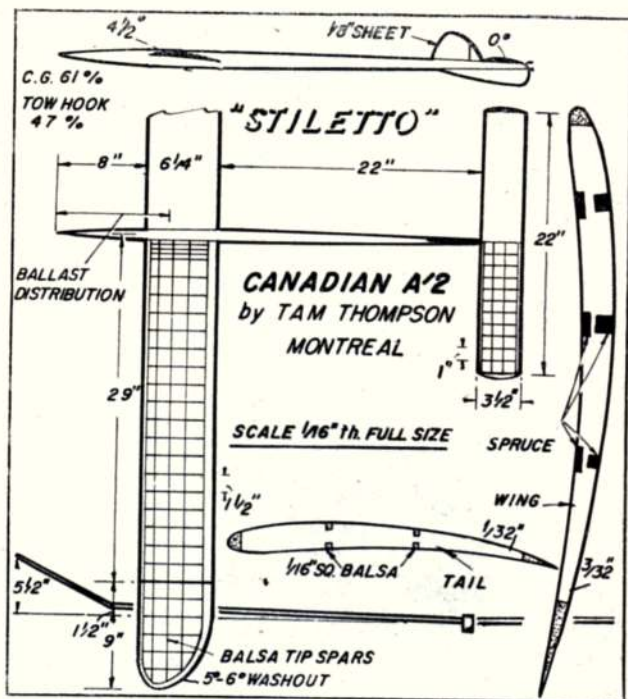


Just goes to show how conditions will influence performance. The Canadians are now putting in as much time as possible after the contest season has closed, and before the snows make recovery an exhausting process.

The annual autumn meeting in Finland emphasised the leading position of Reino Hyvarinen from Helsinki. Already the winner of the Nordic Countries Championship in the A/2 class, he collected firsts in both A/2 and Wakefield at the Finnish Champs to earn the "Modeller of the Year" award from the Finnish Aeronautical Association. Reino also won the Wakefield event at Helsinki on November 9th in atrocious weather. Incidentally, he subscribes to the idea that Pirelli improves if stored for one or two years.

The Soviet magazine "Wings of the Fatherland" announces that special badges are to be issued to aeromodellers in the U.S.S.R. by the D.O.S.A.A.F. organisation, and these will be awarded under a scheme much the same as the S.M.A.E. Merit Certificate awards, with qualification through performance. Mentioning local activities, we find that 69 competitors entered events at Orenburgsk—no small total for a club meeting. Aeromodelling is obviously widespread throughout the U.S.S.R. Tashkent, Kokand, Almalik and Fergunski were towns represented at a controline meeting, and each centre is said to have qualified instructors.

Not content with the old Ship-in-the-bottle gimmick, Otto Gunter of Karl-Marx-Stadt in East Germany has given the idea an aeronautical twist by placing a solid model of the Czech Aero twin-engined plane in an electric light bulb . . . and don't ask us how he did it!



RADIO CONTROL Notes

WE ARE NOT SURE who the flyer is in this splendid picture sent to us by Johnnie Acker of Los Angeles, California, but he certainly seems a dab hand at spot landings and uses, like most of our American friends, a hand-held transmitter. This type of unit with its shorter aerial (the full quarter wave aerial for 27 M/c being 8 feet 5 inches in length) does suffer a loss in radiating efficiency unless suitable steps are taken by providing aerial loading coils. Reader D. Cram of Glasgow is something of an expert on the subject and has produced the following notes and sketches for a 38-inch lightweight aerial rig that shows a 100 per cent. increase in efficiency over a plain rod aerial of the same length.

A Centre Loaded Aerial for 27 M/c

It is often inconvenient to use a quarter wave aerial with a hand-held R/C transmitter, and the radiating efficiency of shorter lengths is very low unless some form of loading coil is used to resonate the system. The loading coil can be fitted at the aerial base, but if placed at the centre the radiating efficiency is almost doubled. The inductance of the loading coil at the centre is double the value required at the base. Losses in the coil itself can be reduced by using a coil former which will give a winding diameter to length ratio

of 2 : 1 or more. Small diameter solid formers wound with fine wire should not be used.

Parts List

Three 12-in. lengths $\frac{5}{32}$ -in. OD brass tubing; one 12-in. length $\frac{1}{4}$ -in. OD brass tubing; one 1 $\frac{1}{2}$ -in. diameter paxolin coil former; piece of paxolin or bakelite sheet $\frac{1}{4}$ -in. thick; 24 s.w.g. enamelled wire. The aerial consists of two 18-in. elements supported by a centre insulator which also serves as a coil mount.

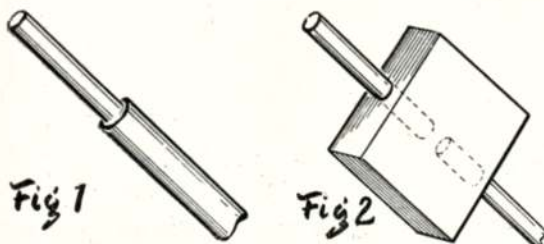
To make the elements, first cut one of the $\frac{5}{32}$ -in. brass tubes into two 6-in. lengths, then cut two 2-in. lengths from the $\frac{1}{4}$ -in. tubing. Using these pieces of $\frac{1}{4}$ -in. tubing as sleeves sweat a 6-in. and 12-in. piece together (Fig. 1) to form the two 18-in. lengths. Cut a piece of $\frac{1}{4}$ -in. paxolin sheet 1-in. long and broad enough to be a tight fit inside the coil former. Drill two $\frac{1}{4}$ -in. holes $\frac{3}{4}$ -in. deep to take 2-in. lengths of $\frac{1}{4}$ -in. tubing which supports the aerial elements (Fig. 2).

Drill two small holes $\frac{5}{16}$ -in. apart in the coil former and using these as anchor points put on eleven turns of 24 s.w.g. enamelled wire close wound. Slip the coil on the insulator and solder the leads to the brass stubs. By tinning these stubs a very good fit is obtained when they are plugged into the elements.

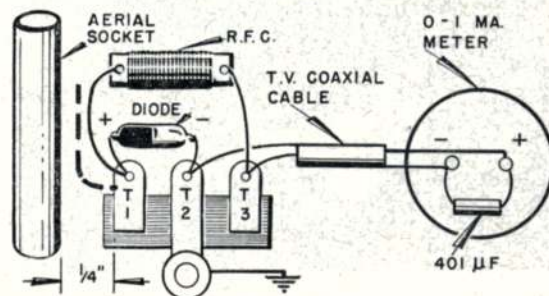
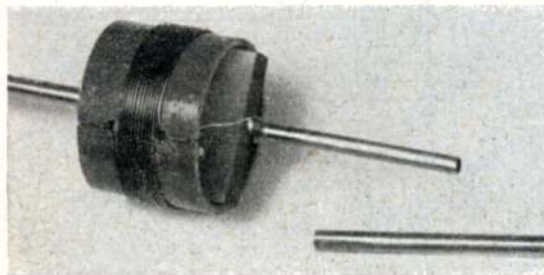
Having built themselves a centre loaded aerial many readers may like to have some indication of aerial current strength. The following aerial current meter submitted by Eric Hill of Hill receiver fame will, of course, be invaluable for all transmitters irrespective of type and does not absorb such a large proportion of the vital aerial radiation as do the normal measuring devices such as an ammeter in series or the bulb type absorption wavemeter.

An Aerial Current Meter

The conventional method of obtaining an aerial current reading is by means of an R.F. thermocouple ammeter physically connected in series with the aerial. In R/C transmitters where the aerial current is small it is difficult to obtain a satisfactory reading this way.



Photo, below, shows Mr. Cram's actual unit



The meter is sluggish and takes power away which can be ill afforded.

A bulb connected in series with the aerial is worse still from this point of view and is definitely not recommended. After all, all that is called for is:

- A clearly visible indication that R.F. is reaching the aerial.
- A method of indicating a falling off of aerial current due to a faulty valve or failing HT/LT supply.
- A tuning indicator (if an aerial loading coil is employed).

All these requirements are met by using the simple circuit to be described. An added advantage is that the meter can be positioned anywhere in the transmitter case.

Components required: One germanium diode; one three-way tag strip; one R.F.C.; one 0-1 milliammeter; one .01 mf. 150 v. paper condenser; one length of T V coaxial cable.

The R.F. choke used is not at all critical and can be the same as used in R/C receivers or of a higher value.

The type of germanium diode used is not critical either, except, of course, it must be in good working order. Hold each lead tightly with a pair of pliers whilst soldering the diode in (to act as a thermal shunt). The tag strip should be positioned so that T1 tag is approximately $\frac{1}{4}$ in. away from the aerial socket and bolted down in this position (so earthing T2).

If it is now found that the meter indication is insufficient it is only necessary to solder a short length of stout copper wire to T1 tag (as shown dotted) and adjust its length until the required indication is obtained.

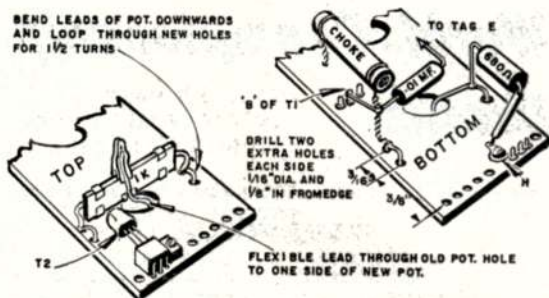
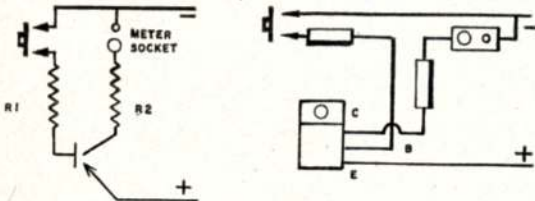
The coupling is purely capacitive and no connection should be made to the aerial. The exposed inner of the coaxial cable should be kept reasonably short where it joins T3 tag of the diode unit and the positive terminal of the meter at the other end. This avoids unwanted R.F. pickup.

AEROMODELLER Transistor Receiver

We continue to see and hear of this popular unit operating satisfactorily on flying fields throughout the world. We also continue to receive letters from enthusiasts who have difficulty in obtaining correct operation from the sets they have built. In nine cases out of ten the faults are due to poor soldering or failure to build exactly to specification. Another source of trouble is poor quality or faulty transistors and when Tommy Ives suggested that a simple transistor test circuit, designed by Dave McQue would be a great help to constructors we readily agreed. Tommy has also prepared a fault finding chart for the AEROMODELLER Transistor Receiver which can be obtained from the Editorial Offices on receipt of a stamped addressed envelope and a 6d. stamp.

Transistor Test Circuit

Transistors may be damaged by applying voltage in the wrong direction, i.e., minus to emitter and plus to collector, or they may have leakage which will prevent satisfactory operation. This simple circuit is a quick and easy method of checking for leakage and measuring gain. If a 5 M/a meter is plugged into the meter socket and



July, 1958, issue of AEROMODELLER gave details of a new slide type of potentiometer. Reader C. Badger sends these sketches that will help you to fit one to your A/M Transistorised receiver. The new potentiometer must stand $\frac{1}{4}$ in. clear of the panel to clear the transistors

the switch left open, any serious leakage will show as a reading on the meter. Slight leakage will be measurable in micro amps., but if the needle is closely watched, even this minute current can be seen. With the switch closed the collector is in series with the meter and the current flowing, measured in milliamps, depends on the gain of the transistor. By taking the reading of the meter and multiplying by 20, the amount of gain can be determined, e.g., 2 m/a—gain 40. Below are the required resistances which should be 5% or, better still, 1% tolerance, for different battery voltages.

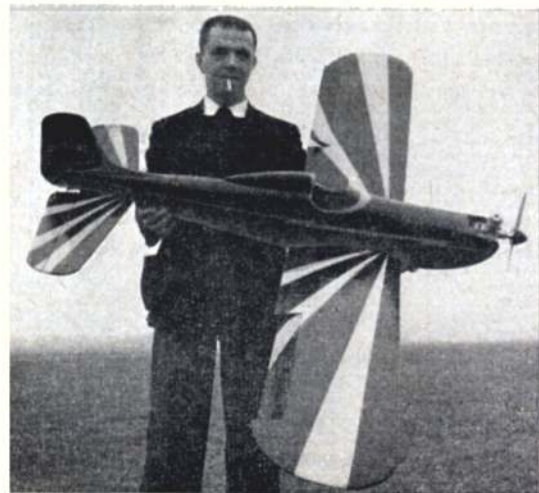
3-volt battery		4½-volt battery		6-volt battery	
R.1	60k.	R.1	90k.	R.1	120k.
R.2	100 ohms.	R.2	220 ohms.	R.2	330 ohms.

Soldering Transistors

Whilst we are on the subject of transistors, let us again emphasise that the heat from a soldering iron can ruin them completely. Wherever possible they should be connected by other means or a heat shunt used if soldering is absolutely necessary.

A further and important point in this respect is raised by Peter Lovegrove, who emphasises that apart from heat shunts one should always unplug the soldering iron when soldering transistors or crystal diodes, as there is invariably a voltage leak to earth on most soldering irons which again will wreck these delicate components.

Vic Breeze displays his Astro-hog at a recent ARCC meeting. To be fitted with Citizenship 8-channel equipment, it has a Miles Special engine, and uses Vic's own clever servo units which are boxed in Perspex. Note those ailerons!



World Championship Details

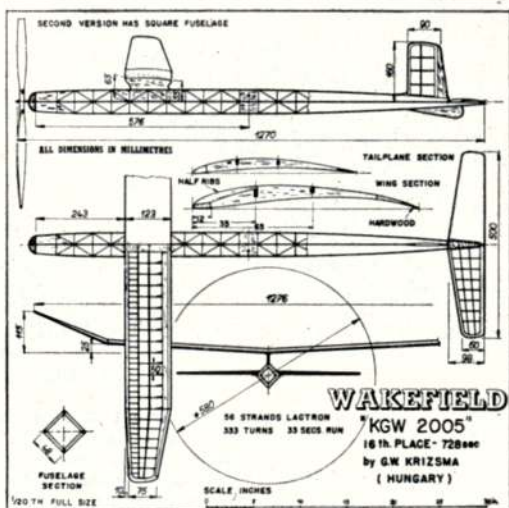
FINAL SUMMARY
OF THE WORLD'S FINEST
FREE-FLIGHT MODELS

WAKEFIELD

		(Square Decimetres)			All-up * Weight (Gms)
		Wing Area	Tail Area	Total Area*	
Baker, R. S.	Australia	13.98	4.72	18.7	238
Chinchella, B.	"	15.00	3.84	18.84	244
Czepa, O.	Austria	16.10	2.57	18.67	283
Durhager, H.	"	13.14	4.38	18.12	260
Grunbaum, P.	"	14.26	4.41	18.68	231
Schnurer, H.	"	14.28	4.30	18.58	252
Balasse, E.	Belgium	14.39	4.05	18.44	236
Balasse, O.	"	14.39	3.91	18.30	236
Overlaet, G.	"	13.30	4.28	17.58	241
Etherington, W. C.	Canada	14.06	4.90	18.96	237
Gordon, R. C.	"	15.28	3.72	19.00	236
Mackenzie, D. R.	"	14.04	4.66	18.70	236
Ranta, S.	"	14.42	4.36	18.78	238
Cizek, R.	Czechoslovakia	14.96	3.80	18.76	235.5
Dvorak, F.	"	14.39	4.5	18.89	235.5
Muzny, L.	"	15.34	3.33	18.67	235.5
Simerda, A.	"	14.76	4.07	18.8	248
Nienstaedt, E.	Denmark	15.03	3.91	18.94	248
Widell, K. G.	"	14.42	3.69	18.11	235.5
Hamalainen, E.	Finland	14.60	4.03	18.63	234
Hyvarinen, R.	"	15.38	3.57	18.95	234.5
Kekkonen, A.	"	15.56	3.48	18.98	231
Takko, S.	"	15.10	3.80	18.90	237
Bluhm, M.	France	14.44	4.51	18.95	231
Cheurlot, M.	"	14.96	3.77	18.73	236
Guilloteau, R.	"	13.41	3.90	17.31	234
Perineau, M.	"	14.74	3.96	18.70	232
Dormann, H.	Germany	14.00	4.75	18.75	235
Heidmuller, B.	"	13.19	3.98	17.17	238
Hertsch, K.	"	13.92	4.35	18.27	231
Oswald, A.	"	14.10	4.50	18.60	234.5
Draper, R.	Great Britain	14.12	4.58	18.70	234
Lefever, G. J.	"	13.80	4.56	18.36	232
O'Donnell, J.	"	13.98	4.90	18.88	234
Palmer, J.	"	13.53	5.0	18.53	236
Azor, L.	Hungary	14.52	3.78	18.30	231.5
Benedek, G.	"	14.99	3.56	18.55	234
Frigyes, E.	"	15.14	3.76	18.90	243
Krizsma, G.	"	14.73	4.00	18.73	243
Carroll, J. J.	Ireland	13.908	5.218	19.126	243
Doyle, M.	"	14.06	4.62	18.68	252
Gordon, A.	"	14.36	4.23	18.59	249
Fea, G.	Italy	14.46	4.18	18.64	234.5
Licen, A.	"	13.60	4.46	18.06	230
Scardicchio, V.	"	13.50	4.14	17.64	230
Taberna, S.	"	13.80	4.35	18.15	230
Nonaka, S.	Japan	16.13	2.75	18.88	231
Onishi, M.	"	14.45	4.34	18.79	230
Smolders, J. J.	Netherlands	14.22	4.18	18.40	232.5
Barnes, A.	New Zealand	14.42	4.28	18.70	236
Kennedy, D.	"	13.50	4.05	17.55	234.25
Malkin, J.	"	13.92	4.65	18.57	232
Wong, R.	"	13.93	4.50	18.43	234
Hassny, K.	Poland	15.10	3.23	18.33	246
Kossowski, A.	"	15.36	3.64	19.00	230
Niestoj, W.	"	15.224	3.72	18.94	239
Zurad, S.	"	15.52	3.43	18.95	235
Visser, P.	South Africa	13.61	4.375	17.985	236.5
Blomqvist, M. U.	Sweden	14.01	4.79	18.80	234
Hakansson, R. K. E.	"	14.39	4.0	18.39	242
Johansson, R. K. E.	"	14.48	4.20	18.68	235
Tyskland, S. L. H.	"	14.36	4.20	18.56	247
Heggin, E.	Switzerland	14.65	3.75	18.40	236
Meyer, J.	"	14.46	3.98	18.44	244
Cannizzo, S.	U.S.A.	13.23	4.12	17.35	230.5
Koche, H.	"	14.05	4.80	18.85	230
Newquist, F. A.	"	13.92	4.16	18.08	241.5
Reich, G. A.	"	14.28	4.20	18.48	235
Fresl, E.	Yugoslavia	14.05	4.55	18.60	233
Popovic, K.	"	13.81	4.57	18.38	245
Radovan, R.	"	14.04	4.32	18.36	236
Tomkovic, M.	"	14.98	3.60	18.58	234

* Maximum permissible total area, 19 sq. dcms.

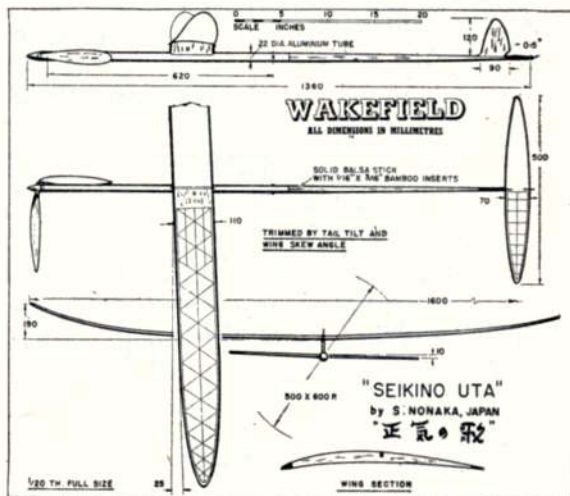
* Minimum permissible all-up weight 230 gms.



IN CONCLUDING this four part feature on model detail seen at the 1958 World Championships held at Cranfield last August, we are reproducing the pertinent data on each and every model (excluding reserves) which took part in those memorable events for Wakefield and F.A.I. Power.

From the design point of view, the variation of proportions in wing and tail area and the selection of approach to the new power rulings offer very interesting reading. As the figures on these pages indicate, there is no clear-cut design pattern for success, but the would-be designer will no doubt be guided by the choice of his particular favourite in these extensive lists. Note that we have adhered to the metric system for both area and weight quotations. We find this system very easy to adopt and far less confusing than our own complex division of inches and ounces, but for those who prefer to see their facts and figures in more familiar fashion we remind them that to convert square decimetres to square inches one should multiply by the factor of 15.5 and to convert grammes to ounces, divide by 28.349.

The F.A.I. Power rules provide a more complicated table in that one has the choice of working either to



BENEDEK AIRFOIL ORDINATES (For Wakefield p. 635 Dec. '58 issue)

Table with columns for % CHORD (0 to 100) and rows for B-6405-b (Wing) and B-6455-b (Tail), showing upper and lower airfoil ordinates.

wing or power loading or both. Many of the entrants at Cranfield chose to work to a power loading for a much smaller wing area than actually permissible, and it is revealing to see that the widest divergence happened to be in the case of the absolute winner Erno Frigyes of Hungary, who was giving away no less than six square decimetres in area or in other words, was operating at a high gross area loading of 7 1/4 ounces per square foot.

Our last three design 3-views in this series have been specially chosen for their constructional interest and/or performance.

Krizsma of Hungary is a remarkable modeller. His interests are widespread and he is an experienced model engine designer as well. Had it not been for an unfortunate 35 seconds flight in the fourth round Wakefield, his 16th position might well have been changed to place him among the top three at least, if not in the winning position.

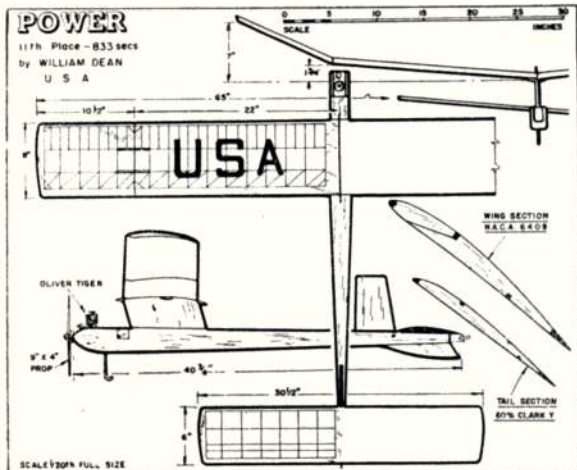
For rate of climb, a very high standard of workmanship, particularly in the highly-arched airfoil trailing edge section and for his meticulous approach to contest requirements on the field, Krizsma deserves a bouquet. Note that he was using the multiple stranded Lactron rubber produced in his own country, Hungary. The other Wakefield by S. Nonaka from Japan was considerably less fortunate and the tempestuous conditions at Cranfield gave proxy flier Fred Boxall a lot of trouble. This indeed was a calm weather model, and one which deserves close study. The use of 22 mm. diameter aluminium tubing to house the motor and the means of trimming by skewing the wing across the fuselage, are but two of the many unusual features. Curved dihedral, tail trim by twisting the rear balsa boom in the alloy tube and amazingly light tail surfaces, showed that this model is the result of considerable thought and it was a great pity that the Boxall twins were not able to prove its full worth in calm conditions.

Lastly, the most practical model in the entire field. William Dean was unable to be present in person in the

U.S.A. Team, but his model was ably handled by A.M.A. Secretary, Carl Wheeley, who was the 1954 World Power Champion. A very high standard of finish, simple box lines, practical square tips and trimming arrangements made this a design which could well be copied by any F.A.I. team aspirant and we commend its proportions to any who contemplate entering the game this season.

Square Decimetres

Table titled 'POWER' listing model names, countries, Wing Area, Tail Area, Total Area, Permissible Area, and Wt. (gms.). Includes a large list of names and countries.



* Models close to specification, power and wing loading. † Models exceeding power loading, but close to wing loading.



FIAT G 91

AEROPLANE IN OUTLINE

Number 56

Drawn by E. Tage Larsen

THE AVIATION world is one full of contrasts: but rarely do we have such a comparison to offer among contemporary single-seat types as with the G 91 and the F-105 detailed last month. The Fiat is to be the first NATO strike fighter, and as such meets the entirely European specification laid down March, 1954, by Air Marshal Sir Basil Embry, then Commander of the Allied Air Forces. For that reason it is a relatively small machine (though not far removed in size from the MiG 15) capable of operating out of grass airfields and meeting a stringent series of mission requirements plus quick turn-round time for re-fuelling and re-arming.

Three aircraft were designed and built specially for this NATO specification. The Breguet 1001 Taon, Dassault Etendard VI and the G 91. In addition, the Sud Aviation Baroudeur and Dassault Etendard IV were admitted to the technical trials at Bretigny in September and October, 1957, so that five different types were up for selection. An international team of the most qualified pilots and engineers in the Allied Countries put each aircraft through the most exhaustive examination, and the result was that the G 91 has now been awarded the contracts.

The first batch of 148 G 91As with leading edge slat modification will go to the Italian, French and German Air Forces. Already, a proving squadron, with pilots from France, Germany, Greece, Italy and Turkey have made evaluating flights with the initial batch of production aircraft and delegations from Austria and Belgium have made a study of the type. No fighter has ever had such an International background, and with airframe by Italy, British

engine—the Bristol Orpheus—and Martin-Baker ejector seat, with French undercarriage gear, it really does signify a closely knit production effort within the NATO powers.

Licensed production of the G 91 in Germany (Dornier, Heinkel and Messerschmitt sent their representatives to study G 91 engineering last October) seems to be a logical development, and it has been reported that an R.A.F. mission has also made an examination of the type.

To train new pilots, the G 91T two-seat trainer version has been ordered by the Italian Air Force, and the G 91R reconnaissance variant with a camera in the pointed nose and two other lateral cameras above the intake will also carry normal armament. This can be 0.5 in., 20 mm. or 30 mm. guns plus wing pylon mounted rockets or missiles. The fire-power of the G 91 is in fact as heavy as that of many much larger fighters, and its flexibility gives it a great advantage.

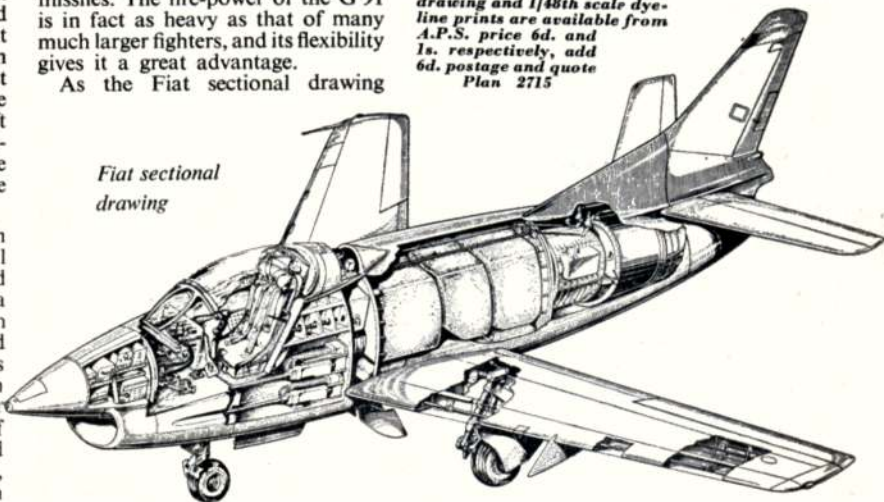
As the Fiat sectional drawing

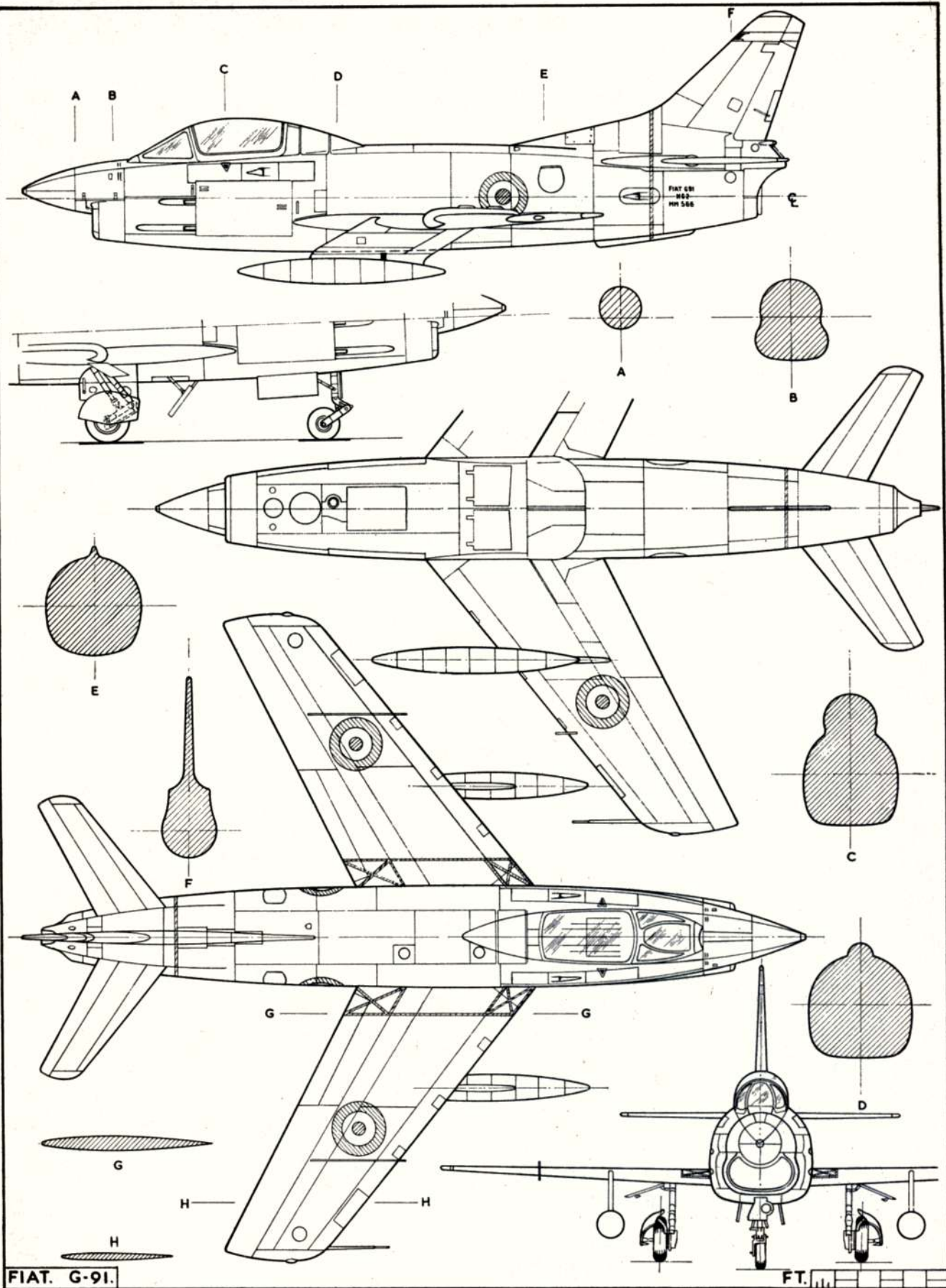
reproduced below indicates, the Bristol Orpheus engine is mounted well to the rear of the fuselage, and the central bay occupied by fuel tanks. In the G 91A version, sections of the wing have been sealed off for additional tankage, and the pylons carry disposable overload tanks to boost the range. One of the most demanding features of the original NATO specification was that the fighter should be light, yet still carrying ample protection for the pilot and fuel tanks, and should also have a high rate of acceleration. The G 91 can reach 377 knots within 90 seconds of "brakes off" and will accelerate in the air at 5,000 ft. from 280 knots to 400 knots in 30 sec.—ample evidence that the Bristol engine has more than met the power demands, and with promise of Orpheus units of higher power, the G 91 performance will continue to meet the annual advance of development.

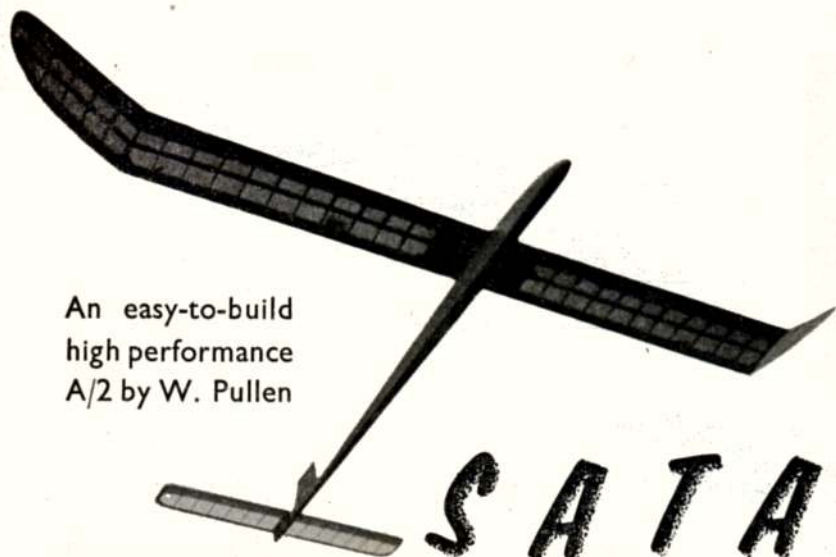
For modelling purposes, the conventional lines which are reminiscent of the F-86 Sabre manufactured under licence by Fiat at Turin, make the G 91 a natural selection for ducted fan flying. It is not often that we are given such a convenient fuselage cross-section for this amount of useful wing area and sweepback, and we look forward to hearing of successful models in the near future. Could we suggest 8 x the 1/72nd scale plan opposite for 1-1½ c.c.?

1/72nd scale reprints of this drawing and 1/48th scale dye-line prints are available from A.P.S. price 6d. and 1s. respectively, add 6d. postage and quote Plan 2715

Fiat sectional drawing







An easy-to-build
high performance
A/2 by W. Pullen



SATAN

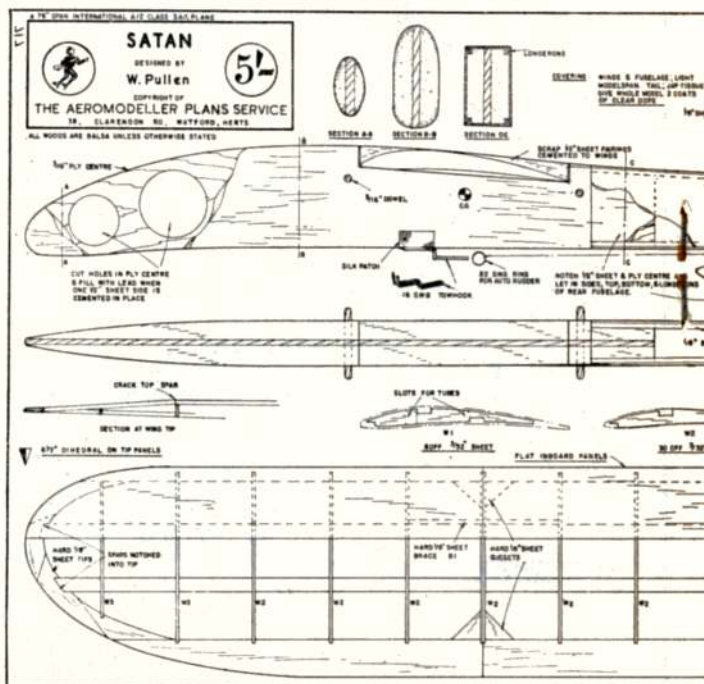
THE PROTOTYPE of "Satan" was built in 1955 and flown in the A/2 Eliminators of that year, but although it reached the Finals for that year's team selection at Odiham, its first real success came in the All Britain Rally at Radlett in the same season, where it took first place in the Open Glider Event with three maximums.

A Mark II version was built in 1956 with a longer fuselage to give a larger tail moment arm. This improved the towing characteristics, together with the nose weight staggered along the nose rather than in one localised position. This idea, which was brought back by Geoff Lefever (a fellow club member) from the 1955 World Championships in Germany, purported to give a smaller moment of inertia around the C.G. In other words, the effect is to produce an undulating action when flying in a semi-stalled position, rather than an actual stall developing. Anyway the idea seemed to work well.

The Mark II version as such went through the A/2 Eliminators of 1957 into the A/2 Finals at Hemswell.

A final Mark III version, design the same but some slight structural alterations, was built by Bill Pullen's fiancée in late 1957 with a view to flying in this year's Women's Cup. Her first model, by the way, and her first contest. Apart from her towing inexperience and some contest nerves, the model went up on the line as straight as a die (one of its typical characteristics) and logged up a total of 6:06 mins. out of 9 possible. One bad tow-up put her out of the running for first place, and she had to be satisfied with a third, Bronze medal and all in her first contest!! But this does show in some way the relative straightforwardness of construction and simplicity itself to trim and fly and remember these

High aspect ratio wing on this contest winning design is arranged to detach in two halves as seen on drawing below, full size copies of which are available as Plan G717 from AEROMODELLER Plans Service, price 5s. 6d. postage included. Bill Pullen and fiancée E. Jenkinson are seen with prototypes



Nordics take a lot of battering, and they last !! On the construction, good quality wood is essential, particularly for the fuselage sides and the wing spars.

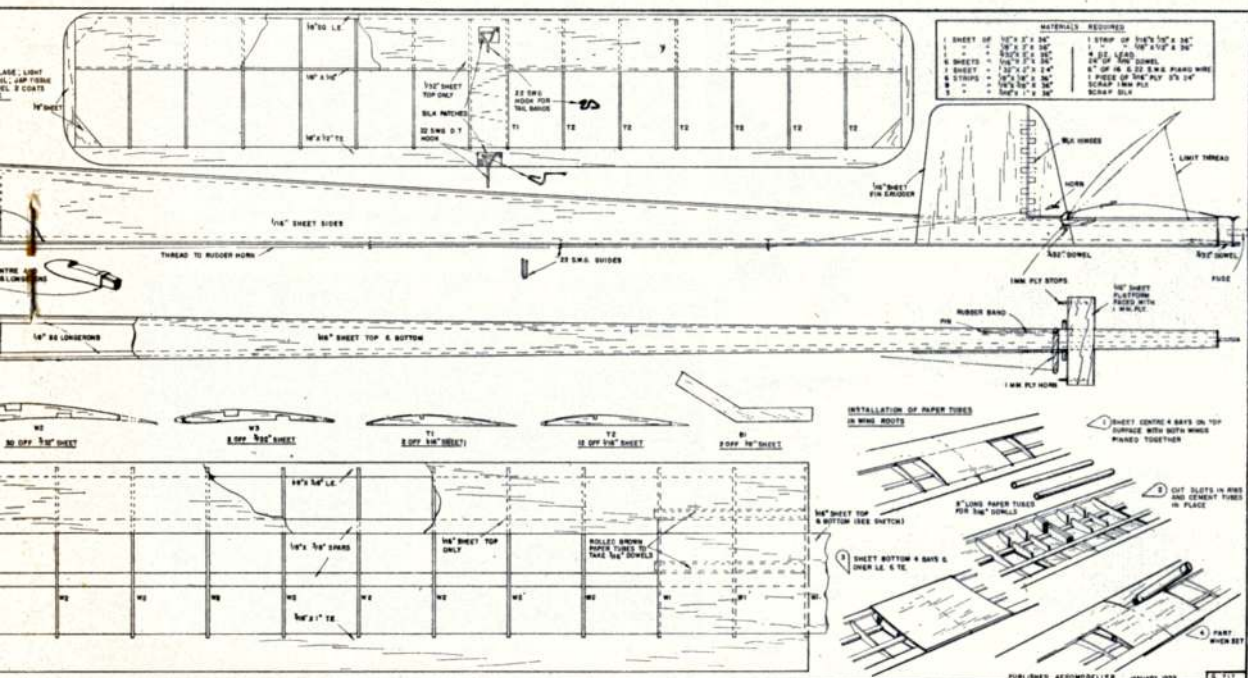
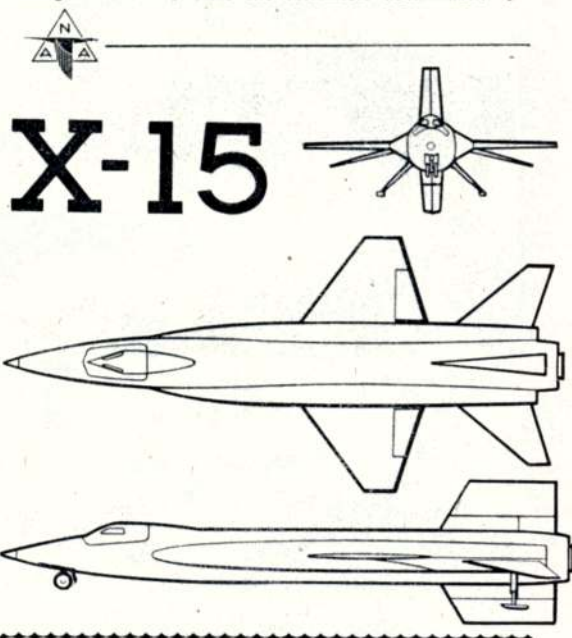
Cut the ply fuselage centre from $\frac{1}{8}$ in. and cut out the ballast holes, wing slot, and dowel holes. Cut the $\frac{1}{2}$ in. sheet sides to shape, cement on one side only first, pour in molten lead into ply cavities, when cool, cement remaining $\frac{1}{2}$ in. side. Leave to harden. While the fuselage is hardening cut the fuselage sides from $\frac{1}{8}$ in. sheet and cement $\frac{1}{2}$ in. sq. down top and bottom, remember right and left hand side. Now groove and slot the fuselage block to take the sheet sides flush with the fuselage block. Leave to harden. When set, pull fuselage sides together at tail, sheet top and bottom. Shape nose to section on plan, and round off corners at rear fuselage end. Cut fin and tab, fix hinges for auto-rudder, and cement to port side of fuselage. Cement tailplane platform, tow-hook, wing dowels, etc., and cover with light-weight Modelspan.

More time will need to be spent on the wings than the rest of the model combined. Certainly they should be built with great care, as a high aspect ratio wing is prone to warps. The lower spar is cemented in position after the wing is lifted from the board, and the leading edge is sheeted with $\frac{1}{8}$ in. The two wing halves are then joined together temporarily with scrap sheet over leading and trailing edges and top sheeting added across the four centre panels. The dowel tubes are rolled from brown paper and inserted in the centre section from the underside. The four centre rib panels are then sheeted on the underside, extending the sheet under the leading and trailing edges as a reinforcement against wear from rubber bands. The false sheeting is then cut away and the two halves separated. Lightweight modelspan is used throughout for covering, double cover wing centre section. The tailplane and fin are so simple that no explanation is necessary.

The original turned in right hand circles of approx. 100 feet diameter on a very slight stall; 2-3 minutes from 164 ft. towline in calm evening air indicates a good trim and don't forget the D.T.

Plane on the Cover

This 1/200th scale drawing of the North American X-15 emphasises its remarkable proportions. Length is 50 ft., span 22 ft., height 13 ft. Coloured blue/black with all letters in white except the red ejector seat marking and two yellow rescue instruction panels below the cockpit, the X-15 will begin flight testing this year and is expected to fly to a height of approximately 100 miles above the earth and at speeds up to 3,600 m.p.h. To modellers, the most remarkable feature is the fin section with 12-in. T.E. thickness, said to be 50 per cent. more effective for directional control at hypersonic speeds. The lower fin is jettisoned for a subsonic gliding landing on the two skids and retractable nose wheel.



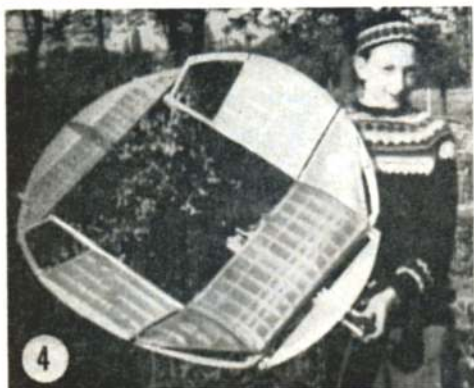
Model ☆ ☆ News



THE ENORMOUS collection of 1/72nd scale solid models seen in the two photos above belong to Peter Farrar of Torquay and have already been viewed by many thousands of appreciative visitors to R.A.F.A. Air Displays at Hucknall and Exeter as well as the famous annual display at R.A.F. Biggin Hill. Peter's main object in the collection is to depict to common scale the development of aircraft from 1918 up to date and his efforts have already raised considerable funds for Service Charities and have also assisted recruiting to an appreciable extent. Largest model in the collection is the Martin JRM-1 Mars, the smallest a Comper Swift, and the majority of these models have been made from AEROMODELLER 3-views. In picture 1 we see the 700 model collection packed ready for despatch to Exeter Airport where they were loaded into an Avro Anson in picture 2 for flight to Biggin Hill. The Avro Anson probably got quite a shock when its skipper told her how many aircraft she was carrying! Incidentally, Mr. Farrar who now works for the Humber Oil Company has used Britfix products exclusively for all his models.

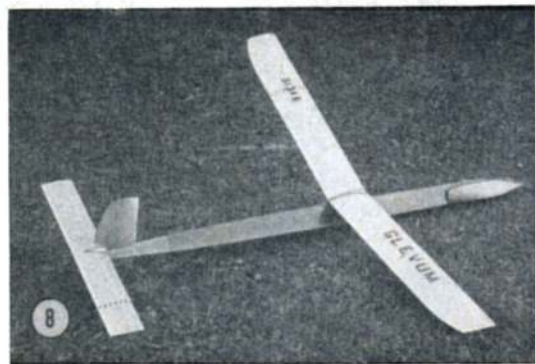
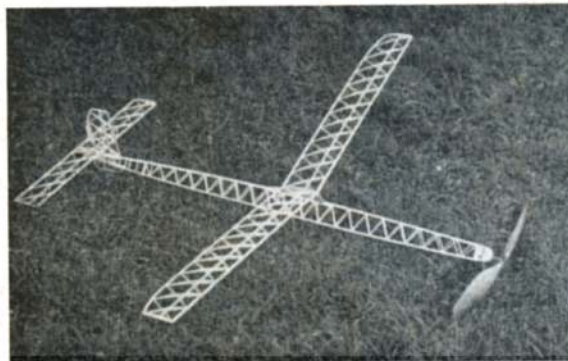
One of the most popular free-flight designs in our AEROMODELLER Plans Service has been the Delta 707 for free-flight or radio control. Picture 3 shows a fine example made by P. Hewitt of London which has been flying consistently all through 1958 and its flight pattern is said to be a joy to watch. Fast right hand turns under power change to a smooth left hand glide, and Mr. Hewitt is so pleased with this model that he is now tackling a free-flight Gloster Javelin design. Just as the 707 is popular with its Delta lines, so is the unorthodox angular winged Doughnut a favourite among those who like to build something different. Photo 4 shows Neil Carter of Cheshire with this fine example powered by an A.M.10 diesel and he reports amazing fast climbs followed by excellent pull-outs and glide—shall we be seeing F.A.I. Power duration designs following this design trend?

The Stuka in picture 5 was built by S. Cole of Whitton, Middlesex, for an Elfin 2.49 from our Plan CL/675 and he tells us that it is a pleasure to fly and has now concluded nine months of airborne service.



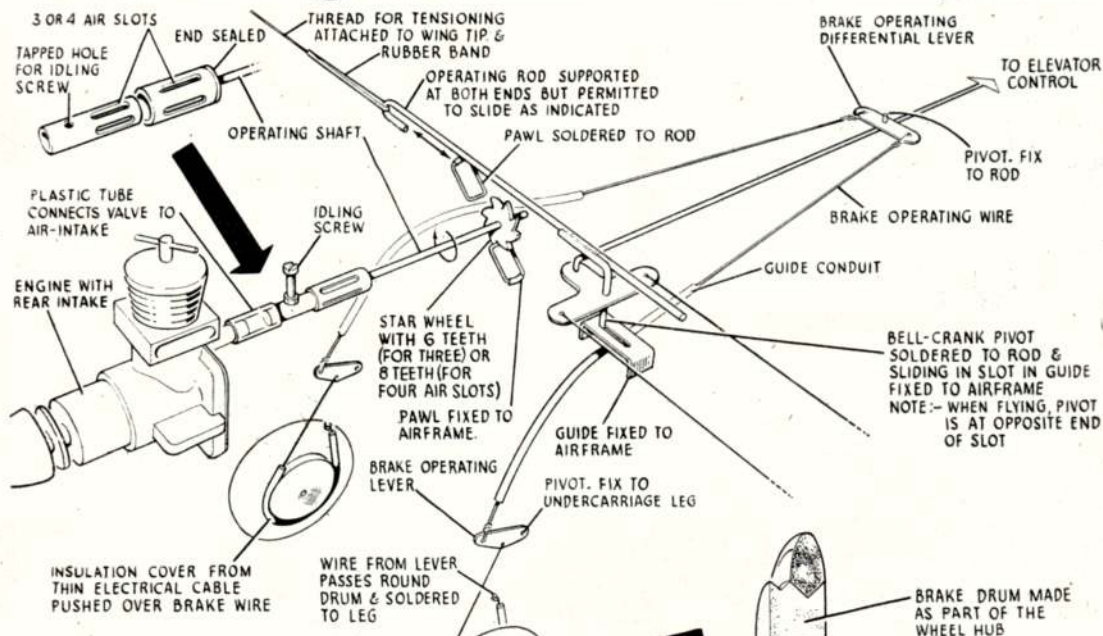
P. E. Norman's profile (6) is well known to all our readers, but the 52-in. span Comper Swift with in-line Gipsy cowling to hide an E.D. 3.46 diesel is a new venture for "P.E." This is his first radio control model, fitted with Olsen 3-valve single-channel set (described in this year's *Aeromodeller Annual*) and having a Mighty Midget motor to give selective left and right rudder plus P.E.'s traditional pendulum controlled elevator. Total weight is 4½ lb. and the propeller being scale is no less than 13½ in. x 6 in. To date seven flights have been made and have enthused "P.E." to the extent that he is now busily installing radio in the majority of his familiar scale models including a 11-year-old S.E.5! 7 is a B.E.2C of 55-in. span for the A.M.25 made by P. Lankester of Epping which was based on our AEROMODELLER Plans Service rubber design, strengthened to take the additional stresses and strains of power flying and was considerably embellished following the discovery of a B.E.2C on view at the Imperial War Museum, London. We shall be hearing much more of the B.E. types when February issue comes out.

Lastly, but by no means least, two photos of the same model which we are reproducing as fine examples of how to present your model for this feature even though Elton Drew of Brockworth, Glos, has broken our basic rule of photographing a model against grass! This in picture 8 and at left is an open rubber design, 50-in. span for 300 sq. in. wing area, 50-in. long and with 23 in. x 23 in. double bladed folding propeller. The model is the eighth in a series and the predecessor was placed fourth in this year's Northern Heights Gala. The best flight to date with this model is 3:34, but full turns have not been attempted. No doubt we shall see more of the model in 1959 open events.



Modelling Hints

NEW IDEAS TO IMPROVE YOUR OWN EFFORTS



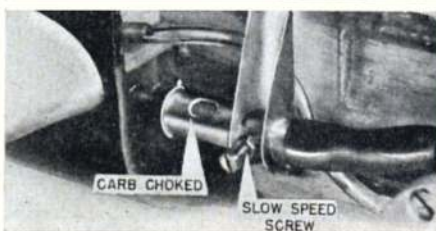
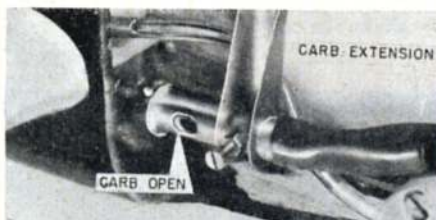
3 WAY Control from 2 lines

One of the most remarkable demonstrations of model control it has ever been our pleasure to witness, consisted of a series of landings and take-offs interspersed with aerobatics and lasting for more than 30 minutes without the engine stopping. Through the control system described here, C. M. FORMAN of Luton was able to brake and park his model to refuel in one single-handed operation.

ORTHODOX METHODS of engine control on a control-line model using a separate third line system have several drawbacks. These include extra drag from the third line, extra binding of lines after aerobatics and the difficulty of maintaining correct tension at all times.

In view of this, the mechanism shown above has been developed over the past few years and is practical to use safely in a stunt model. The force required to operate it is obtained from the normal line tension of the elevator control wires. The bellcrank is free to slide spanwise in a slot approximately $\frac{1}{4}$ in. long and is lightly spring-loaded towards the outboard tip. When the C/L handle is picked up, the lines tighten, pulling the bellcrank to the inboard end of the slot. As this happens, a self-springing pawl attached to the bellcrank pivot rod engages with a six tooth ratchet and turns it through

60 degrees where it becomes locked in position by a second fixed pawl. The ratchet is directly connected to a rotary air valve consisting of two metal tubes each with three similar holes at 120 degrees. When the outer tube moves round the inner in 60-degree steps, the valve becomes alternately open and closed. The inner tube is connected to the air intake by flexible tubing and holds a needle valve to give an air bleed for slow speed adjustment. Engine



Brake detail is of universal interest. Would suit R/C and is extremely effective, restraining plate is not needed for a deeper pulley. The two carb. views show slow and fast settings, altered by star wheel via bellcrank movement

speed can therefore be changed indefinitely while in flight by merely giving the handle a sudden push towards the model, thus momentarily lowering the line tension so that the bellcrank flies out and then back as the full tension returns.

Once the correct spring strength for the bellcrank fly-out and the slow speed air bleed needle are adjusted, the mechanism, if accurately made, will operate easily and reliably, requiring neither special lines nor handle. It has been found that the control is easier to operate with larger models. A 1 c.c. model was built but speed changing proved a jerky operation due to the low line tensions involved. Also, an air restriction control on the intake alone is only suitable for motors with little or no sub-piston induction.

Contact

A NEW APPROACH TO DECORATION by P. T. Pulman

IN DAYS GONE BY the magic utterance which forms the title of this article was a firm favourite with authors of Thrilling Flying Stories. In fact, no writer worth his salt failed to employ it at least once in every chapter.

Living as we do in the jet age, the word has lost some of its old glamour, but just recently it has acquired a new significance for aeromodellers. This due to the appearance on the market of a self-adhesive plastic film, sold under the trade names of "Contact", "Fablon", etc. The advent of this plastic film means that modellers with only a bare minimum of skill can now tackle even the most elaborate colour schemes with confidence.

In his Flying Scale Models, Ron Moulton describes the technique for using a Sellotape mask to obtain a clear-cut line between areas of different coloured dope. This method is now so well known that any repetition here would be superfluous. However, Sellotape has its limitations—it is, of course, straight; it is only available in fairly narrow rolls; and last, but not least, it is rather expensive. It remains unsurpassed for straight cheat lines, etc., but for large areas and intricate shapes the plastic film comes into its own.

The required shape can be drawn, IN REVERSE, on the paper backing. It is then a simple matter to cut away the unwanted portion with scissors, peel off the film and fix in position on the model. The properties of the plastic are such that it can be used successfully on surfaces that have a moderate degree of compound curvature.

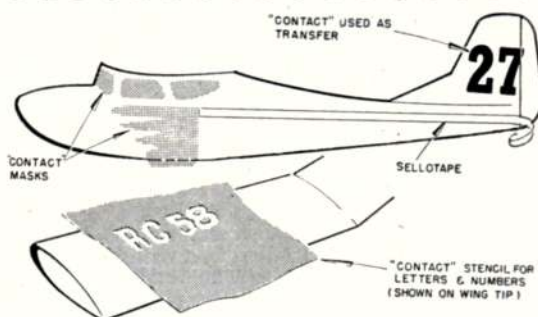
Because it is usual to be able to cut accurately than to paint with equal precision, the plastic can be used to make adhesive stencils for letters, figures, insignia, etc., as well as for larger decorative effects.

It is important to press the mask down firmly—particularly at the edges—and several thin coats of dope are better than one thick one, which softens the adhesive.

When the dope is *quite dry* the stencil may be removed.

The brakes used in conjunction with the engine control operate automatically when full down elevator is applied. Flexible connecting wires from the elevator push rod, running through tighten plastic-covered piano wire circlips around pulley-shaped extensions to the main wheel hubs. A tricycle undercarriage is necessary to prevent nosing over when the brakes are applied as they are very effective.

Brakes and engine control also eliminate the need for a helper. The engine can be started, switched to low speed, and the model left while the pilot walks to the handle. Although the mechanisms may appear rather complicated, all the parts are easily hand made excepting the wheel hubs. However, if a lathe is not available, a "Meccano" pulley can be bolted to the hub.



Small patches of the tacky compound sometimes cling to the surface, but they can be wiped off with a petrol-soaked rag. Incidentally, it is a good plan to use petrol for cleaning the edge of a Sellotape strip before dopping—this removes any slight irregularities and ensures a wonderfully sharp division between adjacent colours.

For those who do not object to a slightly raised effect, the film itself can be used as a "transfer". Simply cut out the desired shape from a piece of plastic that has been doped with the appropriate colour and apply it to the model as a permanent fixture. Once again, no painting skill is required. Just draw the reversed design in pencil on the backing, brush dope over a sufficient area of the plastic surface, and—when it is dry—cut round the outline. What could be easier?

For machines where a high-gloss finish is of no great importance and strength with durability is the chief consideration, e.g., a combat model, the film might well be used as a shatter-proof covering material for sheeted fuselages. Being fairly light and exceedingly strong, it could be superior to the conventional covering.

Finally, for super scale fans, "contact" is the ideal material for interior furnishing such as cabin walls, seats and upholstery.

No doubt ingenious readers will find many other uses for this versatile material.

Terylene covering

OUR EXPERIMENTS (page 654 last month) with this material have not apparently enjoyed the same success experienced by at least two of our readers. From Preston M. J. Damp tells us he uses cement to apply the material, gives it one coat of dope, and when dry, applies a covering of lightweight tissue which is doped with two coats of a 50/50 thinners and dope mixture. This, he claims, is

far stronger than any use of either Nylon or Terylene by itself.

P. Lovegrove of Harwell suggests we tried to use the wrong grade of Terylene, as he has been using the stuff for some time and without cause for complaint. Extremely light, and unsuitable for curtains, the Terylene he employs is covered over the framework dry, pinned taut, and doped heavily. After that, the unfilled areas get special attention with light coats, and the result is something impervious to the wettest of weather and tough as one could wish.

ENGINE ANALYSIS

Number 55

2.47c.c. TAIFUN
'BLIZZARD'

Reviewed by R. H. WARRING

THE "BLIZZARD" IS the third 2.5 c.c. diesel to go into production in the German *Taifun* series, following the plain bearing "Rasant" and the ball-race "Tornado".

On the score of performance the "Blizzard" is a very good engine, easy to handle and achieving a high peak B.H.P. figure of .242 as measured on test at 13,000 r.p.m.

But the Blizzard is not free from criticism. It is very prone to vibrate, particularly on wooden propellers, and this is apparent over the whole of the high speed range. Possibly this is due in considerable part to the very heavy piston employed (which is not counterbalanced in any way). Excessive vibration means loss of power and were the running smoother at speeds above 13,000 r.p.m., certainly an even higher peak power output could be realised without any further modification of the design.

On the credit side, the "Blizzard" is a very easy engine to handle, starting readily and with the controls completely non-critical. The reed valve makes the "Blizzard" extremely flexible and it can be throttled right down to a very consistent tick-over on almost any propeller size merely by backing off the compression.

Reed valve induction, of course, also makes the engine "symmetrical" in that it will start and run in either direction—which is always likely to happen when hand starting with small propellers unless flicked over smartly.

Running proved very consistent at all speeds, with no tendency to miss at the higher speeds and equally smooth and sustained on 11 and 12-inch diameter propellers.

The cylinder gets very hot and having to grasp this small bar with sharp ends proved quite painful over the duration of the test runs. It speaks well for the excellent fit of the contra-piston, however, that at no time, despite the high cylinder temperature and the vibration, did it

ever "stick" or tend to work off setting, although perhaps a little on the tight side for easy movement. Nor did any part of the engine itself work loose during all the running, although the rig itself had to be re-tightened!

The "Blizzard" was a little on the stiff side when received and even after a reasonable running in period, there was a slight high spot apparent about half way up the stroke. This, however, seemed to disappear once the engine was running and the cylinder and jacket expanded. It certainly had no adverse effect on performance. The crankshaft, of course, needed no running in, being supported by twin ballraces.

Only casting employed is the massive streamlined crankcase unit in light alloy, stove enamelled in grey, mottle finish, which houses the two ball races. Total weight (with both races) is two ounces, for a start! Quite an appreciable amount of machining is done on the crankcase including cutting a channel to clear the con. rod big end. The two identical ball races are press fitted into machined housings, the plain bearing length between them extending a matter of one half the spacing between the races only, then opening out into a larger chamber. This appeared to provide an adequate oil seal. In any case, without a crankshaft port to contend with, oil leakage should not be a severe problem.

The crankshaft is of relatively small diameter (considering the proportions of the crankcase), being 7 m.m. (.2755 in.) along its length, tapering just outside the front bearing to a 5 m.m. DIN standard threaded length (a 1 B.A. nut will fit this thread, as an "emergency" measure). The shaft is finished by grinding between centres and the grinding operation appears to have been carried out with thoroughness on other surfaces as well which would not normally be considered as good production "economics" (e.g., even on the taper and the edges of the disc). This thoroughness of workmanship and finish, in fact, was apparent on several other components—production cost apparently being disregarded in favour of doing a complete job (or equally it could be argued, some of the components, such as the reed valve assembly, designed without due regard to the most economic method of production).

The cylinder is a very substantial affair, fabricated from steel and heat treated. In form it follows the original Elfin practice of cutting four semi-circular transfer passages up inside the bore and to get around the trouble of the stones digging in when honing to finish, the bore is honed from the top. Bore finish was very good indeed.

The transfer port openings overlap the exhaust to a considerable degree—almost coming level with the top of the exhaust ports. The latter are cut in a very thick flange section, taking chamfered cuts from the outside, but actually yielding a relatively small exhaust port opening. There was no question of exhaust port area not being adequate, however, even at the highest running speeds (e.g., over 17,000 r.p.m.).

Assembled by screw threads in the streamlined crankcase, and featuring reed valve induction, the Blizzard components are seen at left

SPECIFICATION

Displacement: 2.477 c.c. (.151 cu. in.)
Bore: .593 in. (15.06 m.m.)
Stroke: .547 in. (13.9 m.m.)
Bore/stroke ratio: 1.1
Weight: 61 ounces
Max. B.H.P.: .242 at 13,000 r.p.m.
Max. torque: 22 ounce-inches at 8,000 r.p.m.
Power rating: .098 B.H.P. per c.c.
Power/weight ratio: .037 B.H.P. per ounce
Manufacturers: J. Graupner, Kirchheim/Teck
W. Germany.



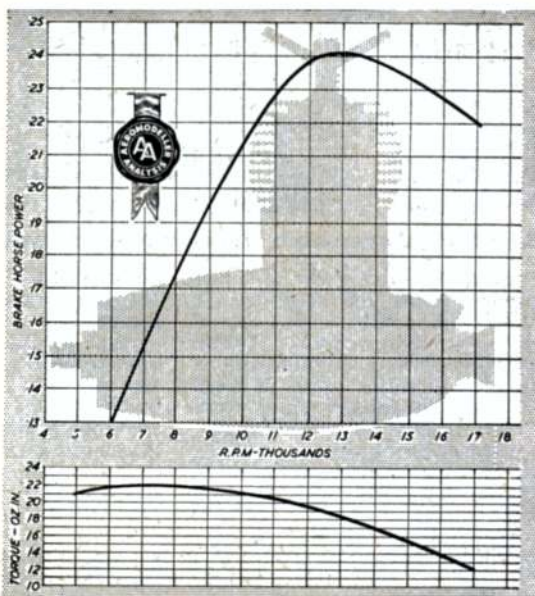
The cylinder accounted for a further 1½ ounces. The piston complete with con. rod (which could not conveniently be removed without fear of damage) another half an ounce. The piston is of cast iron, machined to very thick walls and ground externally to finish. Gudgeon pin diameter is 4 m.m. (.1575 in.), this component being force fitted in the piston. The contra piston is of hardened steel.

The connecting rod is machined all over from dural or similar high-duty light alloy and in addition the big end is end milled to reduce its overall size. Big end diameter is 5 m.m. (.1965 in.). Both bearing fits were particularly good.

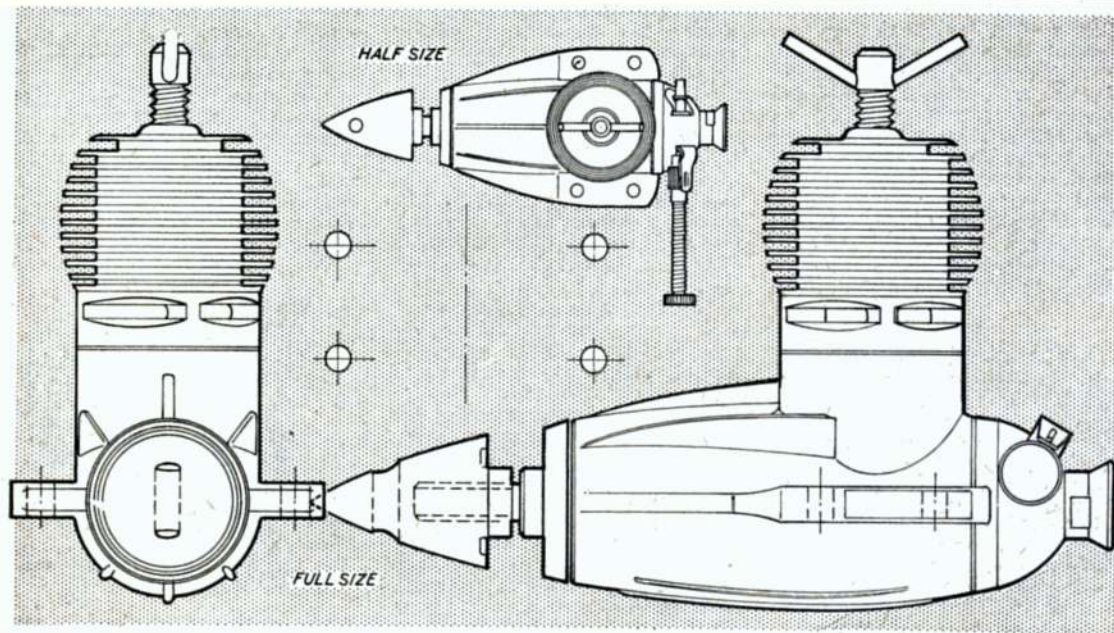
The reed valve induction system is mounted in the crankcase backplate, which is a turning screwing into the crankcase and sealing with a fibre gasket. A double reed in beryllium copper (or similar) is employed, held in place by a light alloy pressing, this pressing also incorporating the reed "stop". The choke tube is turned integral with the backplate and an additional hemispherical turning carrying the spraybar fits over it. The spraybar hole opens into an annular space machined around the choke tube, connecting with the central hole via four small holes. A gauze filter is fitted in a separate turning which screws onto the end of the choke tube, this fitting also serving as a means of locking the spraybar unit to the backplate.

The propeller driver which fits over the tapered section of the crankshaft is a simple light alloy turning, knurled and bossed. The boss diameter is an unfortunate size for British practice—just 1/32 in. over 3/8 in. so that a 3/8 in. drill does not open out the propeller hub hole quite enough. A turned spinner nut is provided in place of a plain nut, again bossed with the same 13/32 in. diameter.

Summarising, a well made engine with a unique design approach and a performance good enough to rate it well up in the 2.5 c.c. class. The quality of the workmanship throughout was most commendable and the extreme flexibility given by the reed valve is a most attractive feature. The vibration experienced on test may not prove troublesome on a model, but is again a feature which we do not like to see on an otherwise excellent runner.



PROPELLER—R.P.M. FIGURES				Fuel used: Mercury No. 8	
Propeller dia. x pitch	r.p.m.	Propeller dia. x pitch	r.p.m.		
10 x 6 (Frog nylon)	8,400	9 x 3 (Tiger)	11,800		
9 x 6 (Frog nylon)	10,800	8 x 4 (Tiger)	14,000		
8 x 8 (Frog nylon)	7,400	8 x 3½ (Tiger)	14,600		
11 x 4 (Trucut)	7,500	6 x 9 (Tiger)	14,150		
10 x 4 (Trucut)	7,800	7 x 4 (Trucut)	15,200		
9 x 6 (Trucut)	8,400	7 x 3 (Trucut)	17,000		
8 x 8 (Trucut)	8,000	10 x 4 (Stant)	8,000		
8 x 6 (Trucut)	10,100	9 x 5 (Stant)	10,200		
8 x 4 (Trucut)	13,200	9 x 4 (Stant)	10,500		
8 x 3 (Trucut)	13,700	8 x 6 (Stant)	11,200		
7 x 9 (Trucut)	10,100	8 x 5 (Stant)	11,900		
7 x 6 (Trucut)	11,500	8 x 4 (Stant)	13,500		
		7 x 6 (Stant)	13,600		



The Hogmanay Wonder



Another adventure in aid of club publicity related by Brian Holmes & Russ

THE ATMOSPHERE ON a winter evening inside the Auchengargle M.A.C. clubroom is a homely one—if you happen to be an Eskimo. And on this particular raw and chilly evening the few inmates were huddled shiveringly around the rusting stove.

"That's about the last of the fuel!" proclaimed Snooky Munro dolefully, as he prodded the remains of McSwindle's Team Racer into the dying embers.

The occasion was the monthly meeting of the club committee, and the fondest wish of the frostbitten members was to get the business over and done with in the shortest possible time. However, H. McGillicuddy, Honorary Chairman elect, had other more spartan ideas on the subject, and was holding forth in his best and lengthiest chairmanlike manner. Superman as he was, he seemed immune to the bone biting cold, standing there in his summer length kilt and outdoor sporran. Indifferent to the pleas of the other members to "wrap up" he braved both cold and hostility to give to them the benefit of his verbose wisdom.

"... And I think I can safely say, without fear of contradiction", here he paused to run a challenging eye over the lesser lights about him, and then went on, "That, under my inspired Presidency, the name of our club has become a household word. Wherever balsa is lovingly carved or diesel fuel uncorked the name Auchengargle is an inspiration and a blessing..."

"And he was only in the Rampant Haggis for half an hour", whispered

the awestruck Tumps McWhippet to Joe Small, "Must have had it pumped in."

"But, my friends", continued the now inspired Maestro, "Are we appreciated in this town which we have made famous? Not so," he answered, and here his voice dropped to a sinister whisper. "Are you aware that there are people in this town, so lost to all that is fine and noble in life, that they live in ignorance of our existence. And there are others so debased that they sneer at us for being overgrown children. What, my friends, do we intend to do about it?"

"Well", he demanded "can I appeal to your microscopic intellects for some worthwhile suggestions?"

"As I thought", thundered McGillicuddy, wrathfully, "no co-operation as usual".

By the following day McGillicuddy's impassioned plea to the committee was forgotten—if it were ever remembered—in the general hubbub of excitement about reports of a flying saucer having been seen over Teuchlie Torrie. The phenomenon was reputed to have been observed by hundreds of reliable witnesses—most of whom were miles from Teuchlie Torrie at the time. There were, of course, the usual discrepancies between the various reports. Some of the more imaginative observers claimed to have seen little men waving from the windows, while the details of its shape varied from "a sort of cottage loaf with portholes" to something approximating the vital statistics of Jayne Mansfield.

"Just lost its bearings, I suppose," said Tumps, always a fan for matters of space. "But, anyway, you can't deny that the saucer was seen by scores of local people."

"Local is right", retorted Joe, "All regular customers of the Teuchlie Arms, no doubt. They didn't by any chance see any pink little men stagger out, did they?" he asked, bitingly.

"Now you're just being funny", answered Tumps, "You can't deny facts. And the fact is that it was seen over Teuchlie Torrie as plain as—as the nose on the Maestro's face."

"That's probably what it was" remarked Joe, drily.

Further argument was interrupted by the arrival of the owner of the proboscis in question.

"Enough of this", cried the Maestro. If the truth were known yon flying saucer was nothing but a new Teuchlie Torrie model, and if that isn't a strange phenomenon, I dinna know what is".

As the Maestro said this a strange, faraway looked gleamed in his spectacled eyes. To those familiar with the McGillicuddy phizzog, the signs were only too evident; genius was at work. Somewhere inside that capacious cranium germinated the seeds of a Great Idea. The Maestro was in the grip of inspiration, and in the sudden silence that fell over the group, you could have heard a gudgeon pin drop. All that was audible was a groan of despair from Drambuie, the chief sufferer from the genius that was McGillicuddy's.

"Wonder what hee the old fraud has got in his bonnet now?" murmured Snooky Munro. And the question was echoed in the minds of all as we watched the Maestro's retreating figure.

Very soon the episode of the flying saucer and the McGillicuddy genius became submerged beneath the preparations for the coming festive season. Some comment had been made on the rarity of the Maestro's recent appearances, but as a McGillicuddy idea invariably entailed much secretive absence, there was no undue anxiety.

"Also laying in stocks of Christmas



The Maestro was holding forth.



"Wonder what he's up to now?"

fuel", observed Snooky Munro, referring to the Maestro's business connections with the Rampant Haggis.

Meantime some of the members were endeavouring to bring a bit of festive cheer into the clubroom by decorating it with paper chains and tinsel. This work was much hampered by the visitations of Drambuie, who found the new menu much to its liking, in spite of the intractable nature of tinsel spaghetti.

During the general commotion, in which a certain amount of quite unseasonal language was hurled, together with more solid substance, at the nimble scavenger, wee Bawbee Laurie toddled into the clubroom.

"Hey, you chaps", he piped, "guess what?"

The reply he got was as unexpected as it was painful. A missile, intended for Drambuie, caught him squarely on his large left ear. His cry of anguish, however, had the effect of drawing attention to his presence, and after his assaulted antenna had been inspected for damage by Joe Small, and pronounced by that gentleman to be in good flying condition, the wee youth informed them of the eager purpose of his visit.

"He's building a flying saucer", he shrilled excitedly.

Members began to look serious, for it seemed that the clout on the ear had resulted in more serious damage than was at first supposed, but after further questioning of the aggrieved youth, the first rays of enlightenment began to dawn.

"So, that's his great idea", muttered Joe Small, "we must pay a flying visit to our would-be space traveller, and find out what saucery the old Magician is up to".

Full of curiosity, we made immediate tracks for the McGillicuddy lair. We hammered on the front door, but there was no reply. So, putting the door back on its hinges, we all trooped round to the back. After picking our way carefully through the beer crates we eventually located the saucer builder in the back shed.

He greeted us coolly as we stared in wonderment at the strange creation that met our eyes:

"Haven't you ever seen a flying saucer before?" he asked, with just a trace of sarcasm in his voice.

We continued to stare at the weird contraption. At first glance it looked like an overgrown chinese lantern, but closer scrutiny revealed a remarkable resemblance to the space ships of modern legend.

"Looks all very pretty, but what's it for?" asked Tumps. "Going to

fill it with cornflakes for the children's party?"

Such wit was lost upon the Maestro. "I'm making no comment at the moment, but if you care to take a peep into the Auchengargle *Herald* tomorrow, who knows what you might not learn".

And with that cryptic remark he shut up like a clam; and in spite of our entreaties refused to say another word. So, after helping him to extract Drambuie from a large pot of luminous paint, we left him to his weird devices.

Next day we all rushed to secure a copy of the Auchengargle *Herald*. And there, surely enough, was a front page splash on the McGillicuddy Mystery:

"MODEL CLUBS' HOGMANAY SPECTACLE".

"As part of the New Year celebrations, the Auchengargle M.A.C., proposes to stage a dramatic midnight display over the town centre. At the stroke of twelve a model replica of the Flying Saucer, recently seen in the district, will float across the main square. H. McGillicuddy, President of the model club, and creator of the model saucer, told our reporter . . ."

"Well, I must hand it to the old rogue", said McSwindle, with grudging admiration, "It's a first rate publicity stunt—if it only works".

"Well, I feel we've let the Maestro down", said Tumps remorsefully, "I think the time has come to rally round our leader."

"He willna thank ye for interfering at this late hour", McSwindle reminded him, "It's his baby, and we must leave the laddie to it".

McSwindle having spoken there was nothing to do but await results, but the waiting period was pleasurable passed in an atmosphere of seasonal celebration. The Maestro put in an appearance at the club supper, where he was acclaimed the hero of the hour. He assured the applauding members that his preparations were going to plan, and prophesied that the name of Auchengargle model club would be on everyone's lips on New Year's Day.

Our story now takes us to the dying hours of the old year and certain mysterious happenings in one of the quiet outer districts of the town.

On a high rooftop the Maestro chuckled gleefully as he assembled his huge flying saucer. Standing by, awaiting zero hour, was the indispensable Drambuie. Anyone happening upon the strange scene might have mistaken the bird for a crow, for he was carefully dabbed over with a layer of soot, the better



to blend into the black night air. A small harness was secured round his plump body, and this in turn was attached to the saucer by a towline.

Just on twelve o'clock, Drambuie and his queer carriage was launched in the direction of the town centre. The Maestro rubbed his hands joyfully.

His elation, however, was soon to turn to alarm, for, after a few seconds, a frantic flapping of wings indicated that something had gone wrong. Drambuie had turned back and was now streaking towards Ben McSplurge at top speed, with his luminous charge tossing and bouncing along behind.

McGillicuddy wrung his hands in despair, and went streaking off after him.

Next morning the Maestro was sitting dejectedly in his lodging, with the disgraced Drambuie perched well outside clouting distance, when a bevy of us club members burst in upon him.

He covered away.

"All right, you chaps", he cried, "I know I let the club down, but I can explain everything".

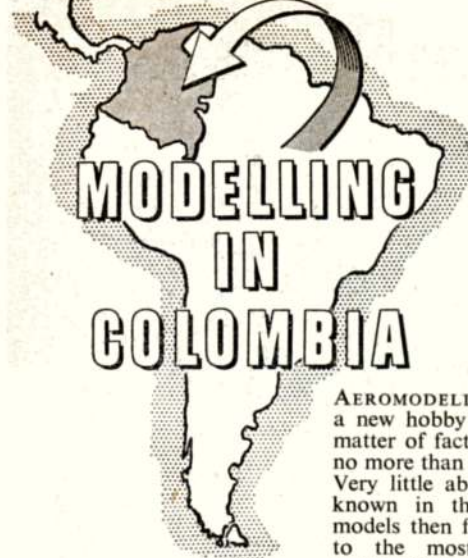
"What d'you mean, let the club down", boomed McSwindle, "We're here to congratulate you, you old fool".

"We all saw it", announced Joe, "it couldn't have looked more like the real thing. Came sailing over bang on midnight. Had the crowds yelling their heads off".

"But I dinna understand", mumbled the Maestro weakly.

Nor does anyone else, come to that. It all depends if you believe in flying saucers or not.





MODELLING IN COLOMBIA

**HIGH
ALTITUDE
MODELLING
in S. AMERICA
described
by José Ochoa**

AEROMODELLING IS VIRTUALLY a new hobby in Colombia. As a matter of fact, in 1940 there were no more than ten active modellers. Very little about the subject was known in those days, and the models then flown were restricted to the most primitive rubber powered jobs, motors being things

of another world. Finally, in the late '45s, the first ignition motors were put into operation. They had to be imported from the U.S.A. or other foreign countries, and were used in heavy cabin models. In July, 1948, the glow engine arrived, and control liners made their appearance, and by 1950 two principal aeromodelling centres were established. The first was in Bogota, the capital located at 8,600 ft. above sea level on a plateau in the Andes. Modellers of this area specialise in free-flight and radio control models. The other centre is Medellin, where control line flying flourishes. From this area come the most expert Colombian stunt flyers.

Many difficulties arise because of the language problem. Very few can understand English, so most of the Colombian modellers cannot keep up to date with the latest trends that are currently in use in other countries. The average modeller has great patience, hunts a plan here and there, builds his model with great care, flies it, and then with this basic design in mind he will design further models until he obtains a good, well trimmed model that suits his purpose.

But this is not the only problem. Materials are needed to build a model, and it is amazing that although balsa trees grow in Colombia, Solarbo balsa has to be brought all the way from Great Britain, because there is no industry to use the local product! Just try to figure what the increase in cost this operation involves. Motors,

dopes, fuels, and all those other essential items are difficult to get because the present economical situation of the country has made the government forbid the importation of superfluous articles, such as aeromodelling materials. Now, there are a few things that can be imported, but the importer is forced to pay high import duties. A pint of glow fuel costs the equivalent of £1!

For the last six years, the Colombia Air Force has been sponsoring the National Contests. The number of entries each year now varies from 80 to 100 modellers.

The leading exponent in the R/C field is Dr. Mario Gomez. He has designed a number of models with very good flying characteristics. For five years in a row he placed first in Multi-R.C. and in the last two years he made an agreement with the contest directors not to participate in the last two Nationals.

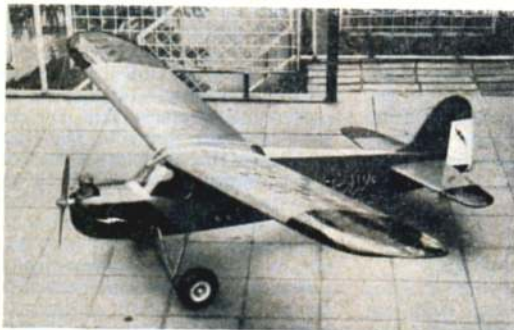
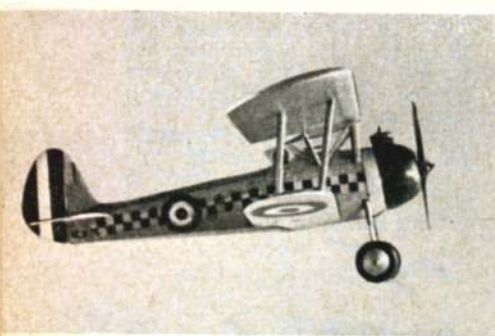
Free flight power is very popular in Bogota, and for contest purposes the well-known divisions of 1/4A, A, B-C are used.

There are few rubber and glider enthusiasts, the major interest being control line.

National stunt Champion is Hernando Toro of Medellin. He has placed first in four nationals in a row. In the last nationals he was declared out of competition in order to give a chance to the other modellers. Flying is done at 8,000 feet plus, the *Pow Wow* being a faster and lighter model is more suitable for stunt flying at high altitude. In general, Bob Palmer's designs are preferred.

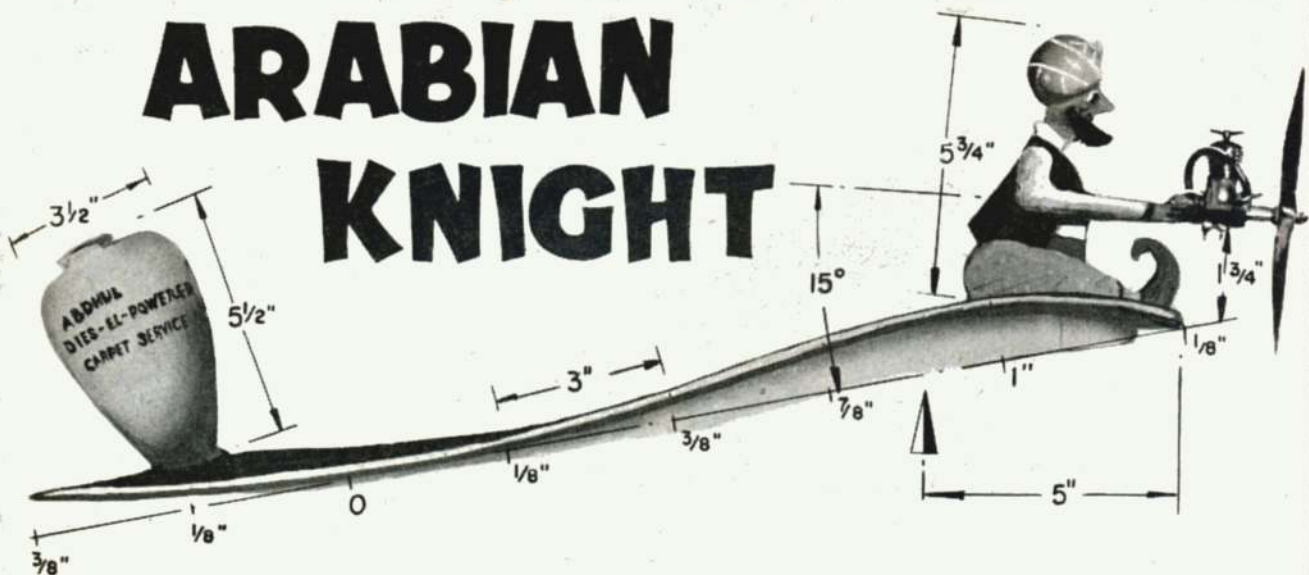
Leading modeller in the C/L scale field is Captain Gabriel Ferro. His speciality has been multi-engined aircraft. First place in many contests, he once built a giant Super Constellation which was a work of art. It was made entirely of aluminium, and had a 12-ft. wingspan! Powered by four Fox 59 engines, it was built for the 1956 Nationals, but unfortunately, the model was not finished in time for the contest. For the 1957 Nationals, Capt. Ferro built a smaller model; it was a C-47, again all aluminium, with excellent single engine performance and powered by two Fox 59s. This model has been placing first ever since it was first flown.

There is one thing that is common to all models built in Colombia, the tendency to make them scale in appearance. In many cases, models are finished with great care, and often it is discovered that a model might have had a better performance if it hadn't been so heavily finished, the altitude demands careful weight paring.



Four fine examples of Colombian modelling. Bristol Bulldog for C/L scale, has a Torpedo 1.6 c.c., is made by Ferrando Acuna. Single Channel radio control model with trailing axle suspension on use is by radio ham Jose Ignacio Barrera, note fine finish. Bottom left, a Babcock 3 channel r/c design "Carmen" by A. Belmonte, winner of multi channel at the 1958 Nats. The C-47 is all aluminium for two Fox 59s and has been the outstanding model at all Colombian Nationals, is the work of Captain Gabriel Ferro

ARABIAN KNIGHT



Get weaving with this rugged moth-proof all balsa knight-mare!

IT FLIES! Publication of the "World's First Flying Carpet" in last month's "World News" was more than a challenge to W. Peter Holland to produce a free-flight variant. Over the week-end his point was proved and Arabian Knight took the air resplendent in red and black pattern, cigarette burns included. Schechezarade saw nothing like this!

We are sure that this Axminster Aircraft will make many readers wish to become carpet beaters, certainly we can guarantee it to produce a stair covering the face of all beholders.

Not as one might think Turban powered, Abdhul hangs grimly on to a 0.5 c.c. motor with his native bearer type arms in order to pile on the revs. Right from the start we could see no floor in the design, which is rugged in the extreme, or the finish, which must be mat. The amount of undercamber should be "felt underneath", and the areas well trimmed. It would be inadvisable to change the section by taking the line of least resistance as this might induce weaving should turbulence loom up. After cleaning, lift may or may not be improved by leaving a vacuum on the top surface. Size should not present a problem, for transport could be arranged in the Bag Dad packed. As for trim, Abdhul wilton in tight circles and if homesick, might hookah thermal, so be sure to use de D.T. . . .

Actually, seven pieces of 3-in. wide $\frac{1}{8}$ -in. sheet, 3 in. wide, each 18 in. long are cemented edge to edge and bent over a hard $\frac{1}{4}$ -in. sheet spine which runs down the centre and holds the airfoil section. To get the profile, simply mark the 21-in. length of $\frac{1}{2}$ in. off at 3-in. stations, with the heights above base line as on the photo, beginning with $\frac{3}{8}$ in. at the T.E. and ending $\frac{1}{2}$ in. above base at the leading edge. Join parts marked with a smooth curve and cut to get the reflex airfoil section. Two other ribs can be used to support the "tips" but were not necessary in the prototype where strips of hard $\frac{1}{8}$ -in. x 1 in. reinforced the outer edges along the undersurface (chordwise) and a $\frac{1}{2}$ in. x $\frac{1}{2}$ in. spruce spar protected the leading edge. Abdhul is laminated from $\frac{1}{2}$ in. sheet with $\frac{1}{2}$ in. sq. beech arms. Half to $\frac{1}{2}$ oz. lead ballast is required at the L.E. to balance the Knight 5 in. back from the leading edge. Reason for this choice of aerodynamic layout will be appreciated when observing the exceptionally stable flight characteristics. . . . No kidding this time.

Aeromodeller Index

ONCE MORE we offer our service of providing a complete four-page index for AEROMODELLER, Volume 23, of last year. It is available only from the editorial offices for a nominal charge of 6d. per copy; but we must also request supply of a suitable stamped and addressed (2d. stamp for U.K. readers only) envelope preferably measuring $6\frac{1}{2}$ in. x $9\frac{1}{2}$ in. so that we can despatch the index with only a single fold.

This is also the ideal time of the year to consider binding your copies into a handy reference work. The price of binding in handsome red cloth covered stiff jacket with title gold blocked on the spine is only 15s. Copies should be sent to us well packed with the covers removed if not required to be bound in. Alternatively we offer the "Easibind" folder specially prepared for AEROMODELLER which takes the 12 copies plus index at 10s. 6d. per folder.





Bearing the large size fuselage cross, and with fuselage numeral after the style of example drawn below, this 109E was shot down over North Africa. I.W.M. photo C.M.1977.

Boar in various shades of brown on a red slope. The Penguin was in the same position as the dragon on upper view, black and white on a Schumacher Group Me 109 with the "S" shield. Mickey Mouse was a very pale grey with black details, located about 18 ins. aft of the fuselage cross, style as centre view. Finish of this example was in two shades of blue all over upper surfaces, fin

MARKINGS FOR MESSERSCHMITTS

Decor Details of several Bf 109E's by P. G. Cooksley

"SUMMER, 1940..." within less than two decades, the words conjure up an almost romantic memory of the long sun-drenched days which saw the contorting vapour trails above the parched earth occasionally add some fresh victim to that summer's strange harvest.

This is an attempt to document the insignia of some of the German machines, some of which have suffered in constant redrawing in earlier appearances.

The examples given have all been extracted with meticulous attention to detail from original sources. All are Bf.109E's. Finish was mottled in two shades of grey on top of fuselage, wing and tail-plane upper surfaces. Sides, fin, rudder and underparts were a very pale shade of grey. In all the examples given the swastika was thinly edged in white—almost imperceptible against the ground-colour.

Notice the small white equilateral triangle aft of the cockpit below the fuel tank cap, with the black numerals "87" indicating the octane of the spirit.

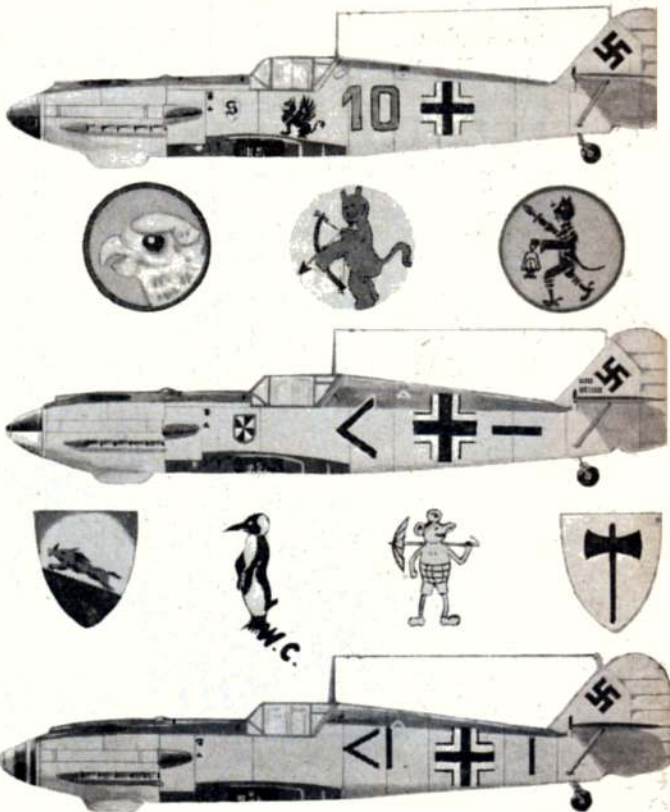
The main examples have been chosen to illustrate the three slight variations in upper camouflage demarcation observed. Details of the top example from the Schumacher group, shot down in September, 1940, are as follows: Black "S" on white shield. Black dragon squadron insignia. "10" in yellow with narrow black outline. All black spinner. On the wing, the outboard arm tip of cross insigne (3 ft. square with a much narrower outline) was 6 ft. 6 in. from the wing tip.

Next, three individual markings—left to right: Werner Molders insignia on the cowling just below front extremity of gun channel. Various shades of brown on a blue-grey background within a dark yellow circle, itself edged inside and out in black and approximately 18 ins. diameter. The spinner was quartered in black and white. General finish as in the lowest side elevation. Next, red on white with black bow and arrow on cowling immediately below after end of gun channel, approximately 18 ins. diameter. The fuselage carried numeral "14" in black located as above, the "4" with a very low horizontal bar, the tops just entering the darker top shade where they had a white outline, with camouflage demarcation as bottom view, but with fuselage cross and two red victory tabs on fin as in centre view. Wing crosses were 3 ft. 6 in. square, 5 ft. inboard of the tips and this example was shot down near Lewes, Sussex, 12.8.40. Next, Black on grey cat and lantern head within a yellow ring. 18 in. diameter, location as owl's head.

Centre side elevation shows example shot down by ground fire in Kent during 1940, with Gyronny of eight on shield, black and white with yellow border, the spinner quartered, victory tabs in black, 11 of them with small central British roundels and two French. The shield cowling insignia located beneath gun channel has a

and rudder, pale blue undersurfaces. Spaces between Swastika arms (with outline) were pale grey, giving a rectangular background, and the location high with the top only about $\frac{1}{4}$ in. below diagonal hinge line. Next a black axe on white shield inclined at 45 degrees to the fuselage datum located below the front gun channels. Lastly, the bottom view shows an Me 109 with black and white ringed spinner, wing crosses 5 ft. 9 in. inboard of tips and 3 ft. square.

1/72nd Scale "J" type and 1/48th scale "A" type drawings of the Me.109 are available, price 6d. or 1s. respectively from AEROMODELLER Plans Service. Scale side elevations below are to 1/96th scale.





CLUB NEWS

*Victorious
Tees-side team
in Northern Area
knock-out contest.*

IF THE INTENT discussions I saw at the S.M.A.E. Dinner are to be taken as an indication, the 1959 contest programme has been the subject of extraordinary debates in clubs throughout the length and breadth of the country. As Sid Taylor, the S.M.A.E. General Secretary said in his after-dinner speech, "You can't please all of the people all of the time and it is hard to please some of the people just part of the time". Anyhow, let's hope that whatever eventually reaches us in the way of a set contest programme for the coming year, that it will help us to enjoy the hobby without losing sight of the fact that it is after all . . . a mere hobby.

Midlands

There is great activity in **BURTON-ON-TRENT M.A.C.** who call themselves the **GOLDEN EAGLES** now that they have moved into a pub of the same name in the High Street, Burton. Building activity has increased to the extent that there is a great shortage of table surface area and R. Crofts is to be congratulated for his 2nd place in the Leicester organised contest at Stapelford Hall for stunt. **WEST BROMWICH** underwent a minor crisis due to the resignation of Maurice Philips who for three years carried the job of Treasurer and Chairman. The new Chairman is Dave Wilkes of the Black Ghost Combat Team and the new Treasurer is P. Thomas, holder of the club free-flight trophy. Unfortunately, membership is declining due to lack of support from the local council in allocating a flying area. Meetings are held every Thursday night at Charlemont Schools. **LEAMINGTON AND D.M.A.C.** had a real slash at the Farrow Shield but in spite of the perfect weather, only Mick Dixon scored triple maximums whilst a broken motor put paid to D. Billings' chance and David Greaves hit a downdraught bringing his model down on his third flight, so they placed third again behind Birmingham and Coventry, exactly repeating this year's *Model Engineer* Cup placing! Eric Barnacle topped the open rubber contest against Coventry and the major interest is now A/2s Meetings are held every Friday in the smoke-room of the Seven Stars, Warwick.

Members of the **OUTLAWS (CANNOCK) M.A.C.** enjoyed the Nationals film and entertained Walsall and Norton Canes Clubs at the same time. The club received some unexpected publicity with a mention in the National press concerning the allocation by the Council of an area in Cannock Park to be set aside for flying under the usual Home Office bye-laws. **HUCKNALL AND D.M.A.C.** still pin their faith for Combat in the old "White Elephants". The Oliver-powered prototype won the club challenge match against the Kombat Kads and also qualified for the prize draw at Chesterfield. Having acquired a new field, these lads are now working hard practising stunt with at least three committed to enter for the Gold Trophy. **LOUGHBOROUGH COLLEGE**

M.A.C. congratulate member D. Topham for winning the Halifax Trophy with a radial Elfin 2,49 lightweight model after the style of Tom Smith's Nig-Nog.

At **STRATFORD-UPON-AVON AND D.M.A.C.** close co-operation with the R.A.F. Gaydon Club has provided a common club room on the first Monday of each month at the R.A.F. Station, this alternating fortnightly with meetings at the Central Chambers, Stratford. Club bulletin preparer for **LEICESTER M.A.C.**, P. H. Ball, placed top in the year's contest points table I am pleased to note; it is not very often that a P.R.O. is also the club contest leader! **LONG EATON AND D.M.A.C.** have started their winter programme with film shows and R.T.P. flying. Points will be awarded in each competition for a shield to be given at the end of the year.

London

Anyone interested in the formation of a new club in the Twickenham area? M. L. Beach, 54 Lebanon Court, Twickenham, Middlesex, would like to contact those with similar interests in his district. Checking through the occupations of the members of the **CRYSTAL PALACE M.A.C.** they found a Structural Engineer, Chemist and an Electronics man, so presumably he shall be seeing some strong airframes, hot fuel and transistorised radio control from them very shortly. Radio control is in fact keenly followed by these clubsters, M. Pointing won the Championship Shield in **DEBDENAIRES M.A.C.**, which was presented at their A.G.M. where the chairman announced the intention to get the club into more competitions in the coming year.

ENFIELD AND D.M.A.C., not being content with their fast speeds in team race, have now set up a Worthington record. This consists of downing a half-pint of the brew against the stop watch, and Pete Hartwell's fastest time to date is 2.9 sec. What a waste, no taste! Indoor rubber team racers are popular at Enfield, races being maximum fuselage length 20 in., wingspan 60 per cent. of fuselage length, maximum weight 2 oz. including rubber. Races are run over 30 laps on 8 ft. lines. **NORTHWOOD M.A.C.** are a socially-minded club and held a parents' evening and exhibition which was a great success and which got a mention in the local press. The club is affiliated to the Middlesex Youth Council, from whom they can borrow film projectors, camping equipment and . . . money. They have also put forward to the local Council that they be allowed to flatten a piece of Ruislip Common to maintain a couple of controlline circuits.

At **ST. ALBANS**, four members flew in the Hamley Trophy, but none placed in spite of George Fuller's superb 6:18 fly-off time in those marvellous conditions. Later in the day, George launched his power model for an over-run, it disappeared vertically into the clouds, motor still running, to appear

a minute later out of the same spot under d/t! Unfortunately the Slope Soaring event at Ivinghoe Beacon dated November 2nd had to be cancelled as the top of the Beacon was 200 ft. inside cloud.

On November 9th **ST. ALBANS** flew against Croydon in the L.D.I.C.C. and were successful. Their next task is to meet the formidable Surbiton group. **FARNBOROUGH M.A.C.** have the sensible plan for development of a series of consistent high performance models and fly regularly under all conditions in order to overcome contest nerves. Membership has recently dropped sharply and new members would be welcome. In the **SIDCUP M.S.** there is an increase in interest in other forms of modelling, particularly radio control boats and the club has now changed its name to the **SIDCUP MODEL SOCIETY** with a policy to encourage juniors, Mike Bassett was very successful at Beaulieu, bringing home the A and Class A team race prizes.

South Midlands

CHESHAM M.A.C. are a sport flying crowd with interests in Combat, meeting every Tuesday evening at 7.30 at the local A.T.C. Hut for R.T.P. Unattached modellers are recommended to go along. **NORTHAMPTON M.A.C.** have what is the nearest of all club newsletters received in my office and it contains eight pages of informative gen on club activities. I particularly like their comment on a Torp 19-powered model seen at Chobham on the occasion of the Croydon Gala. Apparently a profile fuselage was seen to flex and the result was the prang of the day! There's a moral there somewhere. A new club in this area has been formed by the Napier/English Electric Company and will be known as the **NAPIER/ENGLISH ELECTRIC MODEL AERONAUTICAL SOCIETY**, with twenty members. Duncan Woods, Roy Clements and Joe Orpwood are all keen contest flier members and an R.T.P. competition has been planned for models built from the standard Keil Kraft 3s, 9d. scale kits. In the same way another club has been formed in the Oxford area by the keen contest types, this to be known as the **OXFORD MARTYRS**, and preparations are already well in hand for next year's trials and eliminators.

North Western

There are forty clubs in this area, most of them active in the flying field, but few of them represented at all the Area Committee meetings. Transport difficulties are one reason for this, but I am quite sure if meetings were held at a good pub with plenty of sausages and bread available, they would have bigger meetings.

The North Western Area Winter Rally is to take place on February 1st at R.N.A.S. Stretton, near Warrington, and with open events in all free flight classes, controlline combat, team racing A and B and radio control multi and single channel. Pre-entry should be sent to J. Chadwick, 129 Mottram Road, Stalybridge, Cheshire. Senior 1s, 6d. Juniors 6d. **URMSTON AND D.M.A.C.** had a free-flight scramble which attracted many of the controlline fliers, the winner being I. Bescoby. In the team race circle, junior J. Brady has been putting up some fast times with his Class "B" racer, using an Eta Mk. 6. The noise is working the local seagull clan up into a frenzy—pity they don't carry streamers. **CHORLTON M.F.C.** have been given a class room at Seymour Park School to hold their club meetings at Friday nights and are organising a coach party to go to the East Lancs M.A.S. Winter Rally on Sunday, December 14th. No less than sixty-four members went up for the **LIVERPOOL AND D.M.A.S. A.G.M.** and I am quite sure that this must be a record for any British club! Wonder what the attraction was? Bob Gosling, the club President, announced that he is going to give a cup to the member of this club showing the best

results in S.M.A.E. Contests. Alan Carter's *Incinerator* design had a fly-off of 3.45 in poor visibility in the Hamley Trophy and this model seems to be accepted as a standard club power job of which we should be seeing more in the future. WALLASEY M.A.C. enrolled two members at their last meeting in Beechcroft Hall, which has been acquired after talks with the Education Committee and Youth Welfare Officer. John Hannay delivered an excellent talk on glider design and wound up with an A/I for beginners, two of which are being built by senior members ready for the next meeting in December, when juniors can inspect and discuss them—now why don't I hear of more of this sort of thing from other clubs who have expert members in their midst? CHEADLE AND D.M.A.S. report that Mike Turner won the club's glider champion with an A.P.S. *Lucifer*.

A new club has been formed in the EAST LANCAHIRE M.A.C. based in the Colne and Burnley Area and it has in fact, emanated from the amalgamation of the former Colne, Accrington and Burnley groups. E. Lord has been elected Chairman and new members would be most welcome. There is to be a Winter Rally on December 14th, which unfortunately, coincides with the publication time of this issue, not providing much advance notice.

East Midland

LINCOLN AND D.M.A.S. are probably looking forward with glee to the fact that the 1959 Nationals might well be in their district. The club has just completed their most successful contest season to date and several members are building Birmingham styled lightweight rubber jobs. At the East Midland Rally on October 26th, G. L. Roberts won both power and rubber. The FORESTERS M.F.C. are back in the news once more after an inactive period and have no less than twelve active R/C fliers each using the Hill type receiver and a very simple actuator employing the Mighty Midget motor which gives left rudder with no signal and right rudder with signal on. The operator pulses and it is easy to select turns via the rate of pulsing on the button. Mike Green is now with this club since he moved up from Kent.

Northern

TEES-SIDE M.F.C. reached the finals of the Area Knock-Out for the third year running, beating Baildon "C" Team in the final (see picture). The Northern Area Winter Rally is going to take place on January 18th R.A.F. Station, Linton-on-Ouse, Near York, starting at 10 a.m. with open events for free-flight all classes of team race and single channel radio. Pre-entry is 1s. 6d. per head before January 10th and should be sent to

P. Hollis, 15 Sitwell Grove, Cranbrook Avenue, York.

A very high wind decimated the BILDON M.F.C.'s F.A.I. power contest on October 19th and only Arthur Collinson's and J. A. B. Pannett's models survived the course, finishing first and second with very low aggregates. In contrast, the following Sunday gave them the same ideal conditions we enjoyed in the South and Arthur excelled himself by achieving a triple maximum plus 7 : 58 fly-off time in the Hamley Trophy.

Western

Peacemakers for Veco 19's are the vogue in the BRISTOL ACES M.F.C. and it seems that glowplug has taken a firm grip on the free-flight section with the predominance of Enya's and Eta's. In SOUTH BRISTOL M.A.C. B. Hopkins has built an outside the circle control pole for indoor work, both rubber and power, which is worked most successfully although the pilot is usual half a lap behind with his signals.

East Anglia

A new club has been formed at LAINDON and they started off successfully by L. Moorcroft winning the combat event at the East Anglian Rally, R.A.F. Debden. In the past month or so CAMBRIDGE M.A.C. have lost five models, two chuck gliders and a scale Luton Minor.

Dick Godden's chuck glider lost from Ivinghoe Beacon, was last seen as a speck going steadily upwind! They also report a Paalod model with white wings and powered by an Amco which was found at Debden—it might well have been lost at the R.A.F. Championships and I would be pleased to pass on any claims. DAGENHAM M.A.C. had a talk by Bill Morley on the latest trends in stunt models which was very well received by this club which has recently taken to the organisation of control line rallies. New members would be welcome at Hut 3, The Old Fire Station, Becontree Heath, on Thursday evenings at 7.30. After eighteen months existence, HARLOW M.A.C. has had a change of committee. Indoor chuck glider contests are held at Mark Hill Secondary School, First Avenue, Harlow, on Friday evenings and electric R.T.P. is the subject of present experiments.

Southern

A new club has been formed in the REIGATE district and a film show is to be held at Reigate Congregational Church Hall on Friday, December 19th, at 7.30. This is rather a unique club in the fact that it has a fine hall but no members! A 15-miles flight by a Webra 2.5 c.c.-powered model is reported from Chobham Common by the PORTSMOUTH AND DISTRICT and

Mr. Larrimore, the thankful owner, would like to express his appreciation to all connected with the return of the model as it was traced by the S.M.A.E. number only—no name and address was carried.

SOUTHAMPTON M.A.C. had their contest with the Portsmouth Club at Stoney Cross on November 9th for the Hobart Trophy. The result was a win for Southampton by quite a large margin for the fourth year in succession. Highlight of the day was Tom Colclough flying in only his second contest and putting up two maxs for Southampton in the power event.

TOLWORTH M.A.C. are concentrating on combat and have no less than 11 Miles' 3.4 c.c. motors. Successes in 1958 included J. Headley's appearance in the finals of Class A at Wanstead and Dagenham rallies.

South Eastern

LEATHERHEAD AND D.M.F.C. went along to the South Eastern Area Control line event at Westerham and gained second place in 1/2A and on October 19th they also went to the South Coast Gala where C. Burbridge was very lucky to find his Tiger Cub-powered free-flight model that had landed after an o.o.s. flight, almost on the banks of the river Arun.

The film show given by our Harry Hundleby to the NORTH KENT NOMADS was much appreciated, since it gave the local radio control enthusiasts a good idea of what has been going on on the other side of the Atlantic. Club Championship for 1958 was won by Ray Parker, the Hon. Secretary, with the Chairman, J. Ashcombe, in second place. We are wondering why the Comp. Sec. did not occupy third place! EAST GRINSTEAD M.F.C. increased its membership during last year and at the Southern Area Rally at Ford, J. Debron announced that he was going to make the last test flight when the model d/t'd on the climb with the most spectacular result, and the wingtip disappeared 3 min. o.o.s.!

THE CLUBMAN.

S.M.A.E. Results

FROG JUNIOR (Rubber/Glider)		
October 26th. 14 entries		
1. Smith, B. (English Electric) ...	7 : 40	
2. Hosker, M. (Wigan) ...	7 : 06	
3. Wigley, E. (Brixton) ...	6 : 32	
4. Gambadella, B. (Blackheath) ...	6 : 16	
5. Cooper, A. (Thameside) ...	6 : 14	
6. Rees, S. (Letchworth) ...	6 : 13	

HAMLEY TROPHY (Open Power)		
October 26th. 87 entries		
1. Farrar, A. (Wakefield) 12 : 00+11 : 47		
2. Buskell, P. (Surbiton) 12 : 00+ 9 : 26		
3. Gaster, M. (Surbiton) 12 : 00+ 8 : 36		
4. Monks, R. (Birmingham) 12 : 00+ 8 : 26		
5. Jays, V. (Surbiton) 12 : 00+ 8 : 22		
6. Draper, R. (Coventry) 12 : 00+ 8 : 15		

SID ALLEN MEMORIAL TROPHY
Parkinson, G. W. (Kendal)

SENIOR CHAMPION		
O'Donnell, J. (Whitefield)		
FARROW SHIELD (Team Rubber)		
October 12th. 26 Club entries		
1. Birmingham ...	47.55	pts.
2. Coventry ...	45.57	"
3. Leamington ...	43.10	"
4. Surbiton ...	42.47	"

PLUGG CUP		
1. Coventry ...	834.44	pts.
2. Birmingham ...	774.53	"
3. Surbiton ...	725.58	"
4. Wakefield ...	678.13	"
5. Baildon ...	670.39	"
6. Sheffield ...	654.86	"

S.M.A.E. CUP (A/2)		
October 12th. 152 entries		
1. Hinds, S. (Wallasey) ...	15 : 00+1 : 57	
2. Wade, S. (C.M.) ...	14 : 31	
3. Young, F. (Birmingham) ...	13 : 55	
4. Abbey, R. (Coventry) ...	13 : 35	
5. Amor, R. (South Essex) ...	13 : 15	
6. Warbuton, H. (Derby) ...	13 : 11	



£100 winners in Guiterman's plastic model contest we helped to judge, A. S. Wilson's Mustang decorated in 19 Sqn. markings and using imitation jewellery stones to simulate instruments, lights, etc., and Brian Bourthwick's much modded Britannia in latest B.O.A.C. livery. Each employed many of our published tips on plastics.

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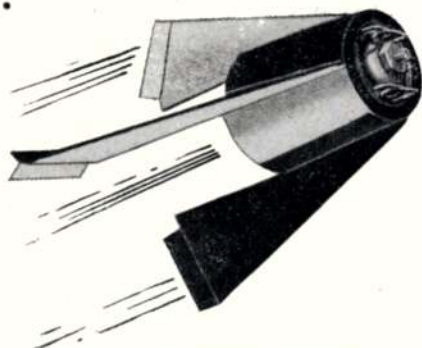
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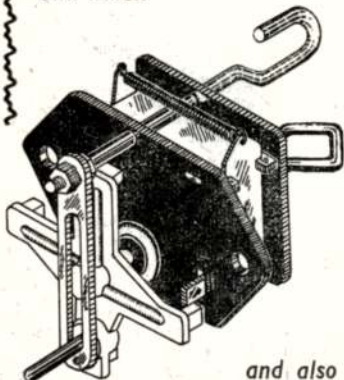
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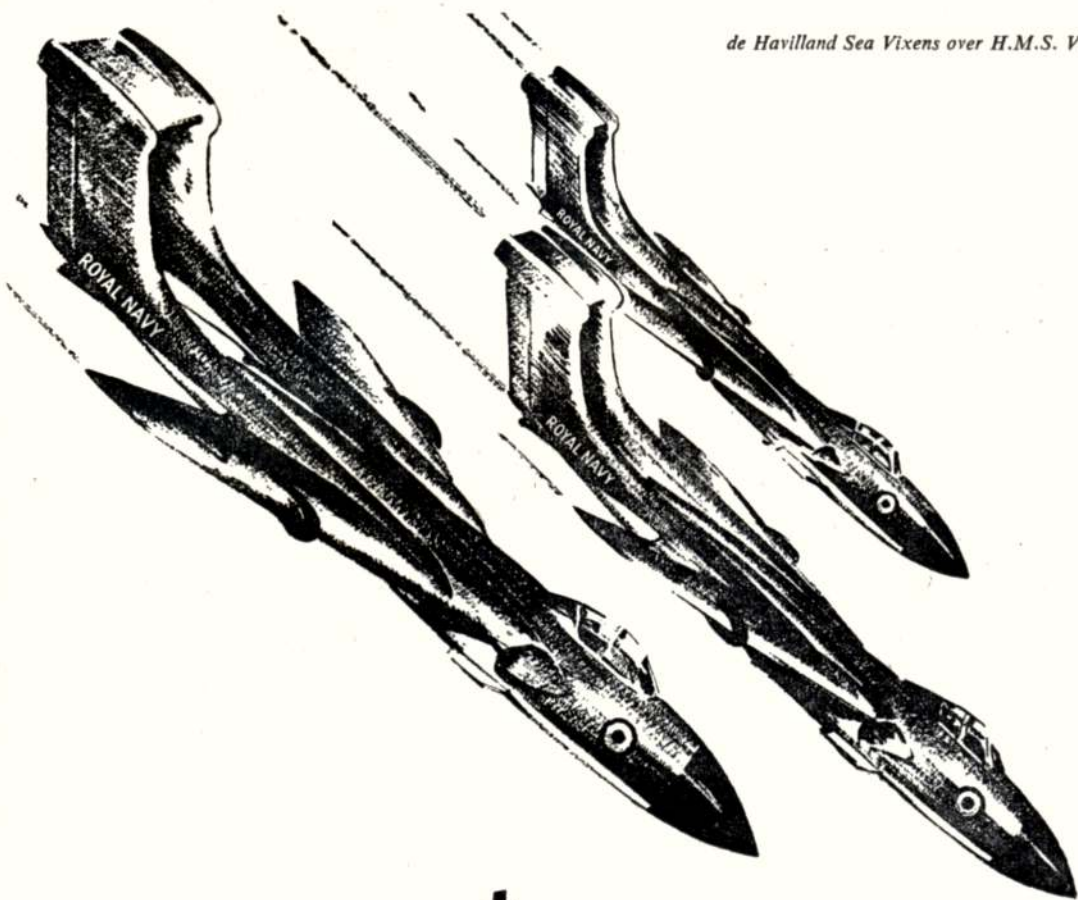
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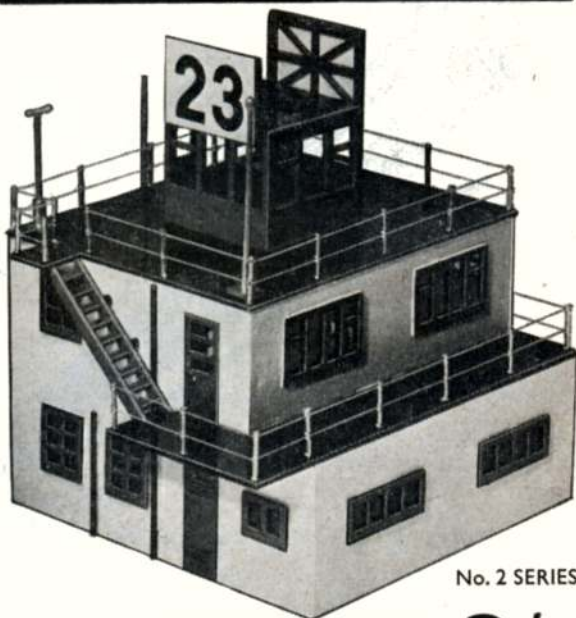
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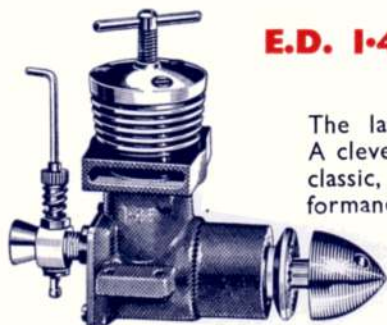
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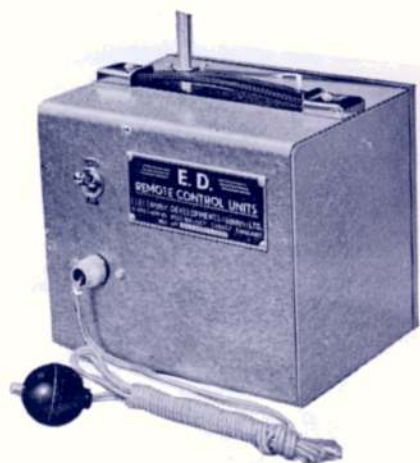


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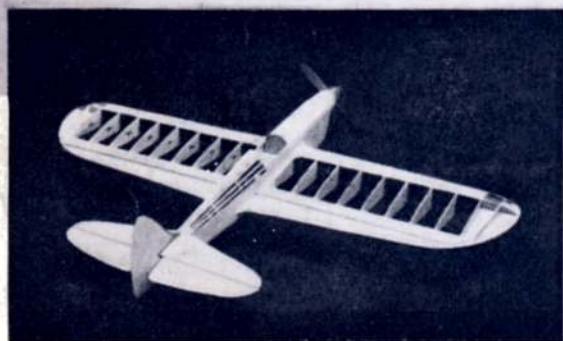
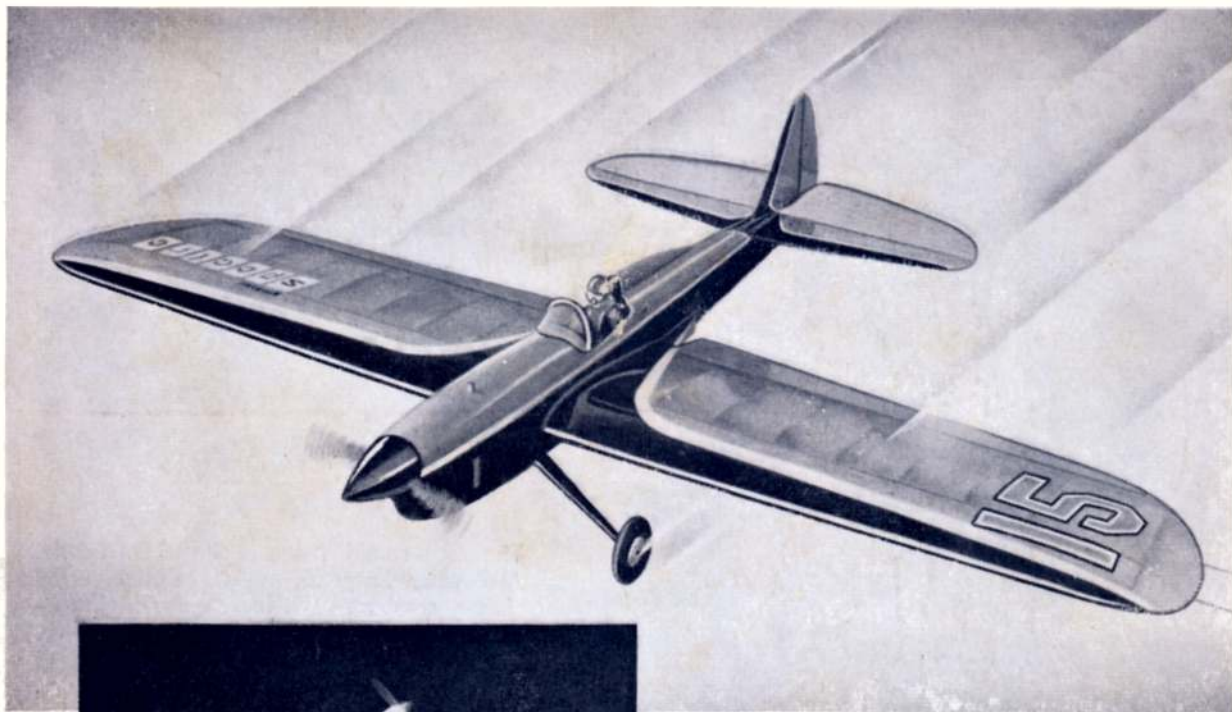
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