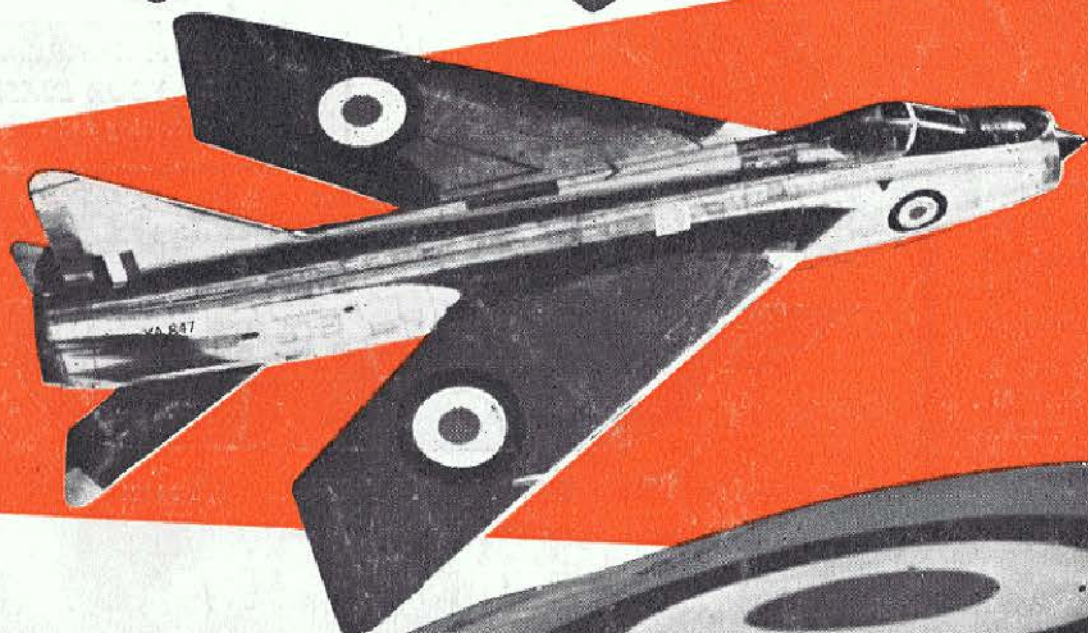


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I'6

AUGUST 1958



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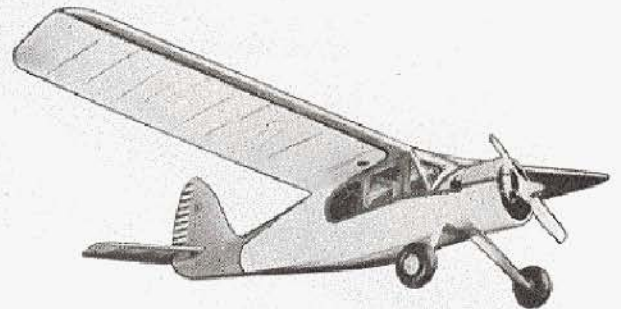
40-inch wingspan. For .5 to .75 c.c. diesels.

Other models in this Super Scale Series—40-inch LUSCOMBE SILVAIRE. 36-inch CESSNA 170. These three models can be rubber-powered if desired. Instructions in each kit.



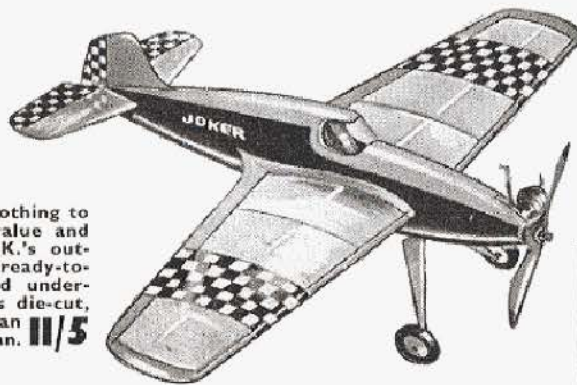
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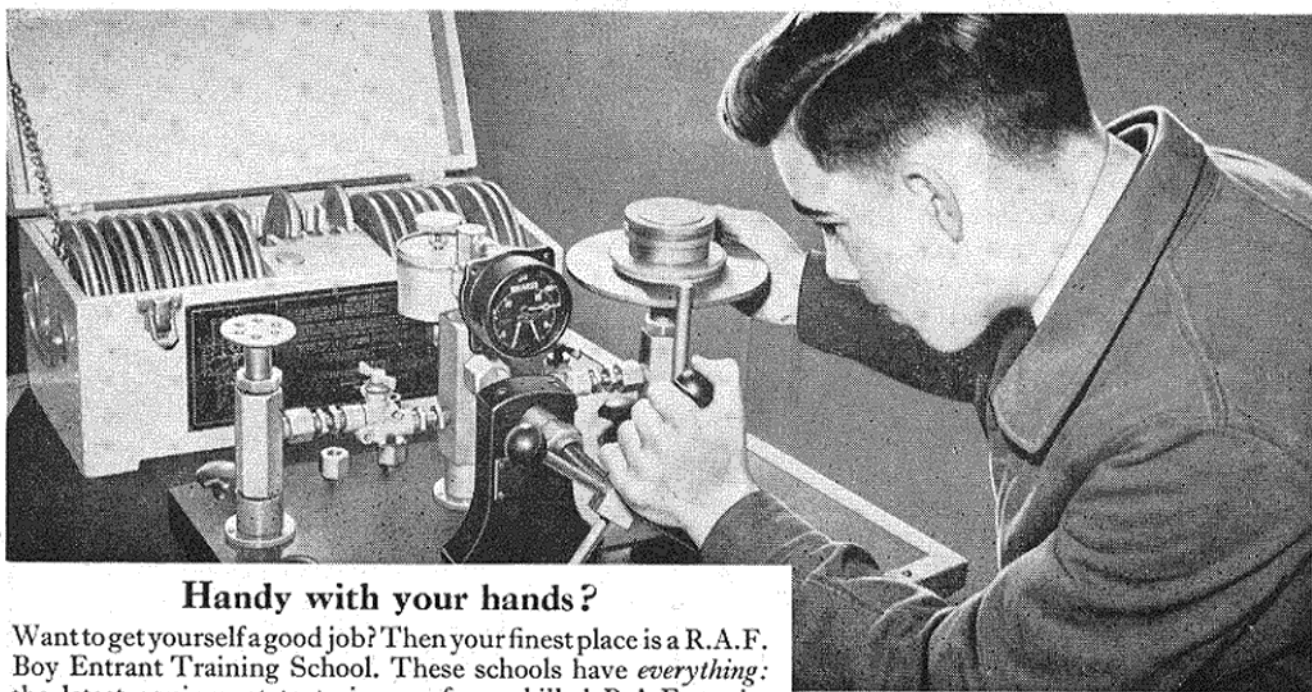
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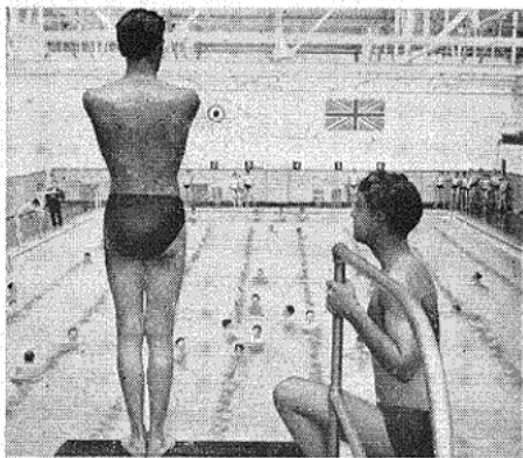
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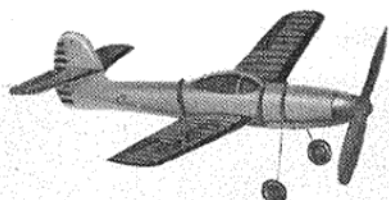
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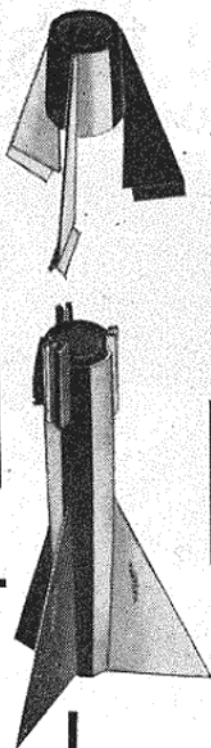


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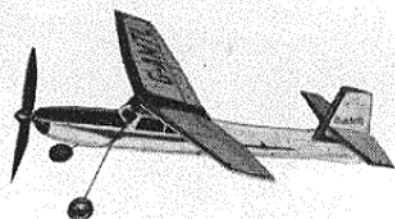
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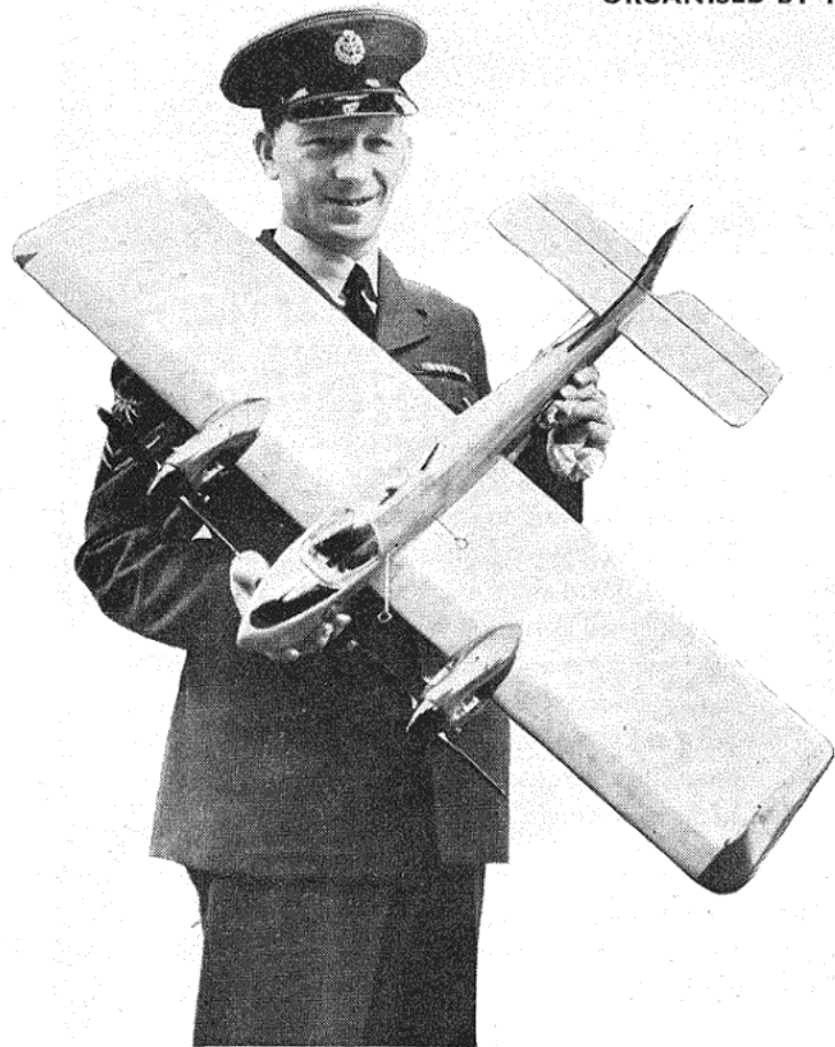
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AA3/MAC



'I GO TO PARIS'



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I had to go over to Paris last week to see about another addition to our diversification programme in the 'Do it yourself' market.

My wife, as I suppose all wives do, was quite convinced that I was going to be involved in some terrible street battle or sent to fight in the Foreign Legion. As a matter of fact, it was all so quiet that when I wanted to find a policeman to tell me the way I just couldn't see one!

Nevertheless, we had a lot of fun because my French contact, who spoke very good English, kept telling everybody - "You know, Mr. Paterson's wife is at home praying in Church for her husband who is fighting at the barricades!"

What else did I do in Paris?

Well, I sampled escargots (or snails) for the first time: I liked them quite a lot but they didn't like me at all and I didn't feel very well! Still, there is nothing like trying everything once and, as far as I am concerned, tell me whether there is any connection as they do live in a shell. If so, that explains everything because I am allergic to shell fish. Nothing makes me sicker quicker!

Why Paris conjures up such wonderful and delightful visions of exotically bad behaviour I cannot think? As far as I am concerned I prefer everything in England. You will probably think I am covering up my tracks, but the most interesting thing I saw was a factory where the automation and rate of production was as high as anything I have seen in England.

Incidentally, I haven't seen many aeromodellers laying floors yet, but you can take it from me that a lot of people have had our floor, and laid it and found out how easy it is. Here are you chaps who I reckoned were going to be our best salesmen and you are doing nothing at all!

J.V. Paterson



'WHAT ELSE DID I DO?'



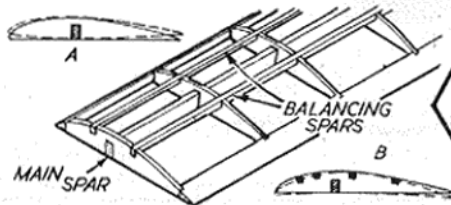
'LIKED THEM QUITE A LOT'



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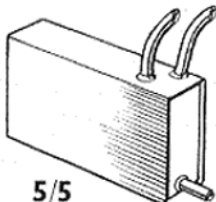
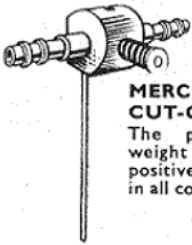

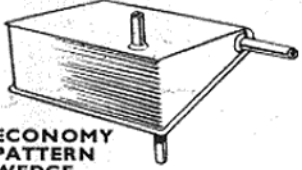
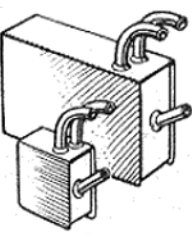




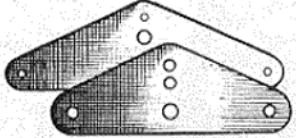





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AUGUST 1958

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AERONAUTICAL
ENGINEERS



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Canada \$3.)



Here and There

More Litter— Less Flying Fields

EACH time we leave an aerodrome at the end of a meeting we are sharply reminded of what is becoming a serious threat to model flying, and that is litter. We don't want to preach and we don't want to harp on the subject, but the proportion of litter left on aerodromes after a flying meeting is already seriously jeopardising the availability of aerodromes that, in the past, have provided ideal facilities for the model flier.

We know, from personal contact, that the R.A.F. take an exceedingly dim view of the amount of litter left on their aerodromes and, in particular, the number of empty fuel bottles, which, as a recent S.M.A.E. Newsletter rightly pointed out, can cause damage to a modern jet aircraft amounting to more than £500,000.

Although the litter problem has been with us for years, and at every contest, we have no hesitation in singling out this year's Nationals as possibly the worst example. At the close of the meeting the aerodrome was in a disgusting state and we saw no organised collection of the sorry mess. The fact that there were few, if any, litter bins on the aerodrome is absolutely no excuse—if you were able to bring it then you were also able to take it away with you; it's as basic as that.

As most of you are aware, the Goon Show finishes with: "It's all in the mind, you know" and obviously this is so with modellers and their attitude to litter. At the Nats., one modeller thinks "my one empty fuel bottle won't make any difference"; the trouble is, 1,562 other blokes are probably thinking the same thing. After all, you don't leave your litter on the floor at home—or do you?

M.A. Exhibition to be televised

PROOF of the wide interest being shown in the MODEL AIRCRAFT Exhibition comes with the news that A.T.V. will be putting on a "live" programme from the exhibition on the afternoon of Tuesday, August 26th. It will last half-an-hour, from 5 to 5.30, so make a note now of the time and date. Better still, of course, is a personal visit to the New Horticultural Hall, Westminster, over the period August 20th-30th to see and examine in detail all the hundreds of interesting items that will be on show.

For those people exhibiting models in the competition and loan sections, and who live in the Birmingham and Manchester areas, special arrangements have been made to collect models. A van will call at Birmingham and Manchester and entrants living in these areas should

deliver their models to the following addresses:—

Birmingham: Mr. N. W. Bertenshaw,
Dept. of Science & Industry,
City Museum & Art Gallery,
Newhall Street,
Birmingham, 3.

Manchester: Mr. W. Jones,
Messrs. Graham Bros. Ltd.,
Chester Road,
Stretford,
Manchester.

Modellers wishing to use this service should deliver their models to the Birmingham address before Sunday, August 17th, and to the Manchester address before Monday, August 18th. The models will be returned as follows:—Birmingham: Sunday, August 31st; Manchester: Monday, September 1st. This service is free and all models will be insured while in transit and during the period of the exhibition.

World Champ Teams

THIS year's "double" World Championships meeting for Wakefield and Power Models, which will be held at Cranfield over August Bank Holiday, promises to be one of the best meetings yet. No less than 17 countries have confirmed their entries, and the following will be sending a full team for both events: Switzerland, U.S.A., Ireland, Canada, Finland, Italy, Austria, Czechoslovakia, Hungary, Sweden, Germany, Yugoslavia, and, of course, G.B. Others, who for various reasons cannot be fully represented, are pinning their hopes to one or two of their top fliers: for instance, the Netherlands are sending one Wakefield flier only, Denmark will have two Wakefield and three power, Japan two in each, and New Zealand a full Wakefield team but no power.

Most of these, and in particular

the Iron Curtain countries, selected their teams long ago on the principle that members should have ample opportunity to accept the idea of working as a team, and to allow plenty of time to tune their models to top pitch. In Great Britain, however, our method of working is rather more free and easy, which, with a hobby as individual as the building and flying of model aeroplanes, has not proved such a bad thing, as our past contest successes have proved.

What will happen at Cranfield is anyone's guess at the moment, but the following are the teams on which we pin all our hopes:

Wakefield

R. Draper (Coventry)
J. Palmer (Croydon)
J. O'Donnell (Whitefield)
G. LeFever (South Essex)

Power

A. Collinson (Baldon)
K. Glynn (Surbiton)
V. Jays (Surbiton)
J. Bickerstaffe (Rugby)

As everyone knows, these teams have, for the first time, been selected at two centralised trials and we await with interest the Cranfield results as these will be the first true guide to the success or otherwise of this method.

Finland has in the past been a regular supporter of World Championship meetings and, with Ellilas's wins in the 1949 and 1950 Wakefield has proved a breeding ground for top class fliers. This year their teams are Reino Hyvarinen, Seppo Takko, Esko Hamalainen and Asko Kekkanen in Wakefield, and Harri Raulio, Sandy Pimenoff, Ossi Niemi, and John Relander, in power. Of particular interest is the fact that with the exception of Relander the power team is the same that was victorious in the 1957 European Championship meeting in Moscow. This could well make them a real threat for the team award.

Four Footed Friend? . . .



Not if you believe what our Assistant Editor—and as everyone knows Assistant Editors lead a dog's life anyway—said when the Birmingham mascot spoilt his shot of Ray Monks' PAA Load model. But they made it up at the Northern Heights Gala and are now the best of friends.

Make your Hobby Pay!

SOUNDS too good to be true, doesn't it? But it really is easy. We want your contributions, and we're willing to pay for them.

Every time you read MODEL AIRCRAFT at least one of the features must be of especial interest to you, yet most were sent in by readers just like yourself. So remember, ideas that you have developed, models that you have designed, photos you have taken—all could be of equal interest to other readers.

This is what we want

Articles—Should be of as wide an interest as possible and accompanied by illustrations, i.e., photographs and/or sketches.

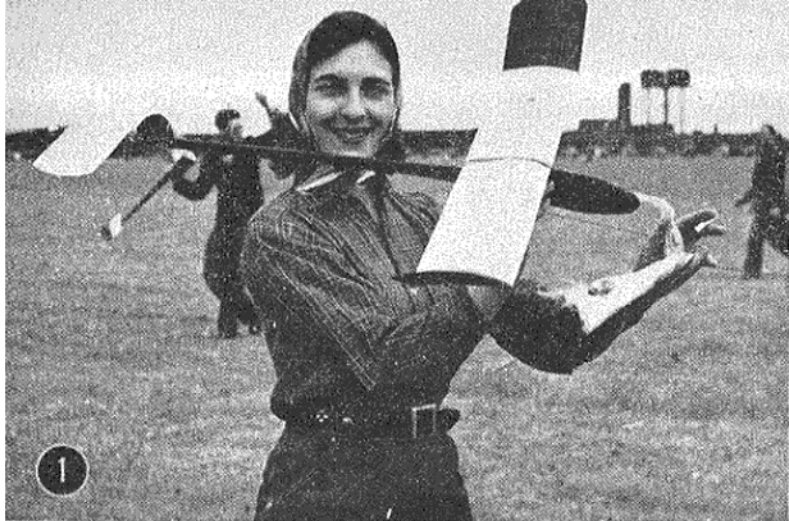
Plans—It is not necessary to send "drawing office" drawings to us; we've worked from all sorts and sizes including wallpaper (used!), but we must have clear photographs of the model, and some seven to eight hundred words of general notes. These must only be complementary to the plan and are of greater interest if they cover development, trimming and flying details rather than just dry "how I did it" gen.

Photographs—All we need say is that they must be of at least postcard size, clear and sharp, or if it is not possible to get enlargements made send the negatives.

Odds and Ends—Everyone at some time or another has had a bright idea on doing a "standard" job easily, modifying equipment for a special use and similar brainwaves. Well, why not let other readers in on your secret? A few words and a sketch or photograph is usually enough.

We would emphasise that we are quite prepared to knock your article into shape ourselves, make enlargements from your negatives in our darkroom, while, provided your sketches and drawings are clear, our draughtsmen can soon give them a "face lift."

Well, there you are; your friends may laugh when you sit down to write to us, but the laugh is on them if your ideas "pay off" in print, for everything we publish is paid for which proves that your hobby can pay!



The 1958 NATS.

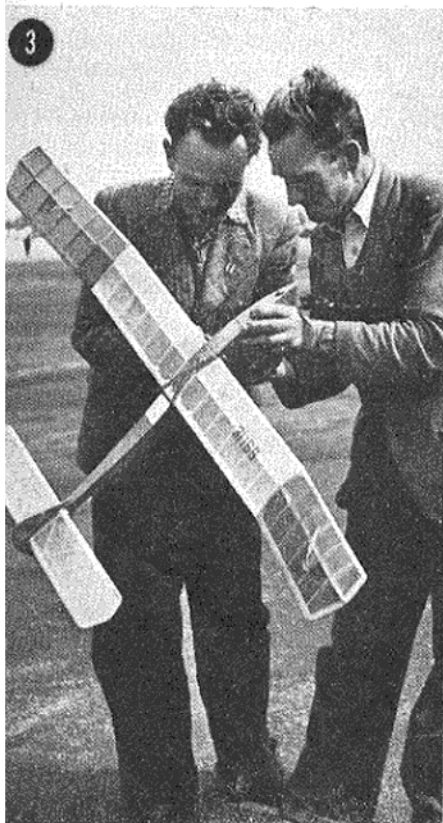
THERE are three things that can make or mar a Nationals from the competitors' point of view—the aerodrome, the weather, and the organisation. As this is the fifth time this event has been held at Waterbeach no comment regarding the 'drome is necessary, while the vagaries of the weather were fully discussed in our preliminary report last month. It is only on the score of organisation that some criticism and a lot of praise is due.

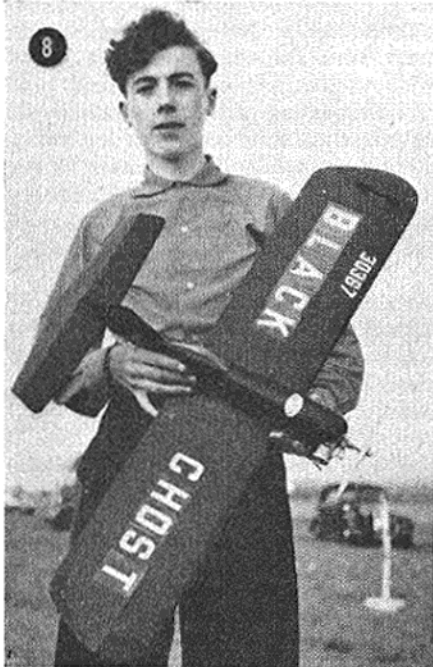
This year there were plenty of ropes and stakes which assisted the smooth running of the contests (particularly the C/L), but it would have been nice to know which event was what. This total lack of guidance to the siting of the various contests, and come to that, the toilets, is perhaps the main general criticism of the meeting. But

1. Miss Pat Chapman gets ready to launch John Whitakers' (Tunbridge Wells) Thurston Cup entry.
2. Vic Jays and Ken Glyn show keen interest in the performance of John O'Donnell's model while they await their own turn to fly in P.A.A. load.
3. Reg and Fred Boxall, of Brighton, confer over clubmate Tony Morris's glider. Fred was to win Model Aircraft Trophy on following day.
4. Terry Cole waits at power control with Laurie Barr's Frog 2.49 model. Where was Laurie? Looking for timekeepers presumably.
5. Don Walker and Ray Tuthill, of Enfield, have proved an almost unbeatable combination in Class "B" team racing. Here they warm up for the final, which, of course, they won.



SOME TAKE CHANCES— BUT THERE WERE NO "F (L)UCHS" ABOUT CRYSTAL PALACE M.A.C.'S EXPEDITION TO THE WILDS OF CAMBRIDGESHIRE!





6. John O'Donnell prepares for his first flight in the P.A.A. load event, which he won.
7. H. W. Wilkes, of Coventry, starts up his Fox 35 powered "Thunderbird" in the Gold Trophy.
8. Mike Kendrick, of West Bromwich, won combat with the well-known Oliver powered "Black Ghost" design.
9. The owner of this fine "Lysander" was unlucky when it crashed into a van while taking off for its qualifying flight.
10. S. Uwins (left) flew this model into 3rd place in the S.M.A.E. Trophy. Starting up is Chris Olsen who won the event.
11. Mavis Pepper displays her Thurston Cup winning model for our photographer.
12. Pete Ridgeway and Gig Eifflander share a joke after the Gold Trophy.
13. John O'Donnell flew this Norman Marcus design "Eureka" to win the Sir John Shelley Cup. Wings appear to have been put to other uses!
14. Last year's junior champion, D. Greaves, launches his rubber model in the Model Aircraft Trophy.
15. Dougie McHard, of the Wayfarers, entered this beautifully built "Gladiator" in the Super Scale. Was let down by poor qualifying flight.
16. Graham Walker of Birmingham holds while clubmate Phil Read winds his rubber model.
17. D. Burton, of Horsham, fuels up ready to fly in the Shelley.
18. The rather complicated plumbing in the Walker/Tuthill Class "B" team race winner.
19. Gordon Cornell, of Croydon, flew a Frog 150 powered model in the Gold. To help his memory with the manoeuvres Martin Dilly reads them out from a copy of "Model Aircraft."
20. Second place in the Gold was taken by Bill Morley with his Merco "35" powered "Thunderbird."
21. Walter McFarlane with the speed model flown by Ron Irwin, of the Glasgow Barnstormers.



CHRIS OLSEN—HIS FLYING WAS A 'SIGNAL' SUCCESS IN R/C.

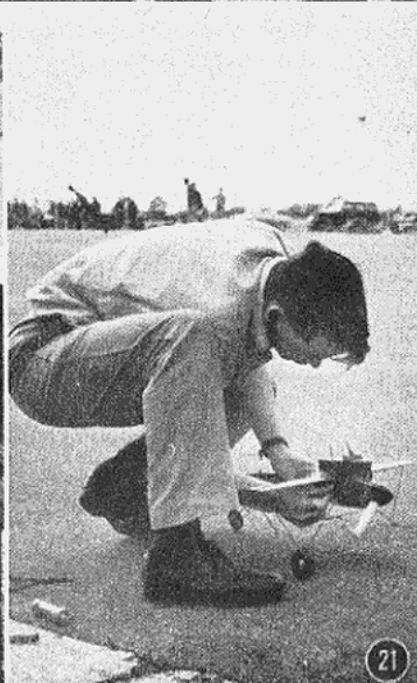
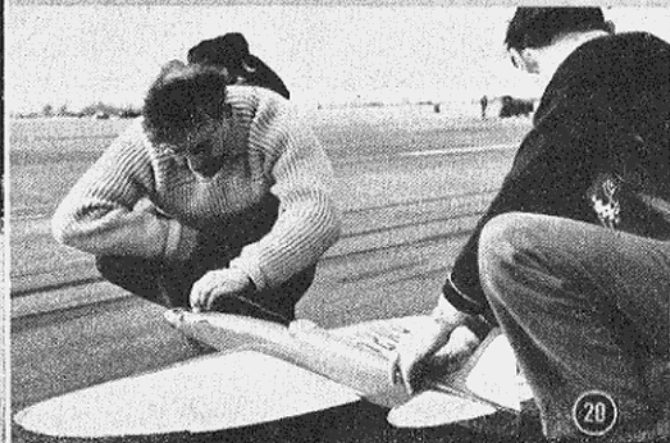
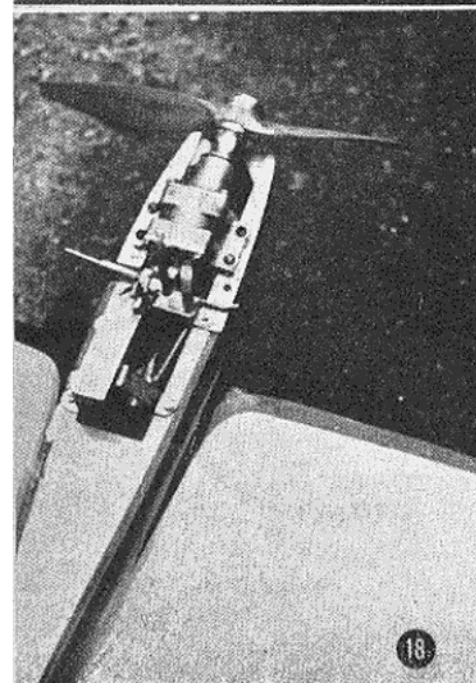
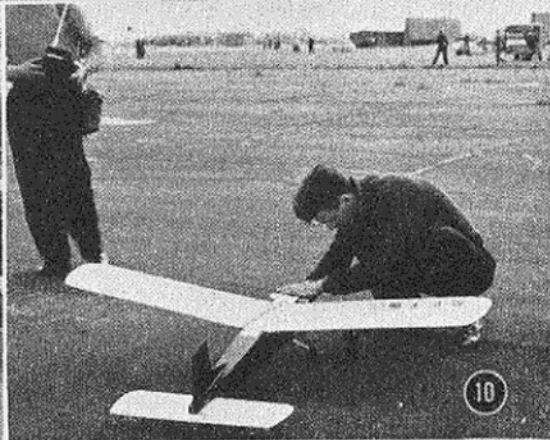
there is one other point—the amount of litter left around, although the almost total lack of litter receptacles could well be advanced as a reason—if not an excuse—for the sorry state of the "drome" when we left.

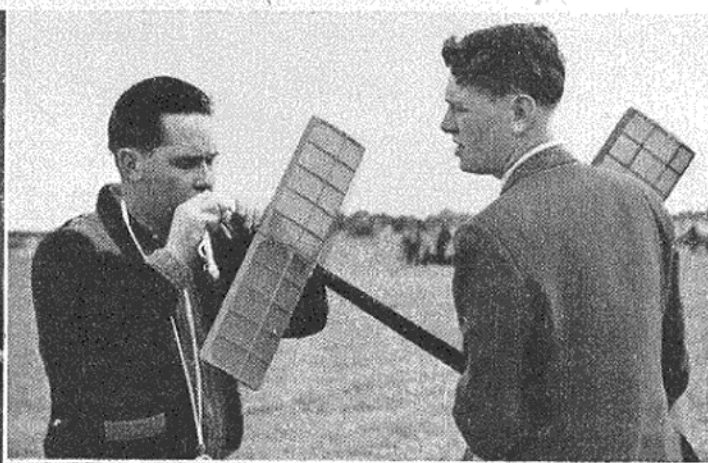
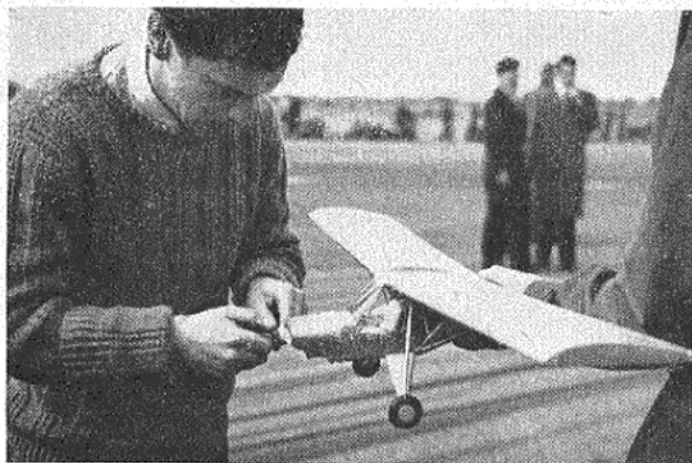
Anyway, enough of these niggling complaints, let's find something nice to say. Firstly, a big bouquet to all the bods who gave up their flying time to run the contests—particularly the London Area members who coped with all the C/L events (except the Gold) on both days—the S.M.A.E. officials including Comp. Sec. Sam Messom, who heard and thought nothing but "Nationals" for weeks before the event, and the competitors themselves who went there to enjoy themselves, and by so doing ensured the ultimate success of the meeting.

One of the first contests we called on was the **Short Cup** for P.A.A. load models, where Ron Ward of Croydon, who is no newcomer to this field, was about to fly. His

veteran radial Elfin 2.4g was screaming, but when the climb didn't match the noise we suspected that something was wrong and sure enough, it transpired that he had boiled his nylon prop in a nylon dye, and this had caused it to lose its pitch. A quick change of prop returned the performance to normal, but much, much too late. This contest, with its strictly limited appeal, attracts little in the way of new designs or entrants, and appears to have become a "charity match" for a few stalwarts.

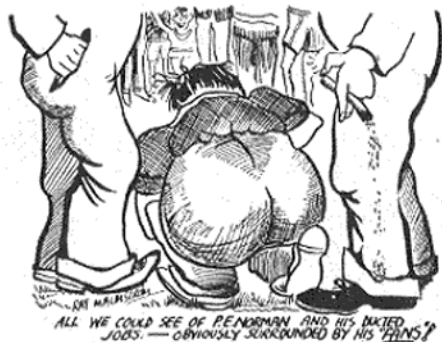
We spent a goodly part of the day watching the **S.M.A.E. Trophy** for multi R/C models, and for the first time since Howard Bonner's visit last year, did not feel we were wasting our time. The standard of flying was, in general, a vast improvement on anything that has been seen at previous Nats; most of the competitors had a shot at the complete schedule and it was obvious that a





few had even gone to the trouble of practising the manoeuvres in advance! Winner Chris Olsen flew with practised ease to give a display of aerobatic flying that must be the finest yet performed by an Englishman. Even so, his performance could have been more closely matched by other competitors but for the usual unforeseen happenings; not even the Olsen himself being free of these gremlins for his throttle control gave trouble during his flight.

The **Gold Trophy** got under way after lunch (it's rumoured that when the competitors did at last arrive they had to wake up Judge Eddie Cosh, who had got tired of waiting all morning, and gone to sleep) and



Top left: Arthur Evans, of Bromley, entered this highly authentic crop spraying "Holland-air" which featured a working hopper. In spite of buying a replacement engine during the contest he was unfortunately unplaced.

Top right: Geoff Jones, of Northwick Park, anxiously supervises fuse lighting technique of Ron Dawson.

Lower left: Capt. Carroll, of the U.S.A.F., who is well known to radio fliers over here has now returned to the States. However, as a last fling he gave a demonstration flight after the multi event which, had he been entered in the contest would have ensured him a high placing. Here he is assisted by R. Higham while judge H. J. Nicholls is seated in background.

Lower right: John Hall (pilot) checks the lines as Gordon Yeldham warms up his class A T/R winner.

the steady stream of fliers soon attracted a large and appreciative crowd.

The eventual winner, Pete Ridge-way, was among the first to fly, and contrary to all forecasts his model was a typical English stunt design of the type he and Eifflaender have been flying for years—powered with a diesel. This does not, however, necessarily mean that this type of model will continue to win, for the difference in points between Ridge-way and second place man Bill Morley (flying a Merco "35" powered *Thunderbird*) was only three, and had Morley been flying a machine of his own design the result would have been reversed in this instance. The same number of points separated Morley from third place man Jolly, who was flying a *Nobler*, and we would have said that

on the score of piloting ability there is nothing to choose between any of them, or Gig Eifflaender, who was 4th flying his usual diesel model. (Unfortunately, Pete Russell, who has won this event so often, was unable to attend the meeting, being temporarily out of commission following an accident in a full-size glider.) Of the rest of the competitors, most of them need a lot more practice at the schedule before they will approach



the top boys. However, the general opinion was that the introduction of the new schedule had definitely given stunt flying the boost it so sorely needed, and answered the critics who said its adoption would make the Gold an "experts only" event, for every entrant had a go at each manoeuvre, penalties being mainly incurred for performing stunts out of sequence and similar foolish errors.



The preliminary heats of the **Combat**, under the guiding hands of the Kenton lads assisted by members of the Dagenham club, were running well up to schedule and provided all the usual spills and thrills, but it seemed that most people were, like ourselves, waiting for the finals next day before taking a serious interest in the proceedings.

Team racing for the **Class "A" Davies Trophy** had got off to an early start under the auspices of the West Essex club, and ran smoothly throughout the day. In conversation with an ex T/R flier who had not seen a race for several years, he expressed great surprise at the speed of the $2\frac{1}{2}$ c.c. powered models, which is often equal to, and even in excess of, the class "B" jobs of three or four years ago. Having watched the evolution of these models the advances are not so obvious until one works out the average speed of Yeldham's 7.26 final—approximately 81 m.p.h.! Some going.

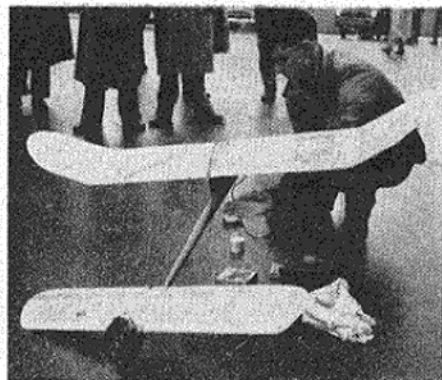
Meanwhile, in an "oasis of peace" downwind of the C/L area, glider fliers had been fighting it out for the **Thurston Cup** all day. It had become obvious early in the day that a fly-off would be necessary and shortly before the end of the contest the lucky six were ready for the deciding flight. Just to prove that her recent wins in the Women's Cup were not flukes against poor opposition, Miss Mavis Pepper, of Southampton, turned in a time of 5.40 to beat the nearest opposition by 3 minutes and win (for the first time in its history by a woman) one



Top: Paul Bartlett, P.R.O. of the Stratford-on-Avon M.A.C. puffs up a light for the d/t on clubmate Don Saruby's glider, assisted by Miss Maureen Newman.

Centre: Pounding in for a quick start in the Class "A" team race is T. Pasco, of Thornaby Pathfinders, pitman for clubmate W. Haley.

Bottom: D. Finch (in cap) was ground crew for J. Hardcastle, of the Wolves M.A.C., in the combat event.

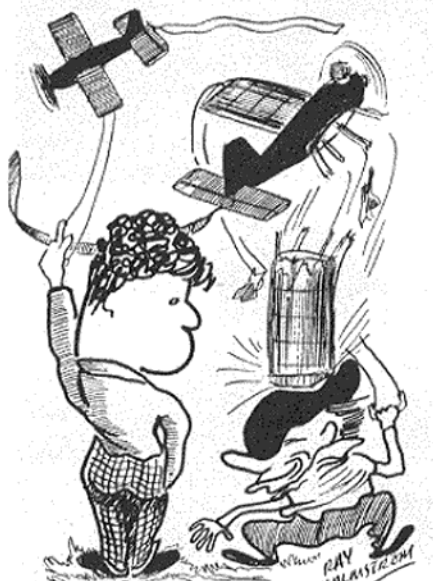


Left: This was one of the largest entries in the single R/C event. Performance was not equal to size.

Above: C. J. Percival of the Springpark M.A.C. flew this Fox 29 powered model in the Shelley.

of the most eagerly competed for Nationals events.

So far we haven't mentioned **Speed**, mainly because it is not worth mentioning. Although we are in sympathy with fliers interested in this branch of C/L flying, who have little encouragement in the way of contests, the events at the Nationals are a waste of time. With one or two notable exceptions entrants are ill prepared, ill equipped, and in some cases do not even know if the model will fly! If it is decided to



WE LEFT THE COMBAT ARENA CONVINCED THAT A WING ON BOTH SIDES OF THE FUSELAGE WAS QUITE UNNECESSARY.

keep this event in the programme, and we think there should be speed at the Nats, then it should be held on one day, or even afternoon, and thus release personnel for other organising duties.

As everyone knows the second day was wet—very wet, however, team

racing for the **Class "B" Davies Trophy** got off to an early start under the command of the Templeman brothers, and provided a diversion for a grandstand of cars, until the clouds lifted at lunchtime, when only the hard core of faithful followers remained to witness a fine win by the Tuthill/Walker team from Enfield in a time of 7:09, which equals the record set up by J. McNess several years ago.

The **Sir John Shelley Cup** was also well under way before the last drop of rain had fallen, for eventual fly-off winner, John O'Donnell, already had two max's to his credit at this time. Contrary to his usual practice with rubber and glider models, John was not flying a model of his own design but was using the (now) somewhat vintage Norman Marcus design *Eureka*. Anyhow, as is evidenced by the results, John put the combination to good effect!

Adjacent to the power event was the rubber contest, for the **Model Aircraft Trophy**, and a fine sight it made to see, in the light early afternoon drift, a bevy of rubber and power jobs all circling together in the strong lift. Eventual winner was Fred Boxall of Brighton, with a fly-off time of 7:28 flying the traditional type of model that has long been associated with him.

A fair-sized crowd gathered round the single R/C event for the **Ripmax Shield**, but unlike the multi-contest held the previous day, the flying was disappointingly "as before." The usual procession of unrecognisable or out of range flights followed each other in dreary procession.

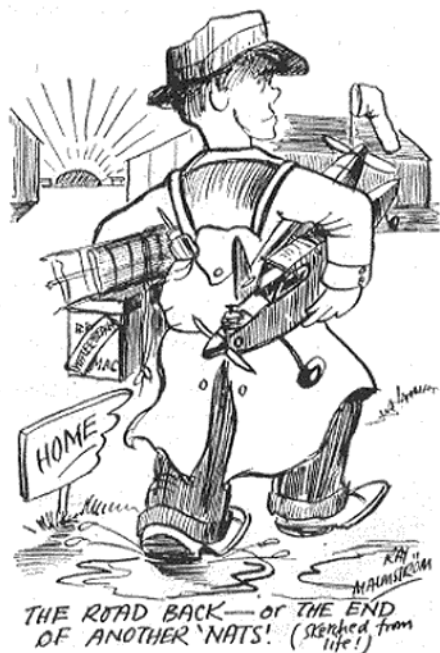
Equally disappointing were the scale events, C/L for the **Knokke Trophy** and F/F for the **Super**

Scale Cup. The standard of models entered was very high, our only quibble is with the small number that did show up, and the even smaller number that managed to turn in a flight. On this score it is about time that the organisers arranged the flying part of these contests better—two models (an *Aeronca* and a *Lysander*) were wrecked by the stupid parking of a large van upwind of the take-off area! It is of particular interest to note that the final results, when the flying was completed, almost completely reversed the positions as they had been after the initial judging.

Contrary to all expectations the final rounds of the **Combat** were finished well in time in spite of the late start, and this event is now well established as a Nats' must" if only for the spectator appeal—but how nice it would be if the organisers would arrange for the progress of this, team racing, and R/C in particular and all the other contests to be intelligible to the spectators.

Such a system of public information is used to good effect at meetings such as the All-Britain Rally, although even their method is not perfect. However, it is a poor reflection on the S.M.A.E. that a single club can outshine the efforts of the body controlling model flying in Great Britain when it comes to public relations at the most important event of the year.

If a good system of "intelligence" were devised it would make the Nationals what it has often been claimed to be—the Shop Window of aeromodelling.



THE ROAD BACK—OR THE END OF ANOTHER NATS! (Squeaked from life!)

Topical Twists

by PYLONIUS

A Few Nats Notes

Although our 'appy 'oliday Nationals might not have a Beach to amuse the kiddies you cannot say there is any shortage of Water. And, if the jolly campers are getting their regular copies of this journal in hospital, I wish them all a speedy recovery.

Coverage of a different, but equally wet, variety was provided by the usual "toys for boys" publicity. Of outstanding merit was a masterly "aren't men boys" effort on the part of an effusive lady commentator. By some freak of feminine intuition she gauged the wingspan of the radio models to be about a foot and a half. Had she added a few more, plus the foot she put in it, she would have been nearer the mark. But, perhaps she was too much of a lady to venture too close to the roisterous radio scene, or, possibly, her measurements were based on the post flight dimensions of some of the less fortunate models.



Still, Radio once again proved to be the hit of the show, although for my part, I would have given the honours to Television. Never have our rally skies been so empty of models, and would have been emptier were it not for the frantic to and fro-ing of the ubiquitous O. Winall. Putting in his usual maximum effort (four minutes to the mile) he left in his turbulent wake little muttering groups of also-ran entrants. What annoys

the people who make up the numbers in an O. Winall contest is the depressing regularity with which he retrieves his models from the almost impenetrable countryside. I know that the last time I searched for a model in the Cambridgeshire woodlands I decided, in future, to stick an "if found" label upon myself. Fortunately, on that occasion, the model was awaiting me upon my return, having landed on top of the tea tent.

The Combat models, which were jollying each other in joyful jousts, were all sporting the new tailless style. At first I thought they had lost their appendages in honourable battle, and I was just as bemused as the little boy who asked his mother if they were bats. "Not really, darling," she replied, "Just their funny way of enjoying themselves."

What gives Combat a bad name are the gimmicks. I noticed, for instance, a "Kom-bat" character mooching around in a pith helmet. Wearing a protective sun helmet on a typical English summer day is quite a passable joke, but I'm still waiting for some Combat type to turn up in a suit of armour.



Scoring a Success

Time was when the most difficult manoeuvre in the C/L book was the "dodge the spectator" stunt. Not so many years ago the handle waving expert had a public following which would make any rock and roll singer go green with envy. It was not unknown for an outbreak of mob hysteria to follow a simple wingover. But, times change, and the flyer who was hailed as the golden boy of yesteryear is left on his lonesome, in spectator starved solitude. The Gold has lost its glitter,

and not even a hexagonal loop or a short back and sides four leaf clover can woo back the indifferent public.

Things were looking desperate until recently when somebody had the bright idea of catching the public on its homeground, as it were, by putting on a pre kick-off show. We can only hope that the barracking crowds find model flying more exciting than football, and that sometime in the future they will be putting on a football match as a warming up prelude to the Wembley C/L finals.

Kiddies' Korner

I do hope all you nice children shut your little eyes when reading that horrid letter about your jolly old uncle a couple of issues ago. Poor old Uncle got quite worn out rushing around the bookstalls with a pair of scissors. I do hope you all shed a hot little tear for him, and also one for poor Uncle Editor, whom Uncle Pylonius shot for printing the naughty letter.



I just can't think why anyone would want to say all those dreadful things about your jolly old uncle. After all, Uncle is only doing his fuddly old best to educate you nice model flying children into looking after your toys properly. It hurts Uncle to think anyone should believe that

I'm trying to take the mickey out of them! As if Uncle would!

Now, children, you wouldn't like Uncle to spoil his chatty little column by trying to be funny, would you? I'm sure you clever kiddies have enough of your nice little nursery jokes to keep you amused, and it would be extremely naughty of Uncle not to take your model toys seriously. And, what would Teacher say if I made silly old puns like "Boloneyus for Pylonius" instead of treating you to a nice grown up lecture on von Richthofen's socks?

Are you all with me children? Good. Then let's leave all the funny stuff to the funny people who write all the funny letters.

Epic Eric

May I somewhat belatedly express my admiration of Eric Fearnley's thrilling saga of an epic radio flight. Written in the hysteric, or rather, historic present, it took twenty heart thumping paragraphs to get the model airborne, and just one deck thumping sentence to bring us and the model back to earth.

It seems to me that this journalistic technique has great possibilities in the field of modern kit advertising. Something like this should liven up the advert pages no end:

All set to go. First, check for time. 7.30 exactly. Good. Gently ease model out of box. Seems all in order. We can now switch on. Let her warm up a bit, meanwhile check for alignment. Wings? One left, one right. All present and correct. Tailplane? Must see that I get it on the right way round this time. Fin in right position? That's better—looks more realistic at the rear end than on the wing. What's happening now? Too much interference. Retune receiver. Now undercart has slipped. Reposition. Gently does it. That's O.K. Suspense now building to climax. Bang! Bang! Left wing's come adrift. What to do? Quick reference to instruction sheet. Difficult to read in poor light. What's that? Starboard wing? Pretend I'm a ship. Quickly now. Ready at last. . . .

And another Polyglamor Plastic Kit is completed. You too can build this wonder kit whilst actually watching your favourite TV show.

Dearest kit on the market is a ten quid touch. A luxury kit in every sense, it contains full building instructions for your footman.

If such a kit is out of our reach, so are some of the antics of the full size world. The latest stunt is to try to shoot a supersonic plane into outer orbit. This is what I call leading a pilot a dog's life.

ROVING REPORT

Brings you up to date on the latest world model news

new, slightly increased price of \$30 (approximately £10 14s.) it represents fine value.

The Anderson Spitfire was designed by Mel Anderson, designer of the earlier Super-Cyclone (which it closely resembles) and was originally made by his company, the Mel Anderson Manufacturing Company. It is now built by McCord Precision Products of Anaheim, California. Mel Anderson, who is now engaged in the airborne instrument industry, was one of the pioneer builders of model aircraft engines. He started building model planes as far back as 1915 and began to work on engines in the late 'twenties. He was responsible for the first crankshaft rotary-valve model engine made in the United States. Anderson's last activity in the model motor field was in the development of the Veco engine.

Strengthening and/or pre-forming sheet balsa by bonding other materials

Elaborate decoration on a Japanese "Thunderbird," Fox 29 powered, by T. Hara, follows the pattern used by Dave Eden at the 1956 U.S. Nationals.

KEN WILLARD of Los Angeles who, as reported in our June issue, recently set a new R/C duration record of 5 hours 29 minutes to beat the existing record of Belgium's Jean-Pierre Gobeaux, now has an eye on the world distance record for R/C models—also at present held by Gobeaux with a distance of eight miles odd.

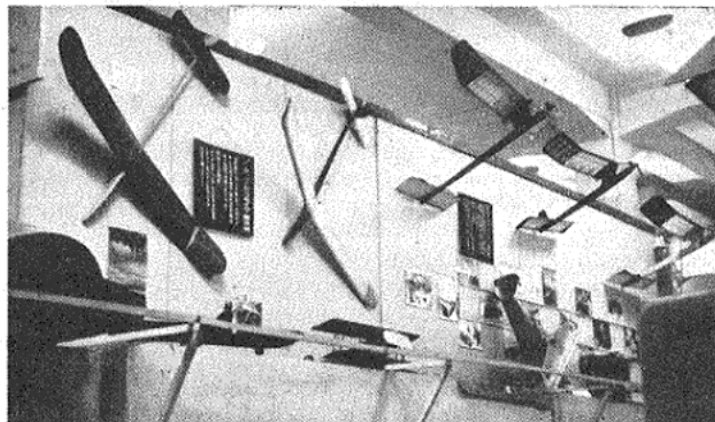
One of the difficulties of R/C distance records is that of finding a sufficiently long and deserted stretch of road, from which the model can be directed by car. One might suggest a place like the Bonneville Salt Flats as an alternative, but even Bonneville imposes limits on the ultimate distance—about a dozen miles—which is not so very much more than the existing record. Ken Willard, therefore, plans to make his flight over water, following by motor

boat and is reported to be aiming at a distance of 50-60 miles. Having already gained some valuable experience with his 30-mile flight across the Catalina Channel last year, Willard obviously stands a very good chance of success in this latest project.

Those who delight in model engines of an earlier era and, particularly, in the better examples of big spark-ignition engines produced during the late nineteen-forties, will be interested to know that the American 10.6 c.c. Anderson Spitfire is back in production. The Anderson Spitfire was undoubtedly one of the finest engines of its type ever made and, even at its

Left—a corner of the model aircraft exhibition recently held at Gifu, near Nagoya, Japan. All types of models were displayed.

Right—very fine Aero-45 control-liner by Vladimir Beno, Czechoslovakia. Two 2.5 diesels. Highly detailed with fully equipped cabin and electrically retractable undercarriage.



to it, are by no means unknown. In Britain, the Jetex company used, first, paper and, later, thermo-setting resin film, as a means of bonding pre-formed balsa fuselage shells. Solarbo also experimented with flat balsa panels reinforced with cloth and with paper.

Now, from America, comes "Duralume"—aluminium foil bonded to balsa. Duralume is a product of Top Flite Models Inc. of Chicago, and is featured by several of their new beginners' prefabricated kit models. The aluminium surfaces of these models are both colour-printed and embossed with imitation rivets, etc., and, undoubtedly, this gives a much more realistic appearance than the usual printed balsa ready-made or prefabbed model. Appearances apart, however, Duralume also scores appreciably in strength, particularly in resistance to splitting. Weight is said to be no more than normal sheet balsa construction, since thinner section balsa can be used. We do not yet know whether Top Flite have any plans to offer Duralume-balsa sheet for general model construction work. If they do, it should prove a boon to modellers who like building metal-skinned scale models.

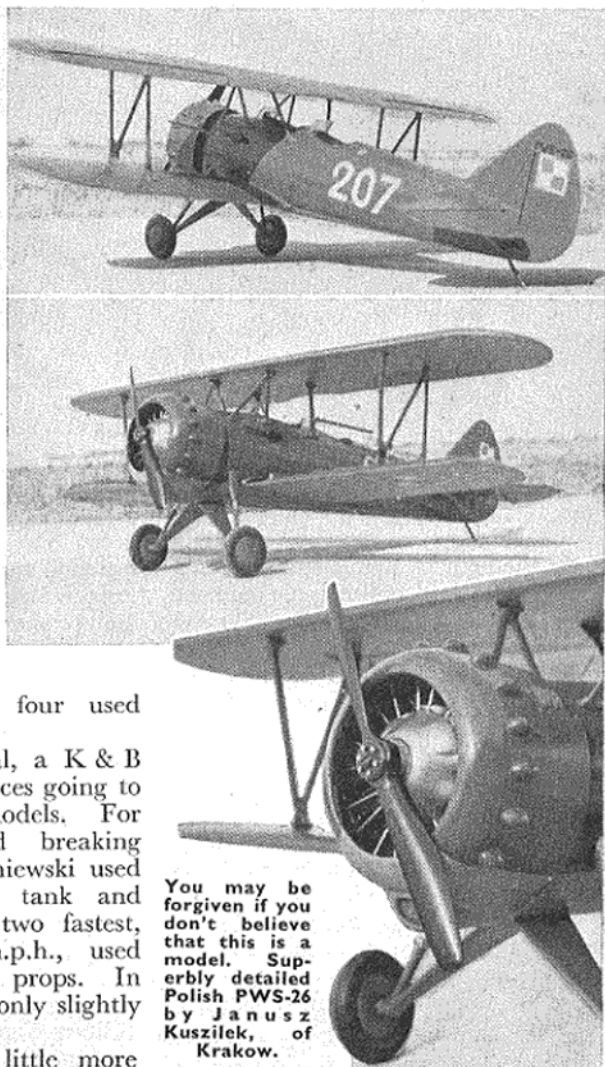
Every year, after the U.S. Nationals, we find it interesting to check up on the equipment used by the winners—particularly the engines employed by the speed merchants. There are four classes of pure speed in the U.S.A. (excluding jet and proto) with Junior, Senior and Open categories in each class. If we take the first three places of each, we have 36 results to look at and they can be illuminating. Last year they went like this:—

In the Half-A Class (0.049 cu. in.-

0.8 c.c.) Cox engines swept the board completely. Top time, by Lt. Warren Kurth, U.S.A.F. (who later set a National record of 108.78 m.p.h.) was 100.52 m.p.h. He used a 4½/7 prop and rigid tank. Next fastest, Hardy Lewis Jnr., at 96.6 m.p.h., used a 5/7 prop and pen bladder tank. The next two (96.01 and 92.08 m.p.h.) used 4½/7 props and bladder tanks. All four motors were Thermal-Hoppers—generally described as polished or cleaned up, but otherwise unmodified, and props were by Tornado. Except for Kurth all four used Mono-line.

Class A was, as usual, a K & B benefit, with all nine places going to Torpedo-19 powered models. For his astonishing record breaking 154.58 m.p.h., Bill Wisniewski used a 6/12 prop, bladder tank and Mono-line. The next two fastest, 147.24 and 146.76 m.p.h., used bladder tanks and 6/10 props. In each case, engines were only slightly modded.

Class B provided a little more variety, the best time, Open Class winner Arnold Nelson's 153 m.p.h., was with a hybrid special employing a McCoy crankcase and Torpedo piston. A special front bearing housing with twin ball bearings and shaft intake was used in conjunction with a rear-mounted needle-valve à



You may be forgiven if you don't believe that this is a model. Superbly detailed Polish PWS-26 by Janusz Kuszilek, of Krakow.

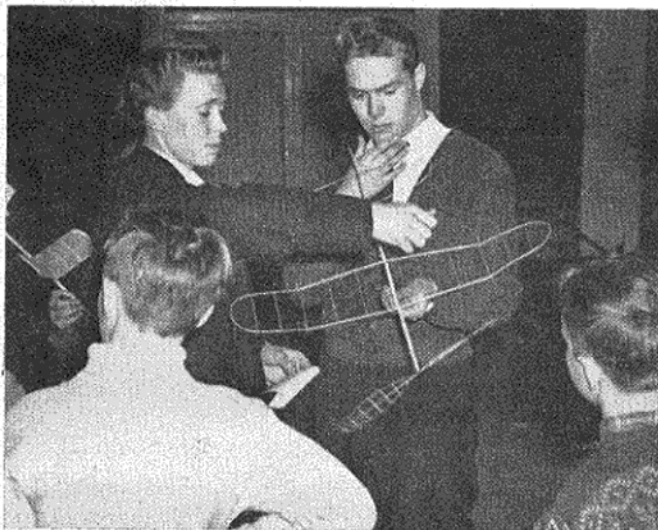
la Fox 29R. The next two fastest, also Open Class (147.36 and 144.4) used Fox 29R engines. Best performance in the Senior category came from a Fox 29X (144.06) and the best in Junior was with a chromed and ported Dooling 29 (142.46). Of the nine place winners, three used Fox 29R's, three Dooling 29's one Fox 29X, one McCoy 29 and one Special. All, incidentally, used bladder tanks and 7/9 or 7/10 Tornado props.

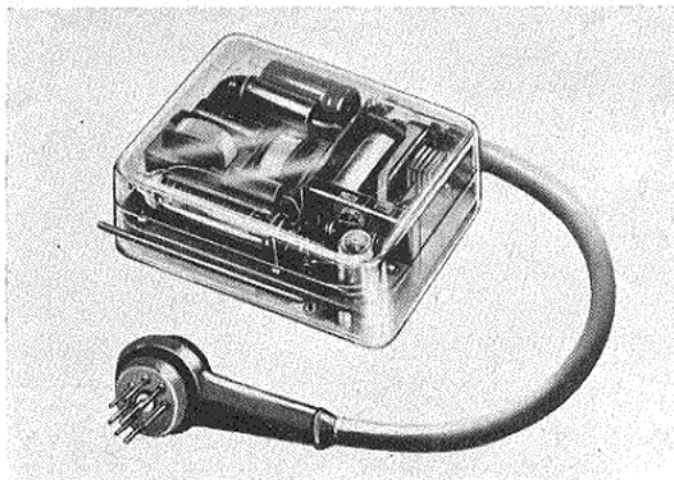
In Class C, seven of the nine place winners had McCoy 60's one (second fastest by Arnold Nelson) was bored out to take full advantage of the 0.65 cu. in. permitted maximum, and one was an Italian Super-Tigre G.24. Best time was by Randall Cullin at 169.58 m.p.h., and second and third best were also over 160 m.p.h. These three had 9/12 Tornado props, as did most of the others. All used bladder tanks.

* * *

Wiestaw Schier, who designed that delightfully out-of-the-rut control-

S. Niemela, right, with the microfilm model with which he won the Finnish Indoor Rally at the Helsinki Exhibition Hall, with a flight of 9 min. 6 sec. Last year's winner, L. England (left) has something to point out!





Latest Graupner receiver, the Mikrotone, is for single-channel modulated carrier reception and uses one DL.67 with two transistors and a Siemens TRLS-151 relay. Enclosed in transparent plastic case, it weighs 3 oz.

liner, *The Tramp*, featured in our October, 1957, issue, has sent us some pictures of flying scale models seen at the last Polish scale contest held at the airfield of the Warsaw Aeroclub. Thirty-three modellers from all parts of Poland competed in both C/L and F/F categories and, judging from the excellent photos, with some really outstanding examples of the scale modeller's art.

The PWS-26 two-seat biplane shown was a typical example, highly detailed, with fully equipped cockpits and a very good representation of the 9-cylinder radial engine. Space prevents us from printing all the pictures, but we hope to include some more of them in our next Roving Report.

* * *

There are chaps who eat, sleep and drink model aeroplanes and seemingly thrive on it. They have a couple of them in Australia, Arthur Gorrie and Tony Farnan. Arthur runs a model

shop and sports store, doubles as Hon. Sec. and Press Officer to the noted Newtown Model Aeronautical Association, and still manages to build models and fly them in competitions—and win. Tony operates the O.S. and Oishi agencies in Australia, runs the aircraft department of the Melbourne "Model Dockyard" and also builds and flies highly successfully.

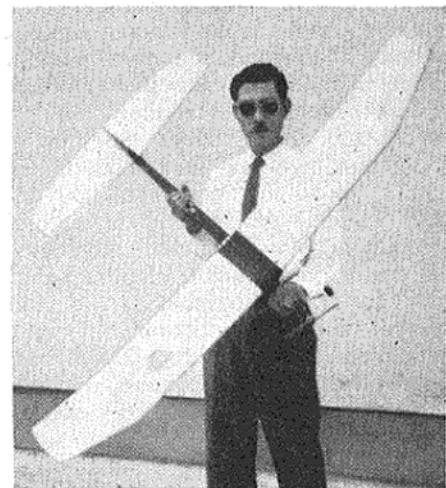
Latest jaunt of the N.M.A.A. was a couple of hundred miles to the Wide Bay and District M.A. Championships. Six car loads went up, plus some by train, and pressed home an assault that won them every prize, the redoubtable A.G. himself collecting the "A" team race (Oliver Tiger plus Mi-T 8 x 8 prop) and power F/F (O.S. Max 15 plus Mi-T 8 x 4 prop). The event was a two-day affair, accommodation being in the Wide Bay Aero Club building which, report says, "was most suitable, with electric facilities

and hot and cold showers. However, a softer timber is being recommended for sleeping on."

Tony Farnan, who, M.A. readers will know, is a stunt and team-racer pilot of repute, has lately been interesting himself in Class I speed. Speed flying has lagged in Australia of recent years and, so far as we know, no one had reached 100 m.p.h. with a 2.5 until Farnan did so at the last Australian Nationals. Recently, in co-operation with Graham Rice, Tony has produced a new model, based on Gadget Gibbs' *Nipper*, but using much fibreglass in the construction. With an O.S. Max-15 motor installed and turning a 5 1/2 in. diameter prop, he has already clocked 195.7 km./hr. (121.6 m.p.h.) which virtually puts him in the international class.

* * *

Dr. Takao Asano, whose proxy flown K & B 15 powered model, the only Japanese entry, placed 11th in the last (1956) World Power Championships, is now using an Enya 15-D



Japan's representative at the last World Power Championships was Dr. Takao Asano—seen here with his Torpedo-15 powered model. He has now switched to an Enya-15 Diesel and is expected to enter this year's event.

and 9 x 4 prop for his new F.A.I. models. With this combination he recently won the All-Japan F.A.I. F/F contest at Osaka. Another 15-D powered model was second, a fact that we do not find at all surprising having regard to the outstanding performance shown by the Enya Diesel in the M.A. Tests. Dr. Asano evidently knows the best motors to use, because for the Japanese 1 c.c. class, he chose a British A-M 10 and, in a recent contest won, with more than 2 minutes lead over his nearest rival.

Make your own MODEL MARKINGS

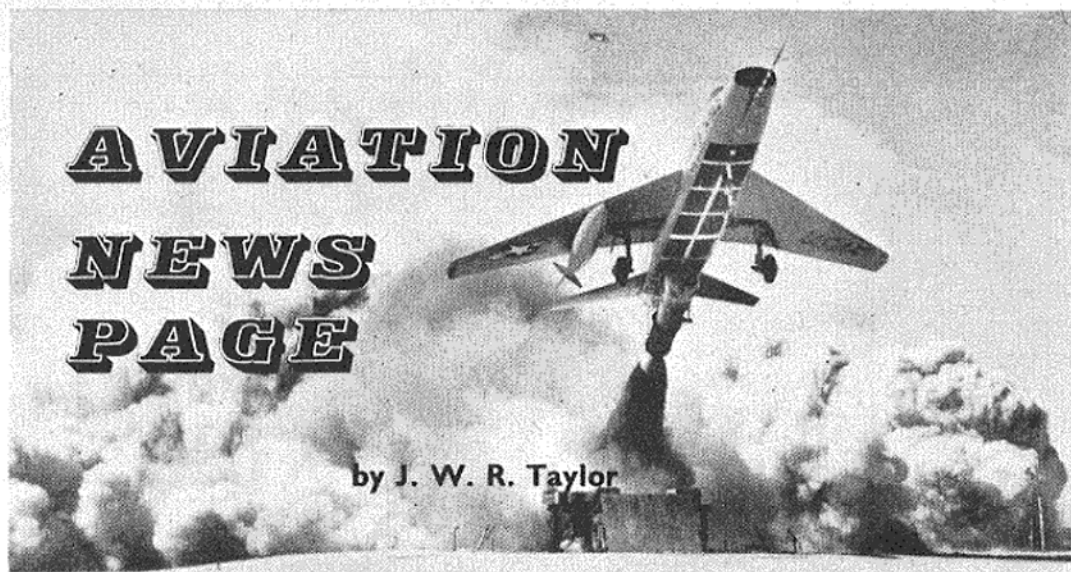
ONE of the most difficult of all "finishing" operations is the application of markings to a model. One solution is to use transfers of the right size and colour but, more often than not, they do not exist. The best way of overcoming the problem is to paint the design yourself on tissue paper and then to stick it into place with gum.

Tissue is recommended as a base as anything thicker gives a "raised-up" effect, whereas the whole object is to give the impression of direct painting. The tissue must be perfectly flat before being used. Choose the finest grade, and either

press it with a warm—not hot—iron, or stretch it onto the drawing board with gummed tape along the edges and water spray it, so that it will shrink taut. In both cases, the tissue must be taped down, and as it is too porous for use without being treated, must be given a coat of thinned clear dope before painting on it.

When ready, draw the design on with a sharp, medium-grade pencil—HB is usually about right—and paint with enamel. After the work is complete, cut out with the sharp point of a broken razor blade, and glue it in position on the model.

Right: This overgrown Jetex job is actually a North American F-100D "Super Sabre" being rocketed into the air by means of a 130,000 lb. thrust solid-propellant rocket. All F-100Ds now leaving the assembly line are equipped for zero-length launching in this way



AVIATION NEWS PAGE

by J. W. R. Taylor

MANNED MISSILE with a difference is the North American F-100D *Super Sabre* shown in our heading picture. Confronted with the possibility of having to operate fighters in areas where airfields are non-existent, the U.S.A.F. is evaluating the technique of zero-length launching the 13-ton F-100 from missile-type ramps, with the aid of missile-type boosters.

In this case, North American test pilot Al Blackburn was kicked smartly into the air by a 130,000 lb. thrust Astrodyne solid-propellant rocket, supplementing the power of the aircraft's afterburning J57 turbo-jet. According to eye-witnesses, 40 ft. flames trailed behind as it left the ramp at a steady 3g acceleration, reaching 275 m.p.h. in under four seconds before its rocket burned out and was jettisoned. Landings, presumably, would be made either at rearward airfields or at emergency strips decked out with carrier-type arrester gear.

The **DISTINCTLY PRE-WAR LOOK** of the SIPA 1100 is not

surprising, because it is intended to fight the old-fashioned kind of war, with no nuclear nonsense. One of a series of new French "colonial" bombers, it is a sturdy two/three-seat all-metal monoplane with a pair of 600 h.p. Pratt & Whitney R-1340 piston-engines and retractable undercarriage. Large flaps help to give it the ability to operate from small unprepared airstrips and it is fitted with air-brakes.

Military load is unspecified, but almost certainly consists of a variety of bombs, rockets, guns and similar "conventional" weapons for the close support of ground forces. Span is 48 ft. 3 in., length 37 ft. 1 in. and loaded weight around six tons. The prototype flew on April 24th and had logged 17 flying hours by May 13th.

EVEN MORE PRE-WAR is the Ford 5-AT-39 *Tri-Motor* (N7791B) illustrated below, which is not only flying nearly 30 years after it was built but is actually being used for research. Originally registered NC-9683, it was the 39th "Tin Goose" of the 5-AT series to come

off the line in 1929 and was operated by a number of airlines before ending up in Mexico as XA-FUE.

In 1954, it was rebuilt in that country, flown to the States and acquired eventually by Hayden Aircraft Corporation. This company is using it to flight test the control system of its new *Bushmaster 15-AT*—a modernised version of the *Tri-Motor*, of which three prototypes are under construction.

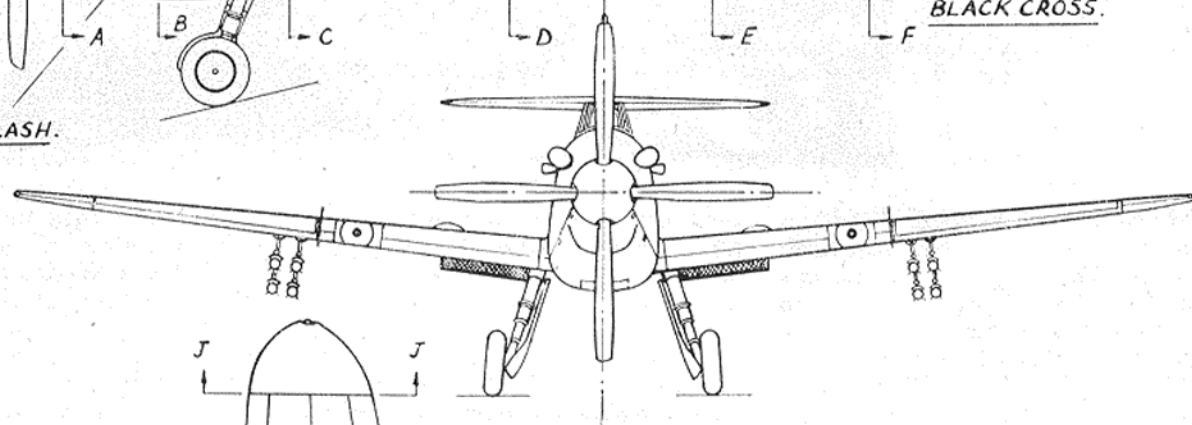
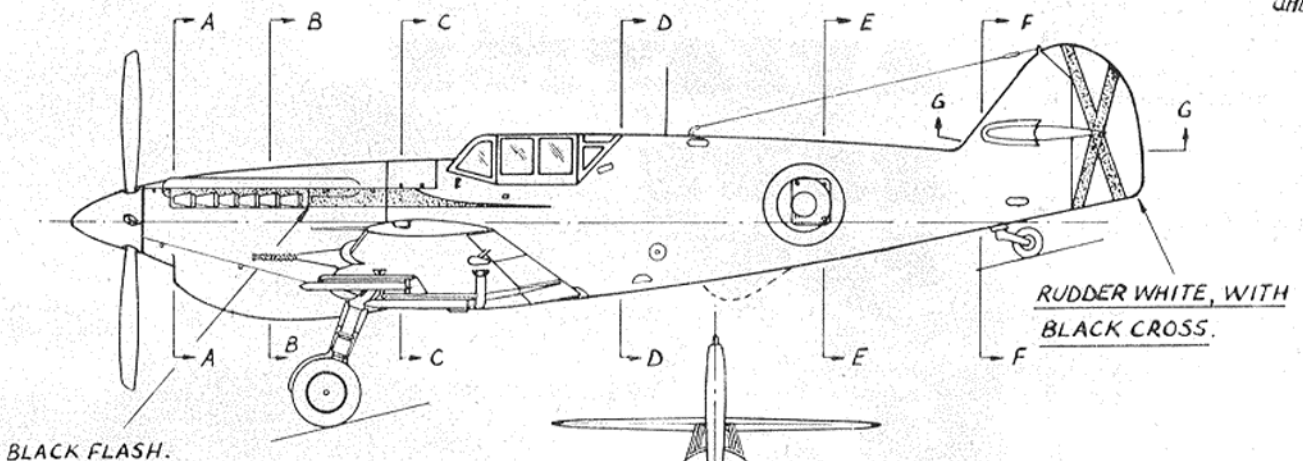
THIS GRUMMAN F7F-3 below is one of two civil-registered *Tigercats* now flying in America. Both belong to Aero Ad, an outfit which specialises in converting surplus service aircraft for high-speed sky-writing, and is finished in a striking all-over bright red paint-scheme, with trim and registration in white. The company's name appears in white letters under the wings.

For the record, the F7F-3 was a single-seat day-fighter, with extra fuel tanks in place of the radar operator carried by the night-fighter version of the *Tigercat* and nose armament of four 20 mm. cannon. Its two 2,800 h.p. Pratt & Whitney R-2800-22W engines gave it a top speed of no less than 427 m.p.h. Wing span is 51 ft. 6 in. and length 45 ft. 4 in.

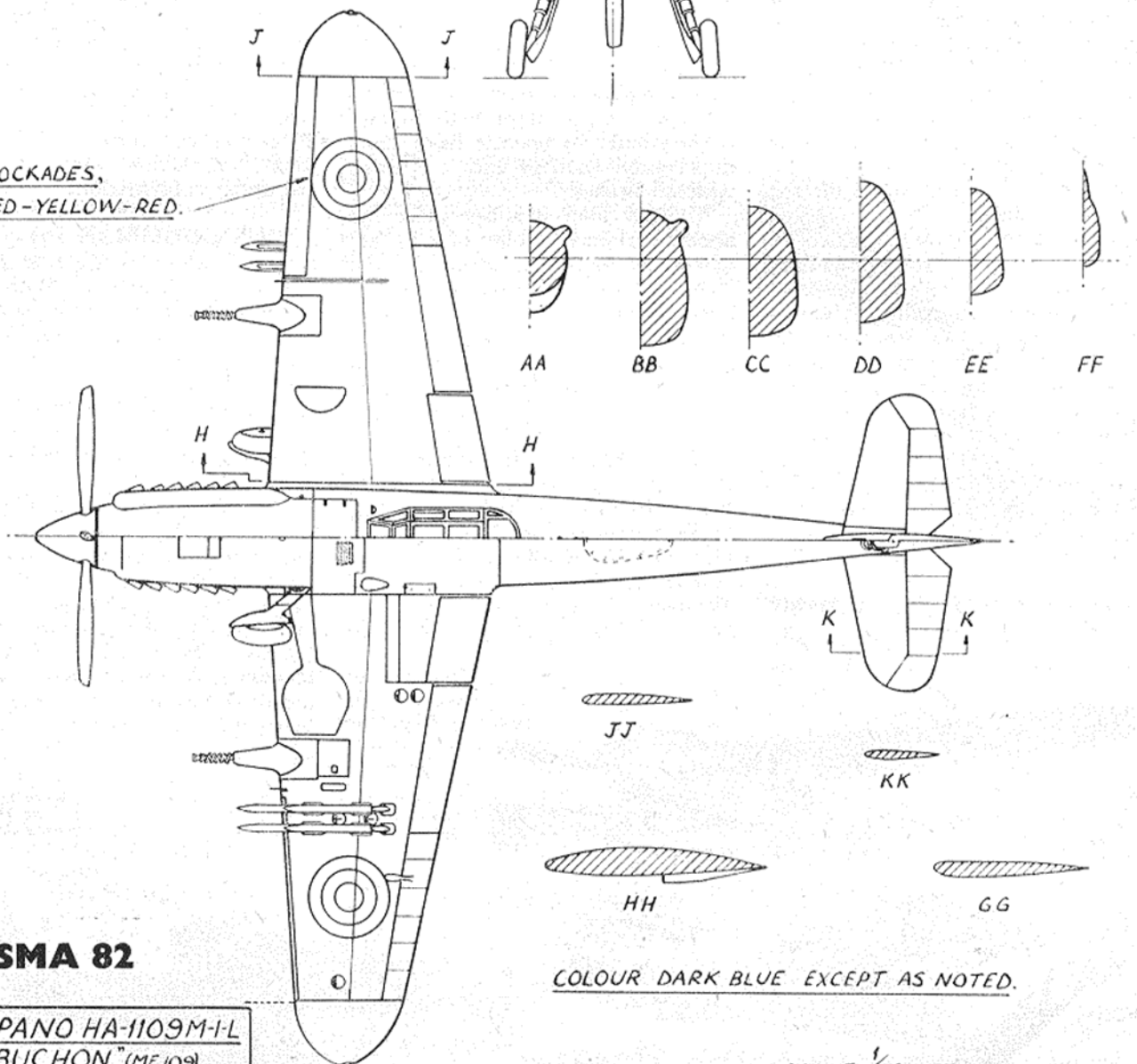


Top left: Old timer still going strong is the Ford Tri-Motor. Lower left: New 'plane with the "old look," the SIPA 1100. Below: One of the less-common of Grumman's cat family, the "Tigercat."

JHB.



COCKADES, RED-YELLOW-RED.



SMA 82

HISPANO HA-1109M-1L
"BUCHON" (ME 109)

COLOUR DARK BLUE EXCEPT AS NOTED.

SCALE 1/72 FT



**Bf 109
"BUCHON"**



NEARLY 23 years ago, in September, 1935, there flew in Germany the prototype of a small single-seat high-performance monoplane known as the Bayerische Flugzeugwerke Bf 109V1, designed by a young man named Willy Messerschmitt. Despite its civil registration of D-IABI, it was a fighter—such a good one, in fact, that aircraft of the same basic type are still being produced today by Hispano-Aviacion in Spain, under the name of Buchon.

Britain can claim a share in this remarkable record, because the Bf 109V1 prototype, which earned the fighter its first production contract against competition from the Heinkel He 112V1, Arado Ar 80V1 and Focke-Wulf Fw 159V1, had a 695 h.p. Rolls-Royce Kestrel V engine, while the latest Buchons have a 1,400 h.p. Rolls-Royce Merlin 500-45. Between times, the Germans had to make do with their own Junkers and Daimler-Benz engines, for this aircraft is better known as the Messerschmitt Me 109 (more correctly Bf 109), the *Luftwaffe's* standard fighter throughout World War II.

According to Spanish records, 45 Bf 109Bs, the first production version with 670 h.p. Jumo 210G, were bought for the Spanish Air Force in 1937 and put into service under the designation C-4; but these may have been flown by the German Condor Legion in the Civil War at that time. They were followed by 15 Bf 109Es (C-5), 10 Bf 109Fs (C-10) and 25 Bf 109Gs (C-12) before the German supply source dried up.

To maintain supplies to the Spanish Air Force, Hispano put the Bf 109 into production at Seville, with a Hispano HS-12Z-89 engine. The prototype flew on March 2nd, 1945, and 25 of the initial series, designated HA-1109J-1-L, were built. They were withdrawn from service in July, 1947, and work was started on a major production version designated HA-1109K-1-L with a 1,300 h.p. Hispano HS-12Z-17 engine driving a three-blade de Havilland propeller. The first of these flew in May, 1951, and about 200 were built. Although intended

to be armed with machine-guns, they were delivered without guns; but many are now being brought up to the latest standards with Merlin engines and armament.

Subsequent Hispano-engined versions were the two prototype HA-110K-1-L two-seat trainers, the first of which flew in October, 1953, and the HA-1112K-1-L, which was the standard single-seat fighter with a pair of wing-mounted 20 mm. cannon, under-wing launching rails for eight 22 lb. Oerlikon air-to-ground rockets and camber-changing flaps. But production has been centred for some time now on the Merlin-powered series.

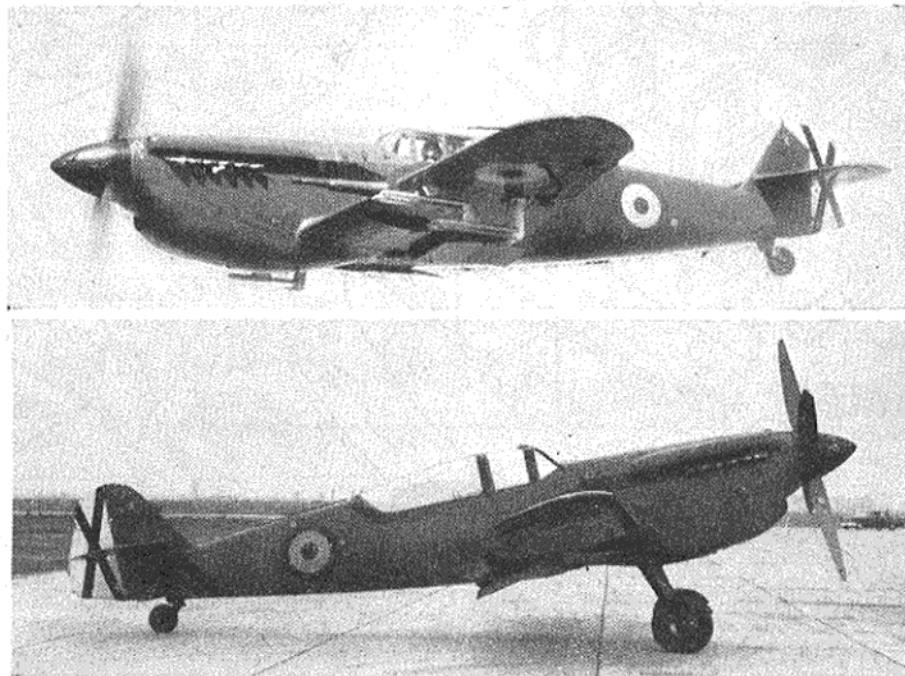
The basic HA-1109M-1-L superseded the "K" when supplies of Hispano engines ran out. It had a 1,400 h.p. Merlin 500-45 engine, driving a four-blade Rotol propeller, and was unarmed. Development are the HA-1109M-2-L

with two 12.7 mm. CETME machine-guns in the wings and rails for eight rockets, and the HA-1109M-3-L with rockets but no guns.

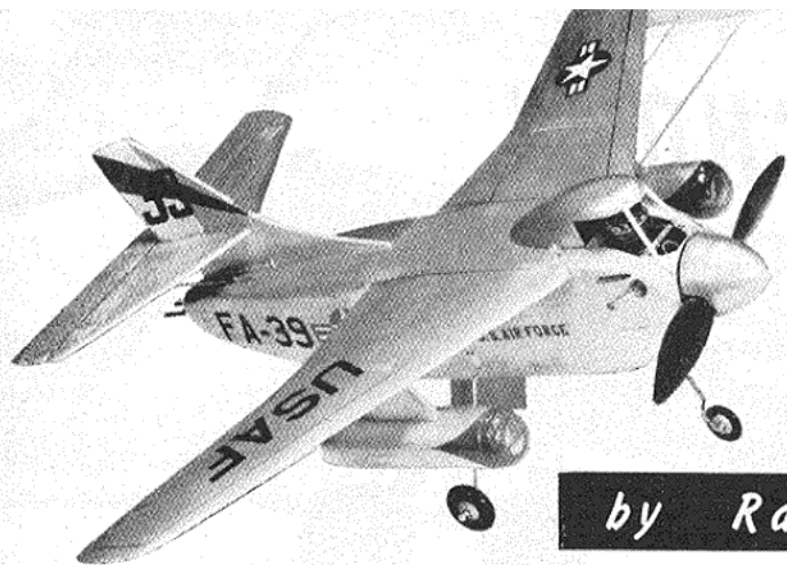
Current production version is the HA-1112M-1-L with two wing-mounted Hispano HS-404 20 mm. cannon, launching rails for eight 22 lb. Oerlikon rockets and modified camber-changing flaps. And the story is brought up to date by the HA-1112M-4-L, a two-seat trainer variant, of which the prototype flew on October 11th last year.

Wing span: 32 ft. 7 in. Length: 29 ft. 7 in. Height: 8 ft. 6 in. Weights (HA-1109M-1-L): Empty 5,390 lb., loaded 6,300 lb. Weights (HA-1112M-4-L): Empty 5,855 lb., loaded 7,011 lb.

Performance (HA-1109M-1-L). Max. speed: 414 m.p.h. at 12,200 ft. Cruising speed: 376 m.p.h. Rate-of-climb at 9,000 ft.: 2,200 ft./min. Service ceiling: 33,500 ft. Range: 405 miles.



Top the latest Buchon in standard form and below the two-seat trainer.



SKYVIKING

A simple semi-scale control-liner
for small engines and featuring real

**JET-ASSISTED
TAKE-OFF!**

by **Ray Malmstrom**



AMERICAN shipboard attack bombers, with their sleek under-slung jet-pods, have brought a "new look" to the skies of the world. *Skyviking* is a semi-scale model based on one of these swept-wing aircraft—the Douglas A3 D-2 *Skywarrior*. In flight the model's propeller is "lost" and the model has a most realistic jet aircraft appearance. Furthermore, for added flying fun and for real jet-assisted take-off, Jetex 50s or Atom 35s may be fitted in the jet pods.

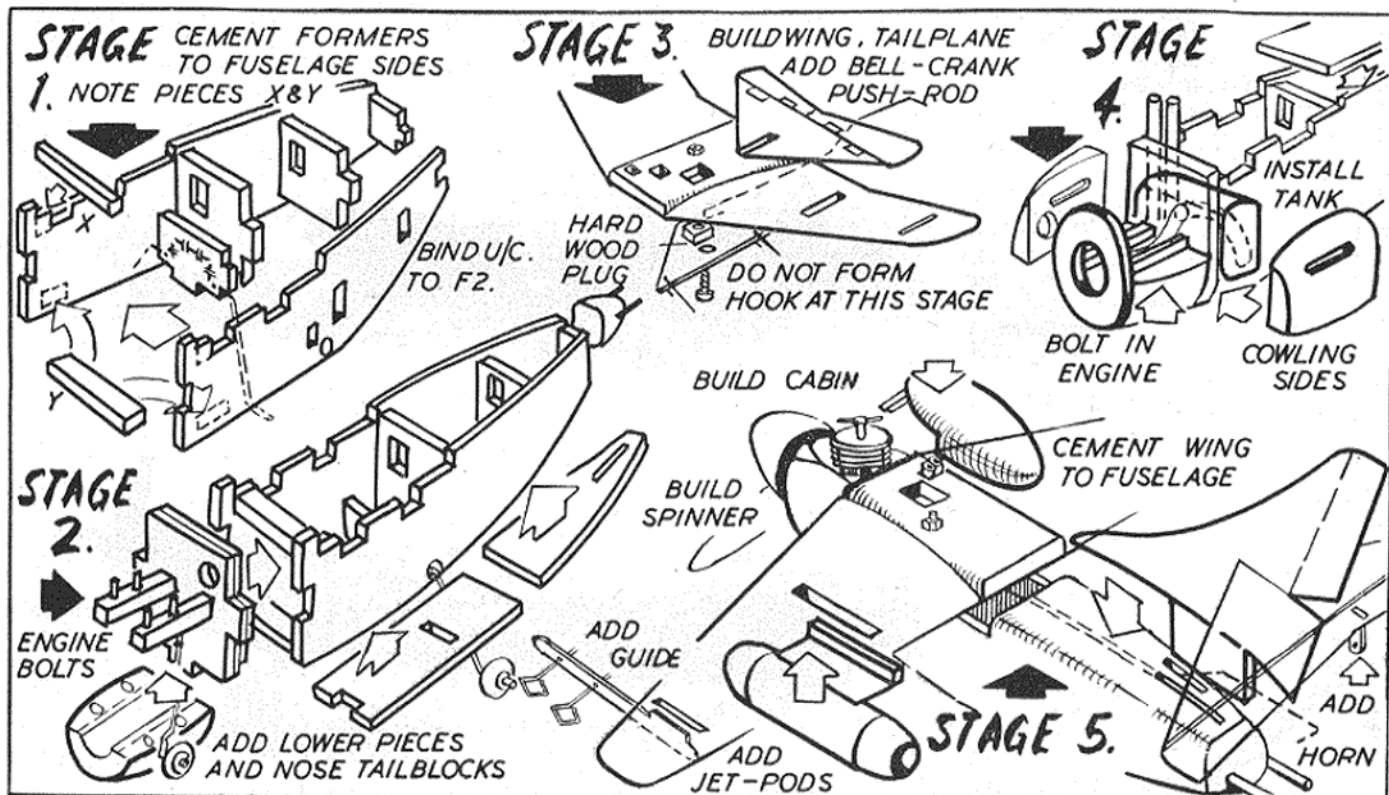
In order to encourage even the learner in C/L flying to "have a go" at this out-of-the-rut model, construction has been reduced to the "simplest possible" methods. The drawings below, and notes on the plan will supply all building information, and enable you to proceed speedily to that first flight.

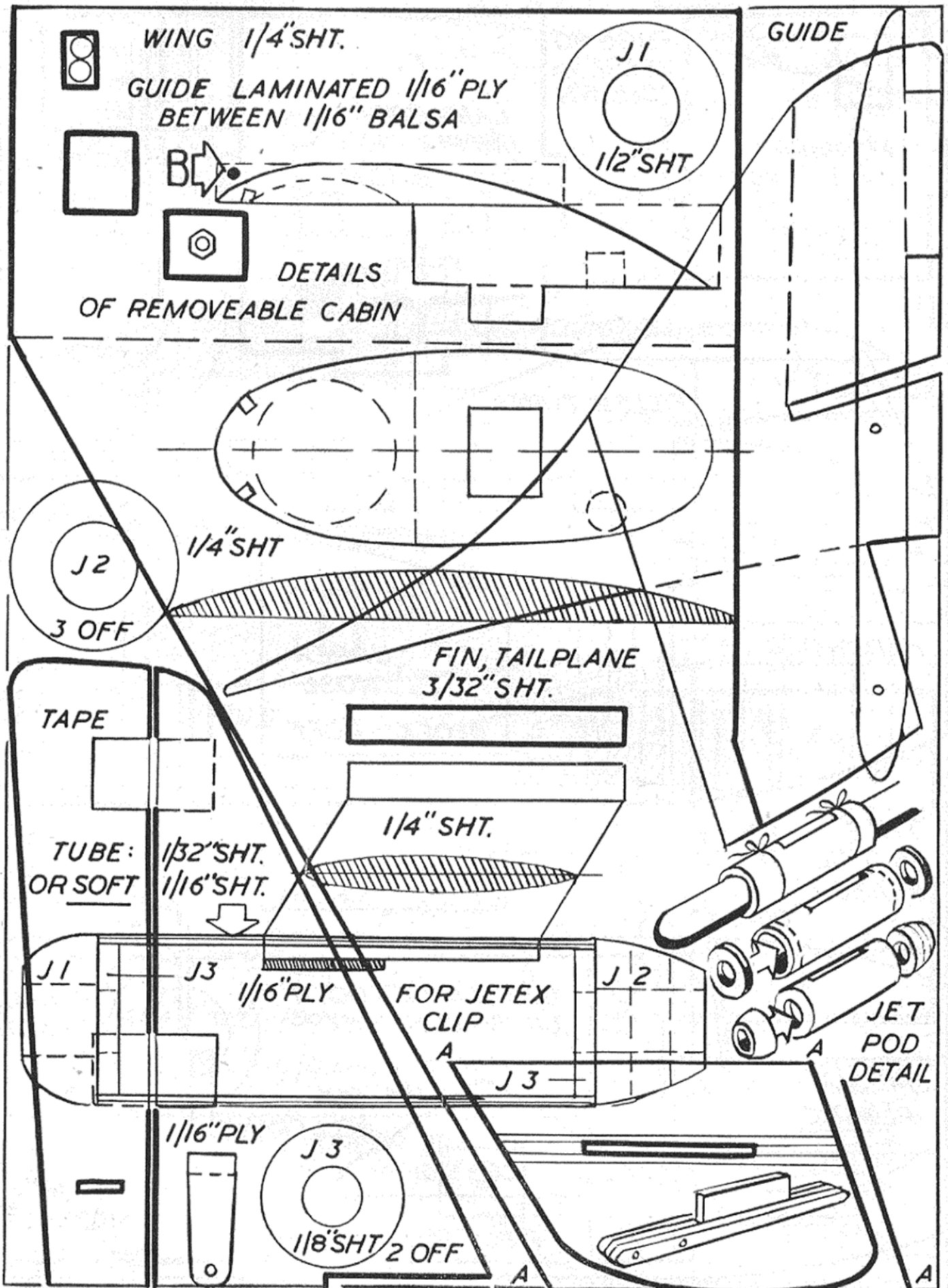
Steam or water-moisten fuselage sides and curve correctly. The main under-carriage is bound to rear of $\frac{1}{8}$ ply F2 before assembling to fuselage sides. Note also reinforcing pieces X ($\frac{1}{2} \times \frac{1}{4}$) and Y ($\frac{1}{2} \times \frac{1}{4}$) and their correct positions. The four holes drilled in the lower cowling block are for access to mounting bolts. Drill to suit your engine. Engine should be given approx. 3 deg. right off-set. Tank is a length of tooth-brush container blanked-off and suitably drilled. Check for leaks before cementing in position. Make sure the spigot on the removable cabin is really a tight fit in its recess, otherwise you may jettison the cabin in flight. (Yes indeed—we did it!) Round off all edges and sand-in smooth lines between wing junctions and fuselage.

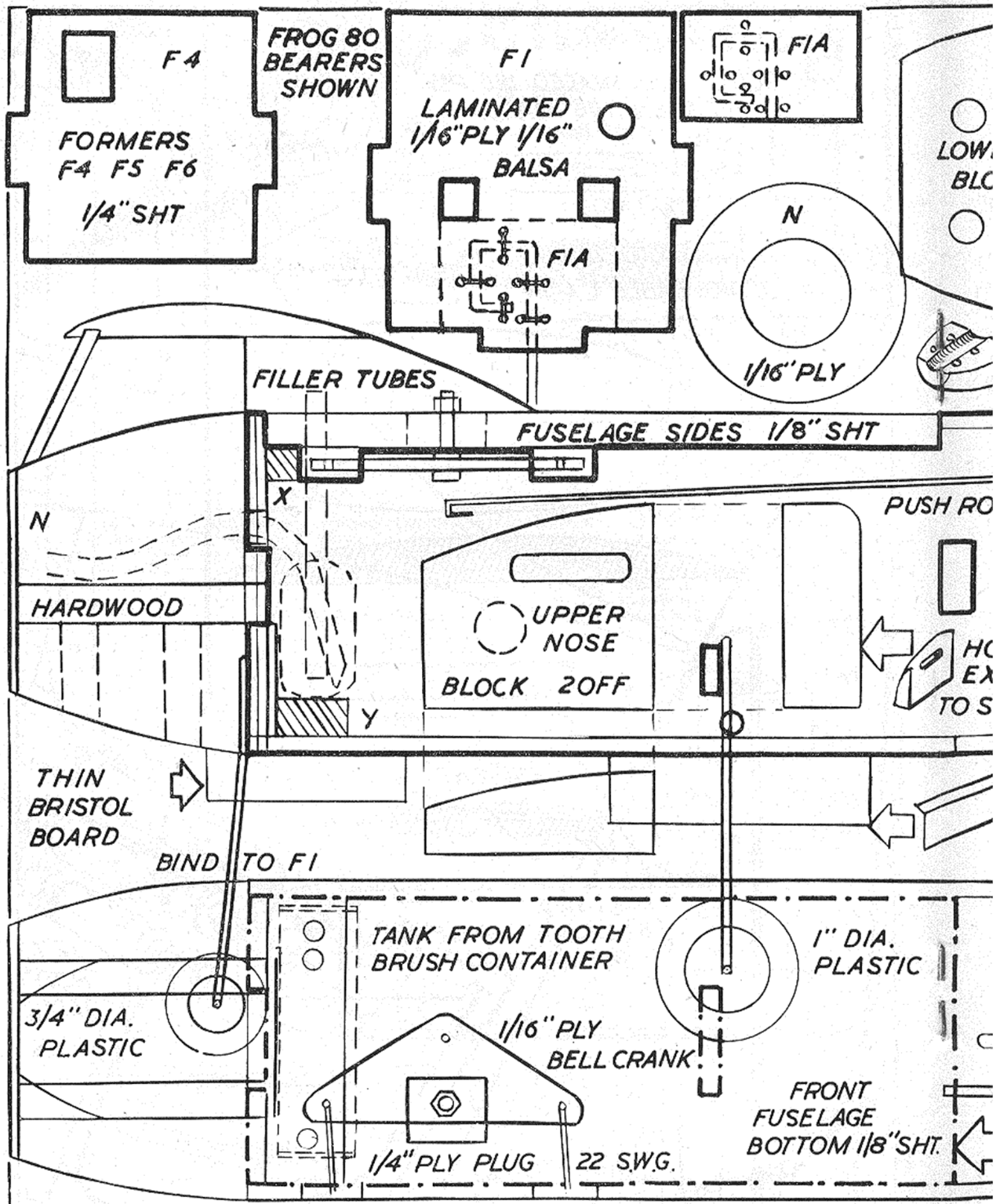
Jet pods can be of 1/32 sheet, or of very soft $\frac{1}{16}$ th. Moisten and form round a broom handle (see plan).

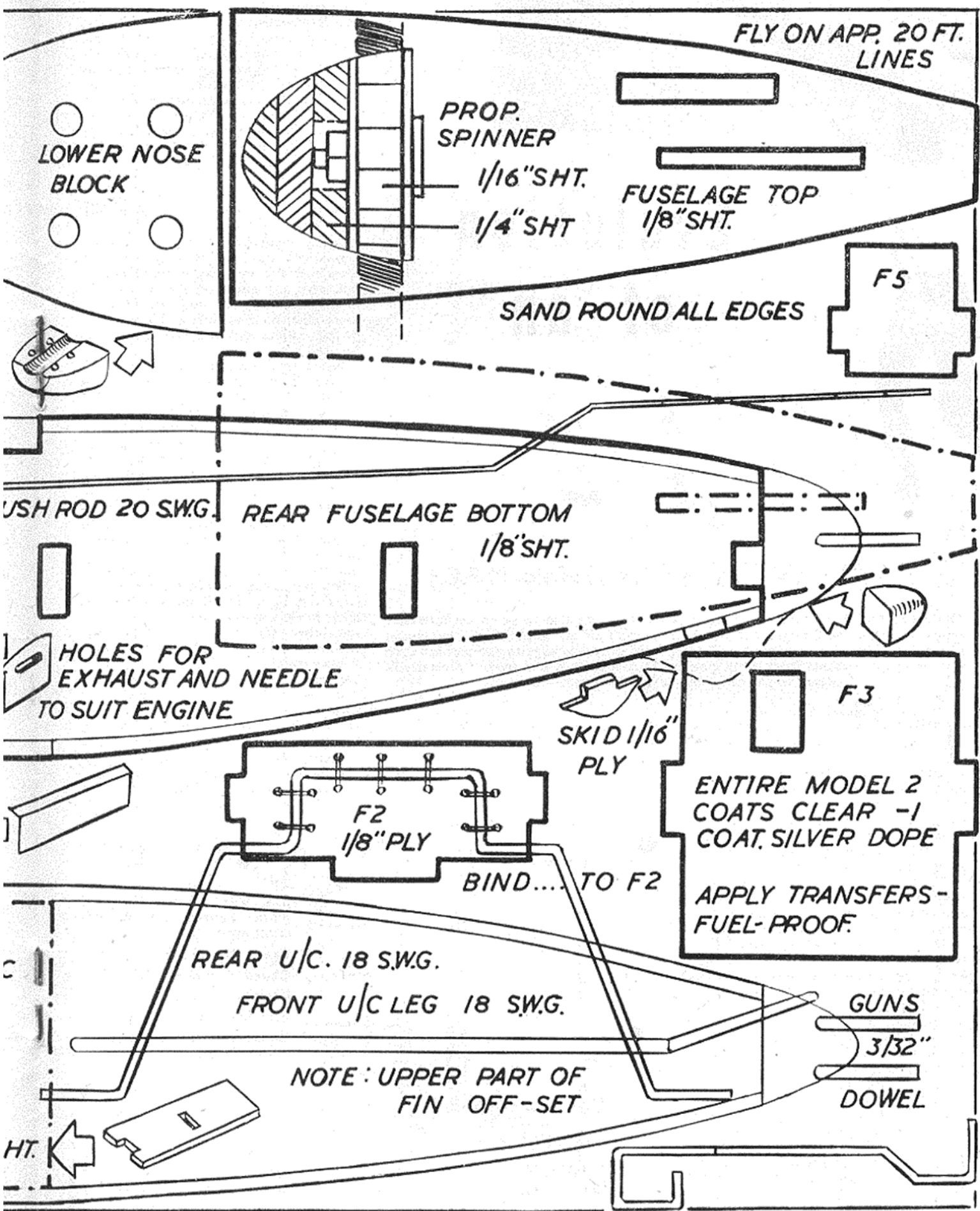
When pods are completed, dope on light-weight tissue. A cut-out in the bottom of the pod will be necessary for access to the Jetex motors if fitted. Dope entire model silver. Original *Skyviking* has red fin and pod flashes and American style transfers. Fuel-proof model, especially engine compartment.

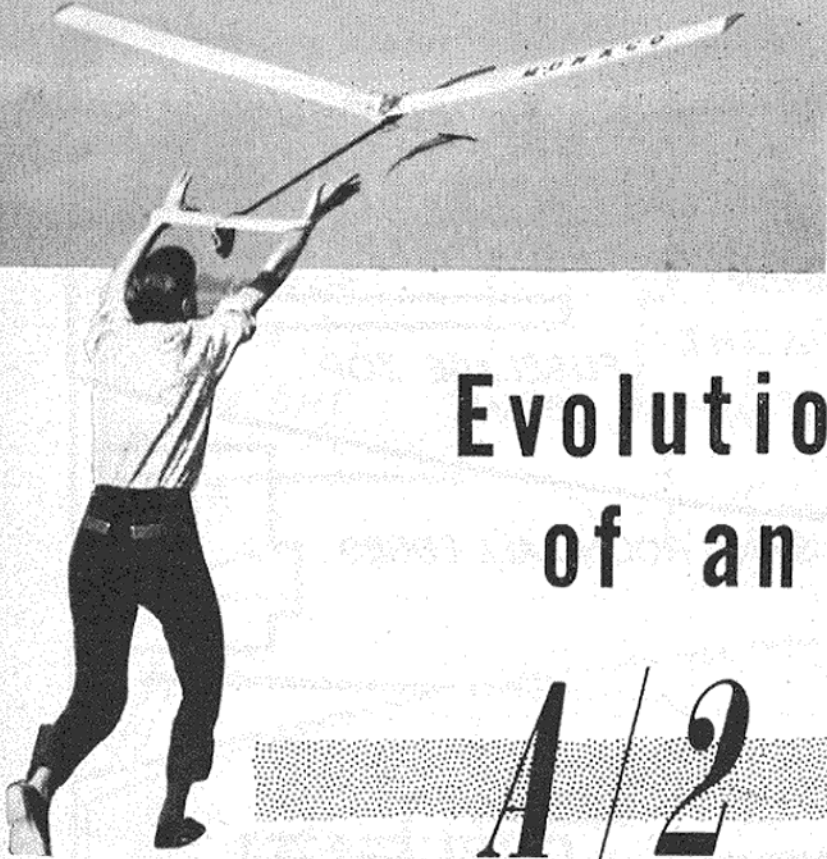
Flying notes: *Skyviking* should balance suspended on a thread tied to a pin pushed into point B on plan. Fly on approx. 20 ft. lines. Take-off (Frog 80 without jets) is rapid. The model is smooth to handle, and landings with the tri-cycle undercarriage are a real pleasure.











Evolution of an

A/2

by

KARL WEBSTER (Wakefield M.F.C.)

This account of four years' work on an A/2 is not intended to be an authoritative article on Sailplane Design, but simply the result of my experience. No doubt many of the following statements will bring forth groans of anguish and perhaps even sympathetic comments from many quarters, but at least it will show a diversity of ideas, which can only be to the good.—K.W.

THE present line of development began in 1954, with the aim of producing the ideal A/2 for contest work. I came to the conclusion that for a model to be able to keep up a good contest average, it must possess good line stability during a fast tow and also be able to hold its own against slackening off and increases of wind speed, i.e. gusts, whilst on the glide.

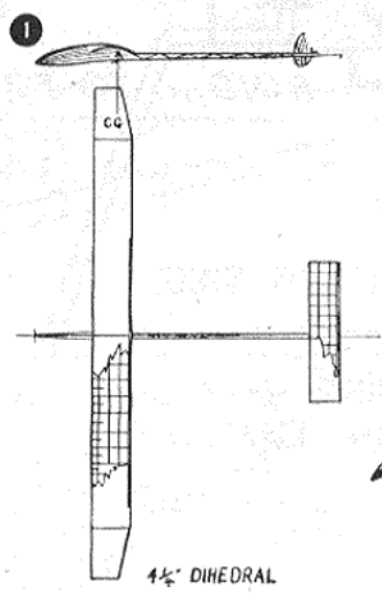
The first model in the series, designed with this end in view, featured slim pod and boom fuselage, medium aspect-ratio wing and thin, highly cambered section.

The resulting model was very "Continental" in appearance and brought forth considerable adverse comment, especially from the "Gad Sir! it just isn't English" types, when first seen. Three days later, in the calm evening air on Halton Airfield, the critics were eating their words—on that evening the model averaged 2 min. 51 sec. on 11 flights. The model, together with performance details, is shown in Fig. 1.

After a time I began to notice instability in conditions of wind, this being in the form of bad stall recovery. I came to the conclusion that this was caused by too little longitudinal dihedral or, to put it another way, the angular

difference between wing and tail was not sufficient to bring about an adequate stabilising force.

This angle is not a fixed quantity but depends on certain factors, such as wing section and tailplane efficiency. It was



this latter point which set me thinking.

The c.g. was at 65 per cent. chord and with a 60 per cent. Clark Y tailplane section, this gave an angle of wing incidence of 2 1/2 per cent. I did not want to bring the c.g. any further forward, nor did I want to change the tailplane area; I felt there was some other way out. I hit on the idea of an under-cambered tailplane and this I knew would allow me to increase wing incidence to about 4 deg., ascertained by experimenting with A/1 size jobs with sheet tail surfaces.

Many modellers I have met will not agree with me on this point, and say that high lift sections for tailplanes do not have any effect on the trim of the model. A high lift tailplane is much more efficient than one of thin Clark Y or flat section, and so allows less area to be used.

Some time later I teamed up with A. Farrar who, at that time, was flying a typical English A/2 with a thick section. He was very critical of my type of design but agreed that it had some good points which, if taken further, could provide the ideal contest model.

Consequently we set about designing a model utilising the good points of both models and the result is shown in Fig. 2.

It was a slim fuselage model with rather thin wings and medium-long moment arm. I think it can safely be said that one or the other of us gained a first, second or third in every event we entered in 1955. This design also brought forth much criticism and I shall always remember the remarks of the A/2 enthusiasts from Loughborough college: "They might perform well but what happens when it's windy?"

As we had designed the model for windy conditions this remark was, to say the least, discouraging. However, the model seemed to stay in one piece. Its only drawback was the fuselage which, on top of being somewhat difficult to build, had the bad habit of bending

(Continued overleaf)

K-4

K-5 was identical apart from having an under-cambered tail.

Span 76 inches

Chord 6 inches

Length 50 inches

Tail area 80 sq. inches

Construction hardwood and balsa



The final test . . .



is in the competition itself, as this flashback to our December, 1956, issue proves. It will be remembered—probably painfully by most A/2 fliers—that Brems of Belgium won the Individual A/2 title at the 1956 World Champs. with a model that was at complete variance with the accepted layout for a high performance model—which just goes to show . . .

and staying bent (!) thus tending to upset the trim.

The present model is based on this joint effort (known as the *Katoo*) and has merely been simplified and had the fin placed in front of the tail (it's safer there), also I have gone back to under-cambered tails which I gave up for a time, mainly for ease of construction.

There is much work yet to be done on the A/2 and it is far from the truth to say that the design of the model sailplane has reached its limit. Much work has yet to be carried out on wing sections and turbulators, and for anyone who is prepared to experiment there is plenty of scope. I have yet to see, or hear, of the three minute A/2, but I have no doubt that this experience is near at hand and may come upon us any time now. Although I am quite sure that if, and when, it does, the F.A.I. will pounce, with drastic effect!

At the moment I am experimenting with anhedral tailplanes and their effect on stability; what the outcome of these tests will be I cannot yet say as I have not had time to draw conclusions.

Structural design is also an excellent field for experiment, as most A/2s seen on our flying fields are much too complicated and too darned expensive: when an A/2 starts to cost over £1 something is amiss.

And here I must add a note for those W.W.I enthusiasts who regard the modern contest model as an eyesore, and don't seem to mind telling everyone. The A/2 sailplane has to fulfil a purpose and in fulfilling that purpose must be good looking. It is designed for the most graceful of all aeronautical movements and therefore must in itself be of graceful design. Please remember that a Sopwith *Pup* was built to "fight" and the fact that it turned out to be a cute little bundle of wood and wire was purely by chance.

Now let us take a look at the latest model in the series and see what we have

(see Fig. 3). A simple A/2; no scientific layout. The fuselage, whilst having ample side area for towline stability, is cut down to the minimum, where area is not needed, at the top and bottom. It is in effect a profile (there is no such thing as a "lifting fuselage") and is simply $\frac{1}{8} \times \frac{3}{8}$ in. hard balsa covered with $\frac{1}{16}$ in. sheet.

The wing is of normal construction and is fixed to the fuselage by means of a 4 mm. ply tongue (best birch). Aerofoil is medium-thin own-design based on the Benedek range. The tailplane uses the same section but in this case it is thinned to 80 per cent. Main points about the performance of this model are good stall recovery and an overhead launch every time.

Finally, a few remarks on trimming and flying procedure.

The kind of trim used on an A/2

depends to a great deal on the particular modeller; I myself prefer about 100 ft. circles, and a slow undulating glide which is just off the stall. This trim is obtained by using about 50 ft. of towline and using packing under the tailplane. When the model has a slight stall a small amount of extra rudder is given to damp out any prolonged stalling tendencies. A model trimmed beyond this point is not a good proposition, except in very windy weather, when the turn may need to be increased slightly.

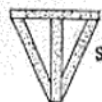
Some time ago I used a timer-operated d/t on a model very similar to the K-4. This set-up worked by means of a wire retainer pin in the rear of the fuselage; this was connected to the timer and passed through a loop of C/L wire fixed to the tailplane trailing edge. On one flight the timer went haywire and did not pull the pin right out of the loop. The tailplane not only became tilted in flight—it also had a decrease in incidence, thereby giving an up elevator effect and increasing the turn.

The resulting flight was quite interesting and afterwards I began to trim the model for a very tight turn. To counteract this turn it was necessary to place $\frac{1}{8}$ in. of packing at the trailing edge of the tail. The model flew with about 45 deg. of bank, and as the turn radius was in the region of 20 ft., it was nearly thermal happy. When using this kind of trim it is also noted that elevation trim is not critical as the model just refuses to stall, but please don't try it the other way—that turn is much too steep to go playing around with trying to make it fly in a groove. If it's thermals you're after, this is the trim, but remember, it's hard on wing tips.

I have also used the so-called wandering trim and found it useless for our kind of weather. This is the trim which needs a very slim toothpick-type model to use

Continued on page 282.

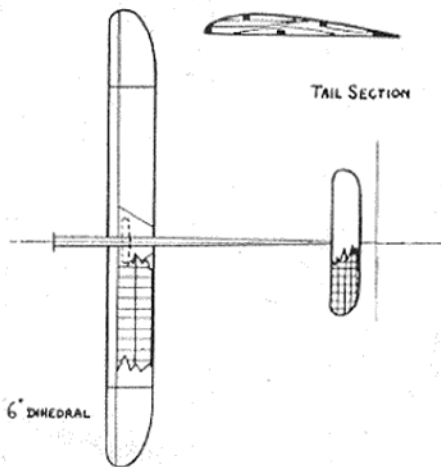
Katoo



SECTION A-A



WING SECTION

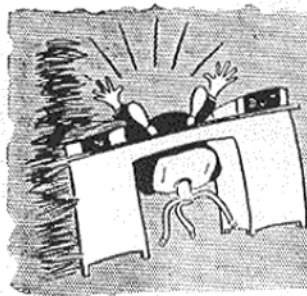


TAIL SECTION

Span 64½ inches
Chord 7 inches
Length 50 inches
PERFORMANCE
2 min. 10 sec. approx.

Construction: Balsa throughout

6° DIEDRAL



LETTERS

Gadzooks

MY LORD EDITOR,—Verily sire thy scribe "Pylonius" is no better than a knave and an uneducated knave to boot to write such kitchen gossip about our brave band of "Knights of Goatshead."

We take our name from the Old English derivation of our home town "Gateshead."

As we are though mostly squires, as yet we are not of an age to spend our time in any local hostelry. Forsooth, the very thought would drive one to descend to building ye plastic models.

"Pylonius" wit may be quick but verily the knave's knowledge is lacking. Pray advise the fellow to stick to wit in his future epistles.

Thy honoured scribe,

LESLIE.

(Baron Bluepants).

Goatshead Knight.

Some more gen is wanted . . .

DEAR SIR,—The recent letters, etc., relating to high performance F/F rubber jobs have been most stimulating. Urwin Wannop, himself a very competent modeller, points out that Ray Monks and J. O'D. have more than just good luck at their finger tips. Urwin suggests that present designs should be aimed for the seven-minute machine, and he hints that the maximum time of four minutes is probably too short for the current high performance lightweight.

I think that he is correct, so comparatively inexperienced modellers like myself who are busy in their "private" flying fields learning to trim for optimum glide and yearning for a rocket-like J. O'D. climb, want to know more.

Further articles on design falling, I suggest, within the following categories will be most welcome:

(1) Structural weight—Information on weights per foot of nominal strip and sheet balsa. Suppliers could weigh a random selection of their stock periodically, and issue figures for average weights of hard, medium and soft balsa.

(2) Structural design—Designing for maximum strength/weight ratio. For example, if a constant lift load along a wing is assumed, it is feasible that a

number of spars would be used at the centre but with only one running the whole length of the wing. With the remainder stopped off at intermediate positions, a constant bending stress could possibly be achieved.

(3) Wing sections—A regular issue of the profile of modern model airfoil sections, drawn to scale, together with complete data on lift/drag coefficients, stall conditions, and a definition of the characteristic dimensions used for calculating Reynolds' numbers, etc., would be useful. The area of each size of section should be included.

(4) Aerodynamic stability—Both a full analytical treatment and a summary of formulae that would satisfy the mathematically minded and those not so inclined is necessary, particularly for the more recent readers.

(5) Rubber power—A survey of existing information suitably summarised would make a good start.

Yours faithfully,

Melton Mowbray,
Leicestershire.

R. W. NEW.

. . . and some more is given

DEAR SIR,—Reference is made to your excellent articles on developing light-weight rubber jobs. I would like to point out that the 2/3 ratio of rubber to gross weight was derived by W. Hewitt Phillips in the U.S. magazine *Model Airplane News*, October, 1939, issue. This was the second half of an article concerned with indoor rubber model duration with calculations to beat the then unachieved 30 min. goal. The first article was in the August, 1939, issue.

I am unfamiliar with the Palmgren data other than that presented in the 1953 yearbook. It appears that the constant K is highly important and should be calculated with much accuracy by taking into consideration prop dia., pitch, area, efficiency, overall drag, etc. Sample calculations in my airplanes resulted in lower durations than actual when using $K=90$, and actual duration test on one airplane resulted in $K=124$, which is extremely high.

Phillips has used a different approach

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

by using the energy of rubber (from actual tests) and the sinking speed which can easily be obtained on indoor models. His final endurance equation is the following:

$$E = 30,000 \times F \sqrt{1 - F} (N) \frac{K \sqrt{Wp}}{\text{gross}}$$

E = endurance, F = $\frac{\text{rubber}}{\text{gross}}$ wt.,

Wp = airframe wt., N = prop efficiency, K = constant.

Again, a different K is used, the value and derivation of which is unknown. Also, how this indoor model formula applies outdoors is unknown.

In closing, one eastern U.S. rubber expert claims that 1 oz. of rubber = 1 min. duration in straight line proportion. This is a very rough endurance calculation, but I have seen his airplane and am inclined to agree with him.

Yours faithfully,

U.S.A.

N. K. HEET.

Radio Control comments

DEAR SIR,—I feel that the development of R/C flying here is being held up by the fact that the average modeller is usually put off by the poor showing made by the average R/C flyer.

To anybody watching the operation of an average R/C model in the average flying session, it becomes obvious that the model suffers from some or all of the following faults:—

(a) The model is usually not fast enough to penetrate upwind quickly, and is often difficult to turn precisely.

(b) The escapement universally resorted to, does not provide very realistic or very reliable control.

(c) Radio system usually hovers on the verge of being completely unreliable.

It is possible to produce models with better flight characteristics improved control systems, and in particular radio systems which are an improvement on the over-simplification of a single valve receiver.

For instance, the so-called "pulse" system of rudder-only control costs very little more than the average escapement system of control but is far superior to escapements in this application.

One can get turns of any radius one wishes, and one gets ample warning of flat batteries by reduced model response, to name but two advantages.

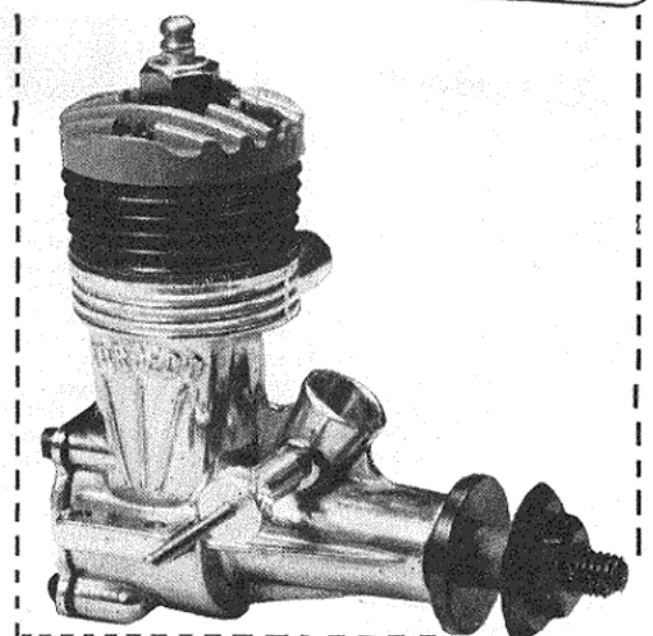
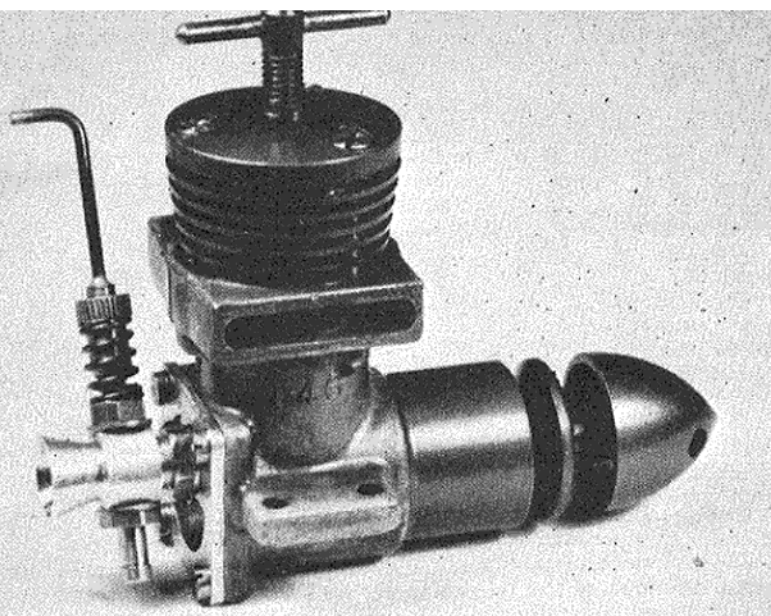
Escapements—of which I have had six of various makes, are, I feel, a source of endless trouble and M.A. could do a service to the R/C movement by republishing the 12 hints on how to maintain an escapement which appeared about a year ago.

In short, what is required is a more flexible approach to producing R/C aircraft which, first and foremost, produces reliable models.

Moortown, Yours faithfully,

Leeds 17.

R. PASK.



ANOTHER DOUBLE— The E.D. Fury and the K. & B. Torp. .09

DIESEL 1.5s previously tested in this series have delivered outputs ranging from 0.09 b.h.p. to 0.16 b.h.p. The E.D. Fury, with nearly 0.12 b.h.p. for the test engine, may, therefore, be regarded as one of the middle power group.

Today, there is, perhaps, a tendency to put rather too much emphasis on peak performance. Very few modellers use the full potential output of their engines: indeed, it is often impracticable to do so, since specific outputs in excess of 100 b.h.p./litre, especially in under 2.5

c.c. engines, are seldom available except at very high revolutions, on very small propellers, which cannot work efficiently on anything except a speed model or team racer.

Therefore, the fact that our test Fury delivered rather less power than some other current ball-bearing 1.5s of Continental origin, should not be taken as a serious shortcoming. These latter reached their peak performance at speeds of 15-16,000 r.p.m., whereas the E.D. peaked at 3-4,000 r.p.m. less on test and the average user, employing props of around 8/4 or 8/3 size, would not be conscious of any marked discrepancy between them.

In general layout, the new 1.49 c.c. Fury follows the highly successful 2.46 Racer except for the method of induction, which is via a disc rotor. Two 1/4 in. i.d. ball-bearings support the crankshaft and the Fury is, in fact, the only British made 1.5 with a ball-bearing shaft at present in production.

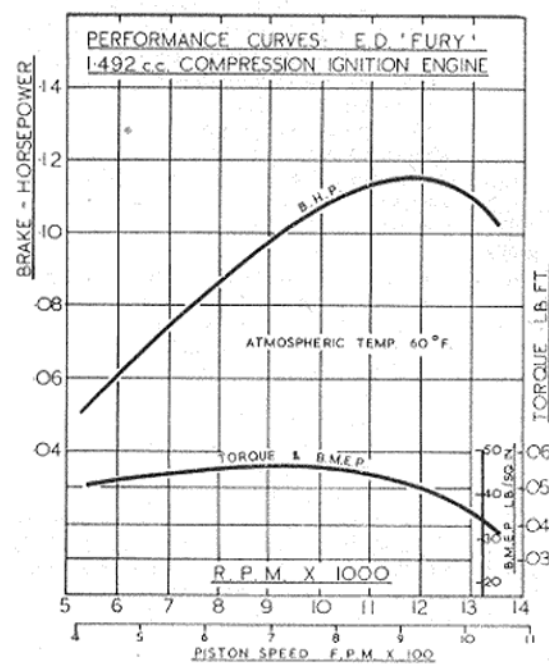
In common with the Racer, the Fury uses a magnesium alloy pressure die-cast crankcase, with integral bearing housing and a large rectangular exhaust duct. As with the latest Racers, the upper part of the

crankcase is provided with three vertical lands to locate the cylinder liner and thus prevent misalignment of the cylinder in the case, due to uneven tightening down. It is, nevertheless, desirable, if the engine should be dismantled, to use considerable care when reassembling and to tighten the cylinder screws very gradually in turn, continually checking to ensure that the motor turns over freely.

The induction unit is a self-contained assembly forming the crankcase rear cover. It comprises a diecast and machined aluminium alloy backplate to which the carburettor is attached on the outside and the reed-valve on the inside. The carburettor screws into the backplate and is locked with a nut and can be rotated to any position suitable to the installation.

The valve is of the single reed type, backed by an alloy plate which serves the dual function of limiting reed deflection and of keeping crankcase volume at a minimum. A spraybar pattern needle-valve of the type fitted to the latest 2.46 is used. This almost fills the venturi, limiting the choke area and, with no supplementary sub-piston air induction, gives excellent fuel suction, contributing to the admirable starting and handling characteristics of the engine but, probably, tending to limit potential performance.

Structurally, the Fury is similar to



its elder brother except for some details. These include the use of a machined and hardened steel connecting-rod instead of one of forged aluminium alloy and, in current production models, a plain, unbalanced disc web crankshaft. All internal parts are nicely finished and our only point of criticism concerns the big-end bearing fit which, on our test engine, was rather slack and was found to have suffered considerable scoring after the tests. In other respects, the Fury has every indication of being a durable engine with the expectation of a long useful life.

Specification

Type: Single-cylinder, air-cooled, reverse-flow scavenged two-stroke cycle, compression ignition. Reed type induction valve. Annular exhaust and transfer porting with truncated cone type piston crown.

Bore: 0.500 in. Stroke: 0.464 in.

Swept Volume: 0.0911 cu. in. (1.492 c.c.).

Stroke/Bore Ratio: 0.928/1.

Weight: 3.7 oz.

General Structural Data

Pressure diecast magnesium alloy crankcase and main bearing housing, chromate treated. Detachable aluminium alloy rear cover with screw-in carburettor unit and 0.0035 in. steel valve reed. Non-counterbalanced hardened crankshaft with $\frac{1}{4}$ in. dia. shaft and $\frac{5}{32}$ in. dia. crankpin and running in one $\frac{1}{4} \times \frac{11}{16}$ in. inner and one $\frac{1}{4} \times \frac{5}{8}$ in. outer ball journal bearings. Hardened steel connecting rod. Cast-iron piston with fully-floating $\frac{1}{8}$ in. dia. gudgeon-pin. Hardened steel cylinder liner, relieved at lower end for reduced piston drag. Liner flanged at exhaust port level and clamped between crankcase and cylinder barrel by three long screws through cylinder head. Brass spray-bar type needle-valve assembly with coil spring tensioning device. Beam mounting lugs.

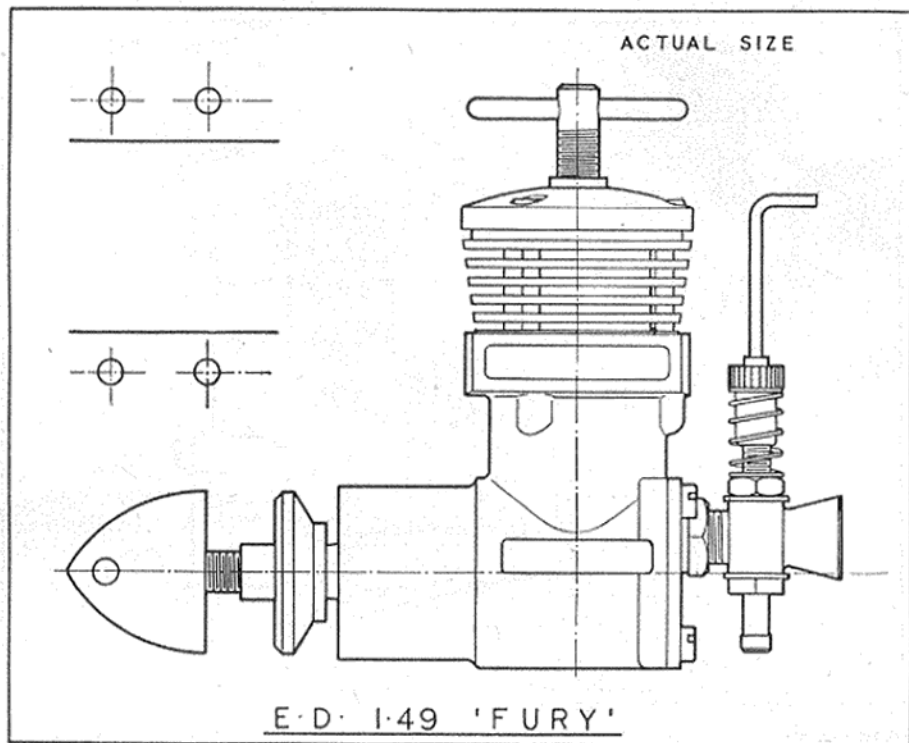
Test Engine Data

Running time prior to test: $1\frac{1}{2}$ hours.

Fuel used: 40 per cent. "Pink" Kerosene, 30 per cent. Castrol "R," 30 per cent. I.C.I. Technical Ether BSS.579, plus $1\frac{1}{2}$ per cent. amyl-nitrate.

Performance

Just as the handling characteristics of the 2.46 Racer are among the best to be found in engines of the 2.5 c.c.



group, so the Fury is equally outstanding among 1.5 c.c. engines. Starting is extremely easy on almost any propeller and the controls are both responsive and easy to adjust.

To obtain a quick start from cold, it may be preferable to inject a few drops of fuel through the exhaust ports to loosen gummy residual oil, but otherwise, a single or, at the most, a double, preliminary choked flick is all that is required to start the motor. The needle-valve, safely placed at the back of the motor, requires only a very small opening and is fairly sensitive but by no means tricky to adjust. Closed down beyond the optimum needle-setting, the motor will cut out abruptly, but restarts instantly.

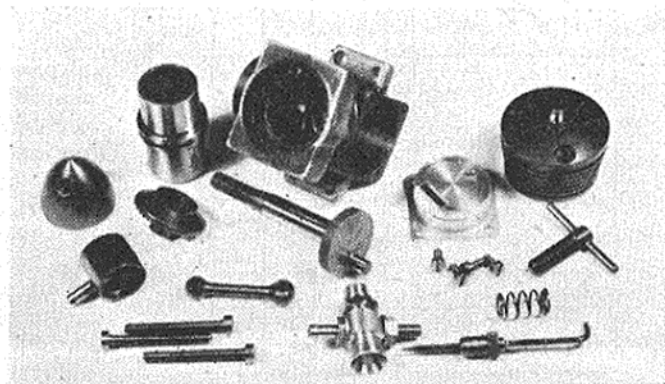
The compression control is equally pleasing, having no tendency to stick or run back, irrespective of loading and speed. When warmed up, the

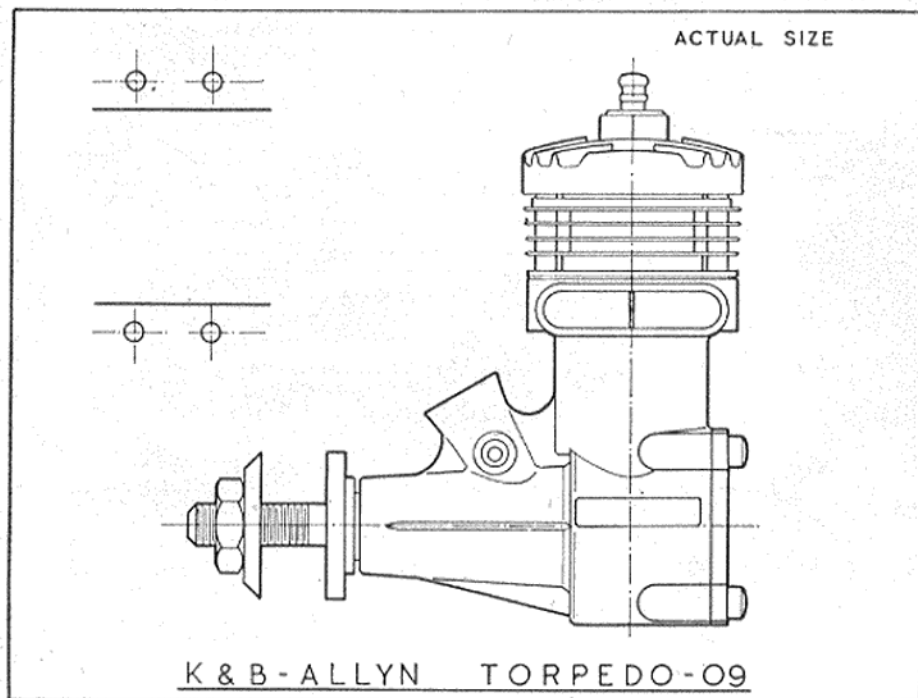
engine can be slowed almost to a tick over by alternately releasing the compression and opening up the needle-valve.

Running qualities are excellent. There is a slight power loss when hot, when loaded with props larger than 8/3, and there is also slight vibration at these speeds, but both tendencies disappear at higher speeds.

On the dynamometer, the Fury showed its best torque reading at around 9,500 r.p.m. with a torque of 0.056 lb. ft., equivalent to a b.m.e.p. of approximately 47 lb./sq. in. Beyond 11,000 r.p.m., torque declined with increasing rapidity, resulting in the peak output being realised at around 12,000 r.p.m. where a figure of 0.116 b.h.p. was recorded. Checks on various popular propellers suggested that, to extract maximum performance from the engine, props in the 8/3 to 7/4 group would be the

The component parts of the E.D. are clearly shown in this photo.





most useful.

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

Specific Output (as tested): 77.8
b.h.p./litre.

The K. & B. Allyn Torpedo 0.09

The K. & B. Torpedo engines need no introduction to MODEL AIRCRAFT readers. Previously, in the M.A. Engine Tests, we have dealt with three of the most successful in this famous American range: the 15, 19, and 35.

The 09, the smallest model of the group, is also the most recent and is almost certainly the most powerful

under 0.10 cu. in. glowplug engine yet designed. As tested on a medium nitro content fuel, its specific output of around 100 b.h.p./litre closely approximates that of the record-breaking 19 which reached 125 b.h.p./litre on test in 1953.

Glowplug 0.09 cu. in. engines fall roughly into the same class in the U.S. as 1.5 c.c. diesels in Europe, being favoured mainly for general purpose F/F, C/L and, to a lesser extent, small radio-controlled models. The diesels, for the past few years, have tended to have an edge over the glowplug models in power output, but the Torpedo 09 restores the balance and, incidentally, also provides a further strong argument for the loop-scavenged engine after years of domination by reverse-flow scavenged motors in the smaller displacement sizes.

In both design and construction the Torpedo 09 closely resembles its bigger brothers. It is built around a pressure cast crankcase/mainbearing unit, the cylinder being a one-piece component with integral fins and attached with two screws fore and aft. Impregnated gaskets are used to seal the cylinder-to-crankcase and head-to-cylinder joints and, for the benefit of new Torpedo 09 owners, it is worth mentioning that these become

bonded to the metal with heat and it is, therefore, unwise to dismantle the motor unless replacement gaskets are to hand. This, of course, applies equally to the larger Torpedo models and to many other glowplug engines of similar design. The usual paper gasket is used to seal the rear cover, but, rather surprisingly, the crankcase joint face is machined off instead of being left as cast in the manner now usual with such assemblies. The crankcase casting of our test Torpedo 09 did, in fact, bear evidence of a degree of extra finishing not normally found in other engines of similar design.

A $\frac{5}{16}$ in. crankshaft, blued against corrosion, and having a $\frac{7}{32}$ in. dia. gas passage and the usual rectangular valve port, is employed. It has a disc web with a machined-in crescent counterweight to balance rotating mass. Unlike many modern American engines, the shaft is hardened. It runs direct in the crankcase material. A hard piston running in a mild cylinder is used. The cylinder has a blued external finish and features radiused ports. The latter are not over-large in area, the emphasis being on the large and unrestricted transfer passage.

The entire engine, which is of neat appearance, compact dimensions and modest weight, gives an impression of sound design, good execution and crisp efficiency that is entirely borne out by performance tests.

Specification

Type: Single-cylinder, air-cooled, loop-scavenged two-stroke cycle glowplug ignition. Crankshaft type rotary valve induction. No sub-piston supplementary air induction. Baffle piston. Central ignition plug.

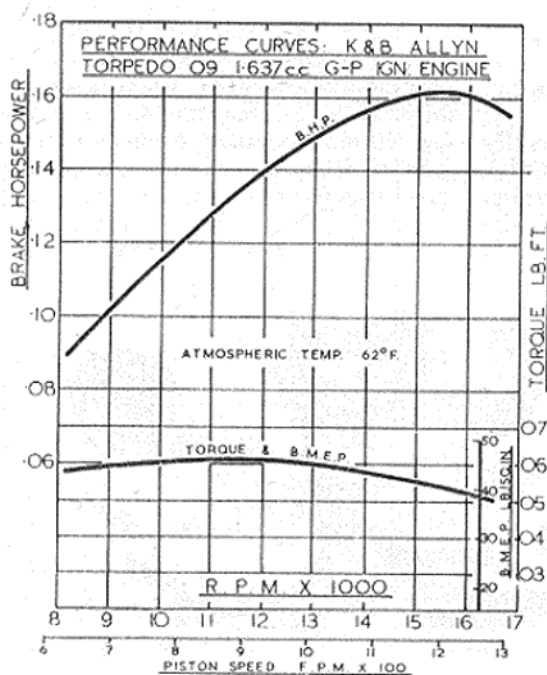
Bore: 0.521 in. Stroke: 0.465 in.
Swept Volume: 0.0999 cu. in.
(1.637 c.c.).

Stroke/Bore Ratio: 0.892/1.

Weight: 2.8 oz.

General Structural Data

Pressure diecast aluminium alloy crankcase unit, tumble finished, with plain main bearing. Hardened steel counterbalanced crankshaft with $\frac{5}{16}$ in. dia. journal and $\frac{5}{32}$ in. solid crankpin. Blued steel drive washer, taper fitted to shaft. One-piece cylinder with integral fins and blued corrosion-resistant external finish. Pressure diecast aluminium alloy cylinder head, enamelled green and secured with four screws, two of which pass through cylinder fins to



tie complete cylinder assembly to crankcase. Hardened piston with filleted baffle and skirt relieved below gudgeon-pin centres. Fully-floating solid gudgeon pin with domed and polished ends. Forged alloy connecting rod with plain eyes and oil hole at lower end. Pressed-in spray-bar type needle-valve assembly. Beam mounting lugs, plus provision for bulkhead mounting via special alloy radial mounting ring available as an extra.

Test Engine Data

Running time prior to test: 1½ hours.

Fuel used: 12 per cent. B.D.H. Nitromethane, 60 per cent. I.C.I. Blending Methanol, 28 per cent. Duckham's Racing Castor Oil.

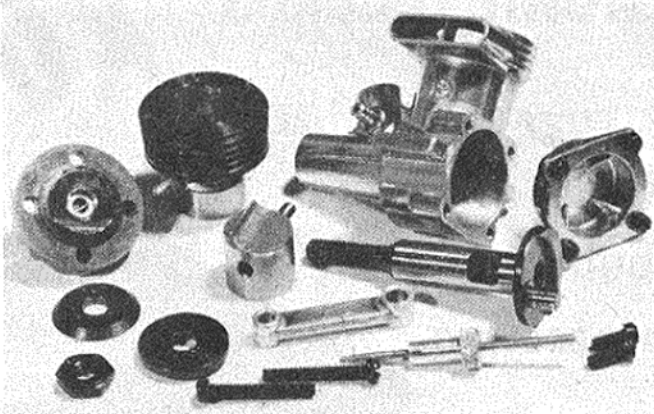
Ignition plug used: K. & B. Torpedo standard short reach as fitted; 1.5 volts used to start.

Performance

All the Torpedo engines we have tested in the past have had pleasantly uncomplicated handling characteristics and the 09 is no exception. It is very easy starting and its smaller size and docile behaviour makes it the sort of engine which a beginner can approach with complete confidence.

As is widely known, the power output of any glowplug engine, unlike that of a diesel, is influenced to an appreciable extent by the composition of the fuel employed. Atmospheric and other conditions permitting, a mixture containing a relatively high nitroparaffin content (e.g., 30 per cent. nitromethane) may be expected to boost the output quite considerably beyond that obtainable on a plain methanol and castor oil blend. Except for speed work, however, it is unusual to employ heavily nitrated mixtures with most present day glow engines. Typical U.S. commercial glowplug fuels for general purpose use contain around 5 per cent. nitromethane. Many manufacturers also offer a "hot" blend, containing, perhaps, 20-25 per cent. nitro which can be used when conditions permit, or can be blended with the standard mixture to improve performance. For our test of the Torpedo 09 we chose, therefore, a medium mixture containing 12 per cent. nitromethane. It is necessary to make this clear in order to show that the performance figures recorded are such as might be obtained under fairly normal conditions. They are a little better than one would get on a straight

A disassembled view showing the component parts of the K. & B.



alcohol-castor mixture, but can, undoubtedly, be improved on for all-out contest performance, given a well run-in motor and suitable weather conditions, with a hot racing fuel.

Generally, glowplug engines of under 2.5 c.c. develop less torque than diesels, the specific torque declining as capacity is reduced. Expressed in b.m.e.p., this is usually under, rather than over, 50 lb./sq. in. and, in developing better than 46 lb./sq. in. at between 11,000 and 12,000 r.p.m., the 1.6 c.c. Torpedo 09 shows up very well. The torque/b.m.e.p. curve of the engine is extremely flat over the wide range of speeds, and on our test, this resulted in the peak of the power curve occurring at approximately 15,500 r.p.m. At this speed a figure of 0.162 b.h.p. was recorded, which is the highest output for a 0.09 class

glowplug engine yet realised in this series.

Running qualities throughout the tests were excellent. The engine is very smooth running and especially so at 12,000 r.p.m. and upwards. Our only criticism concerned the needle-valve which tended to vary its setting slightly when the engine was running, but this trouble was soon cured by squeezing up the needle thimble to give a tighter grip on the threads.

The maker's recommendations as regards prop sizes (7/4 for F/F and 7/5 for C/L) are very suitable and should allow the 09 to approach 14,000 r.p.m. in the air and thus make good use of its excellent high speed performance.

Power/Weight Ratio (as tested): 0.926 b.h.p./lb.

Specific Output (as tested): 99 b.h.p./litre.



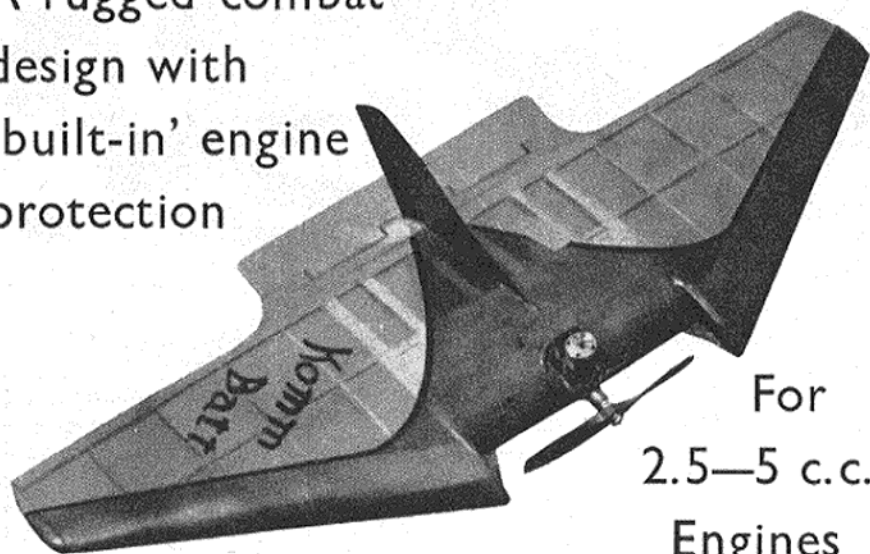
CONTEST CALENDAR

- | | |
|---|--|
| Aug. 3/5th WORLD CHAMPIONSHIPS
POWER & RUBBER. | Sept. 14th Croydon Gala. Chobham
Common, F/F all classes. |
| " 17th Devon Rally, Woodbury Com-
mon, F/F, R/C, Combat. | " 21st GUTTERIDGE TROPHY. Wake-
field. Area. |
| " 23rd U.K. CHALLENGE MATCH. | " *MODEL ENGINEER CUP. Team
Glider. Area. |
| " 24th SCOTTISH GALA
CATON TROPHY, U/R RUBBER,
U/R GLIDER,
U/R POWER.
TAPLIN TROPHY. R/C Rudder
Control. Stunt. (Simplified
schedule.)
TEAM RACING. "A" and "B." | " 28th TEAM RACING. "JA," "A,"
and "B" Area. |
| " 24th South Midland Area Rally. Cran-
field. | " 28th C. H. ROBERTS CUP (flying
boats) Danson Park, Bexley-
heath, Kent. |
| Sept. 7th NORTHERN GALA
U/R RUBBER.
U/R GLIDER.
U/R POWER.
AEROMODELLER R/C TROPHY.
R/C Multi-Control. (Full R/C
schedule, course and aerobatic
flying.)
TEAM RACING. "A" and "B"
P.A.A. LOAD. (Int. Class.) | " 28th Southern Area Rally. Open
R/G/P; T/R "JA," "A,"
"B"; Combat; Stunt, Radio. |
| " 7th Dagenham C/L Gala. Central
Park, Dagenham. Stunt, Com-
bat, T/R "A. & B.," Speed (?) | Oct. 5th Bill White Cup. Chobham.
" 12th *FARROW SHIELD. Team Rubber.
S.M.A.E. CUP. A/2 Glider. Area.
" 19th South Coast Gala, Ashdown
Forest.
" 26th HAMLEY TROPHY. U/R Power.
De-centralised.
FROG JUNIOR CUP. U/R
Rubber, Glider, De-centralised. |
| | Nov 2nd St. Albans Slope Soaring Rally.
Ivinghoe Beacon.
*Pluge Cup events.
All S.M.A.E. competitions in capitals. |

LAURIE ELLIS'S

KOMM-BATT

A rugged combat design with 'built-in' engine protection



For
2.5—5 c.c.
Engines

At most combat meetings it is appalling to see the chop rate on engines. Engines are certainly plentiful nowadays but they still cost money and there are those fellows who like their fun, but a smashed engine can be a near financial disaster. At one meeting, we witnessed no less than five engines reduce themselves to bits and pieces against a tarmac surface in a two-hour period.

This prompted thoughts toward a design which might spare the engine in the event of a vertical plunge into a hard surface. Thus *Komm-Batt* emerged from the drawing board. For initial test flights we thought of using an older, expendable, engine but the machine was designed with engine safety in mind so we threw caution to the wind and installed our favourite Oliver Tiger. To date, the model and engine have survived two sudden stops against very hard ground.

Komm-Batt is by no means a final answer to engine safety in a combat design, but it may serve as a basis for further research for those who are interested along these lines. Performance is typical of a C/L flying wing. It is ultra-sensitive on the controls and an inexperienced flyer will tend to over-control on first attempts. However, once one masters the sensitive control it will be found to be very easy to manage. A word of caution—one must ensure that the take-off is made down wind to allow the model to reach full flying speed before coming into wind, otherwise it will rear up into a wing over and some pretty fast foot work is necessary to regain control and tight lines.

An optional undercarriage is shown and may be used if one has a smooth take-off area; this is the easiest way to get it airborne but hand launching is

reasonably easy as long as line tension is maintained and one is quick to gain control. We have always used 2.5 c.c. power having first had an Oliver Tiger installed, then an A.M.25. With 3.5 c.c. power the model would be much hotter. We shall eventually install a hot 29 glo-plug engine in order to keep up with the present-day flying missiles.

We should add that one should not expect the model to remain in one piece after a power dive into a tarmac surface. The idea behind the design is in the event of a power dive into tarmac; the impact is taken by the centre section leading edge outboard panels. Disintegration will most likely result but the major shock will have been absorbed, thus reducing the impact velocity of the engine. A smashed machine is better than a smashed engine and a smashed model.

Construction

The model is quite easy to build but it is built in a slightly different manner than usual, so follow the step-by-step detail and no difficulty will be experienced. First study the plan to get an idea where all parts fit. Make stiff paper templates of all full sized parts, trace on to balsa sheet of correct dimensions, also make all plywood parts, bellcrank and push rod assembly and have stunt tank on hand.

1. Make trailing edge complete with elevators attached. Note that there is a splice in the $\frac{1}{4} \times \frac{3}{4}$ in. trailing edge piece.

2. Cement the ribs W1 to W2 for the outer centre section. Both these ribs are from $\frac{1}{8}$ in. sheet. Note that W1 is $\frac{1}{8}$ in. smaller in depth on top and bottom to allow for centre section sheeting.

3. Cement and tack hardwood engine bearers to $\frac{1}{16}$ in. plywood rib W1.

Cement this assembly to the $\frac{1}{8}$ in. ribs W1 and W1A.

4. Next pin in place the front centre section $\frac{1}{4}$ in. sq. spar behind firewall. Locate and cement in position all centre section ribs. Install the $\frac{1}{8}$ in. plywood bellcrank plate with the 3 in. bellcrank in position. You are working on the top side of the wing so make sure that the bellcrank is on the BOTTOM of the plate when you install it at this stage.

5. Cement trailing edge in position, supporting it with scraps of balsa. Also cement in the $\frac{1}{4} \times \frac{1}{2}$ in. centre section leading edge pieces.

6. Cement ribs W7 in position at wing tips. Support with balsa scrap and cement on the $\frac{1}{4}$ in. sq. leading edge pieces on both sides. Make sure assembly so far is lined up correctly.

7. Locate and cement in all other ribs and install upper $\frac{1}{4}$ in. spars parallel with l.c. Then locate and cement in the rear centre section $\frac{1}{4}$ in. spar.

8. Install and cement in the $\frac{1}{4}$ in. sheet gussets at outer centre section leading edge and cement in the 2 oz. lead weight on left side of centre section.

9. Cover leading edge with $\frac{1}{16}$ in. sheet. Install stunt tank in centre section and sheet over with $\frac{1}{16}$ in. sheet shown on plan. Cement on capstrips on centre section to rear of spar.

10. Remove wing from plan and prepare to complete other side.

11. Drill holes and insert tubing for leadout wires in left panel. Install leadout wires on bellcrank and lead out thru' holes in ribs and tubes in leading edge. Install push rod to elevator horn.

12. Install spars, sheet over leading edge and centre section and cement on lower capstrips on centre section.

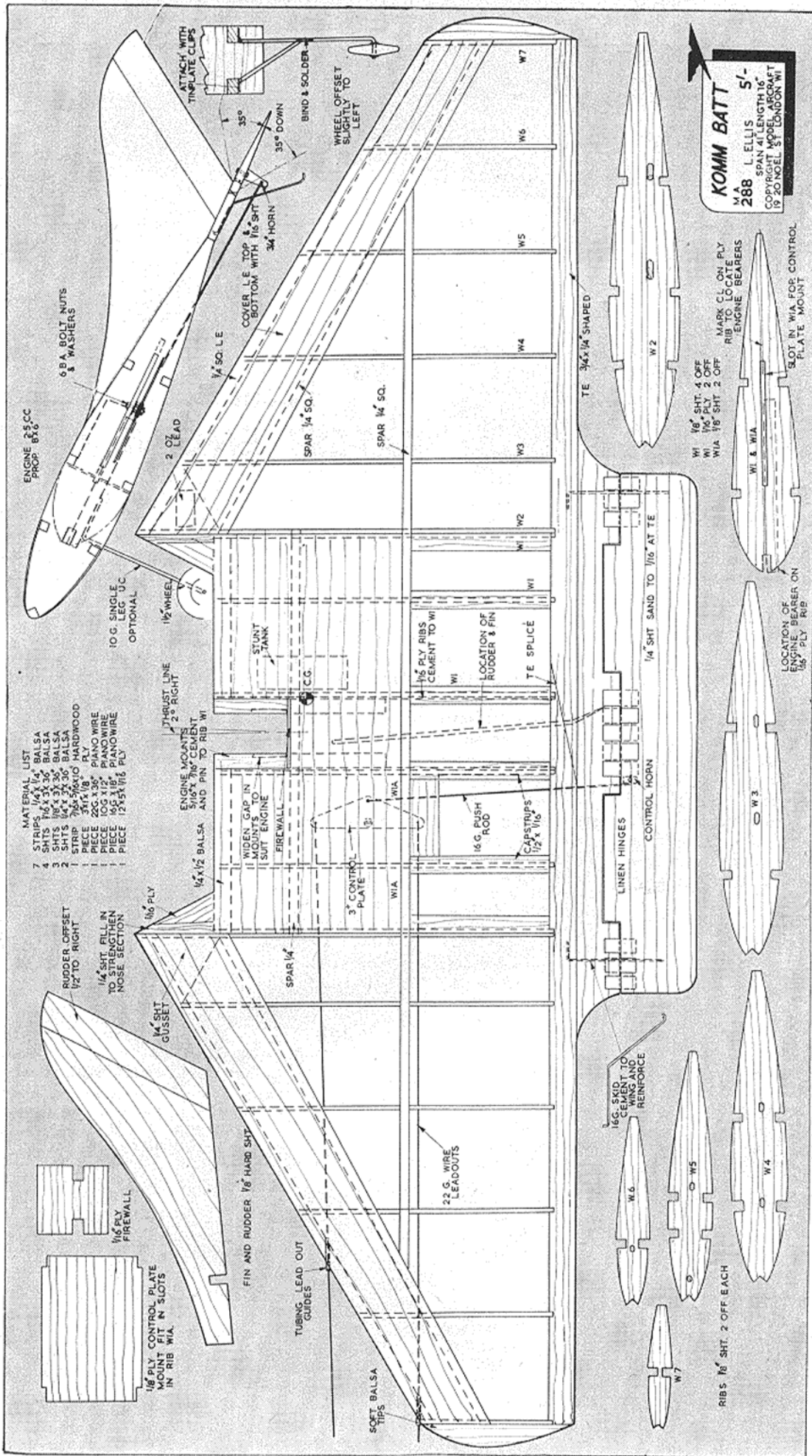
13. Cement on soft balsa wing tips and sand to shape.

14. Cover elevator with light-weight Modelspan. It is recommended that the wing be covered with silk or nylon. However, if one cannot afford or does not want to go to the additional expense, then use heavy-weight Modelspan.

15. Cover fin with light-weight paper. Cut slot where indicated on upper centre section and cement fin in position. Form a silk fillet from the centre section covering to the surface of the fin. This ensures that the fin will not be knocked off easily.

16. Give model sufficient dope coverings to obtain a smooth finish and colour dope to suit. The original was coloured with red and yellow Aerolac with a black separating strip.

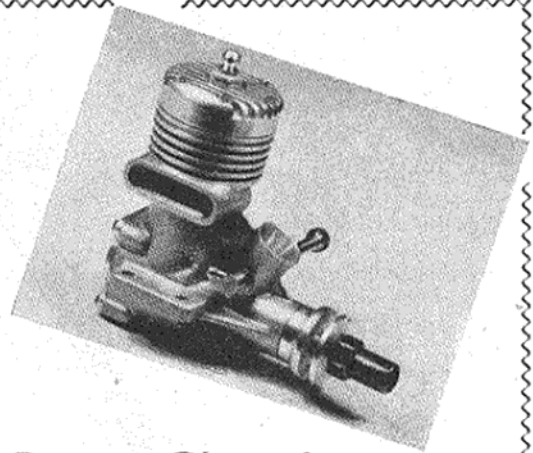
17. Install engine and undercarriage if it is to be used and you are ready to fly. All that remains is to—have fun!



KOMM BATT
MA 288 L. ELLIS 51-
SPAN 41" LENGTH 16"
COPYRIGHT MODEL AIRCRAFT
19 20 NOEL ST LONDON W1

FULL SIZE WORKING DRAWINGS ARE OBTAINABLE FROM YOUR LOCAL DEALER, OR BY POST FROM THE "MODEL AIRCRAFT" PLANS DEPARTMENT
19-20, NOEL STREET, LONDON, W.1, 5s. 0d., POST FREE

'BIG STUFF'

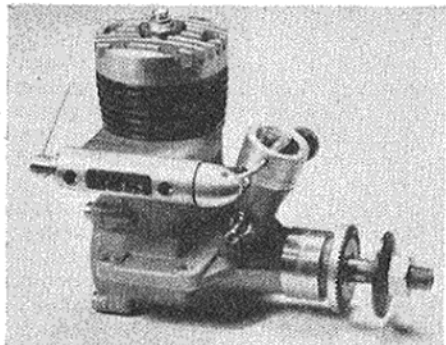


Peter Chinn's LATEST ENGINE NEWS

THIS month, in response to demands for some "real" motors, we are featuring engines in the 0.35 and 0.60 classes. They come from three countries: the U.S.A., Japan and (cheers!) Great Britain.

The big news from the home front is that, with a bit of luck, Britain is going to have a genuine stunt 35 at last. It has been designed by Ron Checksfield (whose past work on racing motors is well known) and is known as the Merco 35. Only one prototype has so far been built, but this was used to good effect by Bill Morley in his *Thunderbird* to win second place in the Gold Trophy at the Nats. this year and it has now been passed on to MODEL AIRCRAFT for testing.

As will be seen (heading photograph), the engine is of the favoured



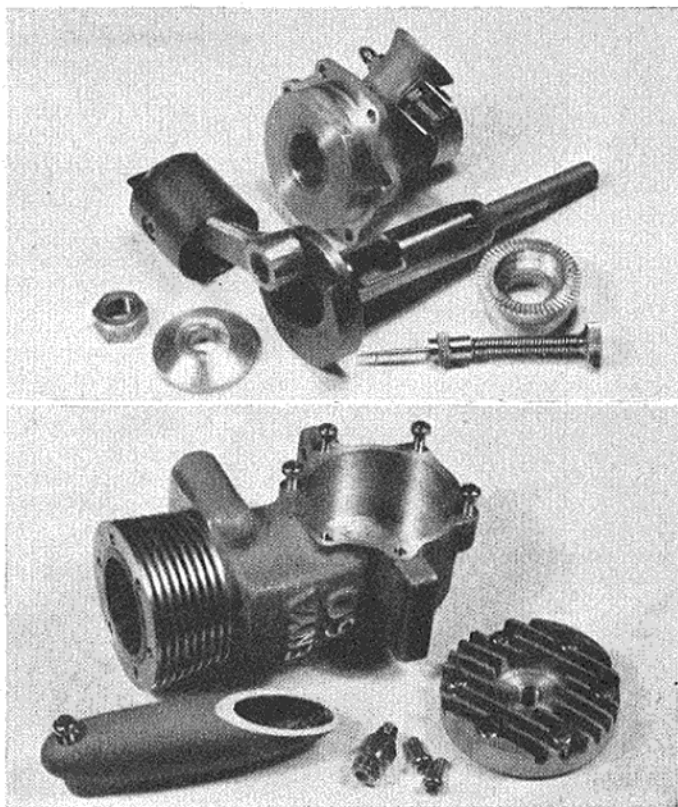
stunt-35 layout: shaft valve, plain (bushed) bearing, loop scavenged cylinder, compact design and moderate weight. It is, in other words, closely modelled on the best American 35s, but few stunt enthusiasts should grumble about that. Past efforts to produce a stunt 35 of original British

design have met with only lukewarm reception, the general feeling being that what was wanted, in order to achieve American standards of stunt performance, was an engine modelled on proven American practice and that attempts to be more original could follow later. It is, therefore, to be hoped that, if and when the Merco gets on the market, it will gain the full support of those modellers who have hitherto complained long and loud about the lack of a British engine of this type.

In general, the Merco resembles a

mixture of Fox and Series 100 Veco, with a few features of its own thrown in. A one-piece casting, incorporating crankcase, cylinder barrel and main bearing, generously webbed, on the Veco pattern, is used. Like the Fox, the Merco employs a Desaxé (i.e. offset) cylinder, an unusual feature in a production model engine, but one which has definite theoretical advantages, as have been enumerated in these columns in the past. Stroke/bore ratio is also approximately the same as the Fox, which has a nominal bore and stroke of 0.800 × 0.700 in.

Our heading photo shows Ron Checksfield's answer to the oft-repeated demand for a British stunt 35 in this new engine, known as the Merco 35. The prototype was used by Bill Morley to gain 2nd place in this year's Gold. (Left). The production version of the O.S. Max 35 R/C engine showing the neat and very effective exhaust valve and coupled intake throttle. The engine is expected to become popular with multi-channel radio control enthusiasts. (Right). The component parts of the Japanese Enya 60. An unusual extra is the streamline exhaust extension which is attached with two screws to the main casting.



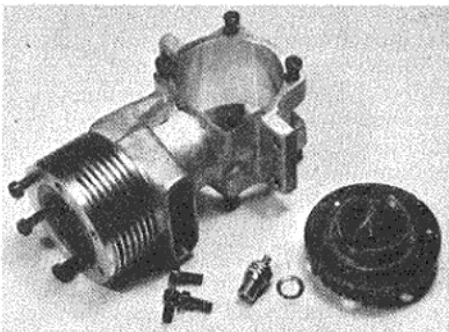
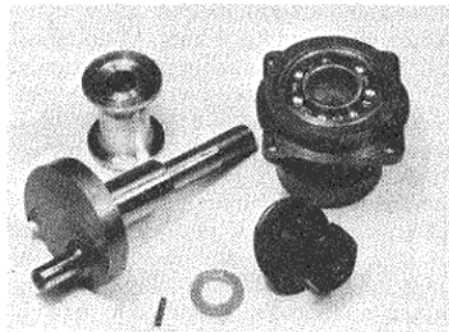
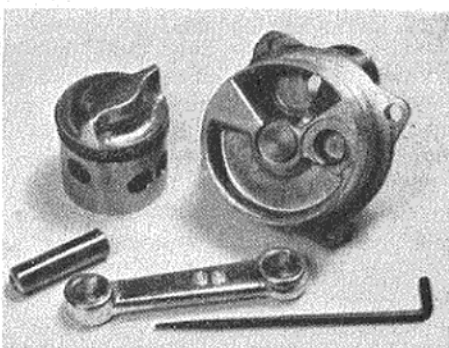
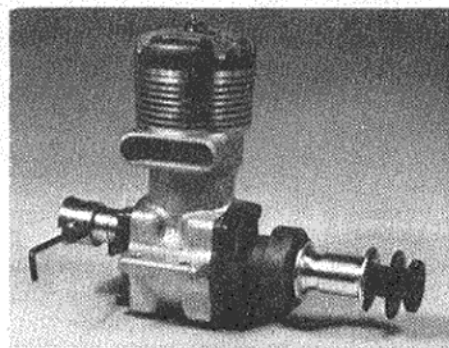
The crankshaft has a $\frac{7}{16}$ in. dia. journal—the usual size nowadays with 29 and 35 engines—and a $\frac{7}{32}$ in. crankpin. As on the Fox, and unlike other 35s, which mostly use crescent counterweights on a full disc web, the Merco has the web flanks cut away on the crankpin side as a means of balancing rotating mass. The shaft has the usual rectangular pattern valve port, $\frac{3}{8}$ in. long and occupying $\frac{3}{8}$ in. of the shaft circumference. It is fed from a circular intake port in the main bearing and conveys mixture through a $\frac{5}{16}$ in. dia. passage.

The piston is of typical design, with a nicely filleted baffle and the lower third of the skirt relieved approximately 0.0005 in. The gudgeon pin is of $\frac{3}{16}$ in. dia., fully floating, with brass end pads. A drop-in cylinder liner, flanged at the top and having a wall thickness of 0.054 in., is used. The flange fits in a channel in the cylinder head, which is of a hemispherical pattern with centrally located long-reach plug and is held down with six screws.

The port timing of the Merco is fairly conventional, except, of course, for the fact that, in terms of crank angle, the opening and closing of the cylinder ports, due to the Desaxé layout, are not symmetrically disposed either side of b.d.c. The actual effect of this is that the ports open and close about 5 degrees later in the cycle, while the piston velocity is speeded up during the compression stroke and slowed down during the power stroke, thus giving more time for the expanding gases to do useful work. Rotary valve timing is normal, with a total induction period of about 185 degrees.

The prototype Merco 35 weighs a little over 8 oz.—fractionally more than the average American 35. It is possible that this will be slightly reduced in the production version, especially if a pressure-cast case is adopted, although, personally, we would see no objection to the engine remaining at its present weight, retaining a gravity or sand casting and thus gaining in durability from greater physical strength and better thermal conductivity. Among the detailed fittings we hope to see retained is the excellent needle-valve assembly with its angled fuel-line nipple.

We have intentionally omitted to emphasise the all-round excellence of the finish of the various parts. It is obvious that these have profited,

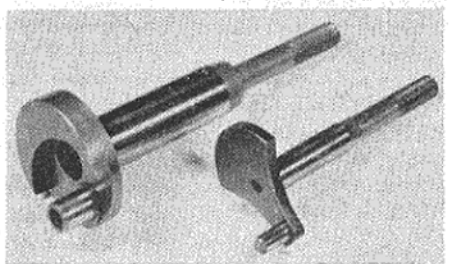
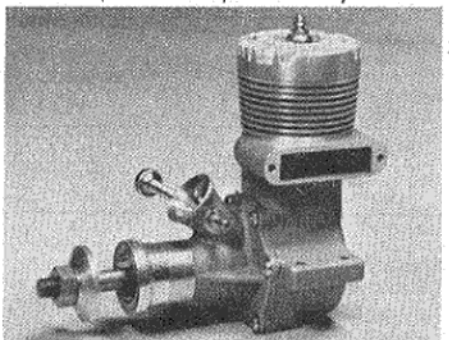


in this hand-made prototype, from the individual attention that it is seldom possible to lavish on a quantity-production engine. If, however, the Merco should display equivalent high standards in its production version, purchasers may rest assured that it will be generally superior to current American mass-produced 35s.

* * *

The McCoy 60 Series 20 really deserves an article all to itself and,

The Enya 60, a modern general purpose 10 c.c. engine and one of the sturdiest model motors ever built. Its massive crankshaft makes an interesting comparison with that of the 10 c.c. Brown Junior, famous in pre-war days.



The famous McCoy Red-Head 60, Series 20 racing engine, as recently re-introduced showing the component parts of this classic design. McCoy 60s have powered almost all the world's fastest reciprocating engine driven model aircraft.

some six years ago, it did have—in the M.A. Engine Tests. It has remained the most powerful engine ever featured in the test series, the particular example chosen reaching 1.52 b.h.p. at a little over 16,000 r.p.m. In C/L speed, the Series 20 has, of course, built up a reputation second to none and, for years, has been employed, almost to the exclusion of all other types, in the 10 c.c. class. Currently, top speeds with Mac 60 powered speedsters are running very close to the 170 m.p.h. mark in the U.S. and there is little doubt that, under the less stringent F.A.I. regulations regarding lines for record attempts, these same models would get near to 180 m.p.h.

Recently put back into production after a lapse of some years, the current model is basically identical with the original Series 20 introduced more than nine years ago. Unlike the earlier models, which were supplied with a contact breaker assembly for spark ignition, the current model is for glow ignition only.

The general layout and constructional features of the present model are clearly illustrated in the accompanying photographs. The 60 is of classic racing two-stroke design, with

Continued overleaf

twin ball-bearing mounted crankshaft, rotary disc induction, lightweight alloy high-domed deflector piston with two compression rings and the emphasis on rigid construction and an efficient breathing system.

Unlike the majority of today's production model engines, which employ pressure diecastings extensively, the Mac 60's castings are mainly sand-castings. These are machined, where appropriate, to a high standard of accuracy and finish. Metal-to-metal joints are used throughout; no gaskets being employed. The main casting, comprising crankcase and cylinder barrel, is fitted with a pressed-in cylinder liner having six squared exhaust ports in a 180 degree formation and four transfer inlet ports. (Multiple ports are, of course, necessary with piston ring engines in order to prevent rings being trapped and broken.) There are also two $\frac{1}{4}$ in. dia. skirt transfer ports which register with similar ports in the piston skirt at the bottom of the stroke.

The piston itself is an aluminium casting and a fine example of piston design as applied to a model engine. Wall and crown thicknesses are held to a practical minimum to save weight and cooling and stiffening webs extend from the well proportioned gudgeon-pin bosses into the inside of the domed crown. The piston, complete with rings and $\frac{1}{4}$ in. dia. tubular steel fully-floating gudgeon-pin, weighs less than $\frac{1}{2}$ oz.

The hardened crankshaft runs in

$\frac{1}{2}$ in. inner and $\frac{5}{16}$ in. outer ball journal bearings and has a machined-in crescent counterweight that balances almost the entire weight of the drop-forged alloy connecting-rod. The cylinder-head is contoured to match the piston crown and has the ignition plug inclined towards the transfer side. Induction is via a massive carburettor intake of approximately 0.420 in. choke diameter, which opens into a large 90 degree segment in the backplate and is timed by a light diecast alloy valve rotor mounted on a long, $\frac{3}{16}$ -in. shaft with provision for adjusting clearance.

The McCoy 60 has a bore and stroke of 0.940×0.875 in., giving a swept volume of 0.6072 cu. in. or 9.95 c.c. It weighs 14 $\frac{1}{2}$ oz.

Robust construction, in itself, is no guarantee of high performance, but it is a fact that the most powerful motors in the various classes nearly always feature relatively heavy material sections and rigid construction in those parts most highly stressed, either mechanically or thermally. It can be seen in the 10 c.c. McCoy just examined and in the 1 c.c. Allen-Mercury—both engines having the highest performances in their respective classes.

Even with an engine not aimed at record-breaking performance, however, an extra ounce or two in the right places has much to commend it. It means improved heat dissipation, less risk of distortion and, in consequence, more consistent performance under varying conditions, less wear and a long useful life. The

Enya 60 is a particularly good example of this line of thinking.

The weight of the Enya 60 is a little under 14 oz. and, while by no means excessive, is about 2 oz. more than the average for general purpose 10 c.c. motors, but, in return for this, one gets a really tough job, guaranteed for 12 months and with years of life in it.

Nearly 3 oz. of this weight is accounted for in the crankshaft. It has a 14 mm. (nearly $\frac{9}{16}$ in.) dia. journal (the largest of any model aircraft engine in production) and an 8 mm. crankpin—i.e. over $\frac{5}{16}$ in. and as big as the actual shaft diameter in some early 10 c.c. engines. The shaft runs in a bronze main bearing, $1\frac{1}{8}$ in. long, in a strong housing which is attached to the crankcase with six screws.

The main casting, comprising crankcase and cylinder barrel, is a really sturdy unit with heavy mounting lugs and a very closely fitted drop in liner. The piston, of conventional design, with a straight fence baffle, has a full-floating $\frac{1}{4}$ -in. tubular gudgeon pin coupling it to a massive con-rod with offset shank. Bore and stroke are 0.945×0.865 in.

Thanks to the generous dimensions throughout, the Enya has large and unrestricted gas passages (the shaft passage of 10 mm.—well over $\frac{3}{8}$ in.—and the transfer passage is bigger than on some racing engines) with the result that the engine has bags of power and enough medium speed torque to turn as big a prop as anyone would normally want to use.

Evolution of an A/2

Continued from page 272

successfully and even then, only in "toothpick" weather. The idea seems to be that the model is trimmed for straight flight and after leaving the towline heads straight for the nearest thermal. On entering the thermal it goes into a turn. As I have said, I have had no such experience—the model just seems to fly straight through any lift which happens to be about. Here again, there may be great scope for anyone wishing to experiment and look into the matter.

Always remember when flying an A/2, that a good model can't win on its own. It needs a good modeller behind it; someone who can tell at a glance where the thermals are and who really knows how to use a towline to the best advantage.

All I am waiting for now is someone to tell me how wrong I am. So come on, you critics, if you have anything we can learn, let's hear from you.

DETAILS OF FIRST FLIGHTS. ALL IN SAME WEEK

Conditions	Flight Times, from 50m. Line					
	2 : 1	2 : 23	2 : 38	2 : 36	2 : 37	2 : 39
Dead calm, smokehaze at about 50 ft.	2 : 21	3 : 8	3 : 12	2 : 18	1 : 12	—
Calm, clear, evidence of slight movement	2 : 12	1 : 45	1 : 58	2 : 23	2 : 3	—
10 m.p.h. wind, clear	11 Flights: Lowest 2 : 40; Highest 3 : 10.					
Slight drift coming dead calm with damp air						

Span 76 in.
Chord 6 in.
Tail area 80 sq. in.
Length 42 in.
PERFORMANCE
2 min. 0 sec.
approx.

CONSTRUCTION

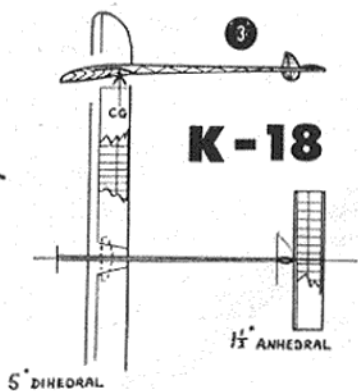
Balsa fuselage, tail, wing-ribs, wing sheeting, wing L.E. & T.E. Hardwood spars and fuselage nose.

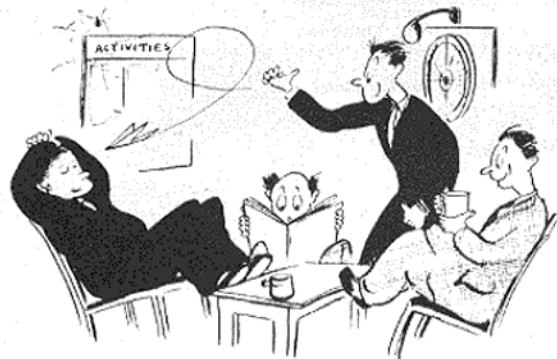


WING SECTION



TAIL SECTION





Club News

GODALMING C/L RALLY

The club's first C/L rally for seven years was a great success from all points of view. The rally was run in aid of a deserving local fund, but this was in no way detrimental to the enjoyment of the contestants who were better off for the absence of hordes of feet trampling on their gear.

The contest side of the meeting followed the normal pattern with two classes of team-racing, and combat, but the public was encouraged to come and watch from behind roped off areas. This worked extremely well and about 500-600 spectators came in, and did not interfere with the flying at all.

The team-race entries were rather different from that which was expected. "A" and "B" had equal entries of 17 each, high for "B," but where were all the "A" models? Flying off the grass was no excuse, since nobody turned over all day. With some keen racing in "B" the Walker/Tuthill team looked like getting 1st place again, having done the fastest heat time of 3 min. 33 sec. However a couple of long pit stops dashed any chances of a 7 min. final, and Whitebread pipped the Enfield boys by 1 sec. Hartwell came third, McNess having trouble and retiring.

Pete Hartwell got through to the "A" final also and won, although the times were slow. Williams was second and the Templeman's third.

The combat entry of over 30 was successfully dealt with by J. Warren and was finished just after 7 o'clock, Burbridge and Tribe having the final battle.

Although the proceeds were for charity, prizes for the first, second and third places totalled about £10, and consisted of useful tools, torches, etc. The programmes and raffle tickets sold far better than expected, and over £35 was given to the fund.

In view of the success of this meeting it is hoped to make this an annual event, so if you missed it this year, make a note for 1959!

Results:			
CLASS B			
			min. sec.
1st	J. Whitebread	W. Essex	8 44.0
2nd	Walker/Tuthill	Enfield	8 45.0
3rd	P. Hartwell	Enfield	12 17
4th	J. McNess	W. Essex	Retired
CLASS A			
1st	P. Hartwell	Enfield	9 56.5
2nd	J. Williams	Wimbledon	11 7
3rd	M. & J. Templeman	Sidcup	11 13.6
4th	A. Francis	Uxbridge	
COMBAT			
1st	L. Burbridge	Kenton	
2nd	P. Tribe	Northwood	
Semi-finalists: Cornell (Croydon) and Meekins (Nadgers).			

DEBDENAIRES M.F.C.

Activities have been on the domestic rather than "National" side recently, interest being mainly sports flying and members mostly associate.

However, we've had a first taste of the display lark with a "do" at a local fete and sports day. During a very successful half-hour, Doug Galpin, our new comp. sec., gave a convincing show of "A" stunt flying.

This first effort has been good practice for the bigger display, due to open the local "Debden Fair Week" at which the Fair Queen will preside. Oh Boy!

Interesting evenings at the club have involved

a "self-help" scheme of lectures and discussions led by our own members (which has made sure that bods dive into their gen books first). All good practice.

An all-embracing points scheme is in operation for the club championship shield, which is keenly followed.

Our "Festina Lente" Glider Trophy looks like being won by Mike Pointing who is well in the lead on the second round, and holds the glider record at 8 min. o.o.s.

We are pleased to welcome new members in the Epping Forest area and they should contact P. Oliver, 23, Covert Road, Chigwell, Essex.

KENTON M.A.C.

We continued our string of successes at Godalming C/L Rally where L. Burbridge beat P. Tribe of Northwood in the combat final to win, to say the least, a different prize to the usual crumpled £1 note produced from a scruffy clubmates' pocket.

We ran the combat at the Nationals, ably assisted by the Dagenham boys. The event went off smoothly and we hope that the strict line about heat times that was taken will set a new standard of organisation at future rallies.

New members are always welcome at Northwick Park on any Sunday afternoon.

WEST BROMWICH M.A.C.

The keen contest types in the club stayed overnight at the Nats, which was a little quieter, even if everybody did not follow the 9 o'clock rule on the first day. Mike Kendrick had a field day, winning combat and coming 3rd in the Knokke Trophy; most peeved were two boys with class I speed models who didn't bother to fly, being too busy with other things! With fewer local comps and displays we have organised plenty of club comps for the cups and trophies we have recently acquired.

We have had the usual trouble with our flying field as of late, which is shortly to be built on. Recently a crowd of 200 spectators gathered to watch four members fly. It was lucky there wasn't a serious accident, as it was impossible to control a crowd of those numbers. As usual, the local councils chose to ignore the letters in the Press and any representation to them.

NUNEATON A.M.

The club ran a coach trip to the Midland Area Rally where Mick Bates won the combat event flying an Oliver-powered wing. "Mog" Francourt was unlucky when a line breakage on his team racer smashed his re-worked Oliver.

In the three weeks before the Nationals "Mog" built another model and installed his ordinary Tiger, only to do the same thing at Waterbeach—two immaculate models and £16 worth of engine in three weeks!!!

ENGLISH ELECTRIC M.A.C.

Six members attended the Nationals at Waterbeach. T. Smith who came second in the Sir John Shelley Cup, suffered from a number of snags that seemed to arise at the wrong time. First, his Dooling-powered Nig-Nog had to be left in the box due to the engine misbehaving, and then he pranged his Oliver-powered Nig-Nog on his third flight, to be capped by a launch out of wind in the fly-off. I. Ellison managed two maximums in glider, and two in rubber.

The trophy for the inter-club competition has

The interesting trophy obtained for inter-club competition by the English Electric M.A.C.

now been completed (see photo). The model is of a PIB in wood, mounted on a gold-plated stand with a polished wood base.

ENFIELD & D.M.A.C.

Now that Ray Tuthill is back in circulation, he and Don Walker returned to their usual form by placing top in class "B" at the Nationals. During testing the previous week, Don's practice model, flying at 102 m.p.h., decided to become an Ornithopter and the resulting "shaft run" (lubricated with best Enfield mud) sounded decidedly unhealthy for the motor. However, much to our surprise the speed went up to 109 m.p.h.; using nitro-benzene and a Tornado prop this was pushed up to 113 m.p.h.

Also in the class "B" Pete Hartwell, using an almost standard Series II ETA, gained third place and also fourth in class "A" with his Oliver Tiger model. Sad point is that immediately after the class "B" final, Pete was asked to do a solo run so that a cameraman from the Shell company could get some flying shots from inside the circle. Unfortunately, just as the model was released the down line broke, writing off both model and motor. Pete was, however, slightly recompensed by a £2 award from the photographers.

Rex Gough seems to be getting his power jobs to perform at last. He managed 11 min. 26 sec. in the Sir John Shelley Cup, and would almost certainly have been in the fly-off if his model had not d/t'd too soon on one flight. Our other power expert Jim Moseley, is temporarily (we hope) leaving the club to get married. Whilst wishing him the best of luck we hope he will soon be back.

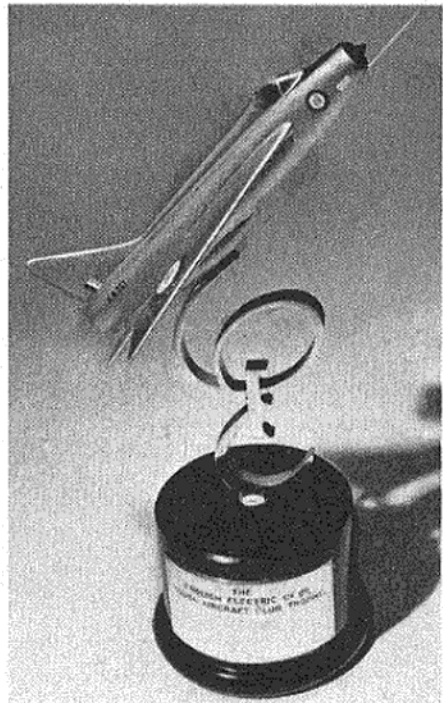
BRISTOL RADIO CONTROLLED M.A.C.

Not much flying here the last couple of weeks owing to weather. We hold a series of monthly contests, points accumulating to the end of the season to decide the most consistent performer who gets the Trophy donated by the club chairman, Doug Sheppard. Don Cole, John Mardon and Michael Barnett are the three leaders so far, with only 5 points between them... but there's some rebuilding required by two of them if they are to stay up in front!

General meetings continue to be well attended, one reason no doubt being the film show given at each meeting now. The club buys some colour-film and borrowing a cine-camera we are getting some interesting action shots. This film will keep us poor I reckon!... but with films we are able to hire it makes for a very interesting evening once a month.

WHITEFIELD M.A.C.

We have two C/L demonstrations due in the near future. The emphasis will be on combat,





This general view of the Scottish A.A. meeting for the Caledonia Shield, shows the well-known—to competitors —loch and woods, conveniently (?) situated down wind!

but for support, it is expected that two scale jobs, a *Canberra* and a *D.H. Comet Racer* will take part.

Last season two shows were given. The first being rather overshadowed by a skiffle contest and a parade of bathing beauties. The second was undoubtedly a success.

The club turned up in force at Woodford, braved the storm, and returned with four places. Yes, you're dead right. J. O'D. won rubber, and J. N. Trainor was third. I. C. Fellows took second place junior in glider, and L. Carley got a third in class "B" team race.

MILL HILL & D.M.A.C.

This year's was the club's most successful "Nationals" ever; fortunately transport was provided by a comparatively new member, Mr. Mullens, thus solving the main problem. Three members had their own tent so camped for the week-end and by Monday morning they found themselves almost afloat.

Entries in competitions were small, but it was pleasing to see so many juniors among them. The great success of the "Nationals" was on Monday when C. Crawley took 1st prize for his B.E.2c model of 1914-1918 vintage in the super scale event. We may look forward for further successes next year. Despite the rain on Monday, most members had a very enjoyable two days' flying.

WIGAN M.A.C.

Our two coach contingents descended upon Woodford for one of their more popular comps. B. Pickess was in good form, with a double max in glider and a double max in rubber. He won the fly-off in glider but spun his rubber model in on the fly-off. B. Talbot's model was the victim of a clueless non-competitor who kept trying to launch a power model over the queue of rubber competitors, but who only managed to write off Talbot's model.

At the Nationals, young Mike Hosker had hard luck in rubber with two max's and a third flight which didn't quite make it. After getting two perfect power max's, B. Talbot's power model was well up for its third max when it d/t'd at 2:45, landing at 3:20; since that disaster he has been seen chewing bits of d/t fuse and muttering "It burns too quickly." In rubber, the same member had one max to his credit and had just caught lift on his second flight only to hear the horrible noise of his rear peg giving way, allowing his rubber motor to fly to the front of the model.

BAILDON M.F.C.

The club was well represented at the Nationals and achieved a fair measure of success—though our best effort, by C. P. Miller in rubber, was in a way also our unluckiest, as he was unfortunate enough to miss a triple-max by only 2 sec. Silvio and Arthur Collinson both did well in power with over 11 min., and Frank McNulty flew consistently to place among the top dozen in glider; however, J. A. B. Pannett also provided one of this year's most spectacular prangs when his Frog 500 *Super Creep* d/t'd under power at a great height after timer failure, shed half its wing and buried itself in a field just outside the 'drome with the engine still on full throttle!

The following week-end our "A" team, comprising Messrs. Collinson, Miller and Pannett, met Wakefield "A" on their home ground in the second round of the area knock-out. After

a hectic day—Pannett's model finished once in a marshalling yard and once in a sewage plant, and Collinson's successively in a tree and on top of a house—we managed to defeat them by about 1½ min. with a flight in hand.

Next, of course, came the first leg of the team trials, and here Arthur Collinson really excelled himself in power by finishing top, only man with five max's, flying Vic Jay's old design; other members who did quite well were Stan Eckersley (three max's) and Brian Eggleston.

FARNBOROUGH M.A.C.

The first scramble event of the year was held recently, and the superiority of the saucer for this type of contest was demonstrated by J. Harris's *Sauce Pot* and D. Sibbick's M.A. design *Sorcerer*, who came 1st and 2nd respectively, both using Mills 0.75 motors. The winning time was 6:21 for the 15 min. contest. Sibbick won the May club comp. with his Oliver-powered *Helicath II*, but J. Harris left his E.D. 2.46 *Hot Pot IV* somewhere in the interior of a boggy wood following a d/t failure on his first comp. flight.

The most optimistic club member is junior Richard Brown who has built a C/L speed model for his E.D. Bee!

SOUTHERN AREA

We will hold a rally on September 28th, the venue to be announced later. The competition will be for open glider, power, rubber, "A", "A" and "B" team race, stunt, combat, radio. Entries for the S.M.A.E. events on that day will be taken.

NORTH KENT NOMADS

The club is proud to be able to congratulate Ken Lockwood on his gaining third place in the "Ripmax" Trophy at Waterbeach on Whit Monday. Ken was the only club member who flew. The other entrants had retired wet, very wet, after the morning downpour.

We also offer our congratulations to Charles Dance on his gaining Parts A and B Glider Pilot's Licence. We are wondering if this is the reason why we have not seen him model-flying recently.

There is some activity in preparation for the C. H. Roberts Cup on September 28th, and it is understood that our secretary, Ray Parker, has found time in between pen pushing to produce a new model for the occasion.

Jack Ashcombe has been putting his Six Reed Plane through its paces including some very pretty loops, and we look forward to seeing Eric Taylor's True Scale *Chipmunk* performing under the influence of 27 Mc/s.

The club meets regularly for a flying evening each week on Dartford Heath, when some good performances in all branches can be seen.

CROYDON & D.M.A.C.

The mob's efforts at the Nationals this year were noteworthy mainly for the crop of near misses from various corners of Waterbeach.

To itemise—Ron Ward flew his four-year-old model, complete with seven-year-old radial Elfyn 2.49 into fifth place in P.A.A.-load after changing props, this master stroke producing a mighty 49 seconds. . . Jack North, flying a 200 sq. in. lightweight in the M.A. Trophy, raised our hopes when he produced three fours, but could only manage 4:51 in the fly-off.

In the Shelley, Pete Scarbrow seemed a trifle

off-peak and couldn't do better than nine odd minutes with his Frog 249; in the same contest, Ken Smith says he tried. . . Still, he'd lost his A.M.35 original at the Surbiton Gala and was relying on a Super-Tigre model whose Latin temperament possibly wasn't suited to the weather.

Gordon Cornell, fifth in the Gold Trophy with a Frog 150 model after spraining his first-string pretty-pretty model while trying to learn the 1958 schedule (this an hour before the contest!), finally ended up by having the book read to him by a puddle-bound Dilly seated in the middle of the circle. Anyhow, he surprised everyone, including himself, by making reasonable attempts at all the manoeuvres and walking away with an intact model.

In combat, "Daff" Dilly managed to survive five heats, but was knocked out in the semi-final after some quite satisfying dicing with a modified A.M. 35 in a lashed-up wing and one of the original Ecurie Nerik Tipo 57s over a year old (a record for a combat model?) and beginning to feel its age now.

On the subject of combat, we thought the Kenton boys did a good job of running the chopping sessions, as did the people in charge of open rubber; not so good, to our eyes, was the Shelley, which was a minor shambles at times.

For your diary, remember the Croydon Gala, September 14th, at Chobham—open rubber, glider, power and slope soaring.

STRATFORD-UPON-AVON M.A.C.

The club spent a very enjoyable day at the 1958 "Nats." on Whitsunday. Only two members participated in the contests, these being Don Scruby in the Thurston Cup, and Robin Fleming, who was "chief pit-man" for Brian Colley and Tony West of the "Midlanders."

Club membership now stands at a modest 27, but it is a great pity that we don't see all these at club activities regularly. In fact, this general

P.R.O.'s PLEASE NOTE

The latest date reports should reach us for inclusion in the next issue is 15th of the month

apathy has even caused us to cancel the club demonstration of C/L flying which was to have been held at a garden fete at Lapworth.

Despite all this, we have at last managed to bring out some sort of club news sheet. If there are any other clubs who could let me have a copy of their newsletters (send to P. Bartlett, 17, Broad Street, Stratford-on-Avon, War.), I should be very grateful (I am prepared to reciprocate).

SCOTTISH A.A.

The contest for the Caledonia Shield took place at Lanark in dull but dry weather, and the wind strength was low enough for models to be kept in sight for three min.

Seven clubs entered teams, quite a good entry, but only six turned up to fly. (A team consists of three each of rubber, power, and glider.) The winning team was the Glasgow Society of Aeromodellers, leading Prestwick by only one point. Each model had to make three flights, with a 3 min. max. The highest aggregates for three flights were:—Power: R. Parsons (Prestwick), 7:42; Rubber: R. Owston (Glasgow M.A.C.), 7:30; Glider: W. Meechan (G.S.A.), 6:12.

The contest started promptly at 12 noon, with a glider flight by Prestwick; this found slight lift, so the timekeepers were thereafter kept busy. The lift became strong and widespread, and some high times were recorded. R. Owston put up two max's in rubber, and Bill Meechan followed one of his gliders for 13:06 before losing it.

Towards the end of the contest it was evident that either Prestwick or G.S.A. would be the eventual winners, and it was a very close thing indeed. G.S.A. put in their 27 flights with time to spare, but Prestwick were a bit rushed. They did manage, though, and made certain of second place.

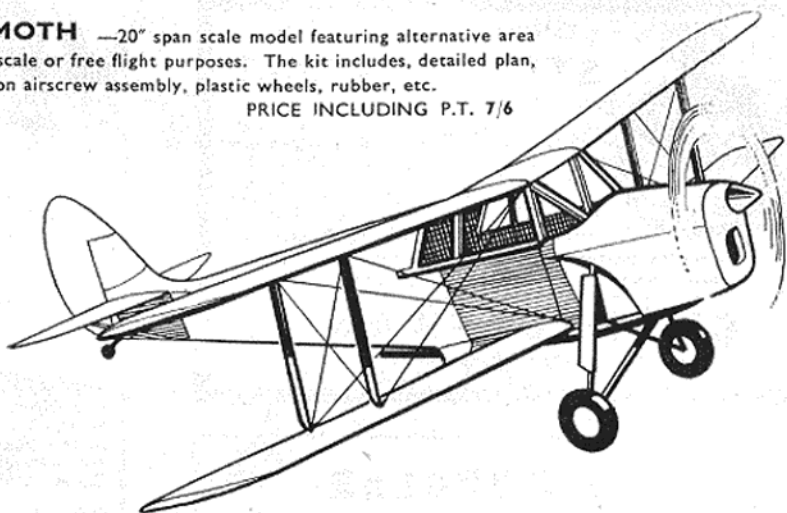
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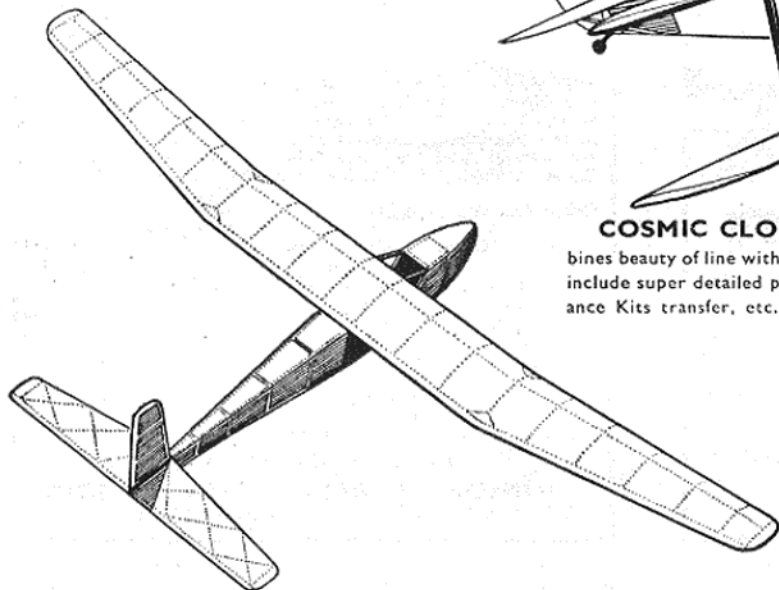
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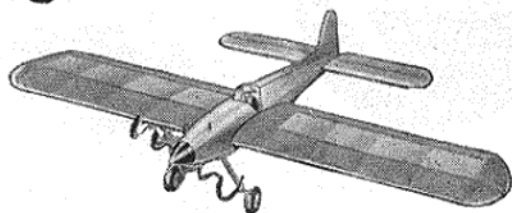
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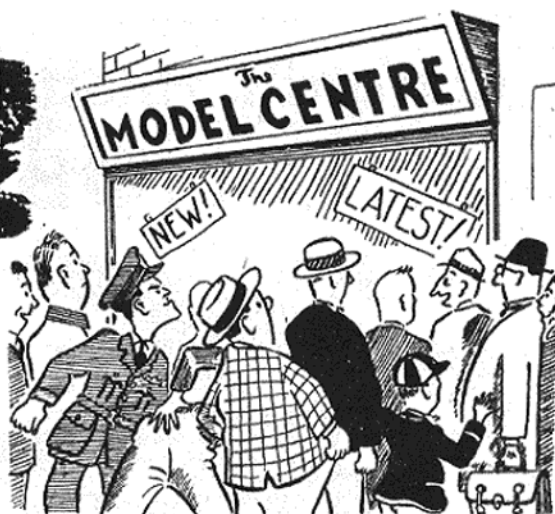
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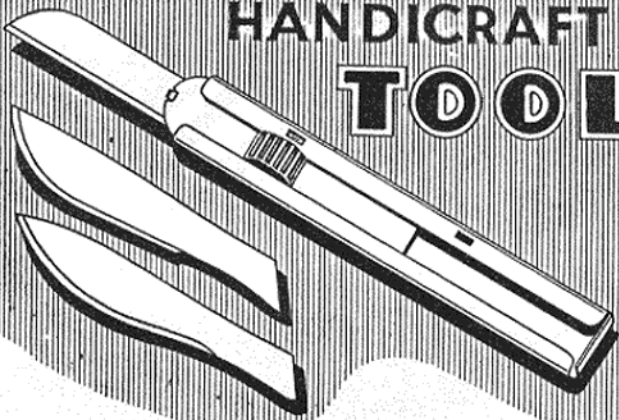
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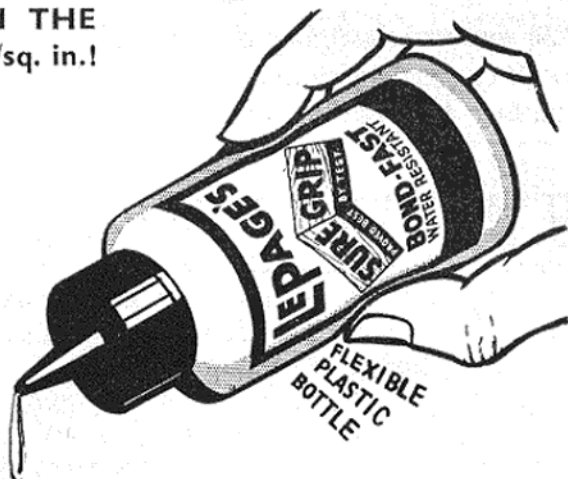
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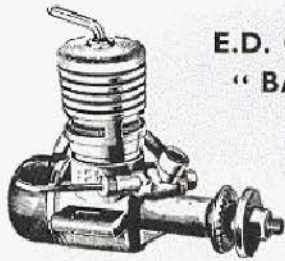
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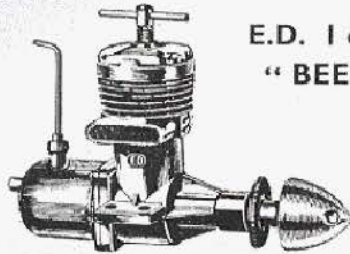
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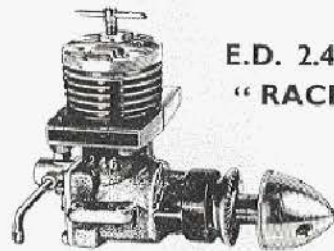
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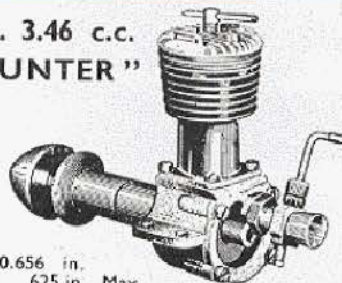
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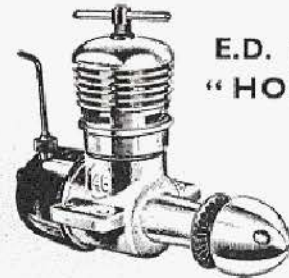
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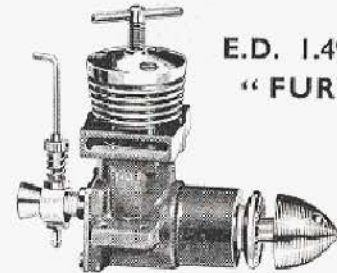
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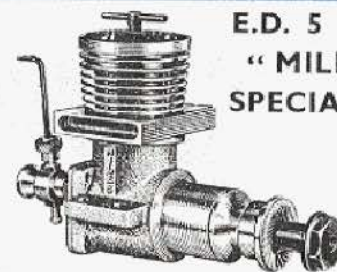
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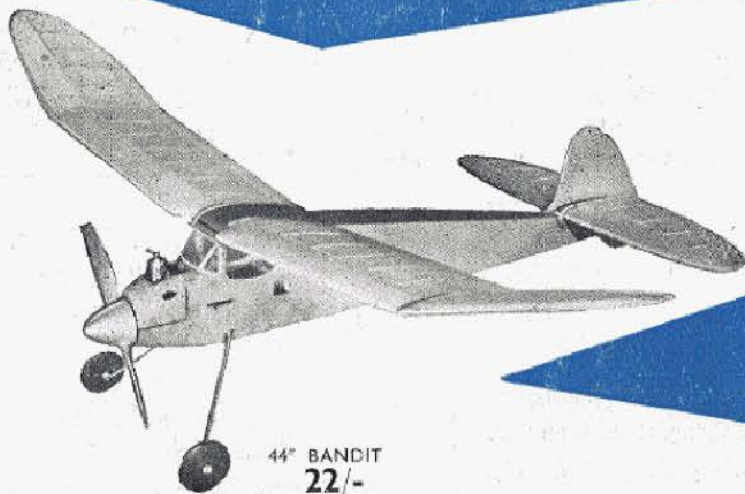
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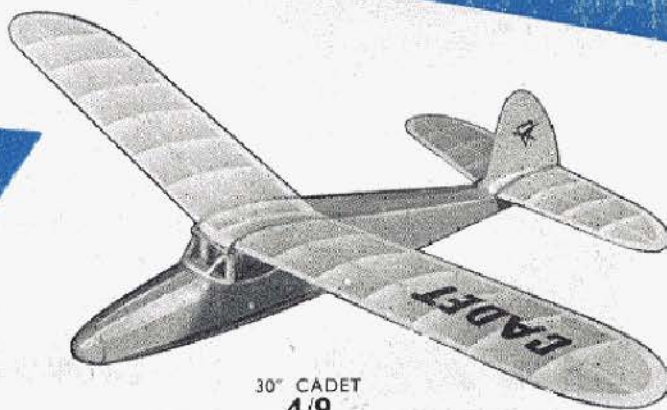
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