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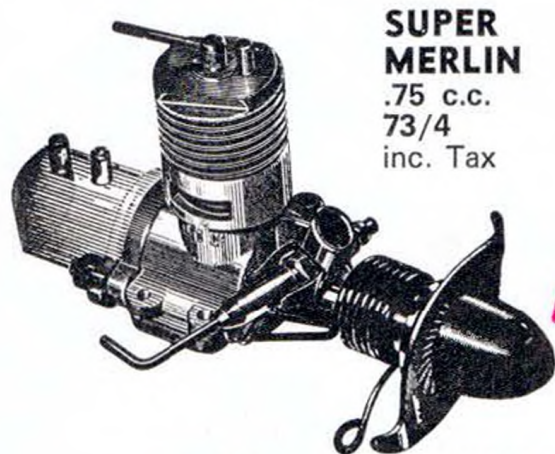
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**Scale Drawings**

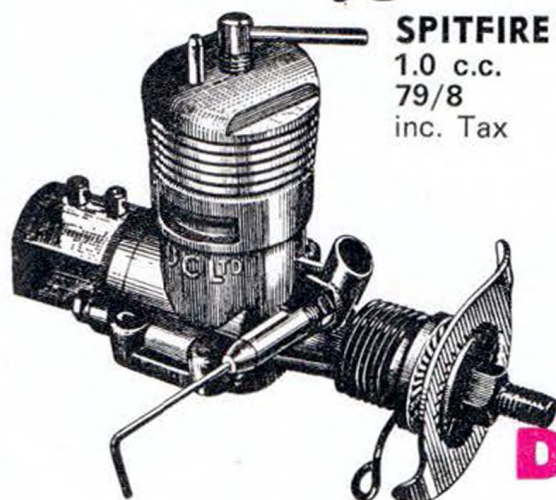




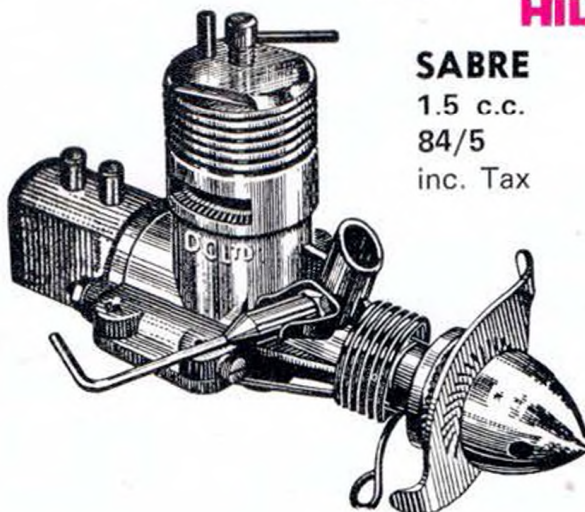
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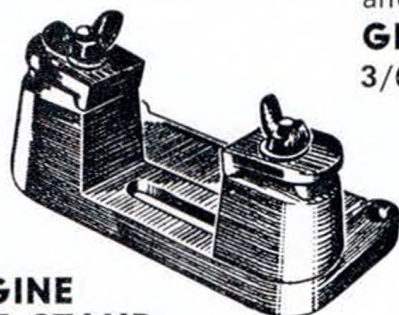
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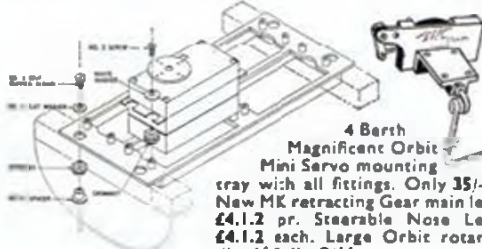


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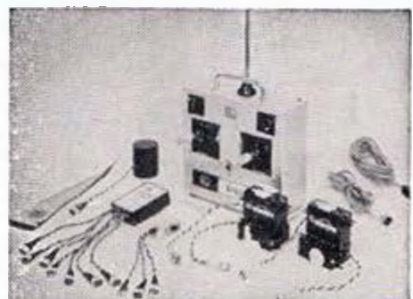


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# Aero Modeller

INCORPORATING  
MODEL AIRCRAFT

July 1969

VOLUME XXXIV No. 402

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## COMMENT

No-one can deny that the scale model contests became the biggest 'draw' of a most successful 'Nats'. Variety of the subjects chosen by entrants and the very high quality of construction emphasised the rapidly growing interest in this challenging aspect of aero-modelling. The Nats served as eliminators for two teams to attend International Scale Model contests at Bremen (R/C) and Genk (C/L). We have no doubt that the hotly disputed contests at Hullavington will have produced six of the finest examples of scale modelling yet seen in this country and we wish the models and their pilots all success overseas. It is significant that future recognition of the scale categories as World Championship classes is dependant upon the success of the 1969 International events.

## on the cover

Flashback to the spring of 1945 as a Republic P.47 Thunderbolt engages a Nowotny Kommando Messerschmitt Me 262, subject of the scale plan on centre pages this issue. Once more, artist Laurence Bagley captures dynamic action in a cover painting.

## next month

Those overseas Nats reports we have had to leave out this month! Plus, full size plans for A. J. Brown's Flutter-By ornithopter and specially for vintage fans - return of Korda's Wakefield 30 years after his famous victory. Engine Test on the Fuji 12, more Nats views, plus all the regular features, out July 18th.

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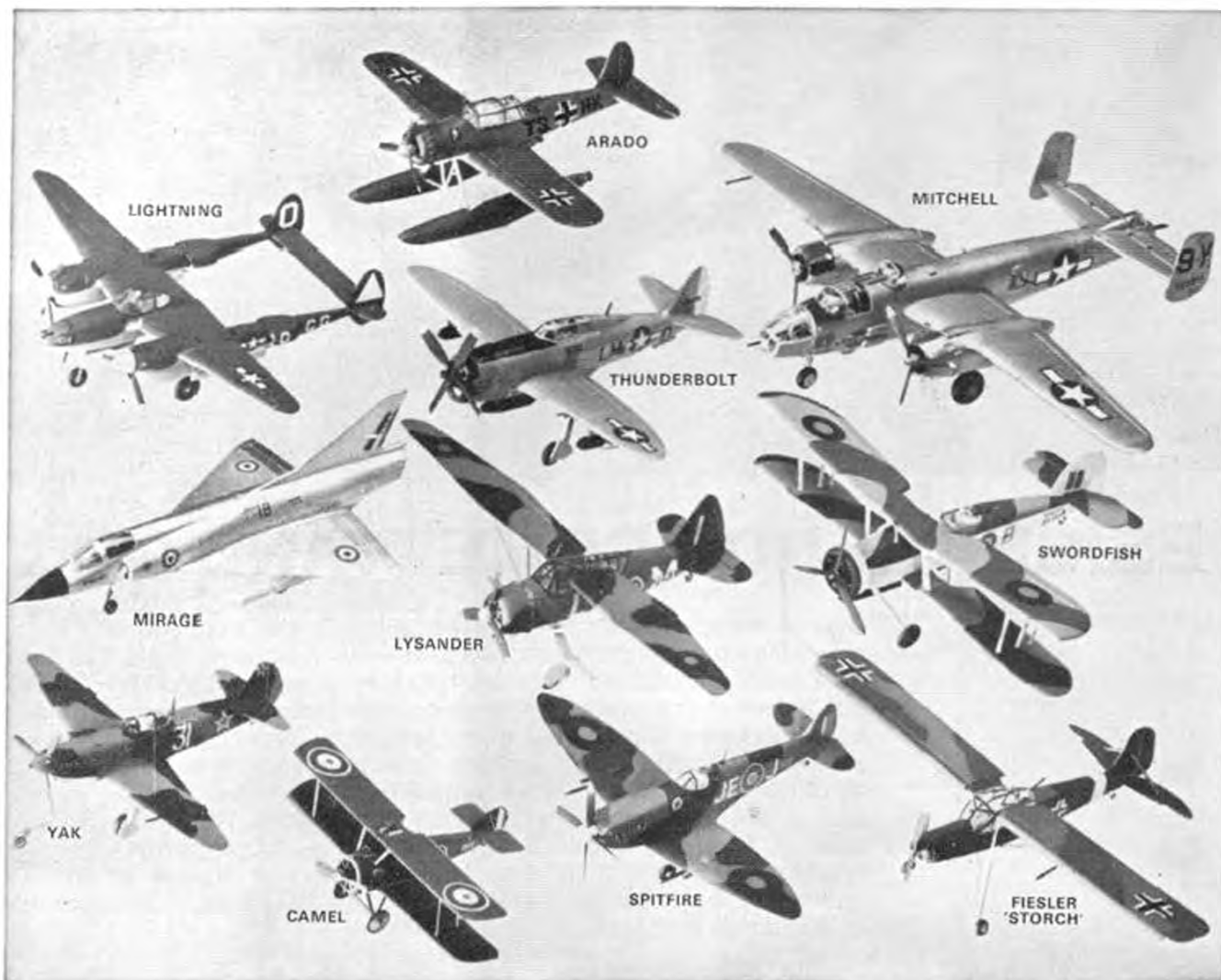
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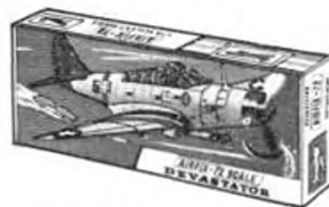
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## DESIGN TRENDS COME... AND GO...

One of the great attractions of aeromodelling is that you can try out new ideas on design layout inexpensively ... and with no risk to the 'test pilot'! Most revolutionary designs have a short life - literally - but a few start trends, or introduce new ideas which become widely adopted. Oskar Czepa's A2 glider winner of twenty years ago, started a trend in long-fuselage designs (and revived interest in 'bird wing' aerofoils at the time). Thin, generously cambered aerofoil sections and stick fuselages have subsequently become the A2 standard - even if fuselage length is more moderate. (One snag with long-fuselage A2's was that they looped when the tip-tail detormaliser operated.) So although 'Ossie's' model was extreme, it did contribute to A2 design progress.

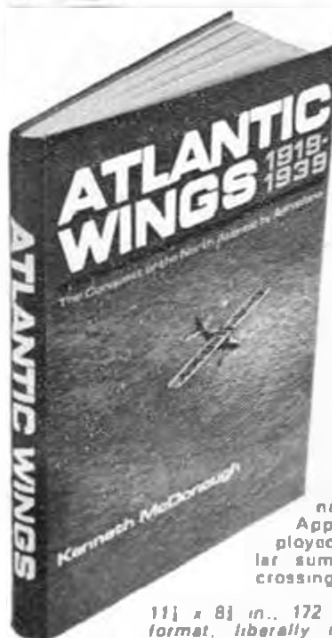
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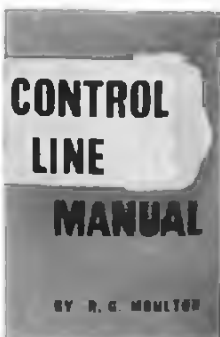
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## 114 AEROMODELLER ANNUAL 1968/9

This year's Annual is the 21st and our coming-of-age edition brings no less than 47 of the world's most interesting model designs ranging from an actual size indoor flyer to world champs winner. Milestone features include George Aldrich on Secrets of Speed, engine tuning and fuels; Theory of Model Flight; Aeromodellers who've made their own full-size aircraft; Noise explained; The new Foam Plastic techniques, by Erich Hermann; How to use Epoxy, and how to keep control line tension. Designs include Coupe d'Hiver, Wakefield, A/2, F.A.I. and I.A. Power, Open Rubber, Chuck Glider, Hydro, Team Race, Stunt, R/C Multi, Sport, Scale, Tailless. Full cover colour by Lauri Bagley portrays 'Breezy' - a home-built light aircraft built by aeromodellers.

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## 4 MODEL AERO ENGINE ENCYCLOPAEDIA



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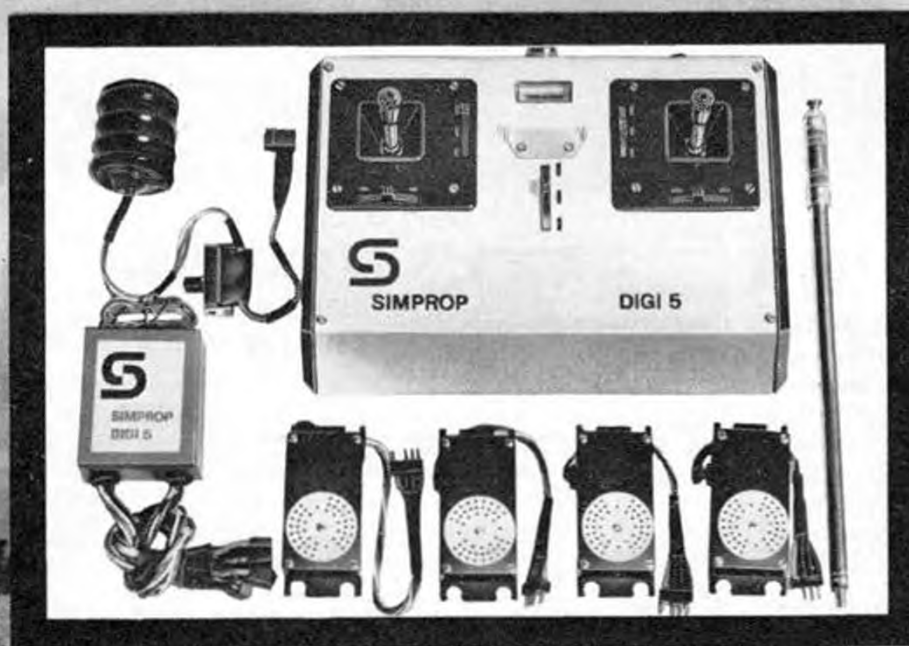
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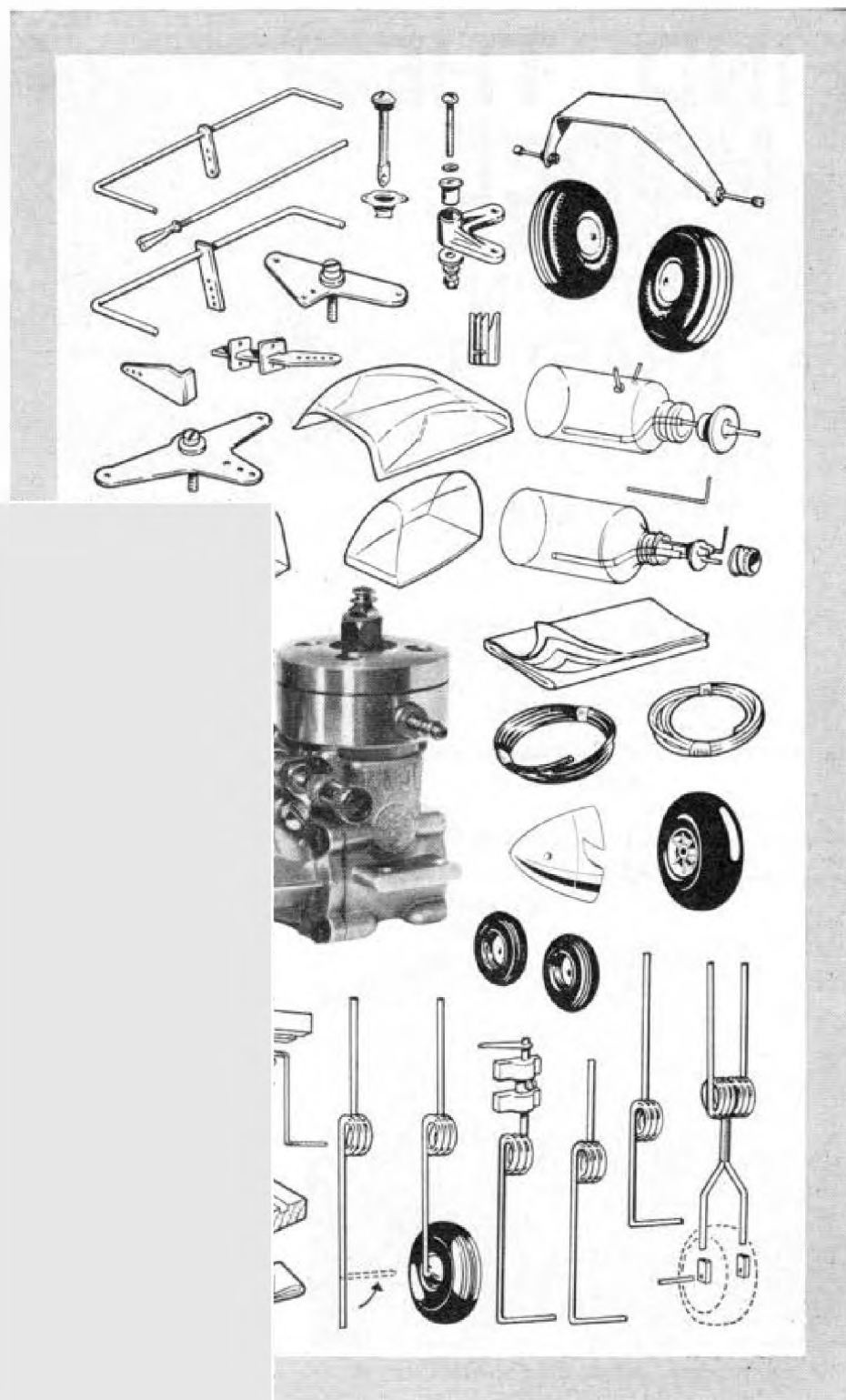
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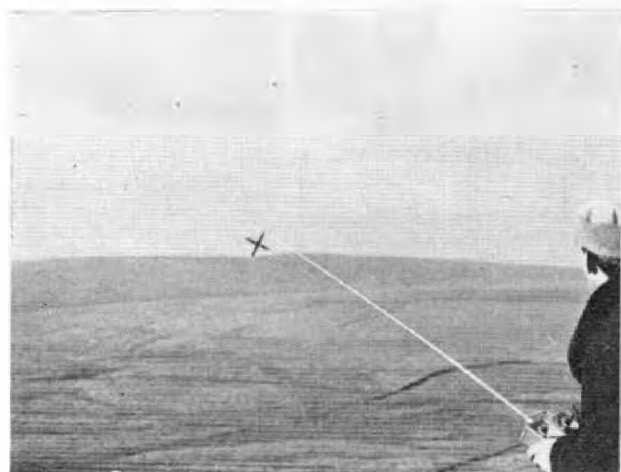
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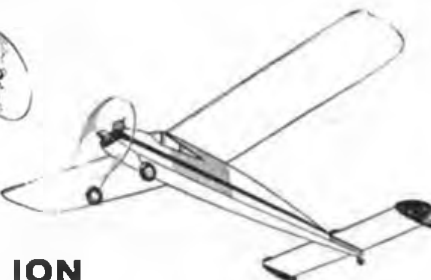
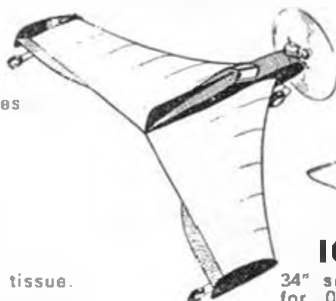
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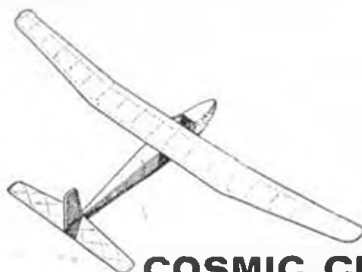
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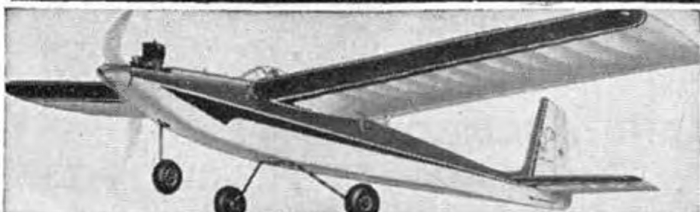
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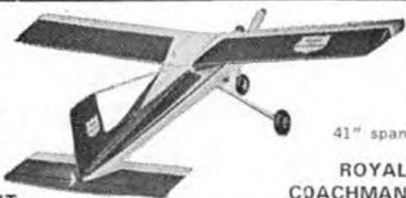
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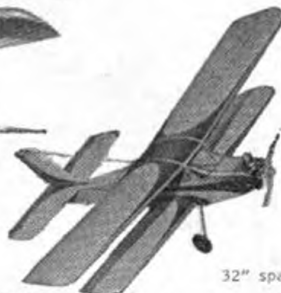
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**SCALE FANS** will be making their way in thousands this weekend towards the aerodrome at Old Warden, near Biggleswade where we are running the '69 All-Scale Rally in conjunction with the Shuttleworth Collection and its Model Club. June 22nd seems set fair for yet another day of model flying pleasure. Perhaps some of the visitors might be able to offer a clue to the solution of the following appeal made by the Shuttleworth Trustees.

The Shuttleworth Trust would be grateful for the return of:-

- (1) A 1/72nd scale model of a Percival Proctor.
- (2) A 1/72nd scale model of a Short Springbok.
- (3) A model hangar scene comprising a Hurricane and a Spitfire on a green board, with model men around the hangar.

The above models are of little value by themselves, but they are part of special sets which are of historical interest.

All the above were removed from the Shuttleworth Collection. It may be that readers of the **AEROMODELLER** have noticed these in the present possession of someone who may not appreciate the problems involved in providing facilities for the very many and protecting them against the very few!

**ROY YATES'** Percival Proctor, seen taking off in the heading photo will *not* be present at Old Warden as, like the other models in the British Team for Bremen, under 'Quarantine' until the great day. Roy may well be there with his Provost though, hot foot on return from the Metz International which will have been attended by a bevy of British Scale modellers.

**LATE** but still fascinating is the news which has just reached us concerning Terry Boehler of Tulsa, Oklahoma. On his sixteenth birthday last year, Terry solo'd 51 aircraft, 48 of them *different* types. He

started at 07:05 in a Pierce Arrow and went on to the cockpits of homebuilts, veterans and sizes ranging from the Turbulent to the Harvard. The sojourn lasted thirteen hours to create some kind of a record, interrupted by celebration cake and ice cream, true to tradition. Guess what Terry's other hobby is?

**HAZARDS** of the modern age are usually protected by some form of insurance; but consider J. P. Radette's misfortune when he had his car stolen, from Brentford, Middlesex. The car is recoverable, probably returned by now; but what of the Flight Link 5 single stick R/C outfit, blue and silver Merco 61 'Fiesta' (Numbered 53340), and all accessories? Readers able to advise with news of R/C efforts in the vicinity of Brixton, Wandsworth or Wormwood Scrubs\* will find a welcome ear on 01-568 9222. Come to think of it, what on earth happens to all those downwind vandalised model engines, and others that disappear from careless owner's tool boxes at rallies?

*\*Three London Prisons.*

**DURATION** record, set under A.M.A. rules with progressive fly-offs increasing in one minute increments for Class 'A' free flight is now One hour, thirty-four minutes, nineteen seconds! Set by Lee Polansky of the San Valters club, who held the previous record of 70:33, the attempt stopped when Lee failed to make the 14 minute round! Model was a 'Wizard', sounds like an appropriate name.

**AIRCRAFT MANUFACTURERS** have extraordinary mixed views in their attitudes to application for details from modellers. Many of our own scale drawings are prepared *in spite of* rather than with the co-operation of the factory. One most happy exception is the *Vereinigte Flugtechnische Werke GmbH* (VFW) comprising Focke-Wulf & Heinkel at Bremen. They have just produced the first of what we sincerely hope is a long series of monographs. It deals with the FW 47 and though written only in German, carries magnificent information for the historian and modeller including five, multiple view drawings and many detail photos. Full marks to VFW, who, incidentally are the hosts for the 1969 World R/C Championships.

One of the best-looking Dakotas in the British Isles is G-ALYF, c/n 19350, formerly 42-100887, TS424, now at Abbotsinch (Glasgow Airport) with the Safety Services Training Unit, and happily, unlikely to be destroyed. The airport personnel have done a splendid repainting job and obviously take a pride in this veteran machine. (Picture by Douglas Gillies.)



# NATS '69



**FIRST  
REPORT  
ON THE  
CHAMPS**

**MORE  
NEXT  
MONTH**

TO MANY FOLK the Nats is the *only* event they'll bother to leave their own local field for. It becomes an annual ritual for sport flyer and competition flyer alike. Self-administrated through the Society of Model Aero Engineers, with a laxity that makes it a pleasure to participate, it has grown larger year by year to the extent where it really deserves the title of Championships.

The Nats at R.A.F. Hullavington this year were, apart from the drenching of the free fly-offs, the most pleasant experience a modeller could wish to enjoy. Every event was well subscribed. Radio Control scale and pylon classes captured the glamour. The K & B 40 RV was possibly the motor of the meeting, and Skyleader proportional the equipment of this year's Champs. To 15-year-old Chris Fuller went the honour of first place in an event which has always been his father George's province, and he was by no means the only 'son of the Dad' doing well in the free flight. We saw ornithopters climbing high in the hangar, visitors from Brazil, Canada, the U.S.A., New Zealand and South Africa; more tents and caravans than ever before, and 1½ inches of rain in three hours! With such variety the Nats retains its attraction and stimulates activity for the remainder of the season.

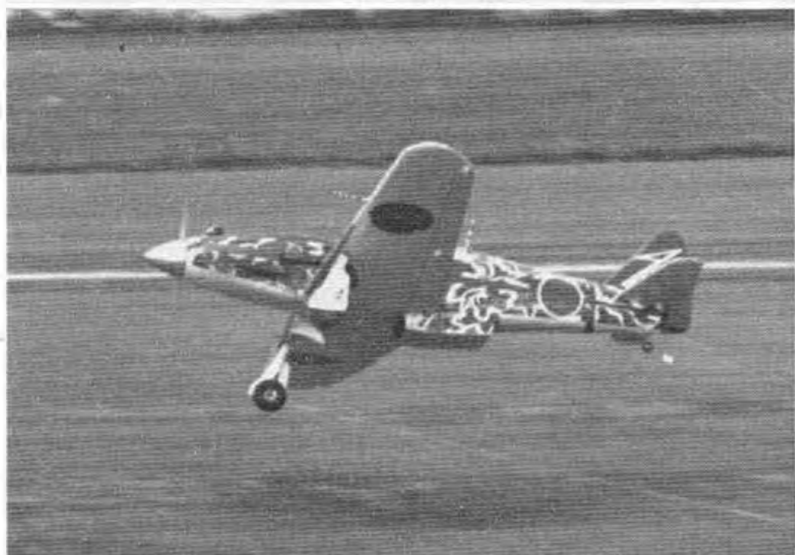


We ask readers to turn to our companion magazine, *Radio Control Models & Electronics* for a report on the trio of R/C events, but must give space here for what was undoubtedly the most impressive of all Radio-Control Scale. The entry list was an impressive 35, of which only a few dropped out, including a *Bristol Bulldog* and a *Fournier RF 4*.

Rate of progress and the degree of friendly rivalry in R/C Scale is rapidly creating a major event which demands extremely high standards. The new scoring system whereby flight points were reduced by a scale percentage took its toll of those who were less than true to scale, but still excellent flyers. Top scoring flyers were Jack Morton with his *Isaacs Fury* (929 pts) and Ray Brown's *Sopwith Triplane* (864) but with scale factory of 55 each their placings were dropped considerably. Top scale factor (936) went to Terry Melleney for his magnificent *Miles Hawk Speed Six* unfortunately not so impressive in the air, when it had to land in a rainstorm. Last year's results were calculated on a different basis, but in actual fact, first three places remain the same whichever way one calculates the scores. Dennis Bryant's *RWD-8*, with a moderate flight score of 515 was tops for workmanship, second best in scale. The huge lumbering parasol winged trainer is a complete contrast to Mick Charles' hot ship, the *Jurca Sirocco*. Though unfinished, with cockpit and decor to add, the *Sirocco* was a mechanical marvel with screw jack operated exact scale u/c, sliding hood, and a finish that matched the magnificence of the real thing. Mick's clubmate rival, Roy Yates had chosen the comparatively drab *Proctor IV* and on first flight result, Roy had retained his scale trophy for a second year through a fine flight backed up by high scale and workmanship points. However, Mick Charles had an abbreviated flight due to a lean engine. He wanted to make his second flight as allowed, and so a fast hour fly-off took place between the *Sirocco* and the *Proctor*. The result speaks for itself, only 1.5 per cent. difference, with Charles in the lead! This trio of lightplane scale types now represents the U.K. at Bremen.

Other models were no less impressive. When one sees in a glance, a *P-40 Kittyhawk*, *Me 109s*, *Spitfire* and *Tony* all virtually to the same scale, plus a *Hawk P-6E* and *Gladiator* in the background one begins to get the picture of scale fever. Ultra-lights were not neglected. There was a *Currie Wot*, a *Fairey Junior* and of course the *Isaacs Fury*. Nor was

Heading, with Roy Scott's *Spitfire V* on low approach made modelling history through publication of similar shot in 5 million circulation *'Daily Mirror'* occupying half page! Left, A. J. Brigg's winning control line scale *Bristol Brigand* on approach with flaps down and below, being shown to Air Commodore Paul, Secretary/General of the 'Air League' with S.M.A.E. Vice-Chairman Norman Couling in centre. Opposite; at top, Roy Yates' *Proctor* on approach, with Robin Lehman's *Twin Otter* on fly-by. 2nd row, Den Bryant's fine *RWD-8* cruises sedately as Tony Lunt's *Nieuport 17* sheds tyres. 3rd row, D. Tappin makes hairy Tony take-off, with Den Hamman's *Piper Pawnee* floating in at right. Bottom, head-on attack by Ken Marsh's *Hawk P-6E*, at right, Mick Charles' winning *Sirocco* lifts realistically before retracting undercarriage.



World War One, with two *Nieuports*, a *Bristol Scout* and two *Tripes*, *Sopwith* and *Fokker*. The aerobatic selection was a couple of *Zlins*, 326 and 526 plus the big red *Yak 18PM*. Altogether a feast for any lens, and one which we shall deal with in more detail when *SCALE MODELS* appears.

At the *Control Line* circuit, clearly the drama was shared between Goddard's almost non-flight with a superb *Ansaldo SVA-4* which practically stopped dead at shoulder height when it came into wind, and Ivans' explosive *Junkers Ju 87* which fired one of its two long cannon with resounding bang and flash. Of 17 entrants, only the winner, Briggs, with his all-working *Brigand*, Tony Day and his well known *Shinn* and Reeves with aerobatic *Turbulent* were fully prepared, ready to fly and operate soon as called. However, this is not to decry the up and coming efforts, especially those by Three Kings clubsters who very much go for twin engines and loads of power. A near supersonic *Dakota*, and *Aero Commander* at full chat on just one fan may be taking the need for urge a trifle too seriously. We much admired same club's *Fokker D-21* entry by Cordwell. More polish in flight, and this one will be rattling the leaders.

## Free Flight (by John O'Donnell)

The weather and the flying facilities are an inherent part of the story of any free-flight contest – and this year's 'Nats' were no exception.

Sunday's forecast was not over-encouraging, predicting generally cloudy conditions with some bright periods and some showers – together with a 12 knot wind, due to increase later. This gives a reasonable picture of the weather at the start of the contest, if not what happened thereafter. Hullavington being the size and shape that it is, the location of free-flight control (and the launching area) was dictated by retrieving considerations. In an attempt to avoid having models land in the R.A.F. housing estate at the end of the 'drome', control was located adjacent to some of the C/L events. This led to a certain amount of inconvenience, mainly from bicycle retrieving considerations rather than the actual flying over the C/L circles.

Early flights in the 3-3½ minutes region usually landed just within the airfield. Those with overlong D/Ts or encountering stray thermals ended up in the adjacent fields or built-up area. At this stage max's were 'two-a-penny' in open rubber – but rather less plentiful in the open power or glider events.

As the day progressed the wind dropped steadily, and the weather brightened considerably despite a couple of short rain showers. The improvement suited glider contestants especially – although thermal activity was very peculiar. This is reflected in the number of max's scored – compared with the small number of fliers who managed to do so three times. The usual tactical approach could bring very mixed results, as many thermals petered out very quickly. This led to several cases of mass launches in which only a couple of models would max, out of a dozen or so released together. Towing for one's own lift could be equally uncertain. Nevertheless a number of well known fliers appear in the short list of fly-off qualifiers. In particular, whatever technique was employed by the Hayes Club-members, it seemed to suit conditions very well.

Meanwhile the rubber fly off had been filling up steadily – and the organisers were beginning to look somewhat worried about the number of timekeepers that they were going to need at fly off time. (The R/C area was somewhat shattered by a loudspeaker request for 70 timers!). Eventually there proved to be 32 trebles – about half the entry having max'd out – and all set to provide the largest rubber fly-off ever.

Power had a surprisingly small fly-off contingent – only six in all – and for no really obvious reason. One other puzzling feature was that none of the three winners of last year's open events qualified for the fly-off in that event on this occasion!



There was only one free-flight event without a perfect score. This was the *Frog Junior* contest in which rubber/glider/power categories were flown together by the under-16-year-olds. The event was won by Brian Day's 10 year old son Richard, who managed two max's in his 843 aggregate. This model was a modification of the well known 'Garter Knight' Coupe d'Hiver – and had a simple sheet fuselage utilising the plans design wings and tail. The original single-blade prop was used – and power was 8 strands of ¼ in. Pirelli 36in. long.

Chris Fuller had only just squeezed into the age qualifications with his sixteenth birthday being in June. He failed to max on his first flight, and seemed most apprehensive as to what father George would say! It couldn't have been too bad, as George apparently treated Chris to a field entry in the open power contest afterwards – of which more anon.

Even the Tailless event for the *Lady Shelley Trophy* had a treble! This was provided by Henry Tubbs flying the same model he has entered for some years. This has a swept wing of rather unique planform on an old open rubber model fuselage (A/Annual 1965, P62) Henry managed to prolong the motor run, using low power and a long motor, to 2.45 this year – and has eliminated his previous stalling problems. Runner-up was tailless protagonist John Pool who started off using a large (about 300 sq. in.) elliptical tipped model, but damaged it rather severely through catching the prop on his second launch. His reserve, assembled out of old components the previous week, made two max's!

Rain set in towards the end of the contest – which closed at 7 o'clock. One hour's gap had been allowed before the fly-offs which were scheduled to start at 8 o'clock, and he held in a glider/power/rubber sequence. The wind had dropped to almost nothing – and then reversed in direction. There was much dithering before a move to the opposite end of the 'drome' was finally agreed – only 10 or 15 minutes before 8 o'clock.

Despite quite heavy rain, the glider qualifiers were required to fly in the usual 15 minute period. Due to the move there was some confusion and much frantic calling for timekeepers. Some minutes elapsed before anyone went out to fly. There was no inclination to delay, and most fliers seemed anxious to fly before their models got too saturated. Surprisingly, I only saw one flier (Elton Drew) with polythene wing covers. Some fliers still went well downwind to launch – but to little avail. Scores showed that all the models suffered under the conditions – not to mention every-one involved.

Jim Punter had a clear lead and was presumably very pleased after two second places last year. His 86in. span A/2 had the Hirschel section traced straight off the *Aeromodeller* published drawing – but with very different wing construction. Inner panels (but not the tips) have a completely sheeted top surface – and a taper construction mainspar that starts as a box section and changes to a Tee. Both spar and joiners are located well forward so the wing tends to wash-out (rather than wash-in) under tow loads. The wing is mounted as a low pylon.

There was a tie for second place between Laurie Barr (with a sheeted L.E., Hoerner tipped, sheet box fuselage design) and Mike Woodhouse (obviously a 'Wichita' development). Laurie had taken only an hour off his 'Chairman's' duties to make his 3 max's.

The rain was even worse by the time the power fly-off was due. Two people 'opted out' – Dave Wiseman (with his latest F.A.I. model) and Perce Perry.

First away was Jack Allen, who mis-launched his *Dixielander* and barrel rolled left in consequence. Next was Chris Fuller in a slightly brighter (and hence, less murky) moment. This was to prove decisive as he scored just under 3 minutes and was seen almost down in front of the hangars. His *Dixielander* has kit design wings and tail – but a somewhat modified fuselage with altered pylon and increased fin area. Motive power is a Cox 15 special using one of the new Cox hard nylon props. Runner up was John Boxall with a ½A model, and third was John West. Both flew their Odiham winners.

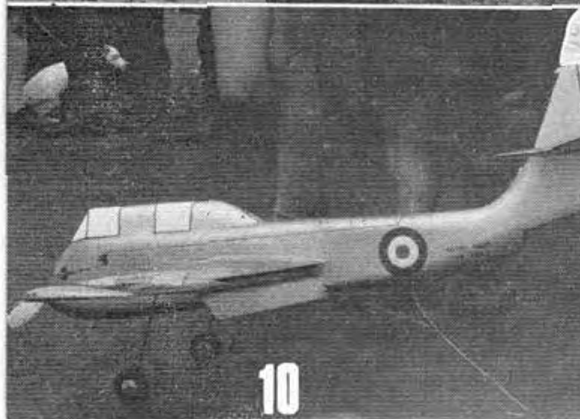
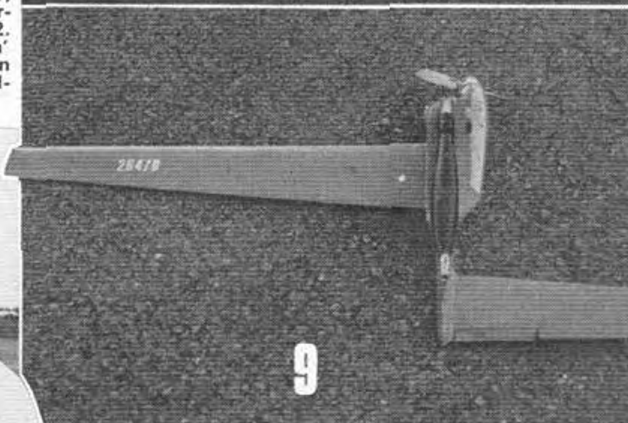
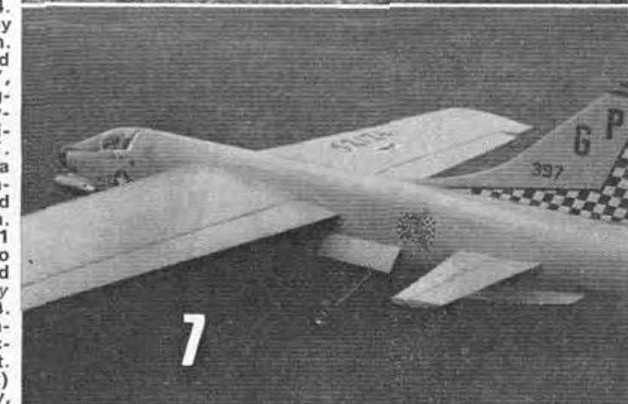
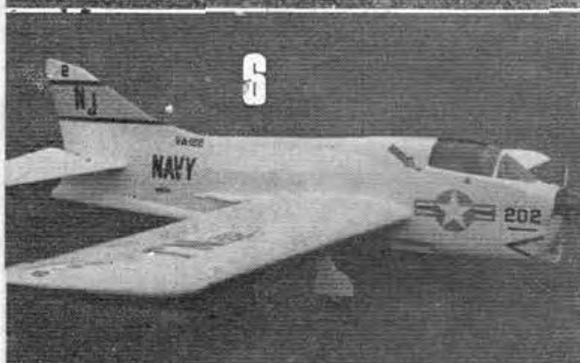
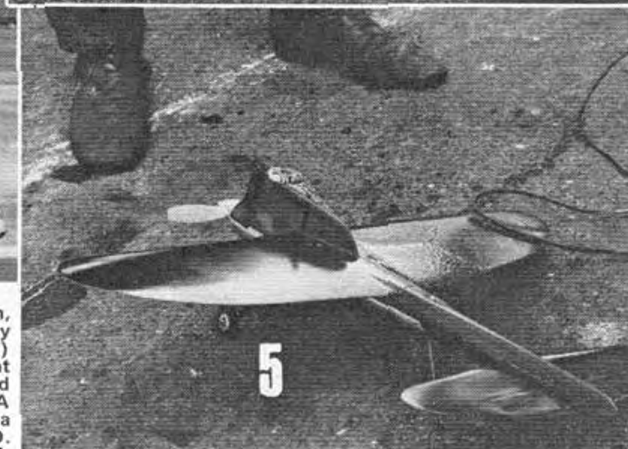
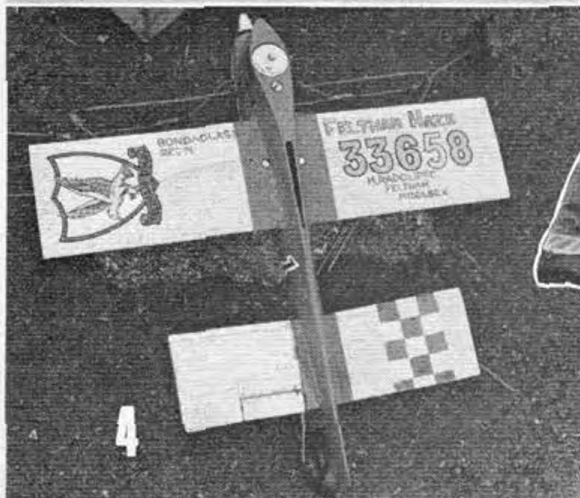
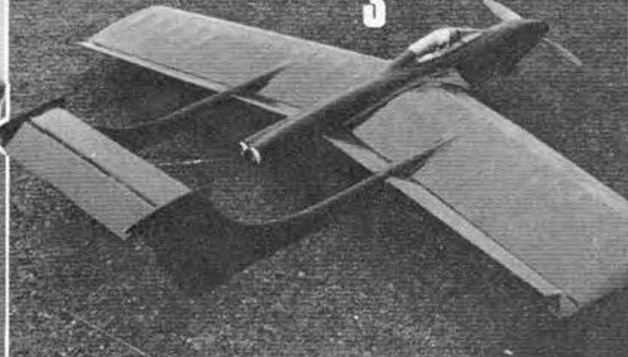
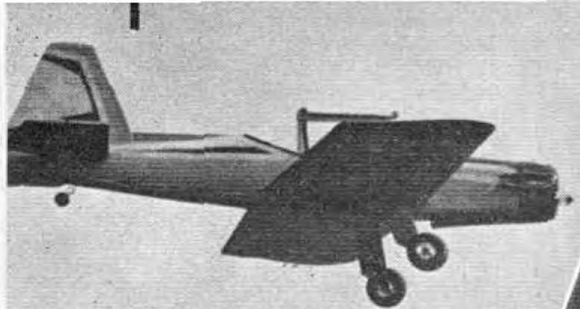
Meanwhile, there had been growing apprehension amongst the rubber fliers over the prospects of flying-off in worsening rain and increasing gloom (both light and spirits!). This led to suggestions being made to f/f sub/committee chairman Ian Lucas that the rubber fly-off might be postponed to the following day. A call over the loudspeaker system for a vote produced an overwhelming preference in favour of postponement for twelve hours until 8.00 a.m. rather than at 6.00 a.m. The latter was suggested so as to enable those in hotels to return for breakfast.

There is no doubt that the decision to postpone was both practical and sensible – if unprecedented. There is an argument that contest arrangements, once published, should never be altered. But if the rubber fly-off had been held in the pouring rain, the results would have been farcical. Many would not have attempted to fly, some would have crashed owing to flex and flutter troubles, and the rest would have disappeared o.o.s. with scores bearing no relation to their flight durations.



Opposite, in teeming rain, a near drowned Mike Woodhouse returns to base as our flash arrests raindrops. This page, top, John O'Donnell, top in FAI Power with one of few diesel powered entries. Centre is J. Steel with winning  $\frac{1}{2}$ A Train, right, Brian Picken, who took M.A. Trophy. 2nd row from Canada, Peter Allnut won Wakefield at left, Wendy Smith topped the other Ladies and Henry Tubbs presents arms with a tailless victor. Bottom, left to right, Henry Tubbs again, this time with A/2 Glider winner, centre is Jim Punter adding another Nats plaque to his collection with the Thurston Trophy this year, and bottom right, the Fullers, George and young Christopher, Chris won the Sir John Shelley, beating Dad in process.





1. Italian Bagalini design, as in A/Annual, flown by E. Sharp (Cambridge) with OS 35. 2. Tight dance! Dell, Hughes and Heaton, pilots in the JA final. 3. Unusual 'Sea Vixen' stunt model by D. Bailey (Buckaneers). 4. Mini-Stuppi with Cox by M. Radcliffe of Feltham. 5. Frank Bradley's speed model inspired 'ratter', with full-length magnesium pan. 6. T. Taylor's (R/R Derby) beautifully finished 'Corsair'. Merco 35 used to turn a three-bladed prop. 7. Impressive 'Crusader' based stunt by N. Billington. 8. S. B. Perry's Merco 61 powered Brewster Buffalo entry. 9. One-sided speed design with ED Pipe by A. Morris (Sharston). 10. M. Reeves' Short Seamew which placed second in the Carrier event. 11. Mick Caller (Elliott) with 24" G.15 speed entry, also had a 36" span version for ABC 60. 12. Bell XFL 1 'Airabonita' carrier model by Alan Woodrow (Hatfield Del-tas).

Monday morning was a vast improvement. There was a definite, but not too strong, drift in a direction promising easy recovery. Conditions were cloudy with a few bright breaks. Timekeepers had been recruited by ordering the qualifiers to bring their own and 'exchange' them if required to obtain one from another club.

There were some very good scores made in the conditions, the top three all being over eight minutes and flown at different times during the 15 min. fly-off period. The eventual winner was Brian Picken, flying a brand new (trimmed on the Saturday eve) model, not the one used for his treble and on which he had twice broken the wing. The winning model was a straightforward diamond pylon design with polyhedral and rounded wing tips. Size is a little longer than Wakefield. The only unusual feature was Brian's 'trademark' - a single blade feathering prop of 25in. dia. Power was 33oz. of Pirelli arranged in 12 strands. Brian flew part way through the fly-off in a patch that felt very nice and warm to me - but when I was only half way through winding!

Second was Dave White with his 'usual' model. This has a 44in. span, 5in. chord wing with rounded tips, a 20in. x 25in. two blade folder and 3oz. of rubber in 14 strands. This gives a good fast high climb at the expense of motor run. It nearly proved Dave's undoing as his model was going in and out of cloud during the early part of the flight - and he was very lucky to have stayed in sight.

The three separate F.A.I. events held on the Monday were flown in 5 rounds of 1½ hours each, commencing at 9.00 a.m. and finishing at 5.45 p.m. This was little handicap to those flying in only one class - but could be a bit restricting on those attempting two. Following the rubber fly-off the wind freshened appreciably, and swung backwards and forwards through quite a wide arc throughout the contest. The average was straight through the radio-control contest area - not to mention the C/L testing ground!

Generally it was bright and even quite sunny - but with odd short but heavy showers. This all made for plenty of thermals - and the attendant downdraught. It was rather too windy for successful tactical flying - and almost compelled fliers to tow for their own lift in glider. Gusts made reliable lift evaluations difficult. In short it was relatively easy to do max's - but difficult to string a series together. Thermals were extremely turbulent - perhaps due to upwind obstructions.

There were numerous max's in the first glider round, few doubles, only two trebles and no perfect scores. The eventual winner was Henry Tubbs (top of tailless!) flying a 'Wichita' with a slightly modified fuselage. He only dropped 17 secs overall - but was lucky on one flight that caught lift at 20 feet altitude, then under-D/T, and still max'd! Runner up was Mike Fantham, who is having a very good run at the moment. Third was local man R. Woodruffe from Swindon, who used a 'Wichita' with fishing rod fuselage for his first three flights before being forced to change to his old 'Inchworm'.

Several of the previous evening's fly-off models showed adverse effects during the A/2 contest. Jim Punter lost his first model, then had the 'Thurston' fly-off winner spiral in out of stray lift for 0.33, and finished off with three more maxs with a third model for sixth place.

Wakefield saw an International win by Peter Allnut of the Toronto F.A.I. group of Canada. He returned to England for the British Nats 2 years back but this is his first real success here. His final flight was made just before the contest closed - and produced the necessary time to win. The model was certainly far from new, having a row of motor peg anchorages to reveal successive conversion from 50 grams of rubber to 40, and from 14 strands to 16. The design is Jack MacGillivray's 'Whistler' (detailed in Zaic's Year Book), and is a typical tubular fuselage pylon layout. Prop is 22in. x 27in. now using 16 strands of Pirelli - made up from old 'open' motors!

Second in Wakefield was Dave Digby from Leatherhead. The model is only his third Wakefield. Christened 'Digitalis', the design features twin sheet pylons, one carrying a D/T timer, on a tubular fuselage. Prop is a two blade out-rigger folder, and the fin is sideways lifting.

F.A.I. power produced quite a number of surprises. All three of the 1969 British World Championship Team were competing. Admittedly Ray Monks was using his No. 6 motor (which is a MVVS) in his No. 4 model. Even so, it was only a poor last flight that kept him out of top place. Dave Wiseman was flying his latest model so as to sort it out under contest conditions. George Fuller was the most successful of the three and finally placed second. This was after a most discouraging start with a 1.10 flight off a 4 second run. He then changed models - but again had timer trouble when he well and truly overran (45 secs) in the fifth round. His second attempt, made very late, was severely down-draughted. Both models were powered by G 15 s, with out pipes, and used 7 x 4 Tornado nylon props. He started and finished with the model used to qualify for his team place. The other was his Trials reserve.

The whole of the F.A.I. power contest changed dramatically during the third and fourth rounds. Several very well placed competitors dropped a flight badly at this stage. Worst

affected, however, was Tom Smith, who returned with his 'Nig Nog' (F.A.I. version) about 10 minutes too late for the fourth round after starting with three maxs. A final max would have let him place, but the model then went in 'over the top'.

All this rather left the way open for my only success of the meeting - a win in F.A.I. power. I started badly with two flights in poor air but then went much better and finished with two maxs in the really windy rounds. The model was the H.P.15 D powered one that I have flown since this time last year. Apart from the power unit, its most unusual feature is the very slim fuselage made possible by the use of a fibre-glass fishing rod, with thick balsa sheet added over the forward half. Naturally it has A/R and V.I.T. As readers of my 'Comments' will note, I had trouble with the motor recently and despite a very quick repair by the makers only received it back just before the Nats. It was still very stiff through having new 'innards', and not yet back to its usual 19,500 rpm on a 7in. x 4in. Top Flite nylon prop.

There was a tie for third place between Dick Johnson and Jack Allen, at 1.45. Dick had a most impressive motor, a G 15 modified as per 'Aeromodeller Annual' and fitted with an E.D. power pipe. This combination turned a 7½ x 3½in. Bartel fibre-glass prop at 22,200 rpm!! It does the same revs as a 7 x 4in. Bartel. The engine is mounted on a modified RipMax alum. mount and the timer is an early Seelig. Jack Allen's model is an early John West design, has an un-piped G 15 (turning a 7 x 4in. Tornado nylon) mounted on a home made mount fabricated from 2 alum. L shaped angle pieces.

JA Power was also on the Monday - and seemed to be rather poorly supported. Several flyers started well and failed to continue, presumably due to recovery troubles. The winner was Luton member J. Steel with 8.36 egg, using a George French JA Train with Cox TD .049. Second was Peter Harris from Evesham, who flew an unusual model that could be described as either deep fuselage or low pylon, depending on how you looked at it. The wings featured 'sparsless' construction, L.E. and T.E. being tapered and built up (but without webs to box them in). For a change the engine was not a Cox .049 - it was their .051. This, one should hasten to add, is quite legal for British JA requirements.

It really isn't etiquette to leave the Ladies event until last but perhaps I may be forgiven in the prevailing windy conditions experience was more than desirable. It must certainly have helped Mrs. Wendy Bennet, from my home club, to her first place. She is no stranger to model meets, as those who can remember a very young Wendy Bennett flying A/2 will realise. This time she flew a very simplified version of my 'Maxie' design with free-wheel prop and low power (current deliveries of brown Pirelli now sold as spools). Recovery of her second flight (a max) by husband Geoff proved decisive as it enabled the necessary third flight to be made.

Runner up was Mrs. L. Bennett, from Anglia, who made two short flights and ended up with a max. Third was Miss Penny Vincent, once again flying her 'Caprice'. The expected opposition from Mrs. Sue Miller came to a sudden end when she failed to find her 3 year old OS Max15 powered 'Climax' after its first flight. As it was seen to land only just outside the airfield it is suspected of having been stolen.

Sue was not the only person to lose or nearly lose a model in disturbing circumstances. Other models could not be found. A Minivan owner was found in possession of Ray Monks' and another model and demanded a substantial reward for their return.

Ever more serious were the complaints and threatened Dick Place and Don Haworth, well deserving victors of the F.A.I. Team Race.



reprisals from some of the downwind farmers. At one time the continuing of flying was threatened, and there was serious talk of cutting the F.A.I. max to two minutes. Eventually Laurie Barr (in his official capacity as Chairman) found a financial solution acceptable to the farmer and flying continued untroubled. It seems a great pity that similar action could not have been taken before the contest on the 'prevention is better than cure' approach. I hear that it was discussed but rejected, a decision one finds difficult to understand.

'Organisation' has been quoted or implied in the above report. It is only fair to add that this necessary increment was partially provided by those clubs, areas and individuals who volunteered to administer the various f/t events often at the sacrifice of some of their own participation in the biggest meet of the year.

## Control Line

This Year's 1A Team Race attracted some 41 entries, although only 25 actually flew. It is ironic that this class, which was originally introduced for the younger modeller and was supposed to be a relatively cheap form of competition for this reason, has fewer and fewer juniors competing each year. Why? They are all flying F.A.I. or Rat-racers, the latter being a much more costly affair! There's a moral there if only we could see it.

Heat times were considerably better than last year, with the Turner/Hughes team setting a new record time of 3.34.

The finalists were Heaton/Ross, Turner/Hughes and Dell/Wooding. At the starting whistle, all three models leapt into the air together, with Heaton/Ross and Turner/Hughes circulating neck and neck, slightly faster than the Dell/Wooding équipe, whose model was also rather low on laps. The Turner/Hughes pit stops were incredibly quick, but the Heaton/Ross's Oliver in their pot-bellied model was reluctant

starting. At the halfway mark Heaton's model, which was slightly in the lead despite considerable pilot assistance from Hughes, had the misfortune to lose the comp. screw, which fell out and struck a spectator in the face. Fortunately, apart from a burn he was unhurt, and the comp. screw, rapidly returned to Malcolm Ross who refitted and re-started in record time. Slowly they regained the lead, only to suffer the ill-luck to have the trouble repeated on the penultimate lap. This left the way clear for Turner/Hughes to win in a new record time of 7.36.2 with Dell/Wooding trailing by some 54 seconds.

Just imagine the potential final time had that compression screw of Heaton/Ross stayed in place! Such is racing. It was Turner/Hughes fifth 1A Nats win.

The Gold Trophy event for control line stunt models benefited from the calm conditions on the Sunday. This class, which has been in the doldrums in recent years, is well on the way to a comeback, this year attracting some 30 entries. Another encouraging aspect was the wide variety of models to be seen - certainly no longer the 'all look the same' designs of a few years ago. The jet-style model is becoming popular, an excellent example being a 'Corsair' based design by T. Taylor of the Rolls-Royce Club. This model was beautifully finished in white cellulose, and was based on the Crusader wing - though who would have recognised this? At the moment this model is still being tested and seems a little underpowered with its Merco 35 powerplant - especially in the square manoeuvres. This may shortly be replaced with a Kyowa 45. Another jet propagandist is N. F. Billington, of Congleton M.A.C. He brought along a very unusual Chance Vought 'Crusader' model in addition to his fine flying 'Lightning' which suffered from the engine cutting in the vertical eights. Both of these models featured semi-scale fuselages, but with conventional wings. The trike undercarriages certainly gain landing points, especially as nose-legs are home made, sprung units - very realistic and effective, preventing the

## NATIONAL RESULTS (provisional)

### Open Glider (Thurston Trophy)

182 entries	
1. J. Punter (Hayes)	+2:10
2. C. Barr (Hayes)	+1:56
2. M. Woodhouse (Norwich)	+1:56
4. R. Baggott (Birmingham)	+1:53
5. N. Neve (Brighton)	+1:43
6. J. Baguley (Hayes)	+1:42
7. E. Drew (Bristol)	+1:38
8. R. Bailey (St. Albans)	+1:36
9. T. Dilks (Spitfires)	+1:24
10. R. Cummins (Bristol)	+1:23

### Women's Cup 9 entries

1. Mrs. Wendy Smith (Whitefield)	6:00
2. Mrs. R. L. Bennett (Anglia)	4:55
3. Miss. P. Vincent (East Grinstead)	3:15

### 1A Power 62 entries

1. J. Steel (Luton)	8:36
2. P. Harris (Evesham)	7:52
3. A. Clark (Brighton)	7:07

### F.A.I. Power 50 entries

1. J. O'Donnell (Whitefield)	12:56
2. J. Allen (Brighton)	11:45
2. R. Johnson (St. Albans)	11:45
4. F. Chilton (Crookham)	11:33
5. D. Wain (CM)	11:31

### F.A.I. Rubber 44 entries

1. P. Allnut (Toronto)	13:46
2. D. Digby (Leatherhead)	12:49
3. B. Rowe (St. Albans)	12:42
4. J. Blount (Croydon)	12:25
5. L. Burrows (Blackheath)	10:30

### Handicap Speed 33 entries

1. S. Kitt/Pittaway (M.A.R.S.)	5 cc	137 mph	89%
2. G. Farnsworth (N. Sheffield)	2.5 cc	117 mph	83%
3. G. Yeldham (Southend)	10 cc	137 mph	81%
4. R. Gould (R.A.F.M.A.A.)	5 cc	119 mph	78%
5. A. Phinn (R.A.F.M.A.A.)	5 cc	108 mph	70%

### 1A Team Race (R.A.F.M.A.A. Trophy)

37 entries	
1. Turner/Hughes (Wharfedale)	7:36
2. Dell/Wooding (Feltham)	8:30
3. Heaton/Ross (Leigh)	179 laps

### Control-line Scale (Knocke No. 2 Trophy)

17 entries		
1. A. J. Briggs (Esher)	Brigand	464
2. D. B. Goddard (CM)	SVA-4	429
3. A. J. Day (CM)	Shinn	416
4. R. Evans (Wolves)	Ju87G	353
5. M. Reeves (Wanstead)	Turbulent	345
6. W. B. Cordwell	Fokker D21	298
(3 Kings)		

(3 Kings)

### Radio Control Scale ('Radio Modeller' Trophy) 35 entries

1. M. Charles (Eastcote)	Sirocco	1128
2. R. Yates (Eastcote)	Proctor IV	1112
3. D. Bryant (Bromley)	R.W.D.8	953
4. T. Mellaney (Hillingdon)	Hawk Speed 6	854
5. N. Butcher (Bucknears)	Fokker DR.1	835
6. J. Morton (CM)	Isaacs Fury	736

### Radio Control Multi (S.M.A.E. Trophy)

57 entries	
1. M. Birch (Hillingdon)	4240
2. S. Forster (Lincoln)	4009
3. D. Hamant (Grimsby)	3856
4. T. Cooper (Sutton Coldfield)	3710
5. K. Jones (Sutton Coldfield)	3468
6. G. Bradley (Lincoln)	3264

### Radio Control Pylon Racing 32 entries

(Find)	
1. J. Ralph (Cotswold)	2:17
2. E. Wall (Cotswold)	2:21
3. K. Jones (Sutton Coldfield)	2:43
Fastest Semi-Finalist: J. Ralph	2:13

### Frog Junior Trophy 14 entries

1. R. Day (CM)	8:42
2. D. Plews (Cheltenham)	8:23
3. C. Fuller (St. Albans)	8:00
4. J. Buskell (Surrey)	6:53
5. A. Chilton (Crookham)	6:35

### Open Power (Sir John Shelley) 120 entries

1. C. Fuller, Jr. (St. Albans)	+2:55
2. J. Boxall (Croydon)	+2:35
3. J. West (Brighton)	+2:13
4. J. Allen (Brighton)	+1:36
5. P. Perry (Birmingham)	9:00
5. D. Wiseman (York)	9:00

### Tailless (Lady Shelley) 30 entries

1. H. Tubbs (Baildon)	9:00
2. J. Pool (Halifax)	8:29
3. A. Slater (Leatherhead)	8:10
4. K. Attiwell (Halifax)	7:53
5. J. Wassel (Hayes)	7:10

### Rat Race 47 entries

1. D. Rudd (Feltham)	6:11
2. McCambert (Feltham)	6:20
3. J. Dixon (Feltham)	7:48
4. F. Bradley (Feltham)	100 laps

### C/L Stunt (Gold Trophy) 30 entries

1. D. Day (Wolves)	1161
2. J. Manual (Lincoln)	1111
3. M. Mayne (Yee Bees)	1046
4. S. Blake (Bucknears)	1039
5. M. Reeves (Wanstead)	1037
6. M. Harvey (3 Kings)	1017

### F.A.I. Speed (2.5 cc)

1. G. Farnsworth (N. Sheffield)	112 mph
2. P. Carr (N. Sheffield)	106 mph
3. M. Goodger ( )	103 mph

### F.A.I. Glider 131 entries

1. H. Tubbs (Baildon)	14:43
2. M. Fantham (Richmond)	14:32
3. R. Woodruffe (Swindon)	13:17
4. N. Clark (Sperry)	12:43
5. G. Ferer (Swindon)	12:37

### Open Rubber (Model Aircraft Trophy)

98 entries	
1. B. Picken (Liverpool)	+8:29
2. D. White (York)	+8:20
3. D. Hipperson (Croydon)	+8:04
4. E. Prince (Congleton)	+6:31
5. J. Pool (Halifax)	+6:08
6. B. Day (CM)	+5:48
7. H. Tubbs (Baildon)	+5:42
8. A. Wells (Norwich)	+5:40
9. B. Peers (Congleton)	+5:25
10. J. O'Donnell (Whitefield)	+4:58

### F.A.I. Team Race (Davies 'A' Trophy)

53 entries	
1. Place/Haworth (Wharfedale)	9:51
2. Heaton/Ross (Leigh)	10:45
3. Devenish/Davy (Wharfedale)	10:51

### Carrier 14 entries

1. J. Snell (Esher)	265
2. M. Reeves (Wanstead)	255

### Mouse Race

1. M. Gagg (Wolves)	6:29
2. G. Copeman (R.A.F.M.A.A.)	7:00
3. D. Handley (CM)	7:40

### Combat 82 entries

1. V. Hunt (A.C.E.)	
2. J. Shaw (F.A.C.C.T.)	
3. G. VVood (Scunthorpe)	

common fault of bouncing

Perhaps the most pleasing feature of this event was its quietness – nearly all of the stunt flyers having voluntarily fitted efficient silencers. If only the same could be said of the Rat-race boys, whose engines effectively drowned the noise of the radio models, although a considerable distance away!

A very closely fought event, the Gold, was won by Dave Day of Wolves, flying his Thunderhound (or is it Space-bird?) and very well organised.

The newly introduced **Carrier Deck** contest was potentially a great crowd puller, but unfortunately due to rather much 'test-flying' – but not deck landing – flights, many spectators became bored and wandered away. The organisers would do well to take a leaf from the racing organisers, who kept to a tight time schedule. In fact, this contest was due to finish by 4 p.m. but by 3.30 p.m. only one official flight had been made out of 14 entries! To be fair, the strength of the wind did tend to deter the pilots, as it meant rather marginal control when throttled back for the slow runs and the actual landing.

Last year's winner, Mick Reeves, flew a Short Seamew powered by a Merco 61 and featured flaps and throttle control. His low speed runs were very impressive and the model at 44" span and 3 lbs 6 ozs. all-up weight was no slouch! Another approach was shown by J. C. Snow, who flew a 36" span profile version of the Hellcat powered by an OS 40 H rat-race motor, fitted with a throttle.

The fact that this event has great potential spectator appeal was shown by the series of ooh's and aah's that greeted every near miss as the arrestor hooks just managed to miss the landing wires.

Although as popular as ever, **Combat** seems to be losing a little of its spectator appeal, possibly due to the stereotyped models (mainly Dominator-based wings but with a fair sprinkling of the Ruter-ess' designs). Perhaps another contributing factor is the continual arguing and shouting amongst contestants. By the time of the fourth or fifth rounds on the Monday, the wind was fairly strong, resulting in most of the 'combat-ing' being performed on the downwind side of the circle. This fact probably benefited the eventual winner Vernon Hunt of the A.C.E., as his model was capable of extremely tight manoeuvres, and in the final he decisively beat John Shaw of F.A.C.C.T. – a feat which is not easily accomplished – in one of the best finals seen for many years.

**F.A.I. Team Race** appears to be as popular as ever and the weather with its intermittent rain and sunshine caused plenty of headaches with engine settings. In the first round Alan Laurie recorded a very fast time of 4.40 – due more to his flying than a superior model/engine combination. He came unstuck in the semi-finals when contest director Tony Harknett quite rightly disqualified him after three warnings for high flying and whipping. The Place/Haworth team then reeled off a very respectable 4.48 – showing how a fast time can be recorded when flying fairly – a lesson in copybook flying and pitting to the many 'strong-arm' flyers.

Although there were several new, and younger faces to be seen, it was the long-established team of Place/Haworth who reached top honours flying yet another beautifully finished 'Super Nova'. Their fellow finalists were Heaton/Ross, and Devenish/Davy who flew a very nicely built model which was finished in clear lacquer à la Nery Bernard style of several years ago.

It was interesting to note the different tactics of the top three teams immediately before the final. Heaton/Ross practised at every available moment (just as well, as a serious misfire appeared) whereas Place/Haworth were content with just a couple of quick check flights. Devenish/Davy, however, looked confident and did not test fly.

The final got off to a good start with all the models starting simultaneously on the first flick, and it was obvious that they were evenly matched. Ross's pit stops were extremely quick – partly due to their pressure re-fuelling system, and all the pilots delivered the models straight, into their pit-man's hand. Dick Place's clean flying and Don Haworth's unruffled pitting style enabled them to build up a slight lead, and about the 150th lap, the Heaton/Ross engine began to overheat and slow down – but after a slow pit stop this was rectified. Unfortunately their efforts were too late, and Place/Haworth finished 53 seconds in front, while Joe Devenish and Les Davy finished five seconds later in third place.

**Rat Race**, held on the Monday, was noisy, hairy, fast – and greatly enjoyed by all who watched or competed, but what happened to the 50 entries? – only 23 actually flew.

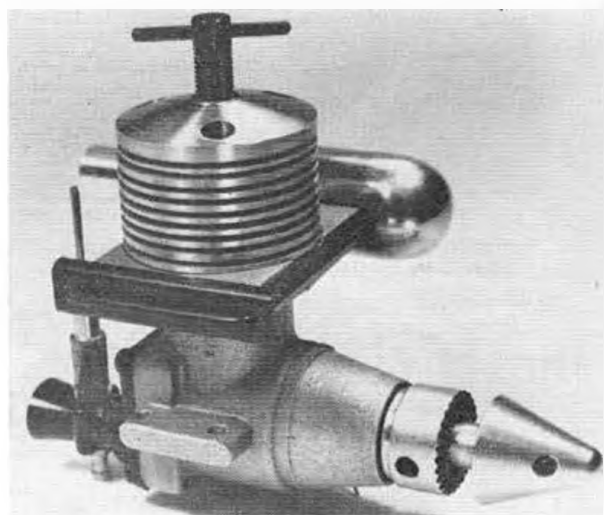
While some models were rather crude and roughly finished, the majority were quite sophisticated and extremely well finished. The 'Brat' design was most prevalent, but there were several interesting models, particularly Frank Bradley's which was virtually a speed model with mono-wheel attached (haven't we seen this one before somewhere?). Remarkably few tuned-pipes were used, presumably due to their temperamental nature. Virtually all entrants used the pressure and fuel cut-off systems for pit stops and these were extremely effective in cutting the engine immediately. Unfortunately, several motors would not re-start as quickly!



Top, Mick Charles with superb Sirocco, Merco 61, Skylander R/C, retract gear, sliding hood, full scale detail, winner of R/C Scafe. Centre, R/C Stunt winner Mike Birch aided by runner-up Stuart Foster, starts Merco 61, uses Skylander R/C and bottom, pylon race leader John Ralph with slimmed 'Shoestring', weighs only 4lb. 10oz. No right rudder, uses left/throttle off one servo, R.C.S. single stick Digl-5 and K & B 40 RV engine.

One of the fastest models there – and definitely the quickest accelerating, was 'Red' Phinn's (R.A.F. M.A.A.) 'Rodent' – which featured an inverted K & B 40 RV using 8" x 11" prop, and had a clothes-peg type battery connector which slipped over metal contacts on the trailing edge of the wing.

However, it was consistency rather than absolute speed that paid off and the final consisted of an all Feltham Club affair between D. Rudd, T. Lambert, F. Bradley and J. Dixon – in fact the first seven places were held by Feltham members! This final was very exciting and rather hectic in the centre – with all the models circulating at 120+ m.p.h. John Dixon was handicapped by a long pit stop, and Frank Bradley was eliminated with a leaking tank valve. The victors were the Dave Rudd/Richard King team who narrowly beat T. Lambert into second place. Dave Rudd, who managed to find time to both organise and win the contest, was using his 'Brat' design, powered with a K & B 40 RV, which featured a new blown crankcase, giving enlarged porting areas. The crankcase is being developed by the factory in an attempt to stave off the threat of the Super Tigres. Dave's motor swung an 8" x 9" Rev-Up prop and burnt a 30 per cent nitro fuel.

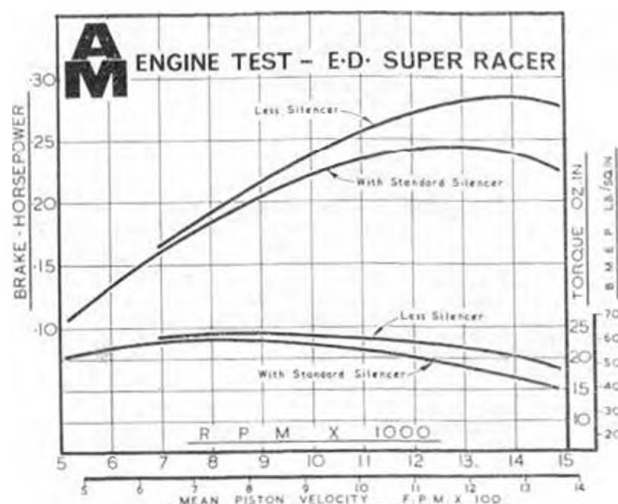


IT WAS in 1951, nearly eighteen years ago, that the original E.D. Company, Electronic Developments (Surrey) Ltd. of Kingston-on-Thames, announced the 2.46 c.c. E.D. Mark III Series 2 engine, otherwise known as the 'E.D. Two-Four-Six' and later dubbed the 'E.D. Racer.' Designed by the well-known model marine engine expert Basil Miles, this engine became the most successful E.D. motor ever built. At the time of its introduction, it combined ease of handling with a power output unexcelled in the 2½ c.c. class, and, even after its performance, as a contest engine, had been surpassed by later designs, it remained a favourite with discerning free-flight and control-line enthusiasts for many years.

The new *Super-Racer* that is the subject of our present report and which is manufactured by the present E.D. firm at Surbiton, bears only a superficial resemblance to the earlier Racers. Nevertheless, under its skin, the latest model retains the basic layout and most of the features of the earlier Racers. It has the same bore and stroke measurement and it still has a unit crankcase, bearing housing and lower cylinder casing with rectangular exhaust duct having outlets each side. It remains a rear disc-valve induction engine with annular cylinder porting. The cylinder assembly is basically the same and the crankshaft still has a small ( $\frac{1}{4}$  in.) diameter journal supported in twin ball-bearings.

Writing of one of the earlier Racers, we commented that it was 'finished best where it matters most - inside.' Which was a polite way of saying that, outwardly, the engine lacked the crisp appearance of some other makes. We make no apologies for saying the same about the present model Racer. After all, one should never judge an engine by external appearance: it is the inside that really counts and the Racer is not found wanting here.

Earlier Racers had two  $\frac{1}{4}$  in. o.d. ball-bearings and the 1951 model had a clearly defined large diameter outer bearing housing on a small diameter extension of the crankcase. In 1952, strengthening webs were added between this and the crankcase proper and in 1957 the entire front end was modified to a straight cylindrical form. With the present model, a smaller o.d. ( $\frac{1}{4}$  in.) front bearing has been adopted and this has allowed the front end to be tapered and slimmed down considerably. A smaller diameter prop driver



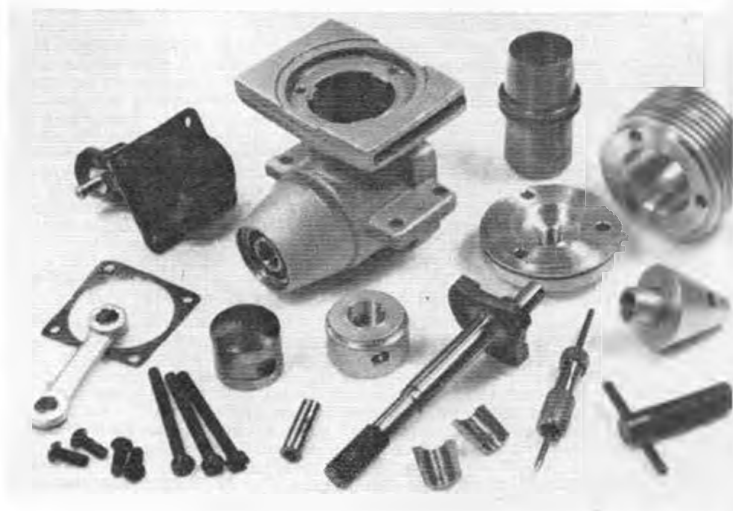
is used and is fitted to the shaft by means of tapered half-collars rather similar to those sometimes used to retain valve stems in four-stroke engines.

In place of the aluminium rotary-valves used previously, the new Racer, following current practice, uses a non-metallic valve rotor - in this case of black nylon. E.D. have taken this a stage further in the Super-Racer by making the complete rear crankcase cover and carburettor body of black nylon also.

Piston weight has been reduced by 25 per cent. in the Super-Racer. The piston has a shorter skirt length and a domed crown rather than a conical one. A  $\frac{3}{16}$  in. dia., instead of a  $\frac{5}{32}$  in. dia., gudgeon-pin is used but at no increase in weight since it is tubular instead of solid. The piston diameter, incidentally, is reduced approximately .005 in. in the vicinity of the gudgeon-pin band to minimise frictional losses. The o.d. of the cylinder-liner is now tapered towards the bottom, from the port belt, to aid gas flow from the crankcase.

### Performance

Our test motor was received direct from the manufacturer and had apparently had some running additional to the normal factory check run. We took the precaution, nevertheless, of giving it about an hour of running time prior to taking any test figures.

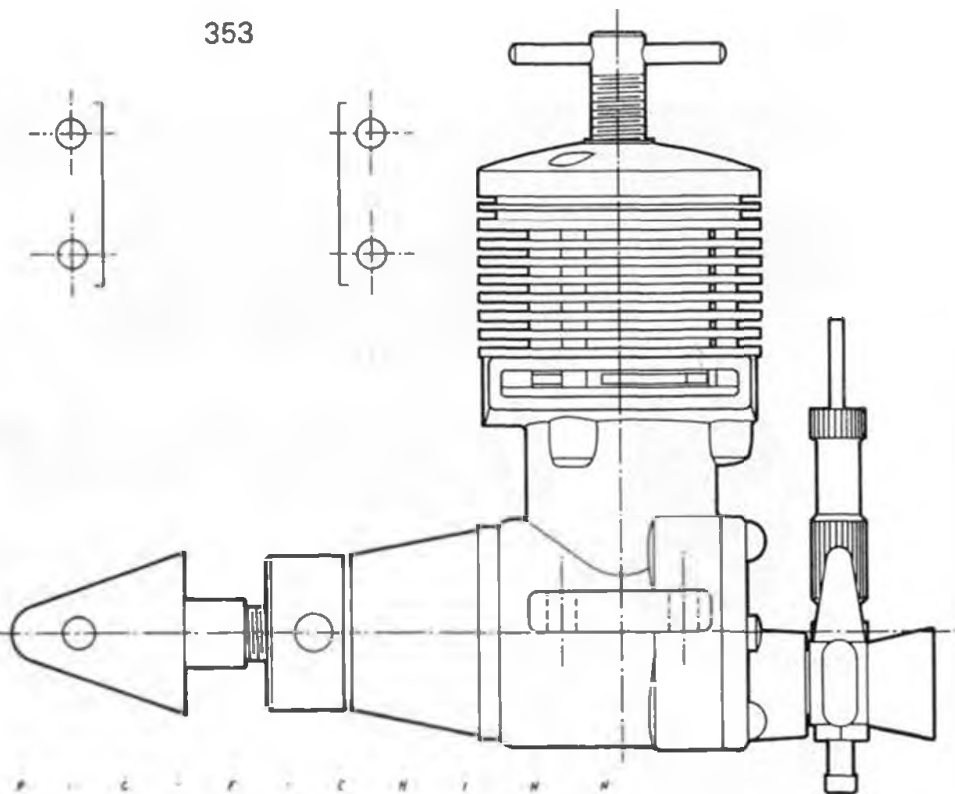


# ENGINE TEST

by Peter Chinn

## E.D. SUPER RACER

**Latest version of a perennial favourite renowned for reliability**



Starting qualities were excellent, irrespective of whether the silencer was used or not. Port priming was not necessary, we simply choked the air intake for two or three preliminary turns of the prop. and a start was then usually obtained within two or three flicks. This ease of starting persisted on all propeller sizes down to an 8 x 4 nylon. Only on light, fast, wooden 8x4s or smaller sizes, did starting become at all critical and this is of little consequence since there is no point in reducing prop. load to produce static r.p.m. above 11,000 (C/L) to 12,000 (F/F) r.p.m. with the silencer, or 12,000 (C/L) to 13,000 (F/F) r.p.m. less silencer. As the performance graph shows, our test unit peaked at approximately 13,000 r.p.m. with silencer and at just short of 14,000 r.p.m. without silencer.

Unlike the typical modern 2.5 c.c. glowplug engine, the E.D. Racer diesel is capable of operating quite happily when loaded down with a big prop. Static r.p.m. obtained on various props. were as follows (figures in brackets denote r.p.m. obtained with silencer fitted): 6,700 (6,500) on 11 x 5 Top-Flite wood; 8,000 (7,900) on 10 x 6 P.A.W. Trucut wood; 8,400 (8,200) on 10 x 5 P.A.W. Trucut wood; 8,900 (8,700) on 10 x 4 P.A.W. Trucut wood; 9,000 (8,700) on 9 x 6 P.A.W. Trucut wood; 10,100 (9,800) on 9 x 5 Top-Flite wood; 10,500 (10,200) on 9 x 4 Keilkraft nylon; 8,500 (8,300) on 8 x 8 P.A.W. Trucut wood; 10,800 (10,500) on 8 x 6 Top-Flite nylon; 11,400 (11,100) on 8 x 6 P.A.W. Trucut wood; 12,100 (11,700) on 8 x 5 Power-Prop wood; 12,500 (12,000) on 8 x 4 Top-Flite nylon.

Running qualities were generally good. Both the needle-valve and compression lever were responsive and held settings firmly. For load speeds of up to 12,000 r.p.m. or so, ordinary standard-price commercial grades of diesel fuel such as Keilkraft and E.D. Economic were adequate. Beyond those speeds, the balance of compression to mixture

*continued on page 366*

Excellent finish on internal parts evident in photo of dismantled 'Super Racer' at left.

### SPECIFICATION

**Type:** Single-cylinder, aircooled, compression-ignition two-stroke with disc rotary-valve induction and twin ball-bearings

**Bore:** 0.590 in. **Stroke:** 0.550 in.

**Swept Volume:** 0.1505 cu. in. - 2.467 c.c.

**Stroke/Bore Ratio:** 0.932 : 1

**Weight:** 177 grammes - 6.24 oz. (less silencer). 202 grammes - 7.13 oz. (including standard silencer as supplied)

### General Structural Data

Diecast aluminium alloy crankcase/main bearing housing with integral exhaust duct. One-piece counterbalanced crankshaft with  $\frac{1}{2}$  in. dia. main journal and  $\frac{3}{16}$  in. dia. solid crankpin. Shaft supported in one  $\frac{1}{2} \times \frac{1}{2}$  in. front and one  $\frac{1}{2} \times \frac{1}{2}$  in. rear brass-caged Hoffman ball journal bearings. Hardened steel cylinder with separate machined aluminium alloy finned cooling jacket. Separate machined aluminium alloy cylinder-head. Lepped cast-iron piston with fully-floating  $\frac{3}{16}$  in. dia. tubular gudgeon-pin. Forged duralumin connecting-rod, unbushed, with oil slits at both ends. Aluminium alloy prop. driver keyed to shaft with two tapered half-collars. Machined aluminium alloy spinner nut. Moulded nylon induction valve rotor with integral 5/32 in. dia. solid steel pin rotating direct in backplate material. Moulded nylon crankcase backplate attached to crankcase with four round-head screws. Moulded nylon carburettor air intake. Brass spraybar type needle-valve assembly. Beam mounting lugs.

### OPTIONAL EXTRAS:

(a) Expansion chamber type silencer (supplied), weight 25 grammes - 0.88 oz.

(b) Angled exhaust stub pipe, weight 14.5 grammes - 0.51 oz.

(c) Curved exhaust stub pipe, weight 16.5 grammes - 0.58 oz.

(d) R/C type backplate assembly with barrel throttle carburettor.

(e) R/C type backplate assembly with barrel throttle carburettor and downdraft intake.

### TEST CONDITIONS

**Running time prior to test:** See text.

**Fuel used:**

(a) Keilkraft diesel fuel.

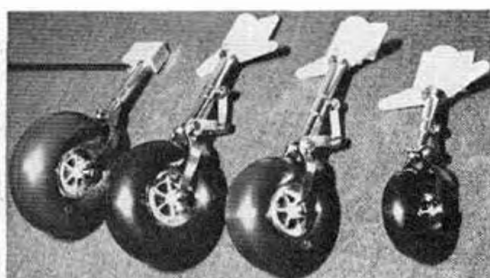
(b) E.D. Economic.

(c) 46 per cent. Kerosene, 30 per cent. I.C.I. Technical Ether, 20 per cent. Duckham's Racing Castor-oil, 4 per cent. Amyl-nitrate.

**Air Temperature:** 60 deg. F.

**Barometer:** 29.6 in. Hg.

**Silencer:** Maker's single expansion chamber type as supplied



Internally sprung tubular undercarriage units are marketed in West Germany by K. D. Horn and can be used in conjunction with steering on nosewheels, or on torsion bar mounts or main landing gear.

# Undercarriages

**for power driven models  
and Radio Control types**

continuation of our  
series of features on

## Basic Aeromodelling

ONLY TWO materials need considering for undercarriages—wire and dural sheet. Which material is used, and the actual shape and fixing of the undercarriage depends on the type of undercarriage—whether two-wheel (conventional), or tricycle.

Let's consider two-wheel undercarriages first—the type normally used on control line models and semi-scale free flight power models. A wire undercarriage is the simplest type to make and fit, and the most durable, provided it is securely fixed to a suitable strong member in the fuselage. The most suitable strong member is the ply firewall, or nose former, which thus dictates a 'vertical' shape for the undercarriage—see Fig. 128. Fixing to the former is then relatively straightforward, using one or other of the following methods:

(i) Sewing with thread through holes drilled on either side of the wire. This is a quick, simple and effective method for smaller models.

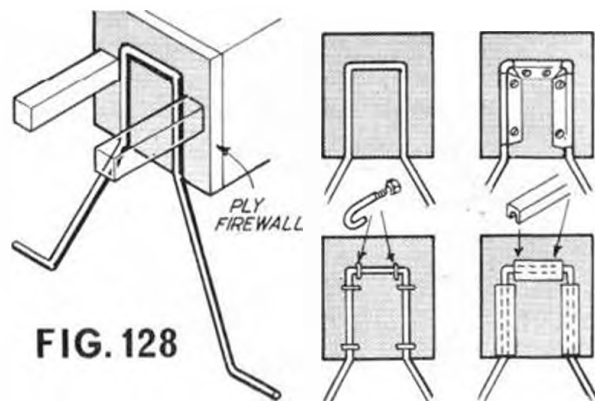


FIG. 128

### Mounting

The undercarriage can be mounted on either the front face or the back face of the firewall. The latter provides a neater fitting, but the bending loads on the undercarriage legs are then carried entirely by the bottom fixings. If the undercarriage is mounted on the front face, the firewall itself helps stiffen the undercarriage and is thus the stronger arrangement. If the engine is to be radically mounted (on the firewall), the undercarriage will have to be mounted on the back face, however. Where nuts are used to secure mounting straps or J-bolts, these should be locked in place to avoid any possibility of the fixing loosening under engine vibration.

The actual dimensions required can be worked out from Fig. 129. The part to be secured to the firewall should be at least two-thirds the depth of the bulkhead for a really secure fixing. A suitable height

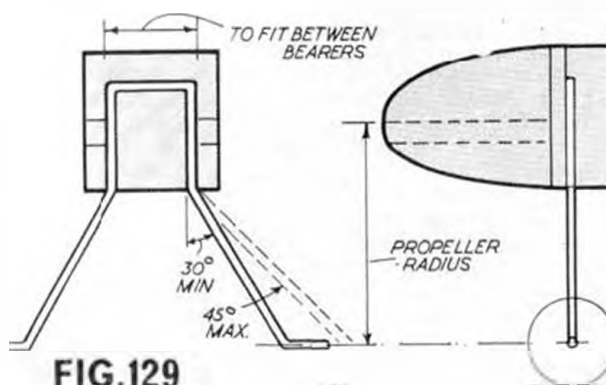
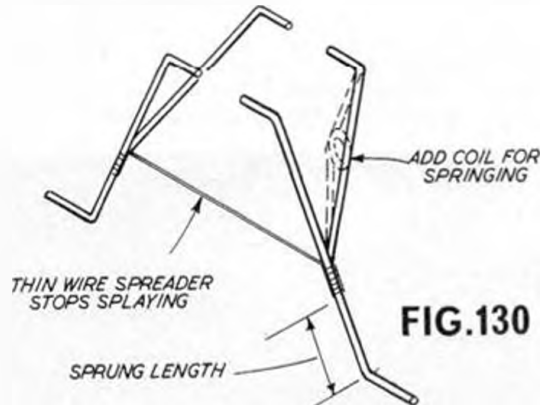


FIG. 129

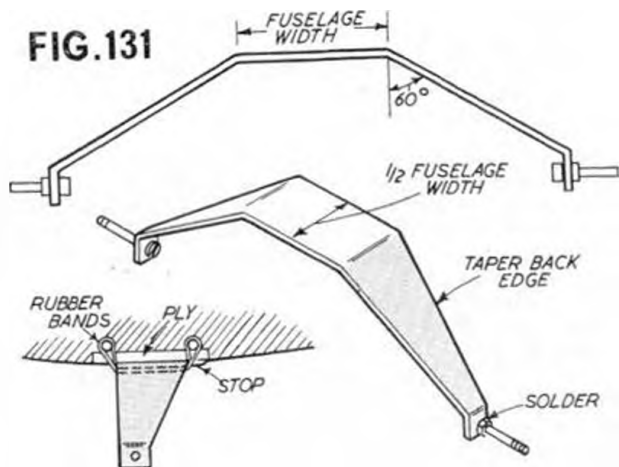
for the undercarriage, in side view, is the axle point in line with the tip of the propeller, i.e., a dimension equal to the propeller radius below the thrust line. The addition of wheels will then provide a suitable ground clearance. A splay of about 30 degrees on each leg is a minimum which can be used; and 45 degrees a maximum. It is better to use the smaller angle, unless appearance (or other requirements) dictate otherwise. With these layout requirements it is a simple matter to draw out the actual size of undercarriage required and bend the wire to that shape.

The only thing left is to decide the size of wire to use, and here *Table 1* can be used as a guide. Wire is heavy, and so for free flight models it is an advantage to use the smallest wire diameter,



consistent with the required rigidity. This is not necessarily the case with control line models where landing shocks are usually greater and undercarriage weight is not important. In all cases use only good quality spring steel wire, or piano wire, even if it is more difficult to bend. Softer steel wire is just as heavy but lacks sufficient stiffness to resist bending, which makes it relatively useless for undercarriages.

One objection to the firewall mounted undercarriage is that it does bring the wheels to the forward part of the model. This is an advantage as regards 'upright' landings, but does not improve take-off stability. If the wheels are too far forward a



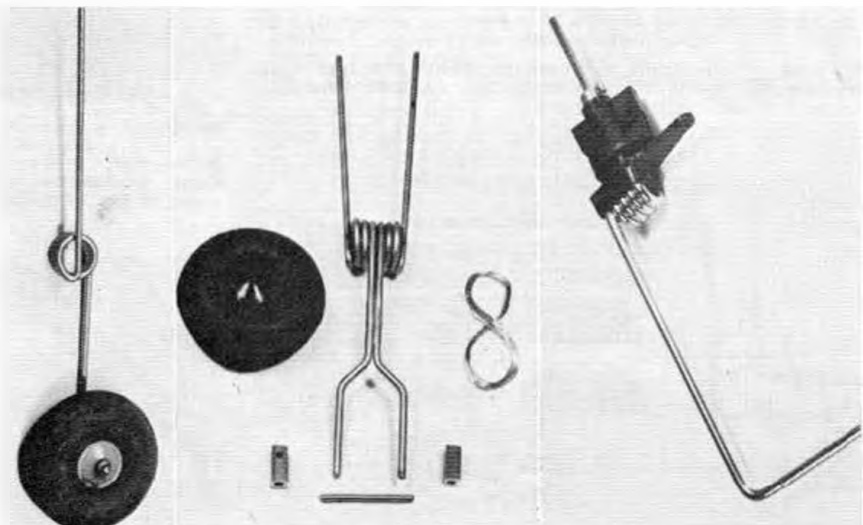
model will tend to turn off to one side or the other, instead of running straight. In fact, the farther back you can locate a conventional undercarriage, usually the straighter the take-off run will be and the quicker the model will be airborne, provided it is not tripped up by some irregularity in the ground surface.

For a large and heavy model, even 10 gauge piano wire might not be stiff enough, when the undercarriage may have to be braced by a second leg, as shown in *Fig. 130*. This double-leg layout may also be dictated by other requirements, such as a scale undercarriage position remote from the firewall. The idea then is that the upper V-shaped part of the complete undercarriage is quite stiff, with the bending loads carried mainly by the 'spring' of

TABLE 1 RECOMMENDED WIRE UNDERCARRIAGE SIZES

Model type	Size	Undercarriage wire
Rubber Models	Up to 24" span	18 swg.
	30"-40" span	16 swg.
	24"-30" span	16 swg.
	30"-40" span	14 swg.
	40"-50" span	12 swg (3/32")
	50"-60" span	10 swg. (1/16")
	over 60" span	10 swg. (1/16") or 8 swg.
C/L Models	Small	14 swg.
	Medium	14 or 12 swg.
	Large	10 swg. or 8 swg.

Single coil spring nose leg (left) and equivalent double leg, double coil, with separate axle (centre) are two of the many items marketed by Mainstream Productions Ltd. Far right is steerable noseleg unit by Model Flight Accessories with coils for shock loading at top of leg.



the relatively short length of main leg. If necessary, a loop can be bent into the rear legs to provide additional springing of the undercarriage. This type of undercarriage is, however, distinctly old-fashioned and rarely used these days.

If a wire undercarriage shows signs of weakness in a splayed out direction, this may simply be that the angle of splay is too great. It is fairly easy to brace an undercarriage in this direction, however, with a simple spreader of thin wire soldered across the legs. This wire can be quite thin, to save weight, as it is only loaded in tension.

Fig. 131 shows a clean, modern undercarriage which is bent from light alloy sheet, with axles formed from steel bolts. It differs from the conventional wire undercarriage in that it is invariably mounted on the bottom of the fuselage (normally in a scale position); and the splay angle is much greater. It can either be rigidly mounted to the fuselage, or strapped in place with rubber bands—see detail sketch. In either case it sits against a ply

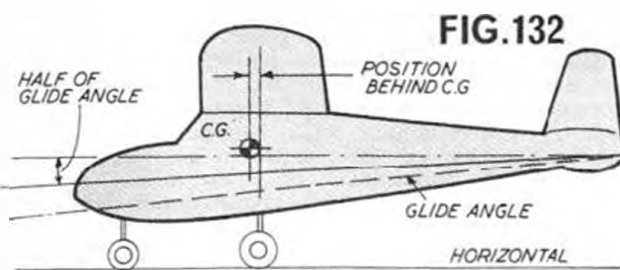


plate in the bottom of the fuselage. Flexible mounting with rubber bands is generally to be preferred as this makes the undercarriage far less vulnerable. With rigid mounting the undercarriage could tear out part of the bottom of the fuselage in a bad landing, unless the fuselage mount is quite heavily reinforced. Either method of mounting is quite practical on smaller models, however.

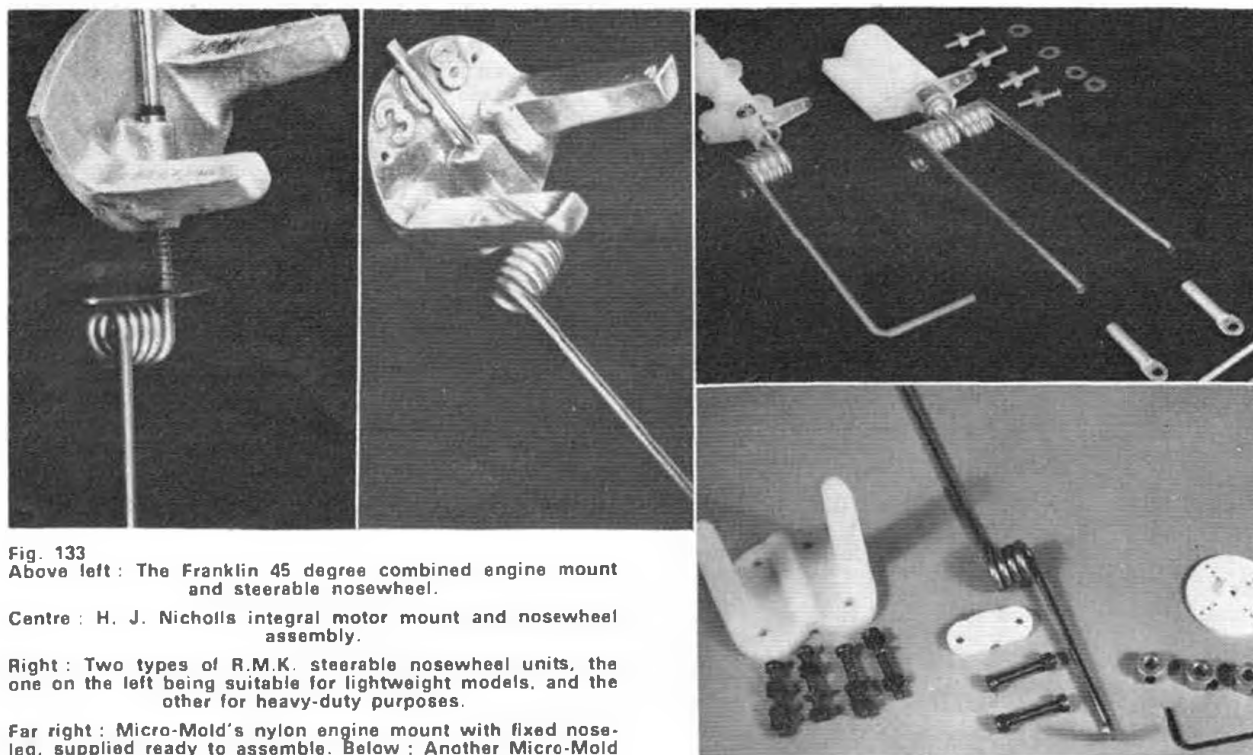


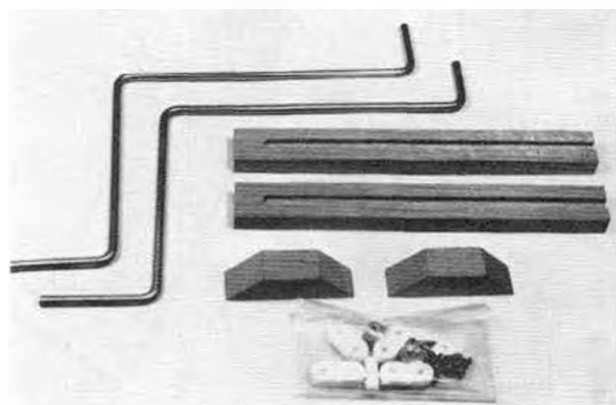
Fig. 133

Above left: The Franklin 45 degree combined engine mount and steerable nosewheel.

Centre: H. J. Nicholls integral motor mount and nosewheel assembly.

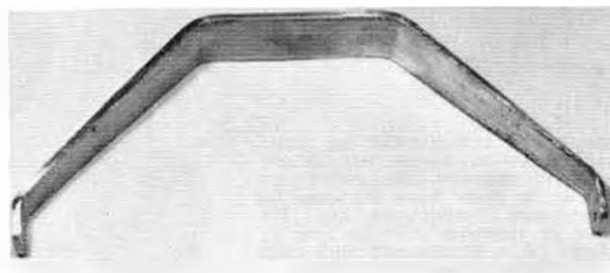
Right: Two types of R.M.K. steerable nosewheel units, the one on the left being suitable for lightweight models, and the other for heavy-duty purposes.

Far right: Micro-Mold's nylon engine mount with fixed nose-leg, supplied ready to assemble. Below: Another Micro-Mold



accessory, a main undercarriage mounting set complete with grooved hardwood mounting blocks.

Below right: a dural undercarriage from Mainstream Productions. Commercial undercarriage units like these remove much of the 'hard' labour involved in wire bending especially the large gauges.



The main thing with a sheet metal undercarriage of this type is that it *must* be made from *high tensile* light alloy sheet. Ordinary aluminium sheet, or 'hard' aluminium sheet is quite useless as it has no springiness and will merely bend badly on each landing. High tensile sheet is harder to come by than ordinary aluminium sheet, and so many modellers will find it more convenient to buy suitable sheet metal undercarriages ready-made. They are available in various sizes.

Tricycle undercarriages are used mainly on radio control models and semi-scale or scale models, where appropriate. They can offer definite advantages as regards ground stability and ground manoeuvring, and easier landings on smooth surfaces, provided they are correctly proportioned. The main wheels need to be just behind the centre of gravity of the model (*Fig. 132*)—not too far aft or satisfactory take-off may become difficult, and provide a nose-down attitude when the model is resting on the ground approximating to one-half the glide angle. Again, this nose-down angle must not be overdone or take-off performance may become unsatisfactory. On the other hand, if the angle is too shallow a good landing will be almost impossible as the nosewheel will always hit the ground first and bounce the model off.

The nose leg is the most heavily stressed in landing with a tricycle undercarriage, and is invariably made from spring steel wire. Fixing is the same as for a wire undercarriage—i.e., directly on to the ply firewall, but for all but the smallest and lightest model some additional springing is required. This is normally provided by a close coil bent into the top of the leg itself. The nosewheel assembly may consist of a single leg or twin legs, the latter being the simplest method of providing greater rigidity for larger, heavier models without having to resort to excessively thick legs (in which it would be very difficult, or impossible, to bend a coil spring). For steerable noselegs the upper part of the leg is fitted into a hinge block (usually moulded from nylon), which is bolted to the firewall. Fixed noselegs can be secured to the firewall like conventional wire undercarriages. Either type can be bought as complete units, together with necessary fittings and hardware—e.g. *Fig. 133*.

On high wing or mid-wing models, the main undercarriage must be mounted on the bottom of the fuselage. This can be of wire, or sheet metal, rigidly mounted or lashed in place with rubber bands according to individual preference and estimated 'vulnerability.' The trend is to prefer lashed-on main undercarriage units, although this

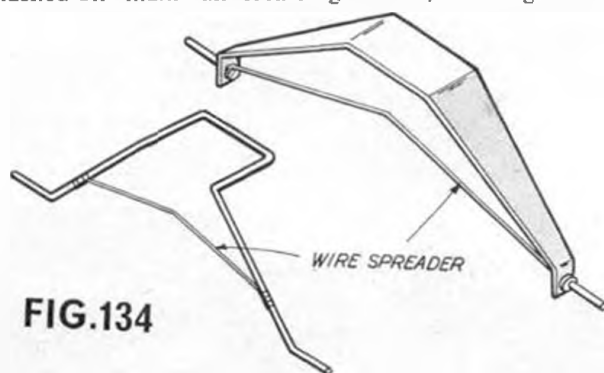


FIG.134

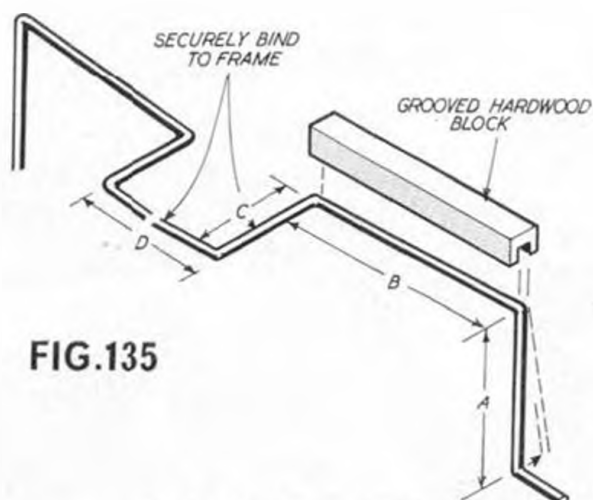


FIG.135

arrangement looks far less neat. The main load on this unit in a normal landing, however, is upwards, tending to bend the legs upwards. This is aggravated by the fact that a large splay angle is usually necessary to start with to give the undercarriage sufficient track. Simple wire spreaders, as shown in *Fig. 134* can considerably improve the rigidity of a main undercarriage unit, and if bent upwards in the form of a shallow V will also allow a certain amount of 'spring' movement.

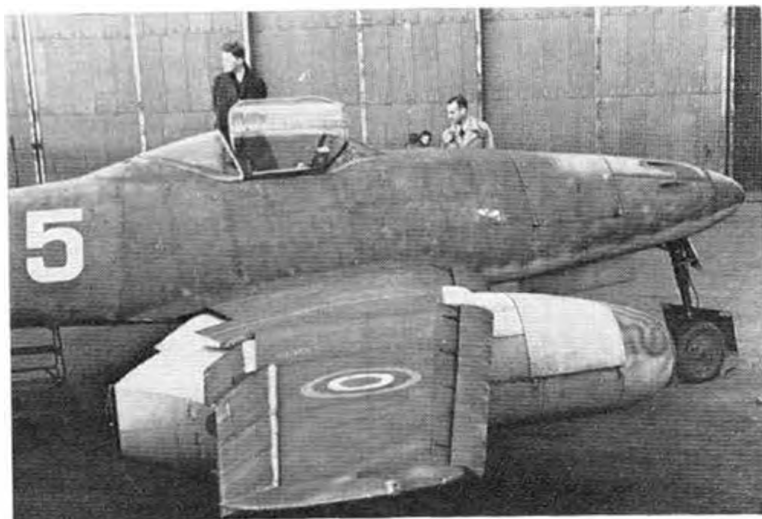
With a low wing model the main undercarriage has to be mounted on the bottom of the wing. Wire is the standard choice for the legs and the most suitable undercarriage form is shown in *Fig. 135* each length of the wire shape performing a different function. Length A, which is the actual undercarriage leg absorbs the main landing shocks, and can bend backwards or sideways, if necessary, resisting such displacement by its own springiness. At the same time under backward bending loads length B should be free to rotate, thus acting as a torsion bar providing additional springing. Lengths C and D provide the main fixing points for the undercarriage where the wire is rigidly strapped or bound to suitable strong members in the wing. The simplest way of locating length C, and at the same time giving it freedom to twist, is to fit this section of the undercarriage in a grooved hardwood block. It is then retained in the groove by simple clips or similar fittings; or the groove is covered over with a suitable hard facing.

There are, of course, many possible variations on undercarriage design and construction, but the above cover the principal types which will be suitable for the majority of models. For further ideas, study plans of successful models of similar type. These will not only show possible variations in detail design, but also confirm practical wire sizes and fixing methods which might be applicable to your own model.

TABLE II WEIGHT OF STEEL WIRE

Size	18	16	14	12	10	8
swg. Weight per inch (ounces)	.0082	.0145	.0225	.0385	.0585	.091

This Table readily illustrates how the use of an excessively large wire diameter, or excessive length of wire in an undercarriage can add substantially to total weight of a model.



## *The 'plane on the*

**First of the swept-wing  
jet fighters, the fabulous  
Schwalbe & Sturmvogel**

# MESSERSCHMITT Me 262

THE MESSERSCHMITT Me. 262 is assured a place in aeronautical history as the first operational jet propelled fighter. The reason that it did not become one of the great aeroplanes of the Second World War was due to the politics which surrounded its development and not to any shortcomings in the Messerschmitt design team.

The story of the Me. 262 began in the autumn of 1938 as Projekt 1065, a fighter to be powered by two of the then revolutionary turbo-jet engines being developed by B.M.W. Design studies were completed by June the following year.

On 1st March, 1940, an order was placed for three prototypes, these were completed early in 1941. Unfortunately, development of the engines was not proceeding at a comparable pace. The B.M.W. 109-033 was only producing little over one-third of its designed output. The alternative Junkers 109-004 only commenced testing at the end of 1940.

The first airframe, the Me. 262V.1 was test flown on the 4th April, 1941, but on the power of a single Junkers Jumo 2106 piston engine mounted at the nose. (It is interesting to note that the Heinkel He. 280 fighter had successfully flown with two Heinkel-Hirth turbo-jets two days earlier, on the 2nd). It was not until November that the first B.M.W. turbo-jets were received for flight testing. These were now giving a thrust of 1,000 lb. but this was still below the requirements of the Me. 262. The first flight on these engines was attempted on the 25th November, but the blades of both engines failed at take-off revs.

The progress of the Junkers engine had by now overtaken the B.M.W. and in July, 1942, they supplied two Jumo 109-004s which delivered 1,850 lb. of thrust and had been flight tested. With these

engines the Me. 262V.3 left the ground under jet power on the 18th July, no less than 15 months after the flight Me. 262 V.1 with a piston engine. The first tests proved successful but it later crashed at the Luftwaffe experimental establishment at Rechlin. This seems to have caused some loss of interest by the authorities but Messerschmitt persevered and obtained an order for 30 pre-production aircraft.

It should be remembered that at this time the war appeared to be going in Germany's favour and that it must have seemed most unlikely that any aeroplane, particularly with a completely new type of engine would be ready in time to see service before the war ended in a victory for the Nazi war machine.

By the end of 1942, however, the German Air Ministry (R.L.M.) decided to go ahead with limited production of the Me. 262 at the rate of 20 per month in 1944. A quantity which Messerschmitt protested was quite inadequate for a machine of such potential. In March, 1943, General Adolf Galland flew the Me. 262 at Lechfeld and realised its possibilities were such that could restore the air superiority which the Luftwaffe had previously enjoyed. His enthusiastic report to Field Marshal Milch led to a demonstration of the Me. 262 before Goering who in turn told Adolf Hitler of the wonders of the new fighter. Hitler was unmoved and forbade any preparations for mass production.

The first four prototypes still had the tail wheel undercarriage. This caused damaged runways on take-off and gave a very poor view for the pilot on landing. The success of tests with a fixed nose wheel led to Me. 262 V.6 having a retractable nose wheel undercarriage. Also it was the first aircraft to have

Carrying a yellow '5' and strictly non-standard roundels on its mixed camouflaged patterns, the Messerschmitt Me 262 examined and flight tested at R.A.F. Farnborough displays take-off flap and slat settings in heading, with ailerons drooped for full span effectiveness. Large nose wheel diameter, sideways hinged canopy and underslung jet pods are characteristic features.



# over! AIRCRAFT DESCRIBED No. 184

## Described and Drawn by Ian R. Stair

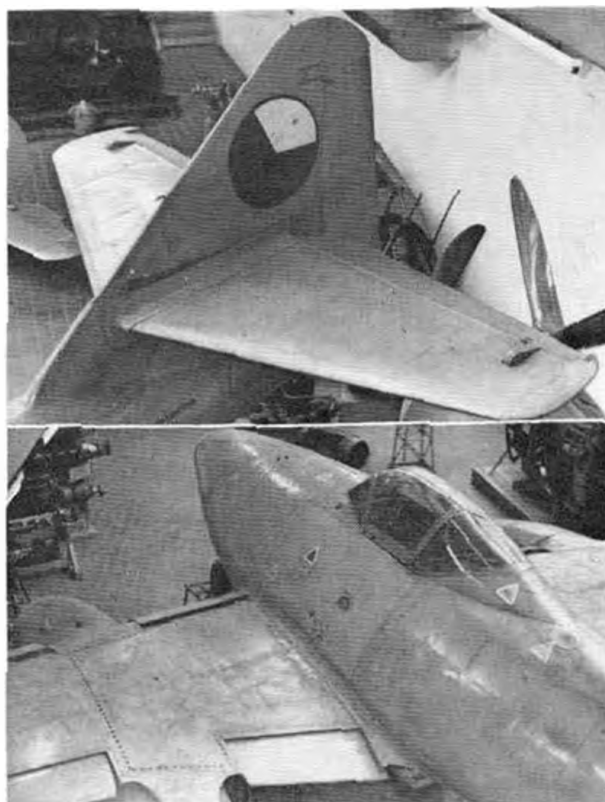
Preserved in the Technical Museum at Prague is this S-92 Czech assembled Me 262 A-1. Finish in glossy light grey overall, only National markings are carried.

the 1,980 lb. thrust engines scheduled for the production machines.

By now the Me. 262 was proving to be a practical proposition and Goering gave it his full backing but requested it should be modified to carry bombs as this would be in line with the Fuehrer's offensive policy. Despite this, production went ahead for the fighter. The first production model was the Me. 262 A-1a named Schwalbe (Swallow), armed with four 30 m.m. Mk. 108 cannon. However, in the summer of 1944 Hitler asked Milch how many Me. 262 were able to carry bombs. He was furious to learn only one prototype Me. 262 V.10 had been so modified and ordered all production to be of the bomber version. This was known as the Me. 262 A-2a Sturm-vogel (Stormbird) which could carry two 550 lb. bombs. Some of these carried only two cannons.

The first experimental unit was Erprobungskommando 262, commanded by Major Walker Nowotny. This was disbanded in September and re-formed as Kommando Nowotny. This unit was based around Osnabruck and became operational on the 3rd October, 1944. The 262s were used against the U.S.A.A.F. bomber formations. This was held to be the wrong tactics by many Luftwaffe officers who thought they should have attacked the escorting fighters, leaving the bombers unprotected against attacks from conventional fighters.

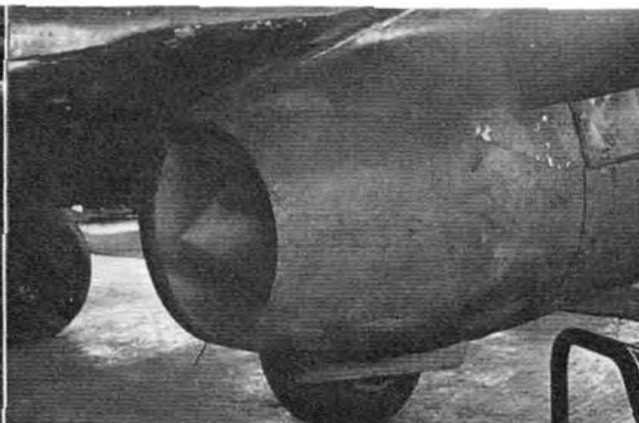
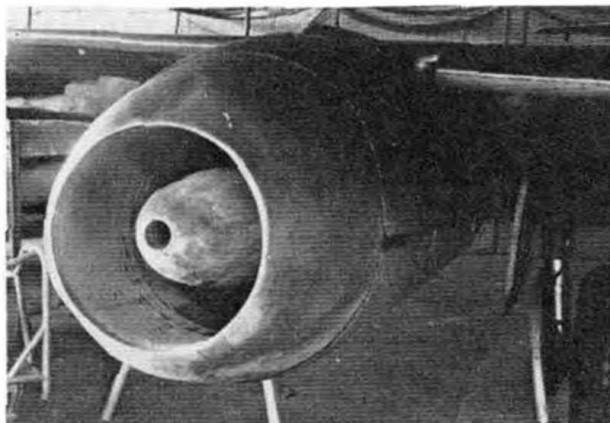
Intake (left) and Efflux (right) on the Me 262 axial flow Junkers Jumo Jets were considerably cleaner than those on the contemporary 'Meteor'. Nose cone covers a special light-weight two-stroke starting engine.



The first Me. 262 bomber unit was formed by a detachment from K.G.51 and named Kommando Schenk after Commandant Major Wolfgang Schenk. This was joined by a second unit Kommando Edelweis, named after the emblem of K.G.51, both units being operational by the end of 1944.

The entry of the Me. 262 into service was disappointing due to three main reasons—tactical misuse, lack of pilot training and mechanical trouble. In attacking bombers it had to reduce speed and it could then be caught by the accompanying fighters. Mustangs accounted for two of Kommando Nowotny aircraft within a week of their coming into service. As a bomber the load and range was small and the external bomb load reduced the speed to within reach of the faster Allied fighters. Although it

(continued on page 362)



Reprints of this feature plus a 1/48th scale dyeline print of the original are available as plan pack AJ 2891 price 2/6d. from AEROMODELLER PLANS SERVICE 13/35 Bridge St., Hemel Hempstead, Herts, England. Add 6d. for return postage.

Tip navigation light.

WHITE Swastika.

Trim tab linkage.

BLACK.  
WHITE.  
BLACK.

Detachable panels.

Access to tail unit controls.

WHITE.

Aerial

STBD. SIDE VIEW. Me 262A-2a.

Whip aerial  
FuG 25A

Cooling air scoops.

Detachable panel;  
Fwd. fuel tank.

Detachable panel;  
Rear fuel tank.

Elevator tab linkage.

Bomb rack: A-2a.

Nosewheel u/c door  
hinged st'bd. side.

UNDERPLAN VIEW.

Whip aerial.

J.G. 7. Emblem.  
WHITE. Greyhound on  
DK. BLUE. Band, on  
LT. BLUE. ground.

Filler access,  
Hydraulic.

Slight bulge in gun  
bay access doors.

Gun ports.

Camera gun  
access door.

Access panel  
fasteners.

PORT SIDE VIEW. Me 262A-1a.

All Undersurfa  
(LT. BLUE). Fusi  
(GREENISH GREY.) Mottles  
02 Almost solid at top l  
sides to plain 65 und

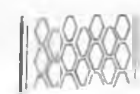
Detail: Aileron and tab linkage.

FRONT VIEW.

Drawn by: IAN. R. STAIR.  
Traced by: A.A.P. LLOYD.

Whip aerial.

2x 250 Kg. Bombs on  
Me 262A-2a only



Detail: Tyre tread

MESSERSCHMITT Me.262A-1a. & -2a.

# COLOUR NOTES:

The above air  
DARK GREEN Fu  
& Fin; there wa  
suggestion of  
the lower col

Top surfaces  
planes & Nacel  
camouflage in  
(BLACK GREEN) ar  
(DK GREEN) Sha

All Undersurfa  
(LT. BLUE). Fusi  
(GREENISH GREY.) Mottles  
02 Almost solid at top l  
sides to plain 65 und

RED 'Broke  
Footsteps th

Outline of inner petals  
in thin RED line.



Edelweiss emblem of K.G.51.  
YELLOW on LT BLUE ground.

RED '5's with thin WHITE outline.

Upper gun ports often covered  
over on Me 262 A-2a's.

Colour division.

Pitot tube.

Detail: Nosewheel leg.

Detail: Main  
wheel leg.

250Kg.  
Bomb.

Shell ejector chutes.

Removable panel, access to  
tailplane incidence actuating  
motor.

Fuel filler access.

Access doors to gun bay.

Hinge  
Removable panel.

craft, '5' had 71  
selage, Rudder  
is only slight  
mottling at  
our division line.

of Wings, Tail-  
lies: Splinter  
70, SCHWARZGRÜN.  
nd 71, DUNKELGRÜN,  
arp colour division.

es: 65 HELLBLAU,  
elage: 02 RIM, GRAU,  
d over 65 HELLBLAU;  
but mottle lightening down  
ersurfaces.

PLAN VIEW

BLACK.

WHITE: Outline

Footstep.

D.F. Loop.

112385

WHITE.  
'8' and band:  
YELLOW.

'Werke no.'  
BLACK.

Tail navigation light.

Flaps,  
extended

Slats, extended.

Fuel pump access.

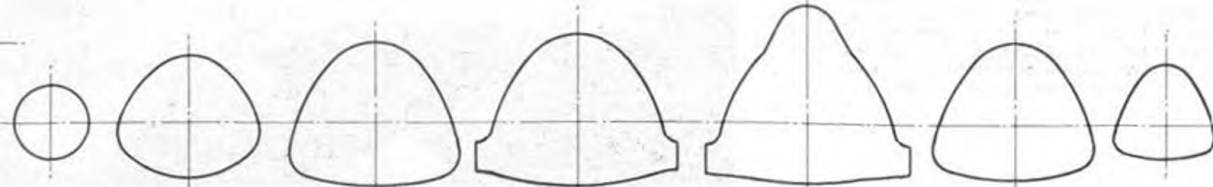
Fuel filler access.

Filler point: fuel for  
initial engine start.

Filler point 2-stroke  
fuel for Reidel starter  
motor

en ring.  
as side only

71 Colour divisions thus.



A-A

B-B

C-C

D-D

E-E

F-F

G-G

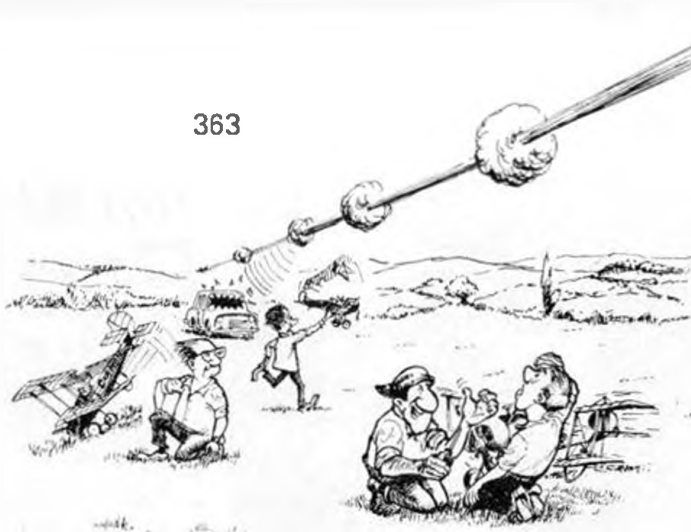
CROSS SECTIONS

pattern.

Scale: FEET 0 1 2 3 4 5 6 7 8 9

# topical twists

by 'Pylonius':  
illustrated by 'Sherry'



## Square Bashing

THERE is a nasty word creeping into our hairy hobby haunts; a word that has not been uttered since rebellious model man over-ran the last roped enclosure. Dare I mention the word? It is *discipline*, that old hangover from Dad's Army days.

For years we lucky model flyers have enjoyed a state of almost complete anarchy. True we have lost most of our flying fields as a consequence of this glorious freedom, but it has been a small price to pay for getting rid of all that tiresome officialdom. Those younger modellers, who can now let their back hair down on all occasions, will hardly believe that, at one time, those super individualists, the free flight contest boys, actually submitted to the ignominy of queuing up for a medieval form of tyranny called processing, and were known to meekly await the allocation of a timekeeper other than a specially selected chum.

And it wasn't all those many years ago that a form of Gestapo, innocently referred to as contest officials, terrorised those very flying areas where now we enjoy our glorious free for alls. Happily all that is in the past. In fact the last time anyone wore an armband on the flying field was back in the fifties, and that was only because of a vaccination. Tactical flying, too, was unknown in the bad old days. In fact, you only had to throw up a handful of grass for a flight round to go by default.

It is perhaps unfortunate that all this dark talk of discipline is mainly directed at a section of the hobby that has only come into being in these liberated, modern times, the Radio flyers. Children of the permissive society, they have never known the rigours of organised life. When asked to form a queue, they look it up in the flight schedule. But according to the powers that be, something must be done. When you get fifty transmitters going individual at one and the same time things start to go awry, someone, somehow, has got to assert a bit of discipline. Trouble is, nobody can remember how to do it.

## Objective comment

People with a little aerodynamic knowledge will know of a very upsetting variant scale factor called Reynold's Number. It demonstrates, in effect, that little ones don't behave the same as big ones. And what goes aerodynamically also goes visually. A model plane looks like a model plane up to a given rate of progress; after that it becomes just a motivated object. Take that C/L model, which looks so impressively realistic on the tarmac, it becomes just a scurrying blob when moving at a speed faster than sound common sense would dictate. Beyond a certain speed size relationship you merely get a thing on a string. In fact, it might just as well be a

'I'm not certain if it's a Bleriot Monoplane or a Farman Biplane, but it sure is fast!'

brick. Come to think of it, in these days of flying wheelbarrows, it could very well be.

Gone, too, are those easy on the eye days when the R/C model did a few ponderous, yet realistic circuits around the field. What are now often reported as U.F.O. sightings are merely radio models demonstrating that the quickness of the waveband deceives the eye. Even Scale models are not exempt from modern style blob a job flying. I am often amazed to see some W.W.I. model with a scale flying speed well up in the Mach regions. Had old Richthofen had that one, you think, he would have won the war single handed, or been violently sick.

Perhaps I'm just a bit too rooted in the past, but I still get a kick out of seeing a bird in a thermal (and sometimes one for looking at one in a mini). Any model flying in good old antiquarian bird fashion tends to bring out the poet in me, but the only bird like thing about many of today's models is the way they whistle past your head.

I suppose it's all right to have a model behave like a mortar bomb if you prefer ballistics to aeronautics, as is the popular trend, but conducting a guerilla campaign against the public can have dire consequences. Picnic parties are quick to resent being used for target practice, and the slower reacting spectator might resent having his crown topper disturbed. The answer, of course, is that button operators should take notice of the button peddlars, and make love not war.

## Steamed up radio

Come off it, Mr. Russell! If I am a bit horrible to radio flyers I'm equally horrible to f/f crop bashers and C/L ear massagers. And if my attacks on Radio are ill-judged it's nothing to the way some of the ill judged radio models attack me when I creep out for a quiet spot of non-progressive flying. And just on this point of R/C being a natural progression from what I imagine to be kids' elastic powered models, perhaps I could do no better than to shatter Mr. Russell's concept of me as a soured old fuddy duddy full of envy at the bright lads like himself as they weave their wonder of the age radio models around the sky by telling him that I am the proud owner of a fully operational R/C model. Jolly good fun, of course, but not the be all and end all of model flying as he seems to suppose.

And what's all this about apartheid? If R/C is a natural progression as he suggests, then it follows that other forms of model flying are inferior. In fact, it is this very apartheid assumption on the part of many radio flyers that I try in my quaintly humorous way to demolish.



## New U.S.A. Class for 2.5cc

THE SCALE RACING, or Goodyear Event has been flown in the United States for quite a few years. It was limited in interest, so local or club rules prevailed and these varied for various parts of the country. The initial impetus seemed to have originated with the Gulfhawks Model Airplane Club of St. Petersburg, Florida. Their event was a revival of the full-sized Unlimited Class Thompson Trophy Race in the pre-WWII National Air Races. Engine size of the model event was established at 2.5 c.c. with the models being one inch to the foot scale. The weakness of this event was in the full-size rules which produced a variety of different sized airplanes over the years. Many of these planes were unsuitable when scaled down, being either too large or too small, so only a few designs became popular and the colour of the event suffered. Coverage of the Gulfhawk's event in a national magazine introduced the scale racing concept to the rest of the country. The weakness was

Team Race, and now Goodyear pilot too, Bruce Van Hoozen, aged 14, looks Shoestring over for the first time. Reported, a half pint of fuel later that it flies like a dream, grooves well, and can be brought back to the pit man with ease. Full size plans for the racing pair below are 8/- incl. post from Aeromodeller Plans Service. Quote Plan CL1034.

[illegible]

# Racing

with "GRAY  
GHOST" &  
"SHOESTRING"

Shoestring, with a stock  
Oliver Tiger 2.5 c.c.  
diesel and Edmonds Reg-  
gallow 10 c.c. tank. All  
sheet balsa construction.  
1½ in. - 1 ft. Scale. Air  
Speed 85-plus



apparently discovered and the Goodyear class was the acceptable solution.

The full-size Goodyear rules (now Formula I) were first laid down in 1938 and 1939 by the leaders of the Professional Race Pilots Association (PRPA). World War II intervened, so the rules were set aside for the duration. They were revived, revised, polished up, and released in 1946 with the first race to be at the Cleveland National Air Races in 1947. The rules were quite restrictive and stipulated maximums and minimums in wing area, weight, and engine displacement. Close races over a short course were the goals to draw better spectator interest.

A number of new designs appeared plus some reworked old timers which had competed in the pre-war limited displacement and Greve Trophy Races. New designs were Art Chester's *Sweet Pea*, Tony LeVier's *Cosmic Wind*, and Bill Falck's *Rivets*. Steve Witman reworked and updated (for the umpteenth time) the old *Oshgosh Chief* which became the famous *Buster*, the first winner and new resident of the Smithsonian Museum. Ben Howard's *Pete*, Art Chester's *Jeep*, and the Brown B-3 *Miss Los Angeles* reappeared in new dress, some almost unrecognisable. It was a good beginning which I was privileged to attend. The future of pylon racing seemed secure. The event was included in the All-American Air Manoeuvres in Miami, Florida that winter as the Continental Trophy Race. This upsurge continued and new designs appeared each year until Bill Odom's fateful crash in the 1949 Thompson Trophy Race brought the Cleveland National Air Races to an end. The Miami show had ended a year or so earlier. Racing continued in several places for a number of years, but the withdrawal of big money support by the Goodyear and Continental Motors companies and the loss of the showcase of the big air shows were blows which PRPA could not survive.

The revival of the big airshows came at Reno, Nevada, in the early 1960's and the Goodyears started to reappear. The success at Reno brought rising interest elsewhere, and the class started to come into its own. Even the Cleveland National Air Races returned, though the site was transferred to the downtown Lake Front Airport, where the course was flown out over Lake Erie. St. Petersburg hosted air shows and races in 1963, '64, '65 where again I was privileged to participate, renew acquaintance with old faces and planes, and meet the new ones. *Shoestring* was just as

beautiful as ever and I fell in love again. Hence she was the first in the line of my model designs.

The model event languished much as the real one. Designs were published periodically, but the spark to justify an AMA event just wasn't there. It took a combination of two factors to bring about its present popularity and inclusion in the list of AMA sanctioned events. One is the modellers' reawakening to the joys of models which look like real aeroplanes: Witness the resurgence at Old Warden and the tremendous draw of Cole Palen's *Rhinebeck*, New York WWI Aerodrome and its yearly WWI Scale R/C contest. Even Snoopy's *Flying Dog House* mod. on the *Sopwith Camel* has put in an appearance.

The other factor was the development of the Rat Racer to a level more expensive and exotic than the B Team Racer which it replaced. Speeds have risen beyond the danger point. Engines, fuels, props and plugs must be equivalent in quality, and therefore cost, with those of the Speed classes. Action is so fast paced that some previous experience of FAI Team Race is a must to compete successfully. One slip by one team can, and sometimes does, bring down all of the competitors in a huge line-snarl crash from which only the handles are salvagable. Contestants began shying away from risking their expensive equipment in an event where a costly wipe-out might be suffered from an error not one's own.

The stage for acceptance of the Goodyear event in the model plane world was now set. The various local rules were examined, and a preliminary set released under the name of Scale Racing so as to include all racing planes. The first year allowed the polishing and altering which produced a good set of rules in record time for the second year's competition. The engines and models are less expensive and less complex. The displacement limit fits the international size of 2.5 cc and opens the possibilities to many engines from all over the world, including diesels. The models are all of the same size, so no competitive edge can be attained there. They also can, and should, be gaily coloured and decorated, as real-like racers, for spectator appeal. The spectator association to the full sized raises them from the Toy Airplane class so that public acceptance should be better. Lastly, it allows the builder to have his Scale airplane without all the tedium and effort of the full-scale classes. Besides, they are fun and that's what it's all about, anyway. Try one and see! (Rules overleaf)

## Rules for Scale Racing (A.M.A.)

1. **OBJECTIVE.** It is the purpose of this event to fly semi-scale realistic aeroplanes in direct competition through a heat race to a feature race for the better teams at the contest. The following rules are an attempt to have a slower more inexpensive version of Rat Racing and an event with added spectator appeal.
2. **GENERAL.** All permanent A.M.A. regulations and the regulations for gas-models - control line speed, covering the flyer, the model and the flight shall be applicable, except as specified below.
3. Aeroplanes must be model of an actual Goodyear racer and must be of the profile type (fuselage) with the exception that the inboard cheek cowl is allowed, but the engine must not be cowed in.
4. The model must have a minimum consistent scale of one and one-half (1½) inches to the foot (1/8 scale). All scales must be within a plus or minus 5 per cent. for the top and sides profile (views) with the exception of the stabilizer and the fuselage width (this allows profile type models). Models which appear to comply with this tolerance upon rudimentary inspection need not be further checked except in case of dispute.
  - (a) Stab area may be increased up to 25 per cent. of wing area, but thus maintain scale configuration.
  - (b) The landing gear must exit from the scale location, but may be longer, higher, or swept forward. (Wheel pants are optional.)
  - (c) Cowls or apple-cheeks are used on the full size craft and recommended but not required.
5. The model must have a scale - like paint scheme, not necessarily the same colour, but representatives of full scale racers.
  - (a) Model must have scale racing numbers on the fuselage and rudder sides and on the upper left wing.
  - (b) Contestant's A.M.A. number should appear as part of the scalelike licence number (preceded by 'N').
6. Its maximum engine (s) total displacement is limited to .1525 cu. ins. Engine replacement is permitted, but not during a heat.
7. There shall be no restriction placed on fuel tank capacity. Pressurized fuel systems are permitted.

### MODEL SAFETY REQUIREMENTS

8. Models shall pass a general safety inspection prior to each race or heat.
9. Line length measured from the centre line of the model to the centre line of the handle shall be 52 ft. 6 ins. plus or minus 6 ins. Minimum line diameter shall be .021 ins.
10. Single line control systems shall not be allowed.
11. Model control mechanism from the handle to and including the model shall withstand a 20 G pull-test. Pulltests should be performed prior to each heat or race.

### FIELD SAFETY REQUIREMENTS

12. Field safety requirements shall be the same as for Rat Racing, except that crew numbers must stay outside (including all equipment) a 70 ft circle (except while launching model).

### ENTRY AND QUALIFICATION

13. Entry and qualification shall be the same as for Rat Racing, except that the builder must be either the flyer or the member of the pitch crew who actually flips the engine at all times during the race or heat.

### RACES

14. Races shall consist of one preliminary heat of 80 laps. The four best times proceeding to the 160 lap feature race. If the time permits the 4th through to 7th best times may fly a 160 lap consolation race to determine the 4th team in the final race. One (1) re-fuelling stop is required in the 80 lap primary heat and three (3) re-fuelling stops are required in a 160 lap feature race.

### TIMING

15. Timing for each race or heat shall start at the drop of the "Go flag" (all engines must be stopped) as in the Le Mans start, and end when the model has completed the required number of laps.

## E.D. Super Racer Engine Test (cont. from p. 353)

adjustment became more and more critical and we found it necessary to use a more heavily nitrated fuel in order to avoid intermittent misfiring when the needle and compression were set for maximum power. In order to promote smooth combustion at speeds of up to 16,000 r.p.m. (for the purpose of determining the torque and power curves) we used 4 per cent. amyl-nitrate in the fuel. For speeds of up to 14,000 r.p.m., however, 2-3 per cent. should be adequate. The extra nitrate, of course, has the effect of advancing the ignition timing to cope with the higher crankshaft speed without recourse to an excessively high compression setting and/or an over-rich needle setting which could result in the loss of between 200 and 500 r.p.m.

As supplied, the Super-Racer comes complete with standard E.D. silencer and this can be located on either side of the engine, a blanking plate being used to cover the unused exhaust outlet. As alternatives, E.D. can supply angled or curved stub pipes and there is also a complete replacement backplate assembly with throttle type carburettor for those who wish to use the engine with speed control for R/C. Details of these accessories will be found in this month's 'Latest Engine News' column.

### Power/Weight Ratio (as tested):

0.73 b.h.p./lb. less silencer.

0.55 b.h.p./lb. with standard E.D. silencer.

### Specific Output (as tested):

114 b.h.p./litre less silencer.

99 b.h.p./litre with standard E.D. silencer.

## S.M.A.E. Contest Programme

<b>July 6th</b>	(PL)	Team Glider	M.E. Cup
<b>(4th Area</b>	(C)	F.A.I. Power	Astral Trophy
<b>centralised)</b>			
<b>August 10th</b>	(PL)	Coupe d'Hiver	Keil Trophy
<b>(5th Area</b>	(C)	Team Power	Gutteridge
<b>centralised)</b>		F.A.I. Rubber	Trophy
<b>August 17th</b>		A/1 Glider	F/F, R/C, C/L
		All Scale Meeting	R.A.F. Little
			Rissington
<b>August 31st</b>		F.A.I. Rubber	7 Flights in
<b>September 1st</b>		F.A.I. Glider	½-hour rounds
<b>(F.A.I. Centralised</b>		F.A.I. Power	
<b>Contest.</b>		F.A.I. Control Line	
<b>pre-entry)</b>		(provisional)	
		Open Rubber	Caton Trophy
<b>September 7th</b>		Open Glider	C.M.A. Cup
<b>Northern Gala</b>		Open Power	Hamley Trophy
<b>Lindholme</b>		R/C Multi Aerobatics	Wharfedale
<b>(Pre-entry)</b>		F.A.I. Team Race	Trophy
		½A Team Race	Budapest
			Trophy
		C/L Aerobatics	
		Rat Race	
		Combat	
<b>September 14th</b>		C/L Team Trials for 1970 R.A.F. Upwood	
		World Champs.	
<b>September 14th (PL)</b>		Team Rubber	Farrow Shield
<b>(6th Area</b>	(C)	F.A.I. Glider	S.M.A.E. Cup
<b>centralised)</b>		½A Power	
<b>September 28th</b>		R/C and C/L Meeting	R.A.F. Upwood
(C)		— Senior and Junior Championships events.	
(PL)		— Plugge Cup event.	
(X)		— R/C Individual Champion event.	



Are you between 10 and 16 years of age? Then don't delay, join today

Dear John,

I recently bought an unknown engine from a friend, and I wondered if you could identify it for me. It is a glow motor and appears to be of 1.5cc. capacity, it has the manufacturers name 'Frog' inscribed upon it. There is an unusual feature underneath the crankcase, that is a set of cooling fins, the front is thick set suggesting a ball-race supported shaft and it has a rear drum or disc induction, there are also two triangular shaped exhaust manifolds on the cylinder head.

Langley, Bucks. M. Batten

The engine which you describe is the Frog Venom, a 1.5 cc. glow engine using rear-rotor drum induction. This engine was in production for only a short time, and was tested in the April 1961 issue of Aeromodeller. Although the crankcase gives the impression of a ball-race motor—it had in fact plain bearings. This was intended to be a sports engine, and produced .075 bhp at 10,000 rpm. For contest types, a diesel version was offered, known as the 'Viper'. This engine featured a ball-race supported shaft and produced 0.161 bhp at 14,800 rpm.

Dear John,

Were there any instructions for Stan Zurad's FOKA in June 1969 AEROMODELLER, for there were no instructions in mine. I am thinking of building the model. Could you also give me a brief description of the materials needed in construction.

New Barnet, Herts. Alan Smith

Sorry Alan and the other Golden Wings who have asked the same question. We added the FOKA on the back of the 'HAWK' as a bonus and made the mistake of thinking its structure was simple enough for all to comprehend! We are sorry the plan is not quite as complete as our normal standard, but to be perfectly frank, if you do not fully understand this design, it is not really suitable for experience.

Advice on construction methods, covering and flying given in 'All About Model Aircraft' by Peter Chynn, 15/- through M.A.P. Books will help enormously in making this model.

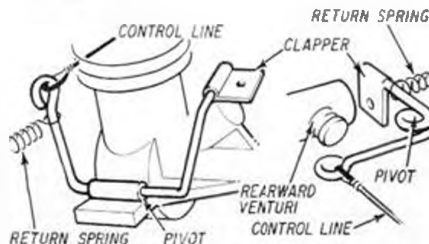
Dear John,

I am a control line enthusiast and I have already made and stunted the K.K. Marvin. I am now interested in a C.L. plane for the J. Roberts Flight Control System my father brought back from America. I would like to make a plane for the J.R.'s system that also takes the Wenmac Hotshot. If no such plan exists could you please tell me if a plan for the AM.15 and J. R. system lies in your file of plans.

Could you remind me of the way in which to make a simple flapper throttle for the engine.

I would be extremely grateful if you would answer my question. London, W.2. N. Kitson

The only plan that we have which was specifically designed for the J. Roberts Flight Control System is the Piper Comanche, Plan No. CL/790, price 8/6. This is, however, a model suitable for only the experienced modeller. I would not recommend this system for use with an engine below 1.5 cc. as a minimum. This is due to the extra drag involved with the third-line used. With a low powered model this extra drag would cause the model to lose line-tension, especially when throttled back. A simple clapper throttle is shown below.



The clapper should seal as well as possible over the air-intake, and then drill a bleed-hole of approx. 1/32" — this size being variable according to how slowly you wish the engine to tick-over at when fully throttled back. The larger the hole, the faster the tick-over speed.

Dear John,

I have been aeromodelling for three years now and have recently started radio control. My attempt was a disaster to say the least I chose R.C.S. Mk.III, Elmic Commander and a Veron Mini-Robot. With a Cox Babe Bee it simply flew round in circles at a height of about 10 feet, do what I may. A Fox 15 took it up faster, as intended, but brought it down even quicker in a spiral, do as I may again. This left me with half a wing, half a tail and half a fuselage. This, by the way, was at the first application of rudder.

I now have a Magna, given to me by a friend, which flies well on radio. I am using it to practice on. For my next model I am thinking of getting an 'Erk' from the R.C.M. & E. range. I was wondering if you could tell me if it is suitable and if it is a very good stunter.

Thank you. Weybridge, Surrey.

Graham Legg

It sounds as if your Mini Robot had a rather severe warp in the wing. If one panel had some wash-in induced whilst covering and doping, this would cause the model to bank in the opposite direction.

The 'Erk' was designed as a 'small field flyer', and is very easy to build and fly. It uses engines of up to 1cc and thus is not exactly a 'hot-stuff' aerobatic machine. However, as you have not had a great deal of experience it would probably suit you very well indeed — being strong enough to withstand the punishment it will inevitably receive.

Dear John,

The other day my friend and I flew our control-line models at our local school. The field is in good condition and the Cox Babe Bee in my KK Radian started fairly quickly. I let a tank full of fuel run through and my friend released the plane, it climbed, but the lines sagged and the motor cut out. The second time it was released it made a perfect take-off, but again the lines sagged, control was completely lost, the plane executed a wing-over, and nosed-dived into the ground. Luckily the engine was thrown (complete with firewall-bulkhead) about five feet clear. When I inspected the plane the leadout wires had come adrift from the bellcrank, but I think the reason that there was no control was that the lines were too heavy. I used Laystrate 7 strand 30 foot lines, but the man at the model shop I purchased the lines from, said they would be all right for an .049 cu. ins. engine. What do you think?

Eastleigh, Hants.

S. N. Pitt

The reason for your model losing line tension is most definitely due to the control lines which you were using. 7 strand Laystrate is only necessary for Rat Racers or models, which due to their size and/or speed require this strength of line for safety. Even .35 cu. in. powered stunt models only require 3 strand Laystrate. I would suggest using either terylene thread or single strand wire lines for your model.

Dear John Bridge,

I am between 10 & 16 years of age and would like to become a member of the "Golden Wings Club". With this application I enclose postal order (International Money Order) for 2/6d. to cover cost of the enamel club badge, two coloured transfers and membership card.

NAME IN FULL .....

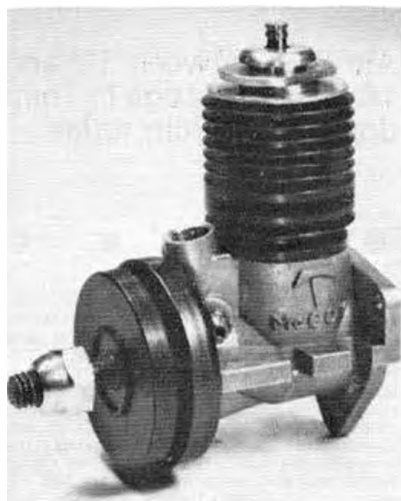
ADDRESS .....

YEAR OF BIRTH ..... SCHOOL .....

NAME OF ANY OTHER CLUB OR CLUBS TO WHICH I BELONG (if any) .....

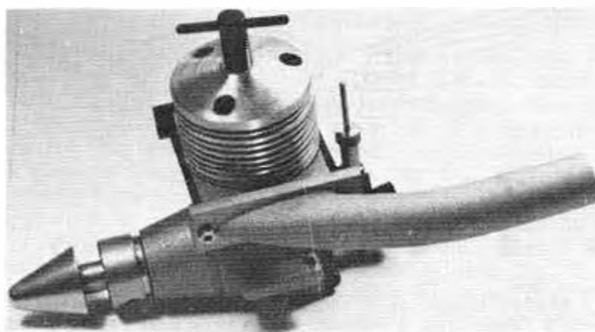
SEND TO:—GOLDEN WINGS CLUB, AEROMODELLER, 13-35, BRIDGE STREET, HEMEL HEMPSTEAD, HERTS

7/69 2d in the 1/- Rebate  
plus postage coupon  
for Golden Wing Members  
G.W.



Left, The 0.8 c.c. McCoy Thunderbolt 049 complete with built-in starter, weighs 1.97 oz. or 2.15 oz. with McCoy 6x4 nylon prop.

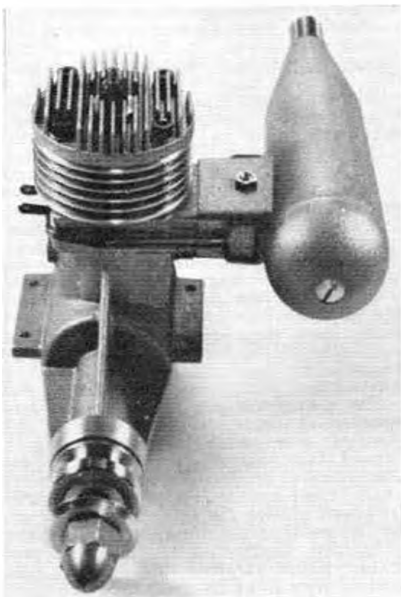
Right, E.D.s curved exhaust extension for Super Racer can be basis of wide variety of exhaust systems including tuned pipe.



#### E.D. SUPER RACER VARIANTS

Elsewhere in this issue there is an Engine Test report on the latest E.D. Super Racer diesel. Numerous accessories are available for this motor, some of which are shown here. They include several types of exhaust fittings, namely, a standard expansion chamber type silencer and a choice of two types of extension stubs—these latter being mainly of interest to boat enthusiasts. In each case the silencer or fitting can be located on the left or right side of the engine and a channel section steel plate is used to cover the opposite exhaust outlet.

Two additional types of rear induction assemblies are also obtainable for those who wish to add throttle control. In the first of these the intake faces aft as on the standard non-throttle carb. The second type, a later option has a right-angled elbow between the backplate intake and carb body so that the intake is vertical. This not only makes for less overhang and easier access to the intake for choking; it also means that, since the jet is approximately 0.8 in. higher, the fuel tank does not have to be positioned abnormally low in order to achieve an equal fuel head when flying inverted.



Two views of the latest model 10 c.c. HP 61 R/C as now available from Mercury Models, the U.K. distributors. Details of 1969 improvements are given in June issue of 'Radio Control Models & Electronics'. Modest frontal area, long shaft and inclined updraft rear carburettor make HP particularly well suited to inverted in-line scale type installation.

#### McCOY THUNDERBOLT VARIANT

As mentioned in the May issue, the Wen-Mac Thunderbolt engine is now being made by a division of the Testor Corporation. The Wen-Mac name has, of course, been well-known since the early nineteen-fifties in connection with plastic ready-to-operate models. The very first Wen-Mac models were powered by an 049 engine made by Bill Atwood. Soon afterwards, Jack and Len McRoskey, the founders of Wen-Mac, set up their own engine manufacturing plant and, by the early nineteen-sixties, the Wen-Mac 049 engine was being produced at the rate of four thousand per day, possibly the largest daily production rate achieved in the model engine industry by any one design.

On January 1st, 1965, the McRoskey brothers sold the Wen-Mac Corporation and established the Republic Tool and Die Corporation to develop and manufacture products, including models, as promotional aids for major American corporations such as General Motors and Phillips Petroleum. The new owners of Wen-Mac were the American Machine and Foundry Company (world famous for, among other things, their AMF automatic bowling alley installations), who continued to make the Wen-Mac 049 engine until last autumn, when the Testor Corporation acquired AMF's Model Division. Wen-Mac products are still made at Wen-Mac's original Los Angeles plant but under the Testor name for the ready-built models and under the McCoy label (already owned by Testor) so far as engines are concerned.

Basically, the McCoy Thunderbolt 049 is the same as the final development of the Wen-Mac 049 made by AMF. It remains a shaft rotary-valve engine with provision for beam or radial mounting. It has a one-piece steel cylinder with integral fins, two opposed exhaust ports and two opposed internal

transfer flutes. The screw-in cylinder-head incorporates a built-in glow filament.

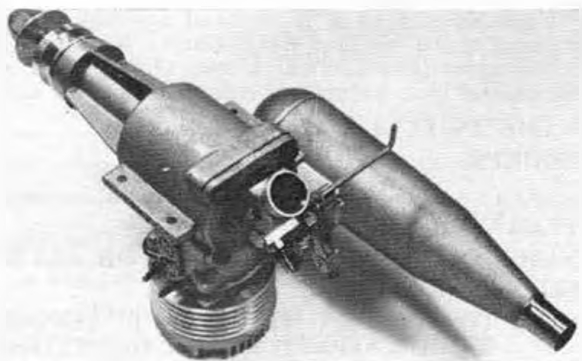
Wen-Mac were the pioneers of the integral starter system on commercial model engines and the Thunderbolt continues to use the well proved Wen-Mac 'Rotomatic' starter.

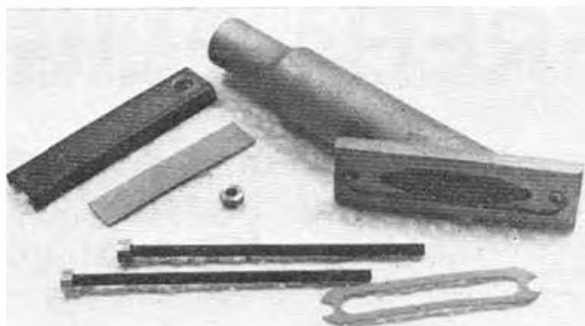
At the present time, production of the McCoy Thunderbolt 049 is being reserved for the Testor ready-mades but the engine will be packaged eventually as a separate unit for general sale. In all probability it will then be provided with a backplate mounted fuel tank, in addition to a prop, to make it a self-contained power unit.

#### 1969 K&B VECO RANGE

For 1969, the K&B Manufacturing Division of Aurora Plastics have announced a total of fifteen engines, i.e. nine K&B models and six Vecos. Three engines now survive from the original Torpedo plain bearing range which dates back to the mid fifties: the 35 (for stunt), 35C (combat) and 35 R/C, plus the low-priced Stallion 35 of similar design. All these are shaft-valve motors with lapped cast-iron pistons running in integral-finned cylinders. Withdrawn from the range are the well-known .19 and .45 cu. in displacement models.

Four revised ball-bearing Torpedo models are featured in the shape of the new 'Series 69' Torpedo 40's which replace the former Series 66 and 67 range. These are the 'Series 69F' 40 and 40 R/C, each with crankshaft induction, and the 'Series 69R' 40 and 40 R/C with rear rotary-disc valve induction. All four of these 6.5 c.c. engines feature a larger transfer passage and bigger bore carburettor and retain the single Dykes ring aluminium piston featured by the 66/67 models. They are aimed, mainly, in the direction of R/C pylon racing and C/L rat-racing enthusiasts. A forerunner of the disc-valve 40's, the 5 c.c. Torpedo 29R.





## by Peter Chinn

with lapped cast-iron piston, is retained in its 'Series 64' version, but the Series 64 15R, 29F and 35 are no longer listed.

The Veco range, all shaft-valve engines, consists of the 198B and 198B-R/C, both with twin ball-bearings, the 35 (a plain bearing C/L stunt engine), the 35 R/C (throttle equipped version of the regular 35) and the ball-bearing 50 R/C and the 61 R/C. Both the latter have been modified by K&B from the original Lea design to include single Dykes ringed pistons. These engines will also be obtainable in due course with the new Perry carburettor. Incidentally, we had one of the new 50's on test recently and found that it offered, by comparison with the Veco 45 from which it was developed, a marked increase in power (very much more than its slight increase in volume would suggest), excellent starting and a short running in period.

Ron Irvine, who very efficiently operates the U.K. distribution and service on K&B and Veco engines, tells us that, although many of the models well-known to British enthusiasts have been withdrawn from production by K&B, he will continue to supply these motors for as long as stocks are available from the U.S.A. and these should last for a few months yet. Meanwhile, in view of the increased prices of so many engines now on the market, Irvine Engines are planning to offer the Stallon 35 converted for R/C use by means of a modification to the crankcase to accept a K&B multispeed carburettor. Complete with R/C carb, the Stallon will sell for £8 15s. 0d. Ron stresses that this engine is not for the modeller who is seeking high performance but, rather for the sports flier or beginner in R/C.

### BRITISH RACING 15

Mr A. F. Lee, of Wythenshawe, Lancs, has sent us some photos of 25 c.c. racing engines he has constructed and which are being tested by members of the Sharston M.A.C.

Shown alongside a TWA 15 for comparison is Mr. Lee's first effort, built for K. Morrisoy and using a modified E.D. Power-Pipe. The original intention had been simply to make a new body casting for a Super-Tigre G.15. The project finally materialised, however, as a completely new engine, using only the connecting-rod and gudgeon-pin from the G.15—plus its 15 x 14 mm bore and stroke. Construction was based on the TWA 15.

Also shown are TWA type motors and components made by Mr. Lee for other members of the Sharston Club. Brian Jackson, who, of course, holds the U.K. record with an original TWA engine, co-operated in making drawings available.

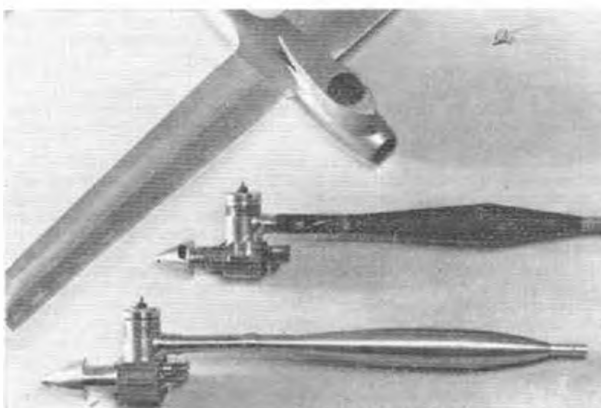
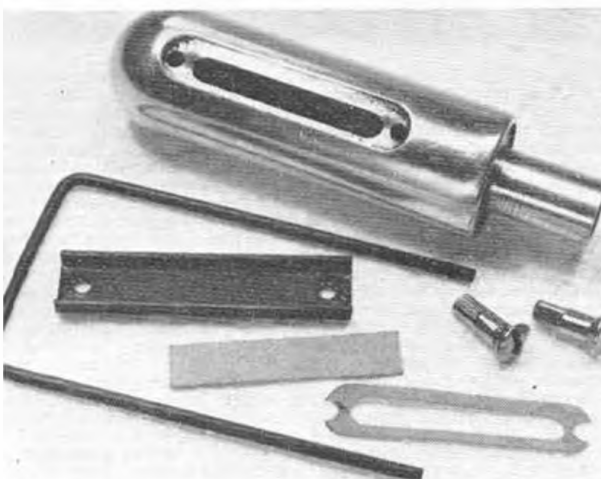
Above, Straight angled version of E.D. exhaust extension showing tie rods and blanking plate for sealing off opposed exhaust outlet.

Top right, Parts of optional R/C type E.D. induction unit for Super Racer engine. Backplate, carburettor body and valve rotor are all nylon mouldings.

Right, Standard E.D. expansion chamber type silencer. Secure, vibration-proof attachment is ensured by bicycle spoke type fitting.

Original Theobald-Wisniewski Association TWA 15 engine and tuned pipe (above) compared with British derivative by A. F. Lee, with modified Lindsey pipe.

Completed and partially completed TWA type engines by A. F. Lee. Motors are being flight tested by Sharston M.A.C.





# FREE-FLIGHT

## Events of the month reviewed from

John Sumner of Sheffield who won the A/1 glider class at Northern Area Topcliffe meeting on May 18th used the A.P.S. 'Cue-Dot' (G909, 3/8d.) and is seen discussing the model with its designer Martin Dilly (Croydon) at left.

AREA-CENTRALISED events have been a major part of the S.M.A.E. contest programme for many years. Originally devised to alleviate travelling problems, they have survived due to the interest of some (but certainly not all) Areas in the local competition that these contests provide. This theory is confirmed by the frequent addition or combination of other events – which often are treated as of greater importance.

This attitude arises partly from the inherent drawback of area-centralised contests (and indeed any form of decentralised event) i.e. the variation in weather and flying facilities across the country. This in turn helps explain the lack of prestige attached to these S.M.A.E. contests. Finally, there is the incentive that is only provided by direct and visible competition from other participants at the same site.

Moving from the general to the particular, the results of the 20th April meeting commenced with a heavy preponderance of Northern names – a sure indication of better weather at one end of the country. Whilst a complete and comprehensive report is obviously impractical (on space considerations alone) some comparisons might be interesting.

N.W. Area fliers enjoyed very pleasant conditions at Chetwynd. The Congleton club had gone further than merely 'adopt' the customary events, and had turned them into a fully-fledged club gala to celebrate their 21st anniversary. Their Alan Moss reports that the Gala was very successful, and was helped by good weather prior to, and on the day. Wind was never a problem and thermals were strong and plentiful.

Some discrepancies exist between Gala and S.M.A.E. scores due to certain fliers (particularly in glider) not doubling their flights. It seems that some people are either reluctant to 'put all their eggs in one basket' or simply like a full day's flying!

The Glider fly-off produced some very good scores, principally through Mike Reeves marking lift for everyone else. Ironically he was then the first to D/T. Of the rest Mike Dixon came out best with top places in both Gala and Country – and recovered his high aspect ratio fuselage A/2. Nearest to him was Neville Crane who confesses to 'beginners luck'. In actual fact he listened to advice from fellow club members. Mike Reeves (model design) and Pete Oliver (thermal detection). Rubber was flown off in indifferent air with Brian Picken, still with single blade feather, flying later than the others and scoring more. Power was poor in comparison with no perfect scores – due to early downdraughts and use of F.A.I. flights.

One very worthwhile, if often neglected, scheme was a Junior event, topped by M. Bacanin. Although there were only three entrants, all glider, this is really a long term project. Northern Area are doing something similar, plus novice awards to try and encourage new blood.

I decided to try for the S.M.A.E. events, having models for all three events, and hence went to the Northern Area venue at Elvington. This is a better drome and more suited to bicycle retrieving! An early arrival plus early organisers (now becoming standard practice in the north) enabled me to complete a rubber treble by 9.30 – closely followed by John Pool. Then it went calm – and for several hours drift was so low that the main problem was positioning the launching site! There were at least 3 D/T less flights in the 11-14 minute region that landed in the airfield (from Jim Moseley, Dave Wiseman and Alan Hobbs – the last with a tailless rubber model) – plus an untimed glider flyaway by Pete Whitehead that disappeared vertically overhead – and with no indication of which way to walk after it! The model carried no address but he got it back by advertising in the local papers!

Nevertheless lift was weak and patchy at low level and there was only one treble in glider (from Robson of East

Lancs.) The best two scores in F.A.I. power were just over 20 minutes and came from Henry Tubbs (flying an old model with a Webra Mach 1 diesel) and Dave Wiseman using the wings, tail and motor from last year's very successful model on the fuselage from his reserve.

The rubber fly-off was a disappointment as the weather deteriorated in the late afternoon, with a steady drift in an inhospitable direction. Out of the five eligible to fly-off, two withdrew, two crashed and my 'Maxine' only managed a mediocre score in what I trust was bad sink!

The NE fliers on Newcastle Town Moor had a somewhat similar – but rather more successful – story. A very nice day gave place to rain at fly-off time. Ron Pollard lost a minute of his rubber fly-off in the resultant poor visibility – but still came second in the Gamage. Brian Martin didn't need his 3.05 fly-off in F.A.I. power to collect the Halifax Trophy. His usual shooted-surface model, with Miebach and pipe, developed a crack in the metal engine mount after the first five flights, and the remainder were only just maxes.

Down south I hear that conditions were windy and this is confirmed by the general level of scores. Even so Mike Fantham continued his winning streak by topping the Gamage fly-off, and Dave Glue broke up the N.W. glider procession by taking second place.

Some clubs are obviously trying for the Plugge Cub this year. Baildon managed to field several makeshift models that earned useful points to back up Henry Tubbs' third place. My club's chances were not helped by my H.P. 15 D breaking a con-rod in flight on what should have been the second max. It shed the prop and so invalidated the score. Although the motor is not in production, the makers repaired it – the round trip to Austria taking a little over 3 weeks!

All in all, top positions in the Plugge are now very close – and Wakefield, as the next event, may well prove critical!

The first of the year's 'major' events was the Southern Gala held at Odiham on 4th May. It was much more fortunate with the weather than last year – and hence better attendance and participation.

An overcast morning gave place to a bright and sunny afternoon. There was always a definite breeze that swung in direction. F/F control was never in the ideal spot and maxs usually went a field or two outside the drome. It was much safer to fly rubber and power early as ups and downs became quite pronounced in mid-afternoon. I heard tales of several flyaways – some on D/T. It was noticeable that the rubber fly-off was slow to fill up, perhaps for this reason. Conversely, afternoon conditions were ideal for glider. It was breezy enough to tow for one's own lift – but not enough to handicap the tactical approach.

The Croydon club attracted much attention through Jack North's 'electronic' thermal detector. This had a thermistor on top of a guy-braced 'flagpole', and a power driven chart recorder to display the output from the associated amplification circuit. Despite an inherent time-lag and an undesirable noise/signal ratio the system is proving most encouraging – especially for those who found it correct. These included John Boxall, who celebrated his return to the contest field by winning JA power with the only treble.

Chuck glider was the other event without a fly-off. It was won by organiser Tony Slater flying a modification (including a triangular airfoil in the best U.S. tradition) of his published 'Slarmi' design. He was pleased at the larger than usual entry – but there seemed a lot of blank spaces on the score sheet when I looked at it. Perhaps this is a product of the Contestant's licence idea! One interesting approach to chuck glider was demonstrated by Andy Crisp, who used one model to 'test' the air before taking an official

# COMMENT

the competitors' viewpoint

— by John O'Donnell

Jim Moseley (Baildon) led Vintage at the Northern Area event with his early Elfin 1.8 c.c. diesel 'Blitz Buggy', a design that can still hold its own in competition.



flight with a second model – sometimes before the first was down.

The initially announced closing time of 6 o'clock was advanced by an hour to accommodate the tardy realisation of R.A.F. restrictions on flying hours. Sensibly the fly-offs were held in the sequence of smallest first so as to ease the finding of timekeepers. This put power, with 5 participants, first Tony Child had pattern and motor run problems, whilst Fred Chilton and Perce Perry both seemed to lack height and certainly lacked good air. Then Roger Baggott found a good thermal with his elliptical tipped open model – only to throw away his chances of victory with an over cautious D/T. (Even so this made 3 places in the first 3 S.M.A.E. power events this year). This enabled John West, flying last, as is his wont, to find marginal lift and win. This was the first contest for a brand-new model, still featuring *Dixielander* style surfaces but now sporting a modernistic swept and pointed fin. Motive power was described as a 'poor' G15 – rejected from use in F.A.I.

The rubber flyoff followed with nine fliers. The best scores seemed to result from flying either first or last. Bristol's Dave Miett had his model disappear O.O.S. well up for 8.22, only to be beaten by Dave Hipperson by just one second. Dave flew his largest (310 square inch wing) and very lightly constructed (3/32 square longerons and 1/16 square spacers were rumoured) model that he reserves for fly-offs. He left matters so late that he was forced to launch a few seconds before 'cut off' despite the thermometer reading being at 'rock bottom'. Lift was nevertheless still there. From what I hear all the rubber models were recovered – even that of third placed Jack Allen, who flew without D/T.

Glider was delayed while a full-size helicopter performed a V.T.O. Once the fliers were given the go-ahead there was little or no delay. Elton Drew towed up immediately in his preferred go-it-alone style. Ken Smith and Mike Coombes followed, and the latter launched into strong lift. This precipitated a mass launch from everyone else, and soon there were 6 or 7 models climbing rapidly in a strong thermal, plus 3 or 4 others much lower, but still in lift.

The outcome was really much more of a 'judgment' contest than has been credited elsewhere. Most fliers simply had insufficient D/T to win, and several D/T'd down well in sight. Mike Coombes' third place only landed just outside the airfield. The winning model was Gerry Ferrer's 8-footer. Not only did he have the extra visibility over the A/2's – but he also had the courage to set the D/T to suit. The model went O.O.S. at over 10 minutes, D/T'd a minute later, spun, and didn't come down! Of the rest I had the longest D/T and was, so I hear, seen *until* it operated – but not thereafter. It took several minutes to descend but thanks to convenient country lanes along which to cycle, recovery was routine. Laurie Barr had his model land in the same field as mine, for three minutes less score, and this left him rather displeased. We were amongst the few people who had extender discs to enable a second revolution of the D/T timer to be utilised.

The Northern Area brought forward their Pannett/Vintage meeting to avoid the crowded Autumn portion of the Calendar – but were hardly lucky with their choice of May 18th just a week before Whitsun.

Entries in the Pannett must have been curtailed by the proximity of the Nationals as well as by the weather being very windy. With covetous eyes on the trophy, Russell Peers successfully risked his best Eta 29 model to record a very convincing win. His treble showed what was possible – but involved much hard retrieving. Martin Dilly flew an OS-15 model to second place despite a short D/T, damage, and

sink on successive flights. Brian Hooley persisted through flat climb and poor air troubles to place third with a F.A.I. model featuring a G.15 and home made pipe.

Coupe d'Hiver activity was increased by the use of the new F.A.I. approved rules of 5 flights and H.L. The former proved my undoing as I found a bad gust or turbulence on the fourth launch. The damage was past a field-repair, and left the way open for John Pool to win, closely followed by Henry Tubbs. Both managed a single max amongst a series of wind afflicted flights. John's model was a 'Baron Knight' with a two blade low-pitch propeller.

John Sumners deserved his first place in A/1 with 3 good flights from his standard 'Cue-Dot'. Pete Oliver started well, but spoilt his third launch. Nevertheless he seemed safely in second place. However, just half-an-hour before the contest closed the wind suddenly dropped. This enabled me to fly my pre-historic model (photo in April issue), the ex-Wakefield wings of which are too weak for gales. With the aid of a Whitefield launching crew and Congleton retrievers I managed two quick, if short, flights before a final max – for second.

Meanwhile there had also been a sudden flurry of Vintage activity as three people made a single flight apiece. None managed to return in time for a second, and force Jim Moseley to take his third flight. He had earlier recorded a 2:05 and a max with his radial Elfin 2:49 powered *Blitz Buggy*, a plan design from 'Air Trails'. This model brought back many memories of my Club members trying to trim this design with Amco 3.5 power! Runner up in Vintage was Tom Chambers with a 40in Mick Farthing rubber model, whilst third was Gerry Abbott with a *Bazooka*. Both were on single flights.

It would seem appropriate as well as fitting to mention the passing of 'Northern Area News'. This had built up an enviable reputation as a very meaty and worthwhile newsletter with a scope that far exceeded its title. Only its editorial and distribution staff seemed restricted to the Northern Area and eventually the effort proved too much for John Pool and his helpers.

However, its place may well be filled by the appearance of 'Free Flight News', produced by a consortium of Ian Keynes, Martin Dilly, John Lorimer and John Mabey – and distributed first of all to the mailing list of 'N.A.N.'. From perusal of the first issue it should be a worthy successor. Equally well, it could be regarded as a case of 'under new management'. Certainly many enthusiasts will hope that it will continue to be 'business as usual'.

## RESULTS

### N.A. MEETING TOPCLIFFE 18th May 1969

Vintage (8 entries) 1. J. Moseley, Baildon 5:08, 2. T. Chambers, Teesside 2:35, 3. G. Abbott, York 2:22. Open Power (7 entries) Pannett Trophy. 1. R. Peers, Congleton 9:00, 2. M. Dilly, Croydon 6:54, 3. B. Hooley, Whitefield 6:05. A/1 Glider (8 entries) 1. J. Sumner, Shoffield 6:47, 2. J. O'Donnell, Whitefield 4:17, 3. P. Oliver, Whitefield 5:07. Coupe d'Hiver 1. J. B. Pool, Halifax 5:39, 2. H. Tubbs, Baildon 5:22, 3. J. O'Donnell, Whitefield 4:17.

### CONGLETON GALA 20th APRIL 1969 – CHETWYND

Open Rubber (9 entries) 1. Picken 9:00 + 4:28, 2. R. Peers 9:00 + 4:11, 3. Greaves 9:00 + 3:59. Open Power (14 entries) 1. R. Baggott 8:18, 2. B. Sinclair 8:16, 3. B. Hooley 7:48. Junior Open Glider 1. M. Bacanin 5:48, 2. I. Hague 4:43, 3. D. Chambers 4:27. Open Glider (24 entries) 1. M. Dixon 9:00 + 6:26, 2. N. R. Crane 9:00 + 5:41, 3. M. Reeves 9:00 + 4:00. Chuck Glider. Best 5 of 9 flights (16 entries) 1. M. Roberts 4:49, 2. P. Toogood 3:38, 3. P. Harris 2:54.



Above left: Dave Welch discusses the tuned pipe (of custom made German origin) on his G.15 powered F.A.I. model, with W/Cdr. Toon and Norman Couling. Above centre: Miss Sarah Bence with fiancé Martin Yates' 'flying snuffer tube'. Fuselage is 1/4" i.d. stainless steel tube, and uses rubber-model flying surfaces. Above right: Mike Hall of Anglia with his 'Thermopolar' design of American hi-thrust line layout. Uses a G.15 with head modified as per 68/69 Aeromodeller Annual, and a Ray Collins pan.

## SOUTHERN GALA RAF ODIHAM MAY 4th

MAY 4th dawned bright and clear, and in contrast to last year there was little wind, thus avoiding strain on the timekeepers' eyes in the free-flight events which are reported in his column by John O'Donnell.

Combat was its usual hectic self, with John Shaw of F.A.C.C.T. emerging the victor, after beating G. Bromley of Sidcup in the final. John used his light-weight swept wing design, using conventional construction. Stunt attracted some varied entries, in particular Laurie Glover's 'Jaguar' design – a 600 sq. in., 48 oz. machine featuring unusual construction in that each piece is designed to lock into each other to form a rigid skeleton. However, it was the piloting of Mick Reeves that won top honours – his square manoeuvres being exceptional.

F.A.I. team race was won in fine style by the Hark-



Above: John Mabey launches his open rubber model. Below: Before and after! The Longhurst/Radcliffe team show the result of an unfortunate tangle between their F.A.I. model and a fellow semi-finalists' feet.



nett/Smith team of Feltham, flying their Super Tigre powered model ahead of Heaton/Ross (using a pressurised re-fuelling system for their modded Eta) into second place by some 22 seconds.  $\downarrow$ A was a Dell/Wooding (Feltham) victory - it being New Zealander Alan Wooding's first competition in this country.

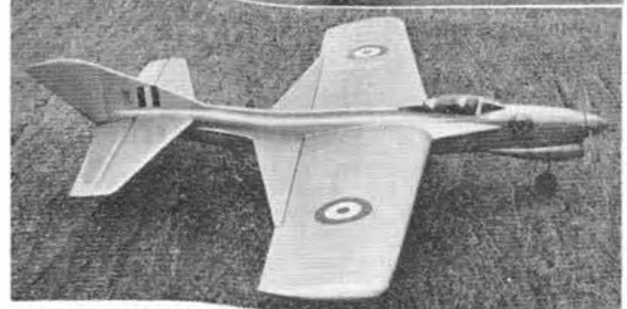
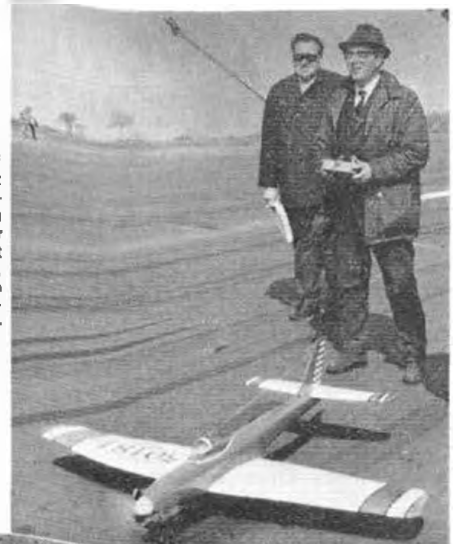
The Aeromodeller Trophy for multi R/C aerobatic models started promptly, which upset a few enthusiasts who, on arriving a little late, were refused entry after the 9.30 draw. Dennis Hammant narrowly won this event from Chris Olsen, by a mere 16 points - but both were considerably in front of third and fourth men Stuart Foster and Doug Spreng. Mike Birch was the victim of a frequency clash and, for once, was well down the results list.

#### RESULTS

**Open Glider (Pilcher Cup)** 1. G. Ferer (Swindon) 9:00 + 13:12, 2. J. O'Donnell (Whitefield) 9:00 + 7:56, 3. M. Coomes (East Grinstead) 9:00 + 6:53. **Open Power (Short Cup)** 1. J. West (Brighton) 9:00 + 5:49, 2. R. Baggott (Birmingham) 9:00 + 5:14, 3. P. Parry (Birmingham) 9:00 + 2:14. **Chuck Glider** 1. A. Slater (Leatherhead) 3:42, 2. N. P. Clark (Sperry) 2:50, 3. G. Mills (Leatherhead) 2:40.  **$\downarrow$ A Power (Quickstart Trophy)** 1. J. Boxall (Croydon) 9:00, 2. J. B. Spooner (Croydon) 8:22, 3. R. J. Baggott (Birmingham) 7:53. **Open Rubber (Flight Cup)** 1. D. Hipperson (Croydon) 9:00 + 8:23, 2. D. C. Miatt (Bristol & W.) 9:00 + 8:22, 3. J. Allen (Brighton) 9:00 + 7:42. **F.A.I. T/R** 1. Harknett/Smith (Feltham) 10:01, 2. Heaton/Ross (Leigh) 10:23, 3. Bedford/Allen (Feltham/Hayes) 10:50.  **$\downarrow$ A T/R** 1. Dell/Wooding (Feltham) 8:58, 2. Harknett/Smith (Feltham) 9:08, 3. Sutherland/Allen (Leigh) 9:56. **Combat** 1. J. Shaw (F.A.C.C.T.) 2. G. Bromley (Sidcup). **C/L Aerobatics** 1. M. Reeves (Wanstead) 1163, 2. J. Mannall (Lincoln) 1090, 3. S. Blake (Buckaneers) 1087. **Multi R/C Aerobatics (Aeromodeller Trophy)** 1. D. Hammant (Grimsby) 5172, 2. C. Olsen (C.M.) 5156, 3. S. Foster (Lincoln) 4894.

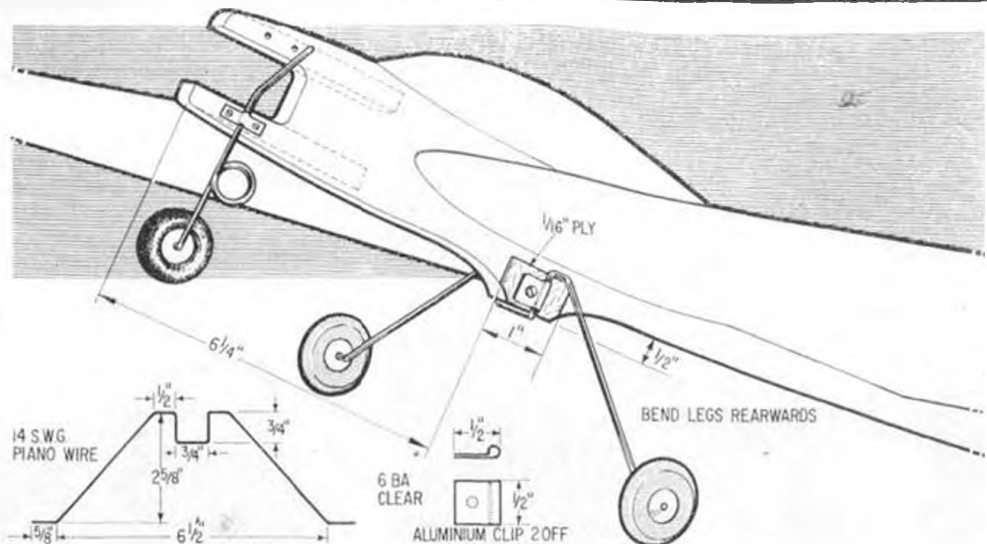
Right: Laurie Glover's (Three Kings Club) unusual stunt model, powered by a 12-year-old Johnson 35.

About to take-off with his Kraft equipped 'Twister' model in the Aeromodeller Trophy R/C event is S. Devison, with Judge John Wingate seemingly unimpressed.



## TIP FOR C/L FANS A TRIKE FOR PEACEMAKER

devised by  
R. Lowe



HAVING chosen the A.P.S. Peacemaker as the next model for himself and his son, Mr. Lowe of Oldham decided to fit it with a tricycle undercarriage so as to enable him to make smooth take-offs and landings, and which would also protect the wing into the bargain.

When the fuselage is marked out for cutting, the bottom edge is extended downwards for half an inch, from a point  $6\frac{1}{2}$  in. rearward from the front face of the engine bearers, and the 'pod' being approximately 1 in. long and strengthened with  $1/16$ th in. ply 'wafer' as in the diagram.

A 14 swg. piano wire undercarriage leg is then bent to the shape shown.  $1\frac{1}{2}$  in. wheels are then fitted and secured with solder and washers. Two clips are then made from aluminium, about twenty gauge, and bent to grip the wire, these being drilled from a 6 B A. bolt.

Both clips should then be fitted to the undercarriage - lat sides inwards, and the complete unit offered up to the fuselage extension. With the clips in position a hole is drilled straight through and the whole lot secured by a 6 B A. bolt and shakeproof nut. The 12 swg. front leg is brought forward instead of rearwards, to pass between the bottom two engine bolts. These are utilised to secure the leg by means of a flat clip similar to that on the plan. Finally, the leg should be given one loop to provide a modicum of spring, and extended downwards to give the necessary clearance for the propeller used. A sponge rubber wheel is then fitted and secured as before.

This 'trike' modification has proved well worth the trouble making it, and it adds very little to the weight. It has survived many a 'hard' landing without any damage to plane or undercart, and best of all provides realistic take-offs.

## STEAM POWER Pt. II

### D. E. PARKER'S REMARKABLE 'COMET'

LATEST DEVELOPMENT of the steam powered model aircraft is *Comet II*, which apart from the radio control is a completely new development based on the experience gained with the original *Comet* described in *AEROMODELLER* October 1967. The new engine is larger ( $\frac{1}{8}$ " bore and stroke) and heavier but it is more efficient with an earlier steam cut-off.

The new boiler is all copper. Much to the designer's regret, he found that the stainless steel boilers started to crack at the brazed joints after prolonged use. He subsequently learned that such joints should not be allowed contact with moisture, or corrosion cracks will develop. As this ruled out stainless steel, Mr. Parker was more or less compelled to use copper. He feared that the weight could become excessive due to the heavier gauges of material necessary, but more ductile copper enabled him to dispense with a large number of machined fittings, and a weight increase of only 2 oz. resulted.

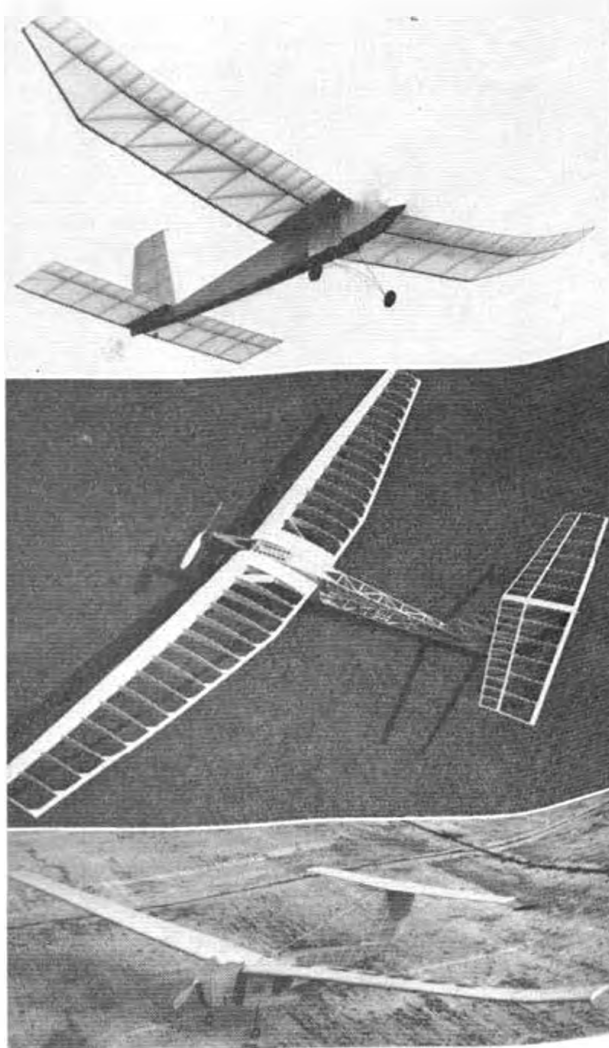
A larger capacity burner (3 oz. meths) of the old wick type proved satisfactory. A propane burner was considered, but eventually it was decided that there was nothing to be gained from a heavier and more complicated arrangement.

The new powerplant produces  $1\frac{1}{2}$  lbs. static thrust with a  $12" \times 7"$  KK plastic propeller turning at 3,500 r.p.m. Boiler pressure is 70 lbs.

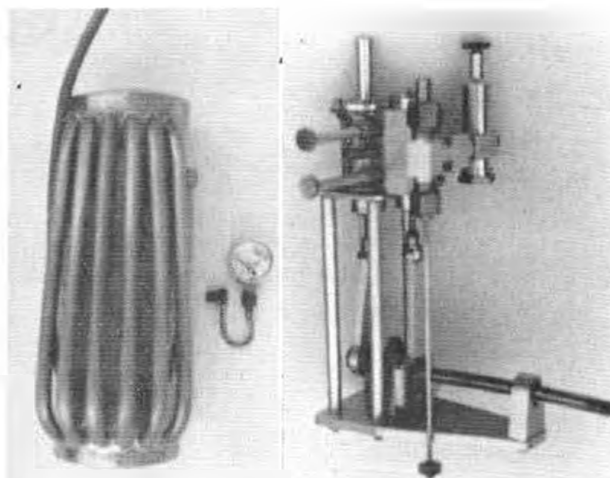
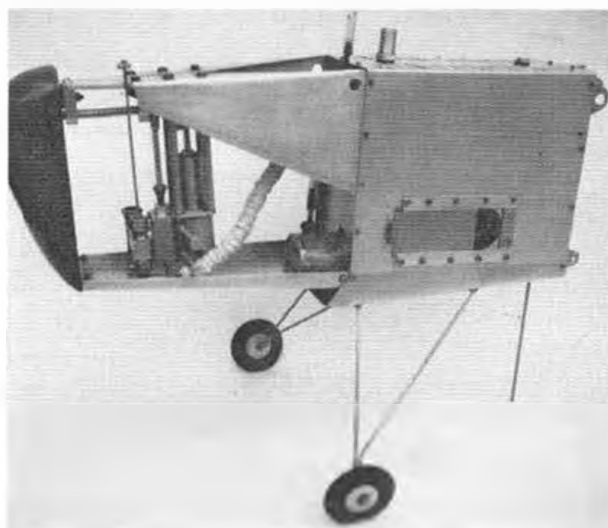
The idea behind the new airframe was to combine a higher airspeed with greater aerodynamic efficiency and improved stability under power. Hence—

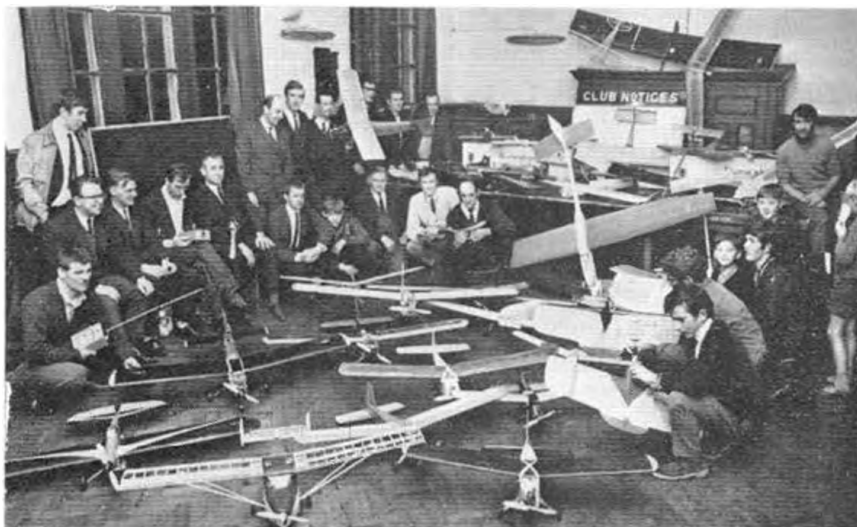
1. Inverted engine which allows a higher thrust-line and shorter undercarriage.
2. High aspect ratio mainplane (8 ft. span) with a thinner and less undercambered section. Sheet covered leading edge.
3. High tailplane, above the mainplane downwash.
4. Skeleton rear fuselage, to keep the c.g. as far forward as possible.

The first flight took place during the Easter holiday 1969. All went well. A full fuel tank has yet to be used, 2 oz. has produced very satisfactory flights, with the best duration to date being about 8 minutes; there *must* have been some lift around that evening! The all-up weight (dry) is 46 oz.



Upper photo shows original *Comet* in flight to compare with Mk. II in other views. Note light structure, Tee tail and radio aerial. Mechanical details below, the complete power unit at left, copper boiler (centre, with pressure gauge) and power unit at right.





# CLUB NEWS

Nuneaton Aeromodellers meet each Wednesday and have a membership of forty enthusiasts with a wide range of interests. If this is a typical turnout, we're not surprised to learn that the local 'Evening Telegraph' (who took the picture) gave the club a handsome write-up.

ADVICE given to up and coming model flyers in *Seadog*, the South-Eastern Area newsletter, is to visit a few of the model meetings, with which this year's calendar is so well stocked. There's nothing like seeing the way the experts do things in order to improve your own techniques. And while on this subject of meetings it should not go unnoticed that some well stocked calendar belies any suggestion of the movement being in the doldrums, or that there is quite that lack of organisational effort that jeremia'd publicity often makes out. We must also not overlook that the movement also has its social moments, too. From the Area comes a report of a successful Noggin and Natter meeting. Ingredients included a chicken supper and guest of honour appearances by H. J. Nicholls, and Aeromodeller's own Ron Moulton.

Laurie Glover, the P.R.O. of the very active Three Kings Aeromodellers (South London) tells us that the club is putting on a hard model-to-public sell, in order to demonstrate just what a worthwhile hobby model flying really is. Impress the mums and dads, goes the argument, and they may perhaps persuade their sons (and daughters?) to take up aeromodelling instead of following the mass into the pop mad rut. A worthy project, which, we hope, will meet with every success. It is, of course, true, though not always appreciated, that much youthful discontent springs from just plain boredom. In fact, many of older modellers can remember how much aeromodelling did to keep away those 'teenage blues'. The club itself, we are told, is an all Control Line concern, specialising in Stunt and Scale, with a spot of Team Racing thrown in. A particular concern of the club is to keep as many flying sites going as possible, even the lesser used sites. Just as the Ramblers keep open the footpaths by a systematic itinerary, so are the Three Kings boys trying to keep the flying fields flyable by regular visits.

Looking outward from these homely concerns there is a touch of national fever in the air. All was being geared for

the great annual jamboree, including models, tentage and drinking elbows. Other high spots of the year are not being overlooked, however. There is, for instance, Stunt man, Mick Harvey's forthcoming appearance in the Criterium of Aces, and also a strong contingent at the Southern Gala, where the club elected to run the C/L Aerobatic event. Significant of a popular trend these days is the tremendous interest being shown in Scale Models, generally, tend towards the gargantuan; things like **Vickers Viscounts** and **Kittyhawk P.40s**. These are the sort of models that go down so well at public displays; people like to see what is being flown, and the greater the magnification the better they like it. No juniors in this group, by the way, but there is talk of a junior section being formed, separate from the main club and under experienced guidance.

From the Leicester M.A.C., Newsletter comes a report of a successful Concours d'Elegance event held on March 31st. Entries were so plentiful that the judging was split into three groups: C/L, Scale and F/F. Ken Worrall took the C/L prize with a **B.26 Marauder** which was a masterpiece of detailed perfection. Deservedly this model also won the overall best model of the show prize. Excellent workmanship was also displayed in the *Jungmeister* of D. Neal which was adjudged the best Scale model. High quality, too in A. McIndoe's finely detailed *Fokker Triplane* which came a worthy second. Fewer entries, though, in free flight. Understandable, since such models are more functional than decorative, although a batch of *Wakelields* I saw on a trimming outing the other week, were to the discerning eye, the very epitome of the aeromodellers' art. In this Concours, however, it was an A/2 glider, built by D. Sirrell, that was awarded first place. Now, with all that emphasis on Scale excellence little wonder that the club is mounting a big outing to the Aeromodeller Scale meeting at Old Warden on June 22nd. Seats for the 160 mile trip will cost a little over 10/-, but the more seats sold the cheaper the excursion. The newsheet includes a calendar of events at Old Warden this year. Stacks of interest and excitement for all aircraft enthusiasts.

A few worthwhile notes in *Propshaft*, the newsletter of the Rhodesian Mashonaland Model Club, for those model flyers who work by rule of thumb. They give the whys and wherefores of the various model layouts. Why for instance are pylon mounted wings so popular with f/t duration enthusiasts? Big event in that part of the world is the South African Nationals; C/L and F/F being held in Johannesburg, and R/C in the Cape - talk about separation!

Cautionary, but sensible caption, which heads the official notepaper of the Chesterfield Skyliners M.A.C., exhorts members to fly with care. The Skyliners, whom we have heard all too little of late, are getting an intensive recruiting drive under way, part of which is the report you are now reading. Potential members in the Chesterfield area are asked to take note. A fruitful source of recruitment has been the many displays given at various fetes and functions. Such a chubby lot of ex-baby show winners. Well booked up, fete-wise, too, albeit with the occasional polite



A. Hutchings of Petersfield, Hants, scaled up APS drawings of the Chilton D.W.1 to three-quarters full size and made this replica for his sons Nicholas and Simon. Outer wing panels (18 ft. span), even an engine will follow at a later date. Nothing like getting 'em air minded whilst young!

refusal, particularly when the space provided is a few square yards betwixt the hoopla stall and the kids' roundabout. Moral here for all demo. team managers: ensure there's enough space to swing a puss moth before accepting a display request. Do not, however, be deceived by all this 'functional' flying that the club is 100% C/L; there is, in fact, a quite healthy mix, even if Radio does rather dominate things. And talking of radio, this too features at certain functions, though not perhaps the Vicarage lawn. With such flying much of the safety factor depends on competent flying and utterly dependable equipment, no place for the novice. Apart from the demos, the club runs a lively programme, and there will be plenty to interest anyone who trots along to see Mr Little in the Stamps and Model Shop, Chesterfield.

An explosive name for explosive times is Nitro, the newsletter of the Belfast M.F.C. The editorial deplores the demise of Northern Area News which has served so well as an outlet for free flight debate. Whilst supporting this sentiment I think it should not be overlooked that John O'Donnell's F/F coverage in this journal is not unworthy of attention, and also that these Club News columns are not exactly oblivious to the free flight scene. Still, at least the Belfast boys look confidently to the future, having just filled in a form from the Ulster Countryside Committee on the possible influence of the hobby on the countryside in the year 2000. No one dare ask the same question over here, as by then countryside will be just an historic memory. But who's worried now that you can fly radio jobs from helicopters - strictly on a rotor system, of course. Currently in N Ireland there is a build an A/2 campaign. And very commendable, too, considering that the A/2 is perhaps the cheapest and most rewarding of all model types. And a very watchable type of model, too, in my humble opinion. And still in gentle mood, indoor flying is enjoying something of a cult in the Belfast club these days. Some good development space with tissue covered rubber jobs putting up 2 minute flights. Not all that easy if you know anything of the hazards and pitfalls of small hall flying. Seems though that the microfilmies have got the edge when it comes to rather nudging; they bounce just that little bit better in making the three minute mark. And four minutes is quite on the cards provided the excitement of the attempt doesn't produce too much heavy breathing. In the bracing outdoors the club held a novel F/F handicap contest, in which a varied collection of models took part. Just how the handicap system operated we are not told, although this could well be of interest to other clubs to whom wide participation events have a special appeal.

Club insignia seems to have moved away from those portentous futuristic flying devices towards chummy little insects. The one now gracing the models of the South Bristol M.A.C., is of indeterminate species, but like the



Heswall MAC Badge was designed by Wally Robinson, and the use of a Falcon emphasises the Clubs' other fine piece of publicity work which was much admired at the Nats. It's a 'dummy', used so far for photo poses. Ten foot long, the fuselage is mainly hard-board, has dummy controls, and is mobile on its pair of 9 in. diameter D.H. Rapide tailwheels. It is used extensively for local shows.



creatures who run after models, very fetching. Leastways the jolly device finds the club in good heart with an influx of new members and the use of three regular flying sites, not to mention standing room only on club nights - useful places, telephone kiosks. Further cause for self satisfaction is the acquisition of a special model flying only area on Whitchurch Airport, the result of an eleven year campaign. The club also books R.A.F. Colerne twice a month to get access to all that super smooth tarmac; just the thing for Rat Racing and Radio take-offs. Mention, too, of indoor activity in this club. J Mayes recently won a tissue event with a record equalling time of 3 mins 43 secs - some going. Also a resurgence of interest in r.t.p., with electric added. Speedy Pee Wee and Jetex powered preferred to sedate rubber gyration. Human pole flying is also having a field day, with many contest successes and a litter of broken C/L club records. South Bristol teams came one, two and three in the last Area Rally Rat Race and provided both finalists in F.A.I. Combat. Off the lines, free flight has gone mostly Vintage, so much so that the club recently staged a purely Vintage event, in which J Down took first place with a Dixielander.

Still a bit of controversy raging in the Tyne Valley Area over which club is top dog thereabouts. Recent 'only club' remarks made by the Tyne Valley M.A.C. has caused a few hackles to rise in neighbouring clubs. All a misunderstanding, though; seems the offending remarks were meant to be specific to Radio and not to other forms of model life. Just to prove that all is now sweetness and light, the club had a friendly get-together with the Chester-le-Street boys over the Easter week-end. A breezy do, though, with sufficient gustiness to write off at least one model. But don't write



"Stop knocking my hobby!"

### Last Reminder!

**AEROMODELLER &  
RADIO CONTROL MODELS  
ALL SCALE RALLY**  
OLD WARDEN, BIGGLESWADE

**June 22nd** ADMISSION TO MUSEUM  
& AIRFIELD 4s.

# Contest Calendar

June 22	BURTONWOOD C/L CRITERIUM Stunt, Speed (Handicap) Rat race, F.A.I. T/R, 1/2A T/R
June 22	CHESTER M.F.C.'s CLWYD SLOPE SOARING RALLY, Moel Ffammau, N. Wales Details from C.R. Fittness, 26 Raymond Street, Chester
June 22	AEROMODELLER/RCM & E Scale Rally, Old Warden
June 22	NORTHERN AREA THERMAL SOARING CONTEST R.A.F. Elvington
June 22	STOCKPORT D.M.A.C. Open Combat Rally, 'Mainstream' Trophy and £10 prize 5/- pre-entry to J. Daly, 112 Conway Towers, Brinnington, Stockport, Cheshire Enclose S.A.E. At Stockport Co. Playing Field, Mill Lane, Bredbury.
June 22	CROYDON F/F 'Knock out' events Open R/G/P plus A/1 and 1/2A Power 3 x 3, Chobham Common
June 28	CROYDON EVENING (F.A.I.) Chobham Common 6 p.m.
June 29	ST. ALBANS GALA (1) Open R/G/P 5 x 4 mins Hubber, 3 x 3 mins Power and Glider Carl Simeons Trophy, Vintage (pre-'51) Chuck Glider, Chobham Common.
June 29	N.E. AREA GALA F.A.I. T/R Rat Race, Combat, Open R/G/P. Pre-entry 5/- to R. Wilson, 1 Birkheads, Marley Hill, Co. Durham. Venue R.A.F. Ouston, 12 miles west of Newcastle on B6318.
June 29	FINCHLEY D.M.E.C. C/L RALLY A & B Combat, B Rat Race, Stunt, Silencers over 2 cc. 3/6 pre-entry to J. Goodwin, 77 Gallants Farm Road, East Barnet, Herts. Venue Glebelands, Finchley.
June 29	SCOTTISH R/C TROPHY EVENT F.A.I. Multi Intermediate and Single at Pollock Rec. ground, Glasgow
July 5	CROYDON EVENING (Open). Chobham Common 6 p.m.
July 6	CHICHESTER R/C RALLY Pylon Racing, Scale R.A.F. Thorney Island
July 6	ELLIOTT M.E.C. SPEED MEETING F.A.I. T/R & Speed (All Classes) Elliott Bros., Airport Works, Rochester, Kent.
July 6	LEVEN R/C CHAMPIONSHIPS Multi R/C, aerobatics and demonstration flying.
July 12	CROYDON EVENING (F.A.I.) Chobham Common 6 p.m.
July 13	NORTHERN AREA R/C Multi F.A.I. R/G/P free flight and S.M.A.E. Area Championship. R.A.F. Topcliffe
July 13	LONDON AREA C/L CHAMPS 2nd Round F.A.I. T/R 1/2A T/R Combat, Charville Lane Hayes, Middx.
July 19	CROYDON EVENING (Open) Chobham Common 6 p.m.
July 20	SOUTH BRISTOL SUMMER GALA F/F, Vintage, C/L, R/R & Combat R.A.F. Hullavington
July 20	FLYING DRUIDS M.A.C.-2nd Multi Aerobatic event Venue, Middle Wallis
August 3	HORNETS RALLY Scale and Spot landing at Pollock Rec. ground, Glasgow
August 9/10	SOUTHEAST R/C RALLY Leigh Marshes
August 9/10	R.A.F.M.A.A. CHAMPIONSHIPS, R.A.F. Walton
August 17	S.M.A.E. ALL SCALE MEETING R/C F/F, C/L, R.A.F. Little Rissington
August 24	SUTTON COLDFIELD R/C RALLY for Multi Aerobatics, 10.30 a.m. start, Fradley, near Lichfield
August 24	S. MIDLAND AREA Burns Brown Combat Trophy open to all comers, 4/- pre-entry to T. Heeley, 22 Upper High Street, Harpole, Northamptonshire, at Midsummer Meadow, Northampton (Silencers required)
August 31	R/C THERMAL SOARING RALLY 'Towner Trophy' Golden Cross, Lewes, Sussex
August 31	WEST OF ENGLAND R/C SCALE AIR DAY, Westland Aerodrome, Yeovil. R/C Scale and possibly Pylon Racing.
September 7	NORTHERN GALA R.A.F. Lindholme
September 7	SOUTH COAST R/C RALLY, Golden Cross, Lewes, Sussex
September 13	FLY FOR FUN Dams, Sywell
September 14	S.M.A.E. C/L TEAM TRIALS, R.A.F. Upwood
September 14	NORTHERN AREA Goodyear and Open Pylon R/C Races, R.A.F. Topcliffe.
September 21	EDINBURGH RALLY Team Pylon Race and Spot Landing, Donibristle.
September 21	SOUTH MIDLAND GALA, literally everything! Open R.G.P., 1/2A, Cd'H., Tailless Chuck, Helicopter, single and multi R/C, Vintage, Carrier, Combat, Stunt, 1/2A, F.A.I. T/R, Rat, Mouse racing, C/L. Entries to T. Heeley, 22 Upper High Street, Harpole, Northamptonshire. R/C to D. Giles, Darfon, Station Road, Bow Brickhill, Buckinghamshire. F/F to T. Payne, 92 Coppice Drive, Parklands, Northampton. 2/6 each event at Cranfield
September 28	SOUTH COAST GALA details later
September 28	S.M.A.E. CENTRALISED R/C & C/L MEETING, 1/2A T/R F.A.I. T/R, Stunt, Carrier R.A.F. Upwood
October 5	SPORTS RALLY (Performance Kits) Old Warden, Beds.
October 5	EAST GRINSTEAD GALA All-in F.A.I. (1st rd. 10.30-11.30) A/1, Cd'H., 1/2A Power, Chuck glider 3/6 entry, re-entry 2/6. Chobham Common
October 12	CLENROTHES Slope-Soaring, Falkland Hill
October 19	YORK RALLY R.A.F. Elvington
October 19	LONDON AREA C/L CHAMPS 3rd Round F.A.I. T/R, 1/2A T/R Combat, Charville Lane Circuit, Hayes, Middx.
October 26	ST. ALBANS WINTER COMP All-in F.A.I. Cd'H., A/1, Chuck Glider, 1/2A Power, Chobham Common.
November 16	ST. ALBANS THERMAL SOARING event for R/C gliders. Nomansland, Wheathamstead



Splendid Trophy given to the Stockport and D.M.A.C. for their first open combat rally on June 2nd by Mainstream Productions Ltd. is to be known as the 'Mainstream Combat Trophy'.

off your model, but write off instead to Bryan Cramp, 111 Fulwell Road, Fulwell, Sunderland, if you wish to integrate yourself into this lively group

Cure for modellers' wind suggested by the Watford Wayfarers M.A.C. is to seed the clouds with bicarbonate of soda. Even so, 'Blow Up' was not featured at a recent film show. Warning given to would-be emigrants to down under Aussieland offers only primitive conditions for the aeromodeller. That, at least, is the opinion of migrant member, who has sent a desperate plea for a V.G.C. 0.8 engine. Seems the only thing they fly out there is a sort of 'L' shaped chuck glider!

The current copy of Circuit, the newsletter of the Elliott Model Eng. Club is a highly technical issue. Now, not being *au fait* with the finer points of control-lining, most of it went more than a wee bit over my head, but obviously it is just the sort of publication the really keen C/L fan should get hold of if he wants to keep abreast of modern theory and trends. For instance, there is a quite extensive discussion on the pros and cons of high or low aspect ratio. Our copy was sent by C. Atkins of 12 Hillcrest Road, Chatham, Kent.

A brief, but highly informative little sheet which has caught my eye of late is the *Internationalist*. Place of origin, Canada; Editor, Mike Segrave. Britain comes in for more than its share of space in the issue to hand, with some technical data supplied by the Norwich boys, with particular reference to Bob Wells's (British Team Member) potent, but trim-critical Wakefield. Pan reproductions are excellent one of which is John West's 68 Power model—described as ruggedly built for British conditions and terrain. For the technically minded Mike Thomas writes of his experiments with aerofoils, one of which has the upper camber the arc of a circle. Looks very much in the modern, flat L.E., curved down T.E. trend.

In reckoning club membership the St. Albans M.A.C. does it the hard way. Only paid up members enter into the computation, and since the addition comes out at 40, the club has much to its credit. Also to the club's credit is the initiating of an R/C Thermal Soaring contest. The event gave a good working out for what promises to be a viable form of keep-it-on-the-island duration event. Seems the contest flavour is conditioned by wind strength. A 15 m.p.h. breeze tended to concentrate entrants' attention on landing within the prescribed area rather than exploiting the soaring possibilities. Various types of launch were used, elasticated tow lines, winches, and just plain tug and run. The latter method being good enough for first and second places. Anyway, with flying field space in such short supply the attempt to use radio control as a useful adjunct to model aeronautics, rather than the current practice of using model aircraft as a means of playing with radio control, should be given every encouragement.

'W.M.C. Patter', from Oregon U.S.A. offers the very logical opinion of indoor flying being the most sensible way to fly free flight. Well, at least there are none of the horrible hazards that comes with flying under a naked sky.

No tempests, blizzards, and no angry farmers riding shotgun on wayward thermals, but perhaps just that little lacking in excitement, though certainly not in finesse. Of particular interest at the Meet referred to in the newsletter was a Scale event. Flight times just on half a minute.

Among other overseas newsletters which have come in is one which is more of a full blown magazine, 'Canadian Model Aircraft', produced by the M.A.A. of Canada. A good comprehensive survey of the Canadian model scene and a couple of good plans included. An article entitled, 'Focus on Youth' gives tips for the very young, among which is the suggestion that a heaped teaspoon of baby talcum powder in a four ounce bottle of dope makes an excellent balsa filler.

Still abroad I like the programme item in the Christchurch M.A.C.'s (New Zealand) 'Torque'. It suggests bringing your wife, girl friend etc along for a Radio fly-for-fun day. Surely one would suffice! There is also a marvellous letter received from a certain O N Looker, who got the impression that wind-up toy aeroplanes were safer than the ones with little pilots in them, as the little pilots didn't always seem to understand what the people with the walkie talkie sets were saying to them as they kept crashing the little planes. Suggested here, too, that the A/2 glider is the finest introduction to the hobby. There are, however, pitfalls, and a little guidance and tuition from a practiced flyer of these craft is recommended.

Royal Air Force M.A.A. news is of the 1969 Championships to be run on August 9/10th. A highly comprehensive programme scheduled, but, unfortunately, no civilian participation. Personally I can see no reason for such parochialism. I am sure the contest fraternity would welcome the opportunity to attend without detriment to the spirit of the meeting.

It is usually this island of ours which is noted for its oldest inhabitant type, but I doubt if any village club can better a claim which appears in the New Zealand Newsletter. Tom Treen is 81 years old and still flying free flight. And just to prove the veracity of the claim the issue includes a photo of the octomodellarian, with his very modern looking models on display.

Heswell M.A.C. tells us that the foundations of the new club house are well and truly laid, and by the time you read this the whole thing will have been erected. Most enterprising.

A couple of months ago I expressed regret that I had never had the pleasure of viewing Lt Cdr A. Greenhalgh's celebrated collection of veteran models. The Lt Commander now points out that his collection was exhibited quite extensively during 1968, and remarks, quite wittily, that had I circulated as freely as his' collection I would have met up with it at some point. I trust, however, that the opportunity will come my way sometime in the future, and I do appreciate Lt Cdr Greenhalgh's generosity in showing his collection with such frequency. And whilst on the subject of veteran models, it can be quite good fun to re-create the machine of the pre-war era. Only snag is getting hold of the now historic plans.

Late arrival is a report from the Grantham & D.M.A.S. Members quite bucked by the inclusion of their insignia in the May edition. I shall endeavour to cover this report in our next issue.

THE CLUBMAN

## Congleton Club's 21st Anniversary Gala

Held at Chetwynd in one of those fine spells which find their way into our weathery weather from time to time, the meeting provided a good day's flying and spectating for the crowds who made up the highest attendance figure yet realised at this event. Visitors came from as far afield as Crookham and Birmingham.

The light winds brought out the models in force. Glider, as usual, got the biggest support with a field of 29. Chuck Glider, too, proved remarkably popular with 21 entries. Power and rubber were not quite so well subscribed, but the flying was well up to standard, with Rubber providing an exciting three man fly off. There was also a three man fly off in Glider to add a further touch of end of the day drama.

Prizes took the form of both money and medals. The Congleton boys, highly pleased with the success of the Gala, wish to thank all who helped to make it so.

### Results

**Open Rubber:** 1. B. Picken (Liverpool) 9:00+4:28; 2. R. Peers (Congleton) 9:00+4:11; 3. Greaves (Bham) 9:00+3:59.

**Open Power:** 1. R. Baggott (Bham) 8:18; 2. B. Sinclair (Liverpool); 3. B. Hoolley (Whitefield) 7:48. **Open Glider:** 1. M. Dixon (Bham) 9:00+6:26; 2. N. Crane 9:00+5:41; 3. M. Reeves (Whitefield) 9:00+4:00; 4. P. Oliver (Whitefield) 8:36. **Junior Open Glider:** 1. M. Bacanin 5:48; 2. I. Hague 4:43; 3. D. Chambers 4:27. **Chuck Glider:** 1. Roberts 4:49; 2. P. Toogood 3:38; 3. P. Harris 2:54.

## DEVON RALLY 1969

WOODBURY COMMON ON 6th APRIL, 1969

Barry Hyde has sent a report and results from the Devon Rally held at Woodbury Common on Easter Sunday. He says that conditions were extremely windy, and blowing in a very bad direction, directly on to the woods. In spite of launching well away from 'control', the only real solution was to use sufficient D/T to clear the woods. Nevertheless several models were 'treed' or lost (including Fred Chilton's Super Tigre power winner). Barry recovered his rough weather rubber model - which is presumably why rubber was a single flight contest. Elton Drew elected to 'conserve' his A/2's for fairly obvious reasons but won Chuck Glider.

Despite all the above, reported scores would indicate either 'better' weather than at Chobham - or considerably more determination on the part of contestants!

**Open Rubber** (3 entries) 1. S. Hyde (Torbay) 3:00; 2. D. Miett (Bristol and West) 2:47; 3. L. F. Long (Torbay) 1:14.

**Open Power** (5 entries) 1. F. Chilton (Crookham C.M.) 2:56; 1:22; 3:00. Total 7:18; 2. P. B. Ward (Torbay) 1:50; 1:54; 1:13. Total 4:57; 3. G. Smith (Whitefield) 0:35; 1:19; 3:00. Total 4:54; 4. A. Oskin (Cardiff) 1:38; 2:52. Total 4:30 (2 flights); 5. D. S. Bailey (Swindon) 1:00 (1 flight only).

**Open Glider** (4 entries) 1. R. Woodruffe (Swindon) 0:54; 3:00; 3:00. Total 6:54; 2. G. Hannah (St. Albans) 1:24; 1:22; 2:12. Total 4:58; 3. D. S. Bailey (Swindon) 1:12 (1 flight only). No other flights recorded.

**All in F.A.I.** 1. G. Hannah (St. Albans) 4:58.

**Chuck Glider** 1. E. Drew (Bristol and West) 2:52; 2. B. Hyde (Torbay) 1:26.



To represent the U.K. in one of the biggest teams ever to fly for this country in an international event are S. Jones, J. Dixon and V. Hunt with Combat wings above, and Mick Reeves, Jim Mannal, Mick Harvey in Stunt below. They go to Genk, Belgium, in August for the 'Criterium of Aces' along with Team Race, Speed and Control-line Scale representatives.



# Scale Models

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ISSUE

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SOMETHING ABOUT

## Scale Models

It will cover anything, but anything, that is a scale model of some full-sized prototype. Thus we have the more obvious items of aircraft, boats, tanks, cars, military miniatures. Locomotives are normally covered adequately elsewhere, so will be very much soft-pedalled, but there are heaps of other aspects which qualify. . . . for example architectural models, cutaway models, dioramas, surgical models, miniature furniture, armour, and so on.

Whether models are just to look at, to work without 'going places', or to be fully operational is up to readers. So is the question of materials. . . . plastics will loom large, but then so will fibreglass, expanded polystyrene and all the traditional materials down to good old wood.

### HOW YOU CAN HELP

Best way will be to join our regular readers just as soon as you can. But meanwhile you can be of help in formulating the policy of what you will be reading about by sending us your name and address. We will then send you more details of our projected SCALE MODELS and a questionnaire to complete and return setting out your wants and hopes.

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# Is on the Way!

## BACKGROUND TO SCALE MODELS

The fantastic detail and infinite variety of modern plastic model kits and the immense strides that model makers have taken to operate true scale models under working conditions have brought us vast quantities of really worthwhile material for publication which we have reluctantly thinned out to occupy the limited space at our disposal in our range of 'general purpose' model magazines. Then we had the idea that perhaps the 'scale model side of our various hobby branches was large enough now to 'hive off' into a separate publication, as we did years ago with RADIO MODELS and later MODEL CARS. From a thought to a scheme. . . . now we are in the throes of presenting the trade with a practical dummy so that they can judge for themselves to what extent it meets their need.

## WHO WILL RUN IT?

Since so large a part of SCALE MODELS will necessarily be concerned with aircraft it is proper to give Ron Moulton, Editor of Aeromodeller, his full share of the credit for evolving it! With a mixed bag of models - aeroplanes, cars, boats, tanks, military vehicles, soldiers, colouring and markings - it will be desirable to have a panel of experts covering the various headings and this we intend to do, with Ron as their co-ordinating chairman. Later, if all goes well, it will undoubtedly be necessary to add to our permanent staff on the editorial side. (This is not an offer of work, but we should like to hear of some young enthusiasts interested in us with specialist knowledge of A.F.V., tanks, military uniform against that day).

## HOW BIG?

Dare we say the sky's the limit so far as circulation is concerned! Initially a magazine of this sort should attract somewhere in the neighbourhood of 30,000 cash customers - which means that about 75,000 people will largely read or at least glance through the items which interest them each month. In physical size, we shall retain our standard magazine proportions of 9 1/2 in. deep by 7 1/2 in. wide with 48 pages plus 4-page cover, cover picture, of course, in colour. Special issues and special offers will come bigger!

## HOW MUCH?

With paper prices and everything else still climbing, we should be unwise to consider starting a paper at a lower figure than we could continue. We would propose therefore to give readers good value and sell at 3/- (This will be the tidy sum of 15NP very shortly).

## WHEN?

If the demand is there - and all indications so far is that it is - then we shall start in the late summer with an October dated issue to appear in mid-September.

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**MECCANO**  
Magazine

The insect depicted above is a Locust. Its story, and that of man's battle to exterminate this pest, form one of the main features in the July issue. Other features of note include 'There She Blows!' describing modern whaling, 'Jeeps of the Deep', small submarines used for pleasure and exploration. All the regulars are represented, and naturally include numerous Meccano models.

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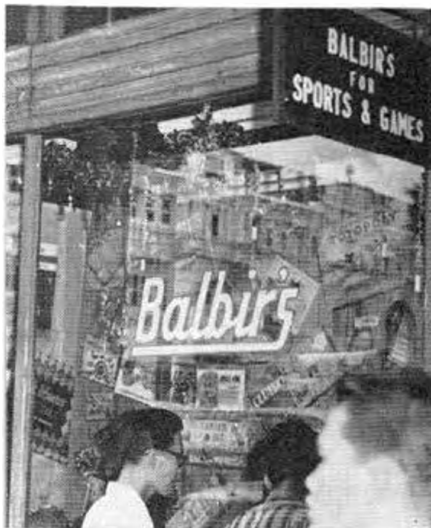
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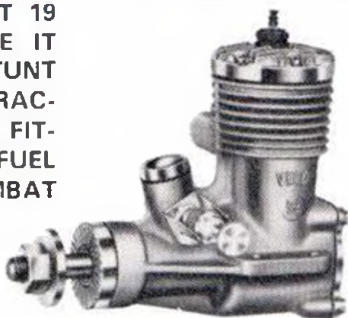
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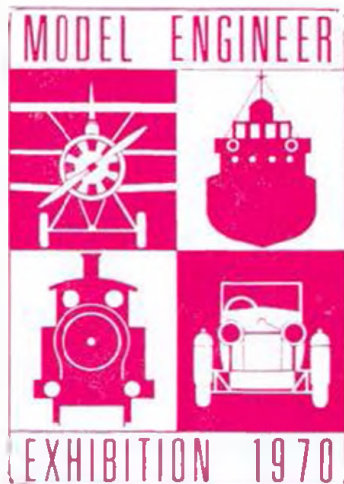
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### AWARDS

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### PRIZE POOL ALLOCATION

Classes attracting six or more entries will enjoy prizes to value of 1st £5; 2nd £3; 3rd £1. With over 12 entries 1st £7; 2nd £4; 3rd £2; 4th £1. Classes under six will have 1st and 2nd only, or at the discretion of the judges. Prizes may take the form of Vouchers, Cash, Replica Trophies (for Challenge Trophy winners) or Championship Trophies.

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### SPECIAL ATTRACTIONS

Continuing a policy of change whilst retaining popular features, we shall this year have stands looking in towards a central model display system. At the entrance a small circular pool will provide an area for operation of radio controlled boats. Surrounding this a circular area will offer opportunities for further electric powered aircraft (so popular last exhibition); plus space for some radio controlled cars to show their paces. In general better lighting and more elegant display units will enhance model appearance.

The evergreen live steam exhibit with passenger carrying of visitors of all ages behind miniature steam locomotives will again be under the direction of Mr. Bill Carter and his colleagues of the Society of Model & Experimental Engineers. A working S.M.E.E. feature will be faced by a typical model engineer's workshop where the Editor of Model Engineer assisted by contributors and members of the S.M.E.E. will be in attendance.

Nearby, in the Bryanston Room a further railway track will offer another 75 ft. stretch, and here entries for the new LBSC Memorial Bowl competition - which demands a track test as well as beauty - will be judged. Visiting clubs will also be invited to "bring an engine" and book public demonstration time at Seymour Hall. This is another Model Engineer "first ever!"

Also in operation will, we trust, be some of the "babes" of steam in Gauge O and Gauge I. In the LECTURE HALL a working CAR CIRCUIT will be available for visitors to try their skill during the day and to offer exciting competitive racing each evening.

In the galleries (which also offer several hundreds of seating places for packet lunchers or tired visitors to rest and watch from above) will be displays of "junior models" which may take any form from plastics to Meccano or to working model boats. The "boys" exhibition last year under Commander Guffick, O.B.E., was most encouraging and will be expanded.

### SOUVENIR GUIDE

Another CHRISTMAS EXTRA issue of Model Engineer will be coming out 2nd Friday in December with entries, trade stands, articles galore to assist the visitor and solace the stay-at-home.

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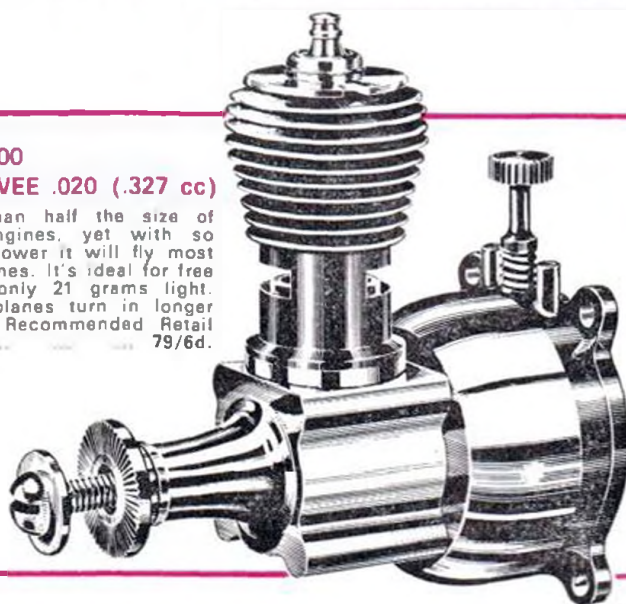
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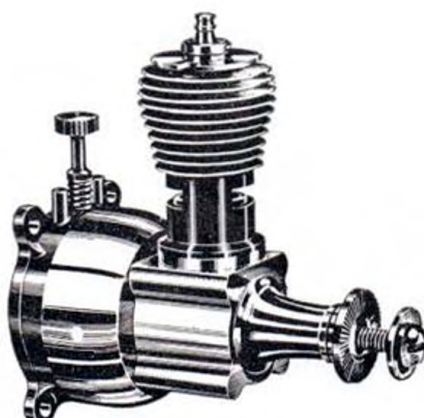
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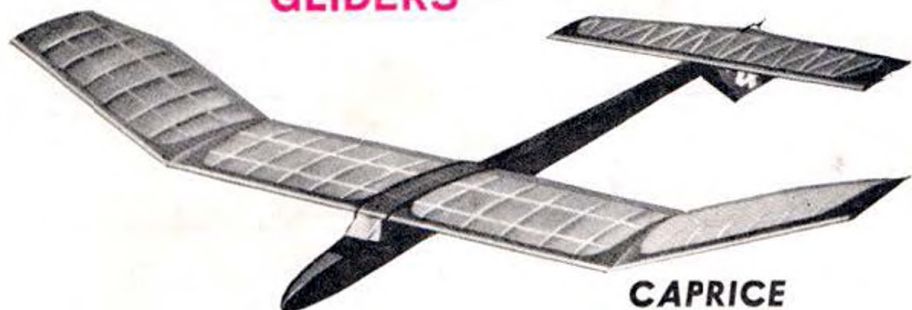
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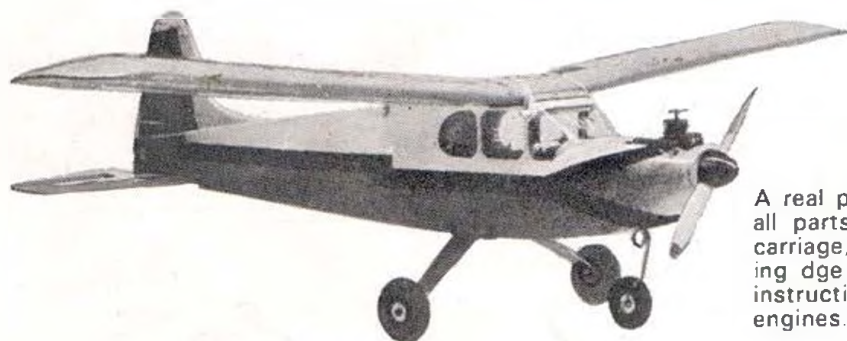


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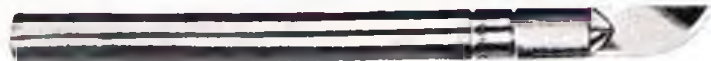
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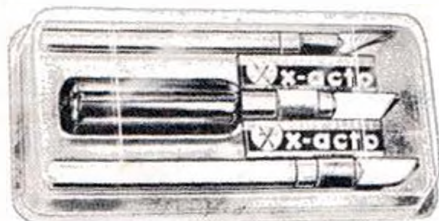
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