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JULY 1967

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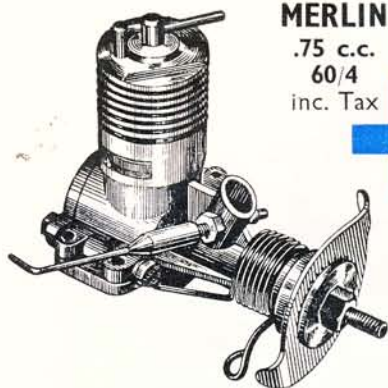
MODEL AIRCRAFT



"TORREY CANYON" BUCCANEER



HOBBY MAGAZINE



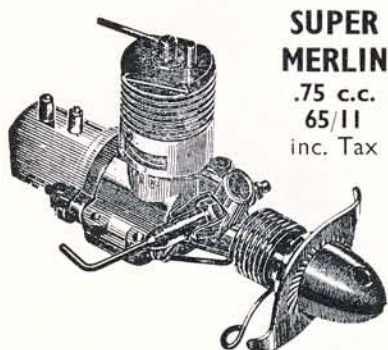
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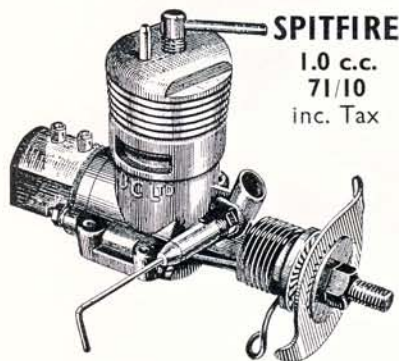
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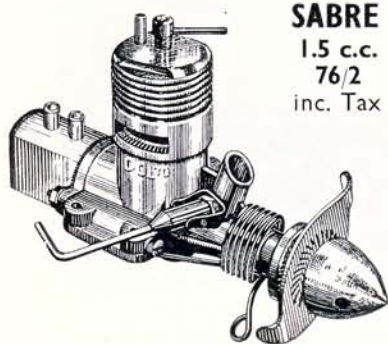
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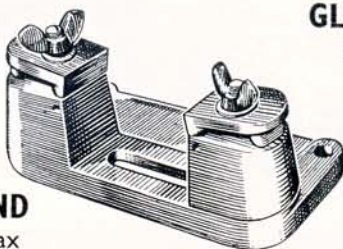


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Aero Modeller

INCORPORATING
MODEL AIRCRAFT

July 1967

VOLUME XXXII No. 378

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HOBBY MAGAZINE



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CONTROL MODELS & ELECTRONICS . MODEL
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COMMENT

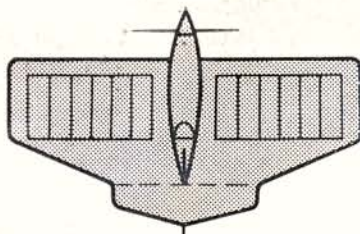
Reaction to a reader's letter which revelled in the glories of the past and criticised the standards of today has been refreshingly prompt and voluminous. Quite obviously there is nothing wrong with the aeromodelling teenager if he can respond to provocation of this sort. So many letters have been received within the first week of June issue sale period, and their content has been so interesting that we have made space in this issue for a selection. Diverse viewpoints indicate healthy respect for all forms and standards of aeromodelling and it is our hope that such introversion will establish the attitude of the modern youth in the eyes of those who tend to reflect upon reminiscence. Our recent survey revealed, among many other interesting facts, that 54.4 per cent of our readers are still at school, that 69.5 per cent are under the age of 21 and that 62.6 per cent operate as "lone-hands". These points are most relevant and should be remembered whilst absorbing the content of pages 378 to 380.

COVER

800 Squadron Commander's Buccaneer S. Mk. 2 emerges from the smoke and fury of "Torrey Canyon" as it burns in the English Channel. Based at R.N.A.S., Lossiemouth, and soon to embark on H.M.S. Eagle, 800 Squadron is identified by the gold and white crest on a bright red diamond seen on the side of the nose section. Painted by Laurie Bagley, the original is to be presented to the Fleet Air Arm as a memento of the event and in appreciation for their co-operation in the production of the feature in this issue. See also July issue of "Model Boats" for waterline drawings and photographs of the "Torrey Canyon".

next month

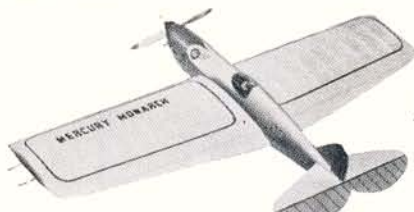
The British National Championships reported in text, pics and with full results. Plans for Californian Don Burke's "Grnzpf" rat racer for 5-6.5 c.c. engines. Full size pullout plans for G. F. Elsegood's "Avro Avis" scale lightplane Bipe, easily converted to radio control. Peter Lovegrove on his attempts to make an R/C Autogyro and how he made a self-carrying one in the end—plus the finest ever drawings of the Focke-Wulf FW 56 "Stosser" for scale fans. Out on July 21st.



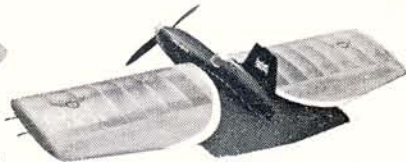
CIRCULATE WITH A MERCURY CONTROL LINE KIT



VIPER. Tough 27 $\frac{1}{2}$ " span stunt trainer with profile fuselage for engines 1—1.5 cc.



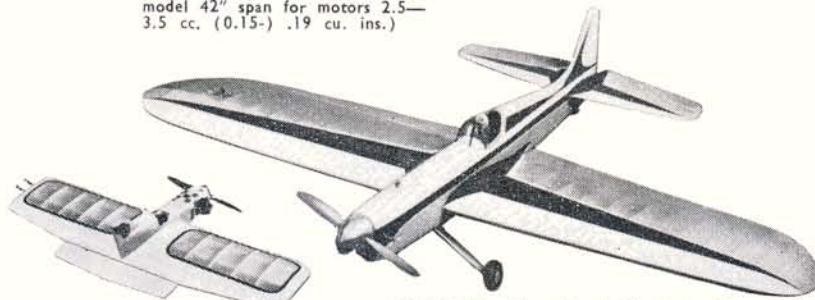
MONARCH. Semiscale cabin stunt model 42" span for motors 2.5—3.5 cc. (0.15—) .19 cu. ins.)



TOREADOR. Flying wing for sport or stunt and combat training. Span 36". Very attractive appearance.



MARVIN. Semiscale cabin stunter for engines 1—1.5 cc. A light fully aerobic model of fine performance. Span 27".

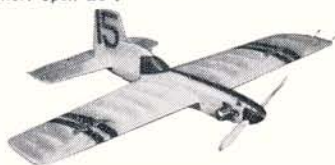


PICADOR. The Toreador's smaller brother for 1—1.5 cc. motors. A rugged flying wing sport flier. Span 26".

CRUSADER. The ultimate in stunt kit models for flying the F.A.I. pattern with 0.35 cu. ins. motors. Span 56".



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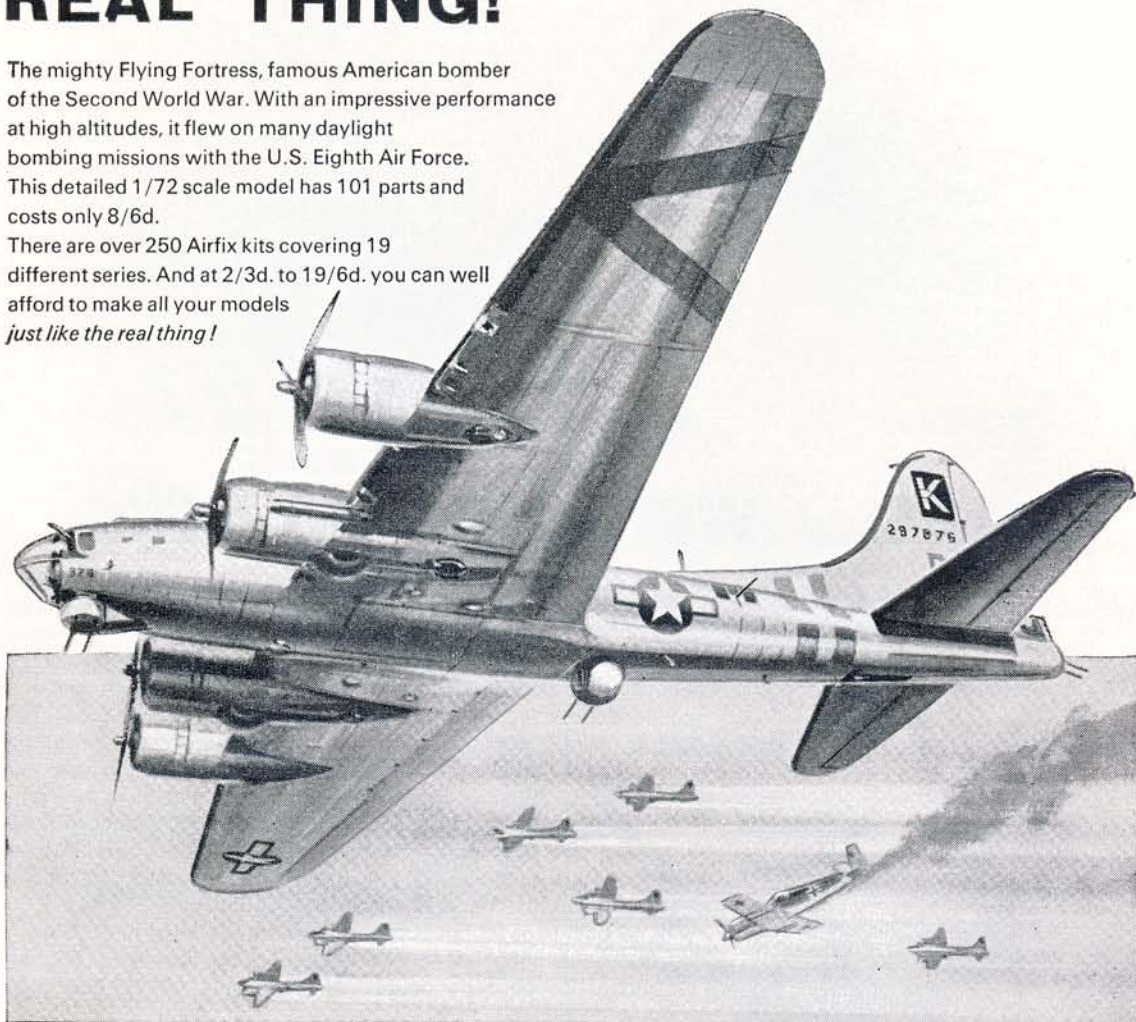
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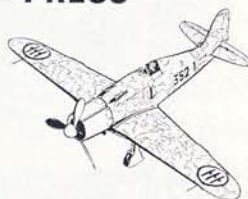
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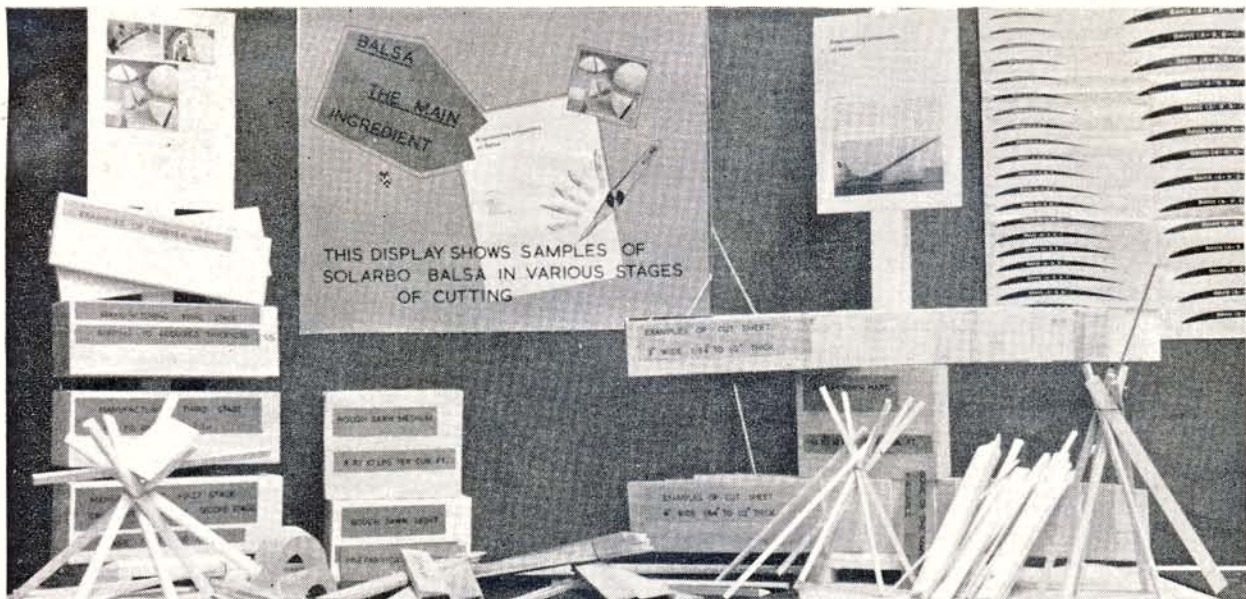
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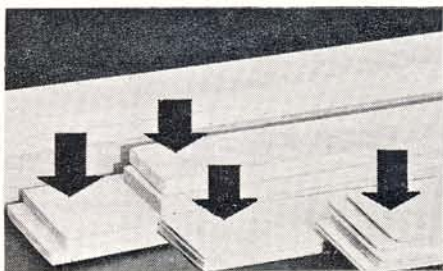
C465



NORMALLY WE DON'T DO THIS . . .

Take part in exhibitions, that is, for aeromodellers do not need to be told how essential Balsa is for model aircraft construction. And on the occasions that we do, everybody knows what Balsa sheet, strip and block looks like . . . so how do you set about making basic materials look interesting? After all it's the finished models that really count. We can show you selected examples of 'quarter grain' and standard cuts—but so can your model shop. Every piece of Solarbo that reaches the model shop is selected and graded Balsa. What really counts, in fact is the Solarbo stamp on any piece of sheet or block you buy. Look for that, and you are sure of getting the best Balsa available and you can go from there to select the 'cut' and density you need. Balsa selection (with Solarbo balsa) is as simple—and as reliable—as that.

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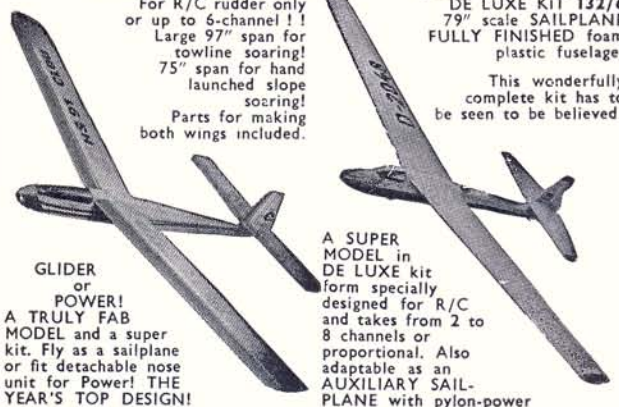
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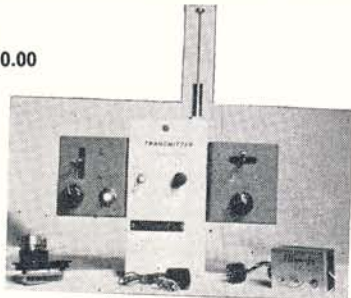
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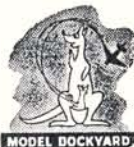
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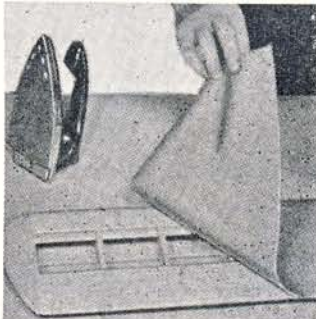
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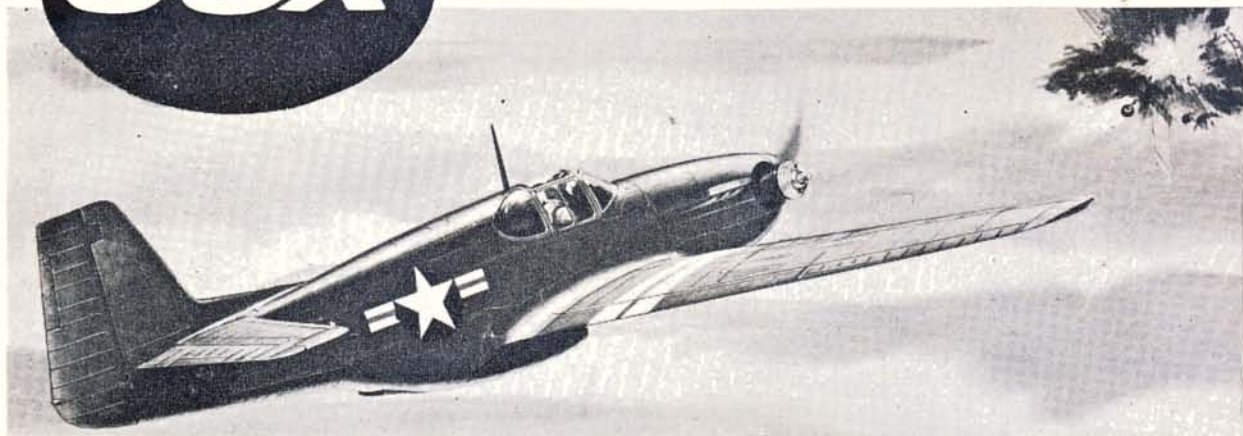
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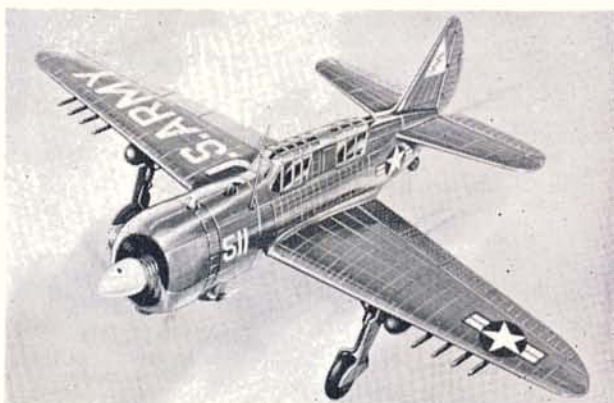


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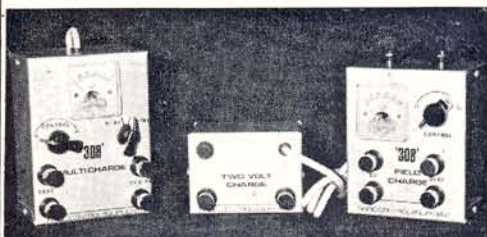
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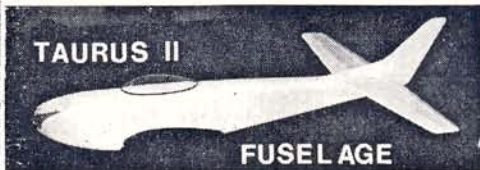
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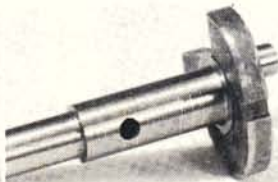
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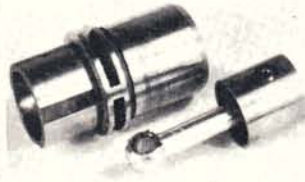
★ Our standard test model, has won several contests.



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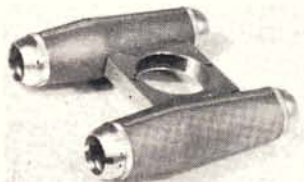
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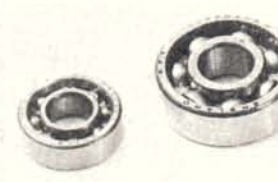
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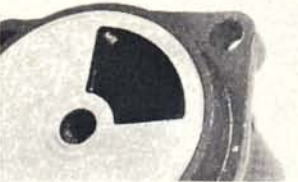
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Heard at the HANGAR DOORS

INTERNATIONAL POSTAL event run by the Provincial School of Aeronautics in Madrid, Spain, in April resulted in an individual win for Steven Bowles of Norwich and 3rd place for Mike Woodhouse. Four nations entered eight teams and Norwich "A" team placed second to Madrid with 2325 secs. against 2377. Clubs were given souvenir pennants to symbolise the event, as shown in the heading photograph.

REPORT read in full at the Royal Aero Club annual general meeting on the activities of the S.M.A.E. during 1966 established a fine precedent. For one thing, it must have impressed the participants at the A.G.M. who were all influential administrators in aviation spheres. It also explained how the S.M.A.E. ran the 1966 World Championships for Control-Line models so successfully and looked after its own domestic competitions. Such reports do much to bridge the gulf between the affiliated branches of the Royal Aero Club and convey information that otherwise tends to become contained within the knowledge of only those directly concerned.

FRENCH invitation is extended for British modellers to participate in the International Criterium for free flight at Mons-en-Chaussee near Peronne in Northern France 15/16th July. The location is not far from the Channel ports and those interested can obtain entry forms from the editorial offices. Entry fee is approx. 11s.

WHO MADE that beautiful Hawker Demon illustrated last month in our announcement of the forthcoming "Model Engineer" Exhibition? The photo was taken during the '50's and though many of our acquaintances recall the model, the names and location of the builder remains unidentified. Can anyone help? A number of enquiries have been made, including one by the Director of the R.A.F. Museum.

ISLE OF WIGHT Model Engineering Society is running an Exhibition from August 8th to 12th at C of E School, West Street,

Newport from 2.30 to 9 p.m. daily and earlier opening at 10.30 a.m. on the Saturday. Sounds like an interesting combination for holiday visitors—especially as there is a special Visitors Cup. Data from the Secretary, R. Matthews, Barrow House, Sherwell, I of W.

SOUTHAMPTON M.A.C. Secretary P. A. Waxham lost his A/2 Glider out to sea from Beaulieu only to get it back from Yarmouth on the Isle of Wight 9 miles distant! The A/2 was found with its wings and parts of the fuselage buried in sand. Moral is to place the lost and found notice near the tail.

SAILING DINGHY is first prize in the Revell "Adventure" contest to run from June 1st to August 4th (sorry we're late lads but the release has just arrived as we go to Press!). 303 prizes are to be awarded to those completing the simple entry form now distributed to Revell Stockists, and returned with a box end from a plastic model kit. Only restriction is that the clipping has to come from one of the 18 recent releases in the Revell Aircraft, Space and Ship model range.

WEST GERMAN team trials for the free flight Championships produced high standards at the huge military airfield of Drover Heide. Of 43 Glider entrants three returned perfect 900 sec. scores, Andreas Bungart, Franz Weyrauther and Martin Vollbrecht. Sixteen entered Wakefield, Gunter Rupp losing only one second for 899, Reiner Hofsass 2nd with 848 which ought to have been a perfect score as his first round attempt was a disallowed max when the flight was not timed! 3rd man is Wilhelm Bolle with 820. All the Power leaders came from Southern Germany. Zell winner Hans Seelig returning yet another 900 followed by Rolf Meissnest at 898 and Richard Werfl with 893. There were 13 entries.

PUBLICITY GUIDE produced by George Wells for the Academy of Model Aeronautics in the U.S.A. should be compulsory reading for

all astute P.R.O.'s. 32 pages explain purposes, application, preparation and issue of publicity material for Press, Radio and T.V. The cost to U.S.A. clubs is \$1.50 or roughly 11s. International Money Order can be sent to A.M.A. at 1239 Vermont Ave N.W., Washington D.C. 20005 U.S.A. A.M.A. Membership is now 18,094 with 355 clubs registered. Its current major campaigns are towards the use of 49 Mc/s to reduce interference on the 27 Mc/s "Citizens Band" and to the limitation of model engine sizes to the FAI 10 cc. maximum permitted capacity. Reasons for the latter have been laid out in a 27 point address from A.M.A. executive Director John Worth.

Among the points are significant statements, illustrating the concern for safety by independent observers, insurance companies (in one case an R/C model hit a light-plane, creating £350 damage), the "scary" speed of model pylon racers compared with *real* pylon racers, the possibility of classifying bigger R/C models as "unmanned aircraft" with serious consequences for modellers even suggestions from authority that model pilots be licensed, presumably by oral and practical testing! Principal concern is aptly referred to as "units weight" or the weight in given units of mass in the model. This means that no one piece of the model and its equipment should weigh more than, say, 16 oz. At that rate many 10 cc. engines are already on the limit allowance. All of which sounds like a lot of commonsense to us.

MISS FLIGHTY—the novel sports radio design by J. Roberts published last month was originally powered by a .074 cu. in. Cub engine which we confused with .8 cc. While the model *will* fly well on the more powerful .8 cc. diesels, a 1 cc or 1.5 cc. engine is more suitable especially if to be used as a Radio Controlled model.

SPAN of the Fw 190 A8 also suffered from editorial lapse! It's 34½ in.—not 28 in. as announced, the centre section did a disappearing act when faced with our ruler!



Shirley Horton poses with both versions of 'Tyra', the sheeted forward fuselage Coupe d'Hiver version at right and the Open version at left. Small and light, both models are highly 'prang resistant'.

TWO PLANS IN ONE! BUILD THE OPEN OR COUPE d'HIVER VERSION WITH THE SAME WING AND TAIL. A TOP CONTEST DESIGN SUITABLE FOR THE NOVICE

TYRA

A 39 inch wingspan rubber powered duration model of simple construction. Designed by Shirley and Bill Horton.

THESE dual designs are those used by Shirley Horton. The Open version came first in 1964, and was used in that year in her first attempt at the Women's Cup where it was placed 2nd. For the remainder of the season "Tyra" was flown in Area events. In 1965, along with another reserve, "Tyra" won the Women's Cup for Shirley and also took top place in the S.E. Area R.A.F.A. Shield competition, which is flown over three rounds against all the male opposition in the area.

Towards the end of the 1965 season the C.d'H fuselage and propeller assembly was built, and on its first outing topped the Area results in an international postal competition, and finished in a high place. (Not a tree—Ed.?)

In February, 1966, at the C.d'H finals held at Chavenay, France, "Tyra" (C.d'H) finished 4th out of 190 entries, and always placed well up the list in club rallies throughout 1966.

The open version is somewhat smaller than contemporary Open Rubber designs and is aimed at less experienced modellers who want to make a start in regular contest flying.

Being compact, "Tyra" is quite strong. The advantages of this are that it will be durable and easy to handle, which among other things are some of the points that the newcomer to contest flying should be seeking. The rugged yet light structure allows this model to be flown in strong winds (which usually seems to be the case on contest days) where the larger more fragile type of models can be prone to damage. It is only by continuing to fly in all weather conditions that you will rack up those vital minutes and seconds to win a contest, and "Tyra" is not the type you'll want to keep tucked away in the box.

It would seem that the biggest obstacle for the newcomer in rubber model flying is the business of carving a suitable propeller. The carving problem is eliminated

in this design by forming the prop over a 6 in. dia. can. Cut out two blades from soft $\frac{1}{16}$ in. sheet (for the Open model) to the shape shown. Mark out the centre line with a ball pen at the tip and root. Then glue both blades together using P.V.A. glue. Now place the blades onto a 6 in. dia. can skewed at an angle of 15 deg. from the vertical (use template as shown). Hold in place with strips of Sellotape across the blade and onto the can and leave for 24 hours to set.

The C.d'H version uses the same procedure as above, but has a different blade shape and is made from three laminations of soft $\frac{1}{32}$ in. sheet. The hub of the prop is made from a piece of $\frac{1}{4}$ in. dia. dowel. Form a point on one end of the dowel in a pencil sharpener and then drill through where indicated on the plan and fit a piece of 18 s.w.g. aluminium tube for the blade pivot. Leave this tube slightly wider than the dia. of the dowel by about $\frac{1}{32}$ in. each side and peen this over both sides with a centre punch and finish off with a ball peen hammer (i.e. light modellers hammer 4 oz. type *not* a large club or you finish with no hub!). Then cross drill again for the 18 s.w.g. stop pin. This pin should be parallel to the pivot bush. Drill slightly undersize so that the pin is a tight fit, but take care when fitting the pin not to split the dowel. Now remove the prop blade from the can and lightly sand the back face and sand the front face to give an airfoil section. Cut a notch in the root of the blade to match the point on the dowel hub, pre-cement this joint well then place on the pitch setting jig shown on the plan and set the blade angle with the pitch triangle template in the position shown on the jig. Now use the appropriate pitch triangle according to whether you are building the open or C.d'H version. This jig method of setting the pitch on the prop is simple to use and will guarantee that every prop you make will have the same pitch. The jig shown on the plan is made of balsa, but practically any material will do providing

that the basic layout is retained. The one in use now is made from a piece of scrap 16 s.w.g. aluminium and has been employed for over four years.

The noseblocks for either model are quite straightforward and should not require any detailed explanation. Just cement the appropriate pieces together and when dry, drill through for the bush and sand to shape. The prop-shaft for both models are from 16 s.w.g. Form the front winding loop first, then add the 18 s.w.g. cross-piece for the counter balance and prop pivot. Bind and solder these two pieces together make sure that everything is kept square as shown on plan. Then add to the shaft in this order: Cup washer, Coil spring, Cup washer, Thrust race. Fit this assembly to the noseblock and bend the shaft at the back of the noseblock, to the shape (s) shown.

The propeller assembly on the open model is so arranged that it may be removed when winding if this is desired. The tube winding technique on the Open model is strongly recommended if you are winding to near maximum turns. If a motor bursts in the tube while winding it presents only a slight inconvenience. Should a motor burst when winding *without* a tube, the result is no fuselage or at best a badly shredded one! The C.d'H fuselage, having a sheet motor box is strong enough to withstand motor bursts. The wing is of quite straightforward construction. Cut all the ribs to the full outline then pin them all together, make sure that they are square, then lightly sand to remove any high spots, then put in the three slots for the spars. This is best done with a $\frac{1}{16}$ in. wide warding file or a $\frac{1}{16}$ in. dia. Abrasive, this will leave a radius at the bottom of the slots which is acceptable. The trailing edge is $\frac{3}{32}$ in. \times $\frac{1}{16}$ in., this is a non-standard strip size so it will have to be cut from a piece of $\frac{3}{32}$ in. sheet, don't forget to pack up the front of the T.E. $\frac{1}{32}$ in. when pinning to the board.

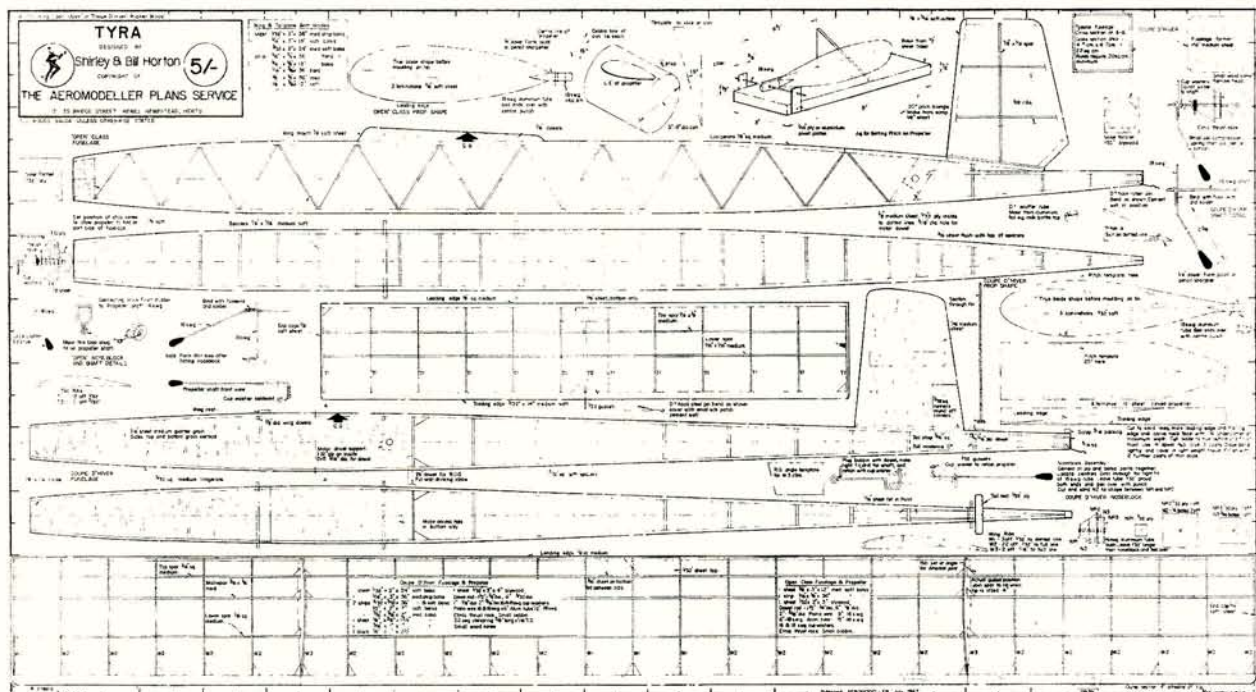
Although most people have their own pet method of assembling a wing, here is one suggested sequence of assembly: This applies to the centre section and the tips. Take a main spar ($\frac{1}{16}$ in. \times $\frac{3}{16}$ in.) and mark out the rib positions lightly with a ball pen. Fit ribs onto the mainspar while dry. This locates the ribs and keeps them upright. Now cement the ribs to the trailing edge then add the $\frac{1}{8}$ in. sq. L.E. When the L.E. and T.E. joints are dry, remove the mainspar, pack up the starboard tip of the L.E. on the centre section $\frac{1}{16}$ in. for wash in. Now cement in the mainspar and the $\frac{1}{16}$ in. sq. spar. Leave the spars slightly overlength then add the $\frac{1}{16}$ in. ribs at the dihedral break. Set them to the angle of the template shown on the plan. The sections can now be removed from the plan and the bottom $\frac{1}{16}$ in. sq. spar added. Now carefully trim off the surplus length off the spars and join the tips to the centre section. Finally add all the gussets and the $\frac{1}{16}$ in. sheet capping pieces to the tips.

The tailplane and fin are both easy to build and follow the same basic instructions as for the wing. Only points of note are that the dethermaliser hook in the tail (formed from a bent pin) is fitted after covering then secured with a small silk patch. The fin on the open model is asymmetric, *i.e.* the cambered side is on the port side of the fuselage. The fuselage(s) on both models are quite straightforward. Build two sides, one over the other using the wood as noted. When dry, separate carefully with a razor blade and sand off any spikes of cement that may have formed during building. Now join the sides as shown in the plan view and when complete, lightly sand all over.

No special comments are needed for the Open Model except that the $\frac{1}{8}$ in. sheet wing mounts should be added *after* covering. On the C.d'H model, when the two sides

Continued on page 352

FULL SIZE COPIES OF THIS 1/6th SCALE REPRODUCTION ARE AVAILABLE FROM A.P.S. PRICE 5/- PLUS 6d. POST. QUOTE PLAN NUMBER D939 WHEN ORDERING.

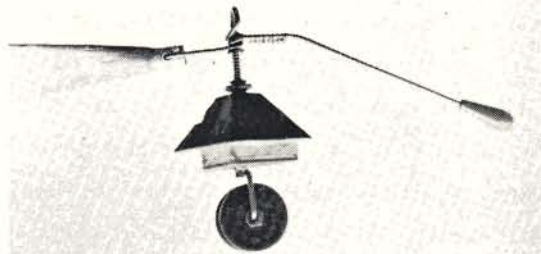
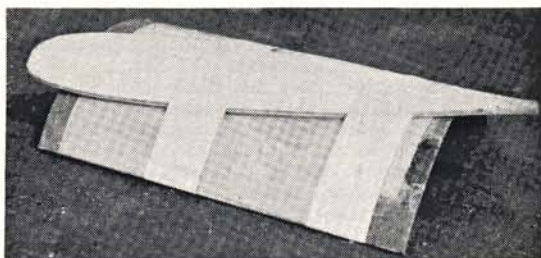




Left. Open version noseblock shows bobbin connecting loop detached from shaft, note hub detail. Counter balance is from lead.

Top right the propeller moulded over a 6 in. diameter former is held in place with Sellotape while the glue dries.

Bottom right, the Coupe d'Hiver noseblock has bobbin attached permanently to the shaft, not removable as in the Open version



are completed, join together with the $\frac{1}{16}$ in. sheet former. This holds the assembly square, this former also serves a second function in that if you have a motor burst, it is kept *within* the motor box.

Next add the $\frac{1}{16}$ in. sheet top and bottom, take care here to keep the sheet flush with the outsides of the longerons. Note that the grain is vertical so four pieces of 3 in. wide or three pieces of 4 in. wide will have to be joined together to make up the length. The reason for having vertical grain is that if the motor breaks very little damage is suffered. With the grain running the length of the fuselage a motor burst will produce a long split. Add the rear spacers to the top and bottom and $\frac{1}{16}$ in. sheet for the fin mount, and the $\frac{3}{32}$ in. ply nose former. The motor access hole in the bottom of the fuselage can have its edge reinforced with a piece of control line wire. After covering and dopping add the $\frac{1}{8}$ in. sheet wing rest, $\frac{1}{32}$ in. ply tail mount. A short stub of $\frac{1}{8}$ in. dia. dowel is fitted to the rear of the motor box for the take off leg. The leg is an ordinary drinking straw fitted onto the dowel. Should the straw be too loose on the dowel, build up the dia. of the dowel with a strip of tissue wrapped and doped in place on the dowel.

Lightweight Modelspan was used throughout the covering. Use Gloy or thinned down P.V.A. for attaching to the airframe. Be sure to glue to every wing rib on the lower surface so that the covering follows the undercambered section. Wing, tail and fin have three coats of well thinned dope, i.e. 50 per cent dope 50 per cent thinners. Fuselages have three coats of slightly thicker dope. It is a wise precaution to pin down the wing and tail after the final coat of dope and to leave for 24 hours.

Assemble complete model and install the motor. In the case of the open model, the motor will require tensioning. One method of tensioning is to fit the motor to the rear peg then take hold of the motor at the front end by the bobbin and divide the motor in half, four strands in your hands, then wind the motor over and over itself, approx. 30 to 50 turns like this should be sufficient. Check by hooking on the nose block and see if there is sufficient tension to hold it in place. If not, add some more turns. If there are too many turns on the motor, the prop shaft will be pulled back against the tensioning spring and the prop stop in the nose block will not

operate. With this method of motor tensioning, it is a simple matter to adjust as required. Having installed the motor, the C.G. can now be checked, if necessary add a small amount of Plasticine ballast to the appropriate end to bring the C.G. to the position indicated. There is no tail tilt on either model, the tail should be level with the centre section of the wing. Check that the wing warps are as instructed on the plan. There is no trim tab shown on the fin of the Open model as the asymmetric fin should keep the model turning to the right. If the turn should prove to be too open or too tight, then add a small tab from $\frac{1}{16}$ in. sheet $\times \frac{3}{8}$ in. \times 1 in. On the C.d'H model, the fin trim should be moved approx. $\frac{1}{4}$ in. to the right.

Initial hand glides should be carried out on a relatively calm day, it is no use trying to establish any trim settings in blustery weather. Hand glides should give a slow descent turning to the right, glide circle dia. is approx. 100 ft. Correct any stall or dive by packing up the tail at the L.E. or T.E. as is necessary. Having established a satisfactory glide, power flights may be started. With either model, put on approx. 250 turns for the first flights and make sure the model is turning to the right. It will be found that approx. $\frac{3}{32}$ in. right side thrust is needed to hold the right turning power pattern—both of the original models have this. Work up to maximum turns in increments of 100 turns at a time. Final power pattern for both models is a straight up climb rolling slightly to the left and always veering to the right for the first burst of power. Transition into the glide is smooth. As the prop folds, the model continues on its right hand turn from power to glide.

Two final don't's—Don't forget to light the D.T. fuse for every flight. These models have a light wing loading and go up very quickly in lift.

Don't forget to have your name and address label firmly stuck onto the model. The most durable labels are those written out in Indian ink, then weather proofed with a couple of coats of dope. All packing for trimming should be made from ply and cemented in. Make all adjustments in small amounts, i.e. $\frac{3}{32}$ in. at a time. On final trimming it may be found that you want thinner packing then $\frac{3}{32}$ in. $\frac{1}{64}$ in. may be made by soaking 1 mm. ply in boiling water and separating the lamina-tions.



Squalls, rainstorms and steady blasts of strong wind made the '67 final trials as tough as any we can remember—and also toppled the leaders from the first year held last year in Glider and Wakefield classes. Only in Power was there no change of order. As a result, Great Britain will be represented by a very knowledgeable team in Czechoslovakia at the end of August. Of the nine leaders, only one lacks International event experience, and we're sure that Mike Woodhouse has more than enough British contest time to make up for the distinction!

See also p. 381

Wakefield (31 completed 1st trial, 18 entered 2nd trial, 16 completed)

	1st trial		2		3		4		5		Total
1. J. Mabey	11:53	1:21	3:00	2:46	3:00	3:00	3:00	3:00	3:00	25:00	24:40
2. L. Burrows	12:41	3:00	3:00	1:33	1:26	3:00	3:00	3:00	3:00	24:40	23:17
3. R. Bailey	12:20	2:55	1:13	2:52	3:00	3:00	3:00	3:00	3:00	23:17	23:04
4. R. Godden	12:53	1:37	3:00	2:15	2:03	3:00	3:00	3:00	3:00	23:04	23:04
5. D. Hipperson	12:09	2:07	2:39	2:08	3:00	3:00	3:00	3:00	3:00	23:01	23:01

Power (28 completed 1st trial 10 entered 2nd trial, 7 completed)

	1st trial		2		3		4		5		Total
1. R. Monks	14:12	3:00	3:00	3:00	3:00	3:00	3:00	3:00	3:00	28:46	28:13
2. S. Savini	13:41	3:00	2:40	3:00	3:00	3:00	3:00	3:00	3:00	27:49	27:49
3. G. French	13:38	3:00	2:31	2:50	3:00	3:00	3:00	3:00	3:00	27:52	27:52
4. J. West	13:12	2:25	2:55	3:00	3:00	3:00	3:00	3:00	3:00	25:50	25:50
5. M. Gaster	13:05	3:00	1:37	3:00	3:00	3:00	3:00	3:00	3:00	25:00	25:00

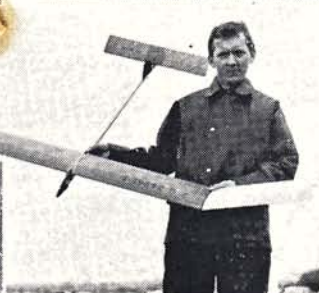
A/2 Glider (52 completed 1st trial, 19 entered 2nd trial, 10 completed)

	1st trial		2		3		4		5		Total
1. B. Halford	11:28	3:00	2:14	3:00	3:00	3:00	3:00	3:00	3:00	25:26	25:26
2. J. North	12:06	3:00	3:00	3:00	3:00	3:00	3:00	3:00	3:00	25:23	25:23
3. M. Woodhouse	12:32	3:00	0:51	3:00	3:00	3:00	3:00	3:00	3:00	25:00	25:00
4. D. Tipper	10:59	2:09	1:00	3:00	3:00	3:00	3:00	3:00	3:00	23:04	23:04
5. J. Baguley	10:11	1:00	3:00	3:00	3:00	3:00	3:00	3:00	3:00	23:04	23:04

1967 Free flight Team Trials

R.A.F. Odiham

MAY 6/7th



Top left, POWER leaders, Joe Savini and "Faital", George French with "Night Train" and Ray Monks with cowed version of another similar design, all three use Super Tigre G.15.

Above, WAKEFIELD reps, Bob Bailey and wound balsa taper tube fuselage on 57 in. design, John Mabey with long tail job, 52 in. fuselage and 50 sq. in. tail, Laurie Burrows uses 48 in. span and has wing shift tripped by prop for glide, all 14 strands of Pirelli.

A/2 GLIDER leaders were Barry Halford at top, Jack North below left and Mike Woodhouse. The Norwich pair use much the same layout, but Jack's is unusual with simple dihedral and no taper.

Latest Engine News

By Peter Chinn

Davies Charlton

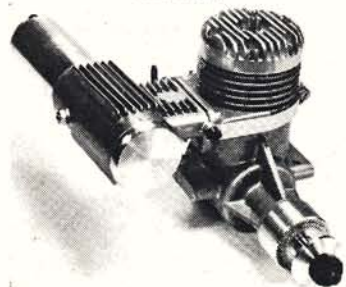
IN the author's collection of ancient and modern model aircraft engines, there are several examples of Davies-Charlton motors, including one of D-C's very first models, the 5 c.c. Wildcat, made in 1948, which used to be put out as a set of parts. Hefin Davies started the D-C operation in this modest way, at Barnoldswick, in Lancashire, some twenty years ago.

The Wildcat was a 3-port diesel of traditional design, not exactly a wildcat as regards performance, but an attractive looking motor, easy to handle and modestly priced. It was followed, in the early fifties, by the D-C 350, a more modern short-stroke shaft valve design, which was later put out in a glow version as the D-C 35G. These 3.5 c.c. motors, intended to be competitive with the Amco 3.5 of the period, were not especially popular but the smaller Allbon engines, production of which was taken over from the Allbon Engineering Company of Sunbury-on-Thames during the same period, were popular and, from this point onward, D-C production expanded rapidly.

The Allbon name was continued for the Allbon designs for a while, which included the .55 c.c. Dart (the most successful of all $\frac{1}{2}$ c.c. diesels and still made) the 1 c.c. Spitfire and the 1.5 c.c. Javelin. In due course, these were followed by the tiny 0.15 c.c. Allbon Bambi in 1954 and by a new small diesel range, beginning with the 0.76 c.c. Merlin.

In 1955 Davies Charlton moved to their present location in the Isle of Man. New engines that followed included the 1.5 c.c. Allbon Sabre, similar in basic design to the Merlin and replacing the six year old Javelin. As the 1 c.c. Spitfire had been based on the Javelin and used

Fitted to a G.40-RR, an example of the long-awaited Super-Tigre silencers. Further details will be found in this month's R.C.M.&E.



the same crankcase and crankshaft, it was not surprising that this original model should eventually give way to the Spitfire-II, based on the Sabre lower end, although this was not until a year or two later. Meanwhile, in 1957, D-C introduced their only 2.5 c.c. unit, the twin ball-bearing, disc-valve Rapier diesel. This was the last D-C engine to carry the Allbon label.

Just in time to catch the Christmas trade in 1959, Davies-Charlton announced their first glow engine for many years, the 0.75 c.c. Bantam. This was at a time when, impressed by the vast production of small glow engines in the U.S.A. for the toy market (e.g. Cox, Wen-Mac, etc.), British manufacturers were endeavouring to provide equivalent power plants in anticipation of similar market developments in the U.K. Engines of around 0.8 c.c. displacement appeared from three other British factories but the hoped for demand from the toy market did not materialise and, of the four makes of engines produced, only the Bantam survived and it is still in production today.

D-C's other glow engine venture of this period, the Tornado horizontally-opposed twin cylinder 5 c.c. motor, was undoubtedly the most interesting and ambitious project ever undertaken by this company. It went into production in 1960, an attractive looking engine, easy to operate, of reasonable performance, not excessively heavy and extremely smooth running. Unfortunately, despite the fact it was by no means highly priced as twins go, it was not really a commercial success and was eventually discontinued some three years ago.

For many years now, model engines have represented only a part of Davies-Charlton's manufacturing activity, much of which is devoted to sub-contract work. However, in 1963-4, production of the Frog engines, formerly made at the Triang Works at Merton, was taken over on behalf of Lines Brothers and D-C's annual model engine production is now the largest of any British manufacturer. D-C's modern factory at Hills Meadow, Douglas, is one of the best-equipped of any manufacturer currently engaged in model engine production, as the accompanying photographs show.

Ten different engines are at present produced, namely, the current five D-C motors (Bantam, Dart, Merlin, Spitfire and Sabre) plus five Frog models: 80, 100, 150, 249 and 349. One R/C version (Frog 349-R/C) and several water-cooled marine versions of them are also made.

Speed Notes

Len Buck is one of the leading exponents of C/L speed in Australia at the present time and as such, is keenly interested in engines. In addition to the usual Super-Tigres and K & B's, he has flown MVVS and an H & R "Rattler" and, at the moment, is anxious to try a Hirtenberger HP-15G just as soon as they become generally available. As a Rattler user, Len Buck is in close touch with speed-engine wizard Bill Husted (the "H" of H & R) who has one of the very few pre-production HP-15G's to have been released. According to Bill Husted, the HP-15G is the most powerful 15 he has ever seen. Len tells us. Bill rates the HP-15G very much faster than his 157 mph K & B 15R on FAI fuel and at least 4000 rpm faster on the flying prop.

If this assessment had not come from Bill Husted, we would have been tempted to take it with a very large pinch of salt. That the HP-15G would prove a worthy contender for FAI speed honours seemed obvious last summer when Heinz Freundt set an Austrian record of just under 140 mph with one, but, presumably, HP designer Paul Bugl is now getting even more power from this unconventional and eagerly awaited new motor.

Len Buck also quotes Husted as saying that the latest K & B 29R's are faster than the latest Super-Tigre G.21/29RV's, a contention that he himself supports, having tried both types. Len quotes a figure of 16,750 rpm on the bench for the latest K & B in stock condition, when using a 7 x 10 Top-Flite and 80/20 fuel. This latest Series K & B has the 40 type main casting with wide transfer passage machined out. The G.21/29 RV's (several tried) also stock, are quoted as being at least 1000 rpm slower, although a good one will top 16,000 with a larger intake.

Of course, this does not necessarily mean that, appropriately propped for the peak bhp in the air, the same discrepancy will separate the two engines. This entirely depends on the rate at which torque drops off as load is reduced. If the Super-Tigre (which is alleged to peak at 22,500) breathes better, at above the 20,000 mark, than the K & B, it could wind up more in the air and equal it.

This is the reason why static prop/rpm tests are not always a reliable guide to an engine's potential. One can get some idea by checking revs on smaller props, so as to get rpm up to a figure equivalent to the bhp peaking speed (if known), or to the speed at which the engine is expected

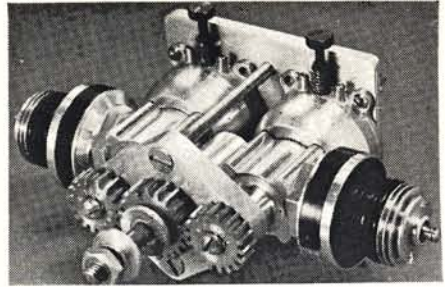
to build up in the air. The thing to do here, by the way, is to trim diameter, rather than to use a finer pitch prop which may disintegrate if taken up to 20,000+ speeds.

Don Pinckert who flew for the F.A.S.T.E. club while stationed in England with the U.S.A.F. is now in Miami, Florida with fellow speed flier Gus Johnson. Don has recorded 173 mph with a Super Tigre G.21/29RV and this with a similar model to the one he used in G.B. for Fox and Eta engines. This high speed supports the theory that the Super Tigre really unwinds in the air. Don reworks the engine with hand tools extensively, the main intention being to knock off burrs and free tight spots that may exist. Other Super Tigres worked on by Don have recorded over 160 mph so the G.21/29RV is a real contender for top honours in the 5 c.c. speed engine class along with the K & B. Exactly what difference the polishing makes to the Super Tigre is hard to establish, as Don does not quote "pre-mod" speeds recorded, or if in fact the engine was operated in "Standard" form at all.

Barbini Engines Reintroduced

The Italian Barbini engines are again

Flight Control Products 1.63 c.c. Twin Cox QZ. This employs the same conversion parts as the Twin-Bee engine described in the February issue. Incorporating annular expansion chambers, this version is to be preferred for U.K. use.



in production and there is a possibility of their being distributed in the U.K.

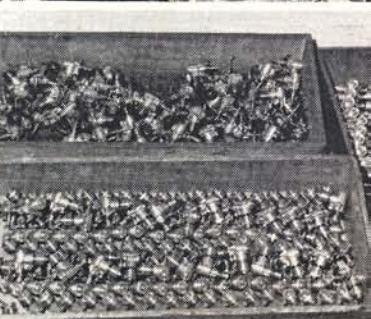
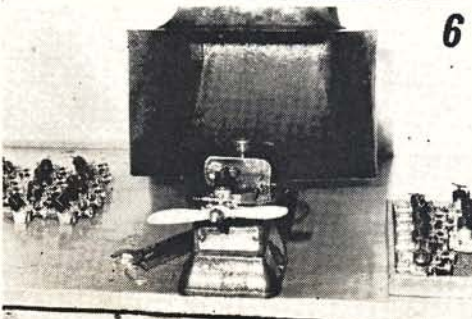
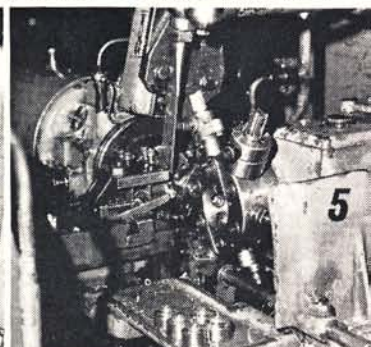
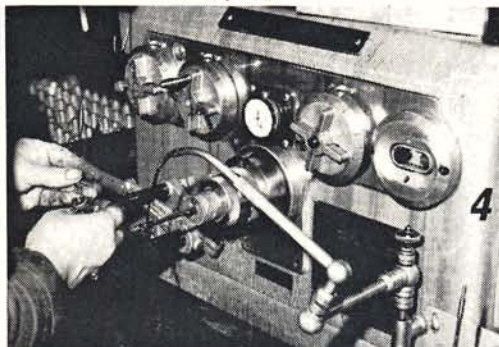
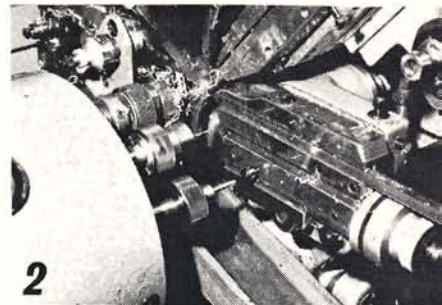
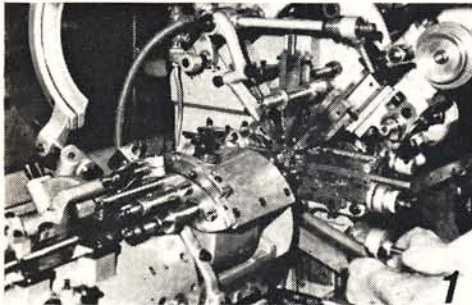
Originally manufactured by Officina Meccanica A. Barbini of Milan, the first Barbini model, the 1 cc. B.38 diesel, appeared in 1954. It was followed by a 2½ cc. model, the B.40, in 1956 and this subsequently appeared in two glowplug versions, one with plain bearings and one with a ball and roller bearing crankshaft, plus needle-bearing big end. This latter model, the B.40 *Testa Nera* ("Black Head") caused quite a sensation at the 1956 World Control-line Speed Championships in Florence. Flown in a model

by Giovanni Cellini, it placed 3rd at 124.3 m.p.h., beating all the Super-Tigre G.20's and MVVS 2.5s of the time.

Barbini motors are now being made in Mantua by (or for) a firm called Mantua Model, who are also the Italian representatives for the German Krick and Robbe model companies. Currently the range includes six models, the 1 cc. B.38 in diesel and glow versions and two models each of the 2.5 cc. B.40 glow and B.40 diesel. We understand that a .40 cu.in. (6.5 cc.) R/C pylon racing glow motor may also be produced.

Some stages in the construction of an engine at Davies-Charlton's Isle of Man factory

Photos from the Davies-Charlton factory at Douglas in the Isle of Man, where D-C Quickstart and Frog engines are made. Among model engine manufacturers, Davies-Charlton have one of the most modern and well-equipped machine shops. 1, Bechler AR-10 sliding head automatic lathe produces simple items, such as needle-valve thimbles at the rate of 1,100 per hour, performing eight separate operations on each component. 2, Close-up of Bechler in action. 3, Honing a D-C Sabre 1.5 c.c. cylinder on a Delapena honing machine. The same operator has, we are told, honed every D-C engine cylinder made and thus knows just the right "feel"! 4, Delapena "Speedhone" with air gauge control. 5, Producing Frog 150 heads. 6 and 7, Every D-C and Frog engine is test run after assembly. 8, D-C Bantams and Darts awaiting test.





Left; one man team from Port Elizabeth, Vic Hoxley. Right, best A/2 Glider flyer in the Republic, J. Carswell.

one max (120 secs.) was recorded, Willie Pretorius being the man.

Final placings were:—

- 1st. W. Pretorius (Rand) 271 secs.
- 2nd. T. Everett (Durban) 228 secs.
- 3rd. D. de Wet (W.P.) 175 secs.



South African Nationals

reported by Basil Moore

THE 1967 S. A. Nationals with its 247 entries will, perhaps, be best remembered as the "Contrast" Nationals. Contrast that is, in the weather. A glorious opening day deteriorated into a terrific thunderstorm, with high wind, later in the afternoon and thereafter we had two days of wind and rain.

The majority of the visiting contingent were able to secure accommodation in disused administration buildings on the almost derelict Ciskei airfield at Kingwilliamstown in the Eastern Cape Province.

Friday dawned clear with a slight breeze and hopes were high that many records would take a tumble. About 9.30 a.m. small thunderclouds started forming and F.A.I. Power got away to a good start with 18 entries and Pete Visser (the



W. Pretorius with the top Wakefield model showing influence by 1965 U.S. Team member McDonald.

"old" man) recording the first max. Lift became scattered as the rounds progressed and times dropped. As a preview of what was to come weather-wise flying ants with giant wingspreads took the air and made life unpleasant for fliers and spectators alike.

Final placings were:—

- 1st P. Visser. 649 secs. "JAI-F.A.I." —Super Tigre 15.
 - 2nd. P. Hearne 504 secs. "Faital"
 - 3rd. J. Carswell 492 secs. "Taltos"
- Next up was *H/L Glider* with 27 entries (5 junior). Again lift was patchy and only Junior flyer Keith Moore entered his first Nationals with a Keil Kraft "Caprice".



Juniors:

- 1st. B. Roberts (East London) 104 secs.
- 2nd. G. Roberts (East London) 57 secs.

Open Glider was next with 39 entries (8 juniors). As usual many Caprices were present and as usual turned in their steady performances. By now it was really hot and humid and lift was in evidence for those who knew where to look. Beginners were now watching the experts and following them into lift and many maxs were recorded. Pete Visser of Western Province set up a perfect score with his "No. 96A" and was followed by R. Fraser of Rand with 785 flying a "Pelican" and third was A. Richardson (Maritzburg) with 759. Top junior placing was P. Lee (Maritzburg) 609 secs.

Open Power got off to a mediocre start but a dark black "front" had started to move in and within 30 minutes a wind was tearing at the control tents, lightning flashed, thunder crashed, and rain lashed. In the resultant confusion the C/D lost about 90 per cent of his competitors and 10 per cent of the competitors carried on flying close to shelter without a C/D. However it was agreed that the event be scrubbed and in the opinion of your scribe this was the best thing that could have happened.

One car stuck in the mud at the control tent and it was two days and one tow truck later that it came unstuck. Conditions were therefore somewhat sticky underfoot for A/2 on Saturday morning when 36 contestants braved the wind and rain. Most consistent flyers were J. Calefatto (W.P.) 3 maxs (total 652); J. Carswell (W.P.) 3 maxs (total 824 for 1st place); D. Masters (East London) Junior (3 maxs) total 762, for second place; W. Pretorius (Rand) 2 maxs (total 711 for 3rd. place); R. Rowe (W.P.) recorded 3 maxs, total 649 secs. J. Carswell flew a "Baguley" while W. Pretorius flew on o/d and D. Masters a Seraph.

¼A attracted 23 entries with 6 juniors, conditions were windy and damp and times were not fantastic. No maxs were recorded. W. Pretorius flying a modified "Ultimeter" (John Swallow design) was first with 555 secs. D. Masters (Jnr.) of East London was second with 430 secs. Brian Partridge of Rand third with 425.

It was still raining and a cold breeze made conditions unpleasant for *Open Rubber* which attracted 11 entries. An efficient recovery system by Rand and Western Province Model Aircraft Clubs worked extremely well in most unpleasant conditions. Only one max was recorded by winner R. Rowe W.P. The lone Port Elizabeth entrant Vic Hoxley battled it out with Western Province and Rand.

Sunday 26th March was just as wet and windy as Saturday and eleven *Wakefield* entrants were slightly damp perhaps

even more so than their models. Vic Hoxley had bad luck when his o/d D/T'd onto a Church steeple in a valley and then bounced onto a roof. As if this was not enough a native "fetcher mite" pushed his ship through the barbed wire fence without respect for Dihedral or Fin!! Final placings were:—

- 1st. W. Pretorius (Rand) 660 secs.
- 2nd. J. Cowlin (E.L.) 544 secs.
- 3rd. P. Visser (W.P.) 524 secs.

And so onto *A/1 Glider* with a record entry of 41 of which 7 were juniors. The wind had begun to freshen and great difficulty was being experienced with towing. Conditions were deteriorated and times were beginning to drop. The only junior to record a max was G. Wellsted of East London. Aiglets, Top Kicks, and o/d's dominated the scene.

Final placings were:—

- 1st. P. Hearn (Maritzburg) 467 secs.
- 2nd. E. Burroughs (Rand) 427 "
- 3rd. R. de Jager (Durban) 421 "

Juniors:

- 1st. G. Wellsted (E.L.) 261 "
- 2nd. B. Wellsted (E.L.) 237 "

Control Line Stunt attracted 3 entries and the hotly fancied favourite W. Pretorius was unlucky to prang his beautifully built job on practice. Neil Allen of Maritzburg was the winner.

Open Combat drew 4 entries. In the heats R. A. Ziller of W.P. was unlucky to miss his chance due to a faulty plug and the final was fought out between R. Nevin and B. Menges of Rand. A. crisp clean fight drew much applause and R. Nevin ran out the winner with 668 points.

F.A.I. Team Race attracted 8 entries and was won by F. Turner of Rand with a time of 11 mins. 43 secs.

F.A.I. Speed had 10 entries of which only two flew. Times were poor and the winner was F. Turner of Rand.

¼A *Team Race* was won by F. Turner Rand with a time of 10 mins. 11 secs. followed by T. Scholtz Rand with 10 secs. 4 secs.

F.A.I. Combat attracted 3 entries and was won by B. Menges of Rand with a total of 557 points.

Control line was definitely not supported as well as it could have been and unless the adherents pull up their socks they will find that one day "Ukie" will disappear from the South African scene.

A big vote of thanks to the East London M.A.C. and its organising committee under secretary Bill Gunnell for an enjoyable but damp Nationals. All present agreed that round about 1970 will see the modellers back in them thar hills around Kingwilliamstown.



Left, Reid Simpson and his wife at Zell with modified "Centurian" using top fin. Right, Fritz Schneeberger 1961 World Champ with his 1966 versions of "Pulteri". thin (6-7%) flat bottomed wing section. Meczner of Hungary was, as usual, well placed and Frigyes was unlucky to have auto rudder failure on his last flight, stalling all the way down for 93 secs.

The difficulty at Zell/Lee (reports



and Austrian International

A FREELANCE team of F.A.I. contest fliers represented the S.M.A.E. in the 4th. Alpine Cup at Zell-am-See, Austria on April 15/16th, those who went were:-

GLIDER

D. Welch (Brighton)
S. Bowles (Norwich)
C. Foss (Brighton)

POWER

S. Savini (Wallop)
J. West (Brighton)
G. French (Essex)

George French offers news of the Power event which had added interest this year with the participation of the Hungarian teams, and also Reid Simpson, one of the famous American Aeromodelling twins. Reid is a T/Sgt in the U.S.A.F. stationed at Hof in W. Germany. He flew in power and glider. His models were elegant, beautifully built and finished and most capably flown. He was a victim along with most others, of at least one draught! John West was the first of the British team to find a 'hole' on his fourth flight. Ex World Champ Frigyes found the same draught and did a similar time.

At the end of the fourth round there were 3 "full-house" scores—Seelig, Savini and French. French had rather a short motor run, and found bad air. Savini found poor air also and failed by only one second to score a max. Hans Seelig flew a little later and maxed.

Seelig's model was the latest of the all-sheet design as flown also by Karl Heinz Reike (who was entered but not present) now with rear fin and longer moment arm no Hörner tips, Benedek airfoil, flat based tail with variable incidence, auto rudder and the latest in Seelig's own time units which are commercially available. (Incidentally Hans went on to top the German team trials, again with a perfect score, 900 at Drover Heide April 29/30th). Vladimir Hajek was missing from the Czech power team because of preparations for trials but Malina was there, using an M.V.V.S. diesel which gave probably the highest climb on the field. Glide apparently suffered due to very Glider entrant Dave Welch) is to try to lift when it's flat calm, and you've

got to be airborne within three minutes of collecting your time keeper. Running around doesn't help matters much, you still do 90 seconds and end up exhausted! There were 92 entries! Chris Foss started well with a nice max which D/T'd well up. Stephen Bowles found the hole behind it for 40 seconds, Dave launched a fraction too soon & did 90 seconds, just on the edge of lift. In round 2, Chris found lift again but Stephen was getting more used to the conditions, making 1:43. Dave's model, which normally turns left, decided to fly right for once (With the rudder hard left) and scored 2:05. The Sunday morning was even calmer, Dave's first flight went up in lift, followed Reid Simpson, flying a Jetco "Talon". After about a minute on the glide they collided, and both spun down quite a way. Amazingly both models recovered and climbed back, maxing easily! Stephen Bowles also maxed, but Chris Foss missed the lift for 86 seconds. Reid Simpson had three maxes by this time. Simpson and Dave both slipped in round 4 scoring 1:15 and 2:00. Bowles had a nice max D/Ting high up, whilst Chris Foss missed the max by 13 seconds. In the final round Dave Welch was the only one of the four to max, the model D/Ting about 1,000 feet up, heading towards the mountains. Bowles unfortunately found his best draught to date, for 33 seconds, followed by Foss with 59 seconds and Reid Simpson with 53!

As usual the 'opposition' was maxing away quite merrily, despite the 3 minute launching rule, and six fliers had full-houses. Four survived to the four minute fly off, but "only" three made five minutes. Jean Maris Berthe, the eventual winner seemed to launch prematurely, the model sinking to about 20ft., whereupon it went up in very strong lift and scored about eight minutes. The wind had got up by then, and the fly-off models Below left, Power winner Han Seelig with totally sheeted surfaces, also leads German World Champs Team. Below, the British contingent. Above right, Hans Keinrath now uses High-TL G 15 instead of Austrian motors, placed third.

were reaching the nearby mountains The six minute round was decisive, Berthe making an eye straining 5:53, whilst Ducklaus of East Germany sank for 2:53. Third was Hans Shimpitz of West Germany.

Main point of interest (for Dave at least) were two rather nice young Czech girls, flying A/2's Marie Nivakova and Karel Cermak.



POWER

1. H. Seelig	W Germany	900
2. S. Savini	G. B.	899
3. H. Keinrath	Austria	895
4. A. Meczner	Hungary	890
5. G. French	G. B.	863
6. J. West	G B	753

Team Result

1. G. B.	2515
2. Budapest (Hungary)	2485
3. Bayern (Germany)	2474

Glider

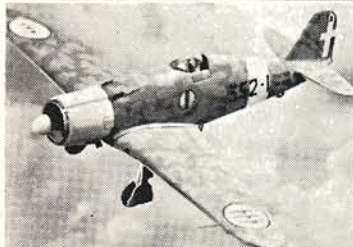
1. J. M. Berthe	France	900 + 240 + 300 + 353
2. D. Ducklaus	E. Germany	900 + 240 + 300 + 173
3. H. Shimpitz	W Germany	900 + 240
4. O. Zitko	Austria	900
4. D. Welch	G B	695
5. R. Simpson	U. S. A.	668
5. C. Foss	G B	662
7. S. Bowles	G B	536

Wakefield

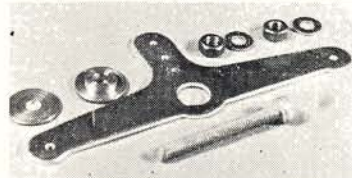
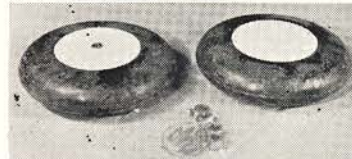
1. W Czinczel	W Germany	891
2. J. Lofler	E Germany	878
3. E. Reitterer	Austria	866
4. B. Stular	Jugoslavia	857



TRADE NOTES



Latest from Airfix above are the Avro 504K top, and Fiat G50 in 1/72nd scale, excellent value at 2/3d. each.



THE inventory of items distributed by Ripmax grows larger each month, latest additions being for F/F, C/L and R/C. For the glider flier the "F.A.I. Model Supply" *Towmaster Winch* having a 6 : 1 internal planet gear is a worthwhile investment at 49/6d. Designed by Ed Dolby for model flying and not a modification of some other workshop tool, it is moulded in white and orange flexible plastic, almost unbreakable and light to handle at 3½ ounces. A pull out split pin releases the winch end of the line. From Japan comes a range of accessories made by M.G. Model, these include, wheels, plugs, spinners, and glow plugs. Among the wheels there is a very attractive pair of scale type 2½ in. diameter (streamline section) semi pneumatic, flat sided with axle covers to hide the retaining collets and grub screws (provided). At 18/6d. a pair they are excellent value and weigh 3 oz. for the pair. The M.G. *Glow Plug* is for 2 volt operation and has a long reach threaded portion, at 4/6d. you can't go wrong! Another glow plug is the PMM also long reach but 1.5 volt with an idle bar for radio control engines, this retails at 9/11d. The M.G. *Model Spinners* are chrome plated nylon for bright appearance and come in 1½, 2 and 2½ in. diameters at 8/6d., 9/6d. and 10/6d. respectively. Two shaft adaptors are supplied for ¼ and ⅜ in. B.S.F. threads. An alloy backplate with the nose of the spinner locking onto the shaft adaptor nut in Froom style make these spinners a practical proposition. Large and small *Undercarriages* preformed from 10 swg Duraluminium complete with H.T. bolt axles retail at 12/11d. and 11/8d. respectively. *Control Line Bellcranks* in 2 and 3 in. sizes with pivot bolts, washers and brass bearings offer good value at 3/6d. and 4/11d. 90 deg. *Aileron Bellcranks* for the multi channel R/C brigade come in pairs with pivot bolts washers and castellated 6BA locking nuts at 4/6d. Three sizes of cast alloy beam/radial *Engine Mounting plates* in 1¼, 1⅝ and 1¾ in. sizes, all with nose wheel leg sockets are available at 14/6d., 13/6d., 12/6d.

Also distributed by Ripmax is the *Sterling Models* control line flying scale S.E.5. With a span of 32 in., 25 in. long and for .19 to .35 engines. A look through the contents shows the parts are inter-notched for quick and accurate location, shaped leading and trailing edges and all other parts die cut. The transfer sheet is impressive but the poor quality wheels are rather a let down. A preformed metal radiator and plenty of

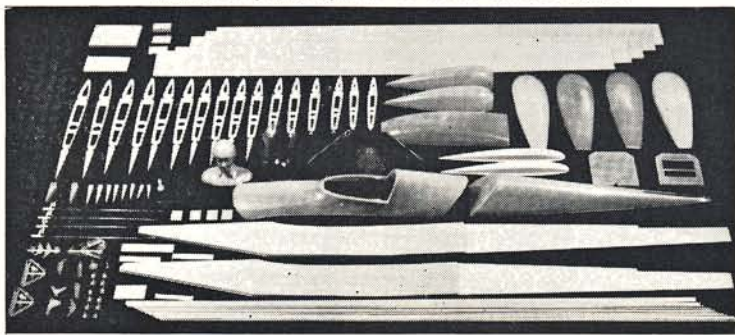
hardware go to complete the kit. The plan is clear and well prepared with plenty of instructions, but the spark ignition engine and provision for condenser coil and battery tend to give the age away! Retail price is 98/6d.

Slope soaring, one of the expanding branches of our hobby gets another push with the *Enterprise "Zephyr"* R/C kit. The 73 in. span model has all components "pre-cut" (not die cut) and won the 1966 Clywd Slope Soaring Rally in prototype form, flown by its designer Ron Donahue. Designed for multi, with rudder, elevator and aileron control it has a semi symmetrical wing section and is nice and tough for average flying sites. A comprehensive instruction booklet gives all the building notes and very important gen on how to fly slope soarers. Manoeuvres are dealt with individually so one can fly with the booklet on the flying site. The forward fuselage sides are plywood, as are the keel and formers. Pre-shaped parts include wing ribs, fin and rudder parts, nose block laminations, rear fuselage sides, wingtip and underside blocks. Available now at your model shop the *Zephyr* retails at £8 15s. 0d.

Tufset CCL Plastic Putty is a new name to modelling and comes in two sticks. Equal amounts are cut from each stick and then rolled together until the two colours become a uniform dark grey. Though rather heavy for model aircraft use, it has good adhesive properties and can be used to fill gaps in silencers as it has good heat resistance. It can also be drilled and tapped. Handy 3 oz. packs cost 4/11d., or you can get 6 oz. for 7/6d. from ironmongers or model shops.

Electronic Developments the E.D. engine manufacturers are now distributing *Loctite* and this is available to modelers in small sizes. The 3 cc. capacity tube is sufficient for over 100 applications. Main use is in preventing nuts and bolts from working loose. Place a small droplet onto the thread, then screw the bolt on and the Loctite is drawn into the thread sealing the joint against vibration with a plastic film, though it can still be unscrewed if needed. A handy tube costs 5/6d. Also from E.D. are nylon *Fuel Filters* at 2/- for glow or diesel fuel, a necessity to keep any dirt that gets into the fuel away from the needle valve, and adjustable *Pushrods* with nylon quick clip ends tied together with a sleeve of neoprene tubing for radio control or control line use at 2/3d. each.

Left, from Ripmax, top to bottom the F.A.I. *Towmaster* winch, neat and efficient, M.G. streamlined airtrap wheels with collets. Large control line bellcrank with bushes and both M.G. and PMM glowplugs. Below, the Grainger Bros. *Pylon Racer* kit for R/C, "La Jollita". 29 parts including the fuselage top and wheel spats are moulded in plastic. Span 45 in. for 5—6.5 c.c. engines.



Floquil colours are a new name to the aeromodelling trade, though for a long time popular with model railways and are matt paints for all scale models, aimed mainly at the plastic brigade. 33 colours are included in the range, including flesh, brass, copper, olive drab and brown drab. The small bottles each contain 5/8 fluid ounce and drying rate is 2-5 minutes. All colours are inter-mixable. Thinners retarder, gloss, primer and metal cleaner are also in the range. At the moment *Victors* of Islington, London, are the only suppliers. The paint retails at 3/9d. a bottle and the thinners at 1/8d.

The plastic market is still expanding rapidly with such exciting craft as the new **Monogram 1/72 scale range**. First releases are the *P-51B Mustang* moulded in dark brown plastic, serial number 312190, with squadron markings OS-1 and personally marked "OLE-11", *Grumman Bearcat F8F* in Navy markings serial number 86212 moulded in dark blue, the *Curtiss P-36A* also known as the *Curtiss Hawk model 75A* is in silver plastic and has Army markings and "Chiefs Head" decor for aircraft PA-91. These are 70 cents each in the U.S.A.

From **Revell** come new 1/72 scale kits for the *Boeing P26A*, and *Curtiss Hawk 75A*. The little *Boeing P26A* has unusual separation of the wing panels the top wing surface incorporating the complete aileron to get a good effect. Black and white fuselage striping is included in the transfer sheet, which has a semi matt finish. The *Curtiss Hawk 75A* is moulded in white plastic. A two part engine is included and the top cowling half is removable. The machine depicted by the transfers is one of those captured by Germany when France fell and sold to Finland, both these kits retail at 3/-.

The latest from **Airfix** are the *Avro 504K* and *Fiat G50bis Freccia (Arrow)*. The Fiat first saw action in the Spanish Civil War and was then modified for the use of several Axis air forces during World War II. The machine modelled was operated by the 51st Stormo of the 21st Group which for a short time was stationed in Belgium and flown over the Channel and British Isles. Thirty-two parts moulded in light blue plastic, comprise this unusual little model at 2/3d. At the opposite end of the scale the *Avro 504K* must be one of the best known early trainers. The kit has 40 parts, two sets of transfers and a painting guide allowing the choice of R.A.F. or Austra-

lian Flying Corps versions. Moulded in buff plastic with simulated wing ribs this kit should be popular at 2/3d.

Transfers and paints are receiving some more attention these days. Airfix recently announced the introduction of *Matt Transfers*, the perfection of which has taken them over a year of development work. These are included in the Fiat G50 kit for the first time.

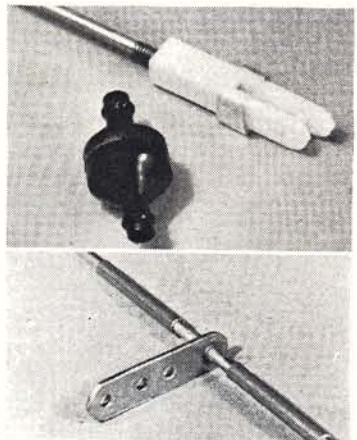
Official Products are another new name to the British hobby trade and their matt colours are pre-mixed to give the exact camouflage for application over wood, metal or plastic. Seventy colours are available as well as kits of colours. For example, the 700 collectors assortment is for the ardent plastic fan and has 52 exact camouflage colours with eight general aircraft colours and these between them are sufficient to do all the U.S., German and Japanese aircraft for the Desert, early European, late European, Russian Area, early and late Pacific battle areas of World War II. This set costs 199/-. Individual bottles will be available from model shops soon.

Authenticals Decals function as part of Northern Californian Chapter of *I.P.M.S.* (International Plastic Modelers Society) and they are selling transfer sheets with authentic matt finish to help raise funds for their branch of the Society. They have been printed with extra glue to stay on once applied and are enamel to avoid ageing and cracking. Their aim is absolute accuracy and with such a large wealth of talent that *I.P.M.S.* possess within their ranks, this should not be hard to accomplish. Transfer sheet No. 1 is to 1/72nd scale for the *P-51B Mustang* and contains three variations. P-51B-15-NA (42-106924) "Salem Representative", P-51B-NA-(43-6374) "Ding Hao" and P-51-5-NA (43-6913) "Shangri-La". Each pack comes complete with a brief history of each aircraft and precise colour details and a list of published references to the aircraft concerned. Specific mixing instructions are given for Pactra and Floquil paints to obtain the authentic camouflage. Each Sheet is 7/6d. plus 1/6d. postage, future additions are 1/48th scale markings for *P-51Bs* "Shangri-La", "Salem Representative" and "OLE 11", and another sheet with *Japanese National Insignia* in three styles and several sizes, sheet sizes 8 1/2 x 11, from Don Garrett, 2491, 21st Avenue, San Francisco, California, U.S.A.

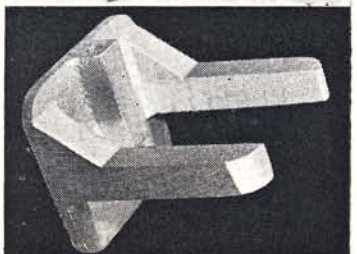
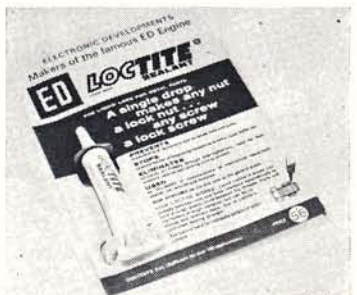
At right E.D. Loctite will prevent nuts from coming loose with just a droplet. The Ripmax cast radial mounts are robust affairs with provision for a nose leg. Below, some of the latest plastic releases.



Imported Floquil Military colours are for the plastic brigade and give authentic tones.



E.D. Fuel Filters and Pushrod ends above (top) are moulded in nylon, and the pushrod is adjustable. The Ripmax Elevator horn is silver soldered and comes with tube bearings.





**Latest developments
by the 'string musicians'
of the aeromodelling
world—contributions welcome**

Milan Drazek's (Czechoslovakia) latest F.A.I. team racer is very sleek and powered by an M.V.V.S. 2.5 T/R Super, this being the rear exhaust diesel version of the glow used by Sladky. Average, 109 m.p.h. for 20 laps on 7 cc. fuel tank, note forward leadouts.

Rat eats Rat at Duxford

SINCE our last mention of Rat Race in April issue, the class has become even more popular. At the *East Anglian Area Rally* on April 16th at R.A.F. Duxford, 31 entered under the charge of ex-speed flier Ray Gibbs and the Southend Club. Several heats were run off without great incident until Frank Bradley (Feltham) and Tom Jolley (R.O.I.) Rodent Operatives Incorporated! were drawn together. Tom Jolley's K.B.40 (front induction) model was first away, this always being a reliable entry. Bradley's Super Tigre 40RR (rear rotary—not Rat Racer) was almost uncontrollable due to an inadequate 18 swg elevator link. With Jolley at 105 m.p.h. and Bradley using Lindsey tuned length pipe for 130 m.p.h. flying a glass fibre covered 'brick', Bradley buzz-sawed right through Jolley's 'Potent Rodent' which was jerked

from the lines and the remains flung far into the air-field! Bradley's damage was confined to a broken propeller. D. Rudd (Feltham) made the fastest heat time for 5 miles of 3:16, Gordon Yeldham broke a con-rod whilst airborne and initiated a melee of tangled lines and crashed models. A shut off on the fuel line could have prevented this. Speeds were slower in the final with D. Rudd handicapping himself by taking two minutes to start. Final results were:—1. S. Willoughby (Chingford) 8:25.2, D. Rudd (Feltham) 8:59.5, 3. M. Peake (Feltham) 9:55.5. It was quite noticeable how much better the larger models flew than the small 'bricks' and how advantageous it is to have a shut off linked to the bell-crank, for pit or emergency stops.

At the *King Orange International* in Sebring, Florida, U.S.A. the 100 miles 1,400 lap marathon Rat Race was an exhaustive test of man and machine. Seven teams entered and the event was flown simultaneously in three circles. John Kilsdonk who helped to develop the S.T. G 21/40 R.V. was a competitor and reports that his particular adversaries, Weaver and Barnhart, broke a shaft and blew a piston in their K. & B. 40s while the winner Flinn used three K. & B.'s to break the magic 'hour' for the 'ton'. It seems incredible that such replacements can be made and such high speeds maintained for so long.

With the K. & B.40 series 67 solo speeds of over 140 m.p.h. are possible with 128-130 m.p.h. in traffic. But once again this is not the end. A 40 has been modified (more exhaust lead) by Bill Wisniewski and a tuned length pipe fitted to produce 140 m.p.h. right out of the box with a profile fuselage model. Peter Soule thinks the U.S. modellers will have to push for reduced engine displacement in Rat due to their high speeds. Results:—1. Flinn 59:10, 2. Kilsdonk 66:20, 3. Weaver 67:10. These top three all used Harry Roe's 40% nitro fuel. Fuel and engine fans will be pleased to hear that Harry Roe will contribute a detailed article on speed fuel, rat, team race and engines in this year's *Aeromodeller Annual*.

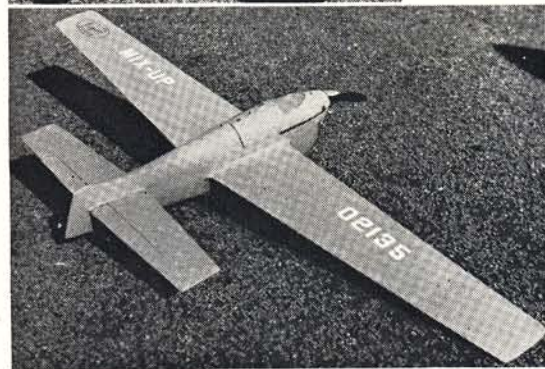
Novices should note that 'Rat' is still very much an 'open' event in G.B., Merco, Fox, McCoy 35 and the Eta .29 are ideal engines, any reliable 100-105 m.p.h. aircraft is a prospective winner!

John Kilsdonk's rat racer '*Hooptee*' is published as plan M.A.N. 67A and is available from us priced 7/6d. see the M.A.N. Plans notice in our *Classified Advertisements*.

One other product of tuned pipes and other silencers is the possibility of restarting the engine without using a booster for the glow plug. Because no cold air goes whistling through the exhaust port when a pipe is fitted after the engine cuts it will hand start without batteries for about 30 seconds.



Twin engine stunter is by F. W. Bradbury of Southport, Lancs. Powered by a Merco 35 and Fox 40, level speed is 60 m.p.h., line tension is good through all manoeuvres and is very stable in the 'squares'. The neat 1/4A team racer is by Feltham juniors Steve Smith and Colin Brown. Fast, with an Oliver Tiger Cub, they use cut down 7 x 8 Tornado Plasticoles.



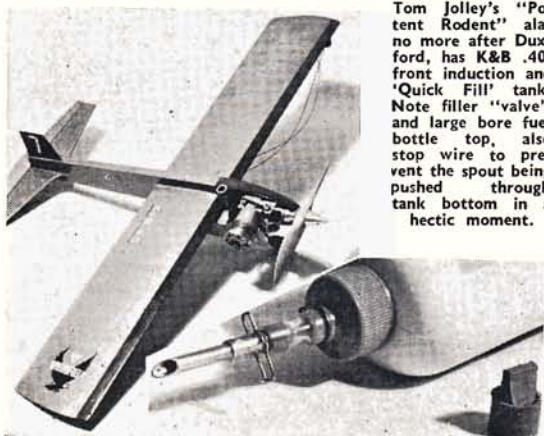
Wisniewski records 211 m.p.h.

The T.W.A. racing engine that eclipsed the opposition at Swinderby for Bill Wisniewski and Roger Theobald seems to be the first in a line of 'big brother' T.W.A.'s. Bill's 'Wart .60' shown in the K. & B. factory review (April 1966 *Aero Modeller*) was not designed for a tuned length exhaust pipe, but with one fitted, it has recorded 211 m.p.h. according to Dan Jones. Not entirely unexpected, Bill has now designed and made a T.W.A. .60, with tuned length pipes for a new model. The speed of this combination is anyone's guess, it will certainly be a test for the pilot and time keepers. Bill's other new engine a T.W.A. .29 with tuned length exhaust in *Pink Lady* model recorded 184 m.p.h. in April. A week later it "only" made 176 m.p.h. running very rich! The engine was said not to have "come in" to peak revs. on that occasion! As we go to press we hear that during a subsequent flight Bill's T.W.A. .29 powered model came off the line at 185+ m.p.h. when the control unit gave way. Nothing was left as it disintegrated in mid air. Bill will fly the .60 at the "Cal Western" meeting in California.

Three International Contests

Manfred Bader of West Germany reports on the *Czechoslovakian* Easter competition at Prague held in windy but sunny weather. Team racing had 19 entries but some confusion was caused by the new tank size, the 7 c.c. size being decided on 10 minutes before the start! Fastest heat went to Hohenberg/Turk (Austria) 4:28, followed by Trnka/Drazek (Czechoslovakia) 4:34 at 109 m.p.h. for 20 laps with the rear exhaust M.V.V.S. T/R diesel and a new model. Fischer/Meusburger (Austria) made 4:40. Both the Austrians used H.P. 15Ds in pre-production form. In the final Fischer/Meusburger were doing 98 m.p.h. for 23 laps with Turk making the fastest pit stops. In the lead at 100 laps he broke the tail 5 laps later. Results 1, Fischer/Meusburger 9:40; 2, Trnka/Drazek 9:43.3; 3, Hohenberg/Turk 105 laps. Speed had 11 entries with Z. Pech (Czechoslovakia) the winner at 140:4 m.p.h. followed by J. Sladky (Czechoslovakia) at 131:1 m.p.h. with Polster (East Germany) in third place at 130:5 m.p.h.

The *Utrecht International* Contest in the Netherlands on April 24th had cold weather but attracted 75 entries including 15 foreign visitors. Top place in F.A.I. stunt was taken by Dutchman H. Twerda, with P. Tupker in 2nd place. Their own "Open" Stunt was won by H. Steevens of Amsterdam. F.A.I. team racing was another victory for the Metkemeyer brothers at 10:23 followed by Brendel/Glodeck (West Germany) with 11:30. Newly introduced 1/4A team racing was won by Buys/Goudsmith



Tom Jolley's "Potent Rodent", alas no more after Duxford, has K&B .40, front induction and "Quick Fill" tank. Note filler "valve" and large bore fuel bottle top, also stop wire to prevent the spout being pushed through tank bottom in a hectic moment.



Speed fliers in the 'Stuppy Club' seen at Geilenkirchen are top row, left to right Goudsmith, Heinsius, Zilleken and Miebach with Holle's Super Tigre .60 powered version. Bottom right are, Buys, Metkemeyer and Holle who has recorded 178 m.p.h. with a Rossi 60 model.

(Amsterdam) with 9:38. Second place went to Anikoviak/Beuguls (Netherlands) with 11.37. F.A.I. speed was hotly contended with F. Zillenken (West Germany) making 138:6 m.p.h. with H. Heinsuis (Netherlands) in second place at 130:5. W. Holle (Netherlands) placed third with 127:9 m.p.h. Rolf Miebach of West Germany was slow at 118 m.p.h. Nearly every speed entry was a Miebach designed "Stuppi"—see September 1966 issue for plans. 5 c.c. speed was won by H. Heinsius at 140 m.p.h. The overall results gave Amsterdam the team prize followed by Utrecht and West Germany. W. Holle has enlarged a "Stuppi" and powered it with a new rear intake Super Tigre 60 plus Lindsey tuned length exhaust pipe. This was to be flown but the organiser objected for safety reasons!

At the *West German Geilenkirchen* meeting, May 6th & 7th fast times were recorded in team race and speed. Rolf Miebach recorded 151:3 m.p.h. in F.A.I. speed using a Super Tigre G.15 powered "Stuppi" with a tuned length pipe and a 5.11/16 x 6.11/16in. pitch propeller. Franz Zilliken had manifold troubles and only recorded 122:4 m.p.h. In F.A.I. team race Lutkat/Lutkat with an Oliver and 3 stops made 4:37.2 followed by Wamper/Gorziza with a Webra Mach. II and 2 stops for 4:53.5. Brendel/Glodeck also with a Webra Mach. II made three stops for 5:05.3. Wamper/Gorziza won the race with 9:52.5 followed by Lutkat brothers, 12:13.8 and Brendel/Glodeck 14:07.8 using electric compression control. Klaus Seeger topped stunt with 1909, followed by Axel Kaminski 1852. Class B—5 c.c. team racing was won by Wamper/Glodeck at 8:14.

Propeller Test

At a recent London Area S.M.A.E. team race Dave Balch and John Franklin made some interesting tests on the *Top Flite* 7x8 cuffed root propeller. The Franklin/Ives Eta powered model was revving at 14,400 on the ground according to Dave's audio tachometer and at 16,200 in the air at around 105 m.p.h. A true theoretical speed of 125 m.p.h. is the calculated result for the 7x8 at 16,200, hence a 16% prop slip value at 105 m.p.h. is deducted. To date, the *Top Flite* Speed 7x8 is the best propeller they have used, but they are hard to obtain. The *Bartels* glass fibre has proved to be nearly as good in the air and has the advantage of not breaking if it touches the ground on take off. Tests on other propellers will be made at a later date.

Engine Test

By Peter Chinn

ENYA 15-III

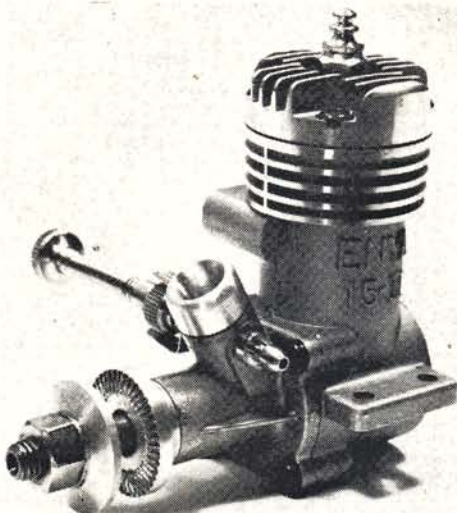
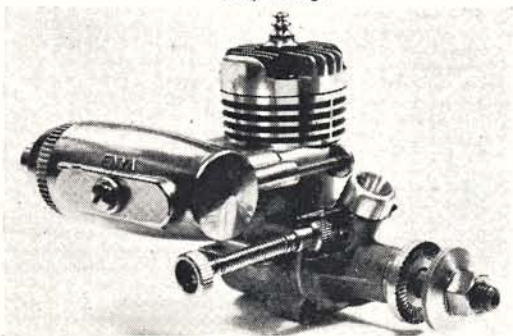
**A versatile 2.5cc glow plug engine
that can be adapted for throttle Control.**

THIS newest model Enya 2.5 c.c. engine is similar in general design and construction to the 1.6 c.c. Enya 09-III model featured in the June 1966 *Aero Modeller* Engine Test report. It will be obtainable through Keil-Kraft stockists in the near future.

Since the 2.5 c.c. class includes three World Championship categories, namely, F.A.I. Free-Flight Power, C/L Speed and Team-racing, each of which has led, during recent years, to the development of specialised 2.5 c.c. motors of extremely high performance, it should be remarked that one would not claim that the Enya belongs to this group. The 15-III is a well made glowplug engine that is capable of reaching a level of performance in excess of that of the average general purpose 2.5 c.c. motor, but which is still appreciably below the extremely high outputs at very high r.p.m. now being realised with more expensive racing type motors, as now used for competition free-flight as well as for control-line speed.

The Enya 15-III is the sort of motor that one could recommend with confidence to any modeller who wishes for a 2.5 c.c. engine adaptable to several different types of model. For instance, as supplied, with small bore venturi insert fitted and running on a mild fuel, it should make a very good small C/L stunt engine. Equally, one could use it to good effect in any "sports" or scale type free-flight or control-line model of appropriate size. If more power is needed, running the engine on a fuel containing a higher percentage of nitromethane and using the alternative large-bore venturi insert, will liberate a substantial increase in b.h.p., sufficient to

The standard type Enya silencer fits the 15-III using an external strap fitting.



give suitably sized power-duration models a quite respectable climb—good enough perhaps for average club competition work, at least. Finally, if, at some future date, one wishes to use the engine for radio-control, the 15-III can be equipped with speed control by fitting the 15-III TV type carburettor unit.

The standard small size Enya silencer fits the new 15-III. However, whereas, on the 15-II one could either use the external strap method of fixing or (by drilling and tapping points provided on the exhaust duct) use a rather neater internal two-point screw fitting, the latter provision is omitted on the latest model and the external fitting has to be employed. This does, however, make a very secure assembly. Enya silencers are of a straightforward expansion chamber type and are of diecast aluminium construction. A single diecasting comprises the extension duct and body of the silencer. The rear end of the chamber, with outlet nozzle, is a separate screw-in component and enables the silencer to be taken apart for cleaning. On the side of the body, opposite the exhaust port, is a steel plate which can be swivelled to uncover two large diameter holes. These are for screwdriver access to the internal fixing screws (when used) and to allow easy priming into the exhaust port when this is required for a cold start.

Performance

All our tests were carried out with the silencer fitted. The engine was run without the silencer only to determine the approximate power loss attributable to it. In terms of reduced r.p.m. on various props., this loss ranged from only 150 r.p.m. on a 10×4 to 500 r.p.m. on an 8×4.

No elaborate running-in procedure is necessary with the 15-III. We followed our usual procedure of a series of short runs, starting off with a rich four-stroke and gradually weakening the mixture to a normal two-stroke as running-in proceeded. A nominal one hour of running-in was given although, in fact, the 15-III could have been considered as adequately run-in within half this time.

Starting qualities of the 15-III were good. It may come as a surprise to some modellers to know that, in these days, when most model engines are easy to handle, there are still some reluctant starters being made. We had one for test only a day or two before the Enya and it was a real pleasure to get back to a motor that started first or second flick of the prop. Only when props smaller than 8×4 were tried, did the Enya's starting deteriorate and, since such a prop size would take r.p.m. beyond the b.h.p. peaking speed, this is of academic interest only.

SPECIFICATION

Type: Single cylinder, air-cooled, loop-scavenged two-stroke cycle, glowplug ignition, Crankshaft type rotary-valve induction. Bronze bushed main bearing.

Bore: 15 mm. (0.5905 in.) **Stroke:** 14 mm. (0.5512 in.)

Swept Volume: 2.474 c.c. (0.1510 cu. in.)

Stroke/Bore Ratio: 0.933 : 1

Weight: 5 oz. (6.5 oz. with silencer)

General Structural Data

Pressure diecast aluminium alloy crankcase/cylinder block with drop-in steel cylinder-liner. Pressure diecast aluminium alloy detachable front housing with cast-in phosphor-bronze main bearing. Hardened, counterbalanced crankshaft with 9.5 mm dia. journal, 6.8 mm bore gas passage and 4.5 mm dia. crankpin. Lapped cast-iron piston with fence type baffle and fully-floating 4 mm. hardened tubular gudgeon pin with brass pads. Pressure diecast aluminium alloy connecting-rod with cast-in bronze big-end bush. Pressure diecast aluminium alloy finned cylinder head with machined joint face and cast-in bronze thread insert for glowplug. No cylinder-head gasket. Machined aluminium alloy prop driver fitted to matching taper on crankshaft. Nickel plated spraybar assembly with two interchangeable machined aluminium alloy venturi inserts. Beam mounting lugs.

TEST CONDITIONS

Running time prior to test: 1 hour.

Fuels used: (Test 1) 5 per cent pure nitromethane, 25 per cent Duckham's Racing Castor-Oil, 70 per cent I.C.I. methanol. (Test 2) 30 per cent pure nitromethane, 25 per cent Duckham's Racing Castor-Oil, 45 per cent I.C.I. methanol.

Glowplug used: Enya No. 3 platinum-rhodium filament, 1.5 volt, 3/16in. reach.

Air Temperature: 57 deg F. (14 deg. C.)

Barometer: 29.5 in. Hg

Silencer type: Enya expansion chamber

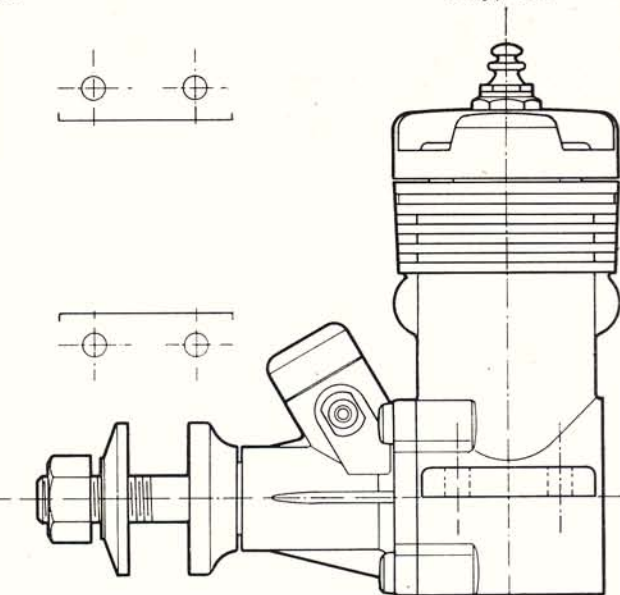
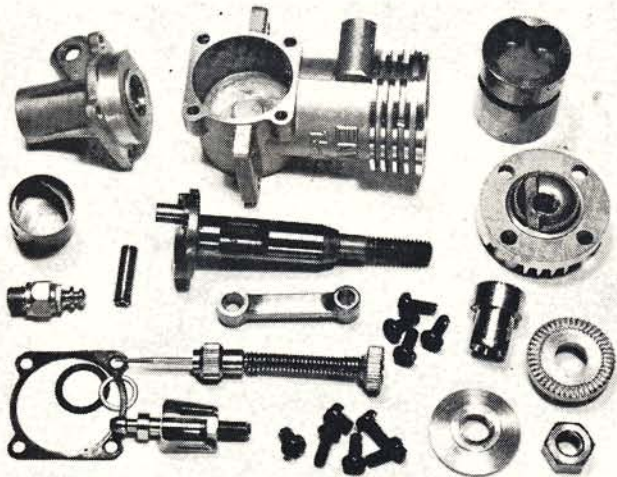
Our first series of tests were carried out with the small "stunt" venturi fitted and running on a mild fuel containing 5 per cent nitromethane. A maximum torque of 19.5 oz. in. was recorded and peak b.h.p. was a little over 0.22 in the region of 12,400 r.p.m.

For the second set of tests, a fuel containing 30 per cent pure nitromethane was substituted and the small venturi was replaced by the large one. This latter has approximately 17 per cent greater cross-sectional area, but, taking into account the 4 mm. dia. spraybar that passes through the venturi, the actual effective increase in choke area is about 40 per cent.

Not surprisingly, these two changes made a substantial difference to the performance of the 15-III. Maximum torque was increased to over 23 oz. in. and the horsepower curve raised to 0.29 b.h.p., flattening out at around 14,500 r.p.m.

Typical prop speeds obtained in the second tests included 9,300 on a 10x4 Tornado nylon, 10,700 on a 9x4 Top-Flite nylon, 13,200 on an 8x4 Top-Flite nylon and 14,700 on an 8x3½ Top-Flite wood. The latter figure represents an increase of some 1,400 r.p.m. on that obtained on the first test.

Heading photo above shows the outward similarity to the Enya 15-II that it replaces, the 15-III is in fact, a completely redesigned engine. Below, all the parts are well made and nicely finished.



P G F C H I N N

No troubles of any kind were encountered with the 15-III and, on dismantling it after testing, all parts were found to be in excellent condition. For a quantity-produced engine, the Enya's standards of fits and finishes are, in fact, commendably high and past experience of earlier Enya models suggests that owners of 15-III's can expect long and trouble-free service from them.

Power/Weight Ratio (with silencer)

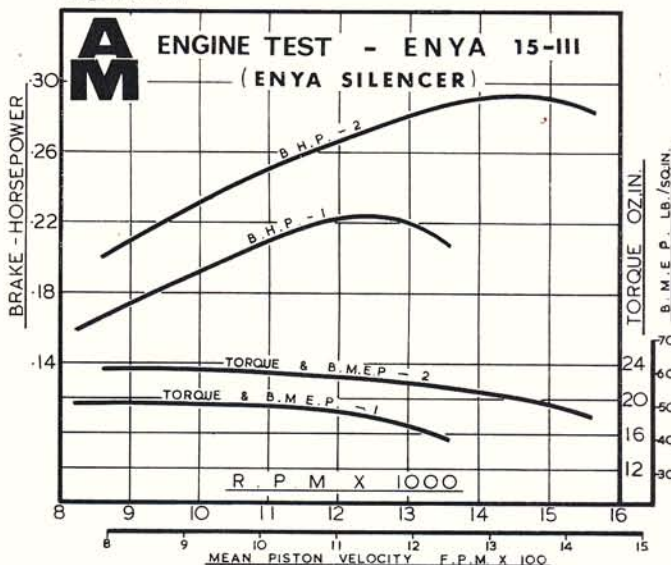
0.55 b.h.p./lb. as tested on 5 per cent nitromethane with small venturi.

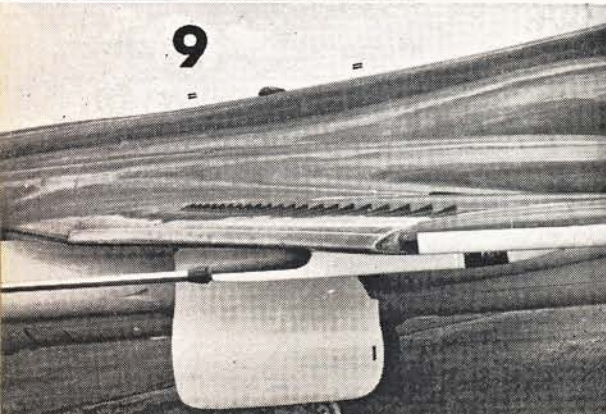
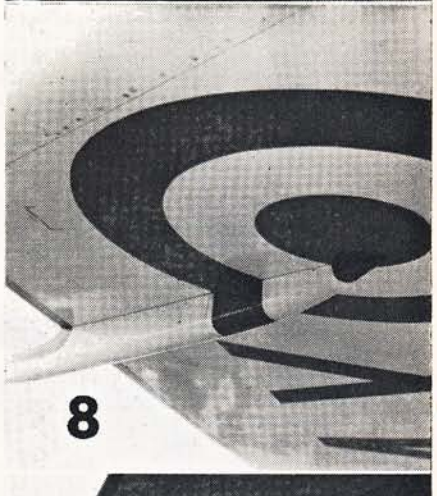
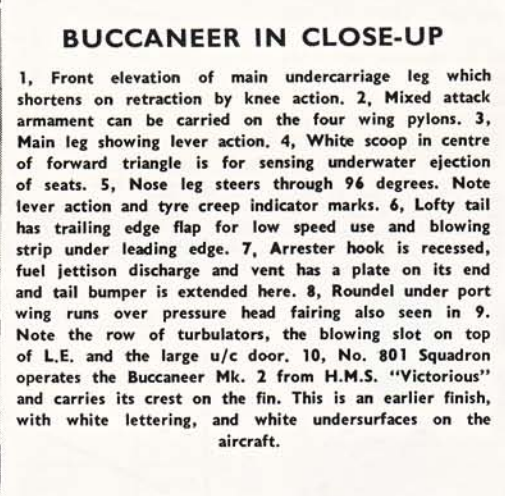
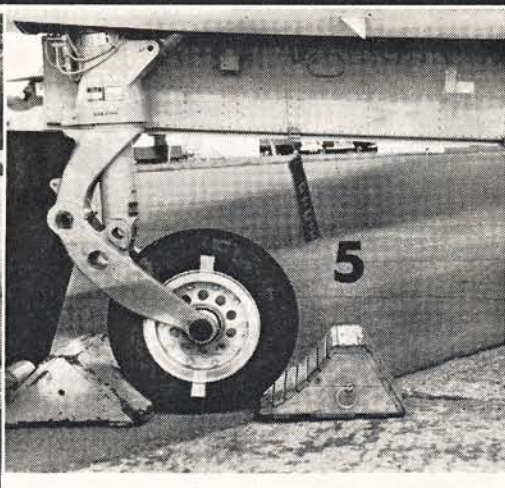
0.72 b.h.p./lb. as tested on 30 per cent nitromethane with large venturi.

Specific Output (with silencer)

90 b.h.p./litre as tested on 5 per cent nitromethane with small venturi.

118 b.h.p./litre as tested on 30 per cent nitromethane with large venturi.





BUCCANEER IN CLOSE-UP

1, Front elevation of main undercarriage leg which shortens on retraction by knee action. 2, Mixed attack armament can be carried on the four wing pylons. 3, Main leg showing lever action. 4, White scoop in centre of forward triangle is for sensing underwater ejection of seats. 5, Nose leg steers through 96 degrees. Note lever action and tyre creep indicator marks. 6, Lofty tail has trailing edge flap for low speed use and blowing strip under leading edge. 7, Arrestor hook is recessed, fuel jettison discharge and vent has a plate on its end and tail bumper is extended here. 8, Roundel under port wing runs over pressure head fairing also seen in 9. Note the row of turbulators, the blowing slot on top of L.E. and the large u/c door. 10, No. 801 Squadron operates the Buccaneer Mk. 2 from H.M.S. "Victorious" and carries its crest on the fin. This is an earlier finish, with white lettering, and white undersurfaces on the aircraft.

10

ROYAL NAVY

AIRCRAFT DESCRIBED Number 164

BUCCANEER S. Mk. 2

Drawn by G. A. G. COX

BLOODED in action for the first time by the "Torrey Canyon" Incident, the Buccaneer low level strike reconnaissance aircraft now in quantity service on three carriers and permanent base at Lossiemouth with the Royal Navy is a unique machine by many British standards. Given the re-heat version of the Spey by-pass engine and modified for supersonic flight as its manufacturers at Brough would have wished, it could so well have been more useful to our Forces than the equipment to which the Government is currently committed, but that alas is a political story. The present S.Mk.2 version is proving its worth and remains in terms of range, weapon delivery, low level capacity and reliability, superior to its few equivalents.



In earlier colours of dark sea grey top and white undersides, 800 Sqn Cdr's Buccaneer S Mk. 2 formates on a Blackburn built Swordfish restored and retained at R.N.A.S. Yeovilton. At left, a South African Buccaneer Mk. 50 with Bristol Siddeley BS 605 retractable rocket engine for assisted take-off.



Blackburn Aircraft were never famous for pretty aircraft, and when it first appeared with the swollen "area rule" rear fuselage for high speed drag reduction, the Buccaneer maintained a reputation. But beneath the undulating skin there was a structure and purpose far in advance of any contemporary type of nine years ago. It introduced a "fast-slow" concept with high pressure air bleed through wing and tail slots, drooping ailerons for increased lift at take off and landing and a powerful tee-tail with deflected flap with variable stages of control movement according to airspeed. Wing panels were milled from the solid, and formed to profile (a practice since extensively employed by Blackburn's competitors for the BAC 1-11 and V.C.10) a rotating weapons bay was incorporated and internal tankage and undercarriage stowage by compression of the knee action main gear established not only a new shape but also a new outlook on Naval strike aircraft.

Originally, the de Havilland Gyron Junior was used in the Mk. 1. Taken over by Bristol-Siddeley, the Gyron Jr. Mk. 101 was developed to some extent but not until the Rolls-Royce Spey, with more than 30 per cent more thrust, was adopted for the Mk. 2 did the "stretch" capacity of the Buccaneer become realised. Externally, the main difference is to be noticed in the enlarged engine air intakes.

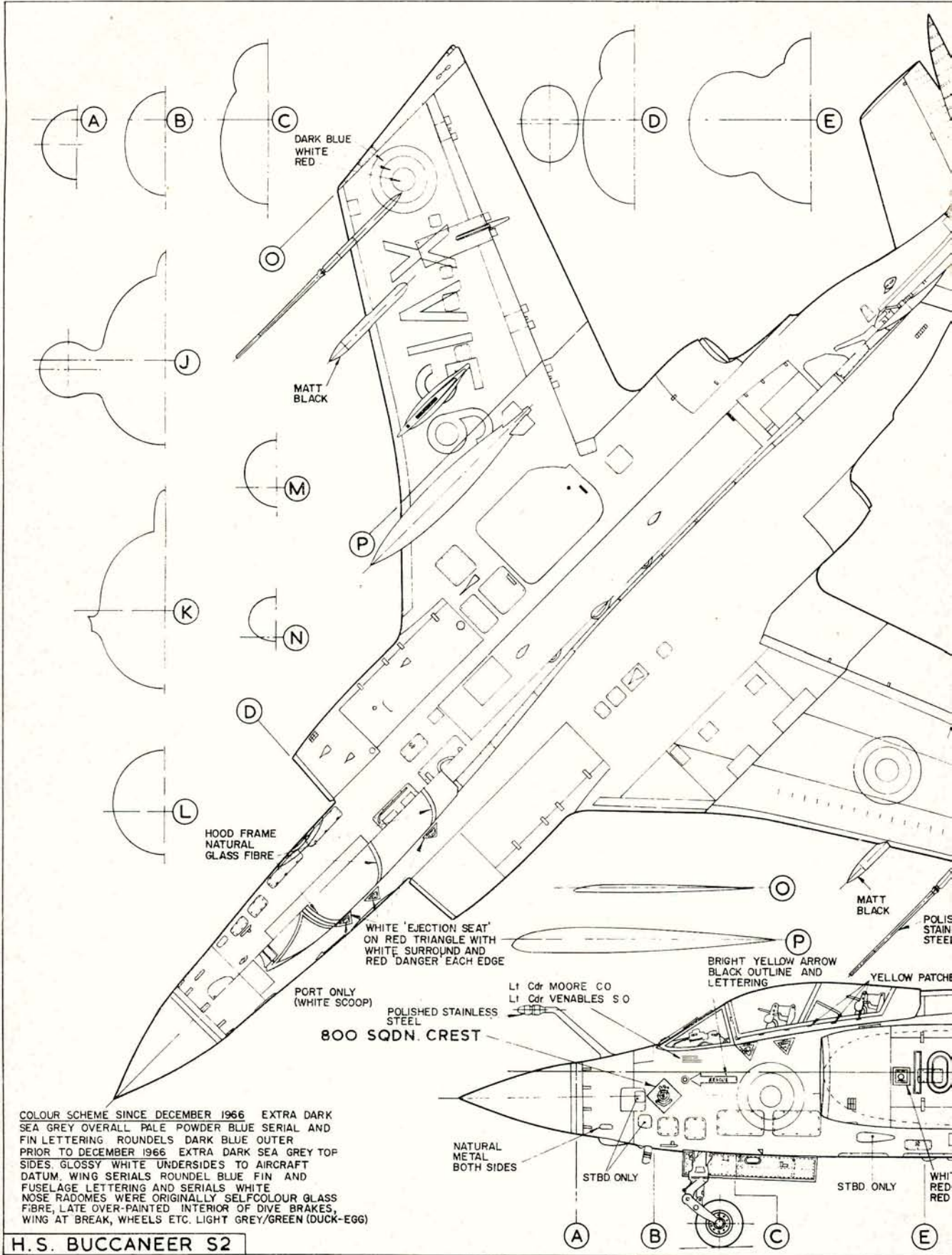
The crew of two are seated two inches either side of the centreline to afford better forward vision for the observer, and they are enclosed by a massive one-piece moulded canopy in a pressurised and air conditioned system. Considerable attention was given to crew fatigue and escape problems during development, particularly in view of the low level high speed attack mode for which the aircraft is most likely to be employed in anger. Hence the special tail trim on the pilot's control column and the underwater ejection scheme for the Mk. 2. This is controlled automatically by immersion, which discharges a high pressure air bottle to release the ejector seats at a depth of not much more than fifteen feet.

The Buccaneer can carry a wide range of armament on its four wing pylons and bombs in the rotating fuselage bay. For recce work, the bay can also be adapted to carry camera gear and photoflashes. Aft of the bay is a capacious equipment area where most sophisticated electronics are housed for navigation and flight systems.

Lossiemouth is the main permanent base for the type and 736 Squadron, bearing letter LM for identification is the Operational Flying Training unit at the Scottish airfield. Aircraft from this Squadron and 800 Squadron, soon to be commissioned with H.M.S. Eagle, were deployed for the attacks on the stricken "Torrey Canyon" and it is this Squadron Commander's aircraft that has been illustrated on the cover and in the drawings on the following pages. We are most grateful to the R.N. Public Relations Officers at Lee on Solent and Lossiemouth for the co-operation which has enable us to produce this feature and the details on the drawing.

Below left, the subject of our cover and the drawing on following pages when painted in experimental dark sea grey topsides and "Squirrel" grey undersides. Black number 100 is outlined in white. At right is an 809 Squadron aircraft with H for Hermes in white on the fin. This Squadron performed at the 1966 Farnborough air display and were Squirrel grey overall. Note different positions of the aircraft number.





DARK BLUE
WHITE
RED

MATT
BLACK

HOOD FRAME
NATURAL
GLASS FIBRE

WHITE 'EJECTION SEAT'
ON RED TRIANGLE WITH
WHITE SURROUND AND
RED 'DANGER' EACH EDGE

PORT ONLY
(WHITE SCOOP)

POLISHED STAINLESS
STEEL

800 SQDN. CREST

Lt Cdr MOORE CO
Lt Cdr VENABLES S O

BRIGHT YELLOW ARROW
BLACK OUTLINE AND
LETTERING

MATT
BLACK

POLISH
STAIN
STEEL

YELLOW PATCH

NATURAL
METAL
BOTH SIDES

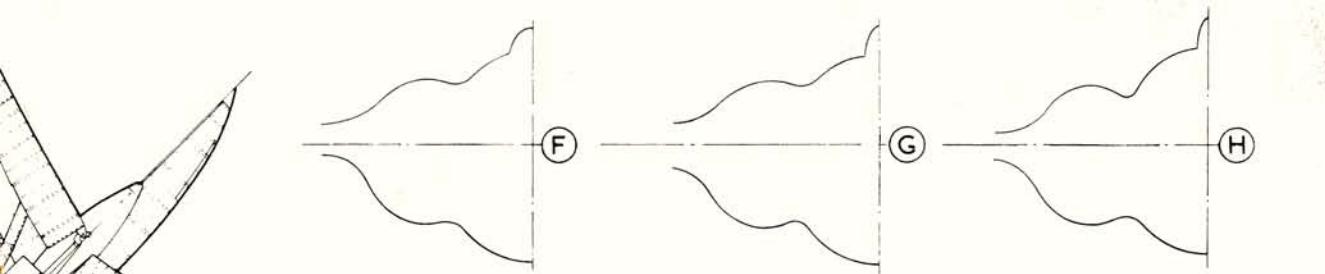
STBD ONLY

STBD ONLY

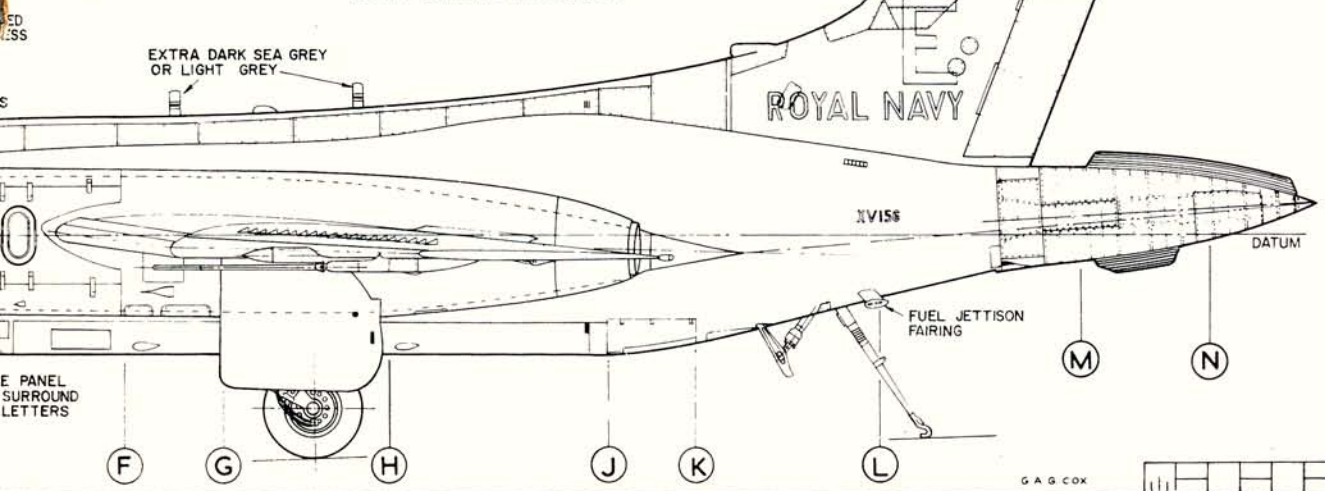
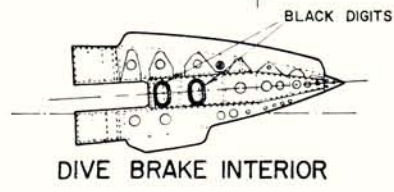
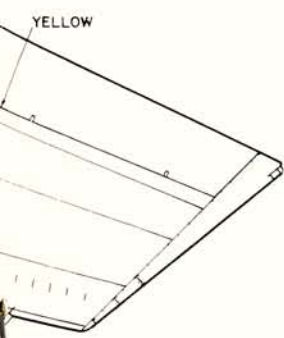
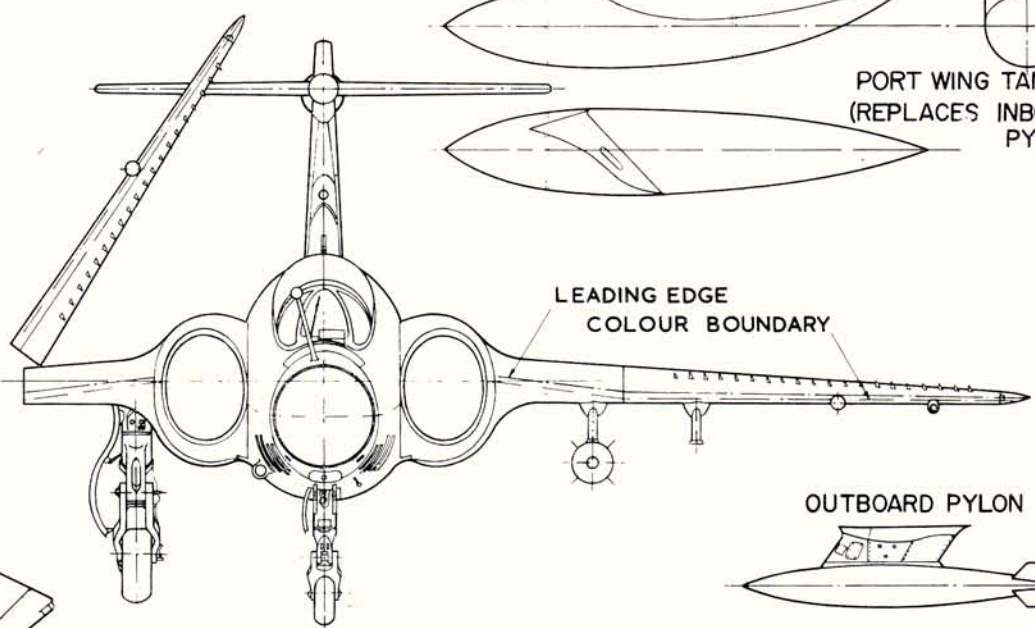
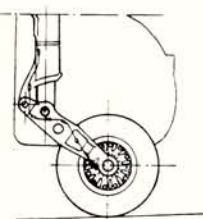
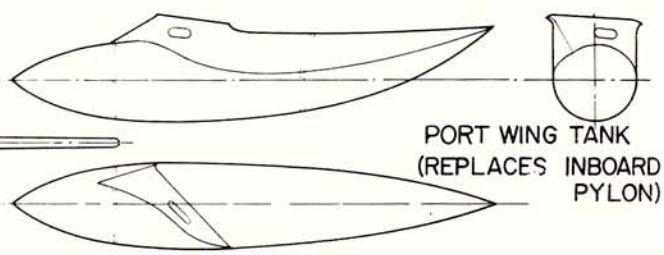
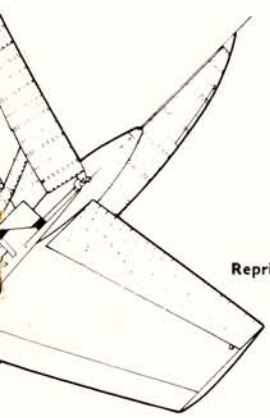
WHIT
RED
RED

COLOUR SCHEME SINCE DECEMBER 1966 EXTRA DARK
SEA GREY OVERALL PALE POWDER BLUE SERIAL AND
FIN LETTERING ROUNDELS DARK BLUE OUTER
PRIOR TO DECEMBER 1966 EXTRA DARK SEA GREY TOP
SIDES GLOSSY WHITE UNDERSIDES TO AIRCRAFT
DATUM, WING SERIALS ROUNDEL BLUE FIN AND
FUSELAGE LETTERING AND SERIALS WHITE
NOSE RADOMES WERE ORIGINALLY SELF-COLOURED GLASS
FIBRE, LATE OVER-PAINTED INTERIOR OF DIVE BRAKES,
WING AT BREAK, WHEELS ETC. LIGHT GREY/GREEN (DUCK-EGG)

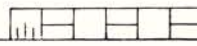
H.S. BUCCANEER S2



Reprints of this feature plus 1/48th and 1/96th scale dye-line prints are available as plan pack OST2868, price 5/-, from AEROMODELLER PLANS SERVICE 13/35 Bridge Street, Hemel Hempstead, Herts.



E PANEL SURROUND LETTERS



BASIC AEROMODELLING

Part 11 (concluded)

Built Up Fuselage Structures

THE traditional method of building a streamlined fuselage is to use *formers* cut from sheet balsa to give the required cross-sectional shape; and *stringers* running from end to end replacing the longerons of a box fuselage. This makes construction rather more tricky, and there are two basic methods which can be employed.

With *half shell construction* the formers are cut as two halves (normally splitting the section down the middle, so that a set of half formers can be assembled over two master stringers pinned out flat over a full size drawing of the fuselage side elevation. Stringers are then cemented in place to complete a half-fuselage or 'half shell' when the assembly should be quite rigid. It can then be removed from the building board, the other set of half formers cemented in place, followed by the stringers to complete the second half. These steps are illustrated simply in Fig. 68.

This method is generally quite suitable for small fuselages where the initial half-shell assembly is fairly rigid. It is not so good for long fuselages, where the same size of stringers may still be used. In such cases the sheet formers are best cut out whole and then accurately cut with a square or rectangular hole in the centre to fit over a *jigging rod* of hard balsa—see Fig. 69. The section of this rod is chosen so that it will not flex and the formers can, if necessary, be tack-cemented to it to hold them in place. The fuselage assembly is then completed by cementing on the various stringers—preferably working in 'opposite pairs' to reduce the risk of building in any 'bow' along the length of fuselage—remembering that in this case the fuselage length may be anything up to 36 inches.

Where the fuselage is for a rubber model the centres of the formers will have to be cut out, but this does not present any problem. For the purpose of assembling on the jig the centres can be cut out and then replaced again—either holding in position with two or three spots of cement, or small pieces of gumstrip. The latter is the best method since it does enable the centres to be separated from the formers readily when assembly is completed without any risk of damage to the formers themselves.

Using sheet formers for either half-shell or jigging rod construction, stringers can either be located in notches in the formers, or simply cemented to the outside of the formers—Fig. 70. In the former case the formers will have to be scalloped between adjacent stringer positions in order to avoid ridges in the tissue when the fuselage is finally covered. Cementing the stringers to the edge of the formers produces a cleaner assembly, but requires more careful marking and positioning of the stringers.

Sheet formers have other limitations, mainly in the matter of strength. Part of the former (usually the top and bottom) is bound to have the grain running in a 'weak' direction and the former may readily collapse under side pressure. Greater strength can be given by using laminated formers—i.e. cut from two pieces of thinner sheet cemented together to form a laminate; or more simply (and lighter) by cutting from a simple 'frame' built up from strip, as in Fig. 71. The latter method is particularly suitable for making lightweight elliptic shape formers.

The best method of all for rubber models is to wind the formers in the form of laminated rings from strips of $\frac{1}{8}$ in. balsa about $\frac{1}{8}$ in. to $\frac{1}{4}$ in. wide. This produces a light, rigid and very strong former, although the individual formers need careful making. They have to be wound around a suitable pattern (cut from sheet balsa or thick card); the strip has to be selected as suitable for bending; and a slow drying adhesive is necessary for satisfactory lamination (Cascamite or PVA).

The pattern used to wind the former can also be used to mount it on the jigging rod. If the patterns are to be preserved, then they can be split and reassembled with cellulose tape or gumstrip holding the halves together. This will enable the patterns to be split whilst still inside the assembled fuselage and on the jigging rod so that they can be removed when all the stringers have been cemented in place.

The use of wound formers with light section stringers (as small as $\frac{1}{16}$ in. square) can give a strong, streamlined fuselage weighing less than 2 ounces for a 36 inch length. Where weight is not so important larger section stringers can be used and/or the stringers placed closer together for greater strength. Also in the case where a clearance space is not required through the fuselage, construction can be simplified by cutting the formers from fairly thick sheet.

Spacing of the formers is important as this governs the support given to the stringers. Without adequate support the stringers will tend to bow between the formers when the fuselage is tissue covered and produce a 'starved horse' effect. Building a given design the former positions will be established.

Where more robust construction is required, such as on power models, the rather tricky jigging rod method is usually avoided. A much stiffer, stronger and easier-to-produce fuselage can be built around a basic crutch.

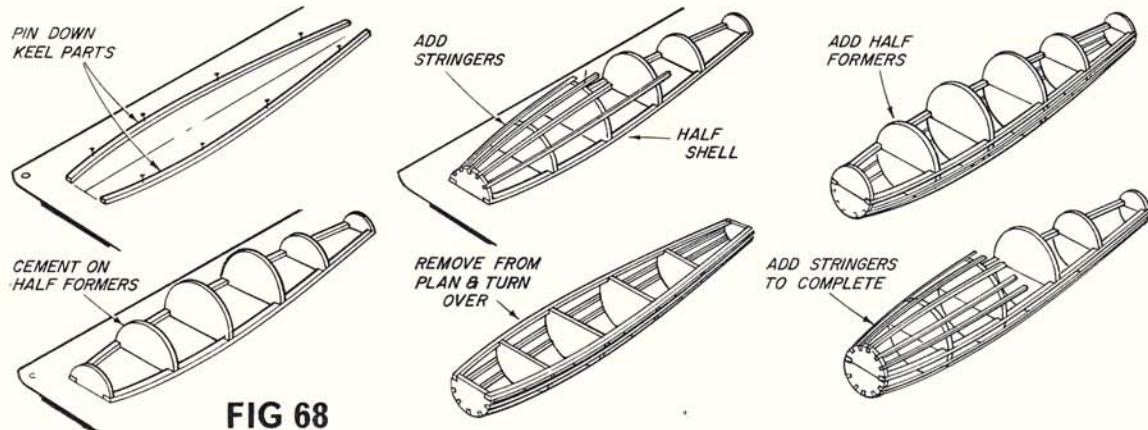
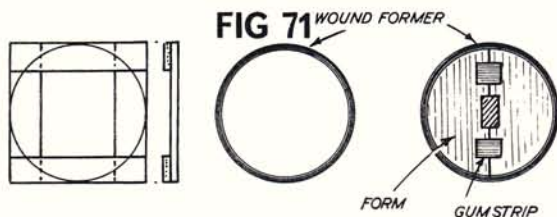
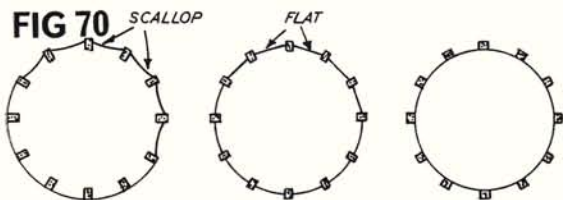
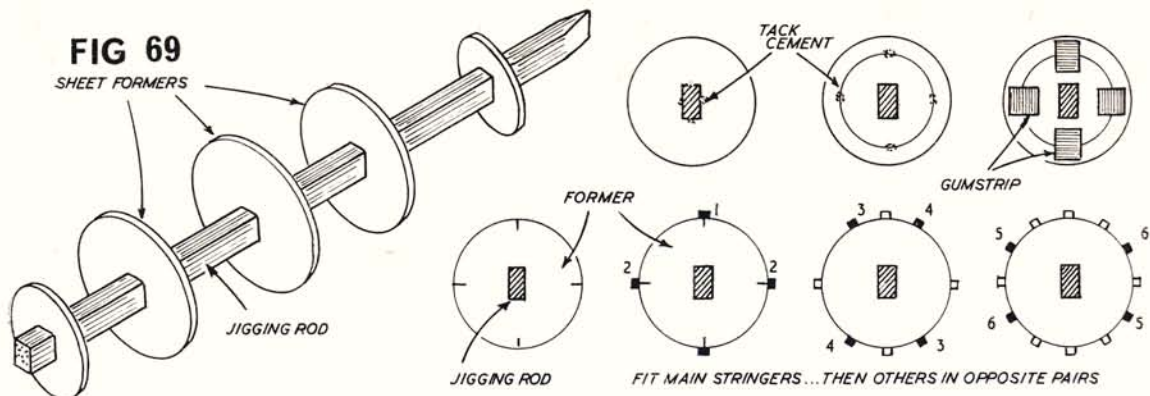


FIG 68



This is simply a basic member (usually conforming to the fuselage plan view) built of stout section strip, to which half formers are cemented, and stringers then added—Fig. 72. This is similar to half-shell construction, in fact, except that the 'split' for the formers is horizontal rather than vertical and a complete top fuselage is usually built first directly over the plan. This enables the most critical—and major—part of the fuselage to be built whilst still pinned down flat; and the crutch method is particularly suitable for fuselages which are not symmetrical in side elevation outline about a nominal centre line.

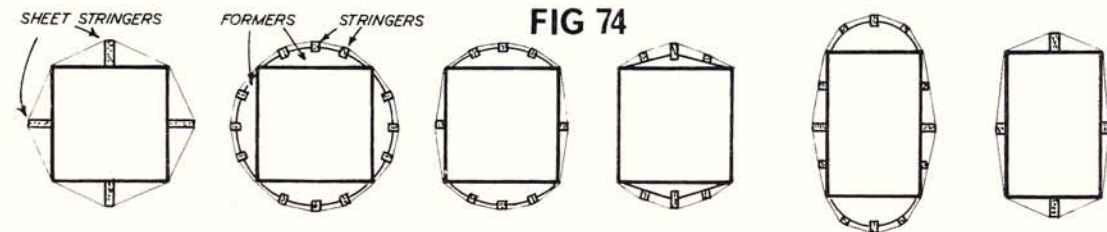
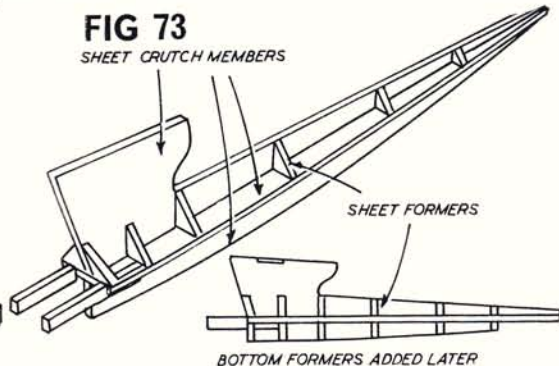
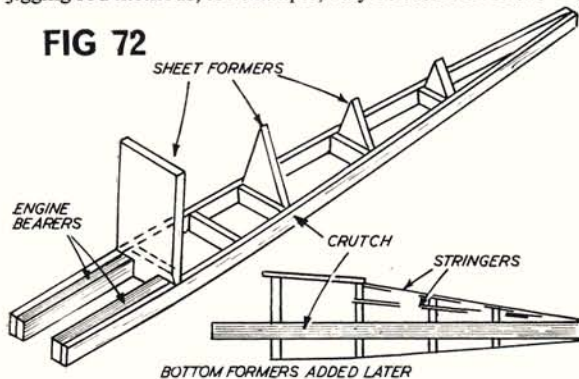
A variation on this is the *sheet crutch* where a basic cruciform assembly is produced from (i) a 'crutch' shape corresponding to the fuselage plan view; (ii) a vertical shape also cut from sheet corresponding to the profile shape above the crutch line; and (iii) a vertical shape cut from sheet corresponding to the profile shape below the crutch line—Fig. 73. The assembly is then completed by adding formers (cut in 'quarters'), followed by sheeting and/or stringers, as required. This is a quick and easy method of producing a pylon type fuselage with a streamlined or semi-streamlined cross section.

There are, of course, many other variations possible, but most have stemmed from these original methods. The jiggling rod methods, for example, may be extended to the

use of a circular tube for the jiggling rod which becomes a permanent feature of the finished fuselage to add considerable strength, the tube being wound from sheet balsa, or even of light metal (in which case the formers can be bonded to it with Araldite). Nor does the tube have to be of circular section. It could be a square box made from sheet balsa, although if this has to be open from end to end it will not be as strong as a tube.

A conventional built-up box-type fuselage may also form the basis for a streamlined fuselage, simply by adding sub-formers and stringers to the basic shape. Fig. 74 shows some different methods of doing this. Thus a square section basic box can be adapted to a circular 'streamlined' section; and a rectangular basic box adapted to an elliptical section.

The modern type of built-up construction favoured for free flight power models and radio control models is all-sheet construction. This is basically the same as built-up box construction except that the complete sides are cut from sheet rather than having to be built up as frames. Assembly of the two sides is then on formers or formers and cross spacers, although where the sheet material is fairly thin (to save weight) the edges may be reinforced with additional strips which form, in effect, longerons, (see Part 11 last month).



TIP OF THE MONTH

Flash and pin stripes are best painted on the side of fuselages by first drawing an edging line with a draughtsman's split nib ruling pen, and then filling in the centre with the colour of your choice.

DRAW THICK OUTLINE TO PATTERN REQUIRED WITH RULER AND PEN THEN FILL IN WITH BRUSH



GOLDEN WINGS CLUB

Why don't you join the "Golden Wings" Club. Just fill in the handy coupon at the foot of this page and post it with 2/6d.

Dear Sir,

I have recently acquired a Frog 150 Venom 1.5 cc. glo-engine from a friend, unfortunately he had lost the propeller bolt. I have tried many substitute bolts but it is an awkward thread and none of them would fit. Could you please tell me where I can get one? Do Frog manufacture any for spares? If so could you please tell me where I could contact them, and so hasten my desire to test run it. My membership number is: 11791. Hythe, Hants.

P. J. Rowe.

Some spares for the Frog Venom are available from A. A. Hales Ltd., via your model shop. The propeller bolt has a 3 B.A. thread, so you could purchase your own bolt to fit it, perhaps at a local ironmongers.

★ ★ ★

Dear Sir,

I have applied for membership with Golden Wings Club. I would like to point out that our club here is the most northerly one in Britain (from the directory two months ago in the *Aeromodeller*). I have been using a very simple release system for my aircraft lately. It allows you to release your control-line model on your own, controlling it as well. All you need are three meat skewers, string and a tail skid the shape of a number 6. First tie the string to one of the skewers, and place the other two about an inch apart in the ground. Lining the tail skid between these two, slot the third through all three. Take the end of the string to the centre of the circle and place next to the control line handle. After starting the motor, walk to the centre, pick up the string and the control-line handle. Check elevator and pull string, then drop string immediately. It will not tangle with your feet.

Dunrobin School,
Sutherland.

David Hall.

★ ★ ★

Dear Sir,

I have built several models two of which are powered. They are a Keil Kraft "Phantom Mite" and a Veron "Cardinal". In each of these I have fitted my D.C. Super Merlin 76 cc. diesel. I have had the engine running quite well, but as soon as the aircraft climbs into the

air, the engine cuts out. I was interested in a letter like this in "Questions and Answers" in May *Aeromodeller*, but this cannot apply in my case because the Super Merlin has a fitted tank on the rear of the engine. Hoping you can give me some advice.

Cults, Aberdeen.

R. C. Brown.

The problem you have is very hard to answer in print, as no amount of writing can give a full appreciation of the exact state of the model and your circumstances. We can't really advise you except to remind you of all the basic requirements. These are: 1, No loose parts on the engine. 2, No blockages or kinks in the fuel line. 3, No leaks in the fuel tank. Try relocating the fuel pipe at the extreme lower rear end of the fuel tank, this may help. The best possible answer is to ask an experienced modeller to have a look at it for you.

★ ★ ★

Dear Sir,

My first model was a Keil Kraft "Cub" Glider which flew very well. I then made several rubber power models. I then made a "Topteen", one of your plans. I am now building my first power model a "Bee-Baby". I am wondering if the Bee-Baby under wing surface can be covered with tissue. I'm building a free flight version of Bee Baby as I cannot afford radio yet.

Auckland, N.Z.

S. Taylor.

Bee-Baby is intended for radio control but could be modified to free flight. The wing can be tissue covered on the lower surface but this is not essential and the structure shown is quite satisfactory.

Dear Sir,

I have just turned 10, and had a Cox .020 for my birthday which I shall put in a free-flight model. I also have a McCoy .40 in a control line stunt model I built myself. The next thing I want is a single channel R/C outfit, I always read the *Aeromodeller* and have been waiting to turn 10 to join the Golden Wings Club.

Leicester.

Tony Stothers.

★ ★ ★

Dear Sir,

I have recently built the Unlimited stunt model from the plans I bought. I am wondering where I could get transfers or a stencil for the name of my plane and the Golden Wings club number. I am meaning to have two sets of names and numbers 1 in. high and the numbers 1/2 in. Before this "Unlimited" I had a "Champ" which kept cracking half way down the fuselage but after I covered it with tissue it was very much stronger.

Dumbarton.

Ronald Campbell.

Transfers to decorate your models should be on sale in your local model shop. Two types are available, the water slide or pressure sensitive type. With the water slide type do not soak them for too long in the water or the transfers will come away from the backing sheet and lose the gum. Only soak them until the transfer will slide onto your model. The pressure sensitive type are "boned" down but care should be taken not to bruise the wood. Many modellers find that the felt tip marking pens are also good for decorating models. Tissue or even bandage is recommended for strengthening any weak part in a fuselage.

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.

SPECIAL PRIVILEGE OFFER exclusive to Golden Wingmen

2d. in the 1/- Rebate plan purchase coupon Golden Wings Member No..... 7/1

TOPICAL TWISTS

by 'Pylonius': illustrated by 'Sherry'

Revisionists Beware

THE Chinese Red Guards may pride themselves upon the militance of their anti-deviationist activities, but they just can't hold a joss stick to the vitriolic purists who are the scourge of the bloated revisionists of the model world. But whereas Chinese deviants have their misdemeanours posted on hoardings, our's are listed in the Readers Letters columns.

The latest harangue against non-conformity is a real beauty, all chinese to me, of course, but wonderful in the way it gives us perverse and wayward modellers the full blistering works. How mortifying to learn to what vile depths of degradation this once glorious hobby has sunk, and how shameful to compare our shoddy, toy crazed selves with that noble breed of model flyer who graced the shining flying fields of yesteryear. In those golden days no flier worth his salt would poke his high incidence nose out of his workshop until he had put in his monastic 600 hour building stint.

Now, as one of the miserable, telly age wretches who has built many a deviationist, stick like model, the least I can do is to make full public confession of my get-airborne-quick sins. Never in the whole of my ignoble, wastrel model life have I aspired to the heavenly glories of a 'Celestial Horseman', although at times I have been subjected to some extremely non-celestial remarks from horsemen on the local common. But now I know it wasn't the nuisance value of my botched up models to which they took exception but their lack of aesthetic value.

Now, if you're a bit dubious about the meaning of the word aesthetic, you might also be bewildered to learn that 'introversion' is another of your deviationist sins. This apparently means that you all build the same type of model instead of individual creations of celestial beauty and inspiring craftsmanship. Hard luck on us clubbable types who like to keep up with the latest trends, and who think in modest terms of a slightly improved prop assembly or an automatic trim tab. Another dis-

"some master minds have been known to have rigged up a radio unit under cover of mending the telly" . . . "Almost finished it now dear".



"I think it's something to do with the Club Altitude Record."

turbing factor is that even if the model plans may not have a gay life it usually has a short one, and a thing of beauty, however pleasing to the public eye, is not likely to remain a joy forever. Even though beauty is said to be skin deep, the layers of cosmetic dope soon get haggard after a few flying field outings.

Anyway, beauty, in the last resort, lies in the eye of the beholder, sometimes a black one. The Combat fan might be just as agog with delight at the functional contours of the latest batwing as any dilettante riveted before a Botticellian masterpiece. After all, Leonardo da Vinci himself was no mean aesthete, albeit a bit introverted about flap type flying, but his creations never got airborne.

And as for this idea that you can trot straight from the toy counter to glorious flying field success, I can assure our hypercritical friend that even in these electronic wonder days the old fashioned workbench is not so easily short-circuited.

A Buying Shame

Still on the subject of conservation in modelling, I often wonder where the individualist, by which I mean the craftsman modeller as opposed to the buy-one-and-fly-one character, draws the prefabricated line. In common with the bulk of building board bashers I have come to accept piano wire and brass bushes, not to mention cut-to-size balsa, as basic raw material. Thus, when the inevitable small boy asks if I made it myself, mister, I unblushingly answer the little quest after knowledge in the affirmative.

This, of course, is an even grosser fabrication than the model itself. Considering the expertise and technological knowhow what went into extruding the wire prop. shaft or stripping up the 1/8 in. square longerons, my own ham handed contribution was of a rather paltry nature.

Hobby House

"Seven Years in the Making" sounds rather like one of those old epic film blurbs, or it could even refer to a full size aircraft project, which designed in one decade, makes its apologetic, obsolescent debut in the next, but you would hardly think it would apply in the gestation period of a model plane.

There is also the question of priorities. In these 'do-it-yourself' days the hobby commitment comes well down the domestic list. You don't find the virile, power drill action man turning out model planes on the telly: he's too busy fitting up a status front porch under wifey's loving eagle, eye. And the modern house is so full of flimsy gadgetry like washing machines and hair dryers, that the man who was born to fulfil his destiny as a super hobbyist is reduced to the humiliating role of an unpaid maintenance man.

In fact, the only way he can do a bit of model building is by subterfuge. Some master minds have been known to have rigged up a radio unit under cover of mending the telly, whilst others have sneaked in a quick covering job during routine wallpapering operations.



STAN. ŻURAD - WROCLAW-POLAND

2nd place in 1966 HYDRG INTERNATIONAL - YUGOSLAVIA

16 strands Pirelli 1 x 6 mm.

Motor run is 35 seconds

balsa 5 x 1

balsa 6 x 7

balsa 7 x 2

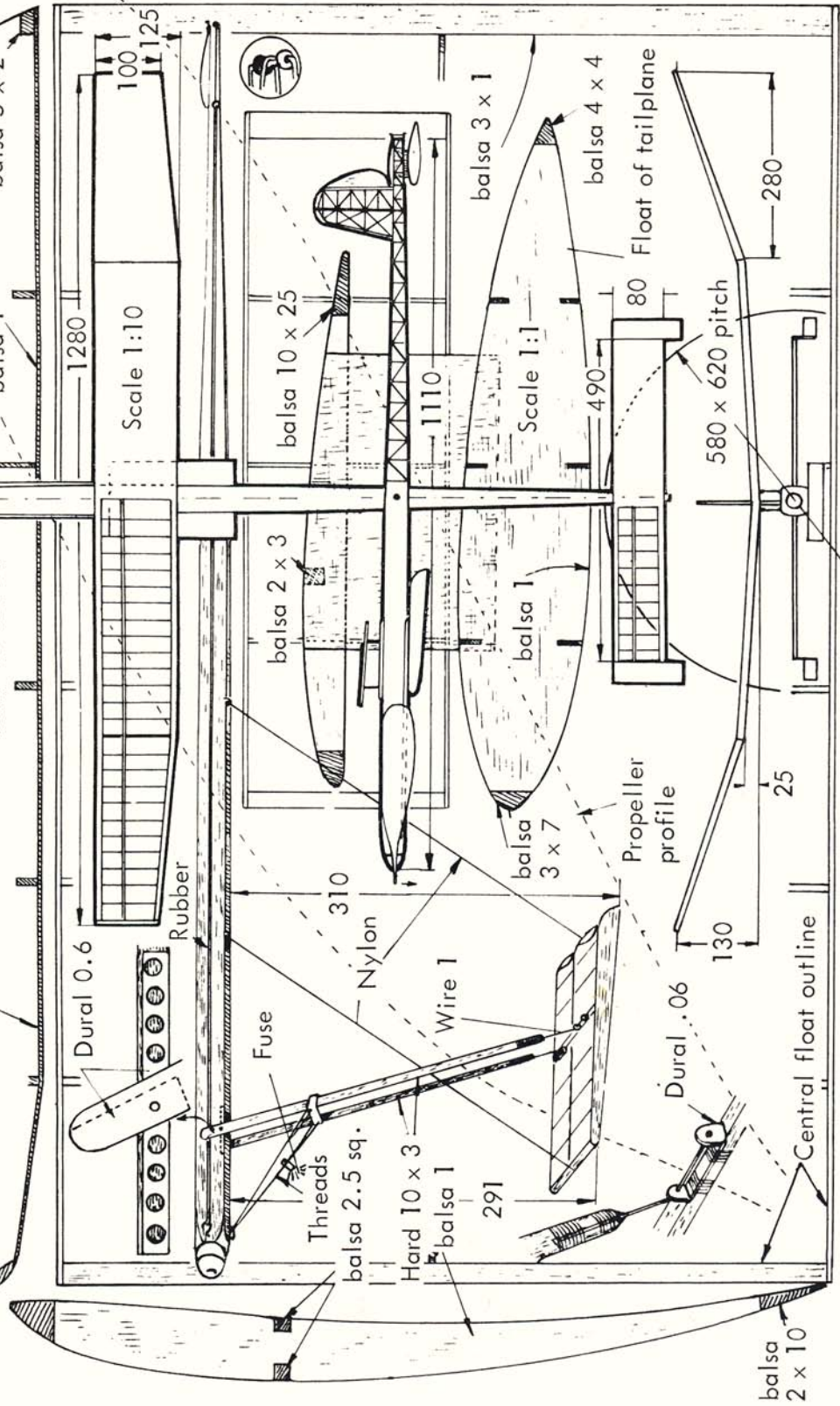
Central float section

Total wt 184G.

2° Rt. thrust Scale 1:1

balsa 1

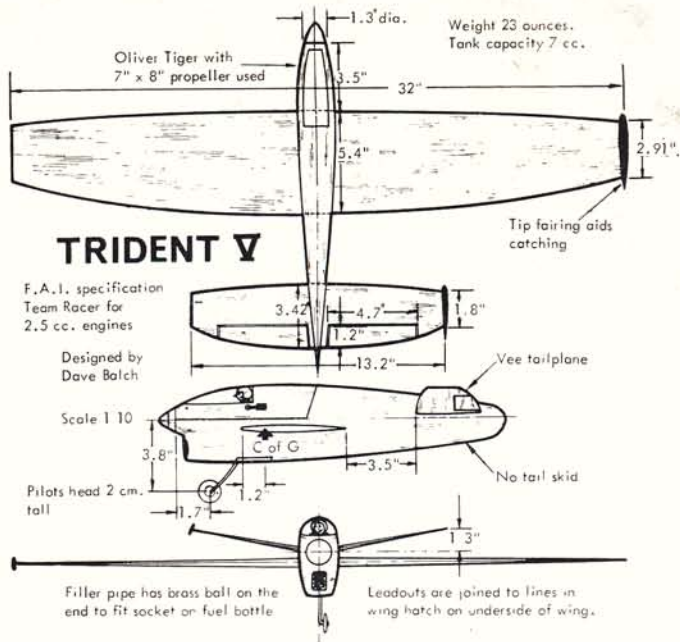
balsa 5 x 2





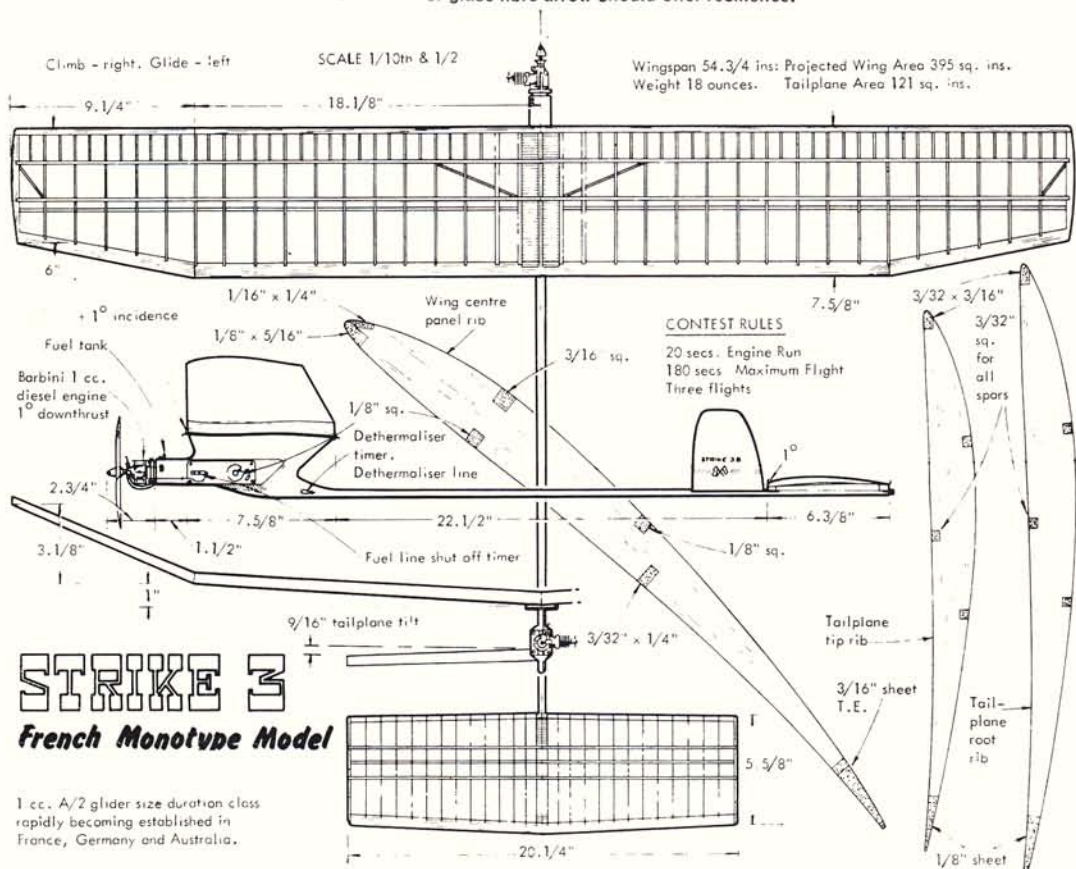
Contest Designs

The Trident F.A.I. team racer flown by Dave Balch and Richard King of Feltham/Hayes reaches the team race final at most rallies and Dave, a wind tunnel engineer, favours the low aspect ratio layout, one Trident being as small as 28 inches wingspan. They use a Copeman tuned Oliver Tiger Mk. III with a close fitting "ring manifold-silencer" cut away as much as possible, though it's still quieter than most. By far the best performing Oliver powered racer in G.B. a 7 x 7 1/2 propeller seems to suit it best. Trident V placed 2nd at this year's Nationals.



Full size float and aerofoil data for Stan Zurad's International Class Hydro model, on page opposite, together with one-tenth scale three view, might help to inspire more enthusiasm in other nations for this "Wakefield" variation. Main float retraction scheme is simple and effective.

Several nations are now having powered A/2 glider events, known in France as "Monotype". This "Strike 3" has a string of 1966 successes to its credit for designer Christian Coviaux and like most other leading French models in the class has a Barbini 1 cc. diesel. Australia and West Germany are other interested countries. This one has a fragile rear fuselage, made of Tee section spruce, but a fishing rod or glass fibre arrow should offer resilience.



1 cc. A/2 glider size duration class rapidly becoming established in France, Germany and Australia.



Scale Comment

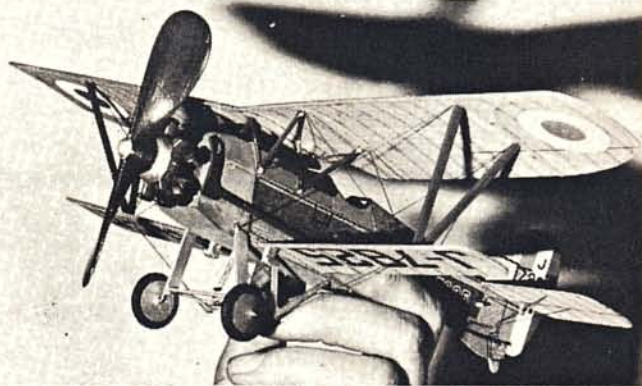
By
Dennis
Thumpston

IT would, perhaps, be propitious to commence by dealing with the questions raised by Dave Platts letter on the facing page. The thinking behind the proposed abolition or standardisation of K factors for optional manoeuvres in R/C Scale competition rules can be simply stated as follows:-

It will surely be agreed that, to be a fair contest, the *maximum possible points attainable* must be the same for each competitor, regardless of his choice of prototype. Now, whilst different K factors for *obligatory* manoeuvres obviously do not upset this precept, this is not so in the case of *optional* manoeuvres. As long as there are different K factors for different optional manoeuvres, the grand total of points which it is possible for a competitor to score will be different according to the options chosen and these in turn are largely dictated by the type of aeroplane modelled. No other competition is based on such an obviously anomalous state of affairs, and this can only be overcome either by eliminating optional manoeuvres altogether (a rather drastic remedy!), or by giving all the optional manoeuvres the same K factor, so that each model has the *same scoring potential*.

So, if it is agreed that, to be fair, a standard K factor is to be used for all options, then there is no point in making the value other than $K=1$ (which, in fact, is the equivalent of abolishing the K factor), *unless* it is considered desirable for a high proportion of the flying marks to be derived from the optional rather than the obligatory items. In this respect, there is a growing body of opinion among scale modellers that too much importance is being attached to the complex flying patterns in R/C Scale—after all, R/C multi exists for this purpose—and not enough to producing detailed accurate replicas. An example of this growing feeling is the admirable new set of experimental rules produced by those dedicated scale men of the Bristol club, whereby the *best scale model* wins on its scale and workmanship points alone, provided that it flies adequately.

If, as Dave suggests, the 'new-type' recruits to scale from the multi ranks are going to be wholly influenced in choice of prototype by the framing of the rules (although this is not entirely compatible with his other suggestion



Top left, Den Thumpston's Bristol Monoplane Scout with wings and cowl panel removed, shows Bellamatic for aileron control, rest of R/C gear inside pilot, to get CofG in the right position! Above, Ken McDonough's neat little indoor rubber flier, an Armstrong Whitworth Siskin is highly detailed, makes 20 second flights—who needs R/C!

that they are attracted to scale by the 'sheer delight of flying a beautiful aeroplane' and a 'longing to rediscover the challenge of good craftsmanship'—which is a pretty good description of the 'old-type' scale man), then there is all the more reason for not weighting the rules in favour of any particular type, with higher marks for retracting gear, flaps, Cuban eights, etc. The event could so easily become yet another multi aerobatic competition, but using W.W.2 fighters sporting retractable undercarriages. Only by framing the rules so that ALL scale prototypes have an equal chance of winning can we avoid this 'building to rules' complex. To suggest that this will result in all scale modellers choosing the simplest possible aircraft contradicts the spirit of achievement, and the desire to produce something ambitious and different which motivates all the scale modellers whom it has so far been my pleasure to meet.

* * *

For many years, the *Ripmax Trophy* was the coveted award fought for annually by the single-channel radio flyers, and many are the well-known names engraved thereon. Unhappily, the rapid growth of multi in the last few years brought such pressure on the available flying time that the *Ripmax Trophy* was dropped from the Nationals and thereafter, interest in the event waned, despite its being held at other meetings. Two years ago, it was decided that, in future, the trophy would be

Multi scale model extraordinary is a Piper Comanche 260 by Mick Charles of Eastcote Club, carrying faithfully reproduced markings of Sheila Scott's world record breaking aircraft. Undercarriage retracts, detailed interior inc's, tape recorder, stop watch, full instruments, special fuel tank, O.S. Max-H60 for power with fully enclosed silencer and twin fuel tanks, model is to 1/6th scale with R.C.S. Digi 5 proportional R/C gear. The full size aircraft is the background, at Leavesden.



awarded annually at a competition for single-channel Scale Models, and this event was included in the very successful All-Scale Rallies at Hemswell and Swinderby. Unfortunately, the anticipated avalanche of single-channel scale models did not materialise: the first year attracted only three entries, whilst last year there was but one and the trophy has not, in fact, been awarded for the last two years.

The obvious inference to be drawn from this is that, with the reliability of modern multi gear, and the comparative cheapness of some of the smaller six channel outfits, the majority of sports fliers—a class to which most scale modellers still belong—have forsaken single-channel for a degree of multi control. This inference is borne out by experience at local flying fields, where single-channel fliers have become very much in the minority.

In view of this apparent trend, the Ripmax Trophy event will this year embrace *all* R/C scale models, regardless of the type of gear used. But let it be said at once, that this need not deter the flier using only one or two channels from having a go. One agreeable aspect of Scale radio models is that, with properly framed rules, and without inhibiting the choice of prototype, they can compete on fairly equal terms regardless of the number of channels installed, so that neither the depth of the modeller's pocket nor the aerobatic capabilities of his model is the chief yardstick—skill in building is still the important factor.

To revert for a moment to the question of rules, this is one of the points which the scale sub-committee had in mind when recommending that the nominated manoeuvres in the flying schedule should include a wide range of options, and that they should not carry high K factors. To take an extreme example, let us assume that a modeller has produced a *DH.66 Hercules*, a beautiful, complex, tri-motored biplane airliner with triple fins, involving

thousands of hours of intricate workmanship. This is a stable aeroplane and would fly perfectly well with only rudder, elevator and throttle control: ten channel or proportional equipment may be beyond his pocket and in any case, would be largely wasted on this model, since the full-size aircraft would only taxi, take off, fly around and land, and possibly perform an overshoot.

Now, with the reduced K factors suggested above, this model, the sight of which would surely grace any R/C scale event, would be able to compete on equal terms with a fully aerobatic *Stampe* or *Spitfire*, and rightly so. It would, perhaps, be an interesting experiment to mark entries for the Ripmax Trophy by both methods and compare the results obtained. The all-scale meeting will be on July 16th at RAF Upwood, Huntingdon so give it your support. It is a friendly get together arranged especially for scale men to exchange ideas and see what the other man is flying. The success of the first all-scale rally at Hemswell stemmed largely from the fact that it created an occasion for fellow enthusiasts to discuss their aims and problems and to display their models without any deadly competitiveness. Lets hope the 1967 event turns out to be much the same.

There is also the "Shuttleworth" all-scale rally at Old Warden, near Biggleswade planned for Sunday August 6th. This is non-SMAE and embraces the entire scope of scale including our friend, from the *International Plastic Modellers Society*. Situated on the charming grass field adjacent to the famous air museum where one can gloat upon treasures such as the *Bristol Fighter*, *Sopwith Pup*, *DH88 Comet Racer*, *Spitfire*, *Hurricane* etc. etc., this Rally has a special attraction and will be a bring-and-fly or display all-fun affair.

The Shuttleworth Collection will present a new Trophy for the best model of any of their exhibits, and there will be class prizes for all categories. Sounds good doesn't it?

Dear Sir,

I read with interest the comments of my friend and greatly respected rival Dennis Thompson on the changes, actual and envisaged, to the S.M.A.E. Scale rules; added to the interest I feel some anxiety for the well being of the R/C Scale model. Possibly the pros and cons of the changes have not had a full enough airing for the majority of scale fans to have formed a definite opinion, thus I would like to present the other viewpoint.

Firstly, I would like to make my position quite clear on two points: One, I also agree a problem exists to equate the non-aerobatic with the aerobatic model (for which I later will suggest a new answer); Two, I have never been opposed to new options of a non-aerobatic nature being introduced, on the contrary I have published the view that no impediment whatever can be visualised against this idea, and I welcome the new options in the rule book.

However I am firmly opposed to the scrapping of K factors.

Initially, the state of affairs which Dennis believes exists, whereby a scale modeller is a breed apart and will build whatever model he fancies, come what may, strikes me as rather naive, perhaps Utopian. The truth is, that while 20 per cent of scale fans are as he describes, the other 80 per cent are *Competitive modellers* who have turned to scale partly from the sheer delight of flying a beautiful aeroplane, coupled with, perhaps, a longing to rediscover the challenge of good craftsmanship in this age of styrofoam wings, fibreglass fuse-

ABOLITION OF K FACTORS IN RADIO CONTROL SCALE

lages, buy-it-fly-it and so on *ad nauseum*.

This may be hard for Dennis to believe, standing by for many years (and me too!) watching scale get in an increasingly sorry state for lack of *competitive spirit!* So what changed it all? The answer—radio control.

When you think about it, the radio-controlled perfect scale model has, since the birth of the hobby, been regarded as the ultimate form of model aeroplane. It seems logical, therefore, that as an R/C bod gets better at flying (and maybe a little bored with ordinary multi jobs) and equipment gets so sophisticated and reliable, he will, sooner or later, turn to scale.

I believe that it is this rebirth of competitive spirit which has made R/C scale what it is today; it is quite likely, I think, eventually to be the most popular form of modelling in R/C.

Now, if any of this makes sense at all it is obvious that the *NEW-TYPE* scale fan will make a model to *RULES*. If K factors were abolished we would see the end of the intricate and ingenious scale model with many working features etc. Simplicity would rule the roost—after all, it obviously is a risky business making more complex models. A multi-engine job, for example, would be unthinkable—too much chance of a failure at a contest.

As for the status quo being preserved by the points one gains on ingenuity, this is obviously a joke. How many

points? Answer—50, top limit. And this is to suggest that a simple type model would have no ingenuity at all, so the final gain would be marginal. (Incidentally, why so few marks for ingenuity—scale modelling *IS* ingenuity, isn't it? And what about marks for an original design, as opposed to a kit or magazine plan?)

No, we musn't scrap K factors, there's too much at stake. So what to do then?

I believe the answer lies in a complete overhaul of the way the K factors are spread. The present rules are a bit daft, aren't they? The Immelman and Reversal, for example, two utterly, simple manoeuvres, get a K factor of 10 while Touch and Go, surely the hardest to do well and the most risky (and isn't it pretty?) has K factor 8! This is only one small example—the whole pointing is up the pictures.

Get an experienced multi panel to re-organise things. As it happens, most of the hardest options are ones which be done by the non-aerobatic models. Look at the options carefully and you'll see I'm right.

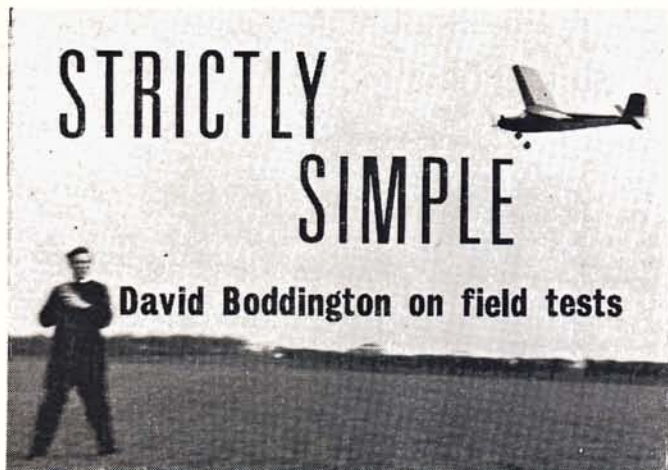
Furthermore, if you like, cut the number of options from five to four.

I suggest the foregoing would sort the whole out very well indeed; think about it, and talk about it.

Anyway, if an aerobatic-type job does happen to choose T & G etc. for his options, there's nothing whatever to stop him chucking in a few extra bits just for interest and "kicks". This is sure to happen.

Brockley, London.

D. Platt.



"DB" continues his feature this month, and we head it with a photo of actual Picco flight tests taken at close range to emphasise the precise control.

with single channel R/C

Powered Test Flights

TO reduce power from engine for initial flights and yet allow it to run smoothly the propeller should be fitted on the engine *backwards*. This will still give ample thrust with the engine running just 'off peak'. There should be sufficient fuel in the tank for a flight of about 30—45 seconds and, when you have further checked that all is switched on and the rudder operating, get your helper to launch the model gently into the wind. Unless there is a violent turn in either direction allow the model to gradually gain height before giving any signal at all. When the model has reached a height of 50 or 60 feet try a short turn to the left. (It is nearly always safer with a conventional model to turn to the left) and if this is O.K. a brief turn to the right. Keep flying up wind by making small corrections with the rudder—it is fatal, and a very common beginners mistake, to allow models to drift down wind and eventually out of range. When the engine cuts bring the model round in gentle turns, aiming to land into the wind. Do not worry about trying to make a spot landing as long as it is in the field and into the wind, these are the important points. Now, while it is still fresh in your memory, *make a note* of the natural flight path of the model both under power and on the glide. The glide should have been satisfactory but small adjustments may be necessary. Changes of trim under power (as opposed to on the glide) should only be corrected by changing the engine thrust lines, i.e., if the model turns to the left under power increase the right side thrust, if it dives increase up thrust and if it climbs and stalls increase down thrust. If you are unfortunate enough to have the latter condition on the first flight you can prevent the model from stalling by keeping it constantly turning by 'blipping' rudder signals in one direction. Be careful not to hold any signal too long however or a spiral dive will result!

To the beginner, all these instructions may seem a little confusing but really they are mainly a matter of commonsense. The important thing to remember is 'make haste slowly', a small amount of patience on trimming will often be rewarded by a model lasting for many a flying season. Never stop checking the model and installations, check *after* a hard landing, check *before* each flying session, check *again* at the

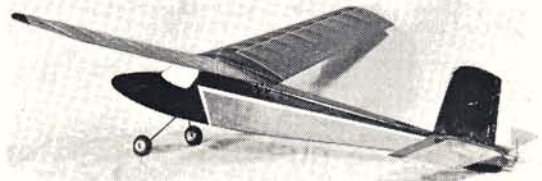
end of the flying session. Even so, if you manage to fly throughout a season without making an avoidable error you will almost certainly be unique. Maybe that is part of the fun of aeromodelling!

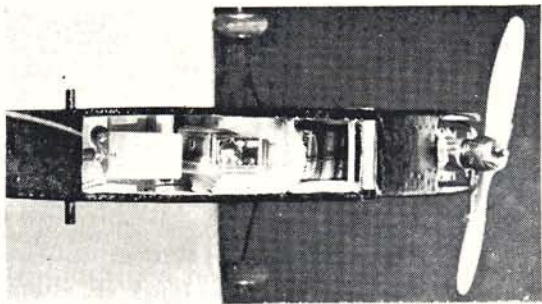
Final reminders—do not forget to put your name and address on your model! Make sure you are insured and have a current G.P.O. licence to operate R/C equipment. Watch out for other R/C modellers flying in the same area as yourself, you do not want to trim out your model to perfection only to be 'shot down' by another transmitter. The other big danger is over-confidence, once you have flown successfully on a number of occasions you tend to short cut the preparation work and this, sooner or later, will mean trouble.

Good luck in all your flying—have fun. Test flying the 'Webra Picco'

Although single channel radio control equipment using magnetic actuators has been on the market for a number of years now, its popularity has never been great in this country. The reason is probably because no British manufacturer seems to have considered it worth while producing this form of actuator (*This despite the fact that it originated here under the aegis of Howard Boys fifteen years back! Ed.*) This is a regrettable omission on their part as the flying afforded with the pulse proportional rudder control equipment of this type is most enjoyable. It is one of the easiest methods of single channel rudder only flying available, being both logical in operation (i.e. a movement of the control lever on the Tx. to the left produces a left turn of the model) and proportional (i.e. a small movement of the control lever selects a small effective movement of the rudder on the model.) For the real beginner to R/C flying this could be the best introduction obtainable. It is certainly, providing the operator can orientate himself with the model, more simple to fly than an escapement or motorised compound actuator equipped model. To my mind it is also a more likely method to succeed and encourage newcomers than starting straight in with 'full house' multi equipment.

Ready to fly at 11 oz. all-up weight—the "Topsy".





Installation of the Picco in Graupner "Topsy"

Perhaps with a little more publicity and knowledge of single channel pulse proportional control and magnetic actuators this type of equipment will become more readily available here, and our own manufacturers may take a greater interest in it.

The Webra Picco outfit was introduced in Germany three years ago and in its original form was somewhat lighter and smaller than present equipment. In fact it was only suitable for models powered by engines up to .020 cu. in., the actuator having a limited output. Current equipment includes a more powerful magnetic actuator, powerful enough for models powered by the popular .049 cu. in. motors and possibly slightly larger (Flying tests did not go to the limits of model size and engine power). The equipment was generally well made and finished and complete to the inclusion of couplings for the torque rod to the actuator. The one notable omission was that of receiver/actuator on/off switch, for what reason I cannot imagine. One obviously does not want to leave the airborne equipment permanently on and yet to isolate the supply entails removal and disconnection of the battery. A vertical Rx. whip aerial is included, a feature that could be copied by other manufacturers with some advantage. The transmitter is compact and handles well, normally it is held in the palm of the left hand and the lever is operated between the forefinger and thumb of the right hand. A strong clear plastic hook protects the double Rx, making it easy to further protect in the model by packing round with foam rubber. The prewired battery connector, for clipping on to a P.P.3. battery, did prove to be a little unpositive in use with the constant connecting and disconnecting required and through the absence of a switch, the clip became loose on the battery terminals. A better system would be to incorporate a switch and to solder the wires to the battery, failing this a rubber band should be wound round the battery connector. The only criticism of the equipment is that the actuator drive spindle appears to be rather thin and would be bent easily unless care is taken during connecting of the Torque rod. With a retail price of £33. 13s. 5d. the Webra Picco is not cheap, but there is no equivalent equipment available at a lower cost, and for this money the purchase does obtain reliable and quality equipment.

Graupner Topsy Installation

It was decided to use the Graupner Topsy as the best vehicle for the Picco as this type of model had previously been flown with an escapement fitted and its flight characteristics were known. With a D.C. Dart powering it, and nylon and silk covering used, the Topsy was rugged and lively performer with its previous form of control. The low total weight of the Picco, only about 3ozs., helped to keep the total weight of the model down to 11 ozs. There is ample movement of the actuator shaft

At right, the complete Webra Picco outfit.

PHYSICAL & TECHNICAL DATA

Transmitter
 Size: 5 x 3½ x 2½ in.
 Construction: Diecast aluminium case with removable rear cover. Crackle enamel finish.
 Weight: 19 oz. including batteries.
 Aerial: 30 in. extended, 7½ in. retracted.
 Power Supply: 9 volts. Two 4½ v flat flashlight batteries (e.g. Ever Ready 1289 or Exide F 40)
 Aerial: 26 in.
 Tone Frequency: 3 400 c.p.s.

Receiver:
 Size: 1.66 x 1.33 x 0.93 in.
 Weight: 1.1 oz.
 Aerial: 26 in.
 Power Supply: 9 volts (e.g. Ever Ready PP 3 or Exide DT 3)

Actuator:
 Size: 1.66 x 0.88 x 0.80 in. including mounting lugs
 Weight: 0.9 oz.
 Power Supply: Via receiver
 Output Drive: Semi-rotary through approximately 60 degrees
 Agents: Model Aircraft (Bournemouth) Ltd.
 Price: £33 13s. 5d. Inc. Basic P.T.

i.e., it moves through a total area of 50°—60°, but all linkages and bearings *must* be as free as possible otherwise some of the power of the actuator will be lost.

Flying Test

Flying the Topsy/Picco combination proved to be a real pleasure. After an initial flight with the prop. back to front to reduce thrust the Dart was peaked to maximum revs. The control lever on the transmitter has a swing of 90° plus on either side of neutral and control is progressive throughout the movement, terminating in full left and right rudder positions being held. In consequence the model can be flown in a very gentle manner by restricting movement of the lever to about 30° in either direction or aerobatically by using full movements. Because of the limited power of the actuator some 'blow back' of the rudder occurred but this was never sufficient to prevent a spiral dive from winding up followed by consecutive barrel rolls. It also gave an added bonus when Topsy was on the glide. With the slower airspeed 'blow back' did not occur and there was therefore more rudder movement and as much effective rudder control as with the engine going. Flight after flight was made with the Topsy/Picco combination, more I must confess because of the delight in flying it than to accomplish anything further in the tests, and there was never a moment's trouble with the equipment. Incidentally the PP3 9 volt battery can now supply to the Rx. actuator, should last for four or five outings before needing renewal. When the battery voltage begins to drop too low less right rudder is obtainable due to the natural bias of the actuator to left rudder under no voltage conditions.

Most definitely recommended—I was very sorry to have to send the equipment back (*Knock—Knock!—Ed.*)



Come off it Dad!

Dear Sir,

By way of reply to A. D. Corbett's letter in June *Aeromodeller*. You said you would be especially interested to hear from teenagers... O.K. Dad, you asked for it!

Mr. Corbett's letter contained many true facts I would not dispute this; but I think he has rather exaggerated things. Of course things have changed, it would be a strange world if they didn't. Does Mr. Corbett expect the model world to stop dead for fifteen years and wait for him to return to the fold?

I agree that ready made models are not really much more than 'Kids Toys' but let's put aside our pride and admit that they do put youngsters on the right path and give them the urge to build a model themselves. Next may I ask what is so wrong with foam wings? Here is a material ideally suited for modelling purposes, are we to cast it aside for the sake of nostalgia! Oh! I know it takes some of the building thrill away, but there's surely an even greater thrill in seeing your creation fly. It's all very well if you've got oodles of spare time and money then you can spend half your life on the building board and still have time to fly, but for most people today I would think that the only time they can build or fly is at weekends. Certainly for students like myself it is impossible to fit modelling in with academic work at nights.

Mr. Corbett obviously feels very strongly about contest rules I agree with him to some extent but it's like life isn't it, everywhere we turn we're faced with restrictions and rules, they have to be there or there would be chaos. It's up to we modellers to make the best of the competition rules and to use our ingenuity to create original models conforming to them.

I don't agree about all this slapdash work that Mr. Corbett goes on about. Most competition models are always neatly finished and decorated. As for protruding cylinder heads they don't look all that bad, to me there's something about a cylinder head poking out the nose, perhaps I am just extraordinary but I really do like them! The semi-scale *Lightning* Mr. Corbett mentions sounds a nice looking ship to me. He says there is no motive for building such a model, why not? Surely all models don't have to be scale. Why, only a few paragraphs earlier he complained about lack of originality, this model sounds like a very original job to me.

Next, we are told that we're all like sheep, all our models are alike, oh really someone must have pulled the wool over the man's eyes! There are plenty of different out of the kit box models about. Why, in the very issue that the letter appeared there was an article on J. Roberts' *'Miss Flighty'*, and if that isn't different I don't know what is!

So many readers wrote to offer their opinion on what is "wrong" with the hobby that we can only reproduce a balanced cross section. Mr. Corbett is to receive all letters sent on the subject so that some may have a direct reply.

Mr. Corbett's letter was very interesting but I can't help thinking it was mostly based upon nostalgic feelings and fond reminiscence of the 'good old days'. Anyway, come off it Dad, it's not all that bad!

Newcastle-upon-Tyne

D. Robson

... fault of the Magazine!

Dear Sir,

How interested I was to read A. D. Corbett's letter in the June issue. I am twenty years old and have been modelling for over half of that time. Generally I would agree with your correspondent that modelling has gone downhill. Certainly there are still model builders as competent and talented as at any time, but the general picture is a homogenous mass of prefabs, ready-to-fly, and reluctance to build. I feel this trend has spread alarmingly to the young, and I fear your magazine does little to combat it. Today they start with powered models, often ready to fly, usually pre-fab, rarely if ever the cherished works that they should be.

Instead of showing the young for the n'th time how to solder plastic wheels, why not show them how exciting, and how easy, it can be to design their own models. I wonder how many of these diesel-bred lads really understand how to trim a simple glider?

With flying fields shrinking faster than doped tissue, surely now is the time for a return of the top class glider and rubber model. Like Mr. Corbett, I am baffled by the attention devoted to the dreary A/2, which surely is now a job for the aerodynamicist, and not the aeromodeller, to perfect.

Should you not realise that aeromodelling *must* be a minority hobby, and not a 'National Pastime'? The number of people to whom it really means anything will always remain small, and I do think that the sooner the T.V. approach is dropped, the better it will be for all.

To end on a more cheerful note, there is much that I applaud in your magazine. Michael Payne's article (May) on whip control was a splendid break with the current trends. Equally valuable, I thought, were John O'Donnell's notes in the last issue on Wakefield engineering though I think this merited a more prominent place.

I, too, hope some of your youngest readers will express their thoughts on Mr. Corbett's interesting letter.

Cambridge

A. C. Mackenzie-Jarvis

... agreed

Dear Sir,

I was very interested by Mr. A. D. Corbett's letter. He echoes my opinion. I am seventeen and I have built several. *Aero Modeller* planned aircraft as well as a few of my own, including one Cessna 172 scaled up to 24 in. span from pictures including those in the March 1966 issue. So far I have not ventured beyond my 35 ft. C/J lines.

They say that by joining a club I can learn more about the art—and I hope it still is an art—of Model Aerodynamics. But I feel that the attitude of most clubs is wrong, there seems to be less and less room for the imagination and a

Readers'

A small section of the response to

widening gap between the best and the second best modellers.

The reason is, apart from prefab, prebuilt and preflown parts is that people who are interested in aerodynamics and new methods and new creations of imagination are not always, especially in my case, the best modellers. Some people are also put off by your photographs of Fujio Arigaya's splendid models and the like.

But like Mr. Corbett I was most put off from joining a club by a display I saw at Yeovil where a R/C model nearly hit a pram and where there seemed to be little effort to encourage newcomers to the hobby. It was as if they thought they had better do some flying just to round off the day!

As to engines which must be mounted uprights: it is in most cases the designer who is lazy, all the same, oh! for a versatile Mills 1.3 cc.

So I will remain a one-off job until my Mills .75 wears out then I shall turn to go-karting, like many others who are traitors to the cause of the sky.

Milton Abbas

P. J. Waller

... go run a club

Dear Sir,

Being consultant psychiatrist to my local club and a modeller of some years standing (however humble), I am forced to wonder if A. D. Corbett has even more grey hairs than I have!

Even I don't remember seeing this 'Celestial Horseman'—or any similar arial steed winning a duration contest, or any other contest come to that, barring a Concours d'Elegance maybe.

Your ancient correspondent has to admit this is the age of telly magic. Instant nosh, instant gear (clothes, friend) which can be worn for a week and discarded for more fresh supplies, so adding to that wonderful music of the cash tills.

By all means let us discuss aesthetics but in the modern idiom 'lets face it' the average youngster doesn't know how to spell it and if you whispered the word in his ear, you'd be up before the beak in a twinkling on 'immoral suggestion'!—And if you had a dreamy look while mentioning one of the great L. G. Temple's creations you'd get frisked for marijuana!

That's the world we live in brother and it's no good biting your fingers on the sidelines—or even walking about with your nose in the air.

If you want to broaden your experience of the human scene, I would recommend starting a model club (if he dares). But first of all, try to find room enough to fly one of his favourite 'twelve foot span arial steeds'.

Our long-lost friend should realise that this scattered isle has shrunk rapidly these last few years. And as to A/2 sailplanes or any other contest models, they are not models of anything. They are flying machines built to a purpose, which he knows is thermal catching and contest winning, and he also knows there are those who bother to build them to Concours finish.

Letters

Mr. Corbett's comments of last month

The rest of us just try hard to do our humble best, what time we try and encourage the younger members to do likewise.

Incidentally, not all clubs are contest mad, I prefer to think there's room for all in this wonderful hobby of our's and if our mutual friend cares to mix with the *Hoi polloi* he may find some like-minded spirits to keep him company, and show us how things should really be done.

Loughton.

R. G. Harris

... the attitude

Dear Sir,

No doubt 'that letter' will evoke a lot of highly charged replies, but I could not miss the opportunity of having my own little dig.

Little story to tell of a brush with some West Essex Club Radio flyers on the local common. Two very much untrimmed models were making things somewhat distracting to my attempts to trim out a Coupe d'Hiver job, and positively dangerous to my little boy who was playing with a chuck glider. Rather fed up with the nuisance I gently suggested to the miscreants that it would be wiser, in the interests of the public safety and the model movement in general, if they ensured their models were in reasonable flying trim before unleashing them on a crowded public common. They admitted that a considerable danger did exist, but that this was secondary to the need to fly their models on this only available public space. I did not go too much on the ethics of this, but what really stunned me was the admission on the part of one of the 'danger flyers' that because of the danger he left his own children at home. Thus saying, in effect, that he was prepared to risk injury to other children but not his own.

Nothing to do about this, of course, but to await the loss of another flying ground. Appeals are useless as the turn over rate of radio flyers is so extremely high: the hobby life rarely exceeding the first serious pile in.

Chadwell Heath, Romford L. Ranson

... use faster methods

Dear Sir,

In reference to A. D. Corbett's letter in June *Aero Modeller*, "fings ain't wot they used to be?" all I can say is that he should stick his head up a *silencer* or else take up *knitting*. He says standards have deteriorated, aesthetics have been ignored, what tell me is wrong with a *semi* scale lightning with an engine cylinder up front and Tauri wings if it is only semi scale. Take a look at some of the vintage types, *Jaguar* for instance, did it ever resemble an aeroplane?

The main idea of aeromodelling, to me anyway, is to (a) build something which flies, and (b) enjoy oneself flying it, who wants to spend 600 hours painting a fuselage when one can get as good a finish with Mono-kote, Solarfilm and Polyurethane in two hours, certainly if someone wants to do this I don't blame them, but why be against us who really

enjoy flying for fun using faster methods.

As for all models being the same in contest categories, certainly they do resemble one another but theoretically they are as efficient as possible and the idea of entering a contest is no doubt to win, as to win you must have the most efficient model.

I do not think for one moment that modellers become stereotyped all building the same models, just look around the sports flying fields and you will see many different designs being flown and some very nicely finished models too.

I am 20 years old but I like to think I am a teenager and I have been modelling for the past 12 years, all types of models. Aberdeen, Scotland. N. Kerr.

... have things changed ?

Dear Sir,

I feel I must write in reply to Mr. A. Corbett's recent letter re the modern standards of Aeromodelling.

Firstly let us look at why most of us pursue our hobby.

I think most of us have above-all a creative "urge" and our models to some extent are a reflection on our personality. Whether or not our models are built to a high or indifferent standard is not the criterion, it is how much we enjoy our hobby that counts, and here we come to point No. 2, I believe quite sincerely that there will always be to the field of work they chose, a similar proportion of modellers who will excel in their work, to imply that there are no modellers of the standard of Warring or Temple around is sheer rubbish. If Mr. Corbett wants to compare hours spent on a model how about J. Simmance's Nats winning "Marauder", estimated building time nearly 2,000 hours.

I also think that to some is given the gift of being clever with their hands, most we therefore exclude from our hobby those who are ham fisted?

I have in front of me a May 1950 *Aero Modeller*, most of the models not only have exposed cylinders, but completely exposed engines, this includes a twin engined scale control liner.

Now the October '65 edition of *Aero Modeller*, on the front is K. McDonough's F/F Scale DH34, full cockpit details, detailed engine, etc., on the inside pages beautifully made R.C., and control line scale models, "facts speak louder than words".

Anyway I shall be looking forward to seeing Mr. A. Corbett's 12 ft. 600 hour silk and cellulose creation at next year's "Model Engineering Exhibition".

It must surely win a silver medal. London, N.W.9. J. Banks

... Copper modeller

Dear Sir,

Reading A. D. Corbett's letter in the 'Readers Letters' column, of the June issue of *Aero Modeller*, I would point out that whilst a lot of what he says is true, about aeromodelling generally, he seems to have stuffed all his ammo. into one magazine.

As a serving policeman and an aeromodeller myself I was (and from time to time still am) called to remove trespassers from Burscough Aerodrome, in the guise of Aeromodellers, I have found in all honesty that these aerobods

cause no harm. They fly well away from houses, and other people, the complaint coming from farmers owning adjoining land to the runways. For the most part, however, the modellers concerned were most careful to avoid damaging crops, etc., when retrieving models, and most of the trouble appears to be caused by an assortment of high performance go-karts and racing cars, tearing up and down the runways oblivious to the fact that vehicles are prohibited.

With regards to finishing and the amount of labour one puts into modelling surely it is a matter for the individual, personally I get just as much pleasure from building a model as from flying it.

With reference to Aero Clubs, according to Club surveys published recently, Burscough Aerodrome is shown as a flying site for the Liverpool and District Aeromodellers Club.

On several visits to the 'drome recently, I have only met one Liverpool Club member. The rest have been lone handers. (What a chance for this club recruiting!) Further to this, enquiries at nearby farms reveal, that no permission is in force for any person to be on the site, for any reason, the only access that the public have being the public right of way from Pippin Street to Higgins Lane.

This would support Mr. Corbett's argument that clubs may come in for some criticism, and it would appear that better liaison between clubs and public is urgently needed. In fairness I have not talked to the Liverpool club secretary about this matter.

I have been modelling since boyhood and am now 29 but I think that developments in the hobby are for the good.

As for clubs and contests, I will join a club, and compete, when I consider that I am ready and worthy of doing so, with something to offer a club, and aeromodelling as a whole.

Maghull, Nr. Liverpool

R. Scott

... designers

Dear Sir,

My friend and I are sixteen years old and are both extremely absorbed in aeromodelling, we were deeply disgusted by the narrow-mindedness of Mr. Corbett.

We are keen speed fliers although we have never taken part in any major competitions. With reference to his statement that modellers have not the mental scope to design and build their own models, I cannot disagree more. We alone, without much assistance, but with much criticism have managed to design four successful models, three of which have 'creased' the 'ton' with ease, although the 'ton' is not as magic as it used to be when I imagine Mr. Corbett practised the art of aeromodelling (during the days of chivalry and knighthoods).

Our finishes on these models have been excellent and they reflect our faithful images, using modern materials.

We are both still at school and do not as yet possess cheque books therefore we do not play with them as Mr. Corbett imagines.

When he becomes World Champion in every field of aeromodelling using the ancient techniques of our esteemed forerunners we shall then and only then agree with his point of view.

Chatham

W. Hayton, D. J. Pelling

... and on other subjects

Find 'em at all costs?

Dear Sir,

It has been brought to my notice that some competitors at the Airtech M.F.C.'s free-flight rally, held on April 30th were foolish enough to retrieve their models from peoples' gardens without first asking permission to do so.

Even more serious, two persons were found climbing over a wire netting fence into the premises of an adjoining factory. Had they asked the Works guard, all would have been well, but they were obviously too rude or lazy to obtain permission.

While I realise that this is the action of a few irresponsible people, this kind of thing could well result in the loss of use of the airfield for future contests, or even club meetings.

I trust that those who were guilty will in future pause for a few seconds to think before jeopardising the enjoyment of fellow aeromodellers.

Aylesbury. P. S. Richardson

Scale appeal

Dear Sir,

After seeing Tom Sopwith the other night on Southern T.V. sending off the new 'Beagle Pup'. I thought what a great thing it would be if every year there could be organised a meeting at say, for example, Farnborough, of all Sopwith Modelling enthusiasts, and have a prize given by Aeromodeller, presented if possible by Mr. Sopwith in person.

It should give our hobby a terrific boost. Hoping you will give my idea some thought.

D. Beaney.

Hollington, St. Leonards-on-Sea.

Thanks for the suggestion Mr. Beaney. You will be pleased to know that a fun-flying all-scale session is planned for August 6th, at the Shuttleworth Collection Airfield, Old Warden, Biggleswade. A trophy is to be awarded for the best model of a Shuttleworth aircraft and as the 'Pup' is included we expect to see a lot of models of this type, as well as other Sopwith's.

Snuff said

Dear Sir,

The comments by Pylonius in the June Aero Modeller require some reply, especially those regarding snuffer tubes.

As he points out, we often have rain here in Britain and it is not always easy to set fire to the scenery but it is certainly quite possible, and several freeflight modellers have had this happen in the past. He is also quite correct in saying that cigarette ends are a far larger fire risk, but unfortunately we are flying model aircraft which are much more easily recognisable and also more easily banned than cigarette smokers. It only needs one farmer to find one smouldering, model aircraft-shaped cinder in one field of corn or hay for the most undesirable anti-aeromodelling publicity to start up. This we do not need, anymore than comments about the dead hand of

bureaucracy; perhaps the hand is at least ill, if not yet dead, because of so many people's attitude towards the sport of aeromodelling, and I mean within the model flying movement, not outside it.

From the practical point of view, to have a D/T fuse fixed in a tube on a model will certainly remove doubts as to whether trim changes are due to the fuse being at a different angle in the airflow and acting as an unwanted trim tab. Or does this remove some of the exciting uncertainty from the business, like the possibility of setting fire to five hundred acres of inflammable gorse?

S.M.A.E.

Martin Dilly

G.F. Arrow fuselages

Dear Sir,

I read with interest John O'Donnells mention of Easton (not Eason) Target Arrows as used for fuselages by Russ Seley. You may be interested to know that these arrows are available in England. A letter to the Archery Shop, 21 Wastdale Road, Forest Hill, London, S.E.23 will bring a free catalogue giving details of many kinds of arrows, but a few points may be of interest to your readers.

Eastons are the best quality arrows available but in this country are only available in lengths of up to 30 ins. (as far as I know). They are available without fletchings, but with piles (points to the uninitiated) and nocks (the other end) fitted. Weight of the 30 in. length varies with bow size, 3 weights are available—335 grains, 396 grains or 424 grains. The lightest would be adequately strong for modelling uses, as they are manufactured from the best possible tubing.

An alternative might be fibre-glass arrows weighing 415 grains in the lightest 30 in. size (unfletched) they would be as good as a fishing rod for an A/1.

These are the best arrows. There are others available, probably just as good for aeromodelling. The disadvantage (there has to be one) is the cost, just over £1 each, which puts them on a par with fishing rods. I hope these notes will be of some use to F/F types but remember, the points are sharp, so file them down first!

Hillsden, Nr. Buckingham J. C. Ward

Don't lose OUR ground!

Dear Sir,

I would like to enlist your support in a matter affecting modellers in the Sheffield area.

As you know, your magazine's recent Club Survey indicates Ringinglow Moor as the flying ground of the Sheffield Society of Aeromodellers. To this extent, the information is correct, but of necessity somewhat incomplete.

The area concerned is privately owned: it is only by courtesy of the owner that flying takes place at all. He is, understandably, determined to preserve the attractiveness of his land (a moorland grazing area of great natural beauty). To this end he insists that no power models, silenced or unsilenced be flown from his property: additionally, he is concerned that all other flying is covered by adequate insurance.

As a circular to local Clubs would draw the attention of a mere fraction of

the districts modellers to this matter the S.S.A. would be most grateful for more extensive magazine coverage.

Should any doubt remain in the minds of "pirate fliers" my club has asked me to point out that it has, as an act of self-preservation and reciprocal good faith, undertaken to inform the land owner of any witnessed breach of the approved use of the area.

We do not intend to lose an excellent amenity if this can be avoided and as a Club are resolved to act positively to confirm the owner's trust of bona-fide insured, modellers.

Sheffield. Trevor Faulkner, R.P.O., S.S.A.

More tall tales?

Dear Sir,

It was with pleasure I read 'Readers' Letters' in the May Aero Modeller. Especially 'Making do', 'Trecovey' and a 'Rare Brew'. These letters providing a 'Clubroom' atmosphere, missing for so long from Aero Modeller. Would it not be possible to encourage readers to send in their funny or interesting stories and photographs? Perhaps a page could be set aside for this. I am sure Service modellers, at least, could keep you going for ages. I certainly have a few pet stories I would happily tell (again). Like the class 'B' racer which hit a tree after parting company with its lines at a Scottish meeting, the only damage was—the tree fell down! Or, a sadder tale, the modellers who laboured for months to build a club hut in Aden, only to have it blown up by the terrorists.

I hope you find my letter of interest, you have a fine magazine, and I only intend to be constructive rather than critical.

R.A.F., B.F.P.O. 47 Cpl. Johnson

Spark warning

Dear Sir,

With reference to your article on page 243 of the May issue of Aero Modeller, you say that the 11,000 v. overhead line was a light loaded one compared with the National Grid.

This statement is not correct because the line would still be 11,000v. irrespective of the load it was carrying, and it would be better to say that the voltage of 11,000v. is smaller than the normal voltages of 132,000v., 275,000v and 400,000v. of the National Grid lines.

For you and your readers' information the safety clearance quoted by the C.E.G.B. for grid lines is as follows:-

Up to 6,600v.	8ft. 5in.
6,600 to 11,000v.	8ft. 6in.
11,000 to 22,000v.	8ft. 8in.
22,000v. to 33,000v.	9ft. 0in.
33,000v. to 66,000v.	9ft. 9in.
66,000v. to 132,000v.	11ft. 3in.
132,000v. to 275,000v.	15ft. 0in.

It obviously can be seen from the preceding table that to approach an overhead line, with any object, closer than the distances quoted brings the person in question into a position of very grave danger.

My advice as a power station engineer used to dealing daily with matters affecting the safety of personnel, is to keep model flying well away from any type of line, because 415v. can be just as lethal as 275,000v.

Dalmally, Argyll.

B. K. Airton.

FREE FLIGHT COMMENT

By John O'Donnell

Left, Airtech glider winner Dave Bailey had 4:35 fly off. Right, R. J. Chersley of Airtech also flew, after this fly-off launch he made 4:00 for 3rd in Rubber. His father topped Power with 9:00.

WHILST not in the correct chronological sequence, it is appropriate to commence by reporting the second F/F trials. It will be remembered that these were postponed from last autumn due to organisational and venue difficulties.

Even this year, a postponement was necessary from the original scheduled dates to the following weekend. Once again this was to obtain the selected venue (R.A.F., Odiham). The change caused some discontent amongst those who had organised their lives to suit the original dates. Geoff Lefever, well placed in the first trials and absent from the second, has provided caustic comment in "Northern Area News" on these changes.

Attendance at the second trials was obviously much reduced compared with the first—but was better than I had expected. Presumably this was due to many reasonably placed competitors living in the South of England. The weather was hardly kind and could best be described as extremely changeable. It varied from overcast through rain to bright sun, sometimes within the space of a one hour round. The wind was generally strong, gusty and turbulent—but dropped almost completely for about an hour on the Sunday morning. Most of this calm period lay in the third power round.

The weather, whilst not pleasant, meant that scores "opened-up" enough to give a fighting chance to competitors who had not done too well in November. The contest was, consequently, very hard fought, with most entrants persevering to the bitter end—even though many would not have flown at all in a less-important contest in equivalent weather.

The wind direction and airfield shape were such as to enable only a relatively short stretch of airfield to be utilised. A cross-wind move of the launching site would have been possible—but would have meant models drifting into Odiham village. As it was, most models drifted over a few scattered trees onto open countryside, and retrieving was fairly straightforward. The trees, plus a humped airfield, cost some entrants valuable seconds on visibility. Under these conditions, Wakefield and A/2 flights were either very good or very bad—depending on how successfully the flier judged the moment of launch. Flights that failed to contact lift remained in the ground turbulence and invariably recorded disappointing scores. This is an inherent drawback of flying low-performance, low altitude models in rough conditions.

It was, consequently, hardly surprising that positions in these two categories changed dramatically—often from round to round. Out of the top three Wakefield and A/2 contestants in November, only Mike Woodhouse survived to gain a team place. Even he had trouble, as his A/2 veered off on tow on his final flight and he deliberately towed it into the ground rather than record a poor flight. (The reserve maxed!)

The other A/2 team places were filled by Barry Halford, who moved up from the eighth to top position, and Jack North, who obtained an initial four maxs from his very simple-looking models. The victorious 1965 British Glider Team failed to qualify a second time, although all were well up. Dave Tipper just missed a repeat with fourth position, Tony Young was sixth following a very depressing Saturday (two downdraughts) and I was eighth.

Top A/2 score at Odiham was Halford's 14:14, with Tipper the only other to clear 14 minutes. Five maxs *could* have been done and would have put anyone above 20th in November onto the team!

Wakefield was even more of a reshuffle—with team places decided by the final flights made in very windy and cold conditions. John Mabey and Laurie Burrows maxed to take first and second on totals, whilst Bob Bailey, Dick Godden and Dave Hipperson were all down in just about a minute. November's top three all had a bad weekend, in particular Dave White who retired after about three flights.

John Mabey's winning model featured a very small tail—reputedly due to being originally designed to the erroneous 304.5 sq.in. area quoted in the old S.M.A.E. rule book - and the extra 10 sq.in. being taken off the tailplane! Laurie Burrows used his sliding wing model illustrated in the January issue. Bob Bailey's model had a tube fuselage and spinnered (Keil Kraft) propeller.

Many Wakefields had stability trouble in the wind in that they did either skew loops or tight circles on launch. Bob Bailey touched the ground this way for an attempt on one flight. Laurie Burrows had spiral tendencies later in the power run and successfully steamed in washin to counteract.

F.A.I. Power was a very different story. Apart from being much more potent than the other classes (Ray Monks reckons on 4 minutes when everything is just right) their initial height puts much of the glide above the ground turbulence. Power pattern with little declage, and hence little tendency to loop, seems relatively unaffected by wind. Even allowing for this advantage, the top half dozen or so flew extremely well. As Ray Monks, Joe Savini, George French and John West all scored about 14:30 to 14:20 their relative positions remained exactly as in November.

All four flew models with noticeable similarities; "elliptical" wing tips and tailplanes, Super Tigre G15's and wooden props. French and West used variable incidence tails and autorudders, whilst Monks and Savini had only the latter. (Monks' model has V.I.T. fittings but they are not used!)

Processing at Odiham was far from comprehensive. The "team's" models were checked together with others lying, at times, in top positions. However, routing checking was confined to intermittent weighing and towline measurement. As usual, it was a case of providing one's own timekeepers.

Continued on
page 384



Left, Ken Glynn returns with his power model at the trials. Push-bikes are now accepted as standard recovery equipment. Below, impressive display of hardware at Airtech Rally, note Challenge Shield and Champagne. Right, John Berryman won the shield and Champagne, model has a feathering prop, 230 sq. in. wing, geodetic surfaces and offset fin.



CLUB and CONTEST NEWS

Northern Area Foundation

Ron Firth the Editor of "Northern Area News" recalls in the May issue editorial the Northern Area S.M.A.E. foundation twenty years ago. Their first meeting was held in York in June 1947 and the late B. A. "Sam" Messom was elected Secretary. Since then the committee have met over 240 times and have held more than 130 contests. In the early days Baildon Moor was the contest venue but most activity takes place now at Topcliffe or Elvington R.A.F. stations. Originally over 30 clubs belonged to the area, this number is now halved but fortunately the clubs remaining are active. As each year goes by new clubs are formed and one function of the Area Committees is to make those new clubs aware of the existence of the committee and to invite them to send delegates to its meetings. Northern Area clubs should note that the Committee meet in Leeds, usually at the Hook Room of the Church Institute, Albion Place, Leeds, 1. These meetings take place on the second Saturday of each month. For the record Ron Firth has attended over 200 Committee meetings and has flown in all but two of the Area meetings held since 1949! quite a record and one Ron can be rightly proud of, can anyone better this?

QUICK ACTION

Only recently formed, the Bradford Raato Aeromodellers organised at a week's notice a reduced schedule single channel and multi event on April 16th at R.A.F. Elvington. The club's Competition Secretary, Ron Miller was elected Area Competition Secretary and learning of the area meeting at Elvington, sent out

invitations to local clubs. Geoff Scofield drew out the flight patterns and judging sheets. With approximately eight entries in single channel and six in multi, P. R. Wilson topped the single channellers whilst D. Hardaker topped multi with a *Tempo* design using R.C.S. Digi Five radio gear.

Novocastrian Control Line Rally

Held at *Thornaby Aerodrome* on April 16th the *Combat* event at the Novo's rally attracted 32 entries. Initial flying was rather scrappy but this improved through the rounds. Frazier of Esk Valley was the winner with the combination of good flying and an outstanding *Razor Blade* type model. Second place went to McGowan also of Esk Valley with Dunker of Mad Mac third. *F.A.I. Team Race* run to the new rules was spectacular with some fast times and a considerable amount of crashery. Fastest heat went to Laurie/Clark at 4:54 with a single stop run, while close behind came Place/Haworth with 4:54.4 from a run that was in excess of 100 m.p.h. for a marginal 25 laps. Inevitably the third team to go forward to the final were Turner/Hughes with 5:06 from a two stop run. The final went off to a good start, Brian Turner's model having a slight speed advantage in the early stages, but landing short at 32 laps. At 50 laps Alan Laurie's Moki T/R 6 engine was the fastest and was doing over 40 laps per tankful. 20 laps later the piano wire link on his handle snapped, the model thumped in and was totally destroyed and the Moki's shaft bent. The rest of the race saw the two Wharfedale models range slowly decreasing both having some false starts. The final results were slow, Turner making 11:36 to Places 11:41. Place/Haworth made up for their F.A.I. defeat with a fast time and winning 1/4A, with 8:36 for the final. Davy/Hudson were second with 8:55 and Turner/Hughes third at 9:49. Rat Race had only three flying entries and Laurie/Clark won with 11:45 flying an Eta 29 powered B team racer, with Blair second at 12:25 and Penton/Smith 3rd with an old Super Tigre 40 which sounded a lot faster than it went.

South Eastern Area News

The South Eastern Area S.M.A.E. are in the unenviable position of having to pay for the use of Ashdown Forest as a flying site. Last year this amounted to over £31, quite a sizeable amount for any Area to bear. To help in this situation the S.M.A.E. Council have made a donation to help defray the costs, as this is the area's site for the S.M.A.E. Centralised Area Contests. Suitable cups and plaques will be awarded at the South Coast R/C Rally instead of cash prizes this year, a practice that *Clubman* thinks

should be adopted by far more rally organisers. A Control Line Rally at Elliotts on April 2nd was a washout, the combat victor being decided by the toss of a coin. These brave heroes flew in stunt. They are still in need of a venue for the Area Control Line Champs. Can anyone help them? The South Coast Gala, October 1st, will only have four free flight classes: Open, R/G/P, and All-in-F.A.I., the object being the concentration of entries and thus better prizes

Watford Goings On

Radio interference with a difference is a topic with the Watford club at the moment. With two flying fields in close proximity, the club members have had to resort to pre-arranged flying hours so that the smaller lightweight single channel models don't get interference from the multi jobs flown on a larger site. They are holding a spot landing comp on Croxley Moor and competing in the South Midland Area S.M.A.E. Spot Landing League against other area clubs. An internal one model chuck glider comp is to be held at their school meeting place. All models to be designed inside the following specifications. Wing unit 18 x 3 in., Tail Unit 9 x 3 in., Fin Unit 4 x 2 in. and Fuselage 18 x 1 in. This meeting will also be open for the local youth club members to enter



The Sheffield Society of Aeromodellers Exhibition at St. Mary's Hall had an interesting array of models, R.T.P. models by Ron Firth and Trevor Faulkner above created interest while the Fairchild 24 was one of many individual exhibits. Left, Jean Bradshaw "Belle of St. Mary's" examines an A.P.S. H.P. 42.



Bristol Bulldogs

Several clubs produce newsletters, but one of the best seen recently is a 16-page spirit duplicated one from Bristol Bulldogs. A quarterly issue, the spring edition has a "Bulldog" in flight on the cover and contains just about every bit of important club, S.M.A.E. and Contest News you can think of. An excellent little publication other clubs would be well advised to look over for their own use. The club fly on Filton Aerodrome and plenty of small club comps keep them active in all classes.

Pen Pals Wanted

V. Kopecky of Skuvanova 16, Brno, Czechoslovakia, is interested in all full size and model aircraft and would like to write to an English modeller and exchange magazines. J. Lee, 19 College Drive, Bebington, Cheshire, is mainly interested in control line stunt, combat and glider flying. He would like a pen pal to write to and exchange ideas on modelling. Eooh Eng Hing of 60 Caunter Crescent, Penang, Malaysia, would like a pen pal in the 12-16 year age group. He is interested in all modelling aspects and reading about modelling.

BLUE MAX CONTEST

Glasgow Hornets M.A.C. held a Blue Max film aircraft scale model contest for 1/72 scale models. This attracted 31 models of whom 28 entered the competition, the majority of entries coming from Hornets, although 150 forms were given away by the local model shops. A wide variety of aircraft were seen with the *Fokker Triplane* (6) the most popular. Judging was carried out by Stewart Anderson, with Donald Imrie gaining 26½ points out of 30 on his *R.E.8*. In addition to being well finished and fully rigged, it featured added details such as wire gauze in the air intake and grained wood propeller. Second with 25½ points was Alan Whites' *Fokker E.III* unusually finished in Turkish markings and accompanied by full proof of authenticity. The ladies prize went to Miss Margaret Fyfe (soon to become Mrs Imrie) whose fully rigged *Nieuport 28* gained 20 points.

High Times at South Coast Meetings

Brighton Clubs' defence of the Plugge cup continued at the S.E. Area Centralised Meeting held at Ashdown Forest on 16th April which turned out to be a record day for calm and sunshine. They gained the top 3 Area places in the HALFAX F.A.I. Power event, despite the absence of John West and Dave Welch at the Zell-am-Zee international meeting.

Highlight of the day was Area Secretary Norman Couling's massive tailless design which having been launched into lift maxed and gave Norman a damp chase through what he now knows to be the source of the River Medway. To his possible relief a fractured wing dowel prevented a repeat performance.

In rubber, Peter Cameron, the Area Comp. Sec. (in the South East they claim that all the Officials fly!) and Crawley Club member got his first ever "full house" with his Coupe d'Hiver model but by 6 p.m. all the lift had gone and his fly off time was a disappointing 58 secs.

In the Gamage Cup the fair sex in the form of Shirley Horton showed the men up with two maxs. followed by a near miss to pip club-mate John Wilson by just one second.

The open glider produced a crop of maxs. However only Mike Coomes got three, but the evening air gave him only 1:57 for his fly off flight.

Finchley Control Line Gala

Held at the Hayes Control Line site on April 30th, the *Finchley Gala* was blessed with fine weather, and they would like to thank the Hayes club for the use of their site as Glebelands was unavailable due to noise complaints. Contestants for their July 2nd rally should note that this will be held at Glebelands, effective silencers being a must. Entries were lower this time when compared with last year's meeting, but plenty of new faces were seen. M. Pitcher topped "A" *Combat*, beating M. Nelson by plus 9 to minus 4, and "B" *Combat* was true to form with most of the "combating" time spent on the ground. Brian Turner and Dave Balch made it into the final. It must have been a strange sight, the two rival team race team members fighting it out above the 12 ft. limit! Dave won with a Johnson 35 powered model, while Brian did well to get in the final using a 2.5 cc. Oliver Tiger. Dave Day topped Senior Stunt with 731 points, followed by Jim Mannall with 706 points. While this class had 10 entries, Junior Stunt attracted only two, these being T. Lambert and A. Geoff, 1st and 2nd respectively.

Contest Calendar

- June 25** St. Albans Free Flight Gala. Chobham Common. Open R/G/P. Carl Simeons Trophy for power. Combined Vintage.
- June 25** S.M.A.E. 'Criterium of Aces' Control Line Team Selection Trials. R.A.F. Swindon, Lincs.
- July 2** Croydon Gala Chobham Common. Open R/G/P. Starts 10 a.m.
- July 2** 2nd Finchley Control Line Rally. Glebelands, Summers Lane. N.12. A, B, Combat, A Combat, Rat Race.
- July 2** Surrey Radio Control Rally. Smallfield, Horley. Open Pylon racing, below and above 6 cc. Spot landing, Limbo, Combat R/C.
- July 9** S.M.A.E. Area Centralised. Team Glider (M.E. Cup) F.A.I. Power (Astral Trophy), Open Rubber.
- July 9** S. Midland Area National Combat Rally. R.A.F. Upwood, Nr. Huntingdon. pre-entry 2/6d. to:—Pickernell, 54 Taunton Ave., Luton, Beds.
- July 16** S.M.A.E. Scale Meeting. R.A.F. Upwood, Nr. Huntingdon. Ripmax R/C Scale Trophy (Single or Multi), General Scale Rally, Northampton Combat Rally. Midsummer Meadow, Northampton. Pre-entry 2/6d. to:—R. J. Ashby, 20 Hester St., Northampton.

New Events

- July 2-16** Halifax Tailless Challenge Trophy Cup. Postal Contest. Flights can be made anytime during the 'fortnight'. Open Rubber. 250 foot tow-lines and 30 secs., engine run. Details from: John Pool, 3 Rothwell Drive, Savile Parke Road, Halifax, Yorks.
- August 6** Shuttleworth Scale Rally. Old Warden Airfield, Bedfordshire. All classes of scale, incl. plastics, bring, show and fly 11 a.m. Special prizes for best models of Shuttleworth aircraft. Field entry.
- August 6** Southern Area FIF Gala. Beaulieu Airfield, Hants. Open R/G/P.
- August 9** Irvine Concours d'Elegance. Static display only. Scale and non scale Junior and senior class. Entry forms etc. from:—D. McIntyre B.S.C., Minyorea, Stewarton, Kilmarnock, Ayr, Scotland.
- September 3** Boscombe Down Rally. Army Air Corps. Airfield, Middle Wallop between Andover and Salisbury. 'Fly for fun' meeting with contests for open R/C spot Landing and Concours d'Elegance—models must fly. Restricted hardstand area.



Above, the boys of Winterton Youth Club, North Lincolnshire, were privileged to meet the Duke of Edinburgh on May 21st when he visited Scunthorpe. Their interest in modelling is expanding and they have a flying field.

Tony Clements of Maidenhead with his scale free flight Halberstadt D.3. powered by a Mills .75. Note rigging wires and general neatness.



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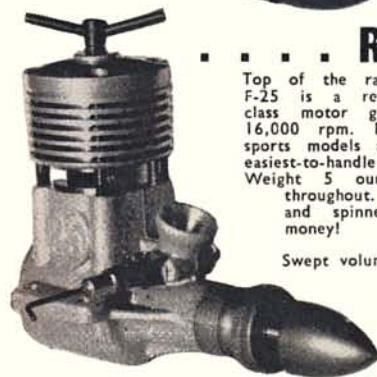
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FREE FLIGHT COMMENT—Contd.

Prospects for August look promising. Most of the nine team members appear able to make their own way to Czechoslovakia. Monks and North have extensive (all 3 categories of f/f) experience in previous championships. Savini and French have just had a successful trip to Zell-am-See where, with John West, they won team power. Incidentally, Joe is eligible to fly for Great Britain this year. The Norwich members are noted F.A.I. enthusiasts, with a home airfield and plenty of club contests for practice. On the other hand, all three of the Wakefield team regularly fly open rubber—and successfully.

I need hardly wish all of them the best of luck but I wish that I were one of them!

Airtech Rally

The Airtech annual rally was held on their firm's private airfield at Haddenham on the 30th April—the original date for the trials!

The day started off with sun and breeze but the wind steadily strengthened and also swung from blowing onto farmland to Haddenham village itself. This made for difficult recovery and reduced participation.

The host club had obviously made efforts to provide facilities and organisation. There was a score board and a display of trophies along with a control tent. It would have been advantageous to have moved control upwind as the wind changed, especially as Haddenham is fairly small.

Criticism must be made of some timekeeping. I have never heard so many complaints of flights being clocked o.o.s. at low scores. In the conditions there should have been no difficulty in seeing models quite easily. The attempt to provide timekeepers is praiseworthy but they should be either experienced or trained and have adequate eyesight. This is not in any way a personal complaint as my troubles took a different form!

The Airtech prize list features a Challenge Shield, rotated round different classes. This event is flown separately to the normal contests—so this year there were two rubber events. These, plus glider, needed flyoffs. Open rubber, won by Laurie Barr, was rather an eyestrain—whilst the Challenge was topped by Berryman with a Featherer model.

Glider saw the four participants fly alternatively in sink and lift. Winner Dave Bailey had a helper well upwind who signalled when he thought lift was present. This system certainly worked on the flyoff. Power was won by a new name, A. T. Chersley, without a flyoff. Second was George Fuller, whilst Trevor Payne and Ray Monks tied at third. They tossed up, rather than fly, for the prize! Trevor won.

Chuck glider was won by exponent Tony Slater with a rather narrow margin.

Richmond Gala

This year's separation of the Spring Bank Holiday from the religious Feast of Pentecost (Whit Sunday) meant that May 14th saw the Richmond Gala at Chobham rather than the British Nationals. In view of the weather, this was perhaps as well.

It rained almost all day at Chobham with three or four short breaks, during which a handful of enthusiasts made their flights. Glider was the "best" supported with Dave Glue supplying a convincing win through contacting three "bumps". Tony Young started well but changed models to make a poor third flight.

Power was a battle between Russel Peers, who used both an ETA 29 and a Veco 19 model, and Ken Smith with an O.S. 29. Trevor Payne apparently lost his model when it disappeared into low cloud at 1 1/2 minutes on his first and only flight. Rubber had been scheduled to try out new rules, i.e. flyoff after two maxs, then a fourth flight of over 3 minutes with the fly off model to qualify. This did not materialise and the rules were rather vague on the procedure to resolve the "tie" between my two maxs and John Oulds' 6:00 score from three flights. I made a nominal third/fourth (?) flight with a Wakefield! Advance opinions on the untried rules were not high—but they had not envisaged this type of trouble!

Recent Results

RICHMOND GALA, CHOBHAM, 14th MAY. Glider:—1. D. Glue (Brighton) 7:57. 2. A. Young (Croydon) 6:29. 3. P. Jellis (Croydon) 4:17. Power:—1. R. Peers (Conington) 6:45. 2. K. Smith (Croydon) 5:37. Rubber:—J. O'Donnell (Whitefield) 7:17. 2. J. Oulds (Crawley) 6:00. **AIRTECH RALLY, 30 April HADDENHAM.** Challenge Shield:—1. J. Berryman (Bristol and West) 9:00+4:38. 2. P. Putman (St. Albans) +3:32. 3. F. G. Sharp (Blackheath) +0:12. Rubber:—1. L. Barr (Hayes) +5:21. 2. A. R. Wells (Hornchurch) +4:33. 3. R. J. Chersley (Airtech) +4:00. 4. R. Lennox (Birmingham) +3:54. 5. D. Hipperson (Croydon) +3:38. Power:—1. A. T. Chersley (Airtech) 9:00. 2. G. Fuller (St. Albans) 8:48. 3. T. Payne (Northampton) 7:54. 4. R. Monks (Birmingham) 7:54. Glider:—1. D. S. Bailey (Swindon) 9:00+4:35. 2. P. Trenchard (ACCT) +2:37. 3. M. Dilly (Croydon) +1:24. 4. M. Reeves (Whitefields) +1:12. Chuck Glider:—1. A. T. Slater (Leatherhead). 2:27. 2. M. Farnham 2:24. 3. A. Hall 2:00 approx.

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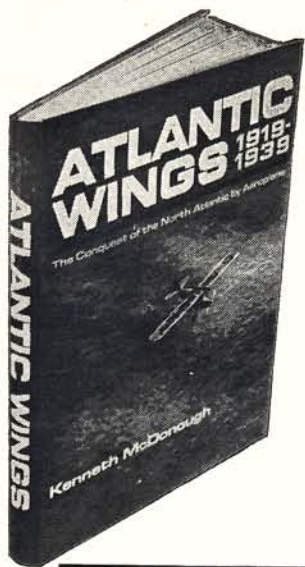
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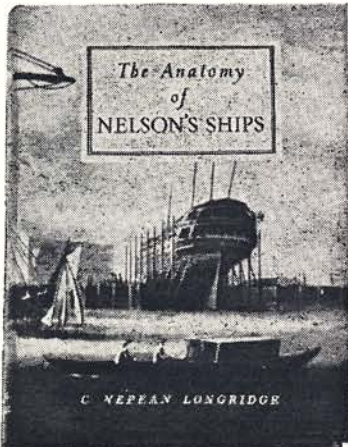
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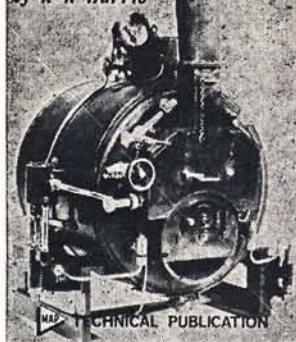
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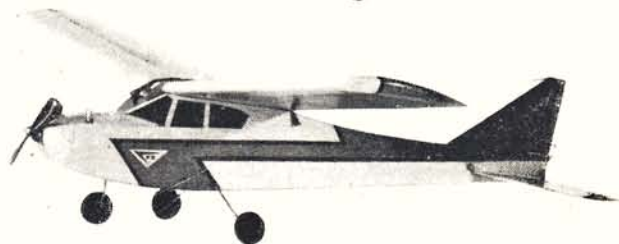
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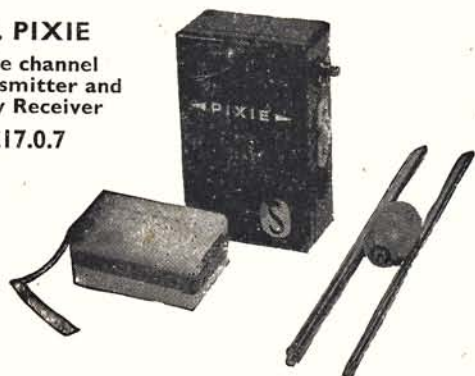
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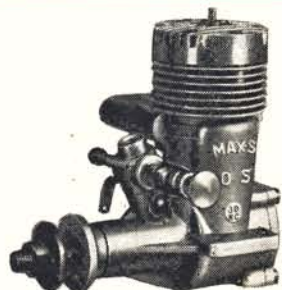
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