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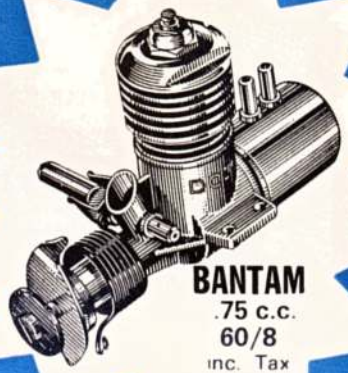

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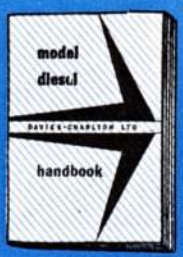

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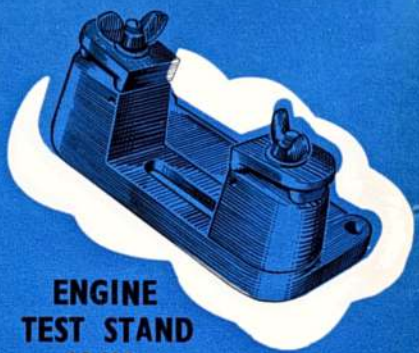

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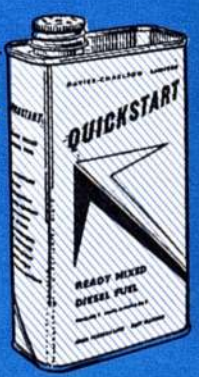

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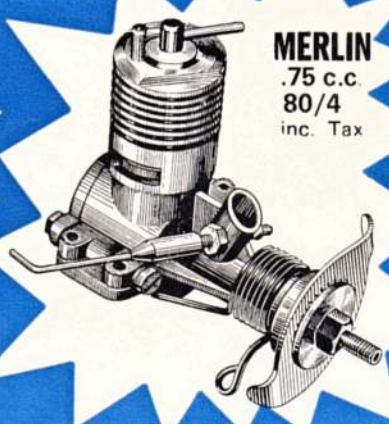

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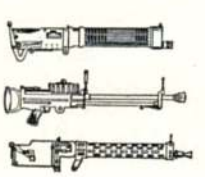

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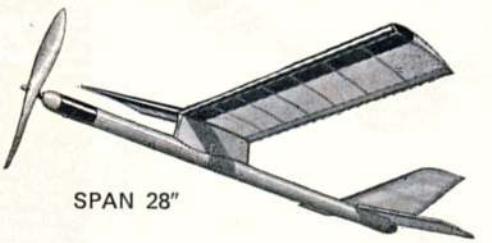

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Aero Modeller

INCORPORATING
MODEL AIRCRAFT

October 1970 VOLUME XXXV No. 417

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Advertisement and Subscription Offices: Model & Allied Publications Ltd, 13/35 Bridge Street, Hemel Hempstead, Hertfordshire. Tel Hemel Hempstead 2501-2-3.

Direct subscription rate 41/- per annum including December edition and Index.

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AERO MODELLER incorporates the MODEL AEROPLANE CONSTRUCTOR and MODEL AIRCRAFT and is published on the third Friday of each month prior to date of publication by:

MODEL & ALLIED PUBLICATIONS LTD.
13-35 Bridge Street, Hemel Hempstead, Herts
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COMMENT

On all counts, the inaugural World Championships for Scale Models at Cranfield were an outstanding success. Quality of the entries with their fine intricacies (now extended to working instruments in two cases!) and the spectacular flying provided a grand impression for the thousands who went to watch. It was, as forecast, a show that will set the standards for years to come and it adds yet one more triumphant citation to Cranfield's record of achievements with spectacular Championships organised by the Society of Model Aeronautical Engineers. British victory in three out of four categories provides great stimulus for the future, now that flying scale is properly established as a World Championship category, and spirits are buoyant after so happy an occasion. Our congratulations are extended to all those hard working volunteers who made the meeting possible. So, too, do we congratulate Brian Jackson of Sheffield for his fine success in the World Control Line Championships at Namur. We have to search our records back for 14 years to find British names on the leader board for Control Line Speed, and Brian's third place is a great credit to his perseverance.

on the cover

V. H. Baldwin's camera catches Richard King preparing his F.A.I. team racer 'Trident' for the semi-finals at this year's Nationals. With pilot Dave Rudd, also from the Feltham club, they recorded a race time of 5:34 which failed to qualify them for the finals. Pressure refuelling reservoir and the safety helmet make Richard look more like a man from Mars than a competition aeromodeller.

next month

Full report on the **World Scale Champs** plus Speed and Combat at Namur with model technicalities as seen at the **World Control Line Championships.** Maurice Bodey's **Northrop P61 'Black Widow'** Control Line Scale model plus information on the remarkable record flights by Dieter Schlueter's **radio controlled helicopter** and all our regular features, on sale October 16th.

Made and printed in Great Britain by Graphic Art Services (Brighton) Ltd., Burgess Hill, Sussex, for the Proprietors, Model & Allied Publications Ltd., 13/35 Bridge Street, Hemel Hempstead, Herts. Published by Argus Press Ltd., 12-18 Paul Street, London, E.C.2, to whom all trade enquiries should be addressed. Registered at the G.P.O. for transmission by Canadian Magazine Post.

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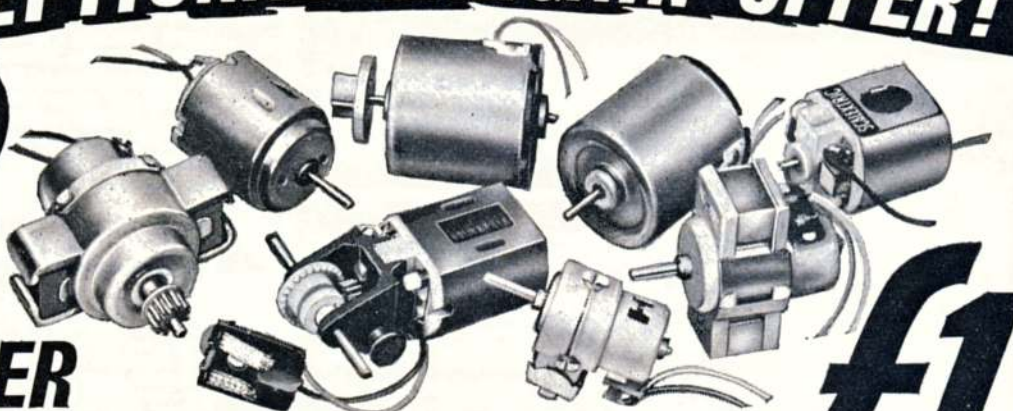

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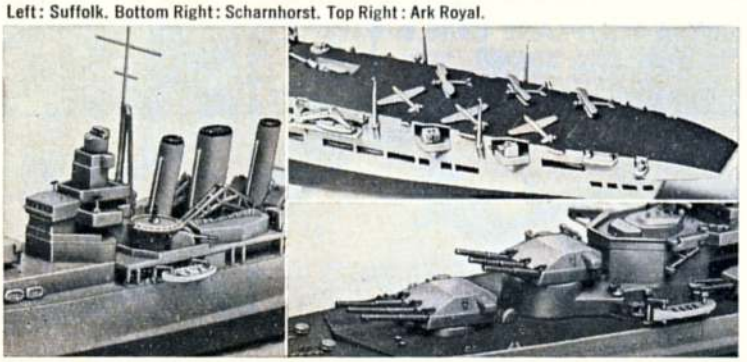
Left: Suffolk. Bottom Right: Scharnhorst. Top Right: Ark Royal.



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Graupner AIRCRAFT KITS

FOKA 102" span SCALE SAILPLANE £13.13.0

This outstanding kit includes a FINISHED ONE-PIECE FUSELAGE incorporating wing mounts and fairings moulded in high-strength plastic, with other parts in balsa and ply (mostly fully shaped), fully shaped wire parts, canopy, covering material, adhesives, decals, etc., etc.

A true scale-type sailplane which can be used for free flight or R/C tow launched, or for slope soaring. Performance is competitive with any other contest type, with the added attraction of aerobatic capabilities.

Spare fuselage moulding **£4.16.0**
Spare canopy **11/6** Wing grommets (pkt 10) **19/6.** These parts included in kit, plus separate OVERLAY PLAN showing radio installation.

CIRRUS 118" span SCALE SAILPLANE £18.10.0

Join the **CIRRUS** owners – the nearest thing to full-size flying when operated with multi or proportional R/C!

Quite the most fabulous kit yet, with finished fuselage mouldings in ABS plastic, precut wood parts, covering materials, complete hardware, adhesives, etc., etc, and QUICKBUILD plan.

For tow, launch, slope soaring or powered glider, taking 2- to 6-channel R/C gear for rudder, elevator and aileron control. Wing area 806 sq. in. One-sixth full size!

Pylon engine mount **25/6**
Fuselage only **162/6**
Mounting ribs **19/6**
Canopy **8/6**

HS91 CLOU ... £15.10.0

74½" or 96½" span

Spares:
100° Tail crank 4/6
Plastic nose 5/–

This is the supreme multi-purpose model! Build either with 96½" span wind got towline work, or 74½" span wing for slope soaring (or aerobatics). Parts for both wings included in kit. Detachable nose also enables the CLOU to be flown as a powered glider – free-flight or R/C in all cases! A very complete kit!

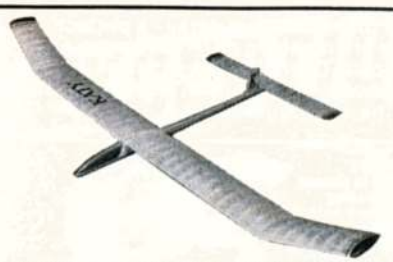
ALL THESE MODELS ARE SPECIALLY DESIGNED FOR TOP PERFORMANCE

DANDY F/F or R/C GLIDER £6.12.6

Highly prefabbed kit for QUICKY construction! Super kit includes die-cut sheet, preshaped fuselage parts, 63" span, milled and slotted stripwood, canopy, cement, covering, decals, adhesives, etc. Takes 2- or 4-channel radio and adapts to pylon power. Pylon engine mount **18/6d.**

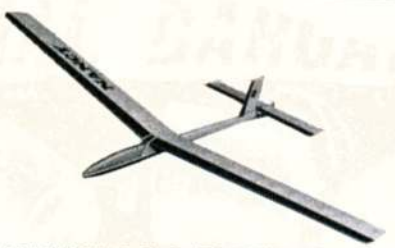
OTHER GLIDER KITS (not illustrated)
WEIHE 50 70¾" span true scale model F/F or R/C **£6.6.0.** **SCHLEICHER K-10** 79" span, foam plastic wings and fuselage **Kit £9.12.6.** Adapts to pylon power. **Engine mount 25/6.** **FOUGA SYLPHE** 25¾" span for Jetex 50 power **£4.6.6.**

KATY A-2 SAILPLANE £7.19.6



67" span free flight contest model. QUICKIE kit includes milled fuselage nose; wing fairing and other miscellaneous parts moulded in plastic, die-cut balsa parts and all other items needed to complete this superb high-performance model.

NANCY A-1 S/PLANE £3.16.6



QUICKIE kit with milled and slotted fuselage nose, die-cut and printed sheet wood, milled strip wood, dowels, shaped wire parts, etc., etc. 48¾" span high performance model which includes a DETERMALISER and AUTO-RUDDER!

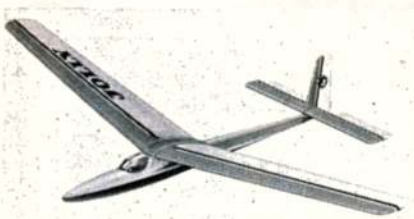
AMIGO II £7.13.6

An outstanding contest-type model for free flight or R/C and also converts to pylon power!

78¾" span

Recommended engine for power flying Cod Tee Dee 051 or similar.

Of conventional construction, this kit is very well engineered to produce a true contest-type model which is also robust and docile enough for 'Sunday flying'. A popular favourite in the Graupner range since it was introduced in 1966.

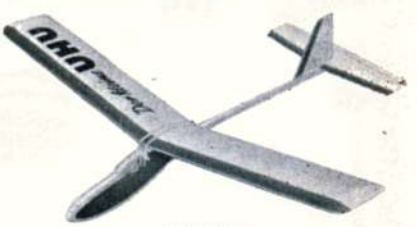


JOLLY A-1 SAILPLANE ... £3.6.0

Designed as a QUICKIE model for simple, fast assembly, this kit is extensively prefabricated and is very complete, including tissue, adhesives, decals, and was as pre-cut wood parts, etc. Outstanding performance as a towline glider and very stable.

FILOU 50" sp. SAILPLANE £4.9.6

Another superb kit engineered in the classic Graupner manner and complete down to the last detail. The FILOU is a sports type glider of modern design for free flight or radio control. Converts to auxiliary sailplane with pylon engine mount (18/6).



Span 43¾"

UHU Mark III GLIDER ... £2.12.6

Designed as a beginner's glider, so all parts are extensively prefabricated and assembly has been kept as simple and straightforward as possible – but without sacrificing performance. Towline stability and soaring qualities are outstanding.

SEE THE COMPLETE GRAUPNER RANGE AT YOUR

True DE LUXE kits . . . with the accent on super quality. Each kit is engineered from selected 'aircraft grade' materials throughout . . . and specially noted for the degree of prefabrication and COMPLETENESS.

KKWIK FLY MkIII £19.10.0

59½" span. For engines up to .61.

Acclaimed as the FINEST R/C KIT YET for multi or proportional R/C installations.

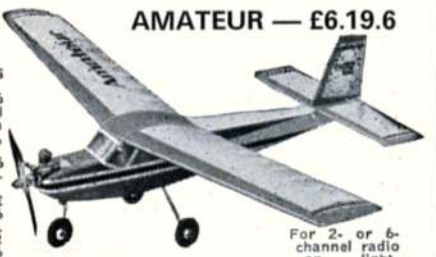
Phil Kraft's WORLD CHAMPIONSHIP winner faithfully duplicated in kit form. Kit includes glued and precurved fuselage sides, full shaped wood parts, die-cut balsa and ply sheet, wheels, formed undercarriage, canopy, all hardware, decals, etc., etc. Fully detailed plans with separate overlay plan of radio installation.

TAXI ... £11.16.0

59" span

This model has been specially designed as a trainer or 'Sunday flyer' for multi or lightweight proportional R/C gear. QUICKIE construction, the kit being extensively prefabricated in balsa, ply and balsa ply – plus all hardware etc. Recommended engine sizes 1.5 c.c. up to 3.5 c.c. (09's to 19's).

AMATEUR — £6.19.6



For 2- or 6-channel radio or lightweight proportional.

TOPSY £3.3.6

For long time a popular favourite in the Graupner range for 0.5 c.c. diesels of 049 glow engines. Originally designed as a free flight model, but equally suitable for radio control (rudder only). The kit is very well presented, and complete and makes a stable, easy-to-fly sports model.

OTHER POWER KITS
(not illustrated)

41" CONSUL £9.19.6
Single- or 2-channel R/C model with foam plastic wings, tail and fuselage.

46" KADETT £4.19.6
H/wing cabin monoplane.

42" KAPITAN BIPE £4.18.6
For F/F or R/C.

28" MINI PIPER £5.9.6
Fully prefab QUICKIE.

44" span R/C trainer or sports model for engines up to 1.5 c.c. Kit includes full length die-cut fuselage sides, other prefabricated parts, shaped wire parts, hardware, wheels, adhesives, decals, etc. An easy-to-build model with an exceptionally stable flying performance. Good looks, too!

Phil Kraft's R/C 'Intermediate' MIDDLE STICK ... £14.8.6

Jump right to the top in R/C stunt performance with this well balanced design with uncritical, forgiving flight characteristics! Building time has been drastically cut by the provision of numerous pre-cut parts in the kit, including pre-glued and pre-curved fuselage sides. Easily convertible to hydro flying by the addition of floats! Prominent features are low structural weight and 'old timer' look Takes engines up to .40 size – or the Wankel.

Technical data: span 55", fuselage length 38¾", wing area 611 sq. in., tail area 124 sq. in., weight (less radio gear) approx 3¼ pounds, with radio, up to 5 lb. Total surface loading, up to 15.725 oz./sq. ft. Separate OVERLAY PLAN included covering R/C installation.

FABULOUS WANKEL!

Never before has there been a power unit like this available for models – a masterpiece of model engineering development. Power output 0.62 bhp at 16,000 rpm with smooth, smooth running. The size is compact, too – approximately 3" diameter and less than 4" overall – a better shape for most model aircraft installations. Over six year's development in bringing this modern rotary piston engine up to production requirements – and extensively test flown on Graupner kit models. The workmanship on each unit is superb throughout.

Price £52.19.6

CONTROL LINE KITS

39" span for engines up to 3.5 cc.

FW 190 £8.5.0

Who better than a world-famous German firm to engineer a kit of this outstanding World War II fighter! Makes a really authentic model with a thrilling flight performance.

MUSTANG
A semi-profile type aerobatic model designed for easy assembly. Span 29¾"
Kit £5.8.6

KLEMM KL107 28" scale ... £5.13.6
Takes engines up to 2 cc (.15 glow)
ULTRA STUNTER 35½" span £4.16.9

TOWLINE HANDLE and LINE 7/3
TEMPO GEARED WINCH £3.10.6

FLOAT KIT £4.17.6
Enjoy the thrills of seaplane flying! Suits models up to 7¾ lb. all-up weight.

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accessories

NOSELEGS

L/W S, Short	21/6
L/W S, Long	21/6
Bulkhead fit	36/6
Belly fit	43/6

(All the above are single leg, steerable)

Noseleg bracket (2)	5/11
Steering arm (2)	5/6

SPINNERS

1¼" 3-bl.	4/8
1½" 3-bl.	5/4
1¾" 2-bl.	2/11
1½" 2-bl.	3/3
1¾" 2-bl.	3/5
2½" 2-bl.	22/6
1½" metal	11/9

NYLON 3-BLADE PROPELLERS
8 x 6 ... 11/9 9½ x 5 ... 12/11
Metal Hub Bush ¼" or ⅛" 1/–

LINKAGES

Metal linkage (illus top) set	5/11
Moulded linkage, set	4/11
Extension tubes 20" x 5mm.	3/–
for above 20" x 7 mm.	3/–
Quick-Clip linkage (pair)	7/11
Adjustable Throttle Linkage	6/3
Horn and snap-on link	8/11
Snap-on Aileron Links	10/6
Klip-on Keeper	1/–
Metal Arm (horn) pkt. 2	7/11
Nylon Horn	2/6
90° Nylon Crank (pkt. 2)	5/3
120° Nylon Crank (pkt. 2)	5/3
Graupner Wing Bolts (set)	5/6

Bowden Cable with Links	8/11
Full length Pilot Doll	18/3

GRAUPNER RECORD WHEELS

1⅛"(30mm)	6/9pr.	2⅜"(60mm)	11/6
1½"(40mm)	7/6	2¾"(70mm)	15/9
2"(50mm)	8/11.	3½"(90mm)	26/6

2" (50mm) Scale Sponge 11/9

Graupner Round Clunk Tanks
Suitable for R/C or C/L models.

100cc	3½oz 15/6
200cc	7oz 16/9
300cc	10½oz 18/11

100 cc Square Clunk tank	13/9
250 cc Square Clunk tank	15/–
500 cc Square Clunk tank	18/6
20 cc Metal (for Consul)	15/3
60 cc Metal (for Amateur)	16/11
Graupner in-line Fuel Filter	5/3
200 cc Squeeze Bottle	5/4
500 cc Squeeze Bottle	8/4

Flat Nylon Hinges	each 1/–
Capped Nylon Hinges	each 1/–
One-piece Polypropylene Hinge	6d.

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049-09 ... 3/11 39-61 ... 29/6
ENGINE PULL STARTER £5.10.6

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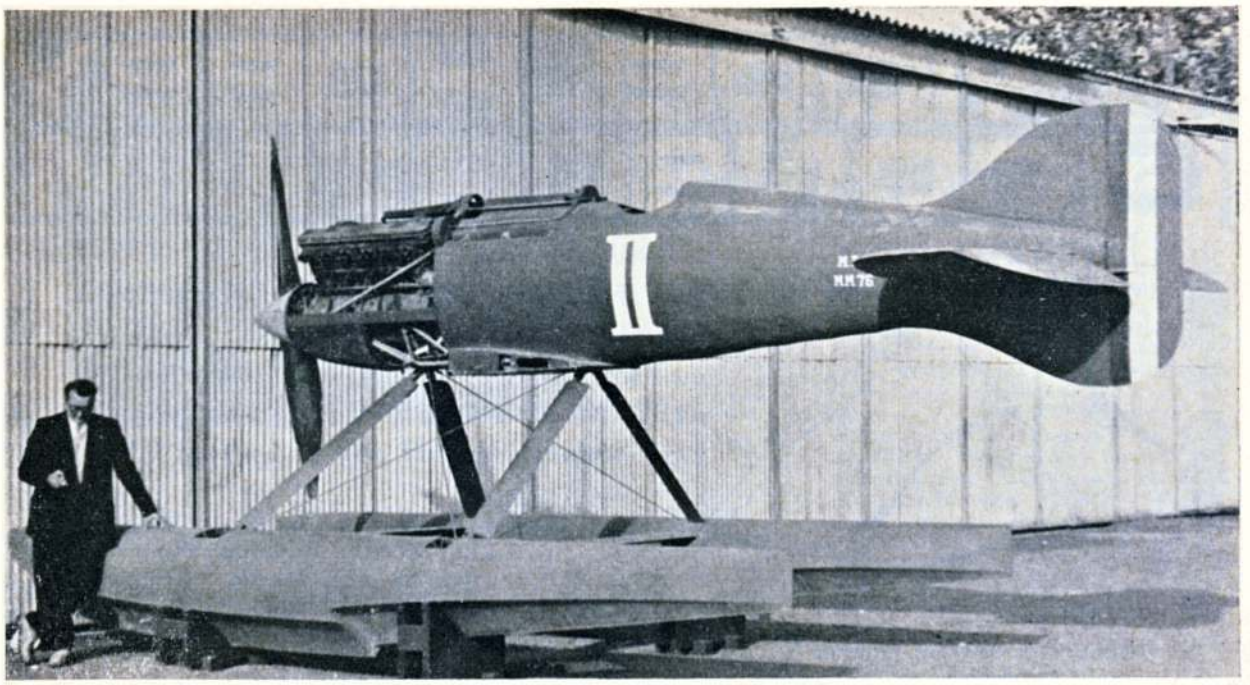
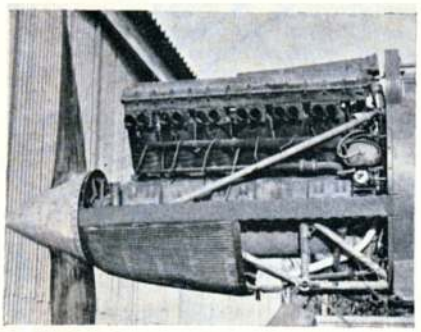


WHY NOT ANOTHER SCHNEIDER TROPHY ?

We discovered this reminder of Schneider Trophy days sitting outside a hangar on a small airfield near Rome. Some scale model enthusiast better informed than us will no doubt be able to identify it, and know its history. Our guess is that it was built when models were still made from birch and spruce . . . but it does make you daydream about building Schneider Trophy racers in miniature?

Why not, indeed. Balsa will solve most of the constructional problems, and radio or control line will iron out any trim troubles. All you really need is a suitable stretch of open water – where the pilot can stay on the bank. And somewhere in past issues of *The Aeromodeller* you will find an article on this very subject (December, 1962 – Ed.)



Carving the fuselage out of solid block? Then you need soft low density stock, hollowed out. The same for the floats – or here you may prefer expanded polystyrene, skinned with balsa of course. It just does not stand up without some strengthening, like balsa does. Tail parts cut from sheet (balsa is the only choice here); and a balsa wing (the section is too thin for foam).

We're prejudiced, of course, for our job is producing *aeromodelling quality* balsa for you and other modellers. But the fact remains that balsa is the best material for making flying models of any type, and Solarbo Balsa is the name for a true *quality material*.

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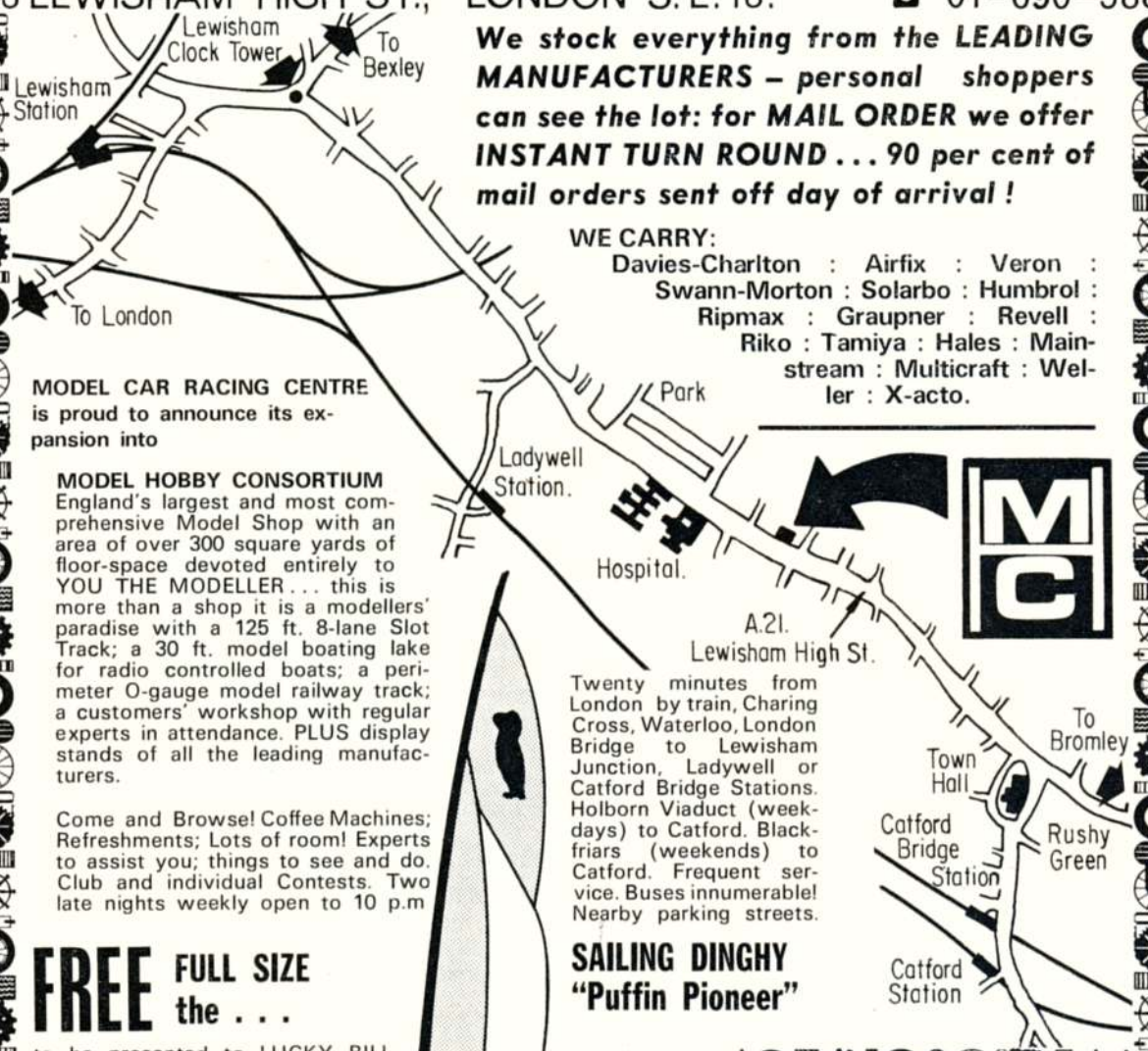

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SAILING DINGHY "Puffin Pioneer"

by Polycell-Prout

One-piece moulded hull in expanded Polystyrene.
Length overall 9.3ft.
Beam 4.5ft.
Weight (approx.) 50lbs.

Sail area (excluding jib) 41 sq.ft.
The safe family boat
Simple – light – easy to sail

to be presented to LUCKY BILL NUMBER!
Buy something from the shop before 25th October and you will have a chance to win!
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SPECIAL OPENING DISCOUNT OFFER ! ! !
Everyone can enjoy opening 10% Discount Offer . . . Bring the DISCOUNT COUPON and take a 2/- in the £1 off your First purchase. Available until 25th October, 1970. **Ref: AM**

HEARD AT THE HANGAR DOORS

Members of Harpole (Northants) M.A.C., much relieved at the return of member Gary Pope's wayward radio model after an air search – see text.

CLAIMANTS to ownership of *The Silver Trophy* which was presented to the Regents Park and District M.F.C. by F/Lt. R. Silver, D.F.C., are invited to contact us, when we will put them in touch with one of our most faithful readers (since issue Number 1), who is at present looking after it.

INTERNATIONAL POSTAL organised by Norwich M.F.C. for F.A.I. free flight classes is for team and individual classes. Teams are constituted of one each power/rubber/glider flyers. Flights can be made on any day during October 1970, with 5 flights of 3 minutes' maximum and subsequent fly-offs increasing in increments of one minute. Teams must be nominated before flights are made but a flyer can operate different classes on different days. Flight details, with weather description and model data to be submitted to M. J. Woodhouse, 39 Lindsay Road, Sprowston, Norwich, NOR 92P.

NEW RECORD claim for a radio controlled glider flight made on 31st July in Czechoslovakia by L. Dusek is no less than 213.6 kilometres (132½ miles) in a closed circuit. The record is not yet confirmed. Nor is the 22-minute helicopter flight by Ing Dieter Schlüter of West Germany. Story behind this achievement next month.

BOOMERANGS have an associated interest for all aeromodellers, and the foundation of a Society for the promotion and avoidance of Boomerangs will attract the attention of many of our readers. The Society is intended to encourage the technical development of boomerangs so that greatly improved performance may be obtained. Correspondence and enquiries about membership should be directed to Dr. D. B. James, Cherry Orchard, Marlow Common, Bucks. It is envisaged that competitions will be arranged so that records may be set for range, duration and accuracy.

WORLD R/C AEROBATIC Championship will now be held in the United Kingdom in 1971. The S.M.A.E. has decided that the heavy work load on volunteer officers is too great, particularly after the exertions of the recent Scale Championships. It is probable that the event will now be held in the U.S.A., where the Model Press has been making some amazingly precipitate announcements for some time. The F.A.I. Models Commission will decide the 1971 World Championships Programme at its reunion on December 3rd,

FROM THE PAPERS . . . (*Northampton Chronicle*). Headline *'Search plane locates flyaway model'* and single column story tells of how Gary Pope of Harpole M.A.C. lost his R/C model in crops. An appeal was made to local helicopter owner Ken Duckworth (of racing car engine fame), but the 'chopper' was under inspection and grounded. Fellow director of Cosworth Engineering Ben Rood offered to help and after a 20-minute search by airborne Auster, the model was found and a grateful owner satisfied.

FROM THE PAPERS . . . (*Daily Record – Glasgow*) Headline *'Terror as Model Plane Crashes into a Crowd'* and a double-column story of how an out-of-control model caused dozens of specators to dive for safety. The Chipmunk hit William Beecham of Perth, who was taken to hospital with a back injury, multiple bruises and a brozen right wrist. The accident happened at a display by Perth M.A.C. and was blamed on to Walkie Talkie interference. The moral is obvious – fly with care and at adequate safety distance from any public assembly.

FROM THE PAPERS . . .
(*Daily Mail*)

FAR&NEAR

Bob takes a flyer

BOB EGERTON'S model plane, which took five years to build, disappeared in cloud on a trial flight at Fordingbridge, Hampshire.

Mr Egerton, a 36-year-old sales manager, of Pentons Hill, Hyde, near Fordingbridge, chased the cloud for five miles — hanging out of a car window. Then the cloud broke. There was no plane inside and last night it was still missing.

World C/L champs

NAMUR 1970

by Peter Richardson

APPROACHED BY A series of rapidly ascending hair-pin bends, the venue for this Championship was situated at the *Citadelle de Namur*, perched high above the River Meuse, with a correspondingly magnificent view over the valley. This obvious tourist attraction just outside the city of Namur was well 'serviced' by three cafes, one of which provided the organisation H.Q., another the competitors' eating place, whilst all were constantly filled with many sightseers. Despite some rain on the practice and first contest day, the weather was mainly good, the wind never becoming excessive, and at times it was decidedly hot.

The organisers, in conjunction with the local club, *Le Condor*, had persuaded the town of Namur to provide the necessary tarmac circles and attendant equipment for this meeting, which they did at a cost of some £2,000. Team race and speed circles (the former equipped with the same efficient lap counters and elevated jury platform as used at Genk for the Criterium) were provided with safety fences, whilst the stunt circle was barricaded with fences to control spectators. A combat circle was turfed around the perimeter for a width of approximately nine feet, which left a centre segment of rather hard and dusty coarse ground. Because of these fences, spectators (at no time very numerous) were never a problem and did not hinder the competitors. Directly behind the speed and stunt circles were a series of elevated seats, reaching up to the foot of Citadelle which would have provided spectators with an admirable panoramic view of the whole proceedings, but surprisingly, very few made use of these facilities. We had been informed that after the meeting the tarmac circles with the exception of the team-race circuit, would be torn up, and this, incredibly, was true – by 10 a.m. on the day after the contest the stunt circle was already half-demolished, and the speed safety fence removed!

Picturesque, and with such good amenities, the site could only be faulted in two respects. Firstly, there were no practice facilities at all due to the compactness of the site. Modellers who arrived earlier in the week had not been able to practice as the circles were not complete, and had to travel to Genk – a two hour journey away. Secondly, the stunt circle, situated at the foot of the Citadelle steps, and bordered along one side by tall trees, was plagued by turbulence, causing many fliers anxieties when the wind was in the appropriate direction.

The speed event promised to provide great interest, particularly in the clash of the greats between the American and Russian teams with the West Germans and Italians as the dark horses who could have upset the apple cart. A last minute substitute in the American team was Glen Lee, Bill Wisniewski unfortunately being unable to attend. However, as things turned out, it was our own Brian Jackson who provided the real surprise of the meeting by splitting the American domination with a truly magnificent series of flights to achieve third place. His consistency of 229.2, 227.8 and 229.2 km./h. showed this to be no 'flash in the pan' result and is the just reward of this hard-working, ever cheerful flier. His standard T.W.A. powered *Pink Lady* has never gone so well before – not even in practice immediately before the contest flight, and it seems that his motor has now really begun to show its true potential, particularly as he has at last found the best propeller combination – carved and reworked from a Topflite 6 in. x 6 in. only the night before. When he stepped forward to receive his award at the banquet he received the biggest ovation of the night – a true reflection of his popularity and esteem with which his fellow competitors have for him.

Other major points of interest in this contest were the potential shown by the new Rossi 15 engine used by the Italian team, and with which Ugo Dusi achieved fourth place, and the unconventional models of the Russians, powered by a reed valve engine.

News from practice flying at Genk was that the American team race fliers of Theobold/Barr, using their A.R.M. (American Racing Motor) engine were a real threat, with speeds of 95 m.p.h. and a range of 55 laps being reported. The remaining American teams were also rumoured to be going well – as were the Russians, as has come to be expected of them.

In general, the team racing event showed that the models are becoming yet more refined with even more emphasis given to complex gadgetry. Pressure refuelling systems were even more widespread – at least 80 per cent of the teams using them – and the Bartel glass fibre propellers (with the 7 in. x 7½ in. Drazek type most popular) were fitted to 70 per cent of the entries. Fuel cut-outs were also growing in use. Engine wise, we saw the emergence of the A.R.M. a three port 'wart' diesel based on the T.W.A. speed engine, the growing dominance of the various Super Tigre engines (many fitted with Cox .049 venturis, the continued popularity of the H.P.15 D's despite the fact that only a limited number were ever produced, and the almost complete demise of the ETA 15's – only the British teams of Heaton/Ross and Turner/Hughes favouring them. Home built engines were used by the three Russian teams and the Italians Cipolla/Turlzzi, while the Spaniards again used José Perez built diesels. Danes Bobjerg/Siggard used a Hasling built motor, featuring a Super Tigre crankshaft, M.V.V.S. cylinder/piston assembly and Cox .049 carb. in their most unorthodox model, the fuselage of which was beaten from sheet aluminium. The engine mount is integral with this fuselage which is also designed to carry a tuned pipe, although this was not used. The heavily finned motor is rather overweight so the model was built light to compensate for this, and, in fact, the wing, when supported at the tips, bows to an appreciable degree!

Canadians Parent/Kelly too had a most interesting motor. Starting life as a Super Tigre G 20/15 RV, it is now equipped with a chromed piston, ball-bearing drum valve induction, nylon venturi and, most unconventional of all – is a fixed-compression diesel! Similar in design to the Stockton/Jehlik two-piece head, the compression ratio is, however, pre-set, and can only be adjusted by the insertion of appropriately sized shims. Claimed advantage is a better combustion chamber shape – and it was said, utter reliability of settings. The amyl nitrate content of the fuel was added at the contest site to allow for minor varia-

tions in conditions. A large diameter tube emerging from the nose cowling provides ram air induction to the carburettor.

In stunt there were no radical changes to model design, the majority of competitors using well-tried and tested models, many several years old (and showing it!) whilst several were in remarkably pristine condition.

Without doubt the most photographed models belonged to Americans Werwage and Phelps – truly remarkable pieces of pure art. Many of the models which had appeard well finished palled into insignificance when placed alongside these beauties. The paintwork had 'depth' and the detailing and finish was little short of incredible, and Phelp's *Patriot* had full cockpit detail, including safety straps, fire extinguisher etc. yet still weighed only 48 oz., despite its 13 coats of dope and colour – the McCoy 40 providing ample power, even when running rich. These incredible finishes, combined with the smart appearance of the pilots in their team 'uniform' and overall air of efficiency *must*, subconsciously, have affected the judges, and is all part of the showmanship involved in aerobatics. Indeed, many knowledgeable spectators, perhaps being super-critical, were not unduly impressed with the American's flying, and would have placed the Czech Gabris higher than his third place.

In general, the standard of flying did not seem to have improved at all since the previous Championships, and in many ways, seemed to have gone down. Engine over-runs, resulting in the loss of landing points, were far more common than should be the case at a meeting as important as this one, and there were some five 'prangs'.

There were two combat contests held, with an International status, which did not attract *any* British competitors (well that's not *quite* true, more of that anon!). If our fliers had gone, we have no doubt that they would have done well, as the standard of flying and model design was generally low. An added incentive was the number of trophies allocated – each contest had its individual and team awards, and the winner of each event competed for a trophy donated by the President of the 'Le Condor' club.

The Dutch did not compete at Genk, but watched the British style of flying and model design closely, and have obviously benefited from this experience, and were unlucky not to have done better in the contest. They flew Oliver-powered *Liquidators* and had the right relaxed style, whipping the model through manoeuvres, but lacked the necessary 'aggression'. The Russian Kiseljeg produced the biggest surprise with his British styled, but incredibly light (and weak!) model, powered by a pressure-fed glow engine. This flew at over 100 m.p.h. and was as manoeuvreable as any model can be when flown at that sort of speed. Many of the teams relied on mechanical starters to bring their engines into life, but these are rather cumbersome to carry round the circle after an accident, and definitely wasted time in this respect.

Team Racing

The team racing was superbly organised and watched over by a jury consisting of Peter Freebrey (G.B.), Tony Aarts (Holland) and Kjell Rosenlund (Sweden). From their elevated position, next to the lap scoreboard, they had an unobstructed view of the proceedings, and took good advantage of this to rule the fliers with a firm hand. They were extremely fair but insisted on strict compliance with the rules – which all competitors (even those subsequently disqualified!) agreed made for a better contest.

Heat 1 started promptly at 9.00 a.m. with Krause/Volke (East Germany) winning their heat with a rather slow time of 5:23.4, in front of Bulgarians Nicolai/Branimir and Spaniards Bonnin/Montoy, who were plagued with an under-compressed run. The first Russian team, Onufrienko/Shapovalov produced their attractive model for **Heat 2**, when they met the Gafner brothers (Sweden) and Ekholm/Nore of Finland. The Russians are always interesting to watch, and good times are expected of them, so their eventual 4.53 was perhaps just a shade disappointing. Their pitting was first class, aided by the use of a cut-out and pressure refueling system, but the airspeed was no better than the Finns, who finished some six laps behind, while the Gafner brothers toured round, their Oliver Tiger missing badly, to record the slowest time of the round – 7:00.2. Interest increased in **Heat 3** with the appearance of the Americans Albritton/Marvin, the experienced Italians Cipolla/Turlizzi and the far travelled South Africans, Todd/Van Breda. At the starting whistle it was the Italians first in the air, closely followed by the Americans, leaving Van Breda frantically flicking his Super Tigre G20D (plus Cox carb), and losing three laps. Albritton, flying his HP 15D powered *Jefe* styled model rather high, received a warning for not keeping his handle to his chest. Thanks to the use of a good loud speaker system, the team managers could easily tell their pilots when a warning had been awarded, and for what reason. The Italians and South Africans were equal on speed, but trouble struck the latter when their motor cut for a *second* time at 31 laps. Albritton received a second warning, this time for leading on over-taking, and he was still flying higher than necessary. A few laps later he received his third warning, resulting in disqualification, for the same offence. It seemed rather pointless to try and bend the rules so blatantly with such a strict jury in attendance – and no-one can really afford not to establish a time in the first round. Cipolla/Turlizzi were thus left to complete the heat, with a time of 5:07.3, the South Africans touring round, way off tune, to record 6:38.3. Obviously they found conditions considerably different from the 6,000 ft. a.s.l. where they normally fly.

The much admired Parent/Kelly (Canada) model was matched against Bader/Kaul's HP.15D powered 'Orbiter' and Molnar/Nyarady of Hungary in **Heat 4**. This latter team produced the real surprise of the meeting, when they promptly proceeded to use a mechanical starter. This was a very neat, recoil unit, resembling a large torch in size and appearance, and has to be wound against a ratchet and spring tension. As this is a relatively slow process, two such units were provided in case the engine failed to start on the first one. Many people assumed that such devices were banned, but in fact there is no rule in the F.A.I. Sporting Code prohibiting their use. However, in the race they were unlucky to lose a lot of their range on the

Below left, Jim Nightingale placed second in speed at 238.4 km/h. Below, hero of the British team, Brian Jackson, who achieved third spot. At right, with every reason to look happy, is Arnie Nelson – Note assymetrical wing employed to fair-in as much of the lines as possible.

second tank – obtaining only 25 instead of the usual 35 laps. This extra stop cost them the race, but even so they achieved 5:04. The starter provided instantaneous re-start, and the reserve was never needed. Parent/Kelly had terrible luck – their engine starting first flick at the starting whistle – but the model immediately ran into the centre of the circle. Meanwhile Bader/Kaul established a very rapid 4:44 with their rapid, cut-out equipped model. This time could have been even better had Kaul's pressurised re-fuelling system not burst forcing him to use a squash bottle.

The first British pair, Smith/Harknett, appeared in **Heat 5.** First away at the start, they were hotly pursued by Dutchmen Buys/Goudsmit and the Belgian Fichet brothers, whose Webra Mach II was off tune, losing them several laps until it cut at the sixteenth. After a slight delay it was off again, still sounding 'hard'. Both the other models cut out together, Steve Smith being one lap in the lead, but with his normal 33-4 lap range reduced to 29. However, a very quick pit stop by Tony Harknett had him back in the air almost immediately, while Fichet struggled with a false-start and a lengthy period of re-setting the needle before he released – now nine laps behind. The Buys/Goudsmit team were still in difficulty, their engine cutting at 30, 32, 33 and 35 laps before they retired. Steve received one warning for not holding the handle to his chest (a very common fault) and also for leading the model. The British pair recorded a reasonable time of 4:57 despite an extra stop necessitated by their sudden loss of range – pits being necessary at the 58 and 88 lap stages. **Heat 6** produced little interest, the Rumanians Misaros/Nagy being disqualified when the pilot put one foot outside the circle before the pitman had caught the model. Fransson/Ahlstrom and the Topalian brothers had uneventful runs, resulting in 5:11 and 5:18 respectively. **Heat 7** was even less exciting, Herber/Wilke (E. Germany) having their model run in, and the Bulgarian Lutchev brothers being disqualified when the pilot left the centre circle prematurely, leaving Danes Mau/Nielsen an uneventful run for 5:11.3.

Heat 8 brought together favourites Babichev/Krasnorutsky (using an identical model to that used at Genk), Spaniards Pacheco/Parramon and the Swiss Galli/Meyer. Take-off was instantaneous for all, but the Russians were visibly faster, while the Spaniards suffered a badly missing engine run, and also collected a warning for whipping. Down at the 18th lap, the Swiss re-adjusted the needle, losing ten laps to the leaders, and they too received a warning for whipping. Using the cut-off at 30 laps, Babichev landed the model at his pit man's feet, who scarcely seemed to touch the model as it leapt back into the air in just 3 seconds – a feat which he repeated on the 66th lap. Meanwhile, the Spaniards had retired when their model ran in at the first pit stop, and the Swedes collected two more warnings, with subsequent disqualification, for not holding the handle to the pilot's chest. The Russians continued with an air speed of 97 m.p.h., and recorded the incredible time of 4:17, which was to remain the target to beat. Italians Magli/Ferroni recorded a respectable 4:49 in **Heat 9,** which gave them a chance of reaching the semi-finals, while the Sundell brothers were surprisingly slow at 5:15.9 and Scholtz/Menges experienced trouble with the drop in altitude from their normal South African site.

Heat 10 was expected to be fast, featuring Americans Theobald/Barr, Kosmalla/Junge (W. Germany) and Criterium winners, Gurtler/Baumgartner All got away together, being equal on speed, with both the Austrians and Germans receiving warnings for breaking the handle-to-the-chest rule. First down, Kosmalla had a slow stop at 28 laps, whilst Gurtler's was the opposite at 31. Meanwhile, Roger Theobald droned on, his ARM powered model having a 53 lap range – and then it was superbly pitted by John Barr. The others each received an additional warning. The Germans landed again after 74 laps, lost time adjusting the compression, and were later disqualilfied for leading on overtaking – as were the Austrians, leaving Roger on his own for the remaining few laps to record a well deserved 4:35.5. Hungarians Kun/Katona got off well in **Heat 11,** using their team-mates mechancial starter, but were subsequently disqualified for raising the wing tip off the ground during a pit stop, when the Metkemeyer brothers snagged their lines and ran in – leaving Belgians Delhez/Dessaucy to tour round for 5:31.8.

British hopes were somewhat dashed in **Heat 12** when the Hughes/Turner model ran in on take-off, but due to Samuelsson/Axtilius' Super Tigre breaking a con-rod after only 5 laps, a re-fly was ordered, and they were fortunately allowed to compete in this. However, they failed to obtain any advantage from this re-run as they were disqualified when Mick Hughes put one foot outside the pilots circle too soon. **Heat 13** was disappointing. Porta/Hervas retiring with a very sick motor, the Geschwendtner brothers being disqualified, and Timev/Rashkov producing a slow time of 5:52. As anticipated, **Heat 14** was very fast, Plotzinjsh/Krasnorutsky recording a magnificent 4:30.8, following rapid stops at 37 and 68 laps. Their opponents, South Africans Wellman/Van Reenan, like their countrymen, had a badly missing run, with loss of both laps and speed, resulting in 6:12.3. Finns Fagerstrom/Aarnipalo lost time with a misfire on the first fuel tank-full, but subsequently made up ground to achieve 5:05.7.

Heat 15 promised to be fast, with such well known names as Fontana/Amodio, Wright/Dunkin and Schwarz/Ilg, but this was not to be; the Italians being disqualified for repeatedly not keeping his handle to his chest, and the Americans despite achieving a one-stop run with the ARM powered model were down on speed at 5:05.5. The Germans had one poor tankfull when the engine was under comped, and despite excellent pit stops could not make good this deficit.

Regular competitors at International contests, Mohai/Markotai (Hungary) put in a respectable 4:55.1 time in **Heat 16,** without using their team-mates starter, and were not hard pressed by Austrians Fischer/Straniak or the Belgians Bernard (yes, Nery Bernard) and Macon.

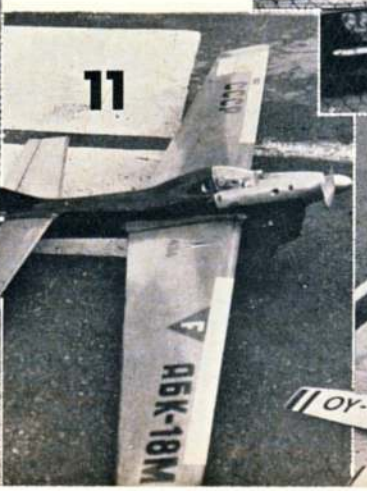
The last heat **(17)** of the first round was between our third team Heaton/Ross, Danes Bobjerg/Siggard and Frenchmen Fely/Barnier. At the start, all were off together, with the British slightly in the lead, but their ETA slightly off tune. The French team's Super Tigre was badly over-comped, and it consequently slowed more and more until it cut on its fifteenth lap. The other two teams were equal on airspeed, and both landed on lap 32 for excellent pit stops. Derek Heaton's engine was still missing slightly, but was maintaining a good airspeed. The French landed again at 35 laps for a slowish stop, and subsequently they and Derek received a warning apiece for not holding the handle to the chest. Bobjerg brought his model in at 64 laps, and was off again with four flicks of the propeller. Derek landed at 65 laps, and as Malcolm raised the model to increase the compression, the French team landed, snagging their lines. This of course meant disqualification for the British team, as the wing tip was way off the ground.

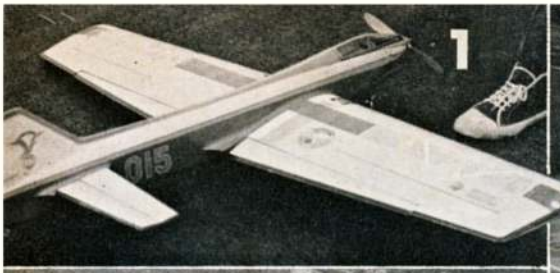
First heat of the **Second Round** began on the Saturday with our own Turner/Hughes flying with Cipolla/Turlizzi and Triconnet/Mayne –all of whom needed to establish a good time to qualify for the semi-finals.

All had an excellent start, with the Italians having a slightly faster model, and by the time of the first pit (31 laps) were three laps ahead of Mick Hughes – who using his cut-out, landed after 35 laps. Perhaps he was being over-cautious following the first round disqualification, or perhaps they were both nervous, but the model slipped through Brian's fingers and ran-in slightly. Brian quickly retrieved the model and ran back to his segment before starting the motor with a single flick, but he was now four laps behind the Italians, who had a slowish stop. The French team landed after 36 laps for a slow re-start, and by 8 laps behind Cipolla/Turlizzi. The next stop for the Italians was at 64 laps, but Turlizzi missed the catch, and the subsequent retrieval and restart cost him his lead. At 70 laps, Mick cut his engine, but again the catch was missed, the model hitting Brian's wrist. He retrieved the model, rapidly started the ETA 15, but it died and ran in. Reaching into the circle he was just able to retrieve it, and ran back six yards to his segment before he could again start the engine and release the model – now 17 laps in arears. Their chances were by now gone – and the Italians were first home in 5:073, 38 seconds in the lead.

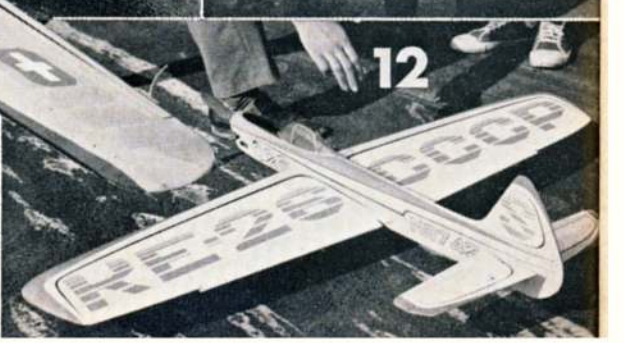
Heat 2 was between Ekholm/Nore, the Gafner brothers and Schwarz/Ilg. As was rather expected, the German pair were first way, and had the fastest model. After only 18 laps the Gafners' Oliver cut out and they were promptly disqualified for the pilot placing his foot outside the circle before the model had been retrieved. Schwarz landed at laps 23, 47 – then finding more range on a leaner setting, 78. The Finnish pair had a couple of poor pit stops when their engine overcooked, and thus finished nearly three-quarters of a minute behind the Germans 4:47.1 – probably good enough for a semi-final. **Heat 3** looked an interesting race, featuring Theobald/Barr, Tinev/Rashkov and Heaton/Ross. All were in the air together, with Derek Heaton's model being *slightly* faster, although he only gained one lap in the first 15! Tinev/Rashov landed at 32 laps, Derek at 34 – for a one flick stop. Meanwhile, the ARM powered model droned on – getting perhaps just a little slower. Eventually it did cut – after 56 laps, right over its pitting segment. Roger Theobald tried to land the model, but it was travelling too fast, so he hauled it round for another 7/8th of a lap where John Barr waited – producing yet another excellent re-start, but they were now 3 laps behind the British pair. Derek cut the motor for their second stop at 67 laps, and Malcolm provided yet another perfect refuel-and-start. At the three-quarter stage, the British and American teams were equal, with the Bulgarians just

1. Amodia/Fontana have conventional model with unconventional features, including oil-cooled motor. 2 Plotzinjsh's second place model. 3. John Barr plus space - helmeted Snoopy and Friend. Conventional model. 4. Marvin/Albritton model has many Jehlik features, including *Jefe* wing and tail. 5. Unlucky Canadians Dave Kelly and Ken Parent – immaculate finish and many original features. 6. Beautifully finished racer by Russians Onufrienko / Shapovalov. 7. Unconventional model by Bobjerg / Siggard. Wings coated with glass fibre resin. 8. Bill Wright readies his ARM – engine that is! 9. Wilke (E. Germany) used this popular design with very well produced pan casting/ cockpit. 10. Katona uses his mechanical starter during a pit stop – note reserve unit in foreground. 11. Winning model by Babichev/Krasnorutsky. 12. Siggard uses bottle-on-elastic to refuel his Hasling Special powered machine.





1. Esjkin produced this tandem wheeled, attractively finished model – sprung noseleg. Lightweight design has strong Russian influence. 2. Winner Bill Werwage displays his immaculately painted model, as does fourth placeman Gary Phelps in photo 3. Detail was incredible, with rivet and panel lines inked in. 4. A. Keller used dihedral winged 'Skyscraper' design. 5. Bob Gieske placed second with his modified Nobler. Well finished but not up to the standards of his team-mates. 6. Alexiev of Bulgaria flew this very attractive Russian styled model, with large area flaps and elevators. 7. Hank Twerda's Olympus, now modified to single fin, flew better in wind. 8. Brightly decorated Olympus styled model by Rocher – Merco 49 powered. 9. Lauron produced this nicely finished 'Crusader' design – features detachable wings. All rivet lines, etc, are transfers, not ink as the Americans. 10. Huge silencer evident on Keller's model – several fliers still not using them, although they will be obligatory next year. 11. Piotzinjsh still uses mono wheel undercarriage – this one coil sprung. 12. Unlike his team-mates, Kondratenko uses trike u/c. Very pretty model with 'shadow lettering'.



4 laps behind. Then fate took a hand. The ETA started to overheat, so Derek cut the motor (84 laps) enabling Malcolm to richen the needle a shade before returning to the race, although this left them just 4 laps behind at the finish, still 1 lap in front of the Bulgarians, who then had the bad luck to require an extra stop on the penultimate lap. The times were 4:45.8, 4:54.5 and 5:14.5 respectively. Cruel luck for Derek and Malcolm as without the extra stop they would certainly have qualified for the semi-finals.

After the excitement of the previous race, **Heat 4** was rather an anti-climax. Parent/Kelly had a badly under-compressed run – and with that fixed compression diesel there was little to be done about it! The Kun/Katona model ran in after its second stop, luckily un-affecting the other models, and Fagerstrom/Aarnipalo had trouble from the beginning when the engine started and stopped, losing 20 laps in the subsequent re-start. **Heat 5** promised to be fast, as Bobjerg/Siggard's Hasling-built motor was going really well, and Wright/Dunkin seemed capable of bettering their first round time. However, in the race, the Fichet brothers had a *very* poor run from their Webra Mach II, with many stops, resulting in the slowest time of the meeting – 7:14.4. The Danes lost their chance at the second pit stop, where the catch was missed, the ensuing retrieval and restart costing precious seconds – 4:57 being their reward. The Americans had a bad first tank-full, the engine missing badly, then requiring a 13 second stop to re-adjust and re-start. **Heat 6** was re-flown after after the Heber/Wilke team was disqualified for lifting the wing tip during a pit stop, and catching Nicholai/Branimir's model on the lines. The Bulgarians won this re-fly in 4:53.1, the Spaniards having a poor run and slow pit stops, resulting in 6:03.1.

The Italians Fontana/Amodio had cruel luck in **Heat 7.** Their opponents Bonnin/Montoy had a badly popping run (which was true of every race in which the Spanish ran, is it their Perez motors, or the difference in humidity?), and Samuelsson/Axtilius' Super Tigre G 20/15 RV was down in speed – although it was pitted well. The Italians, with a beautiful run, had an extra stop at the 95th lap (after 4:10) and in his anxiety Fontant landed the model rather heavily, breaking the tips off the wooden prop. Amodio, deciding to fly on the damaged prop rather than waste time on a change, restarted and released, but the resulting vibration caused the cut-off to operate, and this happened five times in the last five laps!

Heat 8 proved unlucky for another pair of Italians – Magli/Ferroni, whose motor cut on the 97th lap. Magli whipped the model round to the finish but was noticed, and promptly disqualified. Fransson/Ahlstrom had a slow run, resulting in 5:07.8, while Mau/Nielson were slowed by an unscheduled stop, for 5:29.4. All the ingredients for a fast race were contained in **Heat 9,** but this was not to be. Winners Albritton/Marvin achieved 5:00.4 flying very carefully but they lost a lot of range which caused an extra stop, and their HP15D slowed considerably for the last tank-full. Mohai/Markotoi were unfortunate with a popping run and subsequent stop after 16 laps. They again had to adjust the compression at the next stop, and despite whipping (which earned them two warnings) could not make up any time. Bernard/Macon suffered the model running in, and an obstinate engine, causing 5:38.1. Bader/Kaul had an excellent run in **Heat 10,** recording a consistent 4:44.7 – good enough for the semis – but were beaten by Onufrienkio/Shapovalov who had everything go 'just right' for them, enabling a well deserved flight of 4:27.7 to be made. Their pit stops were little short of incredible, the model scarcely pausing at all. The French Topalian brothers were more than a little outclassed in this company.

Heat 11 was uneventful, Buys/Goudsmit being disqualified for prematurely leaving the pilots' circle, and the Sundell brothers using their electrically operated cut-off to good effect, recording 4:45.8 – a semi finals qualifying time. The Lutchev brothers were unlucky not to achieve this goal with 4:59.9.

Heat 12 was stopped when at the first pit stop, the Geschwendtner brothers' model snagged Todd/Van Breda's lines – resulting in the latter's disqualification, the two other teams reflying in Heats 15 and 16 due to the fastest Russian teams withdrawing, as they were assured of being in the semi-finals. **Heat 13** came to an end in the thirteenth lap, when the Spaniards Pachecho/Parramon collided with Molnar/Nyarady three laps *after* they had been disqualified (pilot's feet again), and hence should not have been in the air. Their model demolished, the Hungarians used their reserve model in the refly after the last heat, but recorded a poor 5:28.9 – their Moki proving hard to start. In contrast, Gurtler/Baumgartner recorded 4:47.2 – just sufficient to reach the semis. **Heat 14 saw the** Metkmeyer brothers also qualify for the semis with 4:47.2, Belgians Delhez/Desaucy being disqualified, and Kosmalla/Junge having a troubled run for 5:45.9. The Geschwendtner brothers' bad luck continued in their refly in **Heat 15** – their model running in, while Heber/Wilke failed to complete the course, and Wellman/Van Reenen's difficulties with engine settings persisted, giving them a very slow 6:11.4. Fischer/Straniak failed to benefit from their refly in **Heat 16,** recording 5:02 in another slow race, where Galli/Meyer clocked 5:30.8, and Fely/Bernier 6:24.2.

Harknett/Smith came out in the last race, **Heat 17,** needing just a slight improvement on their first round time to reach the semis. At the start they and Scholtz/Menges were off instantaneously, leaving Misaros/Nagy three laps behind, missing badly. Steve Smith's model was the fastest, having gained three laps on the South Africans by the time of their first pit stop at 35 laps. One flick and he was away again, the Hungarians having been down at 24 for a slow stop, and the others landing at 39 for a slowish pit, an increase in compression being required. The Hungarians were down again at 45, still missing and rather slow. Steve landed at 64 laps for his second stop, this time Tony taking two flicks to restart. Things looked good for the British pair until the 97th lap when the engine cut out again, Steve landing on the 99th lap, but Tony missed the catch and the model ran in, out of reach. The South Africans landed again at 80 for a quick stop and continued to record 5:33 and the Hungarians 6:44.5.

The first semi-final was an extremely close race. Plotzinjsh/Timofeev and Schwarz/Ilg getting away together just half a lap in front of Gurtler/Baumgartner. The Russians were slightly faster, with the others equal on airspeed. Schwarz brought his model in to land at lap 29 for a slowish pit, while the Russians had a slow stop, requiring an increase in compression on the 34th lap, followed a few seconds later by Gurtler on his 35th. By lap 40 the Russians were two laps ahead of their competitors. Gurtler came in again on lap 59 for a very quick stop, the Russians continuing until lap 69 – when Timofeev missed his catch, although quickly recovering. Schwarz landed at 80 for a two-flick restart, but could not quite match the Russians, being 3 laps behind at the finish, and the Austrians two.

In the second semi, all the models took off together, but Bader/Kaul stopped after the tenth lap to adjust the compression on their H.P.15D, and lost 7 laps in the process. Babichev cut the motor at 31 laps, Krasnorutsky restarting the model immediately, while Theobald's model flew on for its normal 55 lap range – again John Barr pitting it very quickly. Bader had landed at 32 laps, the motor needing four flicks to restart. He landed again at 53 laps, the motor then beginning to miss. Down again at 64 laps, the Russian had another efficient stop and were soon away again, slowly overhauling the Americans, and establishing a time of 4:37, compared to their 4:43.

A similar story was repeated in the third semi-final, when Onufrienko/Shapovalov met the Metkmeyer and Sundell brothers, the Russians having the fastest model, and perfect pit stops at laps 35 and 68, recording 4:39. The Sundells had stops at 31, 53 and 82 laps, the latter being rather slow. Metkmeyer flying very low, stopped at 28, 56 and 83 laps, but could not match the airspeed of the others, and were 6 laps behind the Finns, who were in turn 7 laps behind the Russians at the finish.

So there were to be three, very fast, Russian teams in the final and this really attracted the spectators.

All took off together, as if one, with perhaps Plotzinjsh's model having a slight edge on speed. He cut his engine on lap 33, followed seconds later by the other two. Timofeev started his engine with one flick, but the others took twice as many! Back in the air, the scoreboard showed Babichev just one lap behind, and it stayed this way for the rest of the tank-full! Plotzinjsh landed again at 65 laps, Timofeev fumbling the catch slightly. Onufrienko cut at 68 laps for a *slightly* slower stop, allowing Babichev to make good his deficit as Krasnorutsky gave him a classic-book restart. Now it was Plotzinjsh one lap in arrears! He cut again at the 96th lap, having a three-flick stop, while Babichev had another perefect one at 100. Shapovalov also had a good restart, leaving Plotzinjsh five laps behind the other two. Next, it was Babichev first down at 133 laps for yet another fantastically quick stop, followed by Plotzinjsh at 133 for an equally good pit. At this point disaster overtook the third team as Shapovalov missed his catch on the lap 137 – the model running into the circle out of reach. Plotzinjsh was now 5 laps in arrears, and this increased to 7 at the last stop – a situation which he could not alter, leaving Babichev/Krasnorvtsky World Champion with a time of 8:55.8 – and the spectators with the memory of a classic race, perfectly conducted.

Aerobatics

As already mentioned, this event was rather unfortunately located, and the turbulence was such that on many occasions the flag situated at the

corner of the site indicated a different wind direction entirely from the others! Most affected manoeuvres were, of course, overhead eights and wing overs, the models rocking considerably in the gusts. This had an unfortunate additional side effect in that it unsteadied the pilot, at times the sudden loss in concentration being obvious. The Americans with their immaculate models, perhaps started favourite in this event, but Gabris was obviously keen to retain his title and complete the hat-trick, while Billon of France has been consistently knocking at the doors of success for the past few years. Marc Vanderbeke, Criterium winner, was another strong force to contend with, and it was clear that this event was by no means a foregone conclusion.

Jankov of Bulgaria had the unenviable task of starting proceedings, making his flight during a period of relative calm, his McCoy 35 set for a fast, rich two stroke. His manoeuvres were smooth, but some pullouts were rather too low and a little ragged. Unfortunately, his motor over-ran the time limit, forfeiting his landing points, although as it happened this was poor, the model bouncing badly. His score was 742, and being the first to fly, in a way established a yardstick for the judges by which the others could be judged.

The Spaniard Hermoso was due to fly next, but his Merco 35 refused to start and he called an attempt, reflying at the end of the round, when he again had engine trouble, this time giving an uneven run and nearly quitting in the wing over. Finally, the motor sagged at the bottom of the loops, the model falling into the circle, luckily without damage. The Swiss, Kuhnis, began badly with the engine reluctant to start and the model nosing over on take-off, although it recovered, scoring 483 points with a rather poor flight. A substitute for Petrov, E. Esjkin produced a typical Russian model – large wing area, beautifully built, monowheel type undercarriage, and powered by a .40 with a rich two stroke run. His pullouts tended to be high, the squares rather large and the level inverted and bumpy – no doubt hindered by the increasing wind/turbulence, reducing his score to 798. Experienced Italian flier Clemente Cappi, flew his usual (and oh so ugly!) model, with large area flaps and elevators producing *over* sharp corners. His McCoy 40 was set too lean, and the resulting run was much faster than his norm. Another sufferer from the turbulence, causing him to misplace his manoeuvres towards the end of the flight, his score of 784 was below his usual standard. A much travelled visitor was R. Goldstein from Israel, who after a rather shaky start, settled down and although his score (491) may not indicate a very good flight, for someone so far from the European modelling scene, it was very creditable.

The first American, and perhaps the first real challenger for the number one position was Bill Werwage, and his immaculate, elegant machine. Flying, as were all the U.S.A. team, on relatively short lines, his large model seemed a trifle fast and ungainly through square stunts, no doubt accentuated by the shortness of the lines. Used to flying in calmer conditions, he was more than a little troubled by the weather, and was perhaps a little lucky to score so highly (932). His horizontal eights crossed badly, but his square pullouts were very precise, and he managed to give a good impression of smooth flowing manoeuvres. Kessels of West Germany flew to his usual standard, but lacked the precision of the top fliers, resulting in a 752 flight. His models as ever were immaculately finished, his new ship being painted in polychromatic blue with white trim – most attractive. Hank Twerda flew his old *Olympus*, now deprived of its twin-fin layout, reverting to the more conventional form, finding that the reduction in fin area made the model less sensitive to side winds. His Merco 49, set rich to provide a four stroke, coped well with the large model, having plenty in reserve for the square manoeuvres – which were particularly good. The vertical eights were out of proportion and the triangles misshapen, but the overall pattern was good, although he scored only 751.

First British team member to fly was Mick Reeves with his *Dictator* design. His motor was slow starting, and in consequence he over-ran the time limit, forfeiting his landing points. His level flight was a little bouncy, and the model staggered at the bottom of the 'harsh' manoeuvres. Some of the pullouts were too low, some too high, and the flight was well below his full potential. He was obviously lacking in practice, this being his first flight since the Nationals, scoring just 659 points.

The Swede Andersson flew an impressive pattern, but his square loops were poor at the fourth corner – over control being evident on the recovery, and he was unfortunate to lose his landing points by just 5 seconds, resulting in 816, although he looked as if he were capable of better. Craloveanu of Roumania produced a decidedly rough model (eight years old!), which performed as it looked. The motor was set much too rich, and it was a matter of when he would crash, not if. The answer was the horizontal eights. Double World Champion, Josef Gabris (Czechoslovakia)) flew next, with a very effortless style and smooth manner, although his pullouts from the wing-over were too low, and his square eights somewhat ragged. He has flown better, and this was reflected in his score of 877 – the sixth highest of the day. Compostella flying an identical model to Cappi, flew very fast through his manoeuvres. His corners were neat, but being so fast were difficult to see, and hence judge. Perhaps an advantage? He too suffered from a common complaint – too low pullouts.

Bob Gieske (U.S.A.) put in a very good flight (at 969, the best of this round) with his modified *Nobler*. This has increased span and movement arm, as well as a different wing section, and Bob has added 1½ oz. of lead under the C.G. to bring the weight up to 43 oz. – finding that this provides a steadier flier. There was little to fault his flight, although the model seemed rather too fast – no doubt accentuated by the short lines. Pullouts were consistantly at the same height, and had steady, square corners, while his landing was first class, earning a round of applause.

A much improved flyer was B. Metkmeyer (Holland) flying an *Olympus* in a very confident manner, showing a greater degree of progress in his standard of ability than anyone else. Using a 2 stroke/4 stroke switching run, his Super Tigre 40 pulled the model along surprisingly quickly through all manoeuvres, which all received good-average marks. His worst mistake occured in the clover leaf – the final loop being far too tight, and the whole stretched out too far, and the sequence was marred by a bouncy landing. The result, 864 points.

(continued on page 569)

The six Russian finalists who provided such an exciting climax to this Championship. From left to right. Plotzinjsh, Timofeev, Onifrienko, Shapovalov, the team manager, Krasnorutsky and Babichev. All used own-designed engines, and were very closely matched in all respects. Note the height of all the pilots – quite an advantage!

AEROBATICS

			Rd. 1	Rd. 2	Rd. 3	Best 2 Total	
1	Werwage	U.S.A.	932	979	945	1,924	*Super Tigre G40*
2	Gieske	U.S.A.	969	933	951	1,920	*Fox 35*
3	Gabris	Czech.	877	951	946	1,897	*M.V.V.S. 35*
4	Phelps	U.S.A.	924	944	942	1,886	*McCoy 40*
5	Billon	France	875	935	911	1,846	*Merco 49*
6	Cani	Czech.	929	893	859	1,822	*M.V.V.S. 35*
7	Compostella	Italy	877	903	904	1,807	*Fox 35*
8	Andersson	Sweden	816	897	889	1,786	*O.S. 35*
9	Rossi	Italy	883	882	877	1,765	*Fox 35*
10	Van den Hout	Holland	855	888	877	1,765	*Merco 49*
11	Bartos	Czech.	865	887	856	1,752	*M.V.V.S. 35*
12	Vanderbeke	Belgium	832	—	887	1,719	*Veco 45*
13	Metkmeyer	Holland	864	823	674	1,687	*Super Tigre 40*
14	Seeger	W. Germany	843	820	842	1,685	*Fox 35*
15	Esjkin	U.S.S.R.	798	846	816	1,662	*Akrobat 40*
16	Kondratenko	U.S.S.R.	719	823	837	1,660	*Akrobat 40*
17	Egervary	Hungary	817	831	827	1,658	*Veco 45*
18	Plotzinjsh	U.S.S.R.	808	846	797	1,654	*Akrobat 40*
19	Cappi	Italy	784	841	795	1,636	*McCoy 40*
20	Eskildsen	Denmark	822	812	762	1,634	*O.S. 35*
21	Rocher	France	805	825	785	1,630	*Merco 49*
22	**Blake**	**Gt. Britain**	**760**	**793**	**833**	**1,626**	*Merco 35*
23	Masznik	Hungary	797	754	821	1,618	*Moki 40*
24	Mayer	Finland	791	825	748	1,616	*O.S. 35*
25	Lauron	France	772	775	798	1,573	*Merco 49*
26	**Mannal**	**Gt. Britain**	**736**	**25**	**829**	**1,565**	*Merco 35*
27	Madsen	Denmark	804	727	761	1,565	*O.S. 35*
28	Kaminski	W. Germany	810	754	752	1,564	*Fox 35*
29	Czetti	Hungary	788	754	774	1,562	*Moki 40*
30	Raeymaekers	Belgium	759	758	785	1,544	*Merco 49*
31	Alexiev	Bulgaria	658	756	782	1,538	*Moscow 45*
32	Twerda	Holland	751	704	783	1,534	*Merco 49*
33	Liber	Belgium	740	764	757	1,521	*Merco 49*
34	Kall	Sweden	642	765	735	1,500	*Fox 35*
35	Jankov	Bulgaria	742	203	746	1,488	*McCoy 35*
36	Kessels	W. Germany	753	718	—	1,471	*Veco 45*
37	Leuba	Switzerland	679	667	701	1,380	*M.V.V.S. 40*
38	**Reeves**	**Gt. Britain**	**659**	**702**	**519**	**1,361**	*Fox 35*
39	Keller	Switzerland	620	593	644	1,264	*Veco 45*
40	Musca	Rumania	583	626	20	1,209	*Moki 35*
41	Goldstein	Israel	491	555	543	1,098	*Merco 35*
42	Kuhnis	Switzerland	483	519	552	1,071	*Merco 35*
43	Hermoso	Spain	149	520	288	808	*Merco 35*
44	Serrand	Spain	54	401	—	455	*Merco 35*
45	Craloveanu	Rumania	253	—	—	253	*Moki 35*

SPEED

			Rd. 1	Rd. 2	Final
1	Nelson	U.S.A.	240.0	—	—
2	Nightingale	U.S.A.	218.1	238.4	235.2
3	**Jackson**	**Gt. Britain**	**229.2**	**227.8**	**229.2**
4	Dusi	Italy	—	225.0	225.0
5	Lee	U.S.A.	225	198.8	223.6
6	Rodzhers	U.S.S.R.	210.5	220.8	219.5
7	Wamper	W. Germany	216.8	220.8	218.1
8	Volkov	U.S.S.R.	210.5	218.1	220.8
9	Burrus	W. Germany	220.8	—	209.3
10	Jarry-Desloges	France	—	206.8	220.8
11	Enfroy	France	216.8	218.1	215.5
12	Brechet	Switzerland	216.8	206.8	218.1
13	Pecquet-Vidal	France	215.5	213.0	218.1
14	Frohlich	W. Germany	218.1	—	—
15	Prati	Italy	216.8	213.0	214.2
16	Kravchenko	U.S.S.R.	215.5	214.2	215.5
17	Krizsma	Hungary	—	—	215.5
18	Bathge	Hungary	—	213.0	210.5
19	Kuhnis	Switzerland	204.5	203.3	210.5
20	Grandesso	Italy	196.7	189.4	210.5
21	Somogyi	Hungary	210.5	—	186.5
22	Bilat	Switzerland	—	209.3	206.8
23	Menges	S. Africa	188.4	201.1	206.8
24	**Firbank**	**Gt. Britain**	**—**	**185.5**	**200.0**
25	**Halman**	**Gt. Britain**	**—**	**200.0**	**—**
26	Buys	Holland	197.8	—	189.4
27	Lahtinen	Finland	193.5	196.7	192.5
28	Karma	Finland	193.5	—	171.4
29	Eskildsen	Denmark	187.5	187.5	185.5
30	Berak	Israel	—	—	184.6
31	Scholtz	S. Africa	—	183.6	—
32	Purice	Rumania	—	—	178.2
33	Geschwendiner	Denmark	—	—	—
34	Bobjerg	Denmark	—	—	—
35	Collignon	Belgium	—	—	—

COMBAT

1st Contest

1	Kiseljov	U.S.S.R.	*Meteor 2.5G*
2	Gossiaux	Belgium	*Oliver Mk. 4*

2nd Contest

1	Dybowski	W. Germany	*Super Tigre G15 F.I.*
2	Reichle	W. Germany	*M.V.V.S.*

Coupe de President Detry

1	Kiseljov	U.S.S.R.
2	Dybowski	W. Germany

TEAM RACING

			Round 1	Round 2	Final	
1	Babichev/Krasnorutsky	U.S.S.R.	4:17	—	8:55.8	*Own design*
2	Plotzinjsh/Timofeev	U.S.S.R.	4:30.8	—	9:13	*Own design*
3	Onufrienko/Shapovalov	U.S.S.R.	4:53	4:27.7	aband.	*Own design*
4	Theobald/Barr	U.S.A.	4:35.5	4:45.8		*ARM*
5	Bader/Kaul	West Germany	4:44	4:44.7		*HP15D*
6	Sundell/Sundell	Finland	5:15.9	4:45.8		*Oliver Tiger 3*
7	Metkmeyer/Metkemyer	Netherlands	disq.	4:46.4		*Super Tigre G15 F.I.*
8	Schwarz/Ilg	West Germany	5:10.9	4:47.1		*HP15D*
9	Gurtler/Baumgartner	Austria	disq.	4:47.2		*HP15D*
10	Magli/Ferroni	Italy	4:49.5	disq.		*S. Tigre G20/15D R.V.*
11	Bobjerg/Siggard	Denmark	4:51.5	4:57.0		*Hasling*
12	Nicolai/Branimir	Bulgaria	5:25.3	4:53.1		*S. Tigre G20/15D R.V.*
13	**Heaton/Ross**	**Great Britain**	**disq.**	**4:54.5**		*ETA 15*
14	Mohai/Markotai	Hungary	4:55.1	5:51.7		*Moki*
15	Lutchev/Lutchev	Bulgaria	disq.	4:56.9		*S. Tigre G20/15D R.V.*
16	**Smith/Harknett**	**Great Britain**	**4:57**	**aband.**		*S. Tigre G20/15D R.V.*
17	Cipolla/Turlizzi	Italy	5:07.3	4:58		*Own design*
18	Albritton/Marvin	U.S.A.	disq.	5:00.4		*HP15D*
19	Fischer/Straniak	Austria	5:16.2	5:02.0		*HP15D*
20	Molnar/Nyarady	Hungary	5:04.4	5:28.2		*Moki*
21	Wright/Dunkin	U.S.A.	5:05.5	5:13.3		*ARM*
22	Fagerstrom/Aarnipola	Finland	5:05.7	6:12.6		*Super Tigre G20D*
23	Fransson/Ahlstrom	Sweden	5:11.3	5:07.8		*Oliver Tiger 3*
24	Ekholm/Nore	Finland	5:10.5	5:29.4		*Super Tigre G20D*
25	Mau/Nielsen	Denmark	5:11.3	5:31.1		*S. Tigre G20/15D R.V.*
26	Tinev/Rashkov	Bulgaria	5:52.5	5:14.5		*S. Tigre G20/15D R.V.*
27	Samuelsson/Axtilius	Sweden	5:14.9	5:25.4		*S. Tigre G20/15D R.V.*
28	Topalian/Topalian	France	5:18.1	5:27.6		*S. Tigre G20/15D R.V.*
29	Krause/Volke	East Germany	5:23.4	5:43.1		*M.V.V.S. TRS*
30	Triconnet/Magne	France	5:28.5	6:47.9		*Super Tigre G20D*
31	Galli/Meyer	Switzerland	disq.	5:30.8		*M.V.V.S. TRS*
32	Delhez/Dessaucy	Belgium	5:31.8	disq.		*Oliver Tiger 4*
33	Scholtz/Menges	S. Africa	6:00.9	5:33.0		*HP15D*
34	Bonnin/Montoy	Spain	5:34.5	5:53.7		*Perez*
35	Fontana/Amodio	Italy	disq.	5:37.8		*S. Tigre G20/15D R.V.*
36	Bernard/Macon	Belgium	6:23.0	5:38.1		*Webra Mach II*
37	**Hughes/Turner**	**Great Britain**	**disq.**	**5:45.3**		*ETA 15*
38	Kosmalla/Junge	West Germany	disq.	5:45.9		*Brendal Super Tigre*
39	Fely/Barnier	France	5:57.2	6:24.2		*S. Tigre G20/15D R.V.*
40	Porta/Hervas	Spain	aband.	6:03.1		*Perez*
41	Parent/Kelly	Canada	aband.	6:07.6		*S. Tigre G20/15D R.V.*
42	Buys/Goudsmit	Netherlands	6:10.3	disq.		*Super Tigre G15D F.I.*
43	Wellman/Van Reenen	S. Africa	6:12.3	6:11.4		*Super Tigre G20D*
44	Todd/Van Breda	S. Africa	6:38.3	disq.		*Super Tigre G20D*
45	Misaros/Nagy	Rumania	disq.	6:45.5		*Moki TR-7A*
46	Gafner/Gafner	Switzerland	7:00.2	disq.		*Oliver 3*
47	Fichet/Fichet	Belgium	aband.	7:41.4		*Webra Mach II*
	Pacheco/Parramon	Spain	disq.	disq.		*Perez*
	Heber/Wilke	East Germany	aband.	aband.		*M.V.V.S. TRS*
	Geschwendtner/Gesch	Denmark	disq.	aband.		*S. Tigre G20/15D R.V.*
	Kun/Katona	Hungary	disq.	aband.		*Moki TR-7A*

WORLD CONTROL LINE CHAMPS

NAMUR, BELGIUM,
20-24 August, 1970

OFFICIAL RESULTS

NATIONAL TEAM RESULTS

Speed

1 U.S.A.	5 Hungary
2 U.S.S.R.	6 Switzerland
3 France	7 Great Britain
4 Italy	8 Denmark

Stunt

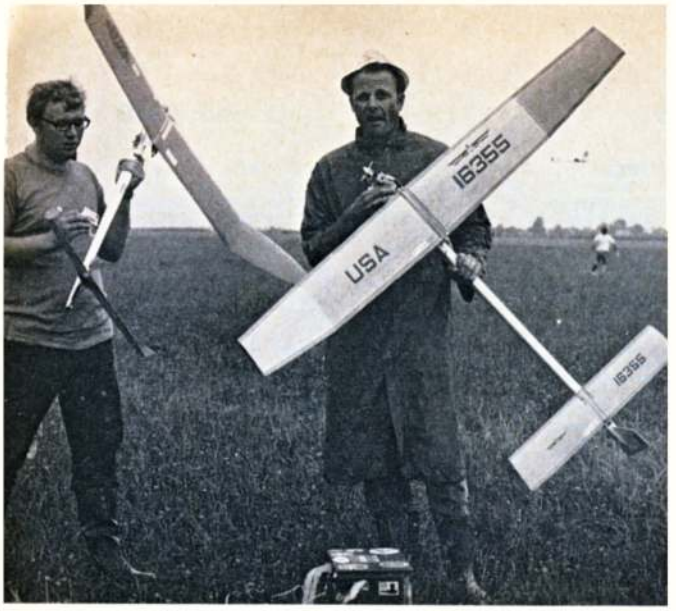
1 U.S.A.	7 Hungary
2 Czech.	8 Belgium
3 Italy	9 W. Germany
4 France	10 Great Britain
5 Holland	11 Switzerland
6 U.S.S.R.	

Team Racing

1 U.S.S.R.	6 W. Germany
2 U.S.A.	7 Italy
3 Great Britain	8 France
4 Finland	9 France
5 Bulgaria	10 Belgium

Combat

1st Contest	Belgium
2nd Contest	W. Germany



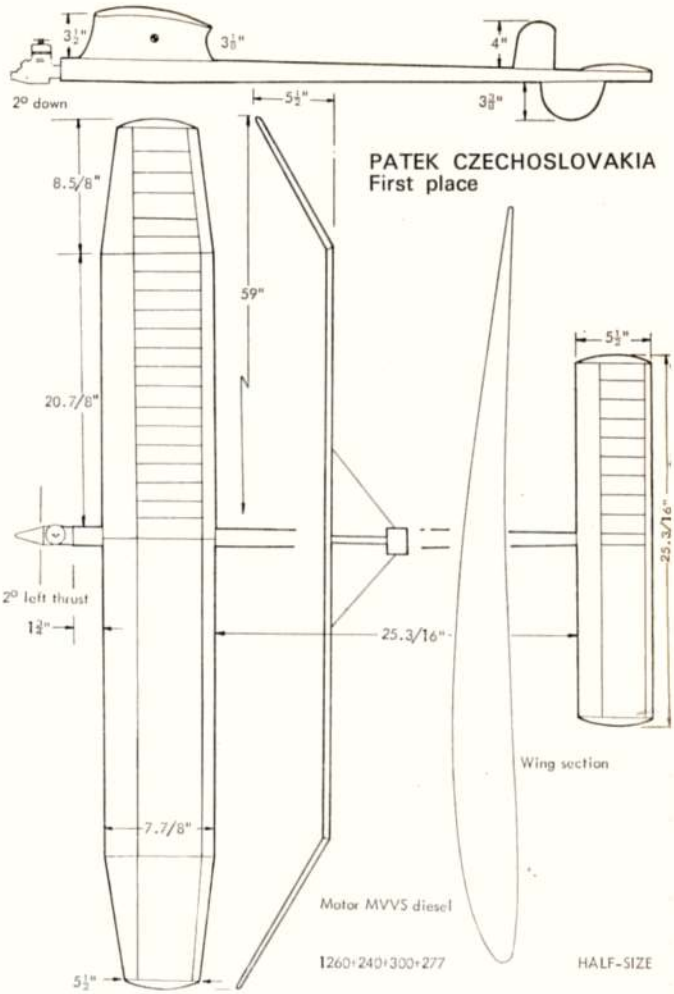
ZAGREB '70

XIV European Champs

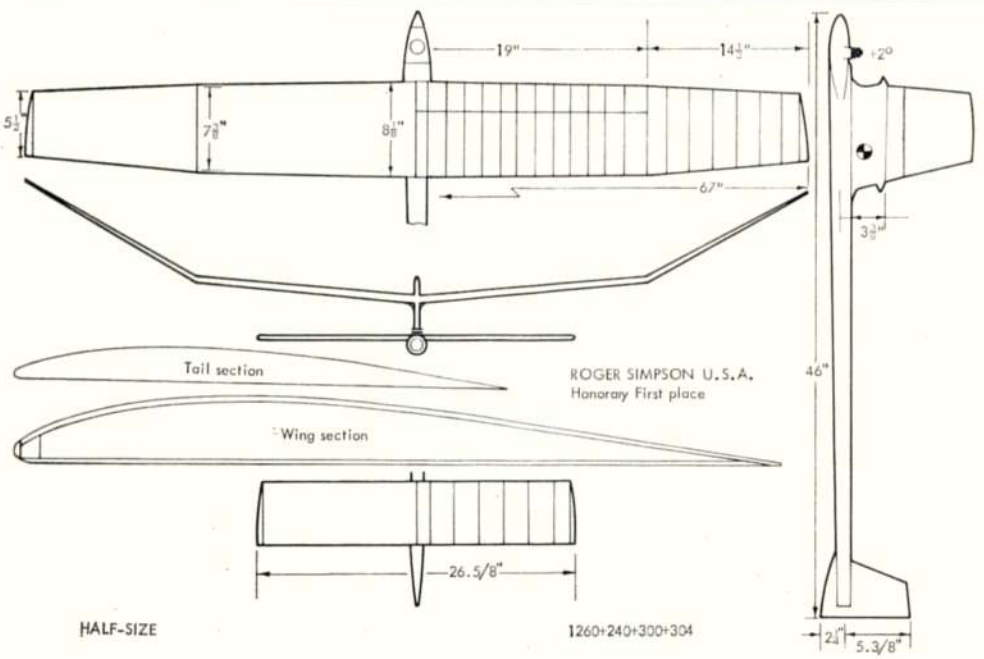
reported by Henry J. Nicholls

THE AVIATION ASSOCIATION of Croatia organised this Championship, which was held at the Lucko Sports Airfield, 12 kms from the city of Zagreb. Saturday the 8th was devoted to the arrival and booking in of the competitors to the Hotel 'Sport', where all were very comfortably accommodated, and to the processing of the models.

Sunday the 9th saw the seven rounds of the Com-



T. Koster of Denmark and Roger Simpson U.S.A., above, left.



petition. Monday the 10th was devoted to a delightful day out in the country for all the contestants, timekeepers and officials, with a magnificent lunch laid on after a visit to one of Croatia's most historic castles.

Altogether this was a delightful weekend, for which all the officials of the Croation Club are to be congratulated. It was a pity that the weather was not more co-operative. At 4 a.m. on the morning of the contest day we suffered a terrific thunderstorm which flooded the roads and the aerodrome. Result was that none of the Hotel staff could get to work on time and our planned 5.30 a.m. breakfast was delayed for more than 1½ hours. On arrival at the field at about 9 a.m. the rain continued heavily until just before 11 a.m., when it ceased abruptly and permitted the contest to start. The organisers wisely decided to reduce round times from one hour to 45 minutes, but even this precaution did not prevent the last round of the fly-off being held in conditions of approaching darkness, which reduced the contest to one of timekeepers' eyesight rather than model proficiency.

Apart from a lot of water underfoot, the conditions at the airfield were almost ideal. There was constant but slight thermal activity and the drift was such that models seldom went beyond the perimeter of the airfield. It was, in fact, an almost ideal setting for a free-flight contest.

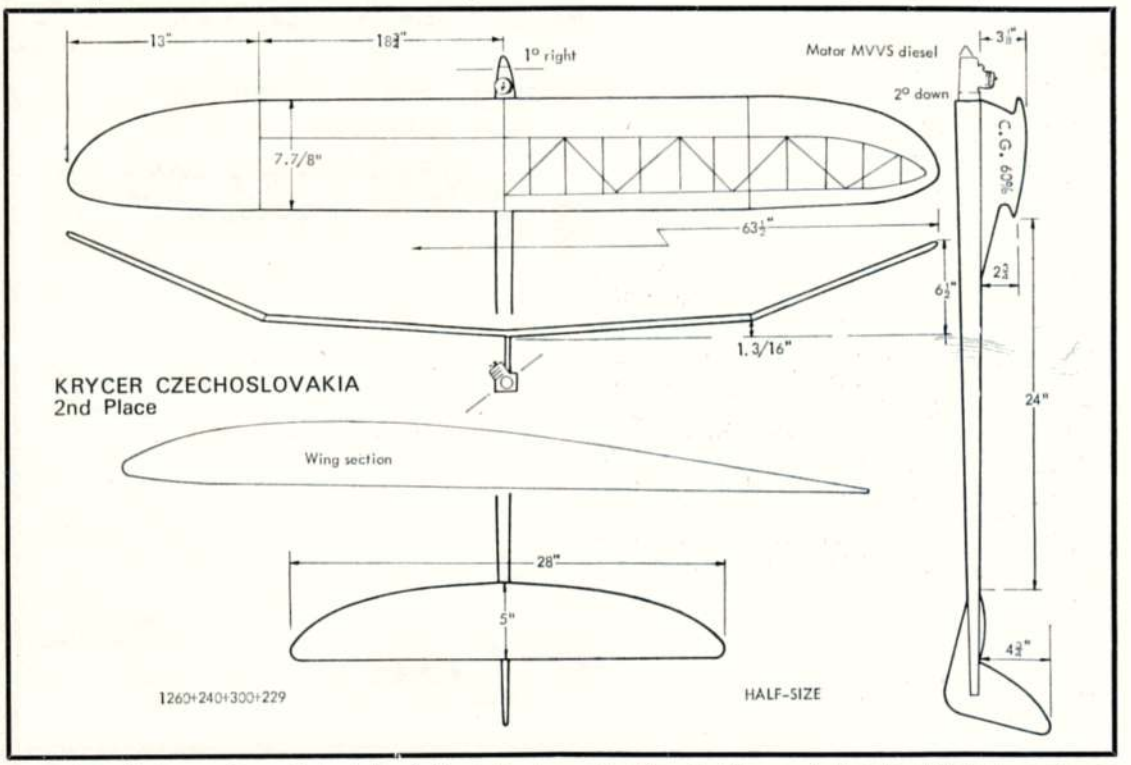
Each team had their own timekeepers for the day and these were recruited from Austria and West Germany as well as Yugoslavia. All timekeepers seemed to have plenty of experience and a sound knowledge of the rules. There was not one official protest throughout the event.

The Contest Director, Emil Mikulcic was completely competent and knew exactly what he wanted. Direction was firm, but entirely friendly and pleasant, with the result that the day ran without a hitch apart from the delay occasioned by the weather. In the background Julije Merory was responsible for the overall organisation and the administrative work, and it was due to his efforts that the competitors were so well housed, fed, and transported to and from the airfield in a comfortable bus. I did not hear a single complaint from any competitor, all of whom I am sure thoroughly enjoyed their experience at Lucko.

Promptly at 11 a.m. the maroon was fired for the start of the contest and competitors started to put up maxes with monotonous regularity. Only the unfortunate Oswald Ebner of Austria failed to make an official flight in round one to score zero and of all the official national teams only the Bulgarians failed to score three maxes. The standard was going to be high.

A good look round the models after round one while waiting for round two revealed that there were no outstandingly new technical developments. The glow engines nearly all had pipes, and the Czech team were exceptional in having MVVS diesels in all their models. Seelig timers were fitted to about half the models, and some had adapted Autoknips.

American Roger Simpson, who was there as an 'extra' competitor, being allowed to fly as a courtesy gesture by the organisers, had three beautiful identical models with sheeted wings. Koster of Denmark, who was also flying as an individual, had a clever adaptation of a Honda portable generator powered by a small two-stroke engine which he used as a mechanical starter. Ex-British flier 'Joe' Savini was there as a member of the Italian team and the Italians had a second unofficial team who had come along to fly just for the fun of it.



The second round confirmed the impression gained from round one. There were going to be a lot of people in the fly-off. Of the 30 contestants, of whom 24 were members of official teams, 18 scored maxes and two failed to return a time. It was in this round that Akesson, of Sweden, had an unfortunate mishap, which was almost exactly duplicated by Simpson, of U.S.A., later in round 6. Akesson's tailplane went to the glide position while the model was still under power, the model started to loop violently, the wing snapped in half and the fuselage came in under full power. After round 2 only the Czech and Hungarian teams had perfect scores, with the West German team not far behind with five maxes and a 178 second score by Schallenberg.

Round 3 saw some chopping and changing in the positions of the leading fliers and teams. The Czechs maintained their superiority with three more maxes and everybody started speculating whether this might not mean a return to the unpiped diesel next year when the new F.A.I. rule comes into force on January 1st forbidding any exhaust extensions. The Hungarians were now close up behind the Czechs with two more maxes and a 173 from Scizmarik. Meczner was his usual imperturbable self and seemed to take his three maxes as quite normal. But the total of three maxes was now confined to eight men.

In fact, this situation continued right up to the end of round 6, with eight men still having scored all maxes. Leading teams at this point were W. Germany – 3238, Czechoslovakia – 3211 and Hungary – 3169.

It was during this round that Simpson lost a model. He had some timer trouble, with the result that 'everything worked except the engine cut off' and with the tailplane in the gliding position and the motor still giving out, the model looped into the ground with disastrous results. But he had one of his spares out and made another max well before the end of the round to maintain his perfect score.

Round seven saw perfect team scores from the Czechs, France (who had not had a perfect score since round 1), W. Germany and Italy, with Hungary scoring only one second less than a team max with a 179 by Meczner, who lost his place in the fly-off by this mere tick of the watch. This gave the following as the final team result:–

1st W. Germany	3778
2nd C.S.S.R.	3751
3rd Hungary	3708
4th Italy	3637
5th France	3391
6th Jugoslavia	3368
7th Austria	3160
8th Bulgaria	2521
9th Sweden (2 only)	2275

It was already getting towards sunset when the fly-off of the seven who had made perfect scores was started, and it was obvious that if it went to three or more rounds the conditions would be far from ideal. Although not an official competitor, Roger Simpson was allowed to fly with the others, an experience he seemed thoroughly to appreciate.

First flyoff round saw two competitors eliminated by engine overruns, which led to a big argument between the French Team Manager Yves Olard and the Jury. But in the face of three watches, all of which gave an overrun, he finally decided not to put in an official protest. The two competitors put out in this unfortunate way were Guilloteau of France and Schwend of W. Germany. The remaining six were still returning 4-minute maxes and remained to fly again. Round two produced only three possible maxes of 300 secs from Simpson (unofficial), Patek and Krycer, of Czechoslovakia, so we had the incredible sight of two competitors from the same team, *both* using diesels, in the official final round of the flyoff, which frankly was more of a test of timekeepers' eyesight than it was of the capability of the modellers and their machines. The last round gave Patek a score of 277 and Krycer 229 secs. in semi-darkness, and my own feeling was that it would have been a splendid end to have declared it a draw.

Trophies and mementos were awarded at the final banquet and prizegiving at the Hotel 'Sport' on Sunday night, which was attended by the President of the Aero Club and our old friend Ceda Curcic, who is now the Club Secretary.

All in all this was a most enjoyable contest, run efficiently in a totally friendly atmosphere. It was a pity that the distance and the resulting expense made it difficult to raise a British Team. I was asked many times why we were not represented, and could only

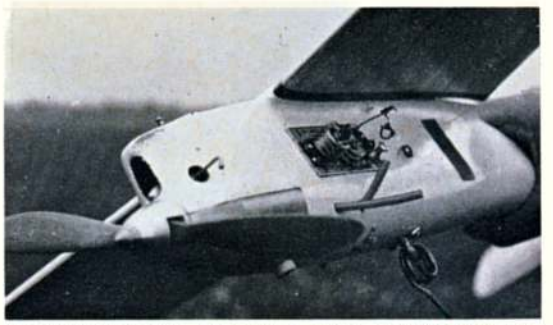
Left: 'Joe' Savini of the Italian Team. Centre: Krycer with T. M. Kalina of the Czech team, placed 2nd, also MVVS diesel. Right: Hagel of Sweden, impressive performer, in fly-off, placed 3rd.

Results

Nation	1	2	3	4	5	6	7	Total F.O.
1. R. Simpson* USA	180	180	180	180	180	180	180	1260+240+300+304
1. C. Patek Czech.	180	180	180	180	180	180	180	1260+240+300+277
2. B. Krycer Czech.	180	180	180	180	180	180	180	1260+240+300+229
3. R. Hagel Sweden	180	180	180	180	180	180	180	1260+240+297
4. H. Mildner Germany	180	180	180	180	180	180	180	1260+240+255
4. G. Simon Hungary	180	180	180	180	180	180	180	1260+240+255
6. R. Guilloteau France	180	180	180	180	180	180	180	1260+O'run
6. T. Schwend Germany	180	180	180	180	180	180	180	1260+O'run
8. A. Meczner Hungary	180	180	180	180	180	180	179	1259
9. H. Schallenberg Germany	180	178	180	180	180	180	180	1258
10. Bruno Fiegl Italy	180	176	180	180	180	180	180	1256
11. T. Koster Denmark	180	180	180	166	180	180	180	1246
12. S. Savini Italy	180	180	165	180	180	180	180	1245
13. J. Sedlak Czech.	180	180	180	172	180	159	180	1231
14. M. Glogovcan Yugo.	180	180	180	121	180	180	180	1201
15. F. Ssizmarik Hungary	180	180	173	116	180	180	180	1189
16. M. Bourgois France	180	157	139	177	177	144	180	1154
17. M. Bjelajac Yugo.	180	180	180	124	173	170	144	1151
18. A. Parovel Italy	180	119	180	180	180	117	180	1136
19. F. Hartwagner Austria	180	179	180	122	180	159	123	1123
20. W. Brambock Austria	180	122	180	135	180	139	163	1099
21. S. Albieri Italy	156	180	180	107	161	133	180	1097
22. A. Landeau France	180	0	164	151	180	180	180	1035
23. Ladislav Kovacic Yugo.	180	106	141	150	180	177	82	1016
24. J. Akesson Sweden	180	0	180	128	180	167	180	1015
25. I. Goranov Bulgaria	151	102	91	180	108	161	180	973
26. O. Ebner Austria	0	180	180	114	180	152	132	938
27. Lj. Kirilov Bulgaria	25	84	180	129	180	127	176	901
28. A. Celli Italy	180	180	131	180	180	0	0	851
29. B. Izef Bulgaria	87	99	102	90	88	61	69	596

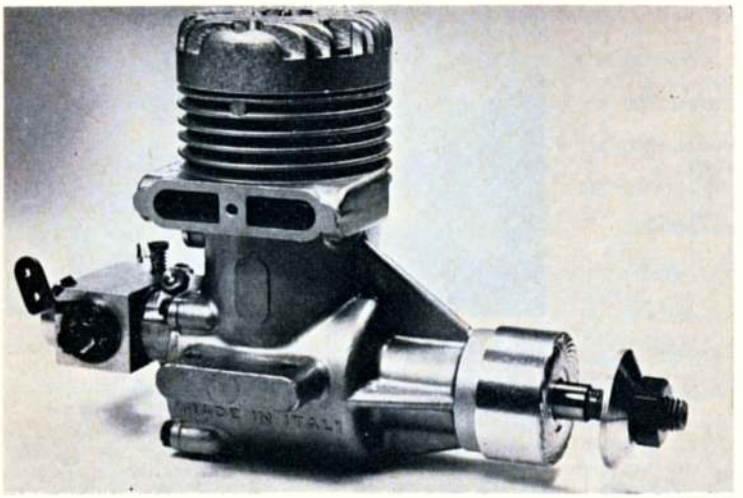
* *hors concours*

say that perhaps in future it will be possible to have a team from the S.M.A.E. if the team members could combine the European Championship with their annual holiday, as some of our travelling contestants do at other European events. I sincerely hope they do, because they would certainly enjoy the experience.



Above: Celli of Italy, close-up of engine and timer installation of his model. Had two zeros to place 28th. Below: Guilloteau of France.

Below: Sedlak of C.S.S.R., uses MVVS diesel – unusual, placed 13th.



LATEST ENGINE NEWS

By Peter Chinn

Taplin Tempest Modification

IT MAY BE recalled that in the Engine Test report on the Taplin Tempest in last month's issue, we questioned the use of brass for the rotary-valve pin. This matter was taken up with the manufacturer who confirmed our findings. We are advised that production model Tempests are being fitted with steel pins and that this modification was, in fact, made before any engines were released for general sale.

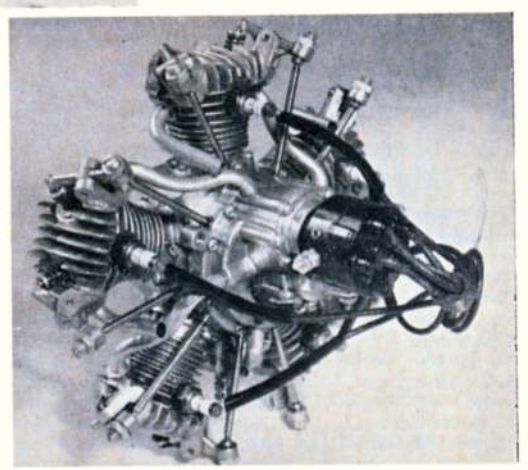
Ross Twin

We have just received from the United States one of these promising new twin cylinder 10 c.c. R/C engines and will be reporting on its performance in due course.

One's immediate impression on inspecting the Ross is of its compactness and modest weight. Unusual for a twin cylinder engine, it is no heavier (it weighs less than 15 oz.) than the average single-cylinder engine of the same displacement and, from the prop driver face to the rear of its Kavan carburettor, it is less than 3¼ in. long.

The Ross (unlike the alternate-firing, in-line British Taplin-Twin diesel) is a simultaneous-firing horizontally-opposed glowplug motor. Overall width across the cylinders, less plug terminals, is a modest 4.9 in. which is due, in part, to the engine's low stroke/bore ratio of only 0.75. A single casting embraces the crankcase, front bearing housing and both cylinders, assembly being facilitated by drop-in liners, fully-floating gudgeon-pins and detachable big-end caps.

Unlike most flat-twin model engines that have appeared to date, the Ross has its transfer



Above: A development of the 1966 Super-Tigre G.40 rat-racing engine: the 1970 G.40 R/C pylon-racing motor with ABC type piston-cylinder assembly and Mag-II throttle type carburettor.

Right: The American Burgess M-5 15 c.c. five-cylinder spark-ignition engine of 1947. Engine had all essential features of full-scale radial aircraft engine except for oil pump.

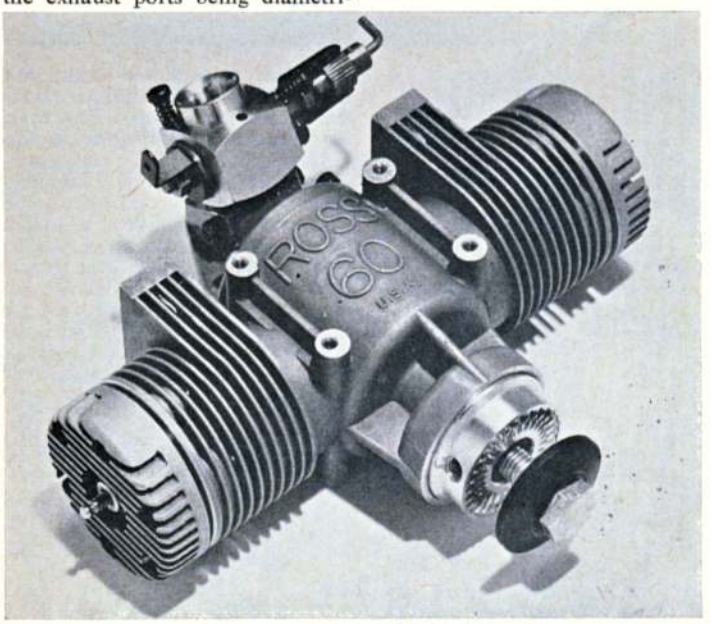
A favourite since 1950, the Fox Stunt 35 has changed little during recent years. Current model illustrated at left differs from version featured in December 1967 Engine Test only in the addition of stiffening rib in centre of exhaust duct. Right, the 1970 model Fox 15 R/C engine now available in U.K. through Irvine Engines. It has 2.4 c.c. capacity and weighs less than 4 oz.

Parts of the 1970 Fox 15 R/C. Carburettor incorporates separate idling jet. Further details in October RCM & E.

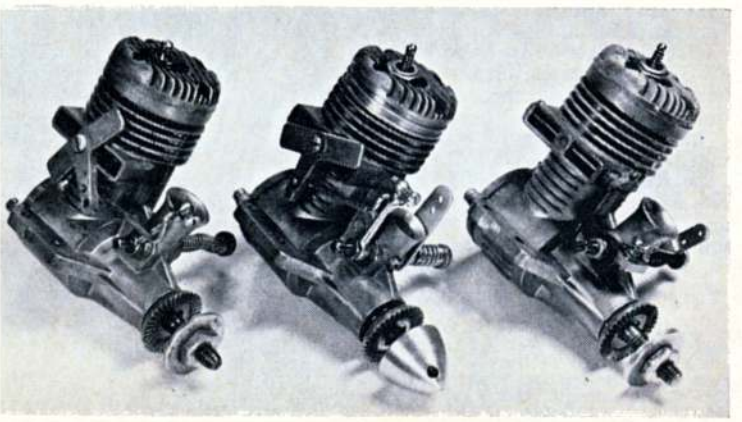
passages in the front, rather than in the upper sides of the cylinders, the exhaust ports being diametrically opposite at the rear. This, plus the fact that offset small-ends enable the cylinders to have a common axis, means that the directional flow of the crankcase charge should not favour one cylinder more than the other and should thereby reduce the tendency for one combustion chamber to be starved and cause that cylinder to cease firing at low-speed throttle settings.

The two-throw, two journal crankshaft is carried in three ball-bearings, the rotary admission valve being incorporated in the rear journal. The alloy pistons have Dykes type rings and wedge pattern combustion chambers are used. Fox long-reach bar-type glowplugs are standard equipment.

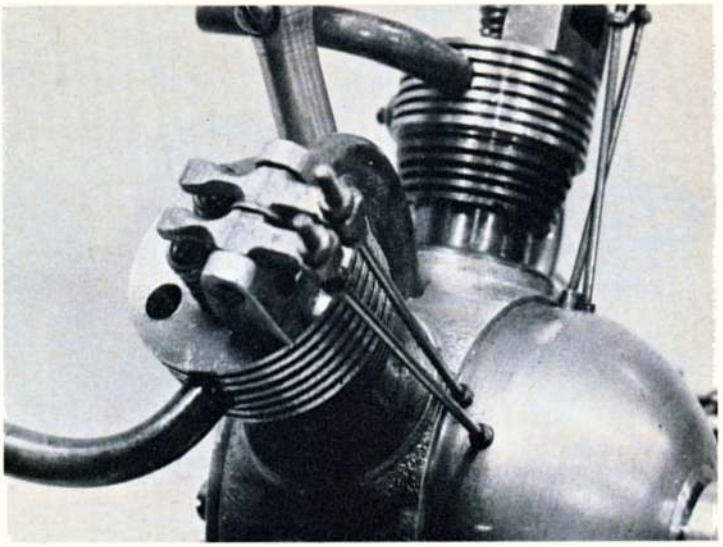
For mounting the Ross Twin, four tapped lugs are provided beneath the crankcase and four similar lugs are situated on top of the crankcase. Optional extras include a machined aluminium mounting plate that enables the engine to be bolted to normal beam mounts, a pair of T-brackets for bulkhead (radial) type mounting and a pair of square tube exhaust extensions that enable exhaust gasses to be carried away below the fuselage.



Above: the production version of the new American Ross .60 twin. A Kavan carburettor is used instead of the Perry originally specified. Note the convenient rearward facing exhausts for vertical twin silencer installation.



Fox 15 R/C 1962–70. Original 1962 model on left. More expensive 1965 model (centre) with improved throttle, lightweight piston and machined conrod. Current model (right) with semi-rotary exhaust valve and ribbed crankcase.



Close-up of the Lea 15 c.c. radial showing valve gear, including push-rods, rockers and tappet adjusters.

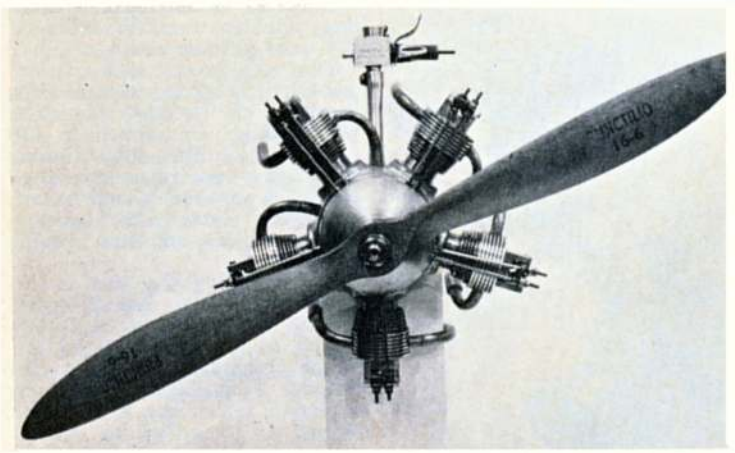
We understand that silencers will also be available in due course.

As previously mentioned, we shall be reporting on the performance of the Ross Twin at a later date. Meanwhile, engine enthusiasts who may wish to see what the engine looks like, will find illustrations of it, plus some further information, in the 'Radio Motor Commentary' feature in the September issue of *Radio Control Models & Electronics.*

Lea 5-cylinder Radial

The three photographs reproduced here of the home-made five-cylinder radial glowplug engine were sent to the editor by its constructor, Mr. H. Lea of St. Helens, Lancs. We have little information on the engine at the present time but Mr. Lea states that it turns a 16x6 Punctilio wooden prop at between 5,500 and 6,000 r.p.m. on Keilkraft Nitrex-15 fuel and scales 30 oz. This weight, however, has been reduced in a second engine now being completed.

Inevitably one is reminded of the American Burgess M-5 that appeared (originally as the Morton M-5) some twenty-five years ago. The Lea engine has, in fact, the same swept volume (.9204 cu. in. or 15.08 c.c.) and the same bore and stroke dimensions of 0.625 in. x 0.600 in. Like the Burgess, the Lea radial is an overhead valve four-stroke. However, its construction is quite a bit different. It appears to use screw-in steel cylinders, with detachable alloy heads, in contrast to the Burgess's diecast alloy cylinders with integral heads and shrunk-in steel liners, attached to the crankcase with six screws. Valves are disposed vertically in the cylinder heads instead of being inclined and the push-rods are located in front of the cylinders instead of at the back.



Left: H. Lea's 15 c.c. five-cylinder glowplug radial engine. Punctilio 16 x 6 prop is turned at 5,500–6,000 r.p.m.

Parts of the Lea radial. Overhung crank, valve gear at front, and omission of spark ignition system makes for reduced length and simpler installation.

As on the Burgess, the induction manifold is incorporated in the crankcase from where intake tubes are led to each cylinder. A Johnson Automix carburettor is fitted on a long induction pipe and is much more accessible than was the two-jet butterfly-throttle carburettor fitted to the M-5. Some complication – and a potential source of trouble – is eliminated by the omission of a spark ignition system and its attendant high-tension distributor.

It is very probable that Mr. Lea's engine is a more practical model power plant than the Burgess M-5. The Burgess, as our photo shows, was a delightful looking piece of work and was actually scaled down from the pre-war American LeBlond 5-D 85 hp light aircraft engine. It was certainly the most ambitious model engine project ever to be undertaken by a manufacturer, but it was a failure commercially: Its power output fell considerably short of the orthodox single cylinder model two-strokes and it was heavy, rather tricky to operate and somewhat troublesome. The position of the carburettor jet controls made them difficult to adjust when the engine was running, the distributor gave trouble through oiling up and the diecast aluminium valve rockers tended to wear quickly. No doubt most of these shortcomings could have been eliminated or, at least, reduced, with further development but, combined with the M-5's high price, they had a depressing effect on sales and the Burgess Company ceased production in about 1948 after a relatively short run. Today, the M-5 is a valued collector's item and a few have been rebuilt to overcome some of the earlier troubles.

E.D. Super-Fury R/C

A full report on the recently re-introduced and improved E.D. Super-Fury 1.49 c.c. diesel was published in the May issue in the Engine Test series. This report dealt with the standard free-flight and control-line model and included performance details both with and without silencers.

We have also run some tests on the Super-Fury with the optional throttle type backplate assembly for R/C use. The following prop r.p.m. were obtained with the maker's standard silencer fitted.

6,700	r.p.m. on	9 x 5	Top-Flite wood
7,700	,,	,, 9 x 4	Keilkraft nylon
9,300	,,	,, 8 x 5	Power-Prop wood
9,800	,,	,, 8 x 4	Top-Flite nylon
10,600	,,	,, 8 x 4	PAW Trucut wood
10,800	,,	,, 8 x 3½	Top-Flite wood
12,600	,,	,, 7 x 4	Top-Flite wood

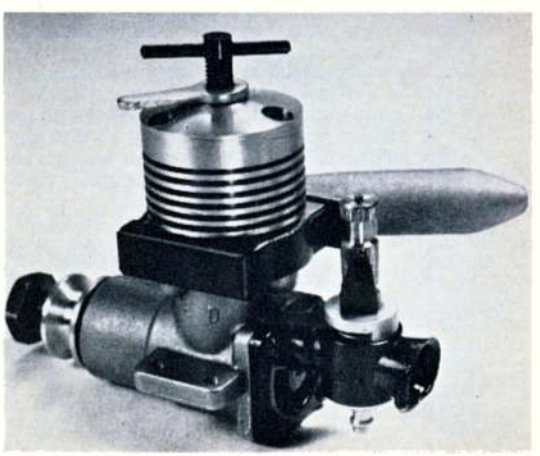
As with the standard model, the R/C version backplate and carburettor are of moulded black nylon (as is the valve rotor) but the carburettor body is enlarged to take an aluminium barrel type throttle valve. This has a smaller choke area than the standard carburettor and causes torque to fall off much earlier as load is reduced, resulting in about 2,500 r.p.m. being lopped off the standard engine's b.h.p. peaking speed and a reduction in peak power of about 20 per cent. However, on the sort of props most likely to be used with the engine for R/C (e.g. 8 x 4), holding in-flight speeds to around the 10,500–11,500 mark, there is a much less noticeable power loss and prop speeds are down by only about 400 r.p.m. The power output (over 0.12 b.h.p. at 12,000–12,500 r.p.m.) is still good for a 1.5 c.c. R/C engine with silencer.

Having regard to the fact that a good R/C glowplug engine will always idle more slowly than a good R/C diesel, the Super-Fury's throttle worked reasonably well. The minimum speed that will still allow a safe recovery to full power depends, as with all model compression-ignition engines, on the length of time that the engine is idling and thus cooling off. Provided that idling periods did not exceed 20–30 seconds, we were able to get the Super-Fury to throttle down to slightly less than half its full throttle speed on any given prop and still regain full power without hesitation on re-opening the throttle.

The Super-Fury R/C started easily at all times and ran steadily. Following approximately three hours total running time, there was still a slight power loss on warming up from cold on the larger prop sizes (e.g. 9 x 5, 9 x 4, 8 x 6) but this was reduced to negligible proportions when the engine was fitted with an 8 x 4.

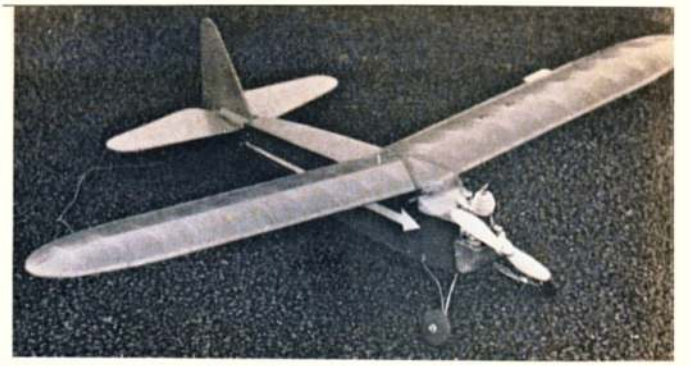
The Super-Fury R/C is only fractionally heavier than the standard model. It scales 4.52 oz. less silencer or 4.97 oz. with silencer.

Above: Parts of the E.D. Super-Fury R/C rotary - valve and carburettor assembly. Complete unit is interchangeable with standard type.



Right: The R/C version of the 1.49 c.c. E.D. Super - Fury diesel. Engine is shown fitted with manufacturer's silencer.

YOUR TWO FREE PLANS



Little Little VAGABOND

by G. F. Elsegood

HAVING had great fun flying *Sharkface* type single channel radio controlled aircraft, the designer decided that it was time to build a more 'restful' model. Those little models which flit through the air at enormous speeds and with horrifying antics hardly help one to relax! The question then arose as to what sort of model should be built – and as usual the *Aeromodeller* provided the answer.

Looking back through some war-time issues, the *Little Vagabond* design was re-discovered – being a 45in. span model designed for a 2 c.c. petrol engine by G. W. W. Harris, in 1945. Naturally, this was a free-flight design, thus being inherently stable, but also it had been designed to carry a heavy payload, necessitated by the batteries and coil, etc., needed by a 'sparky', as well as a mechanical timer. Having an elderly, but good condition Mills .75 c.c., the designer decided to build a scaled down version of this model to suit his engine and R/C equipment, which would still retain the 'character' of the original vintage ship.

Naturally, the model may be flown both free-flight and with radio. The D.C. Dart diesel or any of the lower powered .049 glow motors should be suitable for the radio version, while the Cox Pee Wee or even the home-built Topsy diesel, should be adequate for sport flying. This model should fly sedately at a leisurely pace – a high airspeed would be quite out of keeping with its nature!

Originally it was intended to follow exactly the construction of Harris's design, but knowing the hard life of single channel models, sheet balsa was used for the tail surfaces, and laminated wing tips.

Start the fuselage construction by making two pairs of fuselage sides. Pin the spruce langerons over the plan, and add the $\frac{1}{8}$ in. square balsa spacers, plus the $\frac{1}{16}$ in. sheet front fuselage sides, noting the grain direction. Add the gussets, escapement rails and $\frac{1}{16}$ in. sheet doublers to former F4, and remove from plan. Repeat for the other side – noting that it is opposite handed! Cut out formers F1-4, then glue in place F4 and the cross braces located at the rear wing dowel – checking for squareness. When quite dry, join the fuselage sides at the rear and insert the remaining spacers. Next, bend the undercarriage to shape, solder and bend to the rear of F2. Add formers F2 and 3, followed by F1. When thoroughly dry, complete fuselage by adding 1/16 in. ply fuselage decking, 3/16 in. floor and wing dowels, etc. Bend the engine mount, then epoxy and woodscrew it to F1.

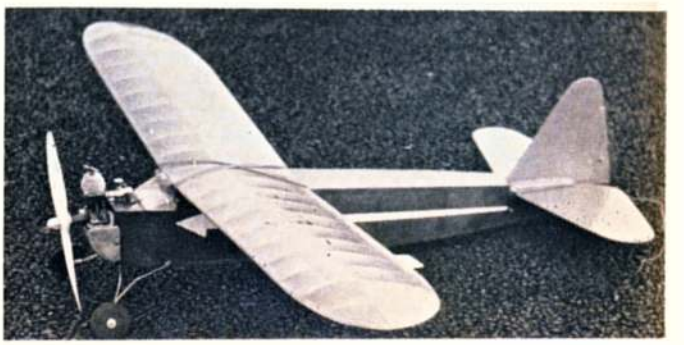
The wings are of orthodox construction. Pin the trailing edge and lower spar of one panel over the plan. Laminate the tips from four laminations of 3/16 in. x 1/32 in. strip – soaking them in hot water, and glueing with P.V.A. Cut out all the ribs and glue in position. Add the 3/16 in. sq. L.E., followed by the 1/16 in. sheet infill between the spars where indicated. Glue the dihedral braces in position, followed by the top spar.

When completely set, remove from plan, raise the tip 3 in. to allow for the dihedral angle and build the opposite panel in the same fashion.

Use very soft sheet for the tail plane and fin, glueing the components together with a P.V.A. glue.

The model is now ready for covering. With durability in mind, the fuselage was covered in nylon, the wings with heavy-weight Model Span tissue, and the tailplane with lightweight tissue. Dope, apply colour trim – if required – sparingly, and fuel proof.

It would seem that back in 1945 Mr. Harris foresaw the advent of reliable radio control, as the model flies as well as most purpose-built single channel aircraft. It is advisable to reduce power slightly for the first flight or two, and to restrict the motor run to about 30 seconds. Fit a trim tab to one wing to cure any undesirable turning tendencies, then go out and enjoy yourself on a calm summer evening with a 'real' vintage model.



and MEECE III

by Chris Coote

Chris Coote and his pitman Steve Harvey after their sensational performance at the 1970 British Nationals.

THE origins of *Meece III* arise from a profile fuselaged 'mouser', which in turn was a half-sized model of a Rat Racer that the designer was flying at the time. This profile job, powered by an absolutely standard Cox Golden Bee, won the Class II event at the '69 Nationals – mainly due to efficient pit-work rather than high airspeed.

Meece III is just a 'cleaned up' variant of this model, with all the controls contained within the box fuselage, and with the nose moment increased by ¼ in. to aid stability. It now makes a very good trainer, apart from the 'hairy' take-off and high speed – if released from a height of 3 in. the model will go straight into the air without touching the ground at all! It is recommended that a handle with approximately 2½ in. line spacing is used, as this combined with the control set-up shown on the plan results in a nicely low geared system for ease of flying. It can be pretty hectic in the centre when three fast models are circulating!

A few eyebrows may be raised at the use of a 1 in. diameter *balloon* wheel, but this extra drag penalty is more than offset by its ability to absorb 'bouncy' landings, and less prone to tip the model over. Should this happen, though, the plywood fin will prove to be far more abrasive proof than a balsa counterpart! Use of a steel wing tip skid also helps the landing, as the model, due to this extra tip weight, can be successfully whipped when the motor cuts. So many 'mousers' assume the gliding angle of a well-trimmed brick when the engine cuts, adding to the carnage at worst, and slowing their times at best, as it causes the pit man to lose more precious seconds reaching the model.

Equally important to success as the engine mods is the 'hot glove' system of heating the glow plug – it's surprising just how long it takes to use a conventional glow clip, and, of course, there is no clip to accidentally fall off or short out. Both the engine modifications and the 'hot glove' system are detailed on the plan. If you use a 2 volt accumulator allow plenty of flex to reduce the voltage to 1.5v necessary for the Coxheads. These plugs will take 1.9v, but tend to burn out when the motor fires. Pit man for the designer, Steve Harvey, uses a 2v. dry accumulator and six feet of bell wire, and his has proved ideal.

The best prop to use seems to be a 5 in. x 4 in. – Tornado or Keil Kraft nylon, both seem to go equally well. With this prop and using a fuel composed of 25 per cent Castrol M, 45 per cent methanol, 25 per cent nitro methane and 5 per cent nitro benzine, the model flies at 72 m.p.h. for 55 laps – enough to surprise most of the Tee Dee's! In fact, this Class II model recorded the fastest *Class I* heat time at the 1970 Nats. of 3:02, before it was barred from the final – but that, of course, is another story!

The nitro benzine is added to the fuel to prevent the motor from 'cooking up' on those long, 55 lap runs, but a word of warning must be given concerning this additive. **Do not** allow it to come into contact with the skin, as it is extremely poisonous, and can be readily absorbed into the bloodstream through the skin. Use polythene gloves when handling the chemical in its raw state – available from ex-government stores at around 3d. a pair.

Fly the models on .010 single strand steel lines (the Keil Kraft 33 s.w.g. lines, mounted on the red card are ideal). Penalty of using three-strand lightweight Laystrate lines adds up to 5-10 m.p.h. – and terylene lines are simply out altogether.

U.S. NATIONALS 1970

Free flight events

reported by Bob Meuser

Marty Thompson. Junior National Champ. Model is Stardust 900 with fuselage lengthened 5 inches. Took first place with this model in both B and C-Gas using K & B 29 and 40 engines.

BUCK SERVAITES, 29, Ohio, repeated his 1969 performance by becoming Open and Grand National Champion, followed closely by former Junior and Senior National Champ Dennis Bronco of California. Brian Webster, a consistent winner, became Senior Champ. Under the point system used for selecting National Champs it is possible to become Champ without winning a single event, but the new Junior National Champion, Marty Thompson, of California, took first place in *five* events – hand-launch glider, A/2 towline glider, and classes A, B and C Power – and took home ten trophies in all!

1968 Indoor World Champion Jim Richmond demonstrated how he got that title by winning all three indoor rubber-power events – microfilm Stick, Paper Stick and Cabin. Although the rules permit much larger models, Jim won the Stick event with a small FAI-size model, hitting the lights and girders so often in its attempt to make full use of the 90ft. ceiling that we lost count. Jan Servaites, younger brother of the National Champ, won Stick and Paper Stick in the Senior age group, setting a new record as well. Hand-launch glider was absolute chaos because of the large number of entrants and the small dimensions of the hall, but many fliers topped the one-minute mark, and Dennis Bronco won with a two-flight total of 2min. 9sec. Indoor flying scale had more than 70 entries in three classes. Some unbelievably beautiful models were entered, but, as usual, the winners had less emphasis on detail, more on flyability. Ron Martelet won with a Micro-lite-covered *Pilatus Turbo Porter*, which flew for more than two minutes.

The smallness of the flying fields and the preval-

Open and Grand National Champion, Bucky Servaites, Dayton, Ohio. Also Grand and Open Nat Champ in 1969. Age 29. Launching indoor hand-launch glider, third place.

Mike Thomas, Toronto, Canadian Wakefield Team. First year at indoor modelling in U.S. Nats – he was keen in it while in his native Lancashire.

Above right: Don Chancey, Richardson, Texas, won first place, open in outdoor chuck glider. Model is own design Texas 'BoWeevil', kitted by M & P Enterprises. The other two members of the M & P Works Team took 2nd (tie) and 3rd places. Symbol on wing is map of Texas. Left: 'Tommy T' Peadon. Centre: 'Fast Richard' Mathis. Right: 'Young Don' Chancey.

ence of strong winds has forced the adoption of flying rules for the Nats which are different from those used in regular competition. All maxes, including those for flyoff flights, are reduced to three minutes. For the AMA Power classes, the engine run is reduced to 13sec. for R.O.G. and 10sec. for hand launch for the regular three flights. For flyoff flights the engine run is reduced progressively in two-second increments – this applies to F.A.I. power as well. The system works extremely well.

As to the models themselves, there are no weight or size limitations for any of the outdoor models except a 300sq. in. maximum wing area for Unlimited Rubber. F.A.I. rules apply, of course, to those classes. Age groups are Junior to 15 years, Senior to 20 years, and Open, although these are likely to change in the near future.

Strong winds blew almost continuously, and even with the three-minute max, many models flew into the residential area surrounding the field. The Navy retrieval team, using jeeps and two-way radio, was successful in returning most of them, but many were lost.

Peter Allnutt, of Toronto, again won the A/2 Nordic Glider event, and again was the only one to max out. Frank Heeb took Open Wakefield with a time of only 790, which furnishes a clue to the wind and weather conditions. Jan Servaites repeated his 1969 performance by winning Senior Wakefield.

Top: George Perryman, Smyrna, Georgia. A threat in any rubber-powered event. Flew Unlim. Rubber, Wake, Coupe d'Hiver. Trademarks are swept-back wings, polyhedral stab, checkerboard covering and scimitar tips on everything – including the prop. Doesn't seem to hurt the performance any. Took second in Unlim Rubber. Assisted by Mike Bailey who took first in Sr Unlim using Perryman design. Above: Vic Cunningham, Jr., Covina, Calif. Manufacturer of popular Galaxie and Geodetic Galaxie kits for 049-051 engines. All designs in last five years have featured 'Union Jack' type of geodetic construction. B and C models are K & B Torpedo-powered.

The day on which Unlimited Rubber was flown was the only one that started out calm, although the wind came up later. With only a three-minute max, and especially with reasonably good weather, many expected more of a marathon than actually occurred. George Perryman, of Georgia, flew early and about noon failed to max on his twelfth flight. Willard

Right: Fulton Hungerford, Titusville, Florida, entered Ford Trimotor flown in Indoor Rubber-Power Scale, 19 in. span. Covering is ultra-thin corrugated plastic made by the builder, painted before covering. Ribs and spars are built-up simulating the original. Weight, $\frac{3}{4}$ oz. Outboard props driven by motors in wing through flex-shaft. Scale dummy props shown. Flew poorly, but it flew.

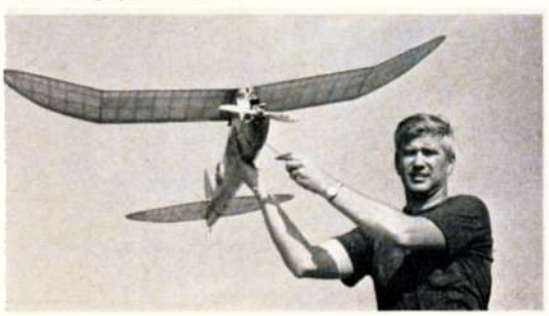
Sue Weisenbach (18) of Cleveland, was awarded AMA scholarship. Her fifth Nats. Flies indoor, outdoor gas and rubber. Half way through the contest the engine of her class-A gas model separated from the model and seriously lacerated her knee. She nevertheless flew the rest of her events, either from a chair, crutches, or standing on one foot.

Smitz was about five maxes behind Perryman at the time and continued on to his twelfth max to win, flying a Bilgri 'Decoy'. Mike Bailey, who won in the Junior division last year, beating out Senior and Open fliers as well, won in the Senior division with a Coupe d'Hiver-size model carrying about 50 grams of rubber.

Power events were dominated by *Stardusters* of all sizes flown almost exclusively with Cox 049's and 051's, K&B 29's and 40's, and a few Supertigres. A four-way tie developed for third place in 'B' Open division, each with four maxes, but none able to make a fifth flight because of loss of the model, engine over-run on the fourth flight, or simply running out of time. Highest score in any of the AMA power events was made in 'A' Open division, by Andy DeMello, of Canada, who completed seven maxes, the last with a five-second engine run!

The 'works team' from M & P Enterprizes, manufacturers of Outdoor Hand-Launch Glider kits, put on an unprecedented performance in that event, 'Young Don' Chancy taking first, 'Fast Richard' Mathis second, and 'Tommy T' Peadon third, although non-works-member Charles Markos tied for second. Their kits, while rather expensive, are true competition machines featuring a fuse-operated shifting-weight dethermalizer.

It appeared that few top fliers in F.A.I. events turned out for the Nats – apparently many were saving their models, time and finances for the U.S. Team Selection Finals in September. Some regard the Nats as the ultimate contest, going all out to win. Others take it rather casually, preferring to spare their models for more serious competition. But, say what they will about the Nats, most agree that there is nothing quite like it!



We shall be giving further coverage to the Scale Classes, Free Flight, Radio Control and Control Line next month, but it will be of interest to readers to know, we are sure, that the Radio Control Scale class was headed by two completely new entrants to the U.S. Nats. In fact, the eventual winner, Edward Ellis of Dearborn, Michigan, humbly stated that he hoped the experts would not mind him trying his luck – before the results were announced. His model was of the Ryan NYP 'Spirit of St. Louis' replica

Dennis Bronco, California, took first place, Indoor H.L. Glider, Open age group, 128.6 sec. total of two flights. Was formerly both Junior and Senior National Champ, was runner-up for Open Nat Champ in 1970.

as used in the film of the famous Lindbergh flight and Edward's flight pattern with the model was one of the most realistic ever seen.

In second place was Frank Nosen, of Two Harbours, Minnesota, with a Republic P-47 Thunderbolt, with operating rockets, all to 1/8th scale. But perhaps the most outstanding feature of Scale at the Nats was the arrival of not one but *two* Consolidated B-36 *six-engined* Radio Controlled Scale Models! Just imagine the feelings of each of these competitors thinking they had an exclusive! One was entered by Ken Drummond, the other by Walt Burgin and both flew magnificently, Drummond dropping a bomb within 10 feet of the Judges and all engines starting within a minute in each case . . . *more next month.*

Bob Larsh of Indianapolis, Indiana. Took first place for the second straight time in the unofficial Old Timer event, Cabin-Ignition class. Model is Taibi's 'Brooklyn Dodger', Ohlson 23 powered.

topical twists

by 'Pylonius'
illustrated by 'Sherry'

'Could swear it landed somewhere around here'.

A Word to the Wife

IT IS INEVITABLE and understandable that the public image of model flying at its acme of achievement and perfection is the radio controlled scale model cavorting about the sky in glorious imitation of its big brother. Naturally, when this sort of thing is projected on television I get a nasty touch of the squirms. Why? I ask, did I never get into the big league: timewise, money-wise and prestige-wise?

The answer, or at least part of it, was given by one of the lords of the mini air when questioned on the reason for his success. The issue, he explained, was one of the mastery of the mind over matter, in that the wife, the principle resistance factor to a life dedicated purely to model flying of the more expensive kind, had to be completely subjugated. In fact, proportional control could be said to be proportional to the control exercised over the protesting spouse.

From this it would follow that, if the modeller must conform to such dreary conventions of society as getting himself hitched, he should ensure that the partner of his choice is one who will readily respond to a touch of down when it comes to the issue of entertaining in-laws or going to a model meeting. Lucky the enthusiast whose good lady trots obediently at his heel, and is not therefore troubled by any unpleasant drag factor.

The ideal model spouse must also be compliant to her master's wishes in foregoing such frivolous gadgetry as fridges, vacuum cleaners and televisions. Indeed, in times of financial stress, such as when a bargain set of servos come on offer, a spell of living on bare boards might well make for true domestic harmony.

Children, too, can be a very mixed blessing to the model devoted dad. Ideally they should be air mad boys, full of dad worship as he proudly loops his Fokker Triplane over the heads of the gaga multitude. But something else is in the air, apart from dad's model – stark rebellion. Teenage daughter's electronic interests do not exactly coincide with those of dad. Whatever pop's output might be on his new transmitter she is more concerned with the output of pop on the record player she didn't get. And as for Sonny, his airborne delights are strictly limited to the booting and throwing of various sporting spheres; model flying being mere kid's stuff.

Which brings me back to my own humble situation; would a bunch of flowers help towards obtaining a hank of rubber?

Casting Off

With all the current accent on the utilising of fishing gear in the art of hooking thermals – not to be confused with 'fly fishing' – the important axiom in the model world today is 'spare the rod and spoil the brainchild'.

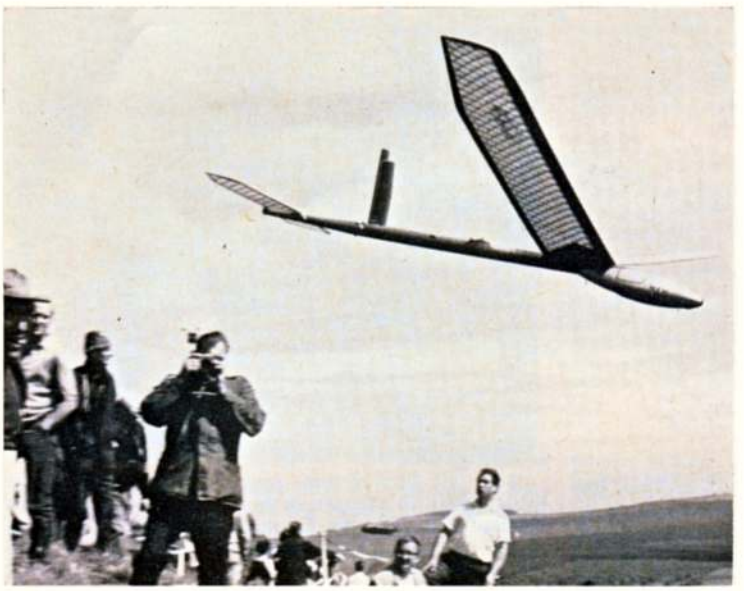
All very ingenious, of course, this scavenging approach to model factorising, but the idea of supplanting all that time honoured intricacy of construction normally required to produce a slimline elegance by grafting a length of fishing rod on the back end of the model is something of an affront to those doughty traditionalists who have sweated it out with microscopic bits of 1/16th square. Then, again, all this paring away of non-essential bulk reduces what is put into the air to something so skeletal and whispish that it ceases to have any sort of real identity. And it makes it pretty tough going for the timekeeper, too. Not only has he to combat the inbuilt invisibility factor, but airborne fishing rods are apt to assume a disconcerting anonymity, particularly when the tactical competitor goes off on a long distance thermal fishing jaunt and the model is launched out of sight of the timekeeper. Just who puts the watch on what dimly perceived, identical silhouette can be a matter of pure chance.

Perhaps the rod grafting situation is fairly tolerable if limited to the glider, but other built up areas are coming under threat of solidification, too. In fact, the fishing rod producers are expecting something of a boom in booms in the model world. Observers have already reported the appearance of profile-less power models climbing like rockets on sticks, and even the Coupe d'Hiver may be heading for a lean winter.

Keen As . . .

Model designers are turning out to be quite versatile people. Quite the hardest part of the whole design process is finding a name for your pet creation. Therefore, you would think that the chap who thought up such poetical fantasies as *Fried Fritter* and *Nig-Nog* had acquitted himself nobly enough in the world of aerial design. But not so, we learn he has something else on his plate: 'Mustard'. The reference is not to the stuff that thermically activates the hamburger, but is the title of an ultra sort of space project.

I, personally, am working on a special digital operated pin probe. All I require to find is the correct height and angle of the downthrust factor for a win in 'Find the Model' contest.



European Champs for Magnet Gliders

Wasserkuppe, reported by Hans Gremmer

THERE was originally some discussion as to whether the event should be held in Czechoslovakia or in Germany this year. Eventually, the historic town of Wasserkuppe/Rhön in Germany was chosen – mainly because this place is currently celebrating its 50th anniversary. In 1920 the first sailplane competition took place on this terrain and the first slope soaring models were flown on the bare slopes. Later, in 1930, the first official 'Reichswettbewerb' – a competition open to all German slope soaring enthusiasts – took place on the 'cradle of modern sailplane gliding' and was won by the vintage model of Horst Winkler with a time of 181sec. This model had a tip dihedral wing and a large amount of forward area at the top of the fuselage for greater inherent directional stability, this being the main feature of the magnet steered gliders of today.

Altogether, 73 entries were made for this jubilee-competition: 8 from Italy, 9 from Austria, 15 from Switzerland and the bulk of 41 from Germany. The weather was not unfavourable during the two days of competition, although the modellers had to fight a fresh wind from the west. On the Saturday it averaged 15 m.p.h. when three rounds were flown, and this increased to 20 m.p.h. during the fifth round on the Sunday. The competition turned out to herald the highest level of achievement, for in spite of the harsh wind conditions, no less than 123 five-minute maxes were scored. Nearly all groups used anonometers, giving them an edge in gauging the trimming of the models and tuning them to the wind speed. For the first time in a magnet steered slope competition the timekeepers were allowed to use binoculars, and as a result of this organisers received no complaints at all, for the timekeepers were able to observe the models for their entire flight. Another benefit was that only a few models were lost. The modellers from abroad lost only one model thanks to

Feruglio's geodetic winning model. The magnet force is transmitted by a push rod of thin balsa from the top of the fuselage to the rear fin.

Ingenieur Horst Handler, of Germany, employed a rear fin model with light wings, but loaded with ballast. Its flying stability was remarkable, note the dihedral!

Upper left – Oeggerli's light steered model scored four maxes. Above – The Swiss mountaineering magnet fliers equipped with anomometer and walkie talkie gear. Left – The light steered model of Huttel, Germany, in wonderful geodetic structure and much admired but not employed in the competition for fear of loss of the model!

Results

								Total
1	Mario Feruglio	*Italy*	300	300	300	300	300	1500
2	Werner Schubert	*Germany*	300	300	251	300	300	1451
3	Helmut Schubert	*Germany*	300	212	300	300	269	1381
4	Siegfried Puttner	*Germany*	166	300	300	300	300	1366
5	Erwin Neidhardt	*Germany*	300	277	300	300	187	1364
6	Rolando Amato	*Italy*	300	300	300	300	147	1347
7	Herbert Schmidt	*Germany*	230	300	276	300	235	1342
8	Dieter Huttel	*Germany*	300	300	300	300	114	1314
9	Manfred Weichselfelder	*Germany*	300	295	300	300	112	1307
10	Ursula Marks	*Germany*	152	300	300	300	255	1037

Team Results

1	*Germany*	695	900	703	721	512	3521
2	*Italy*	694	834	690	627	453	3298
3	*Austria*	701	821	732	671	340	3265
4	*Switzerland*	854	561	639	853	252	3159

special recovery equipment such as walky-talky radios and observer outposts keeping in touch with one another.

The victory was richly deserved by Mario Feruglio, a 48-year-old precision instrument maker at an aircraft factory, who has been a keen aeromodeller since he was 16. His sophisticated geodetic construction, with a rigid push-rod operated rudder, which proved to be very reliable. His 750g. (approx 26 ounces) model equipped with the computer designed airfoil, Eppler E387, showed a good penetration and was the only competitor to achieve a perfect score.

It is also worth mentioning that the three Italian team members used the Feruglio magnet system. There were also some electronic systems with batteries and actuators – the circuits of which were closed by the magnet when touching a contact after deviation of the model. Since the contact is not always reliably tight in this layout, some modellers apply light-steering; using magnets with fans obscuring or uncovering electric photo-cells according to the deviation of the model. When the light is let in the photocells allow the electric current through, which operates the rudder mechanism. Oeggerli, of Switzerland, achieved four maxes with this light-steering system. The most common form of steering used was the forward fin steering, due to its simplicity and reliability. The competition emphasised that the most important thing is to match the model to the wind speed quickly. The more a competitor is involved in steering problems the less he can concentrate on tuning tasks.

WORLD C/L CHAMPS

(*continued from p. 552*)

This flight was immediately followed by Marc Vanderbeke's (Belgium) whose flying was most disappointing considering that he is the current European Champion. His bunts were too tight and misplaced, the triangle misshapen, and the vertical eights of uneven size. However, his flying was smooth, if below his full potential, and he received 864 points. Perhaps he lacked practice, as he did before the '69 Criterium, but he would certainly have to improve in the next two rounds to catch the Americans.

Second British flier to perform was Jim Mannal with his well-known **Nimrod** design. Unfortunately, he had engine starting difficulties, and had to call an attempt. He subsequently flew later in the day, in very calm conditions but with a little light rain. The engine again played up, but he managed to start it, and put in an excellent flight (736 points) – good enough to win the majority of British contests, but not really up to European standards. Due to the slow start, he suffered an engine over-run despite trying to land under power to retain those few extra points, but the motor did not stop and the model continued flying.

Plotzinjsh flew to his usual high standard, but which is not really in the top class, despite giving a good overall impression. His style is smooth but lacks accuracy, the intersections at times being rather poor, although this was not helped by the fact that he flew at a particularly gusty period – frequently having to step backwards to maintain line tension. He was very nearly embarrassed by the wind during the landing, as his motor cut awkwardly, and the model was blown inwards. By rapidly running backwards he retrieved the situation to make a good landing, although one cannot help but think that his tandem undercarriage must lose him points, as the model rocks from tip to tip in anything other than flat calm.

T. KING provides a simple boxcar for club field sport flying that will appeal to all modellers

IMP FOUR-FOOT GLIDER FOR RADIO CONTROL FLYING

THE *IMP* was created with small field flying in mind, as the designer's club (The Impington Village College M.A.C.) has only a small playing-field surrounded by large trees – typical of many clubs throughout the country. Most evening's flying end up with a tree climbing adventure – alright for the youngsters, but it gets harder as you get older!

With the arrival of cheaper single channel radio it meant the average club member could afford to control his model to some extent, and a glider offers the perfect entry into R/C flying.

'*IMP*' No. 1 was built in the summer of 1967. What a delight it was to be able to turn away from trees, which before had greedily swallowed up one's model! Using a Hi-Start launch to take the model up to about 250 ft., a flight of one to two minutes seems quite a long time in a small field. Being enthused with the performance, '*IMP*' No. 2 was built for Ray Malmstrom (founder member of the club) as an introduction to R/C.

The first flight was made one evening in the summer of 1968 with Ray at the control. The model was stretched back on the Hi-Start. At a signal from Ray the model was released. It rapidly gained height, with a few minor rudder corrections. After a clean release at the top, Ray proceeded to do a few circuits of the field. Apart from over-correcting once or twice, he had made his first R/C flight without mishap. Had it been a powered aircraft, those one or two over-corrections might have spelt disaster.

Although flights of only one or two minutes in a small field have been mentioned, in more open space with a higher launch flights of five minutes and over have been enjoyed.

The old maestro Ray Malmstrom holds on to the Imp prototype ready for a hi-start launch with the single channel transmitter switch on and ready for use. As text reveals, Ray has now graduated into the realms of Radio Control using the Imp as the ideal trainer.

Start by building the fuselage sides. These consist of 3/16 in. sheet combined with built-up 3/16 in. x 3/16 in. balsa. When dry, join at rear. Now add ply formers F2 and F3, also $\frac{1}{2}$ in. x 3/16 in. balsa spacers top and bottom. Next fit nose-block and former F1. Now add ply former F4 complete with 3/16 in. x 3/16 in. spacers top and bottom. At this stage place $\frac{1}{4}$ in. x $\frac{1}{4}$ in. balsa torque rod in position. Bend 18 s.w.g. wire at rear end, push through hole in F4 and bind and glue into rear of torque rod. Now add the rest of 3/16 in. x 3/16 in. spacers, and other balsa and ply pieces shown on plan at rear of fuselage. Next add $\frac{1}{8}$ in. ply skid complete with 16 s.w.g. wire tow-hook. 1mm. ply must now be glued to top and bottom of fuselage, at the same time forming hatch for the battery compartment.

Pin the $\frac{1}{8}$ in. sheet wing main spar down with 1/32 in. sheet packing underneath. Next, pin down 1/16 in. sheet trailing edge lower section. Now add 1/16 in. sheet ribs, and 3/16 in. x 3/16 in. leading edge. Next add 1/16 in. top sheeting and 1/32 in. capping strips. When dry remove from board, prop

up centre section and complete outer panels in the same way. When dry turn over and complete 1/32 in. sheet and capping strips. Lastly, add $\frac{1}{8}$ in. sheet gussets and $\frac{1}{4}$ in. sheet tips.

Pin down the tailplane trailing edge, leading edge and 3/16 in. x $\frac{1}{8}$ in. centre spar. Glue 1/16 in. ribs in position, add top $\frac{1}{8}$ in. x $\frac{1}{8}$ in. spars. Lastly, add 3/16 in. sheet tips, $\frac{1}{8}$ in. sheet gussets and 1/32 in. top sheet.

The fin is quite straightforward and is glued to the fuselage entering 1/16 in. sheet fuselage top where shown on plan.

A Cotswold Rx and Elmic Conquest actuator, with a 225 3.6v. Deac is used in the original.

After sanding the airframe, give one coat of sanding sealer. Sand lightly once more. Cover fuselage, wing and fin with heavyweight tissue. Use lightweight tissue on the tailplane. Give the whole aircraft three coats of 50/50 clear dope. On the original the fuselage forward of the tow-hook position is painted with Polyurethane, giving a durable finish to parts most prone to damage.

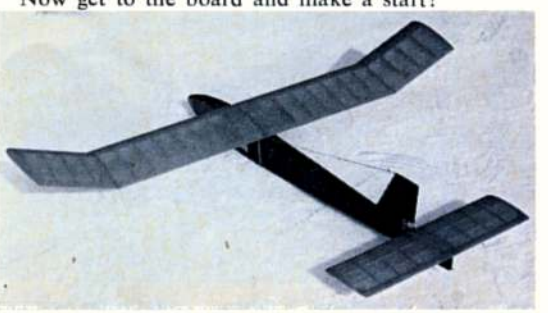
Check there are no warps. If any, take out with steam. Balance to model where shown on plan. A straight, flat glide should be aimed for. If the model stalls add packing under leading edge of tailplane, if a dive occurs add packing under trailing edge of tailplane.

Launching

For a Hi-Start launch, you need about 30 yards of $\frac{1}{4}$ in. flat elastic attached to a stake firmly driven into the ground. Add to this about 100 yards of 13 lb. B.S. Monofilament fishing line, to which is tied a cloth pennant and tow-hook ring. Hook on to the model and walk back 30 yards or so until a good pull is felt. When the model is released, it will rise rapidly at first, but on reaching the top of the tow it will flatten out and fly off the line at the correct speed. On a breezy day it may kite for a while before flying off the line, in which case keep model into wind until it is released. If you try to turn the model while on the line in an effort to release it, you could end up with a broken wing, especially in windy conditions. One note of warning when using the Hi-Start – make sure the radio is working 100 per cent, as you are committed once you have released model, and an uncorrected vere to left or right will spell disaster!

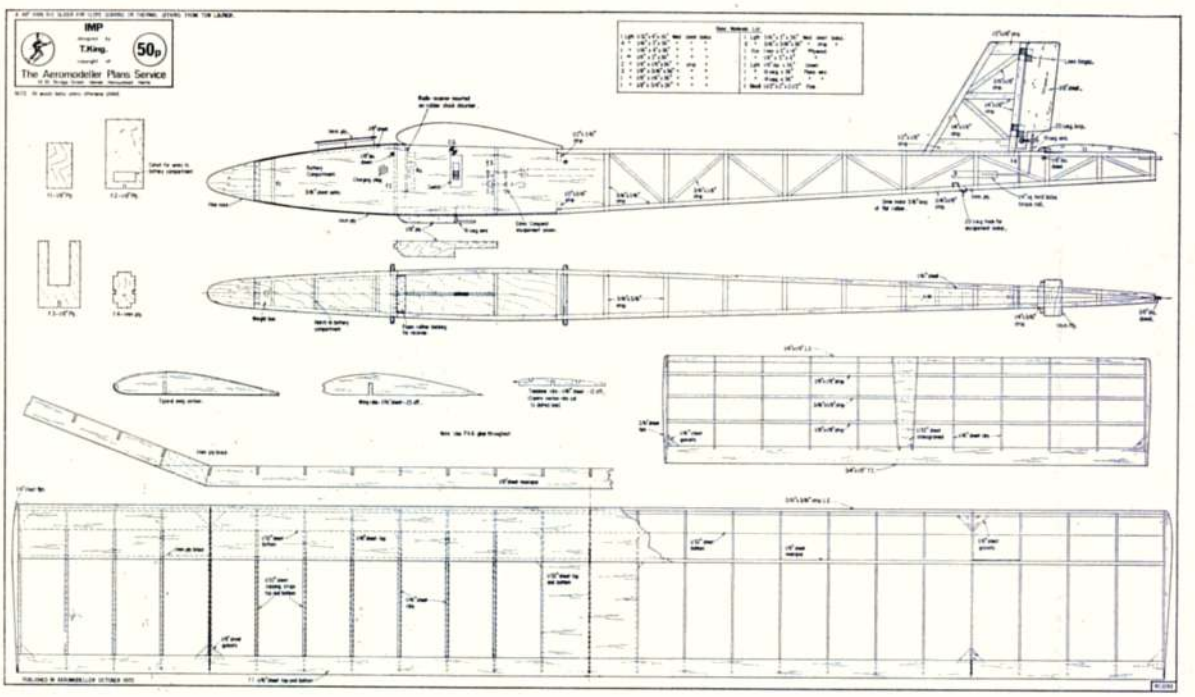
The Hi-Start described is for small field flying, a doubled power (two strands of elastic) version will give a good high release when flying on an aerodrome or similar open space.

Now get to the board and make a start!



Simple lines, straight structure (although total weight is only 12 ozs.) makes Imp a perfect project which could be built in a week of evenings quite inexpensively and capable of taking a wide range of single channel equipment.

Full size copies of this 1/8th scale reproduction are available as Plan No. RC 1093, price 10/– post free, from Aero Modeller Plans Service.



Free Flight Comment

by John O'Donnell

THE HEIGHT of the 'English Summer' is hardly the best time for predicting the weather, as many holidaymakers can vouch. Similarly, contestants have suffered at some of the events held in recent weeks.

Badly afflicted were the **S.M.A.E. area-centralised** events on 12th July if reports and results are any guide. Most areas must have wished they could have shared Western Area's conditions at Yeovilton. There, sun and breeze, combined with plenty of lift, gave a day ideal for glider flying. The opportunity was used to good effect as Swindon and South Bristol provided the top two glider teams in the **M.E. Cup.** Furthermore, the Western Area had the only four individual trebles in the event, with Elton Drew recording the best flyoff (with just over five minutes). In actual fact, Elton also flew in an area F.A.I. event and managed a string of nine maxs during the day.

Flying elsewhere suffered from wind. The N.W. reported gale force wind at their exposed Cark (or Flookburgh) airfield, and little interest apart from that generated by the area's 'guaranteed prizes' for its domestic events. The Pennines must have provided some shelter but it was still windy enough at Topcliffe for the top glider score there to be a mere 5:49 by Ray Monks who, with the rest of Birmingham, was flying principally, if not solely, for the Plugge Cup points.

As my club could not field a glider team I was able to concentrate on the F.A.I. Power event for the **Astral Trophy.** It was noticeable that there was much confusion over this contest through it being incorrectly described as *open power* in this magazine and elsewhere, presumably through carry-over from the S.M.A.E.'s provisional draft programme. Some prospective fliers even arrived at Topcliffe with the wrong models! In the conditions seven flights were more than enough – but I had to make *eight* through a 10.2 motor run on one attempt. I will be the first to admit that I was aiming a bit close – but it will illustrate the timekeeping difficulties if I mention that there was over half a second spread on the three watches used to time the next attempt! Retrieving troubles with downwind crops led to a rather hectic late afternoon. My last flight was only made by dint of persuading timekeepers to meet me downwind as I returned from the preceeding flight – and flying from where we met!

This meant that I won the Astral trophy by a respectable margin instead of a mere two seconds! Model used was my one and only F.A.I. power model – still with HP 15D.

Runner up was John Hook who, despite flying at Beaulieu, was using short D/T's to assist in the recovery of his Super Tigre G15RV *Faital.* The next two places went to Northampton club members Trevor Payne and John Cooper, who are obviously out to oust me from the Senior Championship. Total entries at eight, being less than the legal minimum of ten, meant that the S.M.A.E. had to make a formal decision for the results to stand. As on all previous occasions where entries have suffered with the weather the contest was declared as official.

Coupe d'Hiver was topped by Dave Digby, now flying for North Surrey instead of Leatherhead. Second place went to John Mayes – better known for his vintage activities and promotion. Close behind was Henry Tubbs who lost one model in strong lift, but who was doing very well until his last and disastrous flight of only half a minute.

* * *

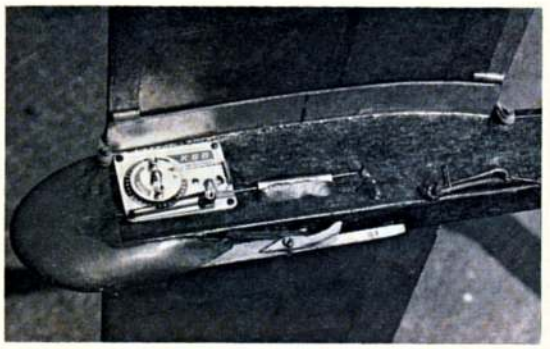
The following week saw the **Tynemouth F.A.I. Gala** at R.A.F. Ouston near Newcastle-on-Tyne. It also saw me on holiday at the opposite side of the country, despite attempts earlier in the year to pick a 'blank' weekend clear of all contests! Consequently my report is by courtesy of Mike Reeves.

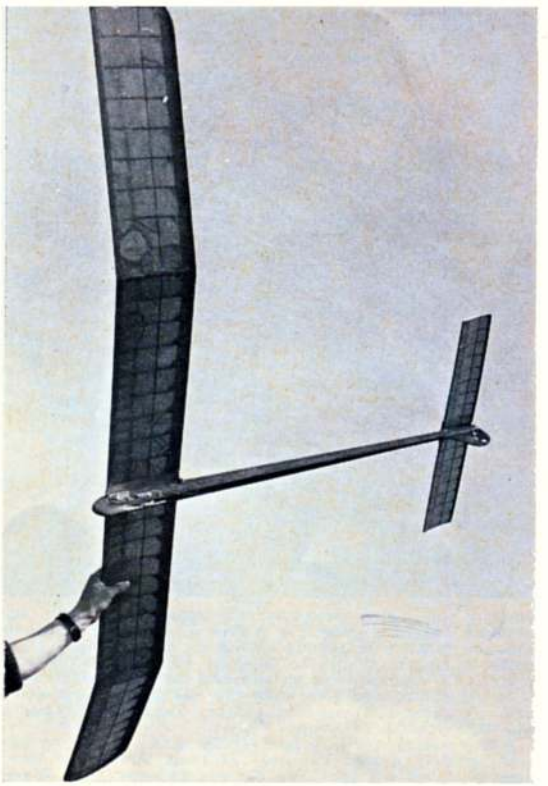
The event called for five flights, but was not held in rounds. Re-entry was allowed perhaps in an attempt to recoup some of the cost of the generous and well publicised prizes, but was little used. The weather was extremely variable. Early drizzle, was followed by a light breeze that suddenly swung and freshened –only to drop, throughout the day. A further and late wind shift took models on (or into) a line of tall trees. It was overcast virtually all day with lift plentiful at times but never easy. Best time was after a spell of rain mid-afternoon. In the prevailing conditions the standard of flying was not high and scores were lower than might have been expected.

Not unexpectedly A/2 had the largest entry – but at only 19 was disappointing to say the least. Mike himself won the event with his distinctive *Humblehound* design, featuring a very short fuselage nose and a completely underslung fin. He 'dropped' his first flight, but then did four maxes. One was admitedly lucky when the model 'fell off' the line despite a spring (or band) loaded 'trigger' to discourage such manoeuvres.

Martin Dilly placed second on a re-entry – using a very high aspect ratio model. Third was Pete Whitehead with a very bad fourth flight spoiling his chances.

'Miss Aeromodelling 1970', Linda Stafford (19), poses with John O'Donnell's Slowcoach Wakefield, which was built for, but not flown in the 1969 World Championships. At right, Chris Dumville launches very fast Slope Soarer at Sheffield two day meeting. Pylon flag in foreground.





Mick Reeves' 'Humplehound' A/2, detail above and whole of model at right. Note the anti-fall-hook arrangement.

Wakefield was comparatively well supported with entries half that of A/2 and was won by Bob Hymers with the model depicted (or rather partly depicted) in my August 'Comments'. The photo failed to show the extraordinary long triangular section tail boom and 'postage stamp tailplane' of only 44 square inches area. Its power pattern at Ouston was nearly straight, followed by a wide left glide. His top place could have been otherwise as Bob Wells 'lost' his last flight through not having it recorded.

F.A.I. Power had only four entries, and seemed an easy win for Roger Baggott even though he had to fly a spare model through damaging one D/Ting on to tarmac. Brian Hooley at second could have been beaten by Brian Picken except for the latter's model being well and truly wedged in an unclimable tree. Lack of suitable equipment meant that the model had to be left there.

The organising club are understandably disappointed with the response to their efforts, and are reconsidering their ideas 'for next year'. They seem to think that A/2 or open glider is the only event likely to attract large numbers of entrants – and that other categories will almost certainly run at a loss. Maybe the York Rally approach caters for what people want?

* * *

The **Southampton M.A.C. Gala** at Beaulieu on 26th July had some unusual features for a *club* organised meeting. It was preceeded *and* followed by lengthy and accurate coverage in the local newspaper (*'Southampton Evening Echo'*). The 'advance' announcement was much longer than an adjacent item on a forthcoming full-size air display! Also notable in this day and age was the augmenting of the prize list by some quite substantial vouchers donated by R. G. Lewis Ltd., who are The Model Shop, Southampton.

Unfortunately, the weather proved unhelpful with a wet and windy morning that must have discouraged many would-be attenders. The drizzle stopped towards mid-day, and the very low cloudbase lifted sufficiently to give quite a flyable afternoon. It was breezy but at least there was plenty of space thanks to the large expanse of heathland outside the bounds of the former airfield. The original closing time was extended (and announced in adequate time) to compensate for the delay in starting.

Visibility was marginal at first as those who flew early soon discovered. Fortunately re-entry was allowed, otherwise the first and second places in both rubber and power would have been reversed. The air seemed quite good at altitude but was treacherous lower down if the number of poor flights made in glider was any indication.

Open power produced the best scores and the only fly-off necessary. This was a two-way affair between John West and myself. He had a very potent G.15 powered open model *Dixielander* derived; but with a sufficiently different shaped pylon and fin to alter the appearance. It landed in a downwind lake on the third flight and the flyoff was off-pattern but still cleared three minutes. However, I found good air for my F.A.I. model and managed exactly a minute more! George Fuller filled third position having missed a treble with his new and still-stiff Eta 29 running rough on his last flight.

In comparison open rubber support and scores were low. Russell Peers won quite clearly after electing to re-enter *and* use his large and easily seen 'flyoff model' Second was Tony Grantham flying as usual a Fred Boxall free-wheel propeller design. Third place went to junior Graham Lucas of Chichester flying a Mercury *Mentor* built as per kit apart from the addition of a D/T.

Glider scores were surprisingly low as I noticed after finishing my power flights. It seemed the obvious class for a second entry and I made three quick flights (two 'ups' and one very bad 'down') to win with a low score of 7:06 *aggregate*. Runner up was P. Block only a few seconds behind and without any maxs.

Jim Baguley collected two prizes – for third in open and first in A/1 glider. The latter was flown to three 2:00 maxs and Jim managed two near the limit. Very close behind were Mike Ellis (with a four year old model of Hadland design – and fuse D/T) and Tony Fathers.

Coupe d'Hiver was the other 'Minor' (if the term may be forgiven) event and was convincingly won by Butch Hadland flying a far-from-new model with single blade folder and distinct Landeau influence. Butch's first two flights were both maxs, and would have been sufficient without his last and downdraughted flight. Jack Allen and Dave Wain jostled for second and third places, only a few seconds apart.

The weather improved noticeably for the power flyoff as already described, and quite dramatically for the long drive home.

* * *

August 2nd had a choice of attractions and I elected to attend the nearer, – the **Northern Area's Experimental Open Rubber contest** at Topcliffe. This was advertised by word-of-mouth and a N.A. handout saying merely 'bring a high performer and sandwiches'. Attendance was poor in consequence.

After all the discussion that has revolved inconclusively around the Open rubber question, I was hoping to see some clever ideas tried out. However, what transpired was nothing more revolutionary than the use of rounds and a variable max set to match the expected wind drift. Failure to announce a starting time in advance, combined with a ten till noon first round, meant most entrants arrived well after the round had begun – and some had very little time to waste. One voluble complaint led to an assumed but accepted extensions of the round. The first flight, to a four minute max, effectively eliminated Henry Tubbs (with a flyaway on D/T) and myself (damage through landing in a tree).

The second round was announced as being from one to three o'clock with a 3½ minute max. This proved to be the calmest period of the day. I found out the hard way that I had missed seeing a notice at control to the effect that 'tactical flying disqualifies'. Having run under a glider to launch my Wakefield reserve I could hardly argue as to

Peter Lang and his well-known, successful tailless model at the Sheffield Slope Soaring Meeting with Ken Emmett coping with the score sheets at left.

what I was doing. However, the replacement flight was allowed, despite a glider flier *telling* me there was lift, on the grounds that I was already wound up and did not have to move to launch. While the *intent* is clear enough, enforcement is as impossible as an adequate definition of 'tactical'. It is not appreciated sufficiently that *not* flying (when someone else hits sink) is also tactics. Remember Lindner at the 1955 World A/2 Champs?

A five minute max was used for the third and final round – and certainly proved decisive. At least three fliers found poor air – and top spot was decided between Mike Reeves and Ron Pollard. They flew one after the other and both found lift. Ron's 250 square inch wing area model blended too well with the sky due to a yellow wing with lime green dayglow tips and went o.o.s. at about 4:15. Mike had a much smaller model – but with a black undersurfaced wing – and was seen for well over *six* minutes. The same timekeepers clocked both flights and the models landed less than 100 yards apart! The difference in visibility more than made up for the sink Mike had found on his first flight! His model had about a two minute motor run which was as well in view of the power stall at the beginning of each flight. Overall design is very reminiscent of my style – and utilises a set of components that could not be trimmed on a slabside wing-on-top fuselage.

In retrospect, much could be learnt from this contest. There are virtues in flying by rounds and in varying the max to suit the weather. However, long rounds allow the chance of the weather changing. It would seem very much better to have very *short* rounds, with intervals for retrieving, with the max decided just beforehand. This would be like running a series of flyoffs but using a (presumably) high max.

The other lesson is that rules are best well-defined and announced in advance – especially when they deviate from established practice. Furthermore, anti-tactical measures, if considered desirable, have to be applied *indirectly* through limitations on waiting time, launching spot, etc. After much thought and discussion I am still convincd that the knockout system (as tried early last year by my club and by Croydon) has more to offer than any other scheme yet suggested.

* * *

Simultaneously with the N/A event, the **Hayes F.A.I. Gala** was in full swing at Chobham Common. Jim Punter sent me a report specifically for inclusion in my 'Comments'. Perhaps I can quote him almost verbatim:

The competition was flown in rounds, starting at 10 a.m. with two flights in the first round which ended at 12:00. With 1 hour rounds thereafter, the competition finished at 5 p.m. allowing time for a progressive fly off if necessary. In the event there was only one full house. A clear up-to-date score sheet was provided.

The weather was very good, being about the best day for many weeks, with cloud at first which cleared later, very little drift, lots of thermals with downdraughts to match. Later in the day the sun blazed down and it became very hot. Re-entry was permitted until 12 o'clock.

There were 12 entries in A/2, 8 in power, and 7 in Wakefield. After the first round (two flights) there were surprisingly few double maximums, there being only 2 in power, 1 in Wakefield and 5 in A/2. At this point we ran into organisational difficulties mainly brought about by attempting to run a contest in rounds at Chobham. Main control was at the car park where the clump used to be, and most of the flying was taking place in the flat area beyond. This meant that there was some difficulty in communication with resulting misunderstandings. Nevertheless, the rules and round times were clearly stated on the prominent score sheets which every entrant *must* have seen when he entered. In addition, Hayes members circulated amongst the contestants to make sure people realised that the first round finished at noon. Afterwards one contestant claimed that he had not realised and registered a formal protest when he was not permitted to fly late after the round had closed.

When four rounds had been completed, a pattern was emerging. In power, Pete Buskell seemed to have it sown up with a full house of 12:00, with George Fuller just behind with 11:07. At this stage Jack Allen was in the running, only 10 seconds behind George who 'entertained' the Sunday crowds by piling in two of his models, one under power at the end of the contest. In glider there were two with 12:00, M. Fantham, who seems to be doing very well this season, and A. Fathers of F.A.C.C.T. In Wakefield, the two leaders were from the same club, D. G. Digby and M. Lambert from North Surrey. This order remained for the rest of the contest with Digby eventually winning.

In the 5th round the situation changed in power, as a result of Buskell first having an over-run and then piling in the model to record no score, putting Fuller in the lead followed by Hook of Southampton. Both leaders in A/2 maxed again to maintain their positions, followed by C.P. Williams of Richmond with 12:42. In Wakefield, Hadland from R.A.F.M.A.A., pulled up to third place which he maintained.

The 6th round saw changes in power and glider. In glider, Fathers flew before Fantham, but dropped to score only 1:17. About 20 minutes later Fantham flew, but things went wrong and eventually the model came off the line at about 30ft. and seemed set for about 25 seconds when it struck a friendly tree at 17 secs. Such is the luck of the chosen few! On his 2nd attempt he made no mistake and maxed easily. Both maxed in round 7 to take first and second places. M. Dilly overtook Williams to place third. George Fuller maintained his position in power to win eventually. There was some competition for 2nd place, and M. Gaster eventually overtook J. Hook of Southampton to gain the position by 9 secs.

Plaques were awarded for first and second places with token monetary prizes for third. Despite the proximity of the Trials the organisers were pleased with the entry and would like to thank all those who competed. Next year Hayes are considering attempting to obtain the use of an aerodrome for a weekend competition with a large entry fee, say, something like £1, so that really good prizes can be obtained. Perhaps some response from people interested would give them some idea if this could be done successfully?

Readers might like to comment on this concept *before* I give my views!

SOUTHAMPTON M.A.C. RALLY
Beaulieu 26th July 1970

Open Rubber. 1. R. Peers (Congleton) 8:46. 2. A. Grantham (East Grinstead) 7:57. 3. G. Lucas (Chichester) 7:25.*Open Power*. 1. J. O'Donnell (Whitefield) 9:00 + 4:05. 2. J. West (Brighton) 9:00 + 3:05. 3. G. Fuller (St. Albans) 8:38. *Open Glider*. 1. J. O'Donnell (Whitefield) 7:06. 2. P. Block 6:54. 3. J. Baguley (Hayes) 6:45. 4. D. Wyldes (Crawley) 6:21. *A/1 Glider*. 1. J. Baguley (Hayes) 5:06. 2. M. Ellis (East Grinstead) 5:00. 3. A. Fathers (F.A.C.C.T.) 4:54. *Coupe d'Hiver*. 1. C. Hadland (R.A.F.) 4:40. 2. J. Allen (Brighton) 3:48. 3. D. Wain (South Bristol) 3:38.

NORTHERN AREA 'EXPERIMENTAL OPEN RUBBER'
R.A.F. Topcliffe 2nd August 1970

1. M. C. Reeves (Whitefield) 11:55. 2. R. Pollard (Tynemouth) 11:45. 3. A. Nobbs (Halifax) 10:25.

HAYES F.A.I. GALA
Chobham Common 2nd August 1970

F.A.I. Power. 1. G. Fuller (St. Albans) 18:57. 2. M. Gaster (Surbiton) 17:56. 3. J. Hook (Southampton) 17:47. *A/2 Glider*. 1. M. Fantham (Richmond) 21:00. 2. A. Fathers (F.A.C.C.T.) 19:17. 3. M. Dilly (Croydon) 17:43. *Wakefield*. 1. D. G. Digby (North Surrey) 18:57. 2. M. Lambert (North Surrey) 17:56. 3. C. Hadland (R.A.F.M.A.A.) 17:47.

BRITISH SCALE TROPHY
Individual Award for Radio Control

			Scale	W'kmanship	Flt. 1	Flt. 2	Factor	Corr'd Flt.	Total
1	M. Charles	U.K.	1223.5	1165.7	3200	—	0.979	3132.8	5522.0
2	M. Hester	U.S.A.	1103.7	1067.3	2503	3296	0.883	2910.4	5081.4
3	R. Yates	U.K.	1057.5	936.8	2373	3464	0.846	2930.5	4924.8
4	H. Wallace	U.S.A.	1053.6	958.8	2622	3336	0.843	2812.2	4824.6
5	W. Moucha	U.S.A.	1083.6	991.5	2557	—	0.867	2216.9	4292.0
6	T. Melleney	U.K.	1046.7	964.1	2558	—	0.837	2141.0	4151.8
7	H. Reger	Germany	709.3	606.5	2453	1400	0.567	1390.9	2706.7
8	R. Lestournaud	France	620.5	511.5	2493	2883	0.496	1430.0	2562.0
9	J. Carroll	Eire	585.5	456	1335	3118	0.468	1459.2	2500.7
10	B. Klupp	Germany	825.5	851.0	1209	—	0.660	797.9	2474.4
11	J. Levenstam	Sweden	558	414	2468	2336	0.446	1100.7	2072.7
12	B. Bergstedt	Sweden	589.5	448.5	1658	1072	0.472	782.6	1820.6
13	Dr. J. Ammann	Switz.	675.5	649	678	—	0.540	366.1	1690.6
14	K-E. Tell	Sweden	452	351	781	1506	0.362	545.2	1348.2
15	Dr. M. O'Hara	Eire	294.5	210	2043	1805	0.236	482.1	986.6
16	W. Reger	Germany	971	849	—	—	0.777	—	—

1st World Champs for Scale Models

OFFICIAL RESULTS

Britain's two Micks, with their specially built scale models; Mick Charles and *Jurca Sirocco*; Mick Reeves and *Zlin 526 Akrobat*, carried off top individual honours at this very successful meeting. Spread over three days, August 29, 30 and 31st, at Cranfield, this inaugural Championships proved to be a Mecca for all scale enthusiasts. Though the second flight blanks in the results reflect the unkind 20 m.p.h. wind of the third day, the scores indicate the high standard in scale, workmanship and flight performance of all participants. We will be reporting the meeting in full detail next month.

Individual Award for Control Line

			Scale	Workmanship	Flt. 1	Flt. 2	Total
1	M. Reeves	U.K.	1099	1020	932	—	3051
2	J. Ostrowski	Poland	864	941	628	1156	2961
3	B. Harney	U.S.A.	1152.5	1154	403	—	2709.5
4	Dr. L. Keith	U.S.A.	962	903	716	—	2581
5	C. Faix	France	744	823	890	—	2457
5	J. Kuszilek	Poland	806	801	738	850	2457
7	D. Goddard	U.K.	992	775	538	—	2305
8	J. Matter	France	905	729	622	—	2256
9	A. Sheber	U.S.A.	933	843	404	—	2180
10	G. Pezzi	Italy	767	749	468	580	2096
11	A. Briggs	U.K.	768	642	—	480	1890
12	G. Billon	France	622	381	588	—	1591
13	I. Poloni	Italy	603	378	494	—	1475
14	G. Pegoraro	Italy	448	441	383	578	1467
15	A. Uminski	Poland	551	400	360	337	1311

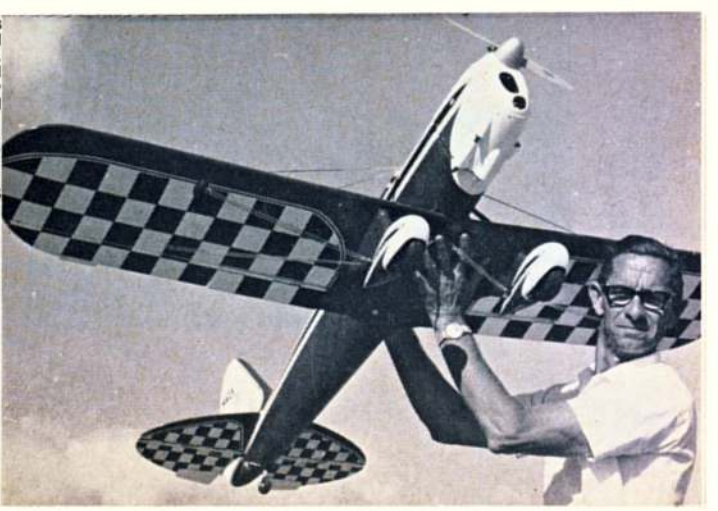
KEIL TROPHY
RADIO CONTROL
TEAM AWARD

1	U.K.	14598.6 points
2	U.S.A.	14198.0 points
3	Sweden	5241.5 points
4	Germany	5181.1 points
5	Eire	3487.3 points
6	France	2562.0 points
7	Switzerland	1690.6 points

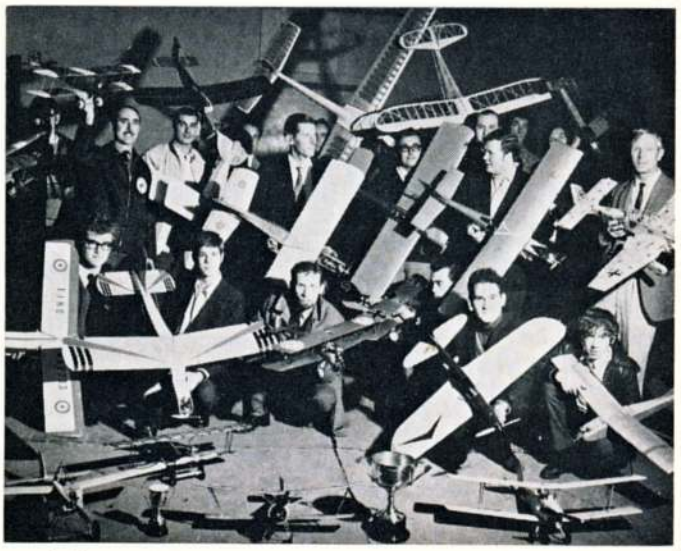
CONTROL LINE
TEAM AWARD

1	U.S.A.	7470.5 points
2	U.K.	7246.0 points
3	Poland	6729.0 points
4	France	6304.0 points
5	Italy	5038.0 points

Top right: Jonathan Charles admires Dad's World Champ's winning Sirocco. Top left: Mick Reeves and his Zlin, Right: Maxey Hester's colourful 2nd place Ryan ST Special.



CLUB NEWS



A wide variety of interests are shown in this photograph of the Havering Model Club – despite, we are told, of a 'flu epidemic! How many other clubs can boast of such a good turn-out of both men and models on a club-night?

A FASCINATING AND REGENERATIVE factor in our hobby or sport – call it what you will – is the coming into being of groups of enthusiasts with a common interest in a particular activity. It may be any one of the wide range of crafts that the movement now has to offer, whether it be multi scale radio or indoor microfilm. Such zealous groups not only help to sustain the general vitality of our flying field sessions but by the mutual pooling of ideas and knowhow towards a common end, new design factors and techniques are developed, much to the enrichment of the sport generally and the benefit of the average model flyer.

One club with many glowing irons in many lively fires is the very vigorous **St. Albans M.A.C.** A report to hand from P.R.O., C. Dyke gives news of a notable success in the Spanish F.A.I., International Glider comp, with a commendable second place going to Jim McNeil. A rugged time, however, for the stalwarts chasing Plugge cup points over the Chobham assault course. Tough going getting in those slogging seven flights when challenged by a carrying wind and model swallowing terrain. Both C. Dyke and Bob Bailey lost models in spite of valiant retrieving efforts by downwind clubmates. A similar tale of the savage seven outstripping endeavour at the F.A.I. Richmond Gala where only Colin Morris managed a fourth in Glider. Compensation, however, in glorious weather and a whacking entry in the club Summer Gala.

There was a time when I knew what the initials F.A.C.C.T. stood for, but it is a long time since I learned the facts of life, if you will forgive the pun. Anyway the club is fortunate in having its own clubhouse on a farm at Weston on the Green. And it was at this rural sounding spot that the club ran the *Burns Brown Trophy Combat Rally*. Entries none too lavish but weather very much so, all of which made for a pleasant leisurely days flying. The trophy, which was eventually won by Martin of Maidenhead in his final against French of Scunthorpe (a dark horse by all accounts), was donated to the South Midland Area by the Maidenhead club to perpetuate the memory of a fellow Combat flyer tragically killed in a road accident. G. Johnson, the club secretary who sends along this report, placed first at Fincheley in B Combat, with John Shaw second. This sort of 100 m.p.h. Combat calls for super fast reflexes and split second timing, but makes for an exciting ding dong. Mentioned here that the hard Finchley surface shook up at least one model as it homed on a none too horizontal landing approach. In spheres other than those circulatory the F.A.C.C.T. boys have been showing the flag to some advantage. Neil Webb won the Single Channel R/C Glider event at the South Midland Soaring Meeting, and Fred Catt also acquitted himself honourably with the longest multi flight of the day at the same meeting, but, unhappily, failed to place in the top three. In these days of the almost inevitable commercial R/C unit, it is refreshing to be told that Fred's G.G. equipment is completely home made. The report also mentions the excellent free flight work of Andy Crisp and Albert Fathers. This is something I can vouch for personally, as at the Hayes F.A.I. Gala Andy was engaged in a 21 flight, all category marathon, dressed for the part in nothing but running shorts, whilst I also noticed Albert Fathers notching up a succession of nifty maxes in Glider. Much interest in Mr. Johnson's missive, but space, alas . . .

Let's pick out a very modish joke from *The Circuit*, thus to indicate the **Elliott Model Engineering** club to be in fine fettle these days. Seems that if any trendy fashion designer comes out with the Kneeless trouser, he will be at least 25 years behind the times, as the Elliott control liners have been sporting such ventilated vestments ever since crouching engine flickers began to wear out clothes and patience. But untidy as C/L types are reputed to be they can be house trained, according to the mag editor. He invited along eleven such tatterdemalians from the South Bristol club for a week end at his home. The good lady of the house, Mrs. Judy Giles, found said guest's conduct to be scrupulous in the extreme – no damage or distress to hearth or home, only reports from neighbours of odd looking characters hanging around the front garden. Visitors scored not only from the point of view of such excellent hospitality but also by virtue of their flying in the Elliott Rally, where they took a first in Combat, a third in Goodyear and were runners up to Feltham in the Elliott Trophy.

Multum in parvo (much in little) best describes a very minimal quantity of magazine – one page in fact – from the **Flying Dutchman** of the Collegiate School, New York City. The closely writ sheet is titled *Star Skippers*, the significance of which totally escapes my non collegiate mind. However, I did manage to capture the import of a few wise words on how to equip yourself work table wise as a preliminary to a rewarding modelling career. Number one essential is here given as a really good building board of ample size, at least an inch thick, and of soft pine to take building pins without the assistance of a hammer. Razor blades take second priority, making the point that stainless steel ones are useless. Personally I use Woolworth's single edge star blades. Chuck gliders (known as H.L. in the States) inevitably feature in any American coverage of the model scene, and here we are advised to go in for a really good airfoil – carved from $\frac{1}{4}$ in. say – and to get a smooth filled in finish by adding cornstarch and castor oil to the dope mixture. As a point of interest the youthful academics of this club fly in Central Park.

Those of you with the forbearance to read through the whole of this column will perhaps remember that certain complimentary references were made anent the **South Bristol M.A.C.** Further news of this very active club, the insignia of which is, appropriately, a 'Busy Bee', comes in a report from P.R.O., Mrs Patricia Garland. Her husband, Raymond, incidentally, has taken over as South Western Area C/L Secretary from Derek Small who has resigned due to pressure of studies after putting in some sterling work in the cause of C/L revival. We are not told if all the South Bristol members are as busily flying as the industrious bee, but much success is reported from the swarm of 65 which includes no less than four lady members. Major successes have been achieved notably by the C/L section. Chris Coote first in Class Two Mouse Race at the Nats; Dave Smith winning the F.A.C.C.T. Combat Rally, and a Coote-Small victory at the S.M.A.E. Centralised meeting at Cottismore in Goodyear. The club is very much in evidence at Fetes and Air Days. Displays open with a flexi wing model towing a club streamer. This is followed by a varied programme of spectacle and novelty including a dog fight sequence between W.W.II profile models, a very im-

pressive autogyro, Super Tigre powered, and operated by R/C Secretary, Mr. G. Andriesson, and a hovercraft as a contribution from the junior section. A good day's sport is hoped for at the club Gala at Hullavington on October 18th Open R/G/P and Vintage on the F/F side, and F.A.I. combat, Team and Goodyear for the C/L fans.

It is not only the model plane engine that vibrates the auditory membranes of noise conscious John Citizen, for according to *Scimitar*, the newsletter of the **Buckaneers Model Club**, much aggro to the ear'oles has been coming from the model boating fraternity. Airborne or waterborne its a tough life for the power model man. On the model flying side of things there was a second place in C/L Stunt by Steve Blake at the Southern Gala and the Gold Trophy success of Jim Mannall at the Nationals. In the same month Jim was presented with a son by his wife, Val. He is reminded that no silencer is obtainable for this particular product. Re the Nationals it is suggested here that some sort of eliminator should be applied to the Multi Aerobatics event in order to present only the best in that form of flying at our top showpiece of the year. Bob Rutty, recalling with 'nostalgia' his earlier years as a model flyer, gives us a reminder of the perils and pitfalls of Radio flying in the early fifties. There were all sorts of mysteries attached to getting that essential rise in signal current on the ammeter; rather like searching for 2LO on an old crystal set. The mag has a short article on heat treatment of metals, but does not tell me what I would dearly like to know: how to soften and re-temper piano wire.

The August issue of *Free Flight News* is just to hand. An item which immediately caught my eye was the subject of a boom in Wakefields; that boom so essential for the modern slimline look. Not too sure I am quite happy with all the pre-fabricated bits and pieces that are finding their way into contest models. Seems to give the chap with the right connections and deep pocket the sort of advantage which could well limit contest participation to the point of near non-existance. Indeed, many of the meetings covered in the mag seem to have a quite appalling low entry level. There is no doubt that many factors contribute to this depressing state of affairs, but the fact that the modern machine is a precious piece of highly processed mechansim makes the contest flyer very selective as to how and where he might risk its possible loss. Rather more encouraging is a lengthy article on a torque operated stabilizer. Although such devices do tend again to add to the preciousness of the highly equipped machine, these experimental features are really what model aeronauting is all about. One minor criticism of Mr. George Xenakis's authoritive theory relating to his ingenious mechanism, however. I should have thought that torque output is not the only variable during the power flight of a rubber model. Perhaps, in my ignorance, I may be putting a size twelve into it, but surely the actual speed of the model is also a relative factor to stab setting, and is this factor constant or does it depend upon the quality of air?

From free flight considerations to the very cloistered circuitry of the **Three Kings Aeromodellers.** In fact the order is such a closed one that members are reminded in the newssheet that whilst the brotherhood does not subject deviant members (those caught launching a free flight model for tinkering with radio gear) to any disciplinary measures, offenders are asked to purge their minds of all such heretical thoughts and stick strictly to the cult of the handle.

And where better to demonstrate the transcendental arts of C/L flying than at a public display. Redifon, of Crawley, certainly appreciated the spectacle put on by the Three Kings lads in July. And to give an idea of the type of thing that helps rivet public interest, Bill Miles has started to build a 47½ in. span version of Hurricane P2768 of 615 County of Surrey Squadron. This Battle of Britain plane, piloted by a local boy, Sgt. P. K. Walley, crashed in Morden Park on August 18th, 1940. He could have baled out, but stuck at the controls of his crippled machine so that it might clear the rows of houses and hit the open space. He died in the crash. A fund has been started for the purpose of providing a plaque to his memory on the site of the crash. Club next meets on the 29th September at 8 p.m. in the White Hart, Mitcham Cricket Green.

The **Flying Druids** like to have their spot of fun – no holds barred. Member, Gordon Cook, recently married Miss Gillian Gamble at Devizes. Part of the telegram of good wishes sent on behalf read as follows: 'Met forecast; Warm and Close at first with a little sun to follow.' Even so there is no truth in the report that Mary Hopkin has been inaugurated as a member. Further social news is of Margaret and David Saunders giving a *'Get to Know You'* soiree to wives of members, Sisters in suffering and all that. On the flying front the club reports a successful day for their first Aerobatic competition held at Middle Wallop in June. Weather was magnificent and entries overflowing: 20 in Aerobatic and absolute hordes in the two pylon racing events. M. Birch placed first in Aerobatic with W. Hardaker second. A well deserved success for David Hardaker as he made a 500 mile round trip to compete in the event.

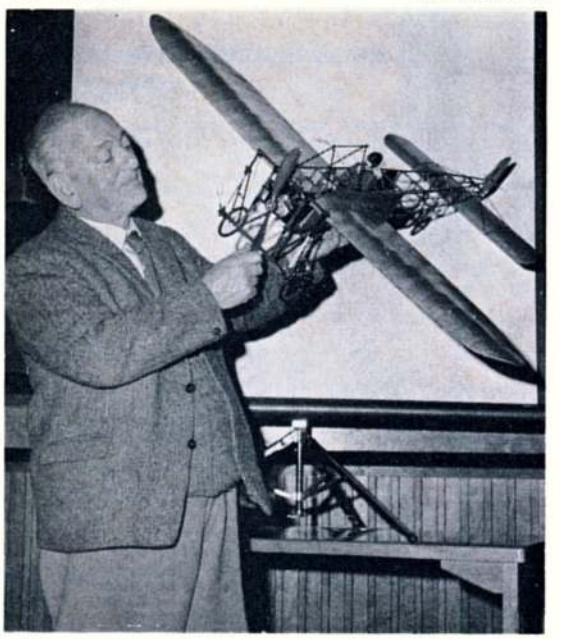
More passionate poetry from the **New Zealand** *News of the North* Newsletter. I cannot be sure if the vibrant versification relates to the noble art of chuck it and hope or has a deeper significance, but if 'A twisting mass of passion restrained in a terrible web of silence' doesn't apply to the state of a rubber motor on the last critical turns I will be wildly disappointed. Anyway, Ron Magill, editor of the sheet, and no doubt its poet laureate, gets a good coverage of the New Zealand modelling scene, where there seems to be plenty doing.

Industry well rewarded was the theme of a recent exhibition put on by the **Market Harborough M.A.C.** The industry: all the thousands of hours of meticulous work that go into the making of the 160 models, the number on display; and the reward; a £14 profit as against the £10 club fund deficit the club expected to incur. Models were judged in seven different categories by Mr Howard Boys, a veteran flyer, famous for his successful pre-war tail-less models. The ability to mount an exhibition on such a large scale must necessarily depend upon a large and active membership, and with 67 Seniors and 27 Juniors on the books, Market Harborough is well endowed in this respect. And still on the subject of fund raising have you heard of Aerial Bingo? Not quite sure how the system works, but combines the services of an electric r.t.p. Spitfire with an automatic bomb drop. Anyway, it was enough of a crowd puller at the club's local Carnival stand to boost the club funds by £14.

Mishaps on the Long Man slopes, both to man and model, reported in the July issue of *Seadog*, from the **South Eastern Area.** It would appear that Derrick Courtney, chairman of the Tonbridge Radio Flyers, came tumbling down with a broken crown after smashing up George Bushel's model with his head. Head well on the mend after an overnight stay in a hospital casualty ward. Other mishap was a purely model interaction; Derek Woodley and Ken Binks, both flying Phase Two style models in the second round of the Multi Pylon Long Man Trophy, engaged in a head on confrontation. Result: one model virtually destroyed and the other returning more or less safely to base. Chris Foss of Sussex, now in the lead in the Trophy event, third and final round of which will be flown on 11th October.

Mr. B. C. Spikins of Sharpes Cottage, Braishfield, Romsey, Hants, has a large quantity of *Aeromodellers* and *Model Aircrafts* dating from 1948 to the mid 50's which he wishes to dispose of. Anyone who feels disposed to collect same very welcome.

THE CLUBMAN



C. A. 'Rip' Rippon gazes at his Bleriot – built to commemorate 60 years of aeromodelling. Rip says that it was Bleriot flying the Channel in July 1909 that brought him into the hobby!

R.A.F.M.A.A. Championships, August 15th - 16th

FEWER COMPETITORS but increased enthusiasm marked the 1970 R.A.F.M.A.A. championships held at R.A.F. Watton, Norfolk on Saturday/Sunday, 15th and 16th August. By kind permission of the C.O., Sqdn. Ldr. Myers and under the able direction of Fl./Lt. Nick Carter, no less than 21 events were scheduled.

Saturday produced ideal flying weather, bright and sunny with a light breeze, but on the Sunday it blew and blew with gusts of up to 45 knots being recorded.

R/C events were run by Fl./Lt. Ray Ewell, who managed to clean up two of the four events and place second in the other two! Enthusiasm ran high and although the events went off with a slickness and precision not often seen, the overall flying standard was only average. Handicap spot landing saw several damaged models thought to be due to interference, but the monitor service provided by the Thetford club showed 'all clear'. The monitor did, however, pick up transmission from a character operating an R/C car at the other end of the airfield. Result: rapid exit of character and car!

Fl./Lt. John Knight, having damaged his gigantic Brandenburg W.W.I float plane, flew his Lohner C-2 into second place in scale leaving Sgt. Eric Tomlinson's magnificently finished Cessna Skymaster to take top honours. Powered by a S.T. G23 (front) and a Cox 049 (rear) 'just for appearances' Eric found out just how much extra thrust was produced by the 049 when the G.23 cut on the approach and with only the rear engine running the Cessna overshot the mark by some 150 yds. Good stuff these Coxes!!

Calamity of the day must go to C/T McClandish, whose scale 'Tony' was written off on a dead stick approach.

Free flight was administered by C/T Coc and went off without a hitch on Saturday but with considerable difficulty on Sunday – no fewer than four models disintegrating in as many minutes in the high winds. Saturday evening's F/F Scramble proved to be the most popular event with a record entry, 1st and 3rd going to chuck gliders and 2nd to a *Slicker Mite* powered by a Mills .75. One ambitious fellow clocked 8 min. O.O.S. with a converted radio model – wot, no timer? Throughout the weekend Doug McHard entertained an enthralled audience with his display of F/F scale rubber models in the main control hangar.

To C/T Gordon Counsell, on leave from the Persian Gulf, fell the job of organising the C/L events – Stunt, Combat and Mouse Race, going with a swing on Saturday; Cpl. Pete Halman (British team member World C/L Champs) putting in good scores in all three events. Wisely Gordon elected to cancel the Rat Race on Saturday due to the wind although the keener entrants in Open Speed flew inside the hangar (our ears are still ringing). Gordon Farnsworth, of North Sheffield, equalled his own British record of 149.5 m.p.h.

C/T Counsell reports that on his return from the 'Gulf' early in the New Year, he is to start a massive publicity campaign on behalf of the R.A.F.M.A.A. and hopes to double the entry at next year's champs. Top station honours went to Brize Norton and the intercommand cup to Air Support Command. After a short speech by Group Captain Badderley, the chairman of the R.A.F.M.A.A., the prizes were presented by the C.O.'s wife, Mrs. Myers.

RESULTS

CONTROL LINE

Combat: 1 Sgt. Phinn (Wittering); 2. Sgt. Hazells (Wattisham; 3 Cpl. Halam (Brize Norton). **Stunt:** 1. Cpl. Halam (Brize Norton); 2. J/T Hammons (Markam); 3. Cpl. Hinscliffe (West Rainham). **Mouse:** 1 Fl./Lt. Marsh (Manby); 2. J/T Hammond (Marham); 3. Cpl. Halham (Brize Norton).

RADIO CONTROL

Scale: 1. Fl./Lt. Knight (Oakington); 2. Sgt. Tomlinson (Conningsby); 3. C/T McClandish (Newton). **Multi:** 1. Fl./Lt. Gladwin (Binbrooke); 2. Fl./Lt. Elwell (Topcliffe); 3. Sgt. Rimmer (Halton). **Spotlanding:** 1. Fl./Lt. Elwell (Topcliffe); 2. Fl./Lt. Nicholas; 3. Fl./Lt. Gladwin (Binsbrooke). **Open Pylon:** 1. Fl./Lt. Elwell (Topcliffe); 2. Murray (Church Fenton); 3. Sgt. Rimmer (Halton); **Single Channel:** 1. C/T Mockford (N. Luffenham); 2. Fl./Lt. Elwell (Topcliffe); 3. Sgt. Rimmer (Halton).

FREE FLIGHT

All in F.A.I.: 1. Sgt. Hart (Brize Norton); 2. C/T Truluck (Wattisham); 3. C/T Hadland (Brize Norton). **A/1 Glider:** 1. C/T Hadland (Brize Norton); 2. Sgt. Barter (Brize Norton); 3. S.A.C. Redhead (Manby); **Chuck Glider:** 1. C/T Truluck (Wattisham); 2. Cpl. Carter (Scampton); 3. Sgt. Parker (Brize Norton). **Coupe d'Hiver:** 1. C/T Hadland (Brize Norton); 2. Sgt. Hart (Brize Norton); 3. CL/T Truluck (Wattisham). **Scramble:** 1. C/T Truluck (Wattisham); 1. Sgt. Phinn (Wittering); 3. L.A.C. Adams (Brize Norton). **Open Rubber:** 1. C/T Truluck (Wattisham); 2. S.A.C. Redhead (Manby); 3. C/T Hadland (Brize Norton). **Open Glider:** 1. C/T Truluck (Wattisham); 2. Craft/App. Williams (Halton); 3. S.A.C. Spademan (Brize Norton). **½A Power** 1. C/T Hadland (Brize Norton); 2. Fl./Lt. Marsh (Manby); 3. J/T Cantrell (N. Luffenham). **Open Power:** 1. C/T Hadland (Brize Norton); 2. Fl./Lt. Marsh (Manby); 3. Cpl. Carter (Scampton).

CONCOURS

Scale: 1 Sgt. Tomlinson; 2. Fl./Lt. Knight (Oakington); 3. Fl./Lt. Falconer (Boscombe Down); **Non Scale:** 1. C/T Hadland (Brize Norton); 2. F/Sgt. Brazzier (Cranwell); 3. Fl./Lt. Jenkins (Brampton).

CONTEST CALENDAR

September 20th **SOUTH MIDLAND AREA RALLY.** R/C, C/L and F/F at Cranfield, Bedfordshire. R/C Pre-entry. Scale to R. Edmonds, 16 Telford Way, High Wycombe, Bucks. (Blue and Brown freq. only). Multi and single surface to D. Giles, 'Derron', Station Road, Bow Brickhill, Bletchley, Bucks. (R, O, Y, G. frequencies only). Entry fee 5/-. C/L Pre-entry to G. Johnson, 37 Oxford Road, Kirtlington, Oxon.

September 20th 1st R/C TRIALS at R.A.F. North Luffenham, Rutland.

September 27th **TOWNER TROPHY THERMAL SOARING RALLY** at Golden Cross.

October 4th **S.M.A.E. CENTRALISED MEETING.** Trials for R/G/P, at R.A.F. Syerston.

October 4th **SECOND R/C TEAM TRIALS.**

October 4th **HARPOLE SECOND ANNUAL C/L STUNT COMP.** The contest with the built-in lunch! Details: I. Peacock, 41 Carrs Way, Harpole, Northants.

October 4th **INTERNATIONAL POSTAL 1,000 LAP F.A.I. T/R EVENT.** Details D. Heaton, 41 Cedar Avenue, Sutton Weaver, Via Warrington, Lancs.

October 4th **SUSSEX SLOPE SOARING MEET.** Multi Aerobatics, Pylon Racing, Novelty at Long Man, Wilmington, Nr. Eastbourne. Details C. Foss, 73 Downside, Shoreham, Sussex.

October 11th **NORTHAMPTON M.A.C. COMBAT RALLY** at Mid Summer Meadow, Northants. Pre-entry 3/6d. (Field 5/–) to **C. Butlin, 190 St.** James Park Road, Northampton, NN5 5EV.

October 11th **TORBAY RALLY.** Open R/G/P. All-in F.A.I. (5 flights) for Torbay Trophy. Chuck Glider. Unlimited re-entry at Woodbury Common, Nr. Exmouth.

October 11th **CONGLETON GALA.** Open R/G/P, Chuck Glider, and C/L Stunt. No pre-entry. S.M.A.E. members only. Details D. Allman, 2 Brooklands Road, Congleton, Cheshire. Venue, R.A.F. Chetwynd, Nr. Newport, Salop.

October 11th **S.E. AREA C/L CHAMPS.** Stunt, Combat, T/R at Elliot Bros., Airport Works, Rochester, Kent.

October 18th **YORK RALLY.** F.A.I. glider, Open R/P, Chuck, Cd'H, Novelty radio event. Venue to be announced. Details D. Hambley, 204 Mt. Vale, York YO2 2DL.

October 18th **LONDON AREA C/L CHAMPS.** Combat, F.A.I. T/R, ½A T/R, at Charville Lane, Hayes.

October 18th **SOUTH BRISTOL GALA.** Open R/G/P, Vintage, F.A.I., T/R, Combat, Goodyear, T/R at R.A.F. Hullavington.

October 25th **EAST GRINSTEAD RALLY.** Open R/G/P, ½A, Cd'H, Chuck. Unlimited re-entry, at Chobham Common.

October 25th **NORTHERN AREA F.A.I. RALLY.** F.A.I., R/G/P, at R.A.F. Topcliffe.

November 1st **LONDON AREA RALLY.** F/F and C/L, at R.A.F. Bassingbourn, Nr. Royston, Herts.

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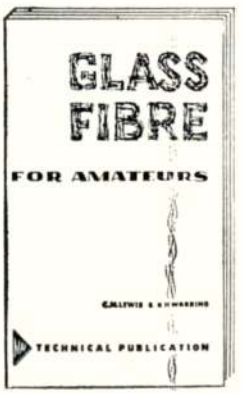

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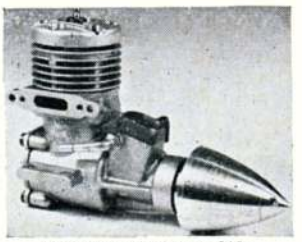

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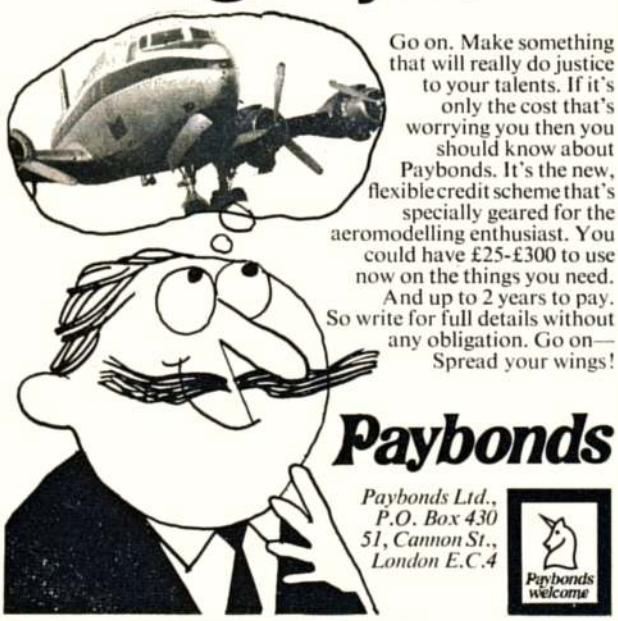

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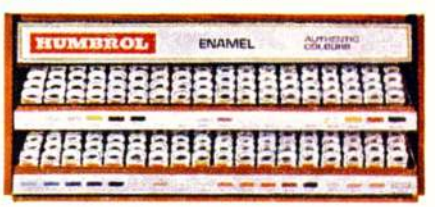

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