

Christmas Issue

model 2!

Hobbies

AUSTRALIA'S ONLY MODEL AIRCRAFT MAGAZINE



XMAS
ISSUE

1951 ★

DE BOLT "ALL AMERICAN"—5 c.c. STUNTER—CLUB NEWS
—A & B TEAMSPEEDSTERS—JUNIOR RUBBER MODEL

E.D.

No. III Miniature

RADIO CONTROL UNIT

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100 per cent. reliability due to robust and accurate construction of claw and rotor. Fitted with double winding and current saving device, a feature first developed by the E.D. technical staff.

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Escapement Battery: 3 half pen cells, weight 1 1/2 ozs.

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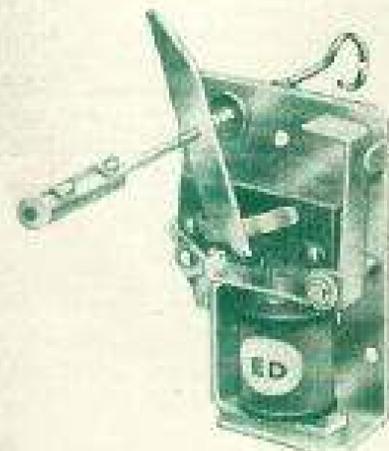
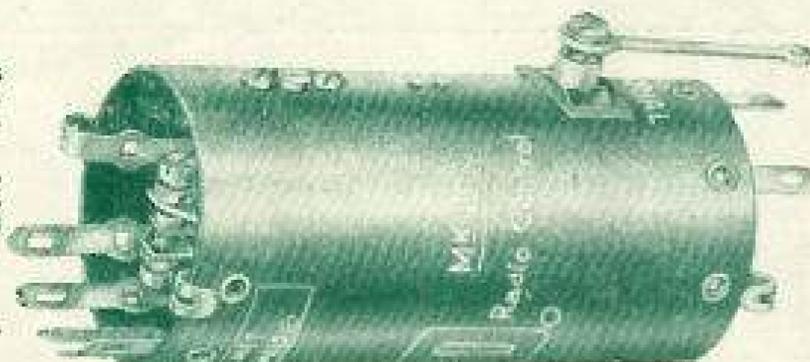
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Receiver weight only 1 1/2 ozs.

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L.T.—One half pen cell, 1/2 oz.



THE TRANSMITTER

3A5 twin triode valve giving greater radiation than any other commercial transmitter. Up to four watts input. Entirely self-contained. Sectional 8-foot aerial. This transmitter will double the range of any known carrier-operated receiver. Prototype satisfactorily checked by G.P.O. for frequency stability and output within 1 per cent limits.

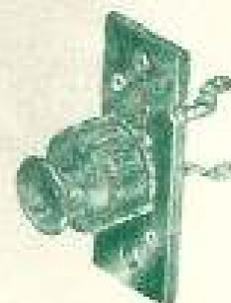
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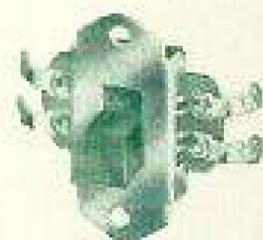
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Potentiometer



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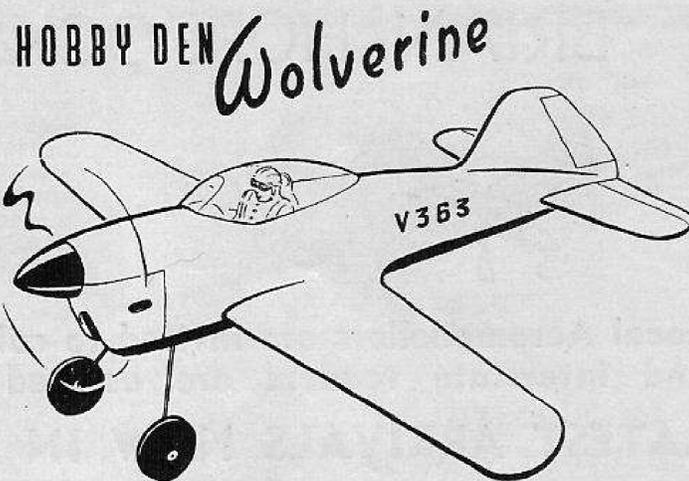
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TRADE TALK

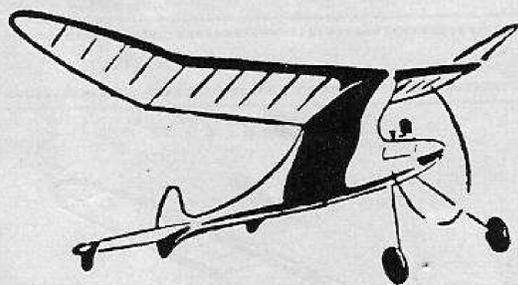
A NEW MELBOURNE MODEL SHOP BRINGS OUT A NEW TEAM SPEED KIT



TEAM RACING.—New designs, and kits are continually coming out to stimulate this popular form of controline. The latest kit is a snazzy design, manufactured at a modern Melbourne Model Shop (Trading name and address: HOBBY DEN, 615 Burwood Road, Hawthorn, E.2) combining retail and production to give Aeromodelling Service. "Wolverine" is an attractively boxed quality kit featuring a new 1½ inch plastic snap-on spinner, wheels, cockpit canopy, pre-cut balsa parts, plan, cement, etc., etc. (no dope). Ideal power unit is the new E.D. 2.46 (£7/19/6) or the Elfin 2.49 (£7/6/6), but flies well with 20 more laps to the 15 c.c. tank (provided) with a Mills 1.3 (£7/12/6). Complete kit, 44/-. Other ½A jobs are Ranger (25/6), E.D. Bee (£5/6/0), Competitor (39/6), Frog 250 (£5/16/6). In "B" Class the Mercury Mk. I (49/-) and Amco B.B. 3.5 (£9/7/6) or Lapmaster (42/6) and Eta 29 (£12/12/-) are good combinations.

In my experience a fast model with many short pit stops wins . . . if you can control a model with the balance point well back you'll find landings much easier and less broken props.

STUNT.—The new Frog 150 (£3/19/-) is proving a good stunt motor and combined with the Jitterbug (25/6) or Junior Musketeer (46/-) will fit any boy's pocket. The Monitor (51/-) is a slick job for the Amco Glo (£8/15/-) or diesel. While the new shake-the-box flapped Panther (54/-) is ideal for the D.C. 350 (£8/5/-). Flapjack (42/6) and Frog 500 ignition (£6/19/6); K.K. coils, 35/6, condensers, 3/9; or the Musketeer (52/6). **Special:** The practically indestructible Frog Vanfire for your 500, 49/-. Remember, a good looking model pays off in Stunt Competitions.



FREE FLIGHT.—If its duration you're after, Slickers go from 25/6 the Mite to 55/6 the 50". The unusual Frog Powavan (49/-) has a vertical climb, whilst Janus (32/6) has more of a soaring climb with a sailplane glide.

Firefly (41/6) is the only biplane. Frog 45 is still a favourite cabin job at 57/6 (all Frog F.F. for 1 to 2 c.c.). For the Mills .75 (still £5/15/-) the Hobby Den has cabin jobs Southerner Mite and Pirate (25/6); for the 1.5's there's the Bandit at 40/-. The mighty Southerner 60" is now 99/- (for 2.5 to 5).

SPEED C.L.—The record breaking Elfin 1.49 (£5/12/6) goes well in the Mercury Midge, 16/-.

SAILPLANES.—Especially for the beginner: the Frog Fairy 30" (15/9) or the 36" Diana, 16/6. The 60" Frog Prince is now 48/6.

RADIO CONTROL.—Slow to catch on at first, this simple to operate yet thrilling form of modelling is well catered for by E.D. The Hobby Den stocks the 2,000 yard range Unit (£35/12/6) and the Radio Queen kit (£9/9/-). The ideal power unit is the E.D. 3.46 (£8/5/-). The Mk. III Miniature Units are in the customs now.

JETEX.—This fabulous free flight power is sweeping Australia. Full stocks of all Jetex Motors and Kits are sold at the Hobby Den. Jetex 50 (21/-); for Flying Wing, Vampire, Jeticopter, Meteor, etc., all 12/6. (Cub and Saucer, 6/6). 100 unit (45/-); Vampire, etc., 17/6. 200 (57/6)... Cirro-jet, 21/-, 350 (84/-) in the Dura Jet. (Watch this at the Nationals).

Jetex Spares, as follows:—Pellets (pkt. 10), 4/3, 5/-, 5/6, 6/-. Wicks, 1/6 a tin. Gauzes, washers, etc., 1d. each.

MAIL ORDERS are sent away expertly packed for face value of postage on the day the HOBBY DEN receives your order. Friendly, personal attention for all your worries (if any) and real value for your money. Send money as per this list or C.O.D. (Second-hand motors are available also). All motors may be kept one day on approval — money or new motor back.

ACCESSORIES.—Pepperell Props from 3/3 to 3/9; P.A.W., 2/10 to 3/6; Plastic, 5/-; Hobby Den Spinner, 4/9; Bat, 6/6 to 9/3; Canopy, 2/6; Tanks from 5/9 to 6/8; Pilots, 3/7, 4/6; S.J. Wheels, 8/3.

CONTROL HANDLES.—Ajustulin (5/9), Reel (18/6) and the labour-saving Rollem (54/-).

HINTS ON CANOPIES.—If unclear, diesel fuel makes them more transparent.

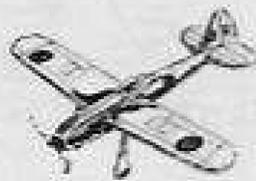
If it's advertised in Model Hobbies the HOBBY DEN is sure to have it. HOBBY DEN for model quality; the best in Aeromodelling.

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Frog 500 Petrol
Jetex 50, 100, 200
Mills 1.3 c.c., 2.4 c.c.,
etc.

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"Jeticopter" (50)
KEILCRAFT "Skystreak" (basic
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Full range flying scale rubber
FROG Firefly (Biplane F/F)
Vampire (500 C/L)
MERCURY, Monitor (3.5 and
5 c.c.) C/L
F/F Mollard (1.5, 2.5)
CHALLENGER C/L

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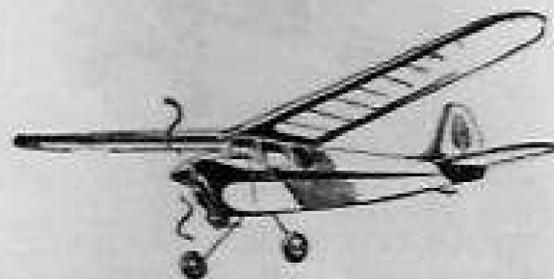
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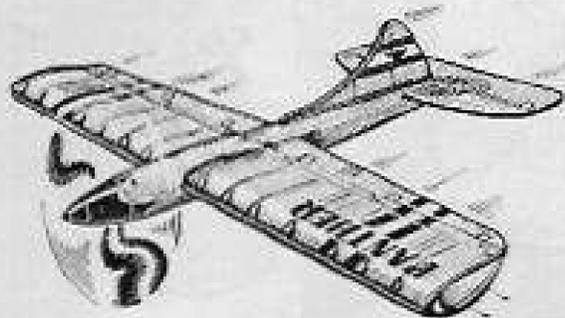
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1951
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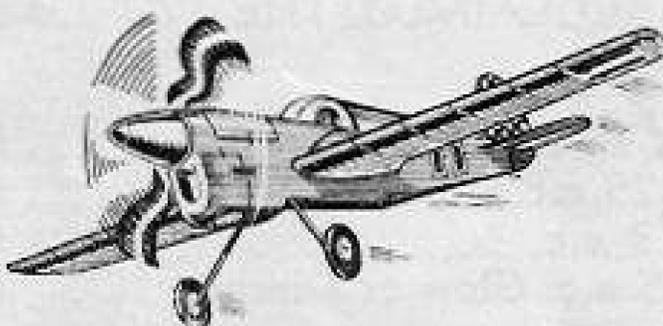
INTRODUCING

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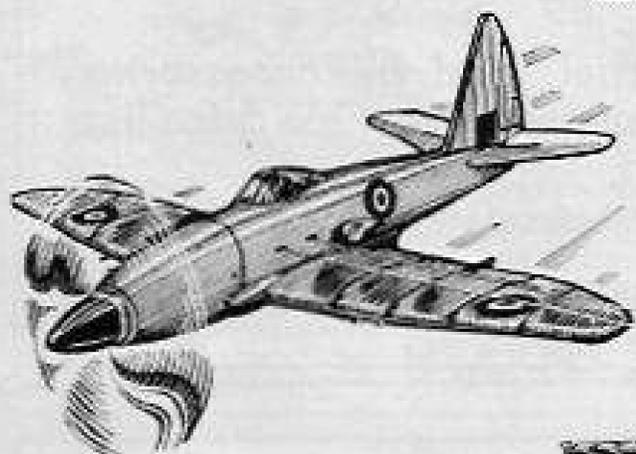
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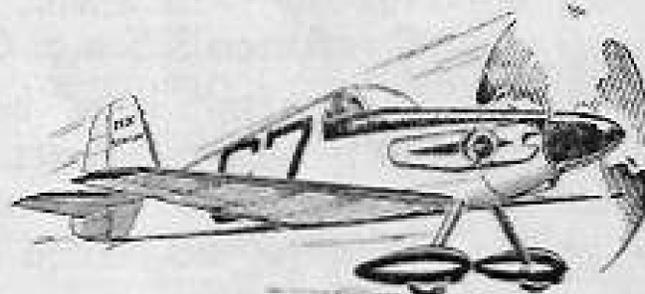


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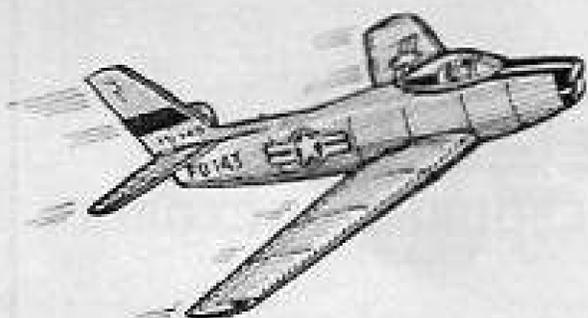
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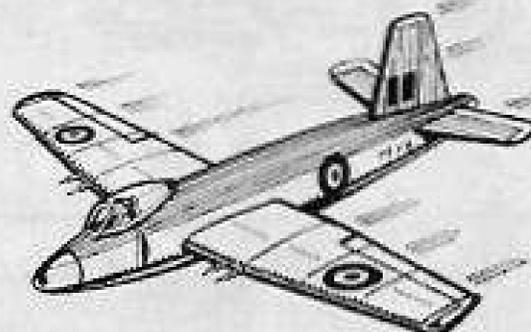


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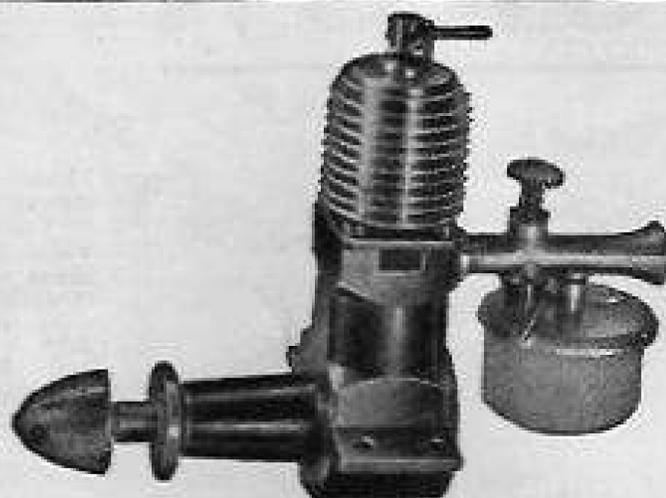
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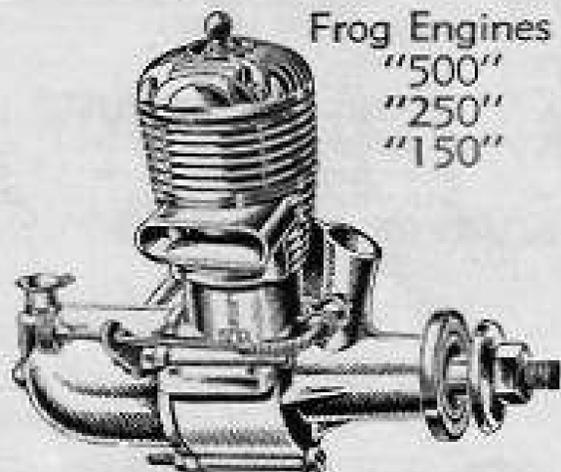
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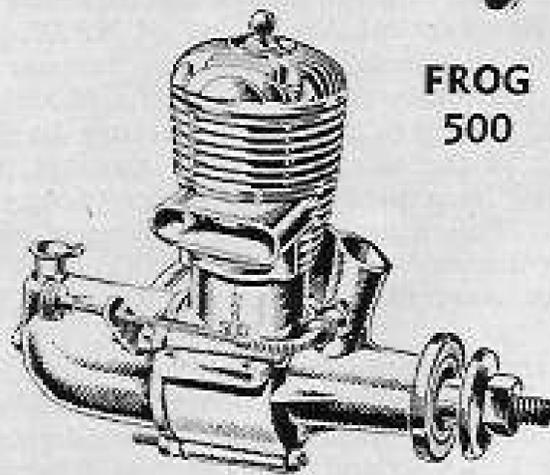
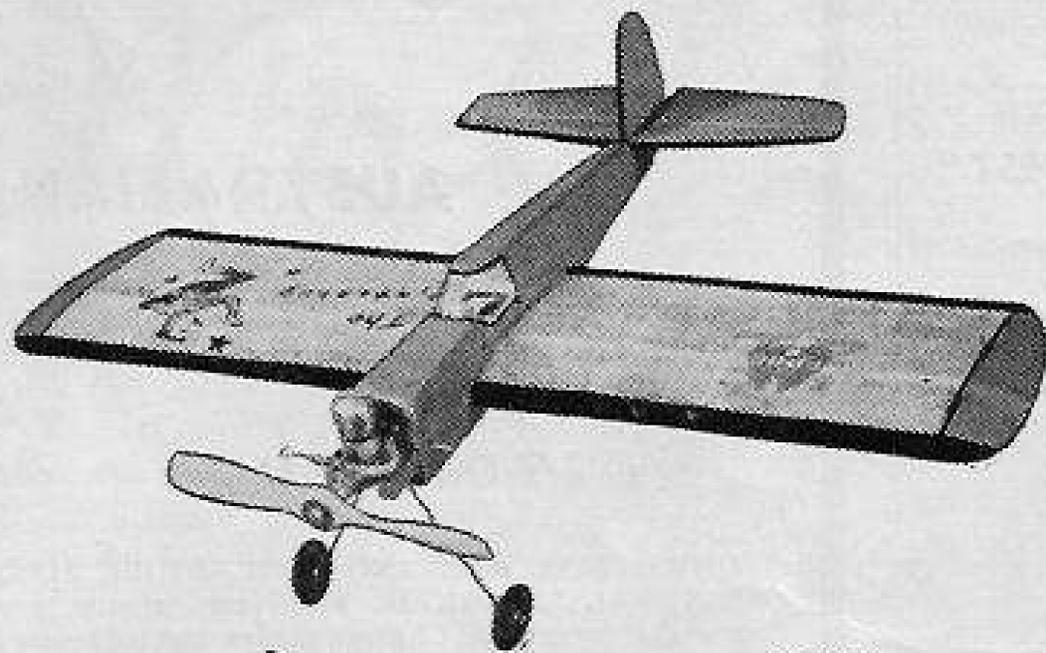
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AUSTRALIAN

VOLUME 11, No. 3.

EDITORIAL

CHRISTMAS, AND ANOTHER MODEL AIRCRAFT NATIONALS is with us. This year as most modellers know the Australian Championships are to be conducted by the Model Aeronautical Association of N.S.W.

They have quite a task before them, because of the high standard previously set, firstly by the Model Flying Club, in 1938, with Les Annesley working hard, then came the break of the war years, until the first post-war "Nats" organised by a willing crew under "Scotty" J. B. Scott in 1948. Following this was the very successful "Nationals" conducted by the Victorian M.A.A. 1950, and then the South Australian Associated Aeromodellers in 1951.

So far the arrangements for the 1952 Championships appear particularly good. The M.A.A. of N.S.W. have been lucky enough to have received considerable support from the R.A.A.F. and the Camden Rotary Club, which no doubt will add considerably to the efficient conducting of what we all hope will be "the best Nats. yet."

Australian MODEL HOBBIES wishes all our readers a very MERRY CHRISTMAS, and those of you competing in the "NATIONALS" the best five AEROMODELLING DAYS you have ever had.

CONTRIBUTIONS FROM AUSTRALIAN MODELLERS for publication in MODEL HOBBIES have been particularly disappointing, and in this issue we present one of the very few plans received during the year. MODEL HOBBIES is attempting to help consolidate your sporting hobby, AEROMODELLING, but to be really successful we must have the AEROMODELLERS of Australia behind it, and we do ask your help during the New Year and years to come, to enable us to continue to improve this, the only AUSTRALIAN AEROMODELLING MAGAZINE.

PECULIAR PEOPLE, some Australians, for there are a few (fortunately only few) who delight in attempting to make themselves "big shots" by "slinging mud" at people who may have achieved something. Whether by this "mud throwing" they boost their own ego, and relieve, slightly, their own INFERIORITY COMPLEX I am not certain, but it seems the most logical reason for these tactics.

Australian MODEL Hobbies is published approximately every two months by the proprietors MODEL AIRCRAFT INDUSTRIES, 3 Percival Street, Glenelg, South Australia.

ADVERTISEMENT AND EDITORIAL OFFICES.—As above.

Model

H O B B I E S

Editor: W. WILTON EVANS.

XMAS ISSUE, DECEMBER, 1951.

Col Comers, Des Slattery Team, preparing their MS 29 powered "Lindy" for what was a successful attempt on the Queensland Class "B" Speed Record. The speed attained was 98.87 m.p.h.

COVER PHOTO

Ivor Stowe, with his not so glamorous free flyer, but certainly a practical one. The power is the reliable Mills 1.3



HOW ABOUT IT CHAPS? If the other bloke is getting a little more "limelight" than you, forget about it, model for the fun of it. DON'T try and drag him out of the "limelight," down to your level by giving him a lathering with mud behind his back. The New Year is close, let's make it a RESOLUTION.

ADVERTISERS HAVE SUPPORTED MODEL HOBBIES WELL, and it is only because of their support can we continue to publish this magazine, and SO AGAIN WE URGE OUR READERS TO PURCHASE THEIR MODELLING REQUIREMENTS FROM ADVERTISERS IN THIS MAGAZINE. They help us and your purchases help them. If your model shop does not advertise, suggest to him that MODEL HOBBIES is helping AEROMODELLING, and that he can assist it's continued publication by ADVERTISING.

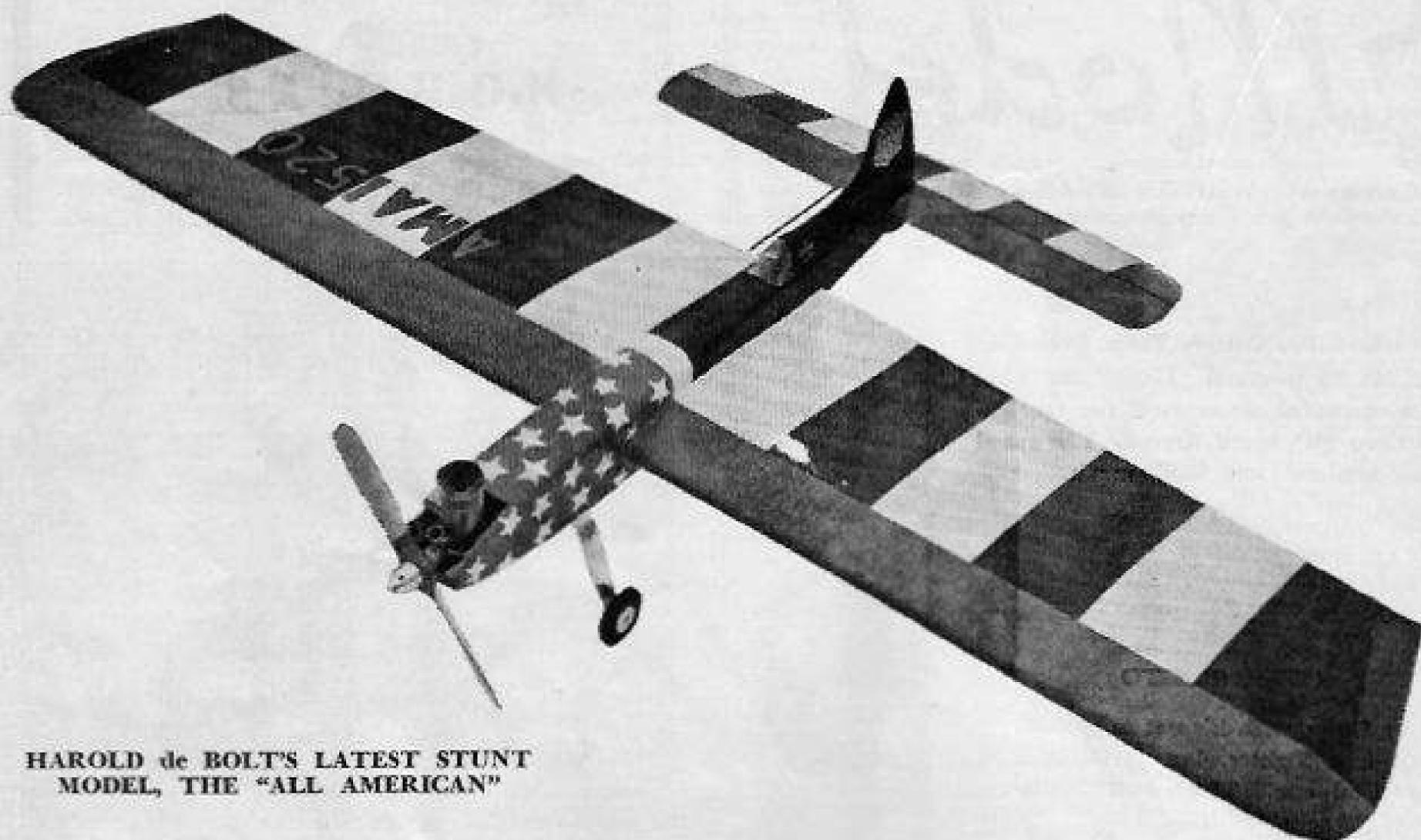
SPEEDWAY has again been squeezed out of Model Hobbies, to enable us to get the maximum number of AIRCRAFT PLANS in this, our Christmas Issue. Our MODEL CAR SECTION has also suffered, but here again we lack CONTRIBUTORS, although we have a couple of good MODEL CAR articles up our sleeve, and "Spin Dizze" enthusiasts should lap them up. Details of MODEL CAR AUSTRALIAN CHAMPIONSHIPS arrived just before going to press, but we have done our best to squeeze a few details into this issue.

Bill Evans

Editor.

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HAROLD de BOLT'S LATEST STUNT MODEL, THE "ALL AMERICAN"

The Acrobatic Controline Model developed more quickly in Australia than speed, and the first to shine as competent stunt flyers were the Victorian lads, Ted Gregory and Rupe Johnson.

Mainly through the ability of these two modellers Victoria took an early lead. Both Ted and Rupe flew Ohlson 60 powered models of medium size, and they certainly opened the eyes of interstate aeromodellers who saw them.

Next to make the grade in stunt were Rex Meyers, Gordon Burford, Jack Black and a few other South Australians, who, unlike the Victorians, had favoured diesels.

Harold de Bolt, designer of the "All American," considers this model far in advance of his "Stuntwagon," particularly in the hands of a novice flyer.
Plans on next page

Although a good deal of flying was going on in N.S.W. very little progress was being made as far as the ability to go through the stunt routine was concerned. Late 1950 Edge Adams, and a few others limped into inverted flight occasionally. Clive Wheatly then caught on and soon had a stunt ship performing well, although a good way off the vertical eight stage. Following Clive came

The Story on Stunt

★ A brief summary of acrobatic controline model flying in Australia.

and followed the trend of Leon Schulman. Harold de Bolt's "Stuntwagon" first made its appearance here, proving to be an outstanding design.

Ted Gregory, by winning the 1948 "Nationals," proved undoubtedly his position as top stunt man in Australia at that time, but unfortunately soon after this, both he and Rupe Johnson "retired" from stunt controline flying. However, the now well known Monty "Zilch" Tyrrell stepped into the gap, and has since then been the mainstay of "Stunt" in Victoria.

Max Cummings, who by '50 "Nationals" time was considered hot favourite for the Junior Stunt Event (an unfortunate misunderstanding prevented Max from flying in this event, so we cannot say how he would have compared with the eventual winner).

Queensland until now had been well out of the "Stunt Story," but now they began to come good in a big way. The Bob Palmer "Squaw" was the means by which the banana lads came from well behind to a position which is possibly way out in front. At present the only State which

could possibly muster a better team is Victoria. The appearance of Queensland in this year's "Nats" Stunt events for the first time, may offer a few surprises for the southern experts.

Models have grown from a 36 inch x 6 inch wing of the Schulman "Dronette" to the 10 inch x 45 inch wing being used today with the same capacity motors. Wings are either fitted with full trailing edge flaps or use thick cambered sections up to almost 30% of the cord. Nose moment arms have increased, and tail moments decreased. Lines are longer, most competition 5 c.c. jobs being flown on 60 foot lines.

Whereas a couple of years ago we were struggling to get a 5 c.c. powered model below 20 ounces for performance, we are now doing the full flight pattern with the same motor and an all-up weight of 30 ounces.

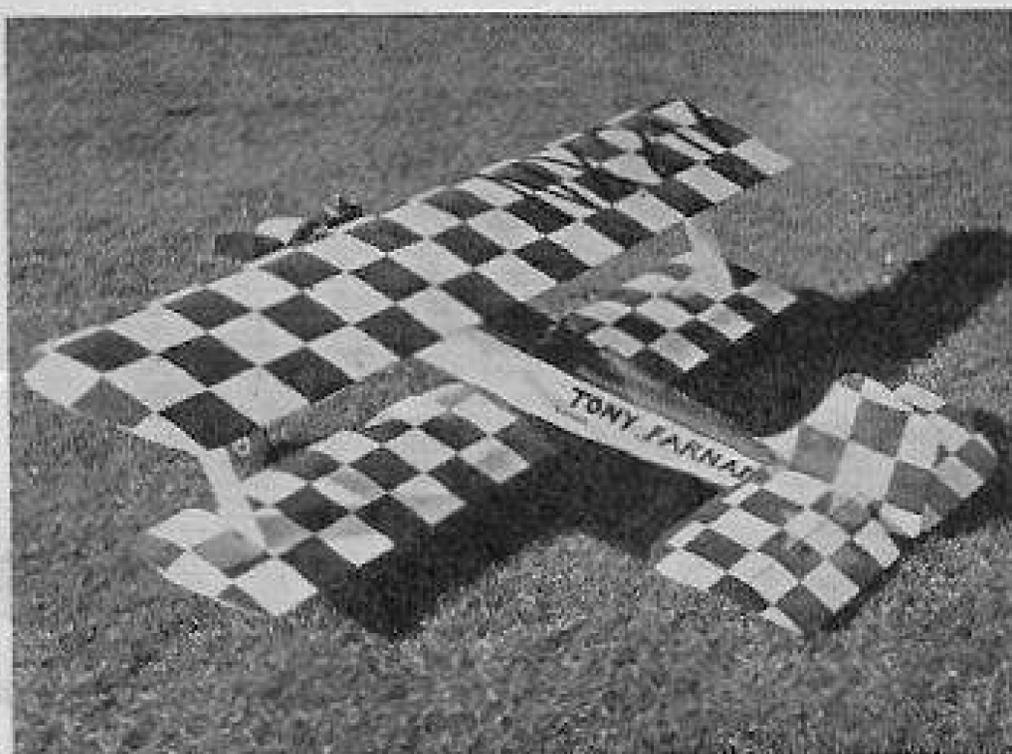
One thing which I think has retarded "Stunt" lately is the attempted use by beginners of gloplug motors in stunt models, without the help of experienced modellers to point out the hazards of the gloplug. The suggestion is not that they are no good for stunt, but the glo motor has not the ability of the diesel to "battle on," and time and time again we see operational difficulties turn a would-be stunt man to some other phase of aeromodelling or leave the game all together.

No doubt the gloplug motors available in Australia today can make top-notch stunt motors, BUT not in the hands of a beginner.

Looking back we see the dozens of new comers to aeromodelling really enjoying themselves with a small diesel up front of a "stunt model." Crashes were frequent, but damage comparatively small.

The Victorian Model Aeronautical Association have, we believe, suggested that the Junior and Senior ratings be dropped in favour of Novice and Expert classes, as many a Junior can outfly the Senior. This is quite true, and the suggestion has a good deal of merit, but as an alternative why not adopt the engine class rating as in

A checkered K & B 29 powered biplane, by Tony Farnam, who with Monty Tyrrell, and Reg Cooper, took the leading light in stunt when Ted Gregory and Rupe Johnston "retired." For some time Tony led, but Monty has now moved into the lead.



Ira Pepperell, well known N.Z. modeller, displays his K & B 29 Stunter. This model is very similar to those being built in S.A., although the Adelaide lads prefer a shorter tailplane moment arm. Note that the model is fitted with rather narrow, "full trailing edge flaps."

free flight. Up to 2.5 c.c. and over 2.5 c.c. This would prevent the small jobs from being completely overshadowed by the large stunters, and as pilots improved they would naturally turn to the larger models.

Presented in this issue is the latest "Stunt" model to make its appearance in the U.S.A., the "All-American," designed by America's most successful designer, Harold de Bolt. Harold's "Speedwagon" and "Stuntwagon" series have undoubtedly more contest wins than any other models. The plans presented in this issue are by courtesy of Dimeco Model Engineering Co.

Unfortunately owing to economic conditions, kits of this model are not available in Australia, but all measurements are given on the plan, so with a little work scaling up to full size, you can build an "All-American."

Although at first glance the "All-American" appears to be just another attractive stunt model, actually it incorporates an "all important" new feature, *Assymetrical Stability*. (This is completely explained in *Controline Comments* on page 26 of this issue) as well as the constructional methods proven so successful in the "Stuntwagon."

CONSTRUCTION:

Wing.—First commence by scaling up the rib section to full size. It is shown on the plan in a $\frac{1}{4}$ inch grid, which makes scaling up a simple job. Although the wing

The Wolverine is a semi-scale team racer, designed to suit the M.A.A. of Australia Class AI and AII Specifications, which call for a minimum wing area of 75 square inches, and a maximum engine capacity of 2.5 c.c.

The plan must be scaled up to full size (full size plans are available) before construction is commenced.

The fuel tank must be equal to one cubic inch of fuel approximately 16.5 c.c. Correct size tanks can be obtained from your model shop, or you can make one up from thin brass or tinfoil sheet.

CONSTRUCTION:

Wing.—Cut out the required number of ribs and spars, using medium hard wood. The rib section is not over-important, and should not give you a great deal of trouble shaping the various sizes needed for the tapered wing. Assemble wing minus tips, check for warps, and pin down on flat surface until cement is dry, then attach tips. Securely cement about $\frac{1}{4}$ ounce of lead in the outside wingtip to help give stability on the lines. Cement a piece of $\frac{1}{2}$ inch x $\frac{1}{2}$ inch each side of the main spar in

insert it in the elevator control horn, and solder a small washer on the outside to retain it. (9) Make certain the tank leads extend to the outside of the fuselage, and the fuel lead through to the motor. (10) Cut a piece of $\frac{1}{2}$ inch sheet to shape and attach to the fuselage sides to form the rounded bottom. (11) The curved top deck of the fuselage is formed by cemented approximately $\frac{1}{2}$ inch wide strip of $\frac{1}{2}$ inch or $3/32$ inch wood side by side until top is completely covered. (12) Sandpaper smooth, filling any small cracks with balsa dust and cement. Fill the crack with cement, then sandpaper over it. (13) Cover entire fuselage with L/W rag tissue, and give three coats of dope. (14) A "Hobbyden" canopy will fit the model or make one up for yourself by making up a wooden former the required shape, and a piece of wood with a hole in it the same shape and size as the base of the wooden former. Tack a piece of celluloid onto the wood with the hole in it. Expose to an electric radiator until celluloid is felt to go plastic and then force the wooden former through the hole in the other piece of wood to form the canopy. With a little prac-

★ A Smart Racing Model for 1.5 c.c.-2.5 c.c. Motors.

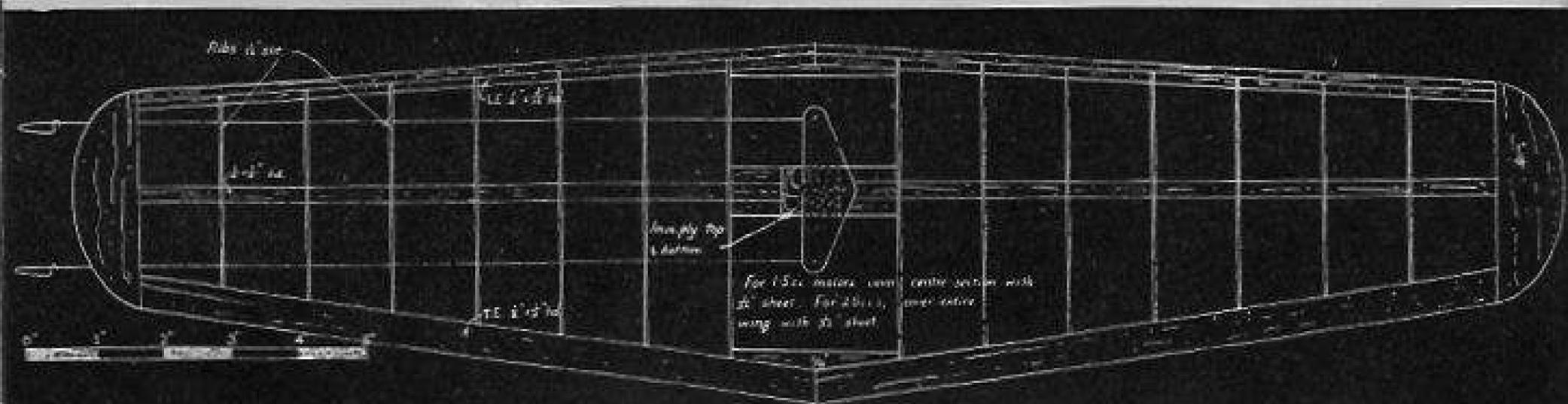
The Wolverine

★ Conforms to Australian AI and AII Team Speed Rules.

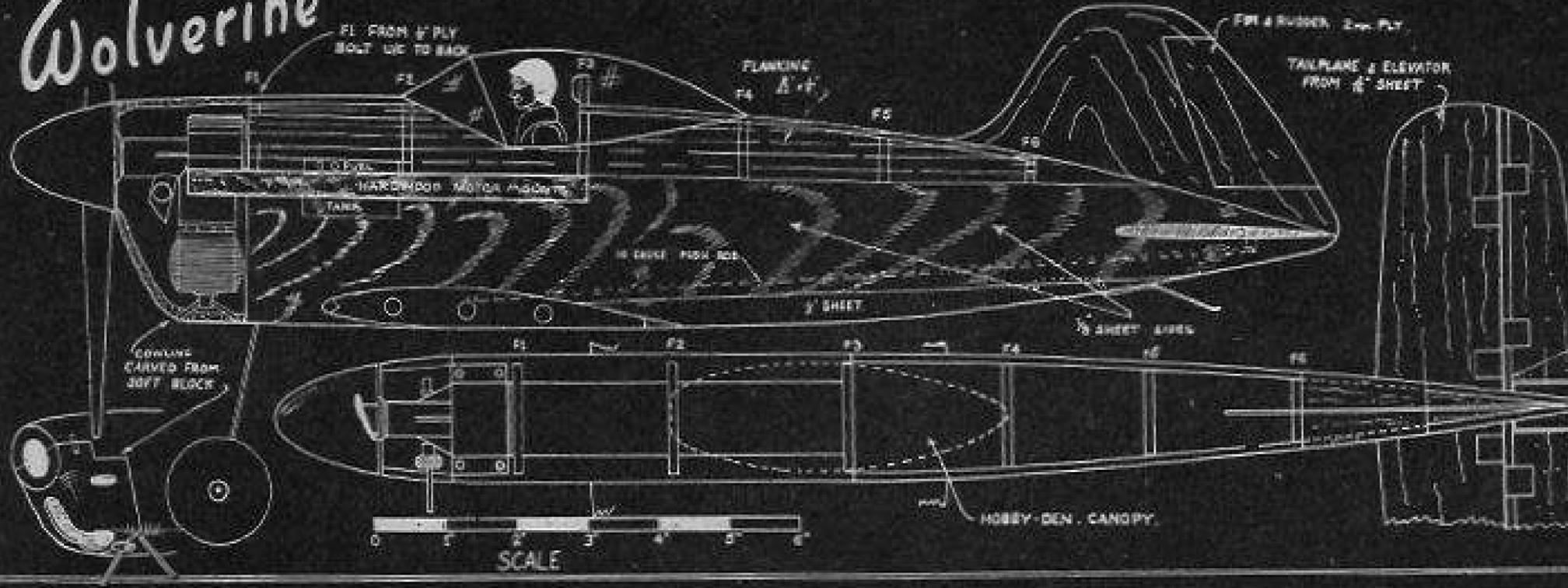
the centre section, and add the two small pieces of plywood, which act as a mounting for the control plate. Fix control plate, lead-out wires and control rod to wing, then cover, either top and bottom of centre section, only if small motors below 2 c.c. are to be used, or the entire wing with $1/32$ inch sheet balsa if 2.5 c.c. motor is to be fitted. Allow ample room in wood covering around where control rod enters wing. Sandpaper thoroughly and cover with lightweight rag tissue.

Fuselage.—(1) Bend the undercarriage to shape. (2) Cut out all formers F1, F2, F3, etc., and the $\frac{1}{2}$ inch sheet sides. (3) Cement the ply former F1 between the sheet sides, which are cemented together at the rear. Allow this to dry and then add other formers F2, F3, etc. Cut the motor bearers to size from a suitable hardwood (Aust. oak, blackwood, etc.) and cement in place. (4) Fix tank in position. (5) Form clips from thin tinfoil and bolt U/C in place on F1. (6) Fix wing on to bottom of fuselage. (Tailplane.—Cut tailplane from sheet wood, sandpaper to a streamline shape. Separate elevator from stabiliser, round off the edges of the cut. Join together with tape hinges. Cover with L/W rag tissue. Fix control horn in place on elevator. Fix completed tailplane to fuselage). (7) Check control rod for length, with elevator at neutral, and the control plate central. (8) Bend over the end of the control rod, and

trim it becomes quite easy. But be careful celluloid is very highly inflammable. Trim the canopy to fit neatly on top of fuselage then run a pencil line around it carefully. (15) Leaving $1/16$ inch inside the line, cut out top of fuselage to form cockpit. (16) Lightly sandpaper this edge, dope, and sandpaper again. (17) Fix a pilot in cockpit, then cement canopy in place. First only tack the canopy in place with a few dabs of cement, allow to dry, then run a film right around the join, carefully smoothing out with finger. (18) Now comes one of the most difficult jobs — carving the cowling. Select two suitable-sized soft balsa blocks for the cowling. Tack together with a few drops of cement where the cowling is to part. Mark onto the block the side view and carve to this shape. Onto the resulting block mark the top view and carve so as to give a rectangular cross-sectioned block. Cut this so that the block can be temporarily placed in position on fuselage, then round off the cowling to suit the fuselage contours. When this has been satisfactorily done, hollow out the cowling blocks, leaving a wall thickness of about $3/16$ inch. Sandpaper cowling thoroughly inside and out, completely cover with tissue and give several coats of dope, sandpapering the outside between coats. If a glowplug motor is to be used it is a good idea to fireproof the inside of the cowling with sodium silicate (water glass). Then fuelproof.



Wolverine



Colouring.—Give entire model several coats of dope, sandpapering between each coat with very fine sandpaper or rubbing down paper, then colour with a good quality fuel-proof colour. We found that a good floor or car wax gave additional protection to the finish.

FLYING THE WOLVERINE:

Balance the model about $\frac{1}{4}$ inch behind the leading edge of the wing — do not worry if it is a little further forward, as a slight difference in the centre of gravity position is not critical, but a tail-heavy model should be corrected with weight as it would be tricky to fly.

The rules specify 42 $\frac{1}{2}$ foot lines, but this includes the lead-out wires so shorten your flying wires accordingly. Lightweight stranded wire is recommended for team racing. Shorter lines of around 35 feet may be used for testing or sport flying with smaller motors. There should be about $3\frac{1}{2}$ inches between the line attachments on your control handle.

Maximum speeds depend on the choosing of correct propeller and fuel to suit your particular engine. Follow the manufacturer's recommendations to begin with —

then experiment with various combinations. Keep a record of speeds and laps obtained until you get the best possible combination.

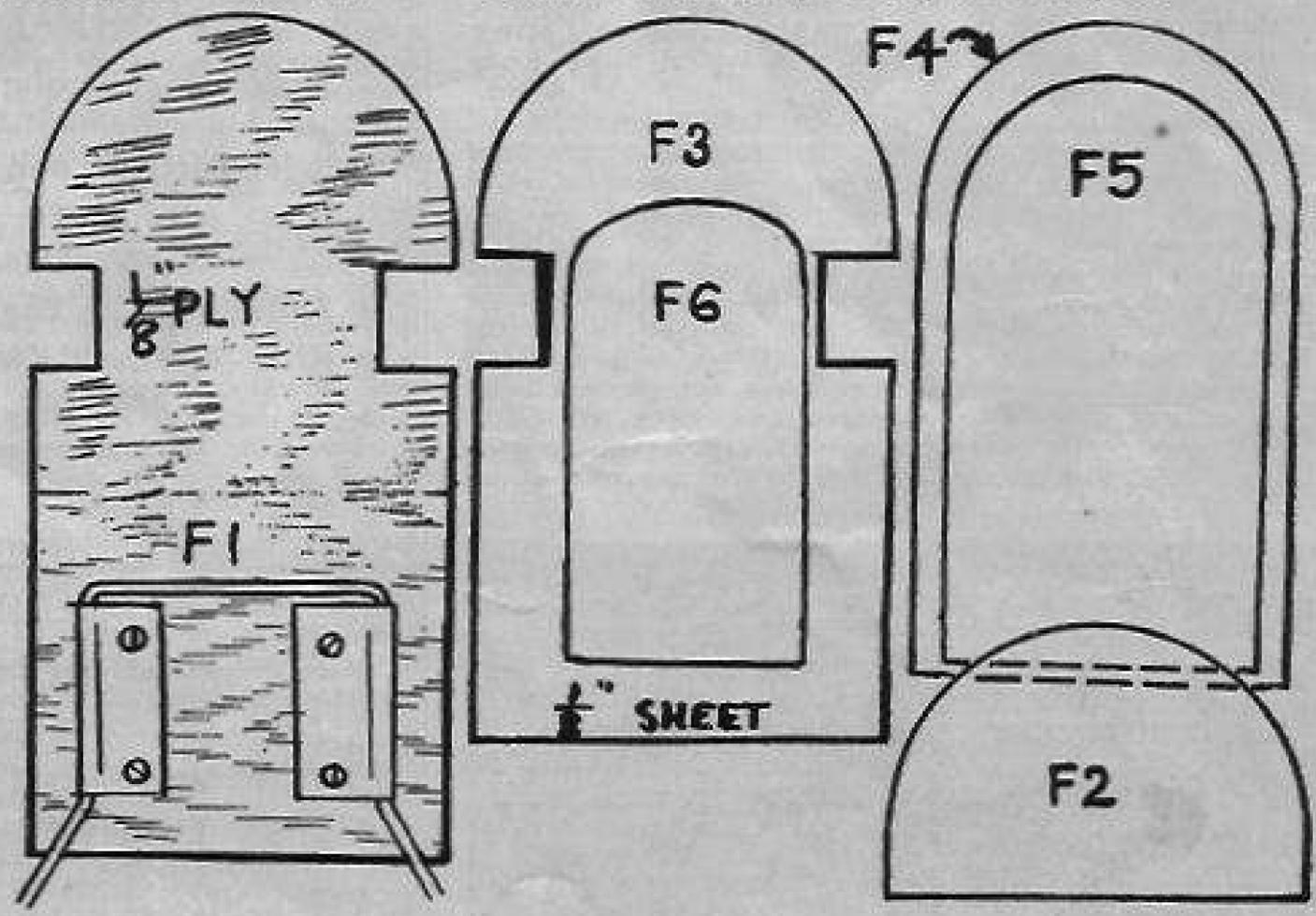
The Wolverine is easy to fly, and is capable of a good turn of speed. Always check that neutral at the control handle gives you neutral elevator when the model is held at the same height as the handle. See that the handle is right way up before giving the release signal to your helper. The model is manoeuvrable enough to take any reasonable evasive action which may be found necessary in team racing. Always be prepared to move away from your model to keep your lines tight, should some action cause them to loosen. It is a good idea to fly with your model in a line parallel to the body, that is, with your arm out sideways — not out in front of you. The reason for this is that when your lines slacken you do not move backwards into the path of other pilots, but rather move outwards away from them.

We wish you best of luck with your model, and hope to see you at the "Nats" with it.

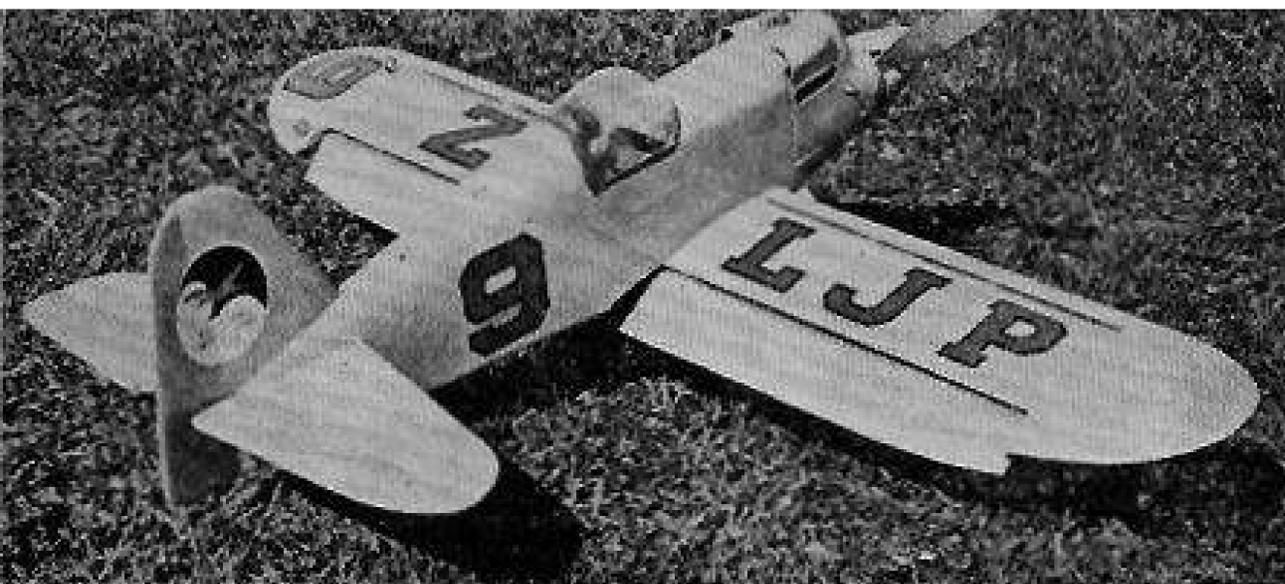
Plan of Wolverine by courtesy of "Hobbyden."

Designed
by the
Meadmore
Brothers

FULL SIZE
BULKHEADS



New Zealand Notes - - FROM LEN PERRY



That the N.Z.M.A.A. National Championships are rapidly approaching is made very evident by the frenzied activities of intending competitors. The race is on. The race against time to complete models before the 27th December. Many modellers who do not normally sport bags under their eyes will be well equipped by the time they arrive at Masterton. There is little doubt that those owned by the Champ. of Champs. will be among the largest on display.

If Allan Rowe's literary masterpiece is any indication, this year's Nats will be really something. I refer to "NATS NATTER" which by its own admission is "New Zealand's leading underground paper, guaranteed subversive, printed and perpetrated for the 4th National Championships Committee of the N.Z.M.A.A. at its unregistered mobile office, by the more irresponsible members of its sub-committee for propaganda; published without any vestige of authority from the N.Z.M.A.A., Y.M.C.A., S.P.C.A. etc. and with full knowledge of the penalties provided by the emergency regulations 1951 and the Fish and Chips Act, 1898." Among other matters it describes the Nationals camp site as the most tranquil scene on the face of this earth, complete with—the nearby chatter of the pebbly stream, the distant lowing of contented cattle, the liquid note of the bell bird—all these things will be Nature's music to this sylvan setting. All these things will be so on 26th December.

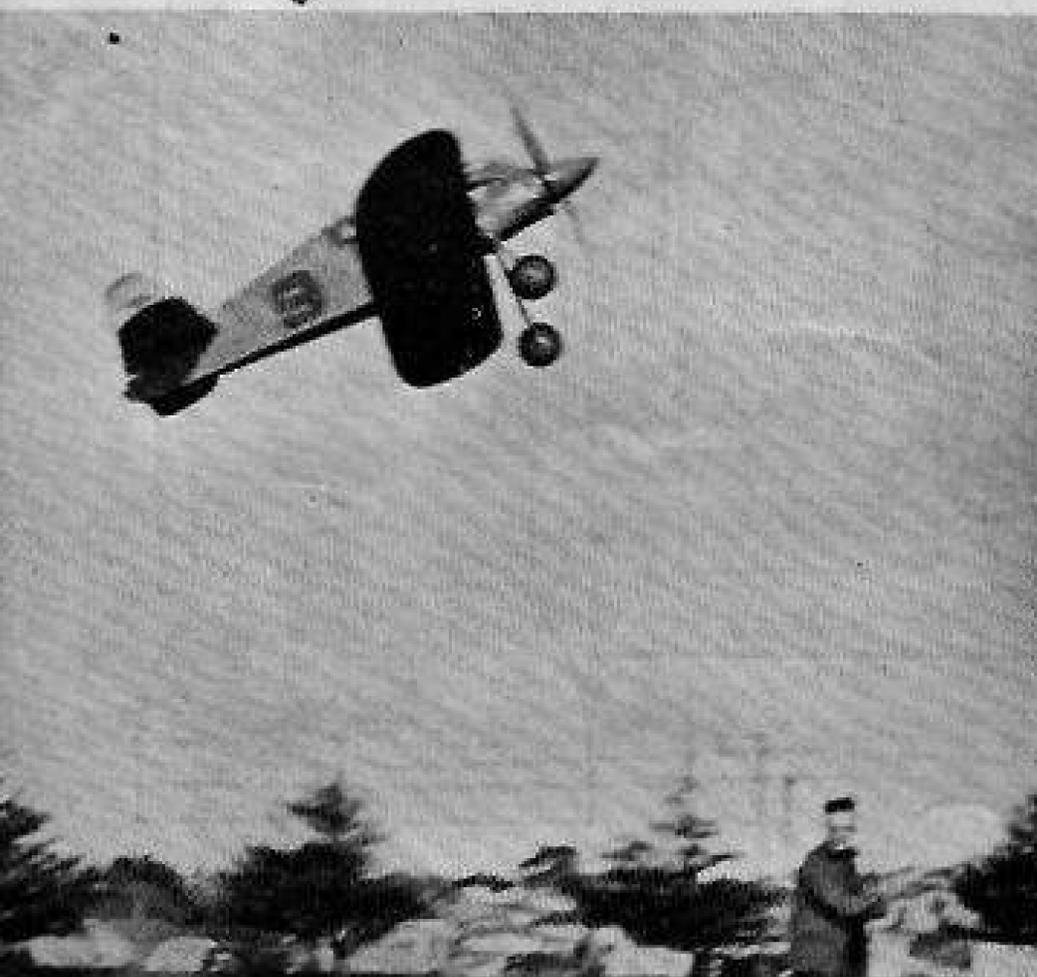
BUT! Don't come to the Nats, if you want these things on the 27th; because from the moment you arrive you're sure going to be busy. A typical Spike Jones

symphony. To cut a long story short there is to be a wide variety of entertainment as a diversion to the normal contests. There will be films of modelling both at home and overseas, pyrotechnic displays, night flying and believe it or not, a comic opera; the accent being on the comic. To top it off, apart from "wabbit twacking and other such devilry of local origin," there is to be a crazy hat competition. "All protests to be addressed verbally at the judge."

So much for the big event. Survivors, if any, will surely have a story to tell.

New Zealand is renowned for good thermals. How good? Jack O'Brien of Wanganue has officially broken the 100 ft. 5 oz. per 100 sq. in. sailplane record with a flight of over 41 minutes with a Nordic design. The wind must have dropped that day.

Speaking of going up, the team racer in photograph above is one that can really leap aloft. It is not a very good model as team racers go as its speed is only a modest 50.55 m.p.h. but it has one feature in its favor in that it can fly 4½ miles on 30 c.c. of fuel. It is powered



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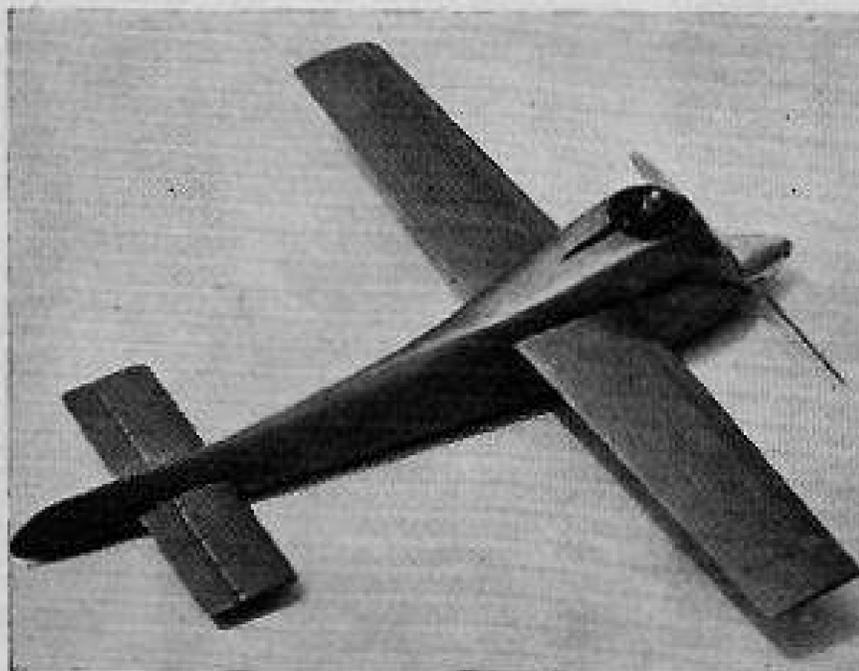
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at present by a Pepperell "21-B" diesel and was built as an experiment with fixed slots and slotted flap which accounts for its high rate of climb. It is very responsive, having "texas loops" in its repertoire, but is easy to fly with no marked tendency to "kite" up wind even in severe conditions. Landings are a natural but for all that, it would not stand a chance against a really fast glow plug job when it comes to racing. How do I know? You guess.

I do not think it would be an exaggeration to state that, of today's active aeromodellers, there are more than a mere handful (in this country anyhow) who have successfully flown models of all types and classes. Those who have, invariably started building at an early age and as is usual by the time they became old enough to gain possession of the door key, their time was limited to such a degree that they were forced to specialise in one or two classes. How often have we heard that word "specialise" used to disparage a modeller's esteem? There are a few "specialists" who have been "through the mill." One individual who falls into this category, many readers will be surprised to learn, is Ira Pepperell.

Ira's collection of bits and pieces, from indoor micro-film to radio, would fill a good sized truck with a Valkyrie and a Philadelphia taking up their fair share of space. The war interrupted this lust for balsa butchery or rather, it replaced the balsa with dural.

In 1945 the hostilities gave way to the control-line menace and while still wearing out his blue shirts Ira came forth with the first —control I had ever seen; a beautiful scale Ercoupe which after hundreds of flights is still in an airworthy condition. Then emerged the insanity supposedly inherent in all modellers—Acrobatics. This interest was temporarily displaced by three years of concentration on control-line speed and it is for this that Ira Pepperell is best-known today. It was here that Ira's father ("Pep") made his presence known. It was his endeavour to install an engine that would propel a model so fast that it could not be controlled and had it not been for Ira's uncanny flying skill, he may well have succeeded. It was this team spirit that no doubt contributed greatly to their success, not so much in contests (very few official flights were made) but in personal achievement.

Ira would be the last to suggest that his Kotare (King-fisher) II, as it stood when he transferred his attention to race cars, was the ultimate in speed design. It is therefore not intended that drawings be included here but rather, that some of the finer points mentioned below, may suggest a means of further improving exist-

KOTARE II

by IRA PEPPERILL

Details of this, the fastest class "B" model in Australasia are given in this article.

ing individual designs. At first glance the Kotare II is just another Hell Razor, but a closer study of the data given will disclose details that are unique in speed design. To those who gained their information from the sometimes unreliable bush telegraph, let it be clearly understood that no system of oxygen feed was used or was even contemplated. To those who believe that some undisclosed secret, known only to the few who achieve high speeds, is responsible for success with speed models, let me repeat the words of the designer himself: "A good design is only part of the story, as it takes constant practice on the field to achieve and maintain high speeds."

KOTARE II

WING:

Span 16".

Root chord 2½"

Tip chord 2"

Section: Modified Clark-Y (Max. depth 10 per cent. Sharp entry).

Incidence: Inner panel 0 degrees.

Outer panel 1 degree pos.

Whole wing is skewed so that the inner tip leads the outer by 3-16".

EMPENNAGE:

Incidence: Zero.

Section: Identical to wing.

Elevator movement: Up 20 degrees, down 20 degrees.

ENGINE:

Re worked Eta "29" with close baffled cooling and C/case cooling breather.

Trust line: Set IN 2 degrees.

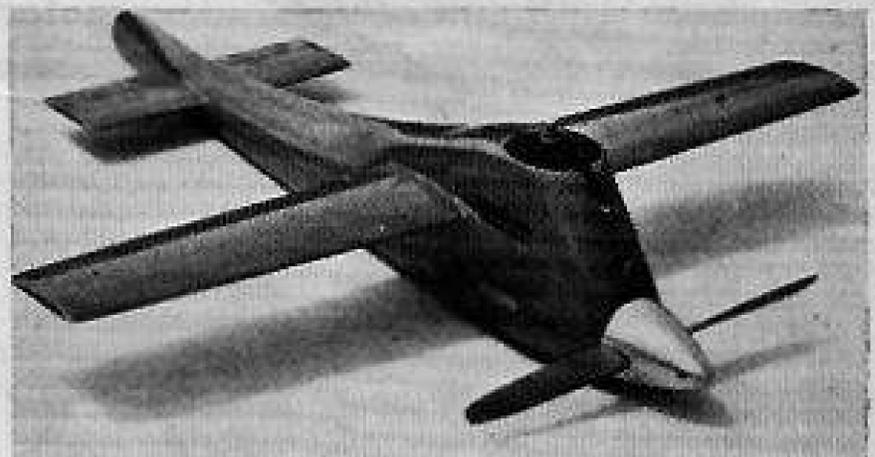
PROPELLER.—7" x 10" with 3-8" wide blades. (Engine bench tests 15,500 r.p.m.)

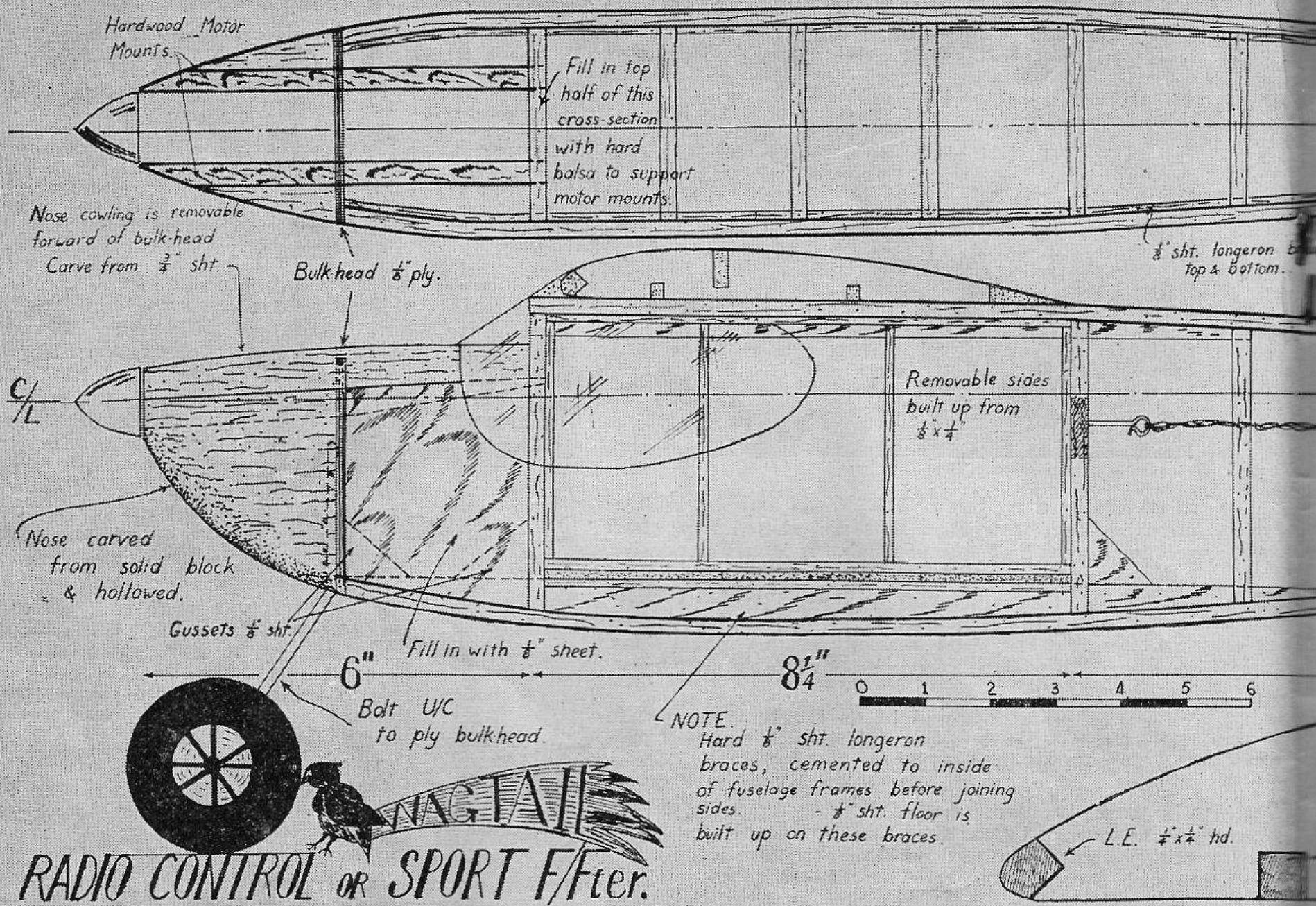
WEIGHT.—12 ounces (less fuel).

LINE RADIUS.—52½ feet.

REMARKS:

Model is stalled off dolly at take off. Outer wing panel stalls first causing autorotation which effectively lowers outer tip. As model gains speed it banks inwards and flies its own circle with very little line tension. Average speed under good weather conditions—135 m.p.h. The lifting tail section prevents longitudinal instability during sudden changes of power output.





- Designed for lightweight radio control
- Also particularly for sport flying

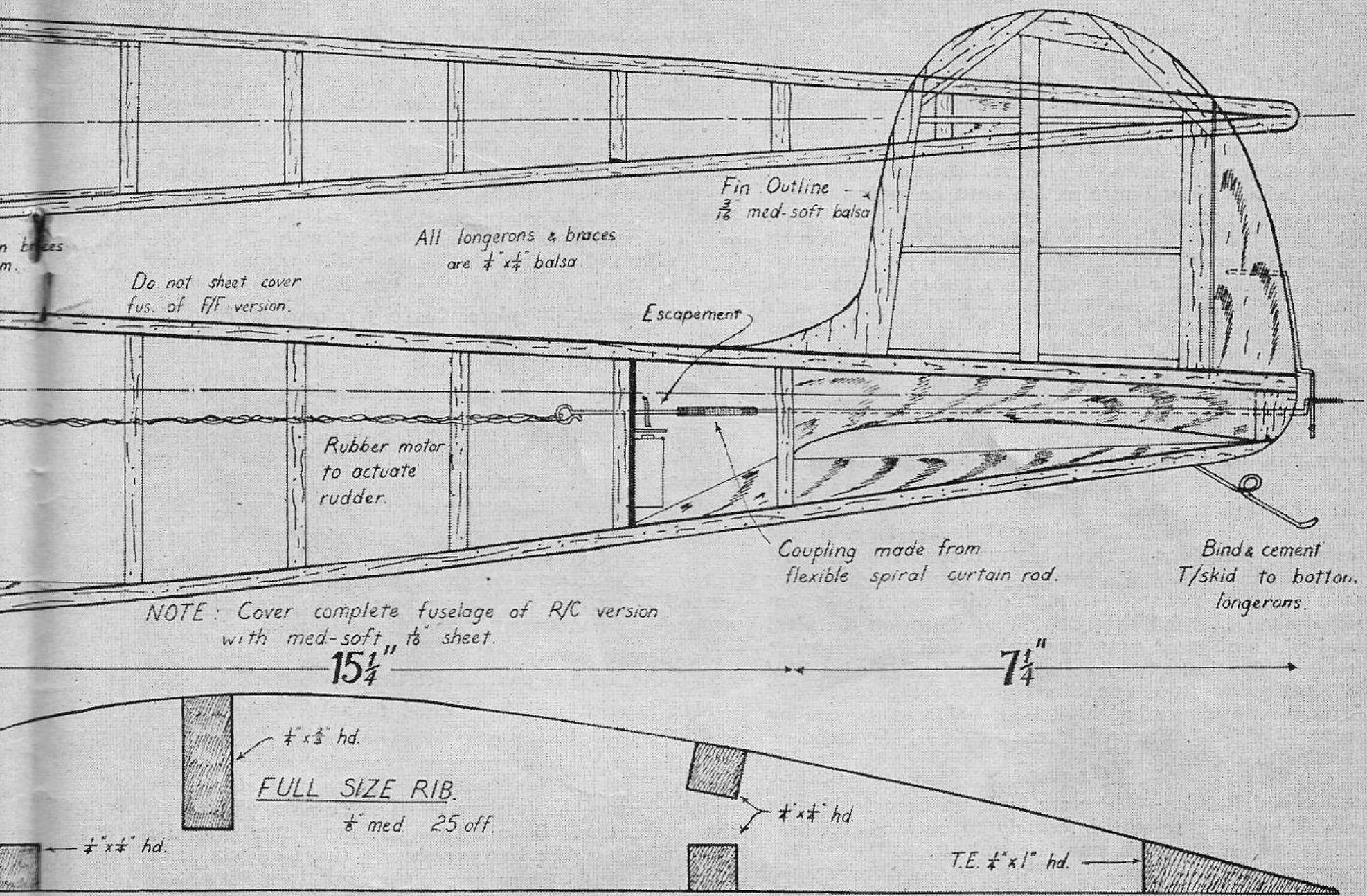
The Wagtail for R.C.

- Suitable for Frog 150, E.D. Mk.II and Comp. Special, Elfin 1.49 and other similar motors

The Wagtail is a development by Max Starrick of Dick Schumacher's "Little Ship" which was the first radio controlled model to fly in S.A. and performed consistently, but Max has now redesigned his model in the form of the "Wagtail" to gain the extra performance necessary for the more advanced radio controlled manoeuvres.

Construction has been simplified, the undercarriage brought much further forward, and the fuselage lengthened to give a greater tailplane moment arm. With

these, and a few other minor modifications Max considers that he has the ideal model for lightweight radio control. One other alteration which he considers may be worthwhile is the use of twin rudders, so as to have the control surfaces as far as possible out of the slipstream, resulting in similar control during both power flight and the glide. The reason for not showing the twin rudder installation on this plan is that the mechanical set-up is a little more complicated, and we feel that initially the model and its radio arrangement should be kept as simple as possible.



The radio gear used was "Maxstar" (commercially produced by Max) the receiver circuit of which was published in the last issue of "Model Hobbies," along with some hints on tuning.

Should you not be interested in radio control, but would like a consistent performer for free flight sport flying then here again the "Wagtail" will fill the bill. Of course the longeron braces can then be omitted and the removable sides are not required, so the cross braces beneath the wing would go right down to the bottom longeron. The fuselage need only be tissue covered if radio gear is not to be fitted.

CONSTRUCTION—

Wing.—No plan has been given for the wing as in any case the builder has to draw up a full-size plan, and as the wing is of parallel cord, with small sheet tips the following measurements are all that is required. The full size wing rib is shown on the plan. Draw up wing plan in the following manner. Obtain a piece of paper about 56" long. The wing span is 53 inches and the chord 8 inches, so draw a rectangle to this size (53" x 8"). Find the true centre of this rectangle and at right angles draw in the centre rib, then all the ribs each side of the centre rib every 2 1/4 inches. The last spacing on each wing tip is formed into a slightly rounded tip with



Max Starrick "getting at the insides" of his original radio controlled model. Powered by an Elfin 1.49 c.c. it was found to have plenty of power. Several improvements have been incorporated in the plan of the "Wagtail," which should result in even better performance.

Wagtail (cont.)

1-8" sheet wood. The tip is swept up. Cement the sheet tip to the bottom of the first rib, and incline the sheet tip upwards to meet the top of the main spar. Of course the spar must be tapered upwards before attaching tip. All spar sizes are shown on plan, and should be cut from hard balsa. A flat centre section must be built into the wing so as it will sit firmly on top of the fuselage. To do this cut through all spar on the outside of the rib each side of the centre rib. Pin down securely the centre section, then taper the spar ends from top to bottom until the wingtips can be raised 4 inches (4" dihedral on each wing). Now carefully block up each tip 4" and cement the wing together. Gusset all spars with 2mm. plywood at all joins. Be sure to give these joins several coats of cement. Allow to dry and then cover centre section top and bottom with 1-16" balsa sheet.

Tailplane.—No plan is shown for the tailplane for the same reason as the wing. The tailplane platform is a straight trailing edge, and the leading edge tapering slightly. Draw the trailing edge 17 inches long, in the centre of this draw in the maximum cord 7 inches. At each tip the cord is 5 inches. Draw in the leading edge and round tips slightly to match wingtips. The section on the tailplane is a thin Clark Y as shown on the plan, and ribs are spaced every two inches with 1-8 inch sheet to form the tips. Tailplane spars are: leading edge $\frac{1}{4}$ " x $\frac{1}{4}$ ", mainspars (two—one directly above the other $2\frac{1}{2}$ " back from leading edge) hard 1-8 x 3-8", and the trailing edge $\frac{3}{4}$ " x 3-16". Sheet cover the centre of the tailplane similar to the wing.

Fin and Rudder.—These are built up from 3-16" strip and sheet, and cemented securely to rear of fuselage. Make certain the fin is true fore and aft.

Fuselage.—Construction is straightforward, and should cause no worry. Use hard $\frac{1}{4}$ " x $\frac{1}{4}$ " for all longerons and cross braces, with the exception of the removable sides (if model is not to have radio gear fitted disregard the removable sides and carry right through with $\frac{1}{4}$ " x $\frac{1}{4}$ ". The 1-8" sheet longeron braces can also be omitted) Pin down the $\frac{3}{4}$ " sq. strips to form the two sides over one another, being sure that they are identical. The 1-8" sheet nose "fill in" should be added whilst the sides are pinned down. Cut two pieces of 1-8" sheet to shape, and also the two front gussets. Cement in the 1-8" sheet on the lower side then on top of it one of the gussets. Slide a piece of greaseproof paper between the sides on top of the gusset, then cement the other gusset and 1-8" sheet "fill in" in place. It is necessary to add these sheet "fill ins" whilst the sides are pinned down so as to maintain the shape when the sides are taken up off the building board. Cut the 1-8" sheet longeron braces to shape and cement to the inside of each fuselage side before joining together.

To join the two sides first cut a hole in a piece of stiff cardboard equal to the cross section immediately under the leading edge of the wing, making sure that the hole in the cardboard is a true rectangle and size of the fuselage cross section. Now pin and cement the rear of the fuselage together, and slide the cardboard "jig" over it into position, then add the cross braces top and bottom firstly at the "jig" and then work back to the rear, and allow to dry thoroughly. Pins are used, of course, to hold cross braces in place until dry. Cut the 1-8" plywood bulkhead to shape rectangular, the size can be got from top and side view of plan. Cut out holes for motor mounts according to the width of the motor you intend

to use, then round off the top of the bulkhead above the top of motor mount holes and fit to front of fuselage. Use plenty of cement, and set aside to dry. As this is drying cut the hardwood mounts to shape, and also carve noseblock from soft balsa. Hollow out this block to leave a wall of $\frac{1}{2}$ " thickness. Install mounts in ply bulkhead and gusset the end of the mounts with hard $\frac{1}{4}$ " balsa as shown on plan. Trim inside of noseblock so as it will fit up the side of the mounts. Bend the undercarriage to shape from 12 gauge steel wire, and fix to plywood bulkhead. (Drill small holes every $\frac{1}{4}$ " each side of the U/C wire and bind with fishing cord. Apply several coats of cement to both sides of the bulkhead).

Fix noseblock in place. Carve top cowling from $\frac{3}{4}$ " sheet, and cut into two pieces so that the piece in front of ply bulkhead is removable.

Thus rather full constructional description has been given for the benefit of newcomers to aeromodelling who may like to build the "Wagtail," and assuming that those of you who intend to fit radio have considerable experience no lengthy details are given regarding the radio installation as the plan covers it quite well.

From actual flying experience however we do suggest that the rudder movement be kept to 1-8". Use 3-16" throw on your actuator crank for testing and $\frac{1}{4}$ " for general flying, which gives ample control. Greater movement than this resulted in violent manoeuvres.

As there is hardly sufficient length in the fuselage for aerial, the wing is used to get the necessary 36 inches.

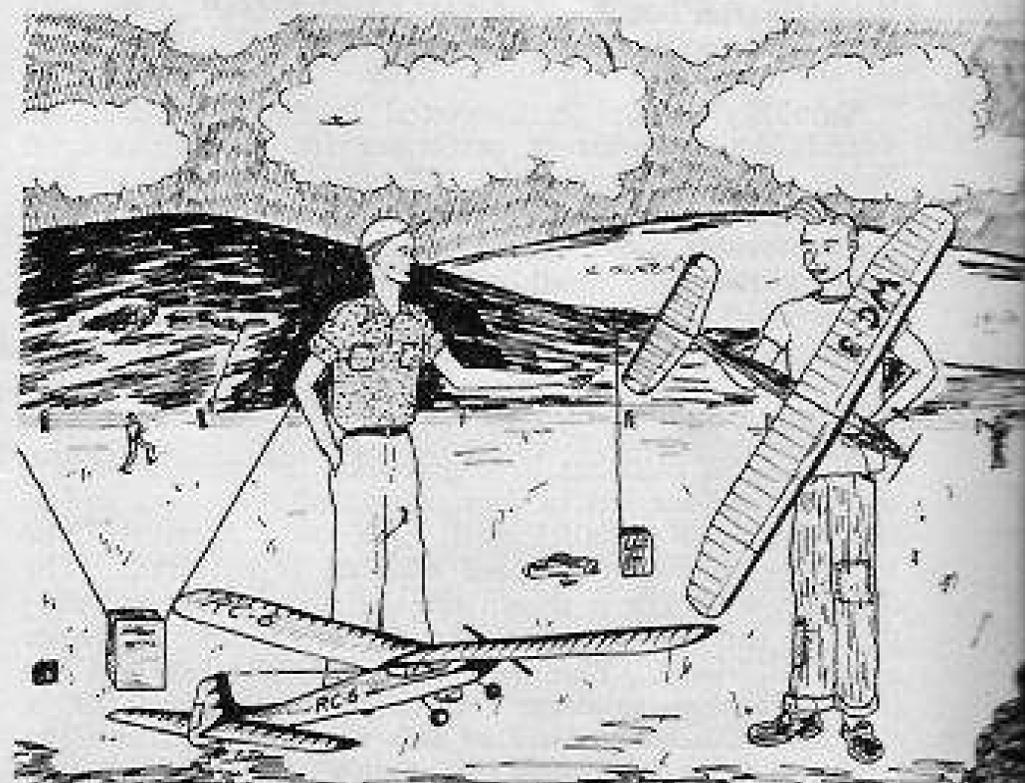
Max Starrick will be pleased to answer any queries you may have on radio difficulties with the model.

If the model is to be used for radio cover fuselage entirely with medium soft 1-16" sheet with the sheets running across the fuselage at an angle of 45 degrees to the centre line. Dope lightweight rag tissues over the wood covering. Use heavyweight rag tissue on wing and tail.

For sport flying cover with heavyweight rag tissue all over.

Any good 1.5 c.c. motor has ample power, both for radio work or sport flying.

"R"adio "C"ontrol? "W"ireless "C"ontrol?



Well, anyhow, Joe, "W.C." sounds more sanitary!

NEWS FROM THE WEST

We regret that no news was forthcoming for the last issue of A.M.H., but as our Annual Championships were being organised and run off about that time we thought it best to submit a full report when available.

Unfortunately, due to weather conditions and other unforeseen factors, our Championships are still not actually finalised. However, what available information there is follows now.

1951 State "Jubilee" Championships

The Controline Events were held at the Perth Oval on Sunday, 5th August. Weather was extremely bad — the Class "B" Team Race Finals being flown off in continuous heavy rain. Pilots and models were well and truly waterlogged at the finish. However, this was a most exciting race — the 1st and 2nd placegetters being separated by only one lap. The Glo motors gave trouble with crankcases filled with water (almost).

Alex ("Lampwick") Cunningham displayed remarkable coolness in the centre, considering the wet-stuff and general flap of team racing.

Noel Mitchell won this event with a very nice Frog "500" model, high speed and good lappage.

Stunt showed a remarkable improvement this year, most bobs going through the book fairly smoothly. Speed was rather poorly supported as usual, but a lot

W.A. Model Aeronautical Assoc.

Hon. Sec: Rod Ashton,
51 Tyrrell St., Nedlands

more models are being built these days, even if most have trouble in recording an official flight.

Don Hall's Modified "Midge" (Elfin 1.49) was most consistent, and Don had a lot of trouble getting round the Pylon, to keep up with it.

The F/F day was held at R.A.A.F. Station, Pearce, in really perfect weather, on the 19th August.

George Pappas had a really "hot" Cumulus E.D. 2.46 powered, and a little overweight "Screaming motor, vertical climb, sailplane glide, and D/T's down like a lift." Magnificent finish, and George had no trouble in recording the highest times.

Some excellent sailplanes present, a couple O.O.S. and still missing.

Comedy was again provided by "Lampwick" Cunningham, his diminutive .75 mills powered F/F occasionally knocking hats off the spectators, to his accompanying bellow of, "Stand clear!"

Athol Caddy put on a remarkable performance with his semi-scale F/F ship, and would have carried off the Power Scramble Event, if one had been included. At almost any time throughout the day, this little job could be seen taking off and landing on the air-strip with monotonous precision, to the delight of the spectators.

(continued on page 28)

(Top to bottom) —

An E.D. 246 powered "Cumulus" built by George Pappas. Don Hall holding an Elfin 1.49 powered "modified Midge" official speed 78 m.p.h.

Dick Gibbs, test gliding his "Sabre" powered semi-scale free flyer.

(Inset): Miss Irma Wright holding Rod Ashton's "Super Buccaneer." Irma has built and flown small stunters. Alex "Lampwick" Cunningham, a regular performer at Perth Esplanade, with this Frog 500 "Buckjumper."



Firecracker Mk II

Teamspeedster

- ★ A Contest Proven Design
- ★ Modern Construction

The original "Firecracker" was first published in our 1950 "Winter Issue" of Model Hobbies, but since then changes in rules, and experience gained flying the "cracker" in numerous races, have made some modifications necessary.

Firecracker Mk. II conforms fully with present M.A.A. of A rules and is not just a "one off" design, for in Adelaide almost every successful Team Speed model flown in this year's contests have been this model. Ron Duncan, Kevin Green, Jack Hill, Ian McDonald have all relied upon the "Firecracker."

Construction is similar to the original design, with the exception of the undercarriage, and it's mounting on the plywood firewall.

Varied opinions exist regarding the construction of a Team speedster. In Victoria the trend appears to be toward the lightest possible model, and to hope for no hard landings, etc., for the tissue covered wing popular there will take little punishment. In S.A. we have almost without exception stuck to wood sheet covered wings, and apparently lose very little in speed or endurance, for this slightly heavier, but immensely more rugged wing. Even should a sheet covered wing be torn off there is a fair chance that it can be fixed temporarily, by

sliding spars inside it, so that the model may finish the race. (An example of this was seen at the last "Nats." when Cook (Victoria) the winner of the 1/4A event, fixed his wing in this manner).

The plan is shown with a one-inch grid marked out around it. Connect these for simple scaling up to full size.

The worried look comes from Ian MacDonal, tending to his Fox 29 "Firecracker" between races, at Colley Reserve, Glenelg.

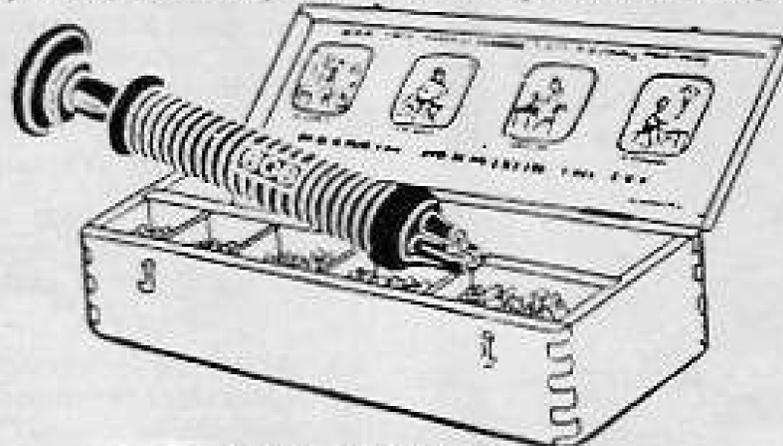


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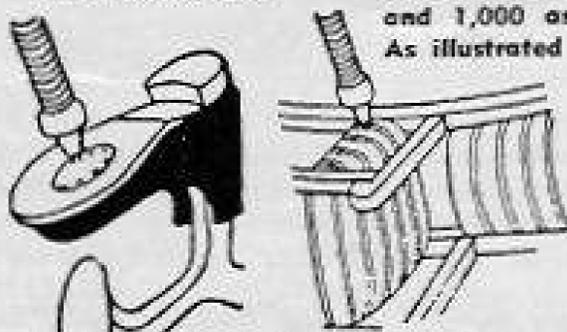
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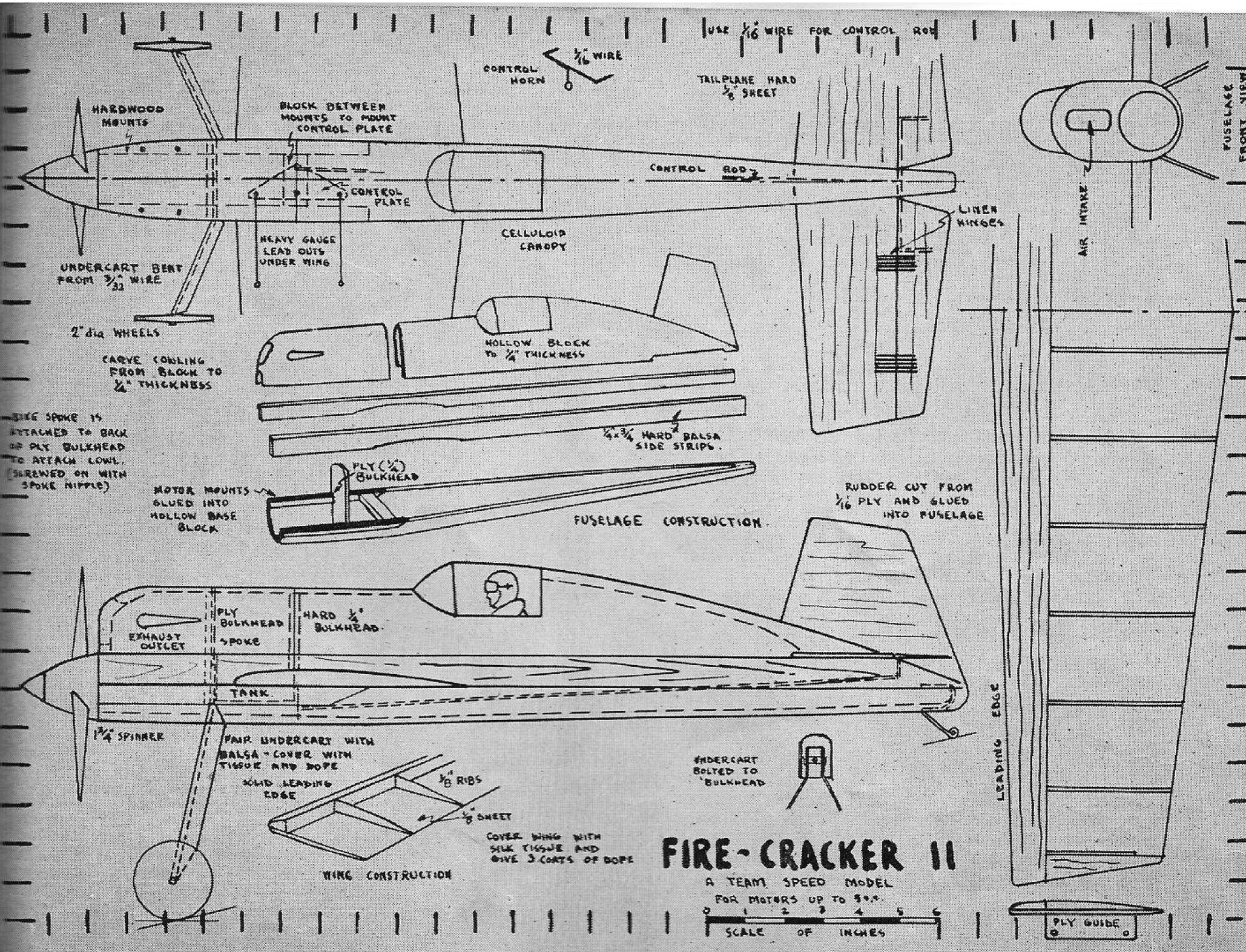
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FIRE-CRACKER II
 A TEAM SPEED MODEL
 FOR MOTORS UP TO 500
 SCALE OF INCHES

CONSTRUCTION—

Wing.—The bottom of the wing formed from $\frac{1}{8}$ " medium hard sheet. Onto this cement the leading edge— $\frac{1}{2}$ " sheet—and then the stub ribs behind it. Carve and sandpaper the leading edge to shape and then cover top of wing with medium 1-16" sheet. Sandpaper thoroughly, cover all over with rag (silk) tissue, and give three coats of dope.

Fin and Rudder.—Cut from 2 m.m. plywood. Let into fuselage and cement securely.

Tailplane (Stabiliser and elevator).—Cut these from hard stringy $\frac{1}{8}$ " sheet. Make a thorough job of the hinges for team speed models do plenty of flying. Use ample cement when fixing to fuselage, and gusset with plastic wood. Do not fix tailplane in place until control rod has been attached to elevator horn.

Fuselage.—First select a medium hard block for the bottom, carve to shape, and hollow. Cut away front to allow motor mounts to be fitted. Use several coats of cement on this job, then add the 3-16" plywood bulkhead. See plan for undercarriage installation, form U/C from 10 guage (approx. $\frac{1}{8}$ "") spring steel wire, and fix in place. The control plate must now be added, and the control rod fixed in it. The low mounting of the control plate adds to the stability of the model on the lines. Cut out the front of the wing so as the fuel tank can be mounted low enough (that is with the top of

the tank slightly below the spray bar of the motor. If a DC 350 or any other motor is to be used which has the intake on the bottom of the crankshaft housing then inverted mounting is recommended, as otherwise it is not possible to install the tank with suction feed, and gravity feed is undesirable in a team speedster. However, if care is taken it will operate quite well).

Fit tank, and wing in position. A few pins driven through wing into bottom block may be left in. Cut two $\frac{1}{4}$ " x $\frac{3}{4}$ " hard balsa sheet sides to shape and cement in place.

Complete fully the tailplane, including the 1-16" wire control horn, trim control rod to correct length, and fix to elevator control horn. Final adjustment can be had before finally fixing tailplane to fuselage, by sliding the tailplane slightly forward or backward so as when the control plate is central the elevator is neutral. When this is so drive a few pins through T/P into fuselage sides and cement well.

The top of fuselage is a straightforward carrying job. An aluminium sheet cowling may be fitted in front of the ply bulkhead if so desired. This allows more room around the motor, and offers better cooling.

Cover the entire model with rag tissue (lightweight) dope thoroughly, and colour with a good grade fuel-proofer.

Suitable motors are, E.D.346, D.C.350, Frog 500, Yulon, E.T.A. 29 etc.



(Top to bottom)---

Allan Coppock, one of S.A.'s leading Free Flight enthusiasts has developed this straightforward design over the

Sth.Aus. Associated Aeromodellers

Hon. Sec. Boyd Felstead
5 Shoreham Ave., Brighton, S.A.

Modelling here in S.A. definitely needs a shot in the arm, although it does appear that we are now slowly climbing out of the all time low experienced a couple of months ago.

From the originally anticipated 20-odd chaps we expected to make the "Nats." from here, it has now dwindled to less than half the number, and some will be more spectators than competitors.

Away from the gloomy side we see the renewed interest in stunt as a hopeful sign.

Kevin Green, Don and Dean McDonald, Niel McKellar-Stuart, Merv Robinson, Bob Thompson, and Bill Evans got together recently and mass-produced an enlarged Supa Champeen each, which along with new stunts built by Ron Mill, Bill Saville, Ivan Stacey and Bob Williams completely alters the stunt picture to that a few weeks ago. Unfortunately, but rather naturally, a few of these jobs have been spattered already, but stunt is certainly a lot brighter. Gordon Burford is the only chap here who can get through a full flight pattern at present.

Gary Cooper set a class "B" record for the state of 95.6 m.p.h. using an M.S. 29.

Vic Tulett did the same for class "C" with a speed of 102 m.p.h.

Speed has always lagged here in S.A. but the group of lads from Glenelg club have certainly stuck at it, and are now beginning to get results. One of their latest ideas, which appears as though it may pay-off, is speed-raucers. These jobs (about a 10" saucer for a 29) have a very low casualty rate and flights seen to date look promising.

Stan Grey won the State Jubilee Trophy for the best all round Free Flighter, and Peter Arnold the one for Controline.

XMAS and NEW YEAR GREETINGS

We, on behalf of the Lismore Eagles Model Flying Club and the Lismore High Fliers Model Flying Club, extend our heartiest Xmas and New Year greetings to all Aeromodellers and Model enthusiasts throughout Australia and overseas countries.

R. FOWLER,
Hon. Sec. L.E.M.F.C.
88 Bright St.,
LISMORE, 4C.

E. GANDER,
Hon. Sec. L.H.F.M.C.,
Ballina St.,
LISMORE, 4C.

past two years and we hope to publish plans in a future issue.

The dreaded war-time "STUKA" makes an interesting scale model. This one was built by John WALLAN. Before migrating to Australia, John was an active member of the Crewe M.A.C.

The "Hyphen" first built by Dean McDonald for the 50 "Nats" has been flown and modified over the past two years, resulting in a really "hot" job.

These articles will cover Design, Building, Testing, and Flying Hints, as well as Free Flight Trends, in Australia and Overseas

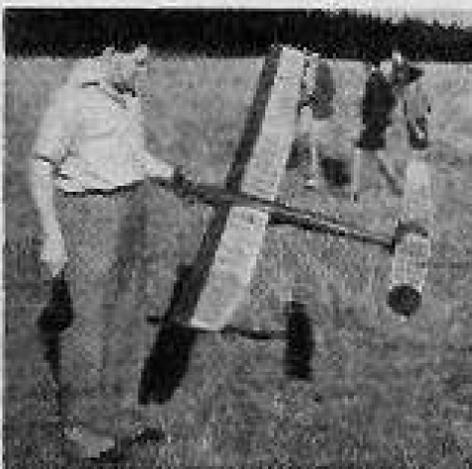
Some comments on Free Flight by Carl Goldberg

Undercarriages, although a simple item, are very often rather unsatisfactory arrangements, particularly on the larger models.

I have a most definite preference for the mono-wheel gear situated as far forward in the nose of the fuselage as possible, this gives, in my opinion, the most efficient service, both aerodynamically and mechanically. Of course in some models two wheel or even three wheel set-up is desired to suit the particular service the model is to perform.

When the undercarriage is kept well forward of the centre of gravity, or more important forward of the centre of lateral area (side area) the model has a weather vane effect which tends to keep it turned into wind during take off.

For contest duration models make sure that the undercarriage is long enough to give the flying surfaces a reasonable angle of attack when resting on the ground.



- ★ Trends in
- ★ Free Flight
- ★ Comments



- ★ Hints on
- ★ Construction
- ★ Flying
- ★ Design

Too low a gear will delay take-off, and as our rules read that timing will commence immediately the model is released you want to get your model into the air as quickly as possible.

Choose spring steel wire of heavy gauge to support the model. Providing good quality wire is used the following thicknesses are suggested as a guide. Models up to 6 ounces 16 gu., 12 ounces 14 gu., 20 ounces 12 gu., 40 ounces 10 gu. These sizes are for the single leg mono-wheel type, and when two wheel gear is to be used, wire can be stepped down one size in thickness.

Structural failure in wings is probably more prevalent than in any other component. This is rather natural because of their very nature, but with a little more care in construction, and choice of the actual type of structure many of these failures can be prevented. All wingspar joins must be gusseted either with millimeter plywood, or when it is possible to overlap the spars, hard balsa can be used as gussets. Coat these gussets, and spars about them, with several coats of cement.

Choose hard, long-grained wood for all spars, which should fit snugly in the rib notches, but not too tight,

as to force the spars into the notches may distort the ribs. Use at least three coats of cement on all junctions throughout wing.

Wood covering adds considerable strength, but is not favoured by some modellers, who claim it makes a too rigid structure, which tends to shatter rather than absorb stresses on impact. This is partly true although the advantages of sheet covering appear to outweigh any disadvantages.

Some comments have been noticed in recent American magazines, and as they should be particularly interesting to free flight power enthusiasts they are reproduced in this article.

In a recent issue of Model Airplane News, Editor, Bill Winter says—

"For 14 straight Saturdays, met Val Luce, Pete Andrews and Johnny Zaic at the old Curtiss airport. Pete and Johnny have been running a race in thin wings. Johnny is down to $\frac{1}{2}$ inch ribs on a 160 square inch, .049 Torp job. **BOTH GO IN FOR LOW PYLONS. A SCREAMING SHALLOW ANGLE CLIMB PUTS THESE SHIPS SO HIGH THEY WOULD BE LOST ON TWO OUT OF THREE FLIGHTS EXCEPT FOR THE DETHERMALIZERS.**"

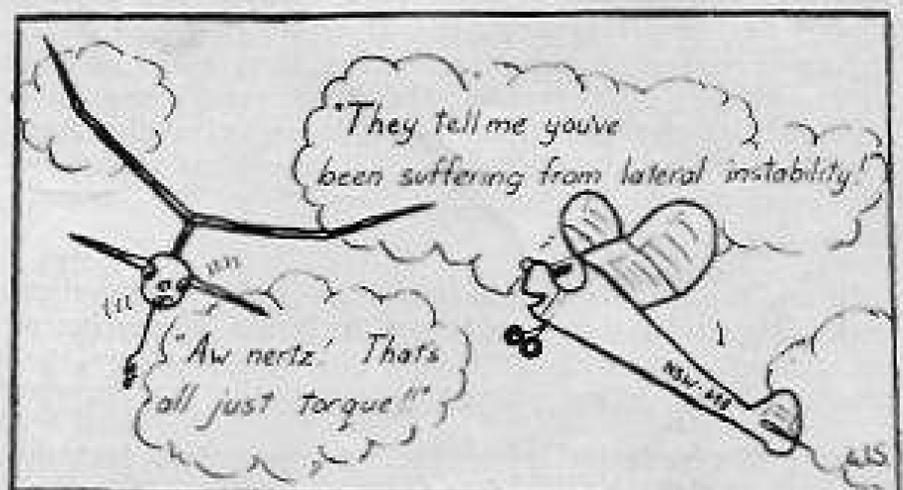
For quite a time I have advocated this arrangement in favour of the high angle spiral climbs, particularly with the light wing loading jobs such as the Supa Hatchet, and the Hyphen. (for class "B" motors we are now flying the Hyphen with an enlarged wing of approximately 850 sq. in. and the Supa Hatchet 512 sq. in. performs with a hot 2.5 c.c.)

GONE TO EARTH! ?

By continual ramming for large wing areas giving light wing loadings, but high power loadings is not only my own idea of making free flight power more successful in the hands of the average builder. Carl Goldberg, undoubtedly one of the world's really "Know How" boys in free flight has the following to say—

"Power loadings should be at least 200 ounces per cubic inch," said Carl. "That means my Cumulus would have an .09, not an 19." That, we submit, would be a nice airplane. It could still hook thermals. Guys would have to make better airplanes to win contests. Kids would fly with less discouragement. Two hundred ounces is nothing to scream about. (Note: This is over 12 ozs. per c.c.—Ed.)

(continued on page 26)





Asymmetrical Stability For Stunt!

Explained by the originator
HAROLD de BOLT

Asymmetrical stability is an entirely new development in stunt model design. It is a means by which it becomes comparatively simple to control the stability of a stunt model during all manoeuvres. It provides for a much lighter model with considerably less drag which results in far greater performance. The greater performance is obtained by the fact that you can use a much larger model with the same amount of power thus enhancing the manoeuvrability without sacrificing the model's forward speed.

In addition it provides such extreme stability that these really large models are no longer bothered to any extent by strong winds such as is the case when using other stunt model stability gadgets.

From the technical view-point Asymmetrical Stability is very simple and its advantages are very easy to see.

What actually has been done is that the fuselage is located a certain distance outboard on the wing from the control pivot. This outboard location of the fuselage gives the illusion of the usual "offset" wing type of stability, naturally it does acquire the advantages of having greater lift on the inboard wing. However, here is where the resemblance ends for when it is known that the model actually flies on the control pivot you can realise that in reality the wing is not offset as far as design force set ups are concerned. Its great advantage comes from the fact that by offsetting the fuselage the desirable effect created by wing tip "weight" is obtained without any of the ill effects. Actually as far as balance is concerned a condition is created that would be the equivalent of several times the normal amount of wing weight and yet none has been added, actually the models weight has been reduced as this wing weight has been eliminated. By eliminating this weight certain inertias that are sometimes developed by it in violent manoeuvres are also done away with.

It has been found that this Asymmetrical Stability is so potent a factor that no other stability gadgets of any kind are required. Thus by eliminating wing weight the models wing loading is lowered. Without any offset rudder or offset engine needed to hold the model out the drag of the model is greatly reduced resulting in a much cleaner model. Normal size test models when changed over to this force set up proved far too fast for comfortable manoeuvring and larger size models with their inherently greater performance became feasible. A class "B" stunt model of more than double the normal size has been tested to see just how far this thing could go and the results were extremely good, so you see the end has yet to be found.

Gone to Earth (cont.)

Carl Goldberg, originally an indoor champ, designed some of the most outstanding power models in aeromodelling, the Valkyrie, Zipper, Sailplane and the Cumulus. The Sailplane designed in the early war years is still one of the top performers in the large class models in America.

Carl has always been opposed to the low power loadings—or high power weight ratio.

Commenting further Bill Winter says—

Air-plane-wise there was little new this year. The only thing out of place were two long Wakefield jobs by Hank Cole and Joe Bilgri, each of which snagged a first, thereby adding fuel to this winter's bull sessions about how to beat the Swedes. Free flight was more pointless than usual, due to the king size morning thermals that set down ships as far as 73 miles away. Rootin', tootin' Zeke, Hogans and Fubars ruled the roost—you haven't lived until you've put up a Zeke with one of those new hysterical .19's, and watched it climb like a skyrocket with half a mind—but only half mind you, the nice thing about a Zeke—to come back and clobber the pilot! The best way to describe the wild free flight events is to say that one went to the speed and stunt events to watch in safety and dignified calm.

Rules will certainly be one of the headaches for the State representatives at this year's "National Conference," so let us think pretty deeply on the question of future free fliers.

Rules must be framed to the advantage of the majority, not to assist the extreme expert.

Queensland Notes

From Arthur Gorrie

Sec. N.M.A.A.
604 Stanley St., Brisbane

Twelve members of the N.M.A.A. will be going to Camden for the Nats as a direct result of the enthusiasm for the Nats instilled into members.

They are Sam Holmes, Frank Parish, Noel Phillips, Maurice Bradney, Roger Nielson, Burton Searle, Col Somers, Arthur Gorrie, Tony Paul, Tim Cassidy, Bob Turner and John Kelly.

Don Adams, eminent Queensland Radio Control enthusiast, is almost certain to be there, providing bushfires and other hazards of drought do not prevent him. Don will make a total of 13 N.M.A.A. members attending. Most N.M.A.A. strength will be in Free Flight.

Pending leave situation in Amberley Air Force Station a further three stunt members of the N.M.A.A. may make the "Big Show."

We are giving a demonstration at their station. The N.M.A.A. versus the R.A.A.F. and this may have some effect on their being able to go. This will then make N.M.A.A. attendance 16. We seem to be the most enthusiastic about the Nats up here.

Young Ken Castle of the Stardusters is a good little stunter, and Freddie Burgess of the same club will probably have a go at Speed, Team and Stunt. Fred won the 1950 Speed Champs at Archerfield. Col Somers won the 1951 at Mitchelton with the M.S., which will be coming to Sydney. We will be leaving Brisbane on the 27th December by train. Much frantic building is going on up here and midnight and worse oil is being used.

Six members of the N.M.A.A. gave a demonstration at Rosewood, about forty miles from Brisbane, on the 24th November. A demonstration will be given on Wednesday night, 5th December, in a cavalcade of sport and on the 9th December a big demo. at Amberley. Don Adams will be down with his Radio job — the new one — 9 ft. 4 in. Hoosier Hotshot. I don't think there will be much official flying during the rest of December.

Sam Holmes N.M.A.A. 13 is doing alright for himself in the Free Flight Elimination Contests, gaining 8 points by having been placed three times. He has a big red pacer powered by a Frog 500, which he flies to death after the contest is over. The old pacer is up and down like an elevator all afternoon, with Sam streaking (sorry) running across the field after it.

Bob Turner, N.M.A.A. 10, is equal points scored with two others (five points). Looks like a tussle for third and fourth in the Elimination results. Bob loves sail planes and has a passion for a design known as the Turner Special. He has had some excellent flights with this model. [Turner Special! ! Well, well, shades of Max Bassett, K.G.'s and the old Brown bad days.—Ed.]

Maurice Bradney, N.M.A.A. 130, also has five points, having won the first of the Elimination Contests with a scaled down jaded maid powered by a Javelin. Should see him soon with a new team racer.

Noel Phillips, N.M.A.A. 17, built himself a new scaled-up President and planted a Mills 1.3 on the nose and won the No. 4 Free Flight Power Elimination Contest. His best ratio of 13.7 on a 19.5 cc. motor run was a fair effort.

(Top to bottom)—

Col Somers with M.S. 29 powered "Lindy," Queensland Stunt Champ. Joe Sims, who with his Frog 500 "Squaw," should prove to be an eye opener to the lads from down South if Joe makes the "Nats." Des Slattery — wearing shorts — tries R.O.W. with his float-equipped "Squaw." Model flies really well, but manocuvres are limited to wing-overs and in-side loops.

Bob Turner — with his Frog 150 powered "Tomboy" 36 in. wing span, equipped with floats. Model leaves the water almost instantly.





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Queensland News (cont.)

RESULTS OF THE 1951 QUEENSLAND CONTROLINE CHAMPIONSHIPS

Senior Stunt.—1st: Joe Sims, of Dalby M.A.C., flying a Frog 500 powered "Squaw" type. (Joe also won this event last year). 2nd: Jack Richters, N.M.A.A.

Intermediate Stunt.—Des Slattery (Frog 500 "Squaw"), N.M.A.A.

C./L. Scale.—Chas Fleming, of Maryborough M.A.C. (Amco powered S.E. 5).

Junior Stunt.—Ken Castle, Stardusters M.A.C. (Frog 500 "Squaw").

AI and All Team Speed.—Norm de Chastel, Stardusters M.A.C.

B Team Speed.—F. Burgess — Pilot, Geoff Smith.

Des Slattery, flying Col Somers "Lindy," established a new Queensland class "B" speed record of 97.8 m.p.h., using an MS29 for power and flying on stranded line.

—Notes from Arthur Gorrie.

WHAT ABOUT SOME NOTES FROM OTHER QUEENSLAND CLUBS? — Ed.

A team of ten fliers from the Newtown Model Aeronautical Association visited Caboolture, about 25 miles from Brisbane, and gave a demonstration at the Showgrounds as part of the Ambulance-Returned Soldiers Sporting Carnival on the King's Birthday. The organising Secretary did a mighty good job by the aeromodellers and they reckon Caboolture is all right.

W.A. News (Cont.)

During the day Ric. Dobbs rolled out his Dyna-jet powered trainer. The jet started very well, but unfortunately the model had built-in instability. After the prang, I noticed everyone's hair had turned a lighter shade! He tells me he is bringing back a mate for his Dyna-jet for a twin jet powered model! It's a quiet town!

All events were not concluded on this day, as the sun sank rather swiftly.

The W.A.M.A.A. was fortunate in obtaining a grant of £25 for trophies from the Jubilee Sporting Committee.

With the idea of holding the Nationals in W.A. eventually, we have started a "Nationals Fund," and have other organizations under way.

R/C is definitely on the way in, with at least half-a-dozen displaying an active interest in the mysteries of this branch. Heated arguments as to how many milliamps make a kilo-gramme, etc., etc!

ROD ASHTON

OFFICIAL RESULTS 1951 JUBILEE W.A. CHAMPIONSHIPS

SENIOR STUNT—

First: J. SHAW
Second: R. ASHTON
Third: R. SHERBERN

JUNIOR STUNT—

First: D. AUSTIN
Second: T. HOWES
Third: R. WISHART

TEAM RACE CLASS "B"—

First: N. MITCHELL
Second: R. ASHTON
Third: A. CUNNINGHAM

(Other C/L events not concluded).

SENIOR SAILPLANE—

Best Flight so far:
A. SMITH — ½ min. 38 sec.

CLASS "A" SPEED—

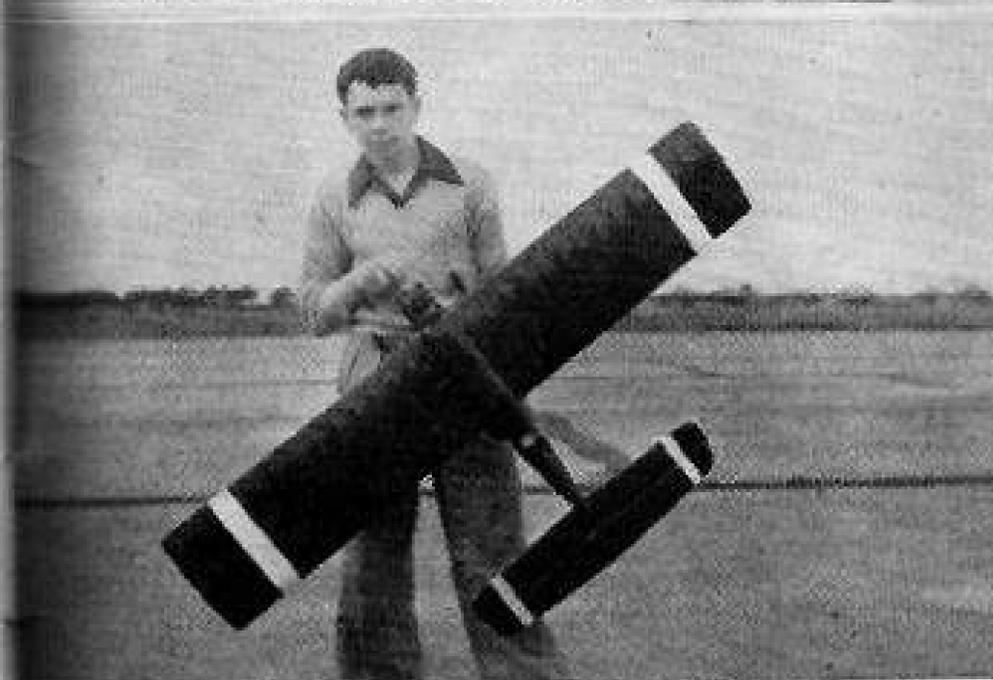
Top 3 best times so far are:—

D. HALL — 76 m.p.h. (Elfin 1.49)

C. PEARCE — 60.04 m.p.h.

FREE FLIGHT "B"—

Best time so far:—
G. PAPPAS — 5 mins. (max.)



(Top to bottom)—
Diminutive Don McLaren (5 ft.) with his 4 ft. 6 in. stunter which he flew to first place in 1951 Vic. Junior Stunt Champs.

Victorian Model Aeronautical Ass.

Hon. Sec.: R. A. Rose,
Railway Terrace, Laverton, Victoria

Notes from Monty "Zilch" Tyrrell

THE V.M.A.A. CONTROLINE CHAMPIONSHIPS

(held on November 3 and 4)

The speed events and team speed eliminations were held on the Saturday, junior and senior stunt, scale and team speed final on the Sunday.

At this juncture we would like to say that the V.M.A.A. is disappointed that no interstate boys came over. The controline events were all held on a week-end expressly for this purpose as many Sydney and some Adelaide bods made a lot of enquiries, but weren't seen.

Anyway the speed was marred by a howling gale which didn't help the team racers any either. The day was hot and sunny but hopeless. Most of the speed merchants wiped off their models in the gale and the speeds were nothing marvellous due to the gale aforesaid. Herb Henke wiped off his record-breakers in quick succession, one of which did an unofficial 140 m.p.h. the previous Sunday. Herb's tragedy left the Class C event a clear go for Max Wright whose best effort was 109 m.p.h. which was well below Max's usual standard of the 120's, but good considering the conditions.

The Class B merchants were all belting out over the 100 m.p.h. with the Dooling and MS 29's, and this event was won by Lindsay Willis with 112.15 m.p.h., who flew a Dooling 29 Speedwagon. None of the smaller classes and two of the jets got officials in and in some cases even getaways in the gale. Jack Black wiped off his new jet job and couldn't get his Eta 29 job off at all due to a blown motor.

Crashes were less in the team events, eliminations and the final was flown off in Class B the next day. The Class 1/4A and C's went straight thru 'cos of withdrawals due to the gale no doubt. The 1/4A was won by Col and Mac Munro with their E.D. 246 Competitor with Ray Egan-Geoff. Tuck second with an Elfin 249. Jack Black-John Lamont took the Class C with a Jay Bee 60 and Monty Tyrrell-John Breahant second with an Orwick 64.

Sunday was not too bad for flying. The day was hot with a moderate breeze. The Class B finalists were Chris. Gallagher, Geoff. Glass, Charlie Clark, Ivan Paulke and Noell Fell. The sixth finalist, Colin Hearn, had to withdraw unfortunately.

The five lined up and got off but at the half-way mark it was evident it would be a touch and go between Glass and Gallagher as by that time Charlie Clarke had wrecked his model and Paulke and Fell were having long stops in the pits due to motor trouble. However, Geoff. Glass came in the eventual winner by fifteen laps as Gallagher had to land. Geoff's Frog 500 job was clocked at 81 m.p.h. average during the race.

Don again with Monty Tyrrell. Shown are their Orwick stunt jobs used at the Vic. Champs and now on ice for "Nats."

1950 Vic. Junior Stunt and 1951 Nats Intermediate Stunt champ., Derry Brown, with his McCoy 60 ship. Derry's next ship will have Jack Black's up-right Jay Bee 60 ignition motor up front and is a Vic. hope for the Nats Junior event.

STOP PRESS: 1951 Model Car Championships

The Victorian Miniature Race Car Club held the Australian Championships for 1951 on their 70 ft. track, located in Alexander Avenue, near Como Park, Melbourne, on 10th November, 1951. Early runs were marred by rain, but the afternoon was dry with a gusty wind which slowed the fast cars considerably. Despite the conditions, records were raised in the Conventional and Mite classes. The electric timer was checked by hand watches operated by aero enthusiast, Monty Tyrrell, with Norm Bell in the background. It proved to be a day out for the Melbourne boys, as the Sydney cars failed to reproduce the terrific speeds recorded in practice on their home track. The meeting operated under sanction from the Miniature Race Car Association of Australia, Sydney.

AUSTRALIAN CHAMPIONSHIPS, 1951 ————— V.M.R.C.C. TRACK, COMO PARK — 10/11/51

PROTOTYPE OR CONVENTIONAL CLASS

Pos.	Competitor	No.	Car	Engine	Speed	Remarks
1	E. PRICE	39	Challenger	ILG-Dooling	117.11 *	New Record Claimed.
2	W. McKINNON	25	Arrow	Dooling	113.39	New South Wales.
3	W. SINCLAIR	12	Own	Dooling	108.27	New South Wales.
	R.M.C.C.	4	Arrow	Dooling		Riverside Model Car Club
8	B. BEASY	16	Price	Price	98.63 *	Won "Home Built Trophy"

SPUR CLASS

1	R.M.C.C.	11	McCoy	Dooling	101.41
2	D. ROWAN	11	Own	McCoy	91.72
3	W. CARLTON	10	Supersonic	Hornet	87.80

PROTO — SPUR CLASS

1	W. CARLTON	10	Supersonic	Hornet	89.44
2	K. DEGENHARDT	3	Own	Marbro	59.01

MITE CLASS

1	R.M.C.C.	11	McCoy	McCoy	80.89 *	New Record Claimed
2	R.M.C.C.	56	McCoy	McCoy	64.25	
3	R.M.C.C.	8	McCoy	McCoy	60.50	
4	R.M.C.C.	4	McCoy	McCoy	58.59	

V.M.A.A. 1951 Controline Championships (cont.)

The flying scale event was a flop as only two models turned up out of a dozen or so entries and the one that flew got it but even so it would have taken a lot of beating. It was a very pretty Boeing F4B-4 painted in the real pre-war colors of the U.S.S. Ranger. A Frog 500 was up front. The other job was a Nieuport 17 which wasn't flown due to motor trouble I believe. Probably the previous day's gale discouraged a lot of guys from even turning up and they couldn't be blamed.

The senior and junior stunt events were run off without incident. Ivan Paulke was the unluckiest contestant as he put his huge Forster 99 (16 c.c.) powered ship in and wrecked the engine.

At the end of the first round Tony Farran was in front with an Atwood championed Go-Devil with Geoff Tuck doing well with an original biplane OS29 powered. Last year's winner John Wilson was having trouble with his Super Cyclone at this stage.

The second round ran off smoothly and all the contestants came through without incident except the poor aforementioned Ivan and another Geelong bod who blew up when the motor cut when it shouldn't have.

The eventual results were:

1st—M. Tyrrell (Anderson Spitfire)	282
2nd—Tony Farran (Atwood Champ.)	277
3rd—John Wilson (Super Cyclone)	262

The junior fliers were all pretty high standard. Don McLaren was flying a huge hi-speed job that he could hardly hold and due to a motor failure just got in his first flight. Barry Angus also flew a hi-speed Frog 500 ship like a Lil Zilch. In fact, I'd say their jobs were the fastest on the field except for Geoff Glass's 81 m.p.h. team ship and not far behind it. Barry turned on the most spectacular display of flying of the day with his wheel bouncing and rudder brushings and we don't think he knew what it was all about as the plane was way ahead of him. He got the most applause, though, as his flights really got the crowd in.

The results finished up:—

1st—Don McLaren (Anderson Spitfire).

2nd—Graham Rhodes (Elfin).

3rd—Garry Angus (Frog 500).

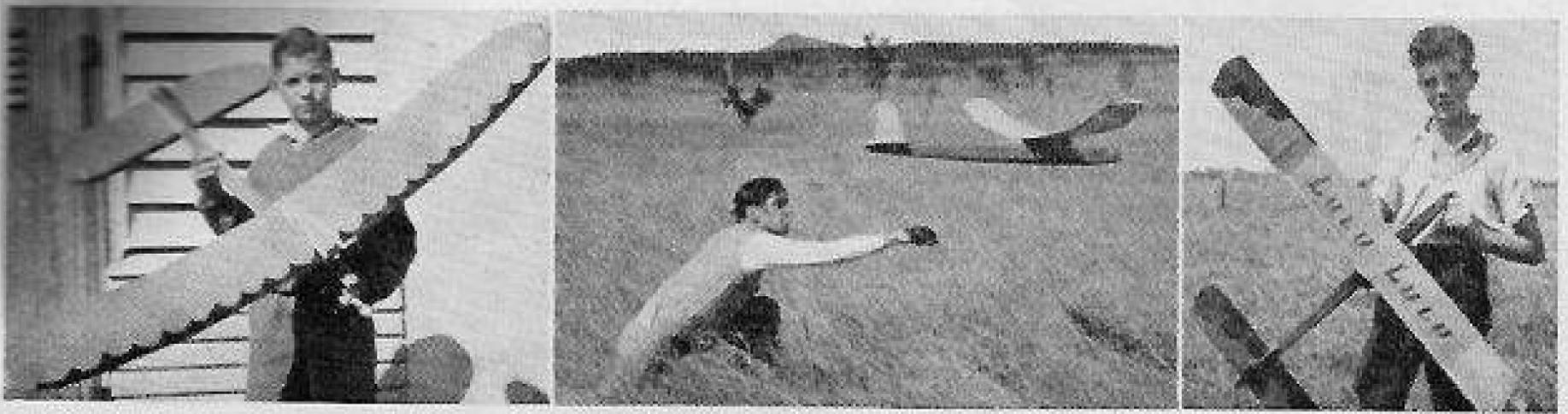
Had there been an open prize Don would have taken it as his points bettered the seniors. The Anderson Spitfires had a day out. I don't know what happened to the diesels so favoured by some. (Who dropped that brick?) Not mentioning names.

The day concluded with a presentation feed at which the prizes for all the V.M.A.A. comps. held throughout the year were handed out. On the points given for placings in these comps, the champion of champions was Jim Sinclair of the Windsor Club, an ardent free-flight man, who needed a truck to take home his rubber glider, etc., trophies. Jim's an enthusiastic member of the Windsor Club, and one of the real hard workers for the V.M.A.A.

So wound up the programme for the year and nought at all is scheduled till January to give the boys a free go for Nationals preparations and in the other cases a rest and Sunday home with the family for a change. Next year's programme will not be as full and many open free flight contests are scheduled to find out the popularity of these events against weight rule and area etc. contests. The entry list will tell if the weather favours us. By the way many of the team speed boys here favour dropping the one minute starting limit and taking off as you start to replace it. Mass take-offs are rarely achieved and primarily for spectators and the race isn't being run for their benefit, anyway. Take-off as you start would be safer for the models and mechanics on the front planes. Would also save from burning up motors waiting for others to start etc. If you start quick that's good 'cos that's the idea of the race in general is the argument and why should you have to wait for the less fortunates. You don't have to in pit stops. What do the other States think?

That's about the lot for now. All the best,

—MONTY TYRRELL.



(Left): Warren Williams, A.M.H. "Pippiriki" F/F. (Centre): Bob Fowler, test gliding his "Mexican" sailplane which gained third place in the recent Queensland Champs. Another competent junior, Keven Clark, with his "Lulu" sailplane.

NEWS OF MODELLERS IN NORTHERN N.S.W.

LISMORE EAGLES MODEL FLYING CLUB (Secretary R. Fowler, 88 Bright Street, Lismore).

CHRIS COWEN flies both F/F and C/L models with considerable success. He is a foundation member of the club, and was an enthusiast pre-war. His Super Champen powered by a Frog 500, flies well, and shows excellent workmanship. Married with two children, always keen to "have a go." Chris did quite well in recent Queensland Champs.

Ian McIntyre—One of the younger members, a consistent and colourful control line flyer.

Nev Elphic—Very keen on control line. Team Racing and Speed. Always ready to get cracking in any event, which makes him a good club member.

Max Clare—Flew a Lonergan Wakefield in the Queensland Champs, placing 3rd in Open Rubber. With a little more experience Max should make this job really go. Saw him with his car glued to Allan Thomas during the Queensland Championships, perhaps after a few tips from this successful Wakefield flyer. Max also flew a Westerner, powered with a Gee Bee diesel, but the model was wrecked when the wing tore off in mid air.

LISMORE HIGH FLYERS M.F.C. (Sec. E. Gander, 213 Ballina Street, Lismore).

Warren Williams flies an A.M.H. design the "Pippiriki" which was built at the club room under the tuition of club instructors.

Brian Gander, young energetic lad tackles any type of model. Has had excellent results from a Goldberg "Cumulus" in free flight and uses a Hot Shot and "D Wagan" for control line powered with GB 50 diesel.

Jack Johnson, radio control enthusiast who knows his job. Two Rudderbugs built by the Ganders were fitted out with radio gear by Jack, and excellent results have been obtained.

John Waters, although a new member has had considerable C/L experience whilst living in Sydney.

Other members, **Laurie Johnson** and **Allan Brown** are active in the free flight field.

Ern Gander, father of Brian, spends all his time with the boys and gives all he can to help them on the way to becoming successful aeromodellers.

The High Flyers is a big club catering mostly for juniors, and is doing a mighty job. A great deal of credit must go to Mr. E. Gander, and his son for the excellent work they are doing.

FIFTH AUSTRALIAN NATIONALS Pre-Nationals Report from L. Street

15 Riverside Cres.

Marrickville.

The 5th Australian National Championships to be held at Camden Aerodrome from 29th December to 2nd January, 1952 bid fair to be the best ever. This contest has been organised with a view to providing an outlet for the creative capabilities of Australian aeromodellers, and emphasis has been placed upon the fact that the modellers are the whole show.

Everything has been done in the way of organisation which can be done within the bounds of our financial and physical abilities. Competitors will be billeted on the field and our good friends, the R.A.A.F., have agreed to provide the necessary in the way of blankets, stretchers, transport, walkie-talkie radio etc. The Civil Aviation Department has co-operated magnificently by providing the ideal site for the contest—Camden Aerodrome, situated about 38 miles from Sydney. In addition they have made the buildings on the drome available for billeting purposes. Hot showers are available, an ideal swimming site is close handy for that cool-off at the end of a hot summer flying day, and flying sites provided give an ideal choice of grass, tarmac or bare earth.

Police, ambulance, doctor and fire-fighting facilities have been catered for, and the comfort of the modeller has not been forgotten inasmuch as concerts and barbecues have been arranged for each night. A workshop

set up has been provided along with a shop which will sell anything the modellers will need from tissue to motor spare parts. The workshop will be available to all competitors and judging from past contests should receive considerable attention.

Camden Rotary Club has agreed to look after the Public side of the show such as the gate admission, car parking, soft drinks for the crowds as well as ice creams, sandwiches, etc., and as the public attendance is expected to be considerable it is hoped that as a result of Rotary's efforts, two very deserving charities, Mater Dei Children's Orphanage, and the Picton T.B. Home will benefit considerably.

Meals for the modellers will leave nothing to be desired as the caterer is one who really knows the job and has spared no pains to see that the modellers will have the best. Meals will be eaten a la R.A.A.F. style in the ex-R.A.A.F. Officers' mess.

Every possible convenience has been provided on the flying sites such as height markers for team speed, correct size pylons, stop watches, efficient judging and timing procedures, marked-off take-off areas, etc. All judges and timers will be properly equipped and have a thorough knowledge of their particular job, and each official will bear an armband with his correct designation upon it, so that a contestant will know at a glance whom to approach with queries etc. Large notice boards will be placed in prominent positions with the day's weather information available upon it and other data available and useful to the contestants.

The CHALLENGER

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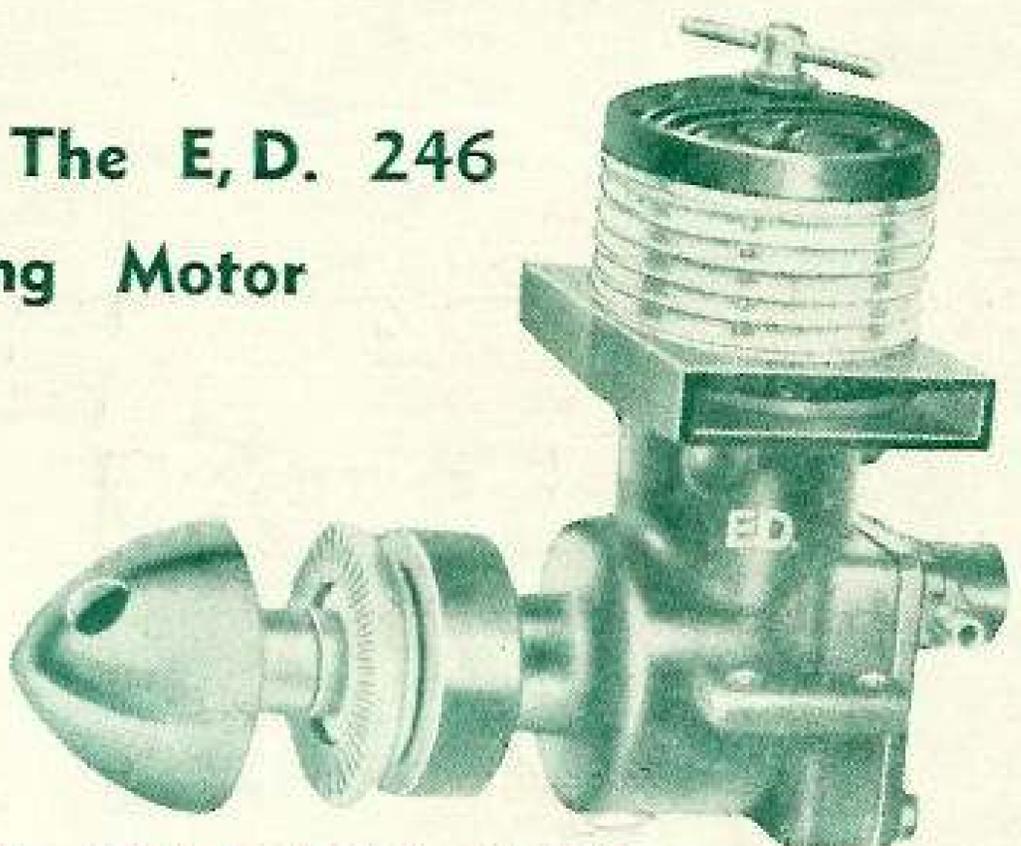
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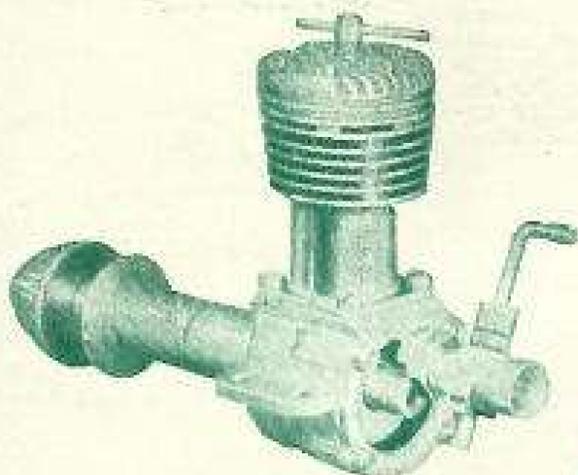
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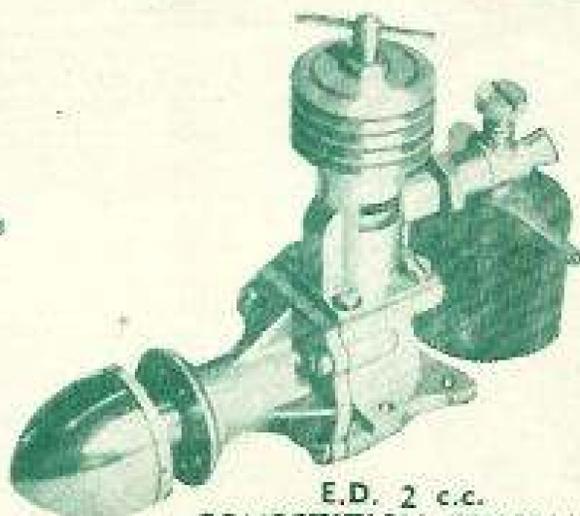
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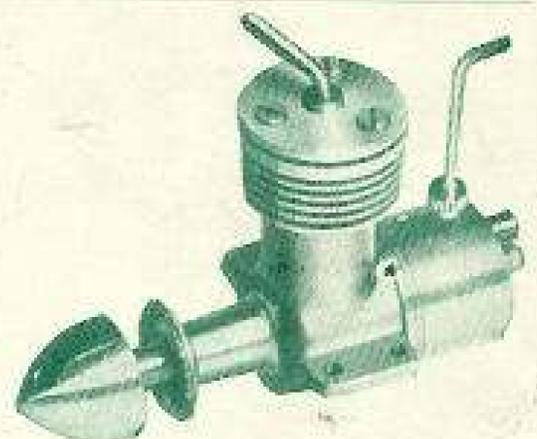
E.D. 3.46 c.c. Mark IV
SIZE: HEIGHT 3 in.; WIDTH 1 3/8 in.; LENGTH 4 1/2 in. Developing 10,000 r.p.m., the three-forty-six is one of the finest engines for control-line and stunt flying, its power is equal to any 5 c.c. on the market. Bore, 0.656 in.; stroke, 0.625 in.

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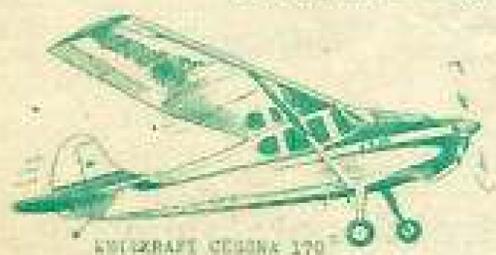


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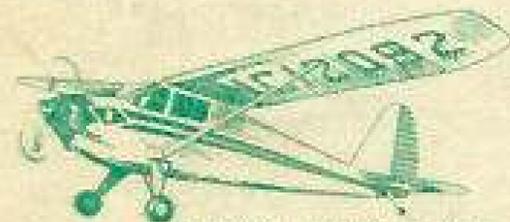
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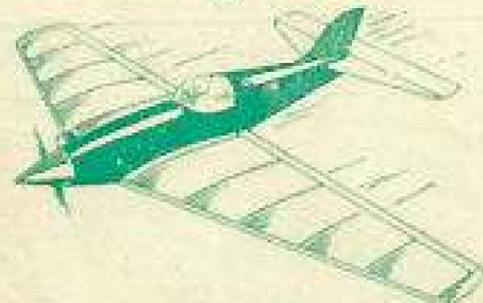
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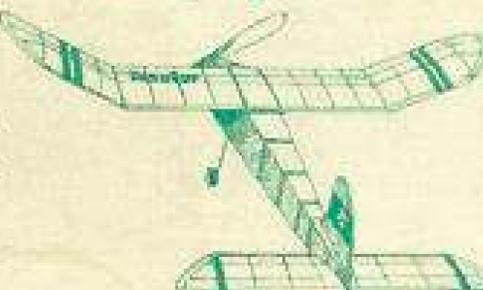
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