

**Your Full-Size  
RACER PLAN!**

**RM PLAN FEATURE**

# THE L.S. SPECIAL



History of full-size 'LS Special' makes unbelievable reading (letters to Peter M, **not** RM, thank you)! That apart, model itself is entirely genuine and a super little performer on one and a half ccs of power – or more, if you have the nerve for it! Build a few in **your** club for a spot of low-cost fun racing.



**Peter Miller discovers a  
little-known Japanese air-  
racer from the golden era  
of competitive flight.**

**F**or some reason the great American air races of the '30s did not attract much foreign participation. The French entry in 1936 is well known; Detroyat in his Caudron came over and proceeded to wipe the floor with the home team. This aircraft is well documented and arguments still rage over it.

Much less is known about the Japanese incursion into American racing in 1932; the story has been difficult to piece together and many of the facts cannot be confirmed but it does make incredible reading.

## Tapemeasure research

The first Thompson Trophy race in 1929 proved to be a very unpleasant surprise for the Army Air Force. Up until that time modified military aircraft had dominated the big races but now a civilian built Travelair Mystery Ship left them all far behind. This sounded the death knell for military participation in air racing.

The news of these events caused a considerable amount of rethinking in Japan, especially at the Department of Aircraft Design, Drain Clearance and Ditch Digging. Up until this time all efforts had been aimed at gaining knowledge of American military aircraft but now it was realised that a study of the racing aircraft could be more profitable.

Professor Kuchikuchi assembled his design team and equipped them with the latest design equipment, i.e. tape measures, rulers, pencils and paper and, most important of all, cameras, and they set off for the National Air Races where they measured and photographed every single racer.

The design that they produced looks rather like a mixture of parts from half a dozen different racers. Mid wing, single leg u/c which was retractable. The structure was wood and steel with plywood and fabric covering. The engine was an experimental aircooled eight litre (549 cu.in.) V8 with four valves per cylinder of quite

extraordinary performance although no figures have ever been released.

As a side note, the engine was rediscovered a little while ago and is now being developed with 6 valves per cylinder, triple camshafts and a supercharger for use on a new Japanese Superbike. Performance has been quoted as 0 to 60 in 1 second, top speed of 238mph but at the moment the handling is rather like a soggy dumpling. It should be on sale as soon as the speed and acceleration have been improved...

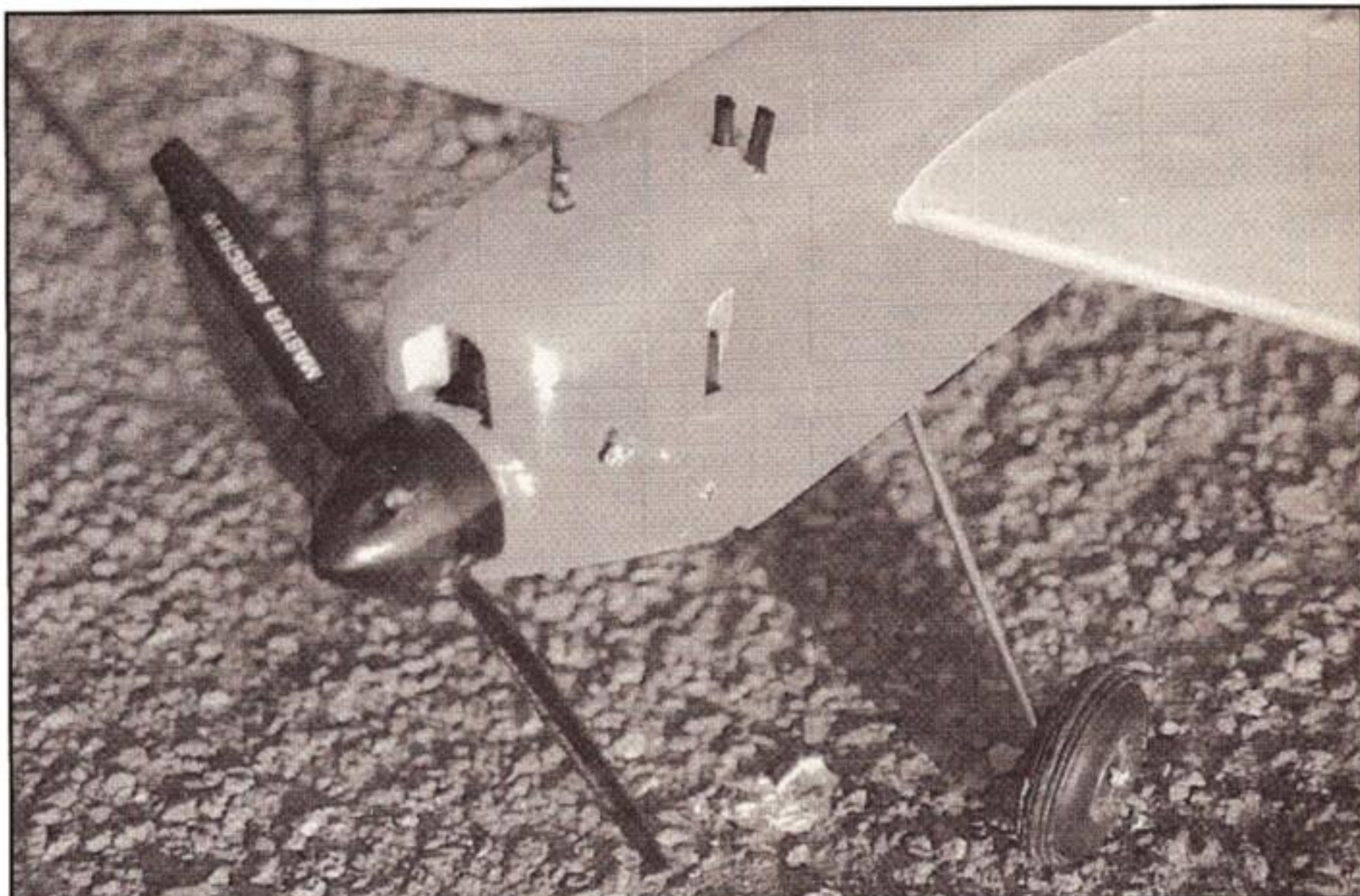
Funding for the racer was difficult to obtain but eventually the Laughing Samurai Scotch Whisky Company (Guaranteed 12 weeks old, matured in bamboo casks) agreed to pay all expenses providing the aircraft was called the Laughing Samurai Special and carried the company logo of a laughing Samurai warrior wearing the McSukiyaki tartan. The aircraft was also painted in those colours but no one can remember exactly what they were although red, yellow and 'North Atlantic Honking Green' have been quoted as being among them. This advertising had no effect on Laughing Samurai Whisky sales in the USA as prohibition was the order of the day and, anyway, it was considered safer to drink moonshine – however it did sell well as a paint stripper.

### Nippon round the pylons

Three potential pilots answered the adverts; a Sumo wrestler known as The Kyoto Jelly Baby, a Navy pilot whose name is not recorded and Akito Shito, a young man from a noble family. The Kyoto Belly Baby was eliminated at once as he weighed half as much again as the aircraft. The Navy pilot was eliminated by a particularly messy accident... the Kyoto Jelly Baby sat on him.

Akito Shito was the pilot selected to fly the L.S. Special as it was known. He was descended from a long line of Samurai warriors and was convinced that flying was the way that warriors would go to war in future. He had some peculiar ideas about this as we shall see...

The team arrived at the National Air races, smiling, helpful, polite and totally secretive and inscrutable. Members not working on the L.S. Special spent their time investigating all the other aircraft; whenever one was spoken to he would reply "Ah, so!". This became so well known that the aircraft



*Prototype has an elderly PAW 149 mounted in upright mode and neatly cowled as seen here. Anything of equivalent power will suit.*

was nicknamed the Ah,so! Special, or even the Ah, So.L.S. Special.

The actual races didn't go too well for the L.S. Special. Not that it didn't have the performance, it was the pilot who was the main trouble. For the first race Akito Shito insisted on wearing full Samurai armour; he was about to do battle and this was the way to dress. The extra weight made the L.S. Special unstable and also increased the turning radius and the aircraft was lost.

For the second race the team persuaded Akito Shito that it was not honourable to use armour when his opponents did not have any. Shito reluctantly left it off but forgot his glasses, missed the scatter pylon and spent the next half hour circling four factory chimneys.

That evening Akita Shito met an untimely end. Dressed in full armour and suffering from an overdose of Saki (kinder historians such as Shaki Yuppi state that it was carbon monoxide poisoning), he thought that a Pratt & Whitney Twin Row Wasp had made an insulting noise while starting up. Akita Shito drew his sword and went in on the attack but no-one can argue with a Twin Row Wasp armed with a Hamilton Standard prop and win.

The team collected Akita Shito up and returned home to a welcome of wild apathy.

### An appropriate memorial

As a result of this experience and realising that racing did produce new developments, a series of air races were run in Japan. Unfortunately these did not have the desired effect as each year the racers all looked very like the previous year's Thompson Trophy winner.

A trophy was made for these races; in honour of Akita Shito, it took the form of a head and shoulders statuette of the pilot. This bust was made in base metal covered in imitation gold and was known, naturally, as the Shito Bust Trophy.

### The model

There are no known drawings or photos of the L.S. Special and the model was based on a tinplate toy and a verbal description by Akita Shito's maiden aunt who volunteered as a Kamikaze pilot in the war and flew 17 missions.

### Fuselage

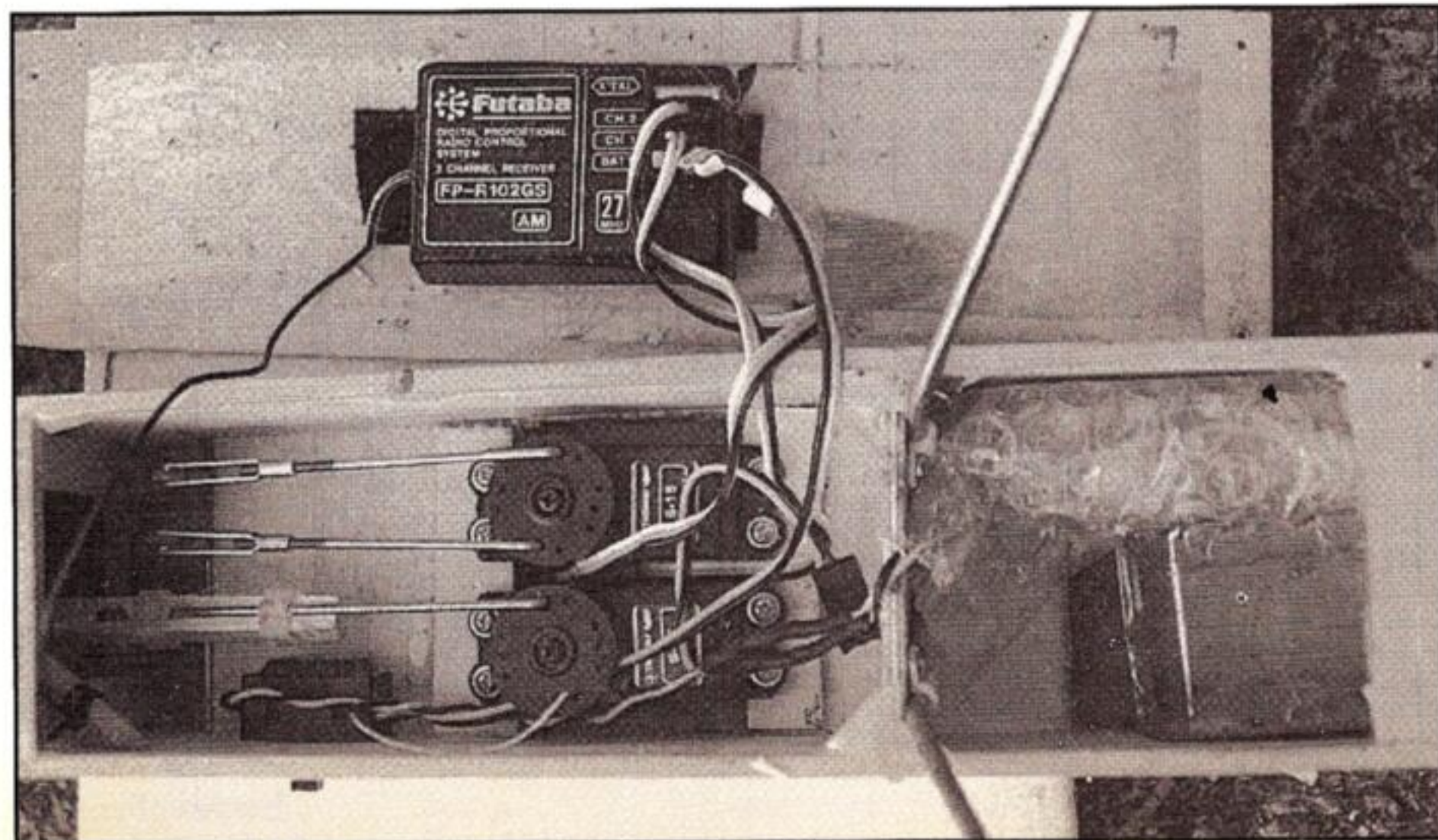
Construction is very simple being basically a box with a 1/4 sheet top and a simple headrest and fairing. Build the basic fuselage sides and formers and then install the wing temporarily, making sure that everything fits and that there is room for the controls. Remove the wing and fit the fuselage top and shape this then fit the wing permanently and fit the tail surfaces.

The aileron horns are fitted after installing the wing and are covered by the small trailing edge sections.

### The wing

The wing section has a flat bottom behind the rear spar which makes pinning down to the board easier. Mark all the rib positions on the spars and lower trailing edge sheet and pin the lower leading edge sheet, lower spar and lower t.e. sheet down and glue the ribs in position. Use a length of t.e. stock to raise the l.e. sheet to match the ribs.

When this assembly is dry, fit the top spar, t.e. spar and leave to dry. Next fit the top l.e. sheet and t.e. sheet and when the glue is dry add the leading edge. Remove



from the board and fit cap strips and centre section sheeting.

## Engine and cowling

The engine is mounted on Micro Mold 'Tee' mounts as these allow room for the silencer on the PAW 1.49; any other engine could be used. The cowl is built from 1/4 sheet sides with 1/2 sheet between them; use 3/8 or 1/2 triangular stock in the corners.

Using scrap, adjust the internal width of the cowl so that it is a close fit on the engine mounts. Next, mark a position on each side of the cowl just below the bearers and in line with the thin web on the engine mount and drill a hole and fit a short length of dowel into the hole. This is drilled in position so that a self-tapping screw will go through the dowel and then into the web on each side to retain the cowl.

The model has room for a two ounce tank or one can make up a brass or tinplate tank although this will prevent prolonged inverted flight. On the other hand, this is useful as it enables the pilot to stop the engine by flying inverted.

## Radio installation

The model is designed to take two-channel radio; I used a Futaba receiver with a couple of Thunder Tiger Servos and a 250 MHa battery but if micro radio is used, three-channels could easily be fitted. I used a



All set to race with dear old Akito Shito himself aboard!

pushrod to the elevators but a good snake would be quite satisfactory.

The Rx had some velcro stuck to it and another piece stuck to the bottom hatch; no padding has been used and this has proved quite satisfactory.

## Covering

I covered the model in red and yellow Solartex and used decals for decoration. Covering the fuselage and tail in Litespan would save weight at the rear end. As no definite description of the colours is available you can do your own thing!

## Flying

Make sure that the model balances as shown on the plan and that the control throws are as given. The aileron controls are not sensitive but the elevators are very effective. The model is very stable in flight; that is to say it will stay exactly where you

point it, so solo hand launching is quite safe although I suggest that the first time you have someone else launch in case it is wildly out of trim.

The 'L.S. Special' is aerobatic on an elderly PAW 149 but not over fast. Loops are big and smooth and rolls are reasonably axial and any combination of these two can be done with confidence. The glide is flat and fairly fast but do not be tempted to try stretching the glide or slowing it down because the model will flick roll into the ground - which doesn't do it a lot of good.

## Summary

The 'L.S. Special' is a very quick to build fun model; it is great to take along as a reserve model or for those cold days when assembling a model is painful on the fingers.

It flies nicely and looks the part in the air. Fitting a bigger engine could turn it into a real tiger...



# MILLER'S RADIO MODELS

2B THE PARADE, TATTENHAM WAY,  
BURGH HEATH, TADWORTH, SURREY  
Tel: 0737 363176

Near the Asda hypermarket 1.5 miles from Epsom Downs. Easy Parking outside and a warm welcome inside.  
**Open Monday-Saturday 9.00-5.30. Closed Thursday, Open Friday till 7.30.**

## FREE introductory FLYING LESSONS

If you are just about to start in this hobby then our FREE introductory flying lesson and setting up service will be of interest. Purchase a beginners package consisting of your choice of trainer, engine and radio and we will, in addition to checking the set up of your model arrange a one hour flight training and model trimming session on our nearby flying site with one of the country's top pilots, ANDY NICHOLLS. He is a member of The British R/C Aerobatic Team, as well as the current British GBR/CAA champion. This is in addition to all the help and advice we normally provide to newcomers to the hobby. Additional tuition arranged if required as well as help with Club contact.

### KITS

| POWER                         |         |
|-------------------------------|---------|
| Barrie Lever Warrior 40 L/W   | £49.85  |
| P/planes Cessna 40 trainer    | £59.95  |
| Modelhob Omega 52" L/W aero   | £75.00  |
| Trisha 60" Trainer            | £44.85  |
| Gangster 52" L/W aero         | £44.95  |
| Gangster 63" L/W aero         | £59.95  |
| Gangster 75" L/W aero         | £74.95  |
| Super Hots mid wing fun fly   | £60.00  |
| P/planes Robin Tiara 60"      | £68.00  |
| Topflite Thunderbolt          | £89.00  |
| Topflite Warhawk 60" scale    | £80.00  |
| Tiger Moth 66" Scale          | £89.95  |
| Flair Super Lightning aero    | £55.00  |
| Flair Triplane 73" scale      | £105.00 |
| Aeronaut Grob 109G 110" 40 4T | £185.85 |
| Dura-plane 45" 3-ch. trainer  | £49.95  |
| Telemaster 66 3/4-ch. trainer | £42.95  |
| Airsail Beaver 4-ch.          | £58.95  |
| Powerhouse 84" vintage        | £57.95  |
| Black Magic 60" vintage       | £36.95  |
| Junior 60 vintage             | £39.95  |
| Southerner 60 vintage         | £42.85  |
| Junior Scram vintage          | £27.95  |

### GLIDERS AND SAILPLANES

|                                |         |
|--------------------------------|---------|
| Starlet 66" 2-ch. slope        | £38.60  |
| Starlet 66" 3-ch. slope        | £39.95  |
| M/plex Fiesta 5-ch. 128"       | £139.95 |
| Preacherman 100" 2-ch. therm   | £40.00  |
| Foss M/Phase 61" P 2-ch. slope | £37.95  |
| ASW20BL 134"                   | £149.95 |



### SAILPLANES AND GLIDERS

| Cat 70" 2-ch.                | £42.95  |
|------------------------------|---------|
| Cat with L/W foam wings      | £52.95  |
| Stratos 100" T-tail 2-ch.    | £64.85  |
| Cosinus 80" T-tail 3-ch.     | £123.95 |
| ELECTRIC FLIGHT MODELS       |         |
| Elektro-Akrobat 4-ch.        | £184.95 |
| Sunfly 96" 4-ch. F3E         | £184.95 |
| Electro Cat 70" 2-ch.        | £58.95  |
| Sinus 72" F3E 4-ch.          | £127.95 |
| Aerofly 100" 4-ch.           | £84.95  |
| Aerofly glass fuselage only  | £74.95  |
| Aerofly spare wing set       | £39.95  |
| Electro Cat Ski set          | £12.95  |
| ELECTRIC FLIGHT ACCESSORIES  |         |
| 540 motor + 6:1 gear box     | £19.95  |
| Motor kit for Aerofly/Cat    | £23.95  |
| Aeronaut s/con 10/40V 60A    | £79.95  |
| Folding prop 9.5 x 5         | £9.32   |
| Folding prop 11 x 6.5        | £10.35  |
| Folding prop 12.5 x 6.5      | £11.22  |
| Folding prop 13.5 x 5.5      | £11.98  |
| Folding prop 14 x 8.5        | £12.55  |
| Spinner for above 40mm       | £2.59   |
| Spinner 45mm Red or White    | £2.99   |
| Prop Boss 47mm to suit above | £4.38   |
| Spinner 50mm Red or White    | £3.99   |

|                                                                                                 |        |
|-------------------------------------------------------------------------------------------------|--------|
| Prop Boss 52mm to suit above                                                                    | £4.56  |
| Prop adaptor 3.2/5/6mm                                                                          | £2.95  |
| G/plated 32A 4mm connectors                                                                     | £3.75  |
| Thermo 18 charger 4 to 18 cell from 12 volt, high temp cut off                                  | £94.95 |
| Digimeter reads 0.1 to 80 amps and 0.1 to 199.9 volts simultaneously essential for best results | £79.95 |
| Aeronaut catalogue incl. post                                                                   | £6.95  |

### MARX GT300 SERIES

| ELECTRIC MOTORS                                                      |        |
|----------------------------------------------------------------------|--------|
| Super efficient. S.A.E. for details. 9, 12 or 18 volt nominal rating |        |
| 80/85% efficient. 250/300w output. Geared unit 4:1, 5:1, 6:1         | £74.95 |
| Direct drive (320 gram)                                              | £65.45 |
| Fast charge cells for electric flight                                |        |
| 1600 m/A Sub C tagged cell                                           | £3.30  |
| Welded packs to you spec/cell                                        | £3.40  |
| Electric flight s/w BEC 30A                                          | £29.95 |

### MISCELLANEOUS

|                              |        |
|------------------------------|--------|
| Engine test stand            | £9.95  |
| Recoil fuel tubing           | £3.95  |
| Presto glow plug connector   | £3.45  |
| Presto plug plus kit         | £7.95  |
| O.S. silencer mute kit 35/40 | £7.75  |
| O.S. silencer mute kit 25/30 | £6.61  |
| 2 way fuel pump for petrol   | £32.95 |
| Dubro hand fuel pump, glow   | £11.95 |

### BOOKS

|                                   |        |
|-----------------------------------|--------|
| Flying R/C Aerobatics             | £5.95  |
| Model Aircraft Aerodynamics       | £9.95  |
| Model Airplane Building           | £7.95  |
| Operating R/C engines             | £4.95  |
| Build & Fly R/C Aircraft          | £6.95  |
| Model Flight (explained)          | £6.95  |
| R/C Giant Scale Aeroplanes        | £9.95  |
| R/C Building from Plans           | £4.95  |
| R/C Installing R/C equipment      | £4.95  |
| R/C Covering Model Aircraft       | £4.95  |
| R/C Slope Soaring                 | £10.95 |
| R/C Thermal Soaring               | £12.95 |
| Setting up R/C Helicopters        | £4.95  |
| R/C Helicopter Models             | £5.95  |
| Flying R/C Helicopters            | £7.95  |
| Moulding & G/Fibre Technique      | £4.95  |
| Basic R/C flying                  | £4.95  |
| Boddington R/C Primer             | £5.95  |
| R/C Gliding                       | £8.95  |
| Airbrush and Spraying Manual      | £7.95  |
| Build and Fly Electric A/craft    | £8.45  |
| Introduction Electric Flight      | £6.95  |
| Four Stroke Handbook              | £5.95  |
| S.A.E. for full descriptive list. |        |

### MAIL AND TELEPHONE ORDERS

Same day despatch of all stock goods. Please add £2.50 on Engines, Radios & Kits. All other items £1.00. Access and Visa welcome. Export less 13% VAT. Mail at cost. E.&O.E. Prices ruling at 2.4.90.

