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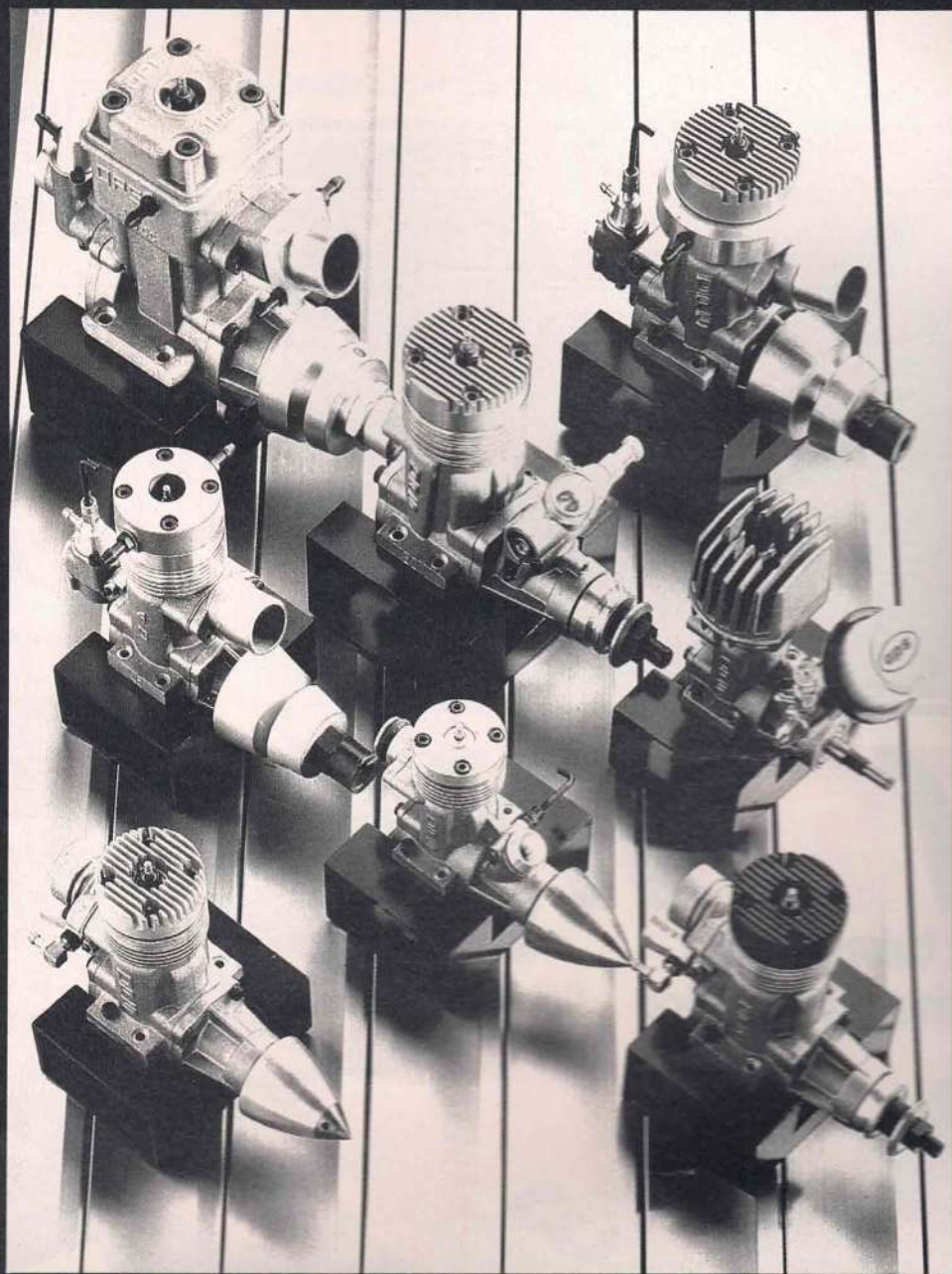
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Model Cars Monthly



Cover
Action all the way with this month's front cover showing the new Tamiya 'Hotshot.' The inset photo was taken by Bill Burkinshaw during our test run. The main image is taken from the glorious box art.

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ABC

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Model Cars Monthly

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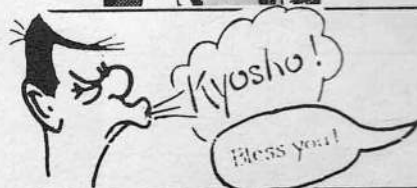
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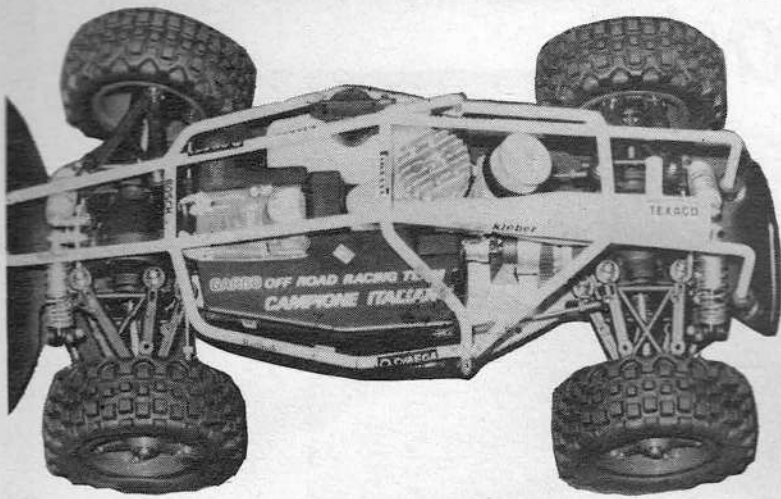
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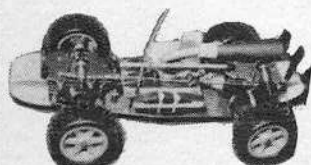
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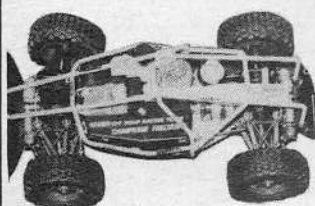
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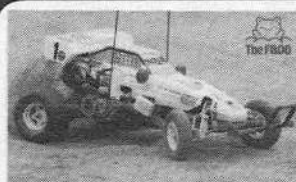
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Seen and Heard

John goes for the big time

Two years ago we lost one of our kit review contributors John Glen when he dropped out of the R/C car racing. John was a pretty man 1/12th circuit racer, reaching National A-finals against the likes of Neal Francis, Bill Maisey and the rest.

Obviously his brief touch with 1/8th circuit racing gave him the appetite for the real thing as John is seriously contending two major National Championships in Formula Ford 1600 this year. John's car is the *Van Dieman-Scholar RF84* prepared by *Pine City Racing* with sponsorship from *Photocom* of Northampton, suppliers of photocopying equipment and micro computers.

We wish him well.

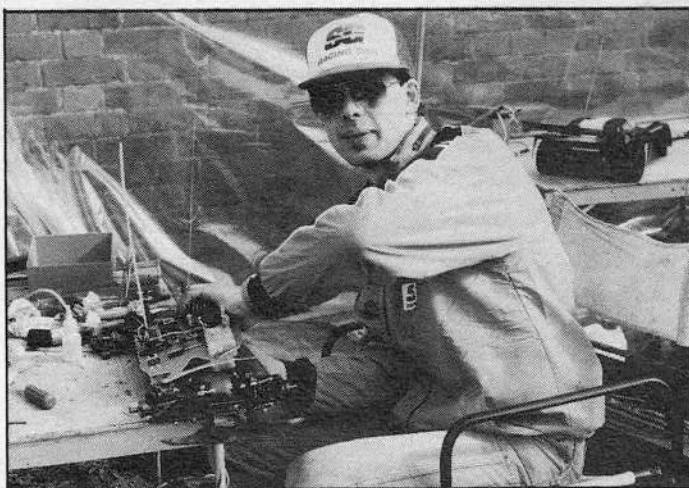


Strauss moves from SG to Serpent

Colin Strauss, 1984 *PB Racing Products* 1/8th scale circuit racing team driver and 'Nova' motor pod tester in chief has forfeited his 1985 contract with *Phil Greeno Models* and *SG* for a

private drive of the 4WD *Serpent* 'Quattro.'

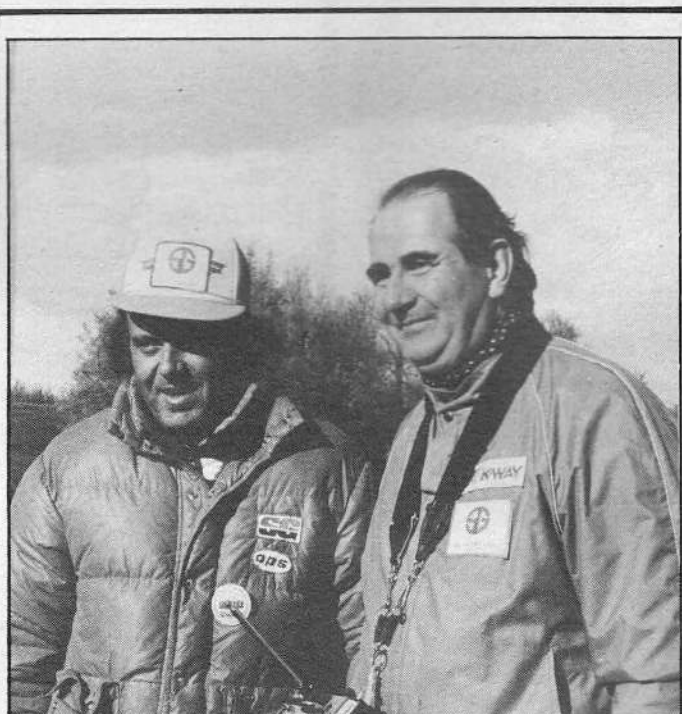
One can only wonder at Colin's reasons for giving back a free car and spending £300 plus of his own money at *Serpent* importers, *Elite Models* of Mansfield.



Parma drivers are slippery customers

Aerosol cans of *Radio Spares* silicone grease are to be noticed amongst the spares boxes of the *Parma/Hirobo* 1/10th scale team buggy drivers *George Land*, *Pete Stevens* and *Richard Delves*. Even more curious is why doesn't

the mud stick to their tyres? Simple, combine the two and you have the 1/10th Off-Road equivalent to tyre additives. Apart from spraying their tyres with silicone grease the underside of the chassis also gets a coating. Makes it slip through the grass easier.



Frenchman wins European Championship for SG Racing of Italy

The European 1/8th scale circuit racing Saloon championships was won by *Philip Collet* of France driving the *SG* 'Columbia MK4WD.'

For 45 minutes around the *Besancon* circuit *Collett* was chased by the flying *Serpent* 4WD of *Rody Roem* to finish seconds ahead. Italian *SG* driver *Guilio Gherzi* was third, British drivers *Phil Hague* (*Serpent* 4WD) and *Paul Pagdin* (*PB* 4WD) were 4th and 5th respectively.



'Dobbo' is Eurochamp at last

Andy 'Dobbo' Dobson at the fourth time of trying finally made it to the winners' rostrum at the 1/12th circuit racing European Championships in Norway during May.

Andy not only took FTD but also won all three finals (best two scores out of three count) to firmly lay the ghost of his previous near misses to rest.

Fellow Schumacher sponsored drivers Phil Davies and Phil Olson (1984 Eurochamp) were 3rd and 5th respectively.

British drivers have won all five Eurochamps to date.

S.G. Slip Up

Unfortunately our June issue carried a snippet of mis-information in the 'Chequered Flag' feature concerning SG Racing Cars of Italy. Our information that kit production of the 'Columbia Mk 2' had been 'discontinued' was wholly incorrect and we apologise for any inconvenience caused. 'Columbia Mk 2's' are still very much in production and available in the U.K. through SG Importers Phil Greeno Models, 9 Village Way East, Rayners Lane, N. Harrow, Middx.

What no Progam?

Derek Cooper of the Stockport Model Shop phoned us the other day to see if we knew of a club using an Acorn 'Electron' home computer for lap counting. The Stockport racers have acquired an 'Electron' for themselves, but don't have a lap-counting program to go with it!

Derek would like to hear from anyone who can supply a program on tape so that his club can begin dispute-free racing! Phone Derek on 061-480-5478 if you can help.

1/8th Off-Road bodyshell restrictions for 1985 European Championships

Strict rules will be enforced by EFRA concerning bodysells at the 1984 1/8th European Championships to be held at Graz in

Austria. Apparently the appearance rules for cars are being blatantly abused by many racers. The EFRA directive is shown below.

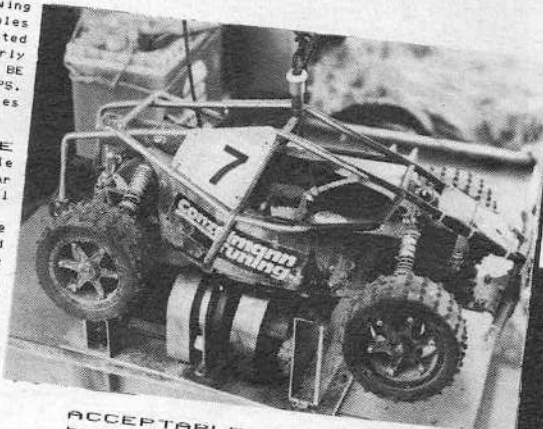
EURO-CHAMPS A TEAM RING GRAZ INFORMATION



Drivers are asked to note the following section from the 1985 EFRA Rules concerning appearance. It has been noted that this rule is not being properly applied at Grand Prix but WILL BE RIGIDLY ENFORCED AT THE EUROPEAN CHAMPS. Buggies not complying with the rules will not be allowed to start.

VIII.5.5 APPEARANCE

- Cars shall be a reasonable representation of the style of car racing.
 - Full body shells of saloon style are permitted but may only be trimmed to expose a maximum of 50% of the tyres at full suspension depression. If such body shells are fitted, provision for trimming shall be as in Section VIII.5.5d.
 - Where a roll-cage is fitted, an open wheel style body shell must be fitted underneath the cage so designed as to enclose R/C equipment and fuel tank with sufficient front and side areas to allow clear display of racing numbers.
 - Openings may be cut in the shell to allow access to fuel filler, switch and engine adjustments. Clearance around such items shall be kept to a minimum.
 - Bodysells as described in Section C need not conform to scale but should conform to the provisions of Section VIII.5.5a.
- c) Acceptance of a Saloon bodyshell by another EFRA Section shall be deemed to imply approval by the Off-Road Section for racing purposes.



ACCEPTABLE - a trimmed bodysell fitted underneath a roll cage



NOT ACCEPTABLE - small section of a F1 body slipped beneath roll cage



ACCEPTABLE - a full body shell as available from Garbo and others

Wells hits double top and maximum points at Scarborough

Tony Wells' shortened wheel-base and severely lightened *Associated* 'RC10' took FTD and both A-finals at the Modified and Standard class 1/10th Off-Road meeting at Scarborough on May 19.

Wells' 'RC10' proved too fast for the quality field and led from start to finish.



Associated tops sponsorship deals for Jamie Booth

Jamie Booth took receipt of an *Associated* 'RC10' kit at the recent Scarborough 1/10th electric Off-Road BRCA national meeting as part of his works sponsored package from *Associated Electrics of America*.

Jamie has now foregone his trusty 'Scorpion' to join Nick Adams and Tony Wells in campaigning the 'RC10' in this year's championship. Besides the 'RC10' Jamie also has a tie-up with *Demon Products* for motors and cells, *MRC* for tyres and was also seen pitting in the *Parma* tent at Scarborough! Here's a lad with the knack of attracting sponsorship — look out Audi.

Buggies at Stafford

The GEC Stychfields Radio Control Model Car Club of Stafford have introduced a new 1/10th scale buggy section to complement their established 1/12th scale racing activities.

The new circuit has been laid out on a patch of grass behind the tennis courts at the GEC complex, Salt Avenue, Stafford. Two prominent features are included in the design, the awesomely long straight (45 metres) and a hump-back bridge.

Racing takes place on Sunday afternoons (1pm start) and Thursday evenings, indoors on carpet from 7pm to 10.30pm.

Contact John Robson, 1 Aldersleigh Drive, Wildwood, Stafford, ST17 4RY. Tel. (0785) 662242 for more details.

Tibshelf sponsor for BRCA Nationals

Bryan Scott and Son (Ireland) Ltd. will be the main sponsors of the BRCA 1/8th scale circuit racing Nationals to be held at the Tibshelf Radio Controlled Car Racing Club, Derbyshire.

The sponsor is a transport company based in Chesterfield with daily services to Northern and Southern Ireland.

The Nationals will be taking place on the August bank holiday weekend.

Sandown Park

'Model Cars' paid a visit to the Sandown Racecourse Model Symposium on May 12 to see what, if anything, was new in R/C cars.

The Sandown event is heavily biased towards aeromodelling, so car stuff is thin on the ground. However, many of the larger model importers have established car lines and we looked to these for the news.

The *Riko* stand held the new *Tamiya* 'Hotshot' as star attraction complete with action video. Many of the retailers had kits on their shelves but only for a while as demand was high. A collection of retailers all selling similar products is bound to produce bargains. The 'Hotshot' was the perfect example with a

kit price ranging anywhere between £100 and £120.00 at the Show.

Ripmax Models presented the 'Gallop' update of the 'Progress' 4-wheel drive/steering electric buggy which features a roll-cage body and competition differential.

Irvine Engines Ltd., had on display yet another electric buggy this time a totally new import from Japan the *Mugen* 'Bulldog'. *Irvine Engines* are planning to supply kits of this 4-wheel drive/steering car later on this year.

Moving around the trade stands we came upon *MacGregor Industries* importers of *JR* radio and *OPS* engines. Piero Muzio the *OPS* owner had travelled from Italy to talk to the

modelling public about his high performance motors. *MacGregor* were also displaying the new *JR* pistol-grip R/C system titled the 'Beat 2 Alpina'.

To round off our visit we had a look at the *Mantua* 4-wheel drive 1/8th scale circuit car. This attractively priced racer features *Mantua's* usual high manufacturing quality and design. The *Mantua* is also unique amongst 1/8th circuit cars in that it uses the same size wheels front and rear.

The other attraction of Sandown for us was the electric Off-Road race meeting sponsored by *Richard Kohnstam* and *Tamiya* on the Sunday. A report of what happened is contained within 'Racing Roundup'.

HOT SHOT NEWS

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Front and Rear Drive Shafts for the Tamiya Hot Shot featuring hardened steel ball ends + 3mm diameter hardened drill blank. Centre section manufactured to fine limits, strong lightweight and extremely wear resistant.

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Ni-Cad battery prizes to be won in Ever-Ready Handy Hints Competition

We are pleased to announce the details of a new competition for 'Model Cars' readers with a chance to win battery prizes from Ever Ready.

Competition

All you have to do is send in details of your handy hint complete with rough sketch for entry into the competition.

We will pick out the best five entries every month and publish them on the 'Ever Ready Handy Hints' page.

The winning entry will receive 8 re-chargeable Ni-Cad pen-cell batteries plus a mains charger. These pen-cell Ni-Cads are ideal for transmitters and receiver battery packs.

Runners-up will receive 4 pen-cell Ni-Cad batteries each.

When you send your Handy Hint entry remember to include your name and address.

The decision of the judges is final and no correspondence will be entered into. No telephone calls please.

Send your entries to 'Ever Ready Handy Hints', Model Cars, P.O. Box 35, Wolsey House, Wolsey Road, Hemel Hempstead, Herts. HP2 4SS.

Technical details for first ever electric buggy World Championships

More news of this first ever World Championships for 1/10th Scale Electric Buggies has just reached us.

The event is being held on the dates July 8th - July 14th at the Ranch Pit Shop circuit, Del Mar, California, USA. The general summary of the racing regulations for this event are as follows:

Format

Stock and Modified Class. All heats and Finals four minutes long.

Eight qualifiers each class. Top ten qualifiers make up World Championship Final.

Final event to be three separate five minute races.

Finish determined by laps and

times of best two out of three Final events. Ties decided by third Final.

Technical

Stock Class — Stock motors will be handed out. Each entrant will receive two motors with an option for a third. Batteries will be Sub-C 6-Cell only. Yokomo motors 28 turn of 22G wire will be used. Two wheel drive cars only. Modified Class — Approved motors may be modified by winding, balancing, etc. Approved motors are: Igarashi, Mabuchi — 540 type, Kyosho — Lemans type, AYK GZ480, Yokomo 05 round can, Parma Pulsar, Mujen Pro J. Batteries limited to a maximum of 7 Cells, Sub-C. Two-wheel or four wheel drive are allowed.

Hopefully there will be one or two British drivers over in California to do their best for all us home racers.

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FROG	£129.00
HORNET	£113.00

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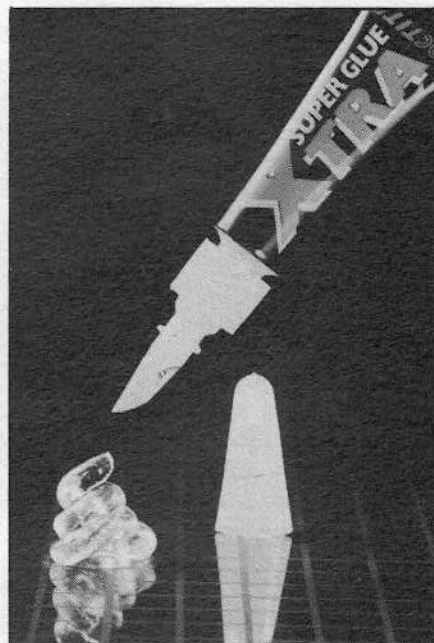
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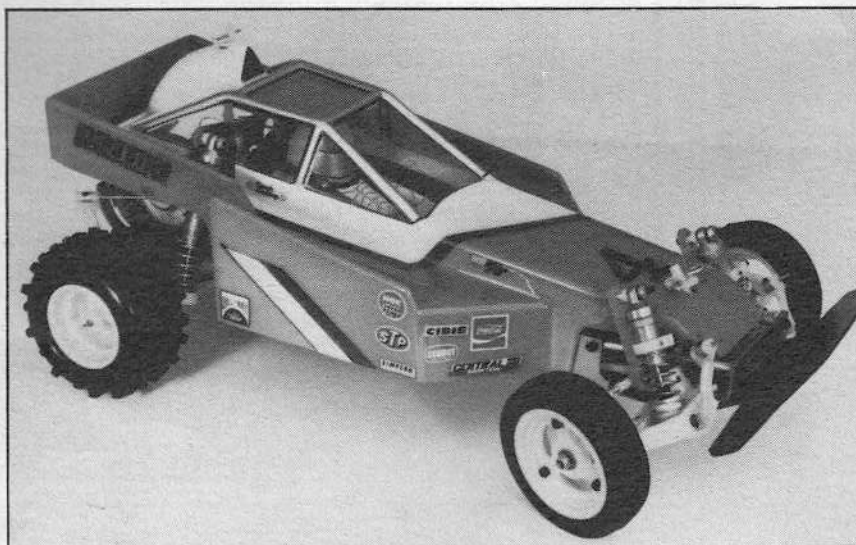
Gearbox

On show - new items for the model car racing hobby



Loctite superglue XTRA

This new 'Superglue XTRA' adhesive from *Loctite UK* stays where it's placed. It doesn't run or drip or soak into absorbent materials. In combination with the original Superglue-3 (launched by *Loctite* in 1976), it extends the scope for modellers who want to make immediate clean repairs. Called 'Loctite Super Glue XTRA,' it is a clear thick gel which does not run or drip, even when applied to overhead or vertical surfaces it stays where it is placed. On average, rubber can be fixed in ten seconds, the majority of rigid plastics in 15-20 seconds, and steel in about 40 seconds. *Loctite 'Super Glue XTRA'* is supplied in three gramme tubes and costs £1.99 (including VAT) from most High Street stores.

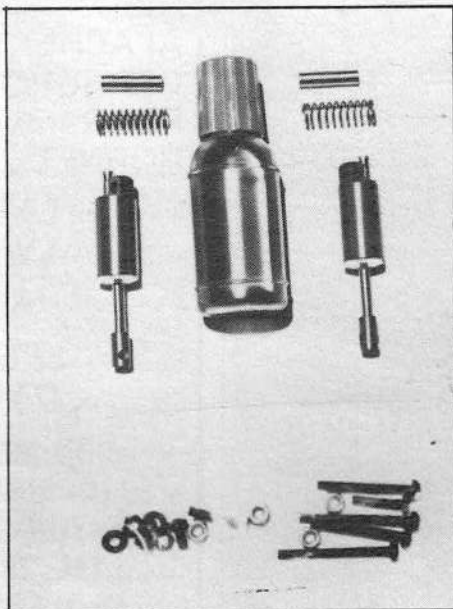
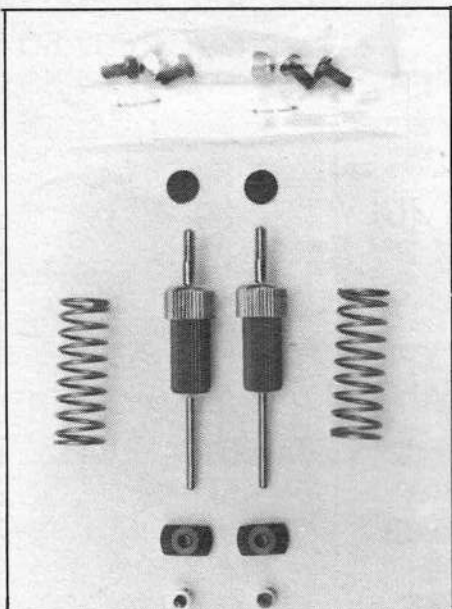


Parma Products for Associated 'RC10'

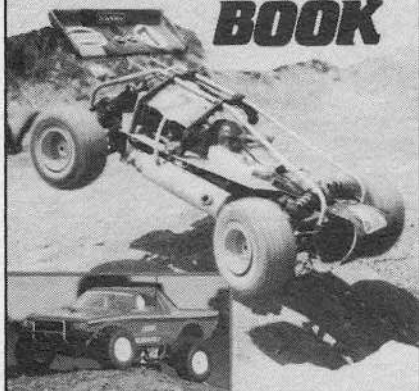
The immediate success of the Associated 'RC10' 1/10th electric off-road racer has prompted fellow American company, *Parma International* to produce the following range of tune-up parts. The bodyshell shown above is the 'Unser' and is available either custom painted or clear in polycarbonate. Front and rear adjustable anti-roll bars to curb excessive body roll during cornering. The universal adjustable body mount kit will make fitting the 'Unser' bodyshell much easier and can be used for the Tamiya 'Hornet' and 'Grasshopper' and most other cars. Finally, the Off-Road resistor speed controller featuring .4ohm double barrel resistor with reserve. Details of *Parma* products and prices are available from *Helger Racing*, 18 Manor Farm Drive, Chingford, Essex.

Grasshopper and Frog shock absorber sets

Jeff Gearing of 220 Park Lane, Frampton Cotterell, Bristol is now supplying shock absorber kits suitable for the Tamiya 'Frog' and 'Grasshopper' buggies. The 'Frog' kit (left) comes complete with oil bottle and mounting tubes and bolts. The 'Grasshopper' units (right) are designed for the front suspension and will fit without modification. Both sets of oil-filled dampers are supplied with springs and are manufactured from lightweight aluminium. Prices: 'Frog' kit £8.95. 'Grasshopper' kit £7.95. Available by mail order from the above address.



The BUGGY BOOK



Bill Burkinshaw

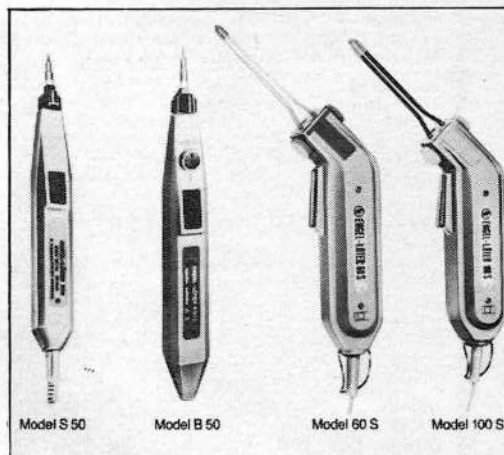
The Buggy Book

Bill Burkinshaw's considerable knowledge of Off-Road racing both in 1/10th and 1/8th scale is now available to all within the pages of this latest publication from *Argus Books*.

Available on order through bookshops price £4.95.

Engel Soldering Irons

Four models of soldering irons from the well known *ENGEL* range are available from *Kelgray Marketing* of Crawley Down, West Sussex. The range is between 30 and 100 watts with a variety of tips that have soldering area capabilities from 1.5mm²-12mm². All models pre-heat in approximately six seconds and cool in approximately 10-15 seconds. They are controlled by an energy saving operating switch and include a safety transformer, except the model B50, to guarantee high electric security. The model 850 is a cordless, rechargeable iron with long life nickel-cadmium batteries, capable of up to 350 consecutive soldering applications. The model B50 is ideal for field use and can be recharged from a car cigarette lighter socket or through a mains charger. Price £29.95.



Eagle engraved nameplates

Eagle Studios of 4 Moorland Road, Boxmoor,, Hemel Hempstead, Hertfordshire, are supplying self-adhesive engraved nameplates made from gilt coloured anodised aluminium. Three sizes are available: 3 x 5/8 in. (up to three lines of engraving), 2 x 5/8 in. and 3 x 1/4 in. (one line of engraving). The price is £1.20 per nameplate and this includes the engraving of your choice (up to ten characters per inch on each line). Customers must print their requirements clearly. Delivery time takes 7-14 days, quicker if possible. Add ten per cent of the price to cover postage.

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Subaru Brat	£59.99 £116.00
Willy's Wheeler	£80.00 £140.00
Wild Willy	£80.00 £140.00
Grasshopper	£44.00 £105.00
Mitsubishi Pajero	£46.00 £110.00
The Hornet	£48.00 £115.95
The Fast Attack Vehicle	£59.95 £118.99
THE HOT SHOT. Kit deal includes Hot Shot, Futaba FP-2MR or Dash R2 trickle charger and 1.4 Ever-Ready Ni-Cad.	
Special kit deals with Futaba FR-2MR + Car Nicad + Car Charger.	
Kyosho	
Scorpion	£60.00 £130.00
Tomahawk	£70.00 £140.00
Progress 4WD	£99.99 £156.00

Mardave Apache £52.00 £99.99
I/C Cars

Mardave Marauder £49.50

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Flak Panzer	£179.00
Acorns AP-227 MkII	£46.00
Futaba FP-2MR with servo rev.	£49.95
Futaba FP-2LXG	£95.00
Scorpion	£70.00 £130.00
Tomahawk	£80.00 £140.00
Progress 4WD	£99.99 £156.00

Batteries Nicads

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Jester Goliath 6v-7.2v charger (with adaptor)	£16.95
Jester Battery ends	60p
Heatshrink tube	45p
All Acorns, Chargers and batteries and R/C spares in stock.	
New Riko quick charger for 7.2v direct for mains	£29.99
Tamiya Polycarb Paints	£1.40

Buggy Spares

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Mardave tyres 4 x 3, 3 x 2, ST's each £1.80

MRC tyres now in stock

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Irvine 20	£36.50
Irvine 20 ABC	£41.95
OS21 FSR ABC	£62.75
New Tamiya Rx 540 SD	
Technipower motor	£27.99
RX 540 SD Brush Set	£2.66
RX 540 SD Armature	£6.50
540 Black Motors Endurance and Sprint	£16.60
Kyosho 540 Hi Torque Le Mans	£19.95
New Demon 27 turn motor	£9.95

"Mr Cool" Commutator Treatment	£2.10
New Downsway Electronics speed Controller	£34.75
STP Rear end kits for Frog and Brat	£10.95
Polycarb drive shafts	pair £3.00
New Ever Ready 1.4Ah Nicads Select Stick and Humps	£17.95
New Ballraces to fit Tamiya and Kyosho now from	each £1.85
Frog H parts 2, 3 in Anodised Aluminium	
H2	£4.95
H3	£2.95
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Tamiya Steel Pinions 10T, 11T, 12T, 14T, 15T, 16T, 18T	£1.80
Heatsinks 340	£4.50, £3.80, £3.45
Set 4 H/Duty Track Rods	£4.75
Front and rear Kydex Bumper from	£2.95
Lots of various out of the ordinary stickers from	30p
Replace your RX batteries with a voltage Regulator	only £2.95
T.M.S. 6/7.2v fast and slow charger combined with electronic timer	£16.95
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NOW IN STOCK range of Sarik-Vacform Lexan Bodyshell Clear 1/12 £4.99, 1/10 from £5.99, 1/8 £9.80.

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Due to adverts being submitted to the publishers some months before the magazine appears on the shelf price rises may occur due to the economic climate and we reserve the right to change prices should this occur. All stock subject to availability and demand.

Contest Calendar

July 13/14

1/10th Buggies

Harrogate MCC two-day competition at Newby Hall 'Modelling Weekend,' Ripon 540 and 380 class, BRCA rules. Details from S. R. Hidden, 245a Woodfield Road, Harrogate, N. Yorkshire.

July 13/14

1/8th Circuit

Yorkshire RCRMCC. Halifax. Formula, Sports/GT Class. SAE to Ian Briggs, 29 Littlefield Walk, Wibsey, Bradford, W. Yorks. BD6 1UU. Tel. (0274) 600333.

July 14

1/10th Buggies

Chesham Off-Road Club, Bucks. BRCA Modified Class Championship Round. Contact: Mick Childs, 61 Darvell Drive, Chesham, Bucks, HP5 20N. Tel. Chesham 782212.

July 21

1/10th Buggies

Eden Park Overlanders, Bromley, Kent. Radio Race Car Round. Contact: Jim Paffett, 124 Chestnut Avenue, West Wickham, Kent. Tel. 01-462-4866.

July 21

1/10th Buggies

World's End ORC Inter-Club Challenge, Northants. SAE to CRS Promotions, 63 Wantage Road, Northampton, Northants. Tel. (0604) 844943.

July 21

1/10th Buggies

Donisthorpe MWMCC, Staffs. 'Summer Nationals.' BRCA Rules, 540, 380 STD. SAE to Roy Statham, 5 School Street, Oakthorpe, Burton-on-Trent. DE12 7RE. Tel. (0530) 71285.

July 27/28

1/8th Circuit

Wrexham MCC, N. Wales. Formula, Sports/GT classes. Contact: Chris Meyer, 28 Liys-y-Wern, Sychdyn, Mold, Clwyd. CH7 6BJ.

July 27/28

1/10th Buggies

European Championship Meeting, Halifax, W. Yorks. Modified Class — EFRA Rules. Contact Ian Briggs, 29 Littlefield Walk, Wibsey, Bradford, W. Yorks. BD6 1UU. Tel. (0274) 600333.

July 28

1/10th Buggies

Chesham Off-Road Club, Bucks. STD Tamiya Class and Open STD 540. Royal Oak pub, Gt. Missenden, Bucks. SAE to Jim Duncombe, 5 Rickmansworth Road, Amersham, Bucks. HP6 5JN. Tel. (9383) 22422. Entry £4.00.

July 28

1/10th Buggies

Tamiya Off-Road Championship. Northampton Town Show, Northants. SAE to CRS Promotions, 63 Wantage Road, Northampton, Northants. (0604) 844943.

August 3/4

1/10th Buggies

BRCA National Championship, Round 7 at the Woodvale Rally, Southport, Lancs. Standard Class. SAE to Steve Newey, 15 Patricia Grove, Bootle, Merseyside.

August 4

1/10th Buggies

BRCA Regional Champs — South East, Eden Park, Kent. Contact Jim Paffett, 124 Chestnut Avenue, West Wickham, Kent. Tel. 01-462-4866.

August 4

1/10th Buggies

East Midlands Challenge, World's End ORC, Northants. SAE to CRS Promotions, 63 Wantage Road, Northampton, Northants. Tel. (0604) 844943.

August 11

1/10th Buggies

BRCA Regional Champs — Home Counties, Southend. Contact John Newton, 4 Aylesbeare, Thorpe Bay, Southend-on-Sea. Tel. 0702 585770.

August 11

1/8th Off-Road

BRCA National Championship Round 10. Scarborough MCC. Restricted and Unrestricted Class. Fee £4.00. SAE to David Webb, 60 Newlands, Park Grove, Newlands Park, Scarborough.

August 10/11

1/8th Circuit

BRCA National Championship Round 9. Mendip MMRCC Weston-super-Mare. Formula and Sports/GT. SAE to Iain Thompson, Brambledown, Tutton Hill, Colerne, Wiltshire, SN14 8DN. Tel. 0225 742000.

August 11

1/10th Buggies

Northern League Round 6. Bolton, Lancs. Contact: P. Smith, 349 Blackburn Road, Egerton, Bolton, BL7 9TH. Tel. (0204) 50401..

August 11

1/10th Buggies

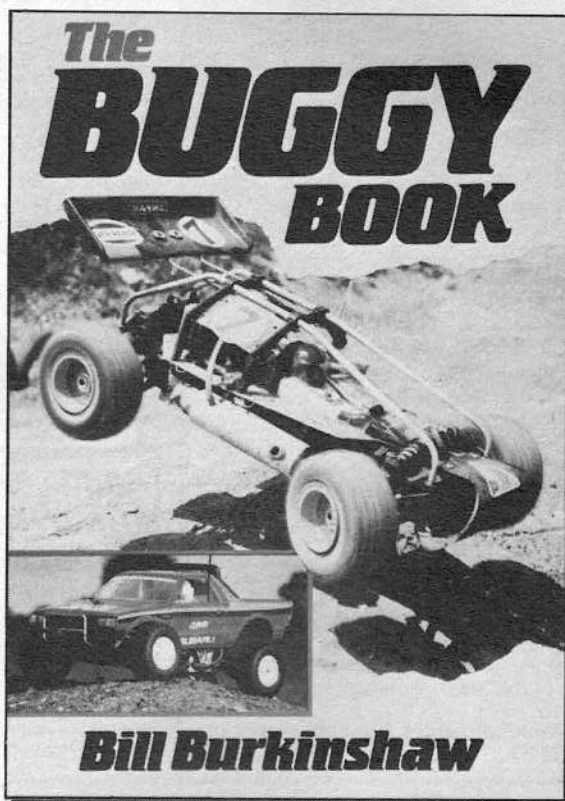
BRCA Regional Champs, North East. Yorkshire RCMCC, Halifax. Contact, Ian Briggs, 29 Littlefield Walk, Wibsey, Bradford, W. Yorks, BD6 1UU.

August 24/25/26

1/8th Circuit

BRCA Nationals Tibshelf, Derbyshire Saloon, Formula, Sports/GT Class. SAE to Joan Heffer, 24 Back Lane, Tibshelf, Derbyshire, DE5 5LN.

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PROGRESS

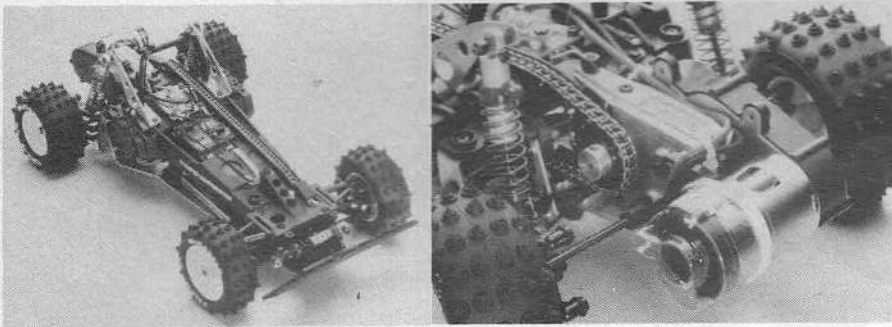
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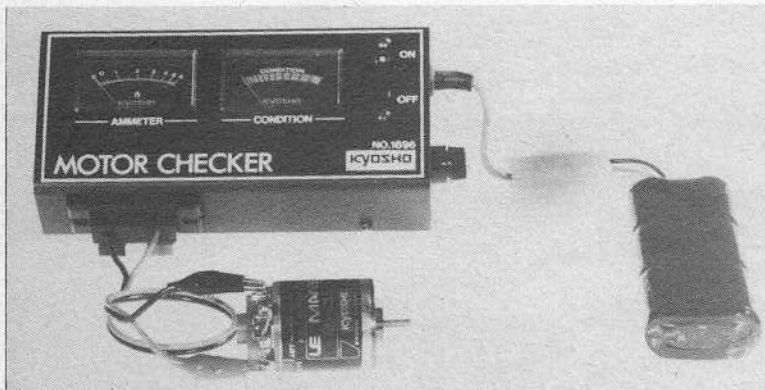
Kyosho's progress in the world of R/C Cars is no accident. But has evolved through first hand experience of what top competition demands and an obsession for excellence of design. Today, these same forces have resulted in the development of the **PROGRESS Kit** whose unrivalled pedigree is based on a continuous engineering evolution through a World Championship Win and numerous other notable track successes. That's why a Kyosho Kit is never less than best.

PROGRESS offers an engineering first with the unique combination of 4-wheel steering and 4-wheel drive for maximum control and manoeuvrability. Plus **PROGRESS** is as easy to build and race for the beginner as well as the expert. Advanced features include phosphor bronze torsion bar front suspension with progressive spring action and twin trailing arm rear suspension; unique ladder chain-drive system with guide rail for low power loss and metal sprockets for strength and reliability; flexible shock-absorbing front bumper; compact sidewinder Mabuchi RS540S motor mated to gearbox unit with wide-mesh high-strength gears (6 gearsets supplied) driving through true differential system; oil-filled adjustable shock absorbers (bleedable); strong yet simple and reliable chassis design of 1.2mm thick aluminium plate; new design low profile high-grip pattern front and rear tyres; 3-speed controller with reverse; plus lightweight construction throughout ensuring rapid acceleration and extended battery life. A specification — combining performance and reliability — to put you in the Winner's Circle.



LE MANS RACING MOTORS Latest addition to this race proven range is the real maxi-power 360PT, based on a modified Mabuchi 550 type. Independent tests have proved this motor has both outstanding high performance and high torque characteristics making it ideal for top-performing 4-wheel drive buggies. Other **LE MANS MOTORS** include the 480S for 8 minute racing on high speed courses (also general use by racing cars); the 480T for 8 minute duration races and 4-wheel drive cars; the 240S — extra high speed for 4 minute races (also for all buggies); and the 600E — a high torque version for 8 minute races. These last four motors are all based on the proven Mabuchi 540 design.

The **ELECTRIC MOTOR CHECKER** (shown left) is an invaluable item for getting peak performance from your **LE MANS MOTOR** or any other electric motor. Allows timing point to be checked when either a rotor or brush is replaced, or when the break-in period is completed, or after any crash damage. Useful also for checking the state of brushes and whether any blemish or deformation of the commutator is developing. Full instructions for use are included.



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 - (5) If you wish us to return the photographs please include a stamped addressed envelope.
 - (6) Photographs must be all your own work, no copies of previously printed or published material will be eligible.
 - (7) The photographs must be your own work — commercial processing is allowed.
 - (8) Entries will be judged by staff of MAP. No correspondence or telephone conversation can be entered into about entries.
 - (9) The judges' decision is final.
 - (10) *Model Cars* retains the right to publish winning entries plus selected runners-up in any form it sees fit. All photographs will be paid for at our usual rates.
 - (11) The publishers, MAP Ltd., can accept no responsibility for photographic material submitted but every care will be taken to ensure its safe return when requested.
- SEND YOUR ALL-ACTION PHOTOS TO: MODEL CARS PHOTO PRIZE, PO BOX 35, WOLSEY HOUSE, WOLSEY ROAD, HEMEL HEMPSTEAD HP2 4SS.

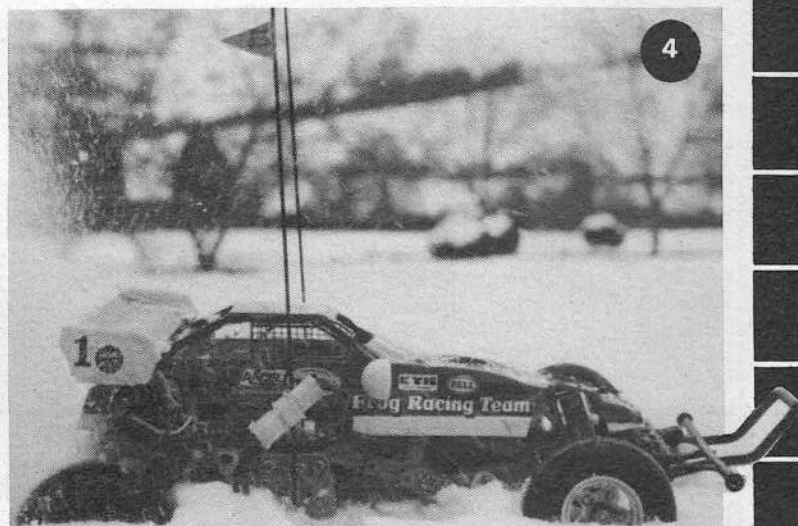




Photo 1: A good all-action racing shot taken at a Western Off Road Models (WORM) meeting by D. E. Corbyn of Wotton Under Edge, Glos. Mr. Corbyn used a Minolta 110 SLR Camera.

Photo 2: Colin George managed to capture this interesting indoor shot with Tamiya 'Frog' in foreground and driver (Colin's sister, Marta) in the background. Colin from Dundee Scotland uses a Kodak disk camera.

Photo 3: A nice dramatic angle on this Tamiya 'Grasshopper' from Stephen Mills of Reading, Berks. Stephen uses a Pentax camera.

Photo 4: It's snow good! Mark Wirtz's Tamiya 'Frog' gets bogged down in the New Year snow at Bath, Avon. Mark used a Canon AE1 Program camera.

Photo 5: Right on the edge. Elliott Simpson's Tamiya 'Pajero' was shot in mid-flight using an Olympus OM1 Camera. Elliott comes from Ealing, London.

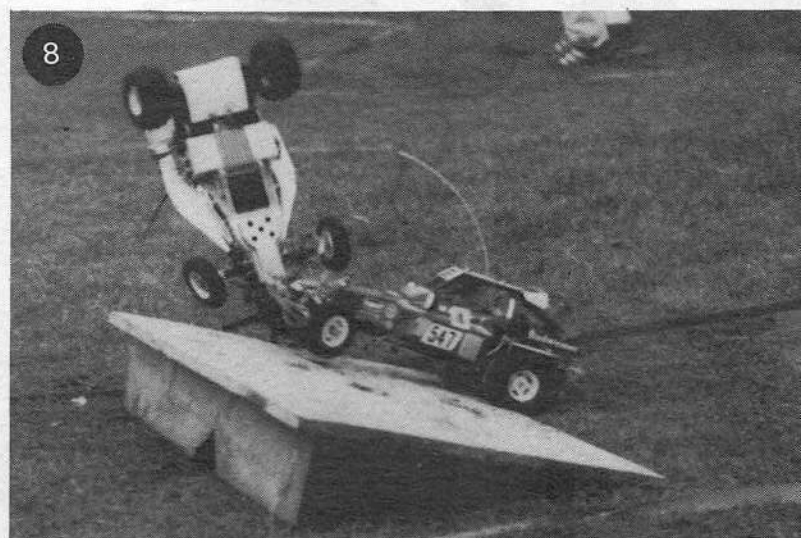


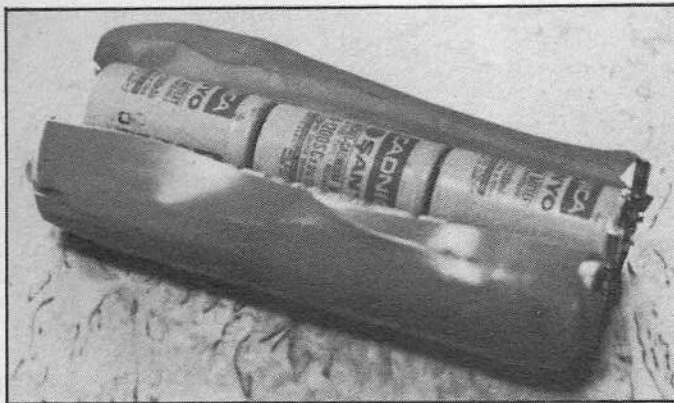
Photo 6: WINNER we think this is the ideal method of overtaking so did Keith and waited till just the right moment for his friends Custom built Off-Roader to leap ahead at the local BMX circuit. Keith used an Olympus OM10 with telephoto lens.

Photo 7: Mark Smallman captured some "Argy Bargy" on film as the 'Grasshopper' attempts to pass the 'Sandscorcher.' Mark from Worcester used a Zenith EM Camera.

Photo 8: Trouble on the ramp as a 'Super Champ' takes out a modified 'Frog'. Paul Aldridge from Croydon, London took the picture at an Oaks Park Ramblers meeting using an Olympus OM10.

Photo 9: Alan Leduc sent this one all the way from the Yukon in Canada. Alan took the shot of a Tamiya 'Superchamp' just after taking off by the side of Tagish Lake using a Minolta SR7 camera.

The Rough Stuff



Top: the simplest method of wiring in a seventh cell for modified class racing. First open up an existing six-cell pack. Above: connect the extra cell to one of the terminals. Make sure you connect positive to negative or vice versa. Below: place cell on top with connection at the rear. Bottom: cover the whole pack with shrink wrap. For extra rigidity run a bead of superglue along the touching edges of the extra cell.



Seven Cells

Seven cell Modified racing has been going on in various countries throughout the World for some time now and the BRCA had to accept EFRA's decision to run the Euro event to this format. The BRCA actually wanted Modified racing kept down to six cells due to the problems or running a seventh cell.

Unfortunately EFRA didn't reckon much to our case, put forward last December by BRCA Chairman George Land. Because the Euros will be run to Modified class rules. A decision was made to run some meetings to EFRA Modified class rules to allow any interested drivers a chance to do some competitive racing to get used to this situation.

The rules state that a *maximum* of seven cells may be used. This of course means that you can still use six cell packs which may not be as silly as it sounds. But six cells won't be competitive — I hear you say, but hold on a minute, there's more to it than just battery power. Running seven cells does have a few disadvantages apart from the extra cost of the battery pack and charging it. So what are they? Well firstly, a seven cell pack maintains a higher voltage. This means more current can be drawn by the motor which will drain the Ni-Cads in a shorter period of time making the choice of gearing very critical and race duration can become a problem.

Secondly, handling problems could affect both types of car, 2WD and 4WD, in different ways depending on the type of track. On grass the 4WDs become very easy to roll when going into sharp corners at high speed while the 2WDs could suffer from high speed understeer. If racing is held on a bare or muddy surface it will be virtually impossible to find the necessary grip to accelerate a 2WD hard out of a corner. The 4WDs on the other hand could well suffer from power on understeer, also when coming out of corners.

There are the added problems that come with the extra power and speed of making the car reliable. Gears, diffs and drive shafts are all put under more stress which can cause more mechanical breakdowns. Speed controls and other electrical equipment could well suffer due to the higher voltage and current that the seventh cell brings us.

Suspension and chassis parts are put under more strain and I doubt that some of the current models being raced could handle the extra power and will probably bounce around the track instead of absorbing the track's irregularities through the suspension. Also because the cars are reaching a far higher speed, any crashes could cause terminal damage putting the cars out of the race.

Buggies

Steve Newey describes some interesting new developments for 1/10th scale electric Off-Road

Mugen 'Bulldog'

As mentioned last month Mugen Manufacturing Co. of Japan have produced their own four-wheel drive, four-wheel steering buggy, the 'Bulldog.' The transmission system employs drive belts running along the 'spine' of the car. Differentials front and rear plus a centre unit are all of the adjustable ball-type. The UK importer will be Irvine Engines Ltd., Unit 2, Brunswick Industrial Park, Brunswick Way, New Southgate, London N11 1SL. Price £00.00.



Regional Championships

Since the start of the season a large number of clubs have been holding meetings as part of the BRCA Regional Championships. The idea of this series is to give the competitor who may not have the money or the time to do the full National Championship, a chance to show his ability by qualifying and maybe even winning the regional finals day in September. Because the country has been split up into several areas with each area running a number of qualifying rounds it means that travelling costs are cut down to a minimum.

Considering that this particular Championship was only thought about at the very end of last year things have got off the ground very quickly with a number of areas

running their first qualifying meetings as early as March with more area's joining in the action as the season progressed. The BRCA Committee are fully aware that some teething troubles maybe encountered with this series. Things seem to be running quite smoothly up to now, but quite possibly it could be improved for next season.

The biggest problem for the governing body is getting information to the area organisers and drivers. Dates, and venues of qualifying rounds, results, etc. Due to our long lead time and advance publishing dates it's very difficult to keep you up to date (I actually wrote this on the 28th April) although every effort is made to print all relevant information.

So how can the series be improved for next season? Firstly all the area

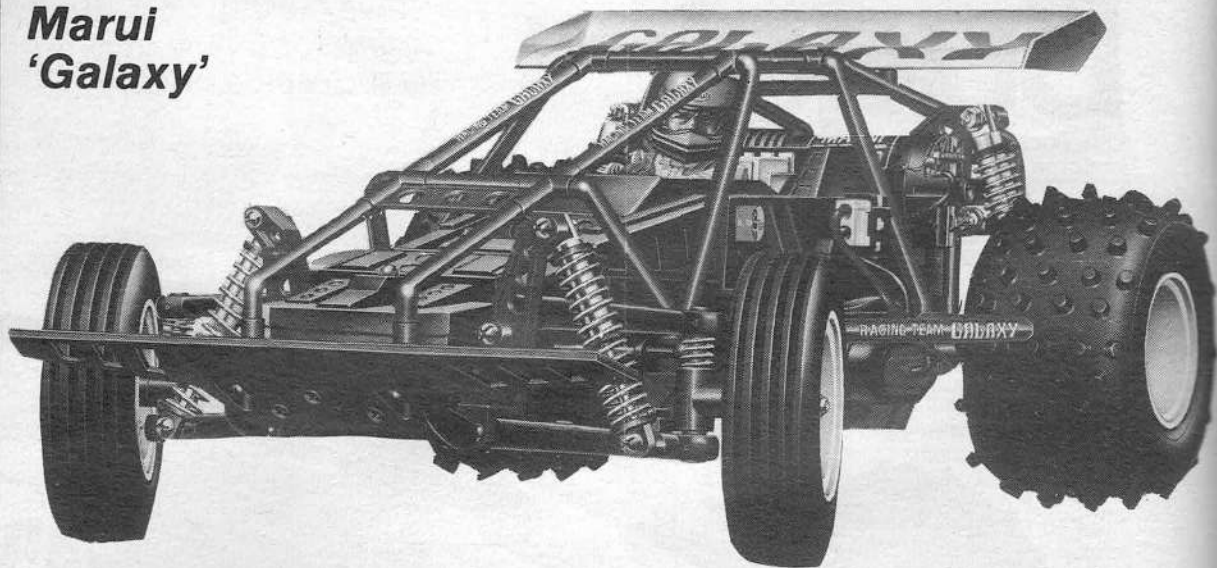
dates and venues for next season should be sorted out this year. The calendar and other details can be published in the February issue of 'Model Cars' which comes out in January. To do this the BRCA want to know **now** from clubs interested in holding a round of the series also any comments, moans, ideas will be noted if it helps improve things.

Secondly, and this is a personal view, I think the top drivers (say the top ten in the BRCA National Series) be discouraged from entering this Series. Also some of the lesser known clubs could run the qualifying meetings and leave the more established clubs to run the full National Meetings. What do you think? Letters to myself or Derek McLarney, c/o 'Model Cars'.

Just to clear up a few points.

The Rough Stuff

Marui 'Galaxy'

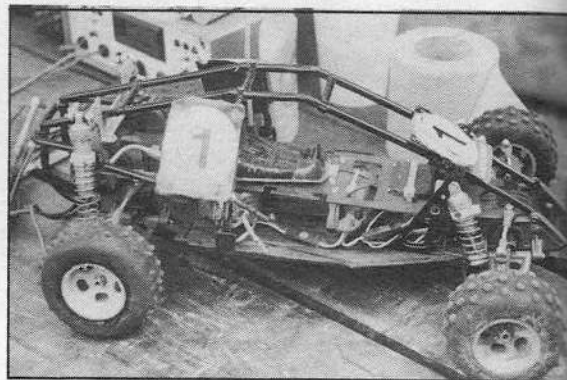


Playtron and Thunder Tiger for Amerang

Amerang Ltd. of Commerce Way, Lancing, Sussex have just signed up distribution deals for Playtron and Thunder Tiger products. With the former this means the two new Playtron cars, Lynx 4WD and Doberman, mentioned in 'What's New?' last month will be available here in the UK. Amerang have taken over the distribution of the three Thunder Tiger 1/8th scale IC buggies. Along with these two new items Amerang's existing range of Marui cars is to be added to with the introduction of the 'Galaxy' (see above). This is a competition version of the 'Hunter' and as such features oil-filled adjustable coil-spring damper, differential and Mabuchi RS540 motor. Finally Amerang will be supplying their own brand of radio control equipment manufactured under the Keil Kraft brand name in Japan. Two and four channel systems will be available for both R/C cars and aeroplanes. Amerang will be offering package deals on car kits and radio across their entire range.

Pete Stevens wins Austrian Grand Prix

Pete Stevens from London (see below) won the recent Austrian 1/10th Scale Off-Road Grand Prix at Graz in Austria. Pete, who drives for Parma International and Hirobo (Dave Nieman Models) beat a class field of European drivers including fellow Britons Paul Hobbs, Phil Olson, Nick Adams, and Jane Adams. Mike Reedy from Associated Electrics had made the trip from California to provide support for the Italian Associated team drivers. The format of racing was to EFRA Modified rules which uses Modified Motors and a maximum of seven cell Ni-Cad packs. Three A-finals were run with the best two to count for each driver. Pete not only posted the overall FTD but also won all three finals. Pete will be entering for both the 1/10th scale World Championships plus the Eurochamps. Both events will be held in July.



Top: Pete Stevens' winning Hirobo 'Zerda' supplied by Dave Nieman Models which uses Parma Motors and Ni-Cads. Note also the Associated 'RC10' shock absorbers. Above: the line-up for one of the three A-finals with Pete's car (front row, left) on pole position.

Firstly, anybody can score points and be eligible to compete in the finals day. You don't have to be a BRCA member. Secondly, points are scored on qualifying positions not finals results. Thirdly, the BRCA are doing a results service; you just run the meeting, send in the qualifying positions and the BRCA do the rest.

Lastly, our Northern League is a Championship in itself and points for this are scored on Final's positions but qualifying positions are sent to the BRCA for the Regional Championship. The top ten drivers from each area will be eligible for the finals.

N.B.: Clubs wanting to run a round of the 1986 BRCA National Championship, Standard or Modified class, please apply to 'Model Cars' NOW.

If I've got my sums right you should be reading this at the beginning of July (August issue) with the Ever Ready Euro Champs due to be run on the 27th-28th of this month at the Halifax Circuit situated at the North Bridge Street Leisure Centre, Charlestown Road, Halifax. The 18 allocated places were soon filled by drivers from last season's BRCA STD and Modified Championship leaders with many more drivers applying for



any places that may become available if any overseas places aren't taken up. The first 18 drivers chosen to represent Britain are as follows: Lawrence Harris, Kevin Blears, Darren Harris, Richard Isherwood, Pete Stevens, Steve Newey, Derek McLarney, Stephen Haynes, Jamie Booth, John Bicknell, Simon McRea, Mick Langridge, Glyn Peglar, Neil Ward, Ian Littlely.

By all accounts a very strong team and a more than reasonable chance that the winner will come from this list. The driver's choice of car should be very interesting with all the top models being used. Both two- and four-wheel drives. I've said before that I think the 4WDs will be the cars to use for the Eurochamp racing format of Modified seven cell racing.

There is no actual proof of this; just an educated guess on my part, I just can't see the two-wheel drive being able to put all that extra power down onto the track. Approaching corners at 30mph plus should prove to be very exciting and not just for the drivers! Maybe we'll need catch fences and marshals supplied with cricket pads.

It could well be the track that will again be the major factor. When qualifying starts the track will be mainly, if not all grass, but after two days of very competitive racing I wonder what state the track will be in when the top final is run. I'm sure I don't have to tell you the other thing that could drastically affect the track conditions. Yep, you got it in one. Buggy racers nightmare, rain. Let's hope the organisers have arranged some decent weather for this weekend. I couldn't bear to think what it will be like if we had rain for two solid days. So, let's hope the sun shines for the whole weekend and a win for a British driver would also go down very nicely. If you are not racing why not pop along and spectate — I'm sure you'll see some first class racing on a first class track. Coupled with good organisation and super super trophies for the winners. □

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INSTANT CREDIT

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MARUI HUNTER	£55.95
DEAL 7.2 volt ..	£119.95
MARUI BIG BEAR DATSUN	£59.95
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All deals include the buggy 2-ch. radio control, rechargeable drive battery (Saft) and either mains slow charger or 12v fast charge lead (please state which charger you require). All deals are also available with the higher power Tamiya/Sanyo drive batteries, approx. £5 extra.

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NEW - NEW - NEW

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DEAL with 2-ch. radio, Saft 7.2 volt ni-cad and charger **£152.95**

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Progress, 18 bearings	£36.50
Hotshot, 18 bearings	£29.50
Associated RC10, 16 bearings	£36.50
Dogfighter, 20 bearings	£41.50

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MARUI Hunter front wheels/tyres	pair £4.59
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MARDAVE front tyres	pair £2.20
TAMIYA Hotshot front tyres	pair £6.35
TAMIYA Hotshot rear tyres	pair £7.60
TAMIYA Frog rear tyres	pair £5.99
TAMIYA Frog front tyres	pair £4.50
TAMIYA Frog Ranger tyres	pair £3.99
TAMIYA Sand Scorcher front wheels/tyres	pair £7.15
TAMIYA Sand Scorcher rear wheels/tyres	pair £8.60
TAMIYA Holiday Buggy front wheels/tyres	pair £5.80
TAMIYA Holiday Buggy rear wheels/tyres	pair £6.70
Associated RC10 rear tyres	pair £5.29

OXFORD

FOURTEEN BRITISH DRIVERS turned up at Fredrickstad, Norway to complete in the European Championships. The team consisted of:

Andy Dobson	Jim Spencer
Phil Davies	Mark Brown
Les Pipe	Tim Dakin
Phil Olsen	Paul Hobbs
Jimmy Davis	Alan Blakeman
Mickey Booth	Steve Haywood
Bill Jones	Tim Biggs

The venue was a melted ice-skating rink with a light brown primafelt carpet used for the racing surface. The carpet was very badly laid, being so bumpy it should not have been allowed for a club night let alone a European Championship.

However, organisers refused to relay the carpet, so the first round of heats got underway.

After three heats it was discovered that the Automatic Counter was double counting some cars when they passed close to the counter tapes that run under the carpet. This meant the first three heats had to be re-run.

The heats were run in two groups, six heats in Group A, five heats in Group B. At first this seemed a good idea, but we soon realised it didn't work. There



1/12th Eurochamps

Mark Brown reports from Norway on the fifth annual European 1/12th scale circuit racing championships

simply wasn't enough time between runs to work on your car. The idea of the two groups was so that time between the drivers heats would be cut down. However too much time would have been better than too little. Five qualifying rounds were given to each driver, two on Friday and three on Saturday.

Friday's lap times were low due to the bumps in the circuit and this led to a rumpus. During an EFRA meeting the race officials tried to decide on whether to have free practice or re-lay the circuit. Some delegates said the circuit could not be changed once the meeting had started. Others, including Britain, complained bitterly about the condition of the circuit. The argument

Below: the top three drivers in Europe for 1985. Left to right: Phil Davies (third), Andy Dobson (first at last) and Christian Keil (second).



was decided in simple fashion by the French team when they walked over to the carpet circuit and pulled the main straight up! All credit was given to the French team for their decisive action. The organisers however, refused to re-lay the circuit so once again the French stepped in.

At the end of the first day Andy Dobson had FTD with a lap time of 29.152 with Christian Keil (Germany) second with 28.135 and 3rd Mikka Leppalahti (Finland) 28.244. The final three heats on Saturday were superb thanks to the French drivers and Schumacher team.

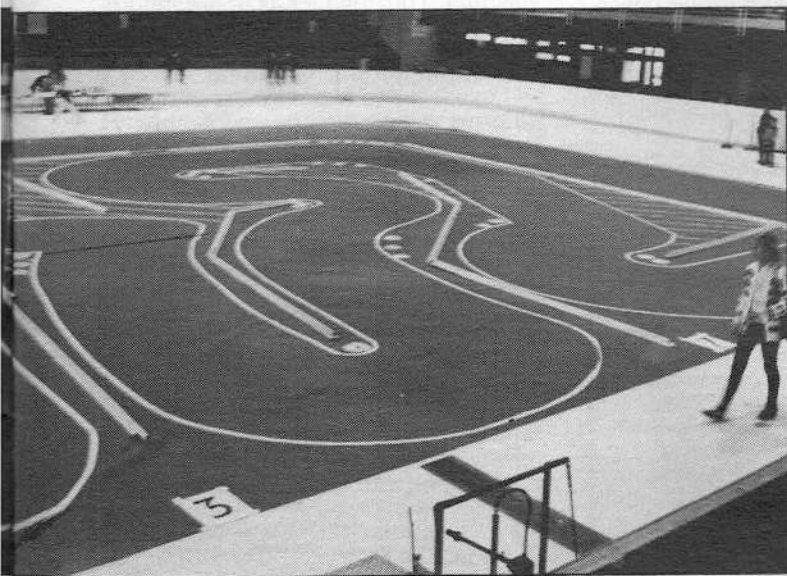
The heats run quite smoothly for the British camp. The only real disaster was for Jimmy Davis when he put in a sparkling clean run only to realise that he hadn't put in his auto-count module so he scored no laps at all. To make matters worse he worked out that his time would have put him into the A-final.

By the end of the day the British camp were delighted to have three drivers in the main final, Andy Dobson, Phil Davies and Phil Olsen. Andy Dobson held onto FTD with a 30.046 from Mike Leppalahti with a 29.045 and Phil Davies with 29.141.

The A-final was run in three rounds with the best two scores added together to decide the winner.

Final 1

In the first round Phil Davies took the lead from the start with 'Dobbo' closing up ready to overtake. Unluckily Andy was taken out by a back marker, but quickly recovered to pressurise Phil again. At the end of the straight Phil went wide and shouted to Andy telling him to go through as Andy was easily faster. At the end of the round Andy was first, Phil Davies 2nd and Phil Olsen 3rd.



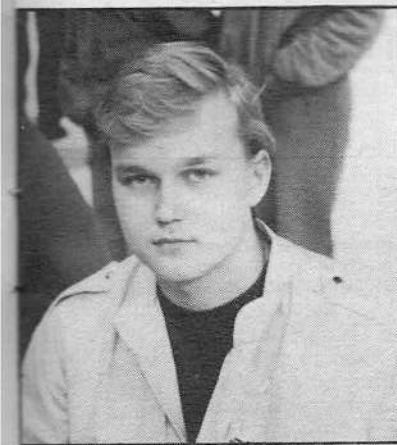
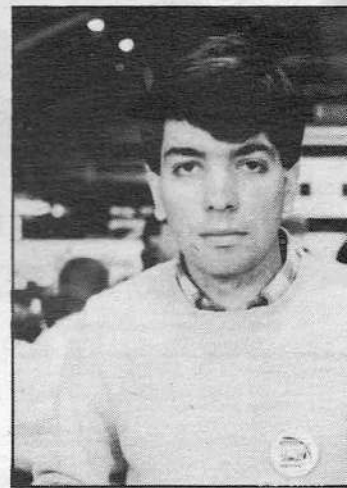
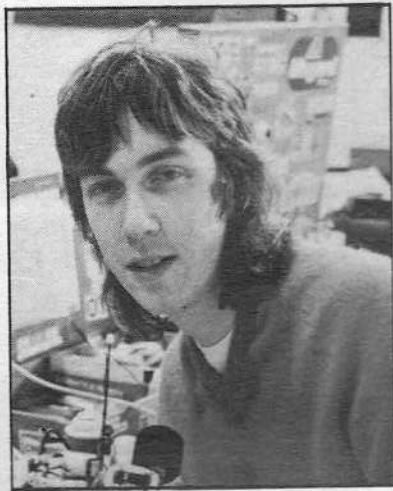
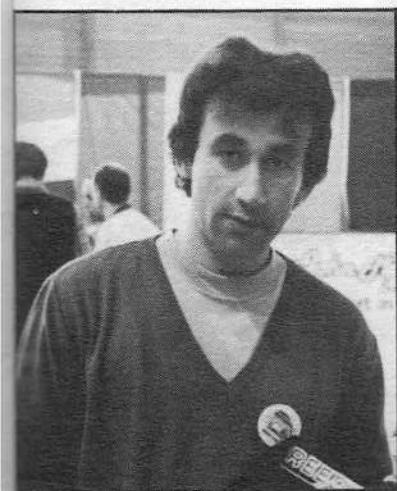
Final 2

Andy took the lead from the start but had a tangle with Christian Keil to allow Phil Davies to take the lead. Phil held the lead for the majority of the race, but Christian lunging for the lead hit him, allowing Andy into the lead with Keil in hot pursuit. Keil was definitely faster than Andy but several mistakes cost him the lead and his battery duration allowing Andy to win once again with Keil second and Jose Rosas (France) 3rd.

Final 3

Again 'Dobbo' took the lead from the start with Phil Davies second and Christian Keil 3rd. Phil made a small mistake allowing Christian into second place who in turn started to challenge the leader. Christian was definitely faster down the straight but as usual 'Dobbo' opened up his lead through the infield. At the minute mark Christian was looking for a way past Andy but couldn't find it. In the final minute he slowed slightly allowing Andy to open up a small lead to win. Andy Dobson was the European Champion on his 4th attempt, second was Christian Keil and 3rd was Phil Davies.

All in all a very enjoyable meeting which was appreciated by all. The only real criticism was the bumpy circuit but that was soon cured.

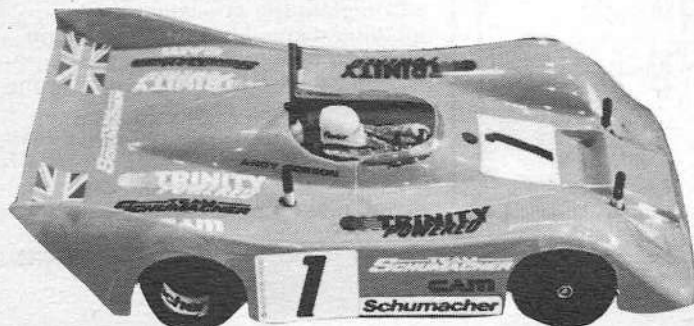


Top: the circuit prior to the French relaying action. Above: other finalists left to right: R. Jose Rosas (fourth), Phil Olson (fifth), Marco di Marchi (sixth), Emanula Zagati (seventh) and left Miko Leppalahti (eighth). Below: Andy Dobson's winning Schumacher 'C-Car.'

The Final Score

	Country	First	Second	Third	Total	
1.	Andy Dobson	GB	30.011	30.010	30.009	60.0185
2.	Christian Keil	D	29.014	30.019	30.022	60.0412
3.	Phil Davies	GB	30.016	29.007	20.001	59.0170
4.	Jose Rosas	F	29.015	30.022	29.001	59.0229
5.	Phil Olsen	GB	29.002	29.005	29.002	58.0036
6.	Marco Di Marchi	I	29.012	23.003	29.008	58.0197
7.	Emanula Zagati	I	28.007	29.014	29.015	58.0290
8.	Miko Leppalahti	SF	28.011	29.008	20.000	57.0190

The rest of the British team kept the flag flying with Jim Spencer winning the E-final, Paul Hobbs winning the D-final and after a terrific battle Steve Haywood just managed to win the C-final. What made his victory even more astounding was that his lap counter module was held in by the last 8th of an inch of the retaining clip. Jim Davis was very unlucky after leading the B-final for about 7½ minutes he was taken out by a tail marker which dropped him back to 2nd place. In all the British Team went home very happy with 13 drivers finishing in the top 33.



THE CHIEF INSPECTOR at the company where I work thinks that our gearboxes are great. They grate and they grate!

From my travels it is clear that this problem afflicts many racers, either 1/12th or 1/10th. After some lengthy and continuous luck, I am in a position to improve the audio quality of your racing by passing on some hints for a quieter gear mesh, and a better differential action.

If there is any uncertainty about dismantling the differential, then consult the manufacturers instructions. Before ripping the diff apart in double quick time, consider the parts and make sure that they stay together whilst cleaning. Experience has shown that if the thrust races and balls are mixed whilst cleaning, then a notchy diff action is almost inevitable. At least make sure that the balls from the gear are not mixed with the balls

drive washers either side of the ball cage. (See Fig. 3).

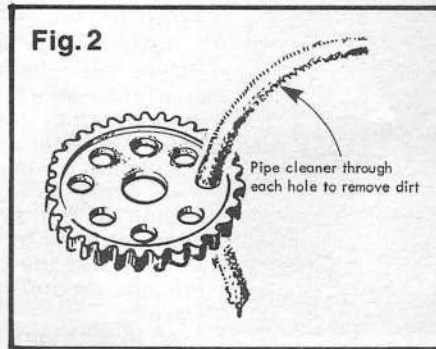
If your car is inclined to take off in a curve from the start line, or to lurch left or right (usually left) as power is applied from rest, then the differential is not functioning correctly. If as a result you carefully dismantle the diff there will be tell-tale black marks on the aluminium

washers. This load leads to premature wearing of the affected parts.

By glueing (superglue only, since this allows the washers to be removed) these two washers in place all drive will go directly and evenly to the rear wheels, since the diff need only be tightened sufficiently to prevent the drive gear balls slipping on the thrust washers. This pressure is far lower than that required to prevent the washers slipping on their hubs/carriers.

Since there is some wear of the balls and thrust washers, and this can vary, it is important that the washer/ball sets are kept together when re-assembling the diff. Never replace only one ball in a set. This inevitably leads to a diff that is notchy, and can cause the free-wheel to runout. However, unlikely as it may seem, take it from me, Andy Dobson, Les Pipe, Phil Davies and many others consider the

Fig. 2



Gearing Great

More hints and tips for 1/12th scale circuit racers from Pete Winton

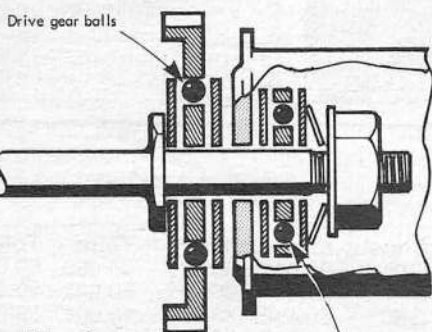


Fig. 1

from the ball cage. This mixing is only possible on the Schumacher diff. (See fig. 1).

Clean all parts in lighter fuel and use an old pipe cleaner to remove all dirt from the holes in the gear and ball cage. (See Fig. 2).

Remove the thrust washers and drive gear balls from the cleaner and dry them in a tissue. Superglue the drive washer to the axle, and to the wheel or carrier. This must be done for the washers either side of the drive gear but is not needed for the

carriers under the steel washers. This is as a result of the washers slipping on their carriers. (See Fig. 4). Again, this applies to the drive gear only.

If these marks are removed with cleaner, and the steel-washer is rotated by hand on the boss or carrier then the marks can easily be repeated.

To prevent slippage it is necessary to tighten the differential more which puts unnecessary load on the balls and

Fig. 3

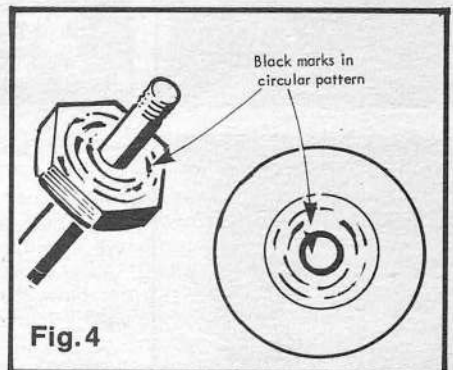
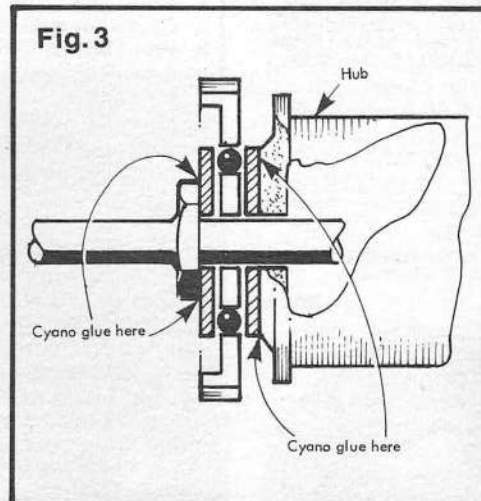


Fig. 4

replacement of complete ball sets to be essential, as is the cleaning and re-assembly of complete sets.

There is no need to glue the thrust washers on either side of the ball cage, but again the renewal of complete sets of balls is recommended.

Complete the re-assembly by applying a small 'blob' of grease on each ball for lubrication and protection. The Schumacher, silicone grease is highly recommended. Do not apply too much as this will cause more drag than lubrication (See Fig. 5).

Tighten the diff and hold one wheel in each hand. Now place the

Fig.5

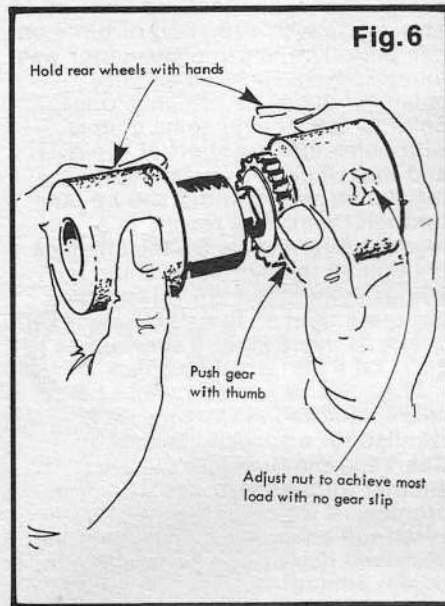


right thumb on the gearwheel and try to turn it. Even with a hard push it should not rotate. Adjust the nut so that this condition is achieved with the minimum of end pressure, i.e. the nut is not over tightened (See Fig. 6).

The diff should now be quite free when one wheel is rotated relative to the other.

Although the *Associated* thrust washers appear to last forever, the *Schumacher* items benefit from regular replacement. Since the

Fig.6



contents of a sand filled hose were (accidentally) spilled on our club carpet, I have to replace mine every two months, but every three or four should be O.K. Remember to replace all thrust washers and balls at once, and throw away the old ones!

Having obtained a good diff action it is essential to make sure there is also a good gear mesh. Although metal pinions are hardy items; plastic spur gears can easily become damaged and thus noisy and inefficient. The *Associated* gears are the best available, if you can get them. The most popular and available are the *Schumacher* type. Due to the gear form on the *Schumacher* gears (it is in fact an internal gear form, for obvious reasons if you think about it) a quiet mesh is not easy to achieve, but simple if certain rules are obeyed.

Always use quality pinions, preferably with a full involute gear form. Those supplied by *M.G.*, *Schumacher* and *Nodis* are of notable quality, but all pale in comparison to the *Delta* variety. This superb full involute pinion is not available in the U.K., but if you are off to America for hols or know someone who is, make sure they get some!

Aim to get the pinion as close to the spur gear as possible without any binding. If the only way to achieve a silent mesh is to increase the clearance between pinion and spur gears, then something is wrong. Usually the fault lies with the pinion and in these circumstances — change it. If there is no position which gives a quiet mesh then the chances are the spur gear is shot, so replace it. (See Fig. 7).

I am often asked whether a ballrace in the spur gear is needed or not (See Fig. 8). The answer is no — providing that regular maintenance is carried out to keep the diff clean and working smoothly. The advantage of the bearing is not reduced friction, but reduced 'play' between the axle and gear. Since the bearing can be a push fit in the gear and a close slide fit on the axle, the clearances are reduced. This gives a much lower runout and allows a closer mesh

Fig.7

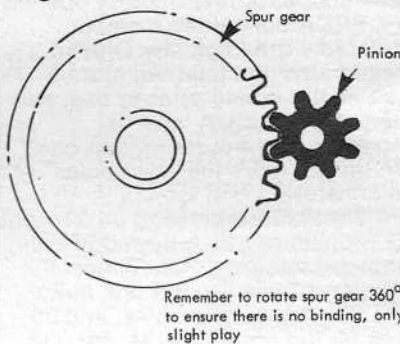
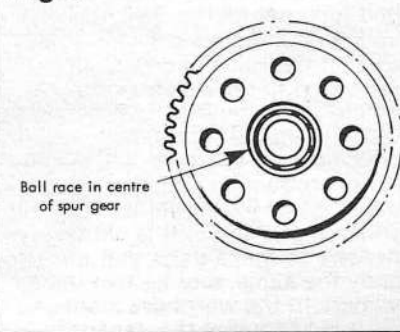


Fig.8



between the pinion and spur gear for more efficient power transmission. If you do not use a bearing in the spur gear don't rush to get one; since you will have to replace all your spur gears (if using a *Schumacher* diff) or your rear axle (if using *Associated*). It is not a cheap conversion.

Next month, a second look at the ultimate gear ratio for popular motors.

Lubrication, a slippery problem

The practice of keeping all the bearing surfaces in a 1/12th car clean and oiled has been preached in this column many times before. You can not possibly get the maximum performance from your car if all the wheel and motor bearings are full of dirt causing excess friction and reducing the top speed.

Previous issues have dealt with how to take the shields off bearings and dis-assemble a motor. But once the affected items from the differential (races, balls, cages, etc.) motor (bearings, end bell) and axles (bearings) are on the bench you all use something different to clean them with. What better than to test some of the various cleaners and lubricants used and see if there is a way of improving cleanliness, or reducing costs.

Cleaners

Once all the parts are ready to be cleaned, then a suitable container is needed. The top of an old tin of spray paint is ideal, but you must use a metal container since plastic is affected by a number of chemicals.

The object of the exercise is to remove the dirt particles and grease which have got into the moving parts. The best way is to immerse all the bits in a liquid and agitate them to allow the liquid to get at all the surfaces. What liquid should be used? There are several around the house such as turps or meths. These two will remove the dirt particles by agitation, but they are both poor as degreasers. Parts tend to come out in a slimy condition requiring a good wipe with a cloth. Even this does not remove all traces of grease so essential in bearings.

Trichloroethylene

Known as 'Trike' this is a powerful industrial degreaser. It is not readily available and its use is not recommended due to the intoxicating effect of the fumes and the potential damage to plastics and your health.

Carbontetrachloride

Available from chemists. Not recommended for the same reasons as above, but a good degreaser if slightly expensive.

On The Carpet

Petrol

Like turps and meths, ordinary four-star makes only a passable cleaner, and a poor degreaser.

Lighter Fuel

This is a good degreaser, though not as good as 'Trike', and is readily available from tobacconists. It comes in a handy container, has virtually no smell and at round 70p a tin is cost effective. Another advantage is that lighter fuel does not effect plastics and can be used to clean bodies and chassis'.

Best buy in the cleaning department is lighter fuel by *Ronsonol* (and others). I have tested it on all sorts of things and can't find any real drawbacks. Motors, endbells, brush holders and commutators all are much cleaner for the careful use of lighter fuel on a cloth or cotton bud.

Lubricants

Having cleaned the parts carefully, there is little point in re-assembling the car without ensuring that the parts are in the best condition to resist dirt. Lubricants serve two purposes. To form a film between two surfaces; to reduce friction and wear and to act as a contact. In our applications, the latter is not required, and so we need to reduce friction as a primary objective. I have put several things through the mill, here's what to look for.

Automotive Grease (LMR etc.)

Keeps the dirt out well, but causes far too much drag in the bearings. Even by removing the shields and applying a small amount to the ball cage, the drag is still too high. Not recommended even for differentials where it attracts dirt too easily.

Silicon Grease (Schumacher, etc.)

This causes less drag than the heavier automotive grease, but there is still too much for comfort. Persisting with the principle I came across the second drawback of greases. After a while the dirt coming into the bearing mixes with the grease and forms a thick grinding paste which slows everything to a halt. Not recommended. This is *the* lubricant for differentials, but should be used sparingly.

3 in 1 Oil

Apparently, ideal on the face of it, and I'm sure many of you use '3 in 1' for many of your lubrication problems. In use on a 1/12th car all goes well for some while, but after a clean out there is evidence of a 'paste' left behind after the oil

evaporates. There is nothing wrong with '3 in 1' for most applications but as you will see there are better lubricants for 1/12th car use.

Triflon

Recently, we reported on this fluid and the comments made then are still valid. In general club use it is hard to beat, but like '3 in 1' a paste tends to form which clogs the bearing. The remarkable thing about *TRIFLON* is the long-lasting protection, most essential for economy minded racers.

WD40

Although very popular in America as an all-round household lubricant and freeing agent, 'WD40' has all the wrong signs. It is thin, evaporates quickly and does not feel like oil at all. Only a tiny application on a bearing refute these indications. It provides good protection, cleans well, and lasts an acceptable amount of time.

Best buy in the lubricants is 'WD40'. Cost effective as well as efficient in use, there is nothing to beat 'WD40' for serious racers. For club use, or if you are lazy about cleaning, then try the *TRIFLON* product, marketed by *Trade Model Supplies*.

Standard Motors - all the same?

The BRCA rules state that the top three finishers in a Standard Class 'A' Final must have their motors opened by a BRCA committee member (preferably the Eligibility Officer) straight after the final. All motors must be unopened prior to this, and when stripped must have "a discrepancy of not more than one turn on not more than two poles" of the armature.

At the Stafford meeting on 21 April, this procedure was followed in time honoured tradition. Pete Jones, the Eligibility Officer, found one motor with 34 turns on two poles, and 35 turns on the other, (34, 34, 35). On this basis, he called for the fourth place motor and stripped that. Of the four motors now lying on the table, two were 35, 35, 34, one 34, 34, 35, and one 36, 36, 36.

John Robson acted swiftly and called together all the BRCA 1/12th Committee members present. It was clear that the rules had NOT been breached, and the result stood.

Whenever a manufacturer sets about putting a product into production, the designer will discuss with the production engineer the capabilities of the machines that will produce the product. It is extremely expensive to make parts that are exactly the same, and no two things anywhere in the world are identical. Thus it is likely that the Japanese use

a machine to wind the armature that cannot for some reason always put 35 turns on each pole, probably due to the way in which such machines work. Similarly, the balancing machine will work to certain tolerances, and thus some motors will have better balance than others.

It is apparent therefore that the *Yokomo* motor is not produced to the same high standard as the *Igorashi* '05'. It was recalled that these were rarely less than 35, 35, 35, and then only on one pole. For this reason we have not come across the problem in the past. The same conditions will apply to the Ni-Cads. There are some good sets, and some bad sets. This is due to the manufacturing tolerances of the parts and the chemicals.

There is no evidence that anyone is cheating. Indeed, the evidence is to the contrary since the third place motor was won in a Concours competition at the Watford League! This motor was also short of turns on one pole. The fourth place motor was found to have 36 36 36 and no balance holes! The evidence does point to there being some motors with poles that are short of winds, and that since this lowers their resistance more current can be put through them. This results in a higher performance. So the chances are that all the motors selected by you as being good performers may have less than 35 turns on one or two poles, as these motors show up as good on a performance check.

The rules as written cannot be altered unless the Conference is recalled for a special meeting. Changing the Standard class to another formula may not solve the problem. If we go to the 1/8th scale system of changing bodies, then the costs will rise by one body and one or two armatures. If we change to another motor (say the 28 turn, buggy specification) then the cost will go up by one motor, or more if the tolerances on these are as bad as the 35 turn. One thing is certain, there is every possibility that someone will be disqualified for an illegal motor through no fault of their own on the basis of a rule that was written years ago to prevent people cheating on a class designed to keep costs down.

Although the BRCA only set the rules for BRCA 1/12th scale events, their effect is felt by all 1/12th racers. Please come forward with your suggestions now as to how this problem can be resolved. This will allow the conference this year to set new rules (if required) for 1986 in the knowledge that most participants want the change. Send your ideas to us c/o 'Model Cars,' or to any of your BRCA area representatives. We will publish as many as possible so that the best can be debated.

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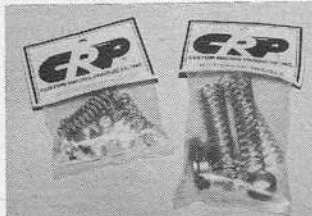


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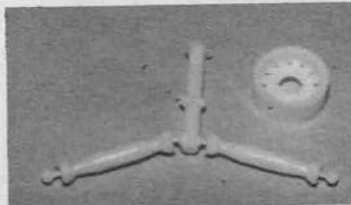
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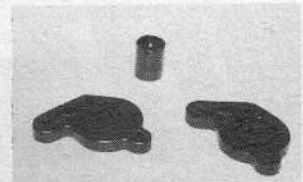
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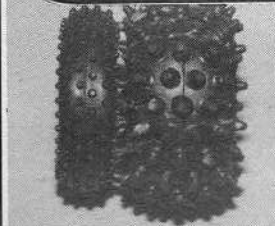


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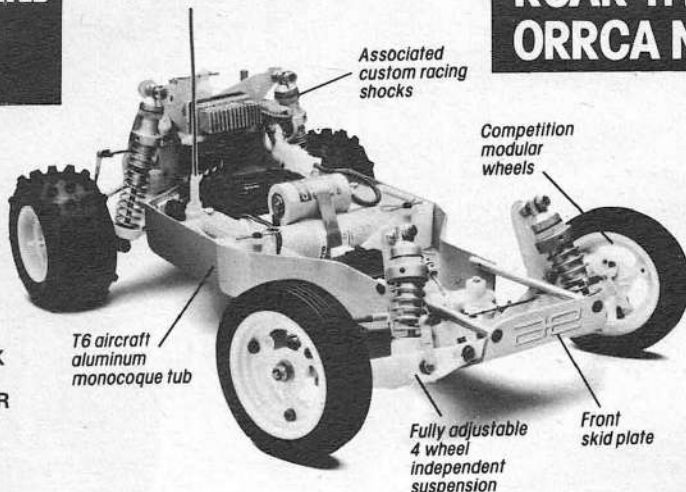
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HOTSHOT

Finally Tamiya get into four-wheel drive with their latest 1/10th electric Off-Road racer

FOUR-WHEEL DRIVE, as the fashion conscious will tell you, is 'in' this year — will be next year and probably the year after that.

The talk in electric Off-Road racing has turned from "it can't be done" and "4-WD Cars will not be competitive" to "do I need a 4WD car for this track" or "should we split 2WD and 4WD into separate racing classes?"

To add yet more fuel to these burning questions we have the appearance from the giant *Tamiya Corporation* of their 1/10th Scale contender; the 4WD 'Hotshot.'

The 'Hotshot' is that happy marriage of out-of-the-box fun vehicle and competition race-car all in the same box. This is no mean feat as *Tamiya* cars have always been more of the former than the latter and since the halcyon days of 'Rough Riders' and

'Sandscorchers' the *Tamiya* racer has consistently lost the edge to the competition.

Now, bouncing back with a vengeance, *Tamiya* claim that their 4WD race winner has been designed from the track upwards to put them back on pole position.

Drive System

No belts, no chains just a thin piano wire rod to transmit the drive from the rearward mounted motor to the front wheels. At either end chunky plastic bevel gears transmit the power through bevel geared differentials thence through hollow aluminium drive shafts to each wheel. The drive shaft outputs are fitted with kit supplied ball-races; extras are needed for the rest of the transmission system and axles.

Construction of the gearboxes is messy, the instructions commend copious amounts of molybdenum grease all over every moving part. A noticeable amount of 'play' between the drive outputs and bearings was present which, it was felt, could lead to an advanced wear rate of all moving parts.

Suspension

The 'Hotshot' uses unequal length upper and lower wishbones front and rear coupled to single coil spring mono-shock dampers. Anti-roll bars feature both ends to curb excessive body roll during cornering without resorting to stiffening up the spring rates.

Chassis

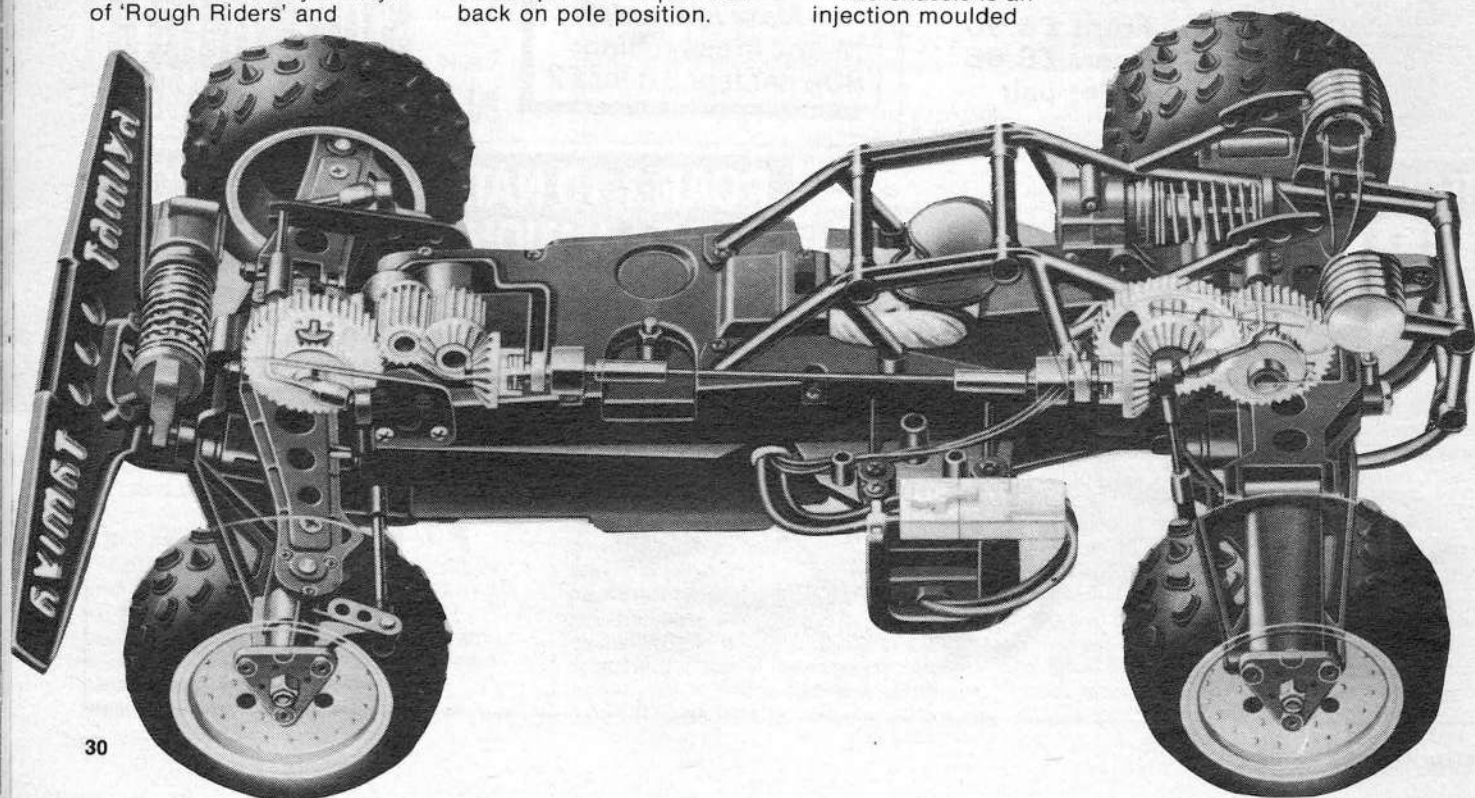
The chassis is an injection moulded

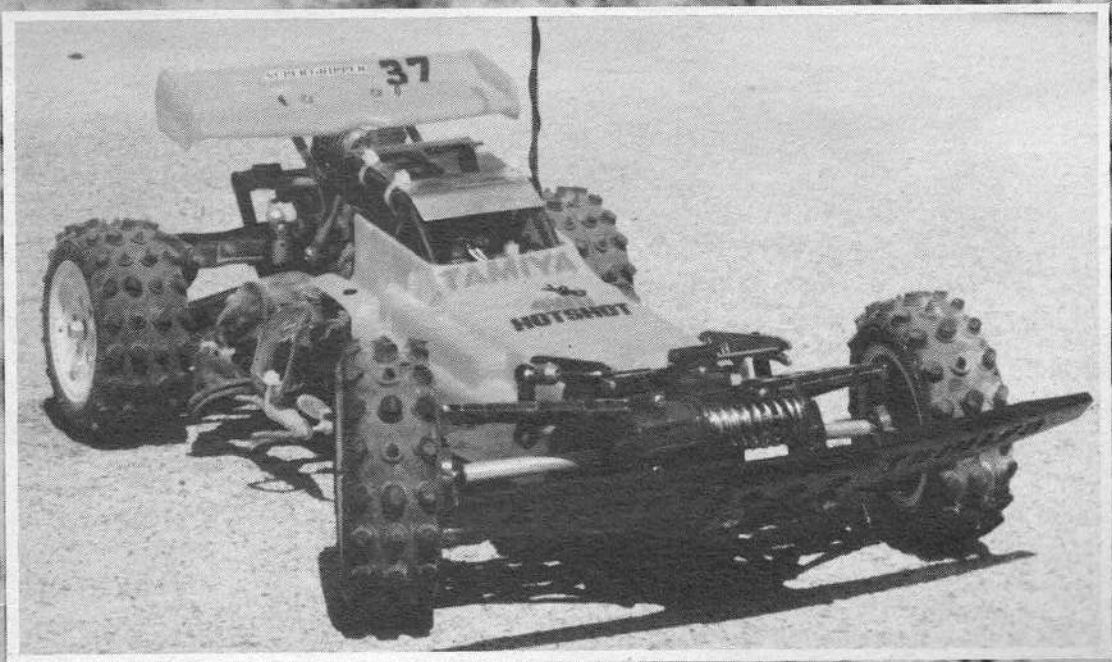
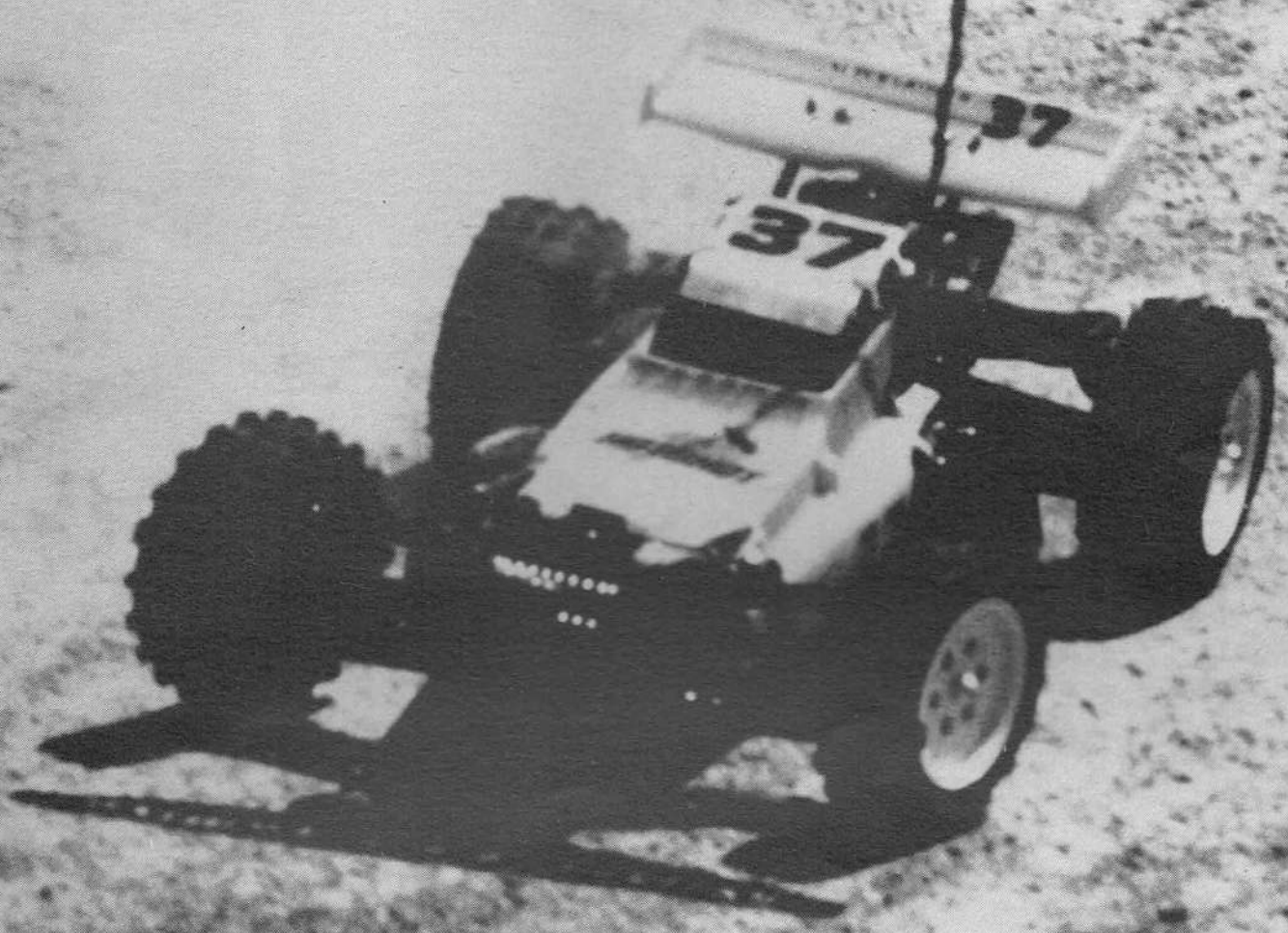
monocoque split into two halves, upper and lower. The lower half holds all the radio control gear (nice and low down) with the Ni-Cad pack sandwiched between the upper half and a GRP brace bridging the gap from the R/C crate and the rear gearbox. When the two chassis halves are bolted together and the gearboxes firmly attached a very rigid structure is produced.

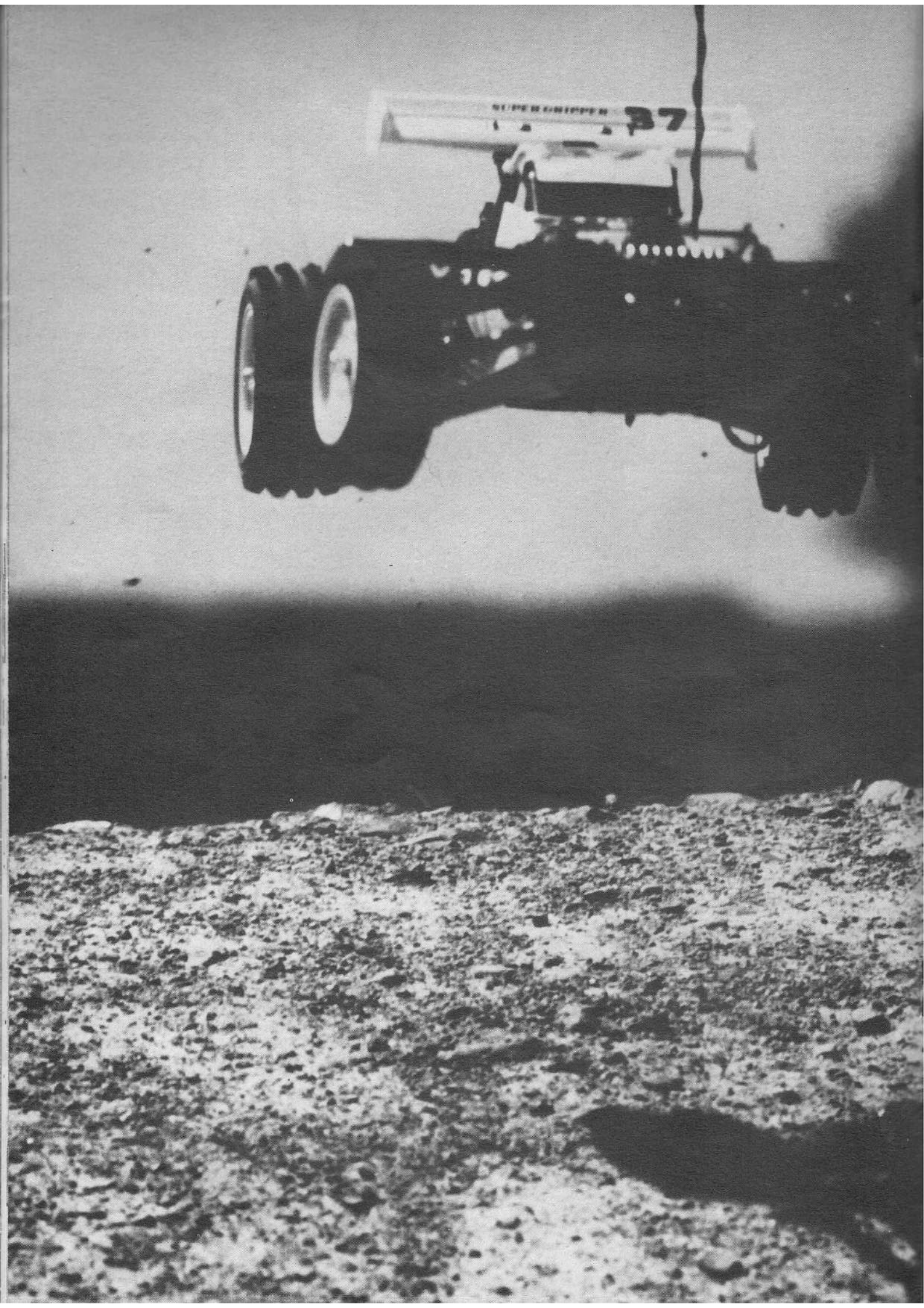
Radio installation

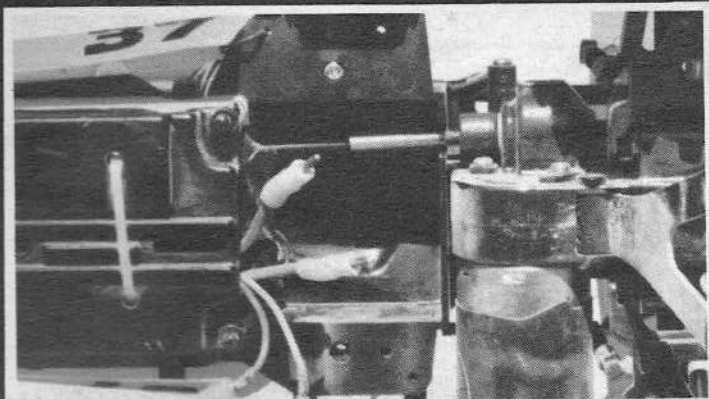
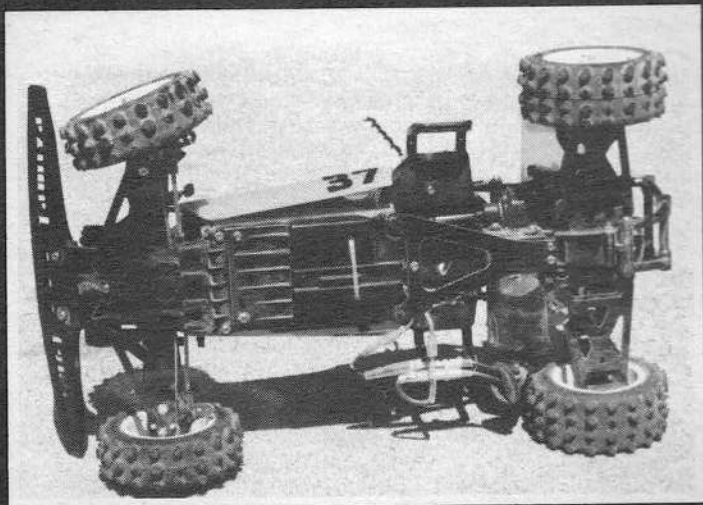
To say that the radio compartment is small would be an understatement. To say that it is extremely cramped would be a little closer to the truth. However it does all go in even if it is a fiddly job getting all the wires exiting from the right slots and the receiver positioned just so before bolting the box to the chassis.

The switch forms part of a voltage regulating circuit which allows the receiver battery box to be dispensed with. This is a good thing as there is no room for it anyhow! The speed controller mounts onto the throttle servo and is of the circuit board type. This type needs fairly regular attention so that good contact between the board and wiper is ensured.





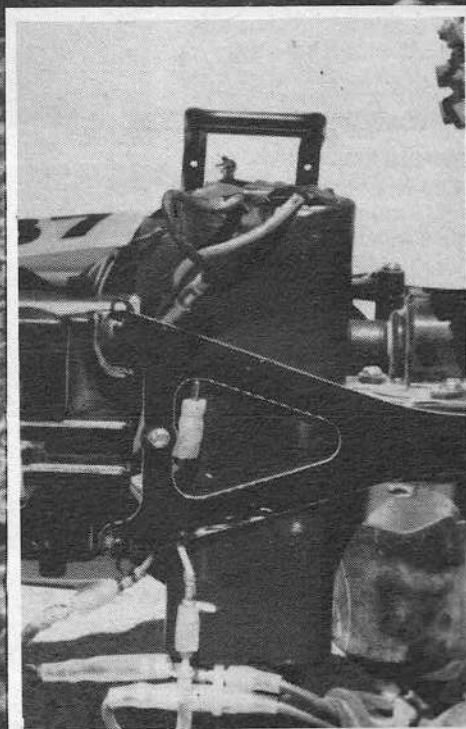




Left: close-up of the front steering blocks. The wishbones are fitted with ball cups which hold captive the ball heads fitted to the steering blocks. Above: the rear wishbones and hub carrier. The wishbones pivot on screw pins which have a thread on the screw head end. This keeps the pin in place when screwed into the wishbone.



Left: the underside of the chassis. The overall length of the 'Hot-shot' is 15in. The width $9\frac{1}{4}$ in. Above: close-up of the drive shaft which passes through the R/C crate to transmit drive to the rear wheels. The drive shaft is fitted with hexagon heads similar to those used on the 'Frog.'



Above: the Ni-Cad pack held in place by the GRP brace and plastic limit stops. Stick, side-by-side or Tamiya 'hump-back' packs can be accommodated.



Track Test

Fitting an electronic controller is going to be a problem because of the space — or lack of it.

On the review car we took advantage of the small size of the new 'Techniplus' receiver and placed it (using *Velcro*) in the cockpit. This meant more room in the R/C crate and easier access for crystal changing. The back of the R/C crate was then cut away so that our *Demon* electronic speed controller could project back into the 'hollow' above the Ni-Cad pack. By using the *Demon* we also got rid of the switch.

Motors and Ni-Cads

The kit is supplied with the ubiquitous standard *Mabuchi* '540' motor. Two motor pinions are included to give a high and low gear ratio — needless to say we fitted it with the high ratio. An interesting feature here were the four shims which fit into the motor mount screw hole to give the correct gear mesh when changing pinions. This is because the gearboxes are sealed and it is impossible to see what is happening inside.

The Ni-Cad pack sits across the centre of the chassis held in place with a GRP brace and plastic limit stops. Either a flat stick type of Ni-Cad pack can be used or else the familiar *Tamiya* 'humpback' variety.

Wheels and tyres

The wheels are not of the usual *Tamiya* type in that they are a one piece moulding instead of the previous three part sandwich. The tyres are made from a hard plastic material and feature a combination of block and pointed tread pattern. The tyres do not need to be stuck to the wheels they just locate firmly into grooves in the wheel hub. You must make sure they are mounted the right way round though and indeed an arrow moulded into the tyre wall shows the correct direction or rotation.

You can fit the rear size tyres to the front and in fact the fronts to the rear — if you wish, the hubs are interchangeable.

Bodyshell

There isn't a great deal to say about the bodyshell except that it covers a small

part of the chassis. The wing looks good but won't contribute much to the overall handling.

Hot stuff

Despite the complexity of the finished model, building the kit had presented no problems and had taken a couple of evenings spare

time to build.

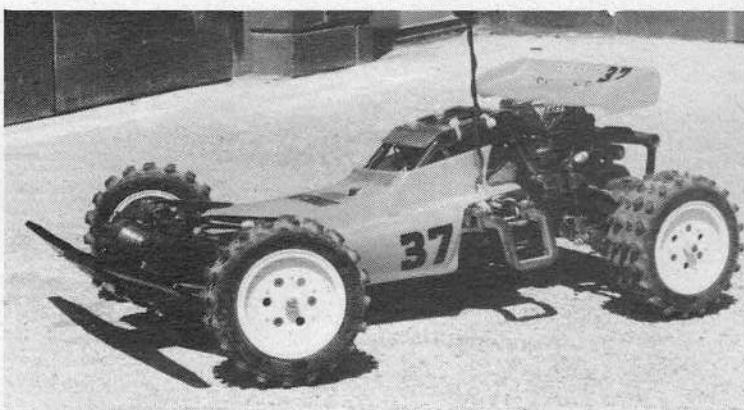
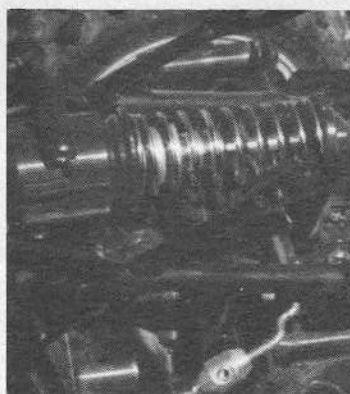
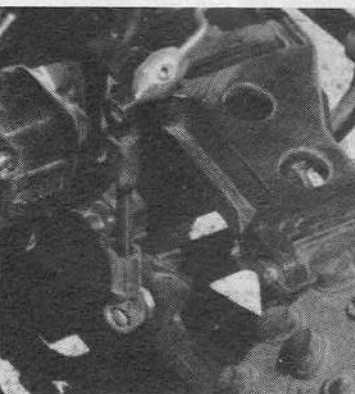
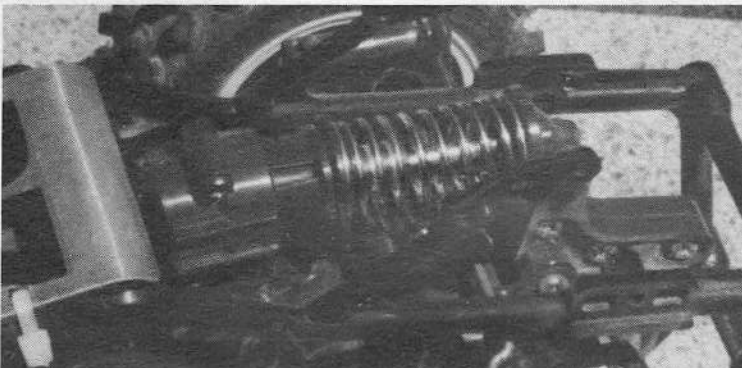
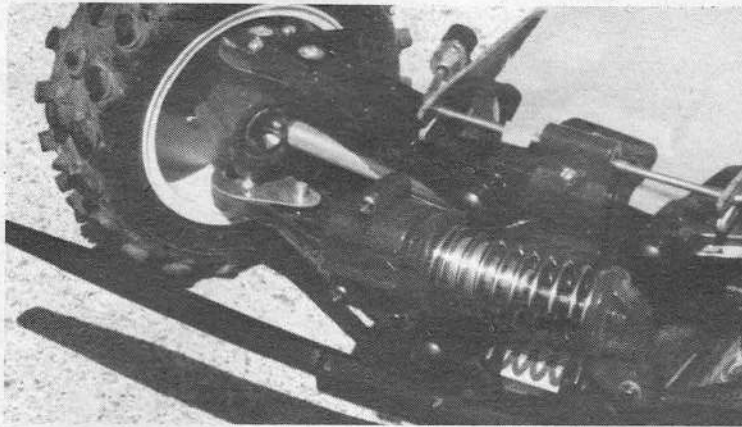
The play in the gearboxes, drive shafts and wishbones was still causing some concern as was the low amount of steering lock available. This along with four-wheel drive would obviously conspire to produce the dreaded understeer — or so we

thought.

Off the line the 'Hotshot' has instant traction with no wheelspin allowing the car to out drag the competition.

The car's fairly low weight (ours came in at a respectable 3.5lb) gives a good top speed. Duration also was good and we had no trouble lasting five minute races. Obviously the shaft drive system is fairly efficient (even when using plastic bearings) and certainly comparable with, belt or chain drive transmission systems. Where the shaft system scores of course is in its reliability. Belts and chains stretch and need to be tensioned correctly to give of their best.

Handling was another surprise. When first built and set-up the suspension seemed (to us) quite stiff. However the 'Hotshot' really soaks up the bumps and indeed during a couple of high speed drive pasts we could see the wheels 'fluttering' up and down to iron out the track.



Top left; Close up of the front mono-shock damper and steering stub axle block, the drive shafts are of hollow aluminium with ball and pin heads. The mono-shock is mounted directly to each of the lower wishbones. The front anti-roll bar can also be seen.

Centre left; close up of the rear damper which acts through a bellcrank system fixed to the lower wishbones.

Far left; close up of the rear anti-roll bar link. Left; the dampers (front and rear) can be simply adjusted by rotating the collar in the damper head mount. Different depth slots moulded into the collar move it inward and outwards thus altering the spring rate.

Bottom the 'Hotshot' ready for the race track.

The dreaded understeer never materialised and cornering was not only impressive but also great fun. Chucking the car into the corner and then applying a little bit of power to cause the rear-end to break away was a new and enjoyable experience. We know the 'Hotshot' is

strong in the short term because we really put it through the grinder at the BMX track during our cover shoot. They have a jump there called the 'Camel.' Two humps in quick succession, one gradual the other very steep put out 'Hotshot' about 4ft. in the air. We wanted a picture of

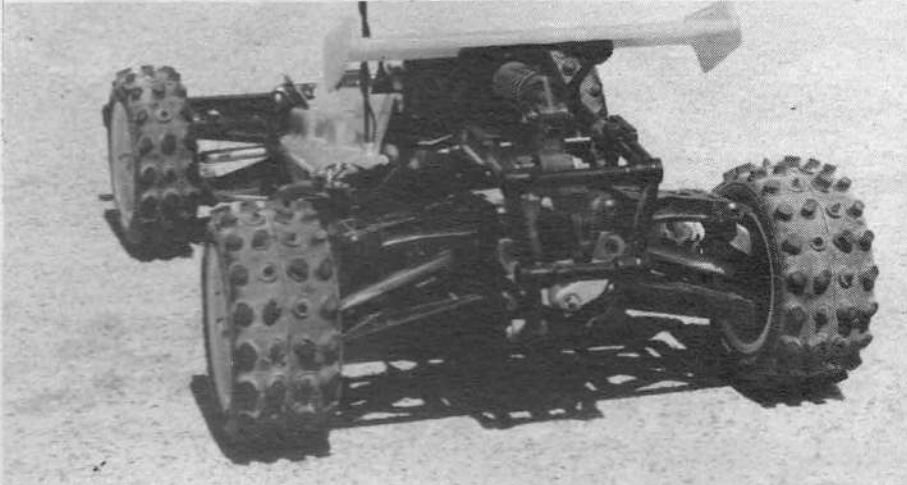
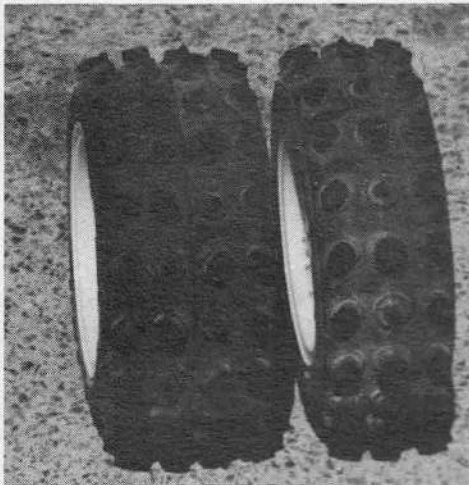
this and so hit the 'Camel' about ten times. Every time it landed with a wallop every time we thought "it's bust" and every time it wasn't.

Conclusion

Tamiya's best car to date, undoubtedly. The only misgivings we have is the gradual wear and tear

aspect and we will keep close tabs on this in the future. 'Hotshots' have already proven to be competitive in major competitions with a great many of the top national drivers trying them out.

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Below: high quality waterproof servo with the back off to show the circuit board prior to coating with silicone grease.

Carefully lift up the circuit board and spray both sides of the board only with RS silicone grease. **Do not use any other product like WD40, these contain hydrocarbons which will damage your electronic components.** If you cannot obtain the correct product locally, contact Phil Greeno or Ted Longshaw. Both have an account with RS and will no doubt be only too pleased to obtain a can for you.

Allow five minutes to dry so that all the solvents have fully evaporated.

Carefully reseal the back, making sure that the gasket is correctly in place. Renew the seal round the wires, using Dow Corning 'Aquarium Seal.' Other silicon rubbers are meant as fillers only, and will not stick to the

Wet Weather Racing

Stay in control and stay on the track despite the rain

IT'S NOTICEABLE at race meetings that when the rains suddenly arrive half the drivers begin to mutter "I've just had my radio gear serviced," etc., and generally appear glum, whilst the other half grin, look up at the sky, and proceed to thrash their cars round, apparently impervious to the effect of water on their radio gear and any general lack of grip.

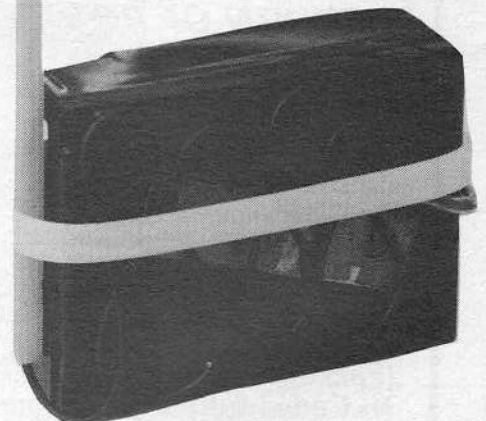
Naturally there are many ways of achieving this blissful state. This one appears as good as any, in that over the last 18 months I have not had a single radio failure due to water ingress, and have been enjoying

considerable grip. So for the benefit of the first mentioned 50 per cent, in the words of the immortal Jimmy Young, "this is what you do."

Servos

Purchase good quality waterproof servos. They may be more expensive initially, but they will work out cheaper in the long run.

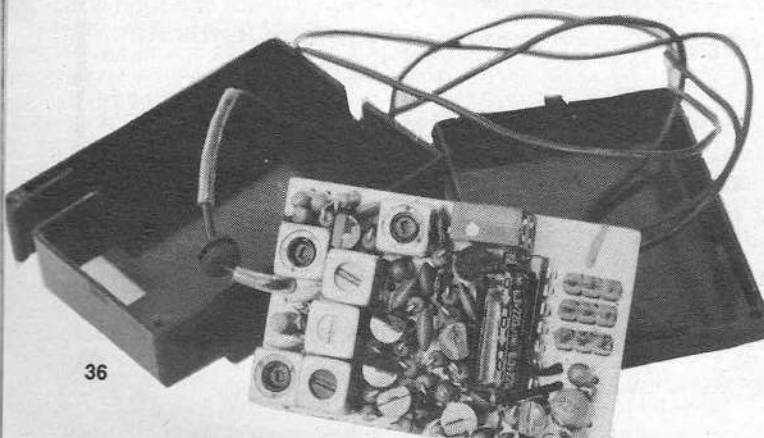
Open the servo and remove the back cover. This will immediately invalidate the manufacturers' guarantee.

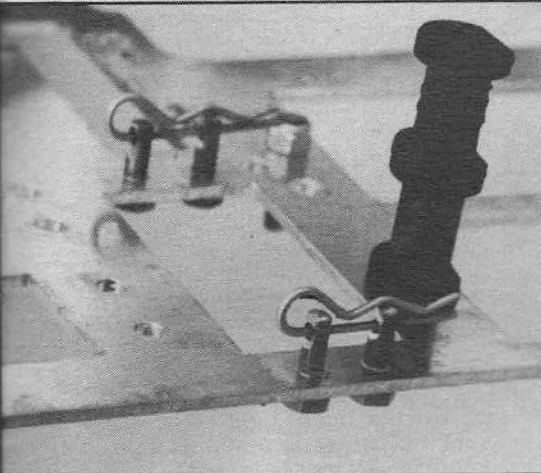
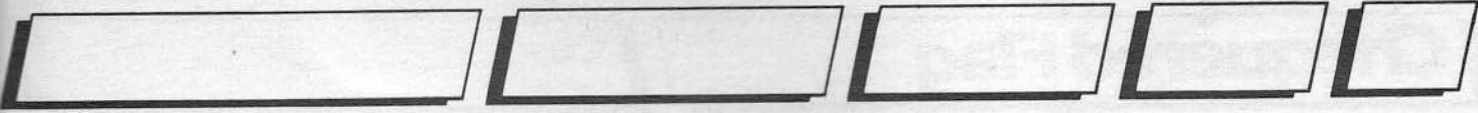


Left: the receiver out of its case ready for a coating of silicone grease. Above right: Radio Spares 'Aerosol Silicone Grease' and Dow Corning 'Aquaria Sealant.' Right: receiver case with aerial tube attached.

plastic. Naturally, the plastic has to be degreased before making the seal. I also force a little of the silicon rubber down the actual grommet where the wires enter.

Your servo is now fully protected from the wet. As an additional precaution I give each servo a light spray of 'WD40' (yes, it's OK on the outside) each time the car is put on the track.





Above: quick release servo mounting system. Right: servo in place and held firmly with small body clips.

It may not seem to come under the heading water proofing, but I am going to cover servo mounting at this point. You will see why later.

Unless your car is already equipped with quick release servo mounting systems then it is well worth the effort to make your own.

Remove the brass bushes from your servo mount grommets.

Purchase a sufficient number of cap screws that will pass through the grommets with plain shanks at least 13mm long.

Cut the heads off, leaving the plain shank. Grind a small flat on to the opposing sides of the top of the plain shank.

Now run a nut all the way down the thread of one of the screws, and then pass the plain shank up through one of your servo grommets. Mark a position just above the rubber.

On the position marked drill a 1/16 in. dia-hole through from flat to flat.

Mark, drill and tap the radio plate to accept the threaded portion of the screws and screw into position using stud lock.

Run a locknut down the thread on the other side of the radio plate, then grind off the excess threaded portion.

Now place the servo over the plain shanks and secure into position by passing a 1/12th scale body clip through the holes, such that one clip passes through both the posts on each end of the servo.

Finally, whilst you are at it you may as well shorten the servo lead so that it only just reaches the radio. Extra lead coiled up all over the place always adds an extra risk of radio failure.

Receiver

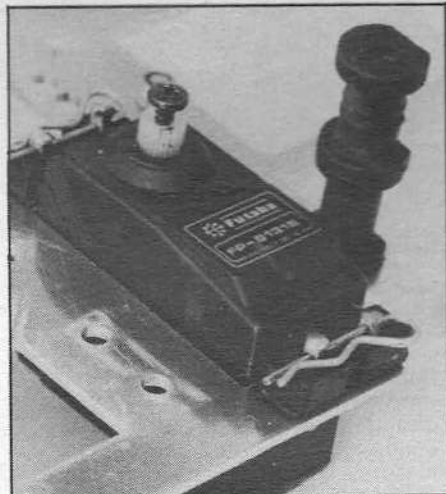
As for the servo, take the back off and spray both sides of the circuit boards with RS silicon grease. Allow to dry and reassemble.

Strap an aerial tube to the end of the receiver where the plugs are located

using a tie wrap. Fix the tube to the case with superglue and then pass the aerial wire up the tube. Neatly coil any excess wire and slip behind the tie wrap at the back of the receiver.

Make up three short fly leads about 70mm long. Fit these to the receiver and run them up to the aerial tube. Temporarily tie these to the tube.

Now comes the messy bit. Remove the crystal and replace the empty cover in the case. Then degrease the receiver case and cover the whole of



the outer surface with a thin layer of silicon rubber. Use Dow Corning 'Aquarium Seal.' Make sure that the wires and plugs are totally encapsulated and sealed to the aerial tube. The operation is best done half at a time. The only way I have found to obtain a good smooth even coat is to use a finger to work the rubber in. Leave only the area around the crystal socket clear.

Take a length of shrink tube as used for making up battery packs and slide the length over the receiver. Cut a notch for the aerial tube.

Shrink on. Then cut a hole where the crystal socket is located.

Now wrap round lengthwise with RS self-amalgamating tape. If you do not have a trade account with RS, then Phil Greeno and Ted Longshaw both stock this item. Again, cut a hole where the crystal socket is located.

What you have done up to now is permanent and can be left on. All that remains to be done before you go racing is to insert the crystal and tape over the hole with a couple of layers of insulating tape.

Crystal changes are easily and quickly dealt with by removing those layers of tape and replacing them after the change. Much easier than struggling with balloons.

One final job. When you connect the receiver to the batteries and servos colour code the plugs and sockets, or find some other way to identify which is which. It makes life much easier if you ever have to do a receiver change at the circuit in a hurry.

Battery pack

Water is not a sufficiently good conductor to provide problems at the voltages involved in the battery pack, so we do not need to go to the same extreme measures that we did on the previous item.

Make the pack up on the normal way, and cover with a layer of heatshrink tube to provide a ridged pack. A drop of superglue on the joint between the cell cases will help to ensure that the cells do not move, causing the insulated case to wear and result in a short circuit.

Then two layers of the same self-amalgamating tape laid in alternate directions will suffice.

Finally, we add a small glob of silicon rubber where the cable exits to provide mechanical support and stop the wire breaking.

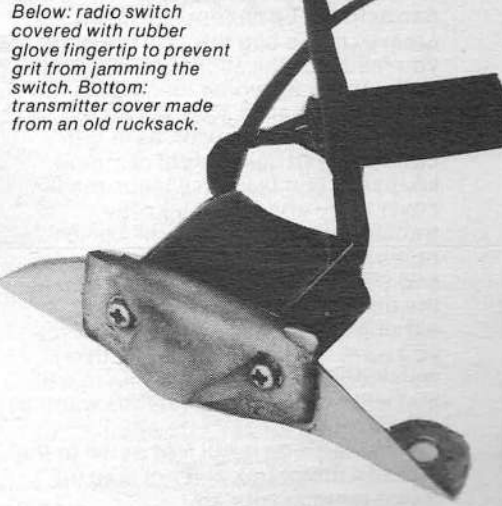
Switch

Yes, I know the top drivers do not use them at all, but you must remember that for reasons best not put into print they do not have to rush to switch off their cars after each heat.

I have always found that trying to reach under the body to separate two halves of a stiff plug that is often oily and wet is most difficult and is very likely to lead to damaged wires where they exit the plug.

A switch like the battery pack is not really susceptible to water. The main cause for concern is grit, which can cause the switch to jam (usually off). This may be easily and totally cured as follows:

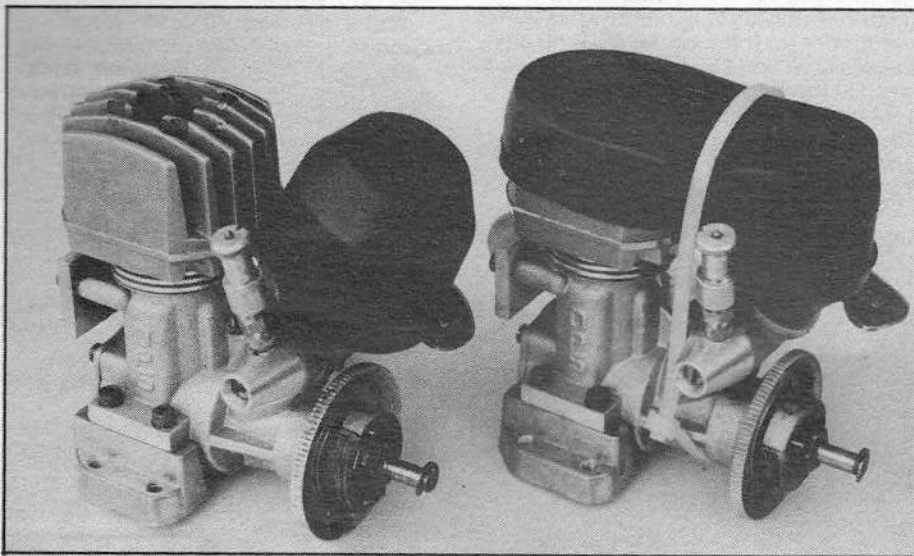
Borrow one of the wives'/mothers'/girlfriend's rubber gloves.



Below: radio switch covered with rubber glove fingertip to prevent grit from jamming the switch. Bottom: transmitter cover made from an old rucksack.



Chequered Flag



Above: SG wet weather air filter fitted to the engine on the left and SG Off-Road air filter on the other.

Remove about 20mm from the end of one finger and replace glove where you found it.

Stretch this over the little plate that forms the top of the switch.

Poke two holes in for the screws and screw down in the normal manner but using two small washers on the bolts.

The sliding part of the switch is now behind the finger tip of the glove, yet can still easily be operated.

Transmitter

No, a plastic bag with holes cut in it for everything is not the answer. Water can actually be channelled down creases in the bag through the holes you made for the sticks and into the radio. It can be worse than having no protection at all.

Take an old anorak or, as in our case, a cheap lightweight camping knapsack and fashion a tailor-made cover large enough to take the transmitter and your hands. Make holes just large enough for the aerial and the neck strap, and have a flap at the bottom that may be closed by either press studs or Velcro tape. Now you have a device that is effectively waterproof, will not flap about in use, and will even keep your hands warm in cold weather.

What is more, it will fold down to the size of a matchbox and not take up much room in your kit.

General

It is amazing how much water your gear can stand up to without failing. Even if it has failed it can usually be recovered by a short drying out period in the airing cupboard.

The big danger of water is corrosion which causes permanent and indeed often terminal damage.

The golden rule when you have finished racing and arrived home is to remove the radio gear. With the quick change servo mounts that I have described this should only take a few minutes. Unwrap the receiver and remove the crystal plug to allow the unit to breathe. Store in a warm place. If you leave your gear overnight in a cold place condensation will occur within the case and ultimately you will experience radio failure.

In damp, drizzle or light rain conditions use an SG wet weather air filter or equivalent.

In heavy rain conditions where there is a lot of standing water on the track use the SG Off-Road filter, but turn the rubber cap round so that the hole that normally takes the extra sponge filter is over the cylinder head heatsink. This will not only stop the water getting into the carb but will also cause the engine to run nearer to its optimum operating temperature. Without this the water would cool the engine causing it to load up with fuel and splutter to a halt.

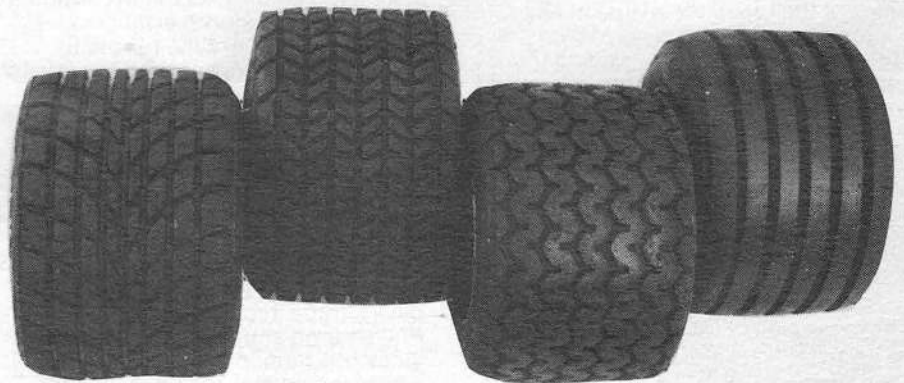
In all wet conditions (and very cold ones for that matter) use a hotter plug than normal (a thinner element). OPS Gold and the like are most definitely out.

In damp slippery conditions run the motor rich to provide more controllable power.

In heavy rain or standing water run the motor as lean as possible to promote hot running and prevent the fuel loading up in the crankcase. Now is the time you will be glad you used a motor with low compression in that it will remain fairly manageable in terms of power output.

Tyres

I have already extolled the virtues of MRC wet weather tyres in a previous edition and would expect that drivers will probably use nothing else under wet weather conditions in 1985.



Above: MRC tread patterns on their range of pneumatic tyres for 1/8th Scale Circuit racing. Wet weather and dry, 'slick' types are available.

Engines

Firstly, do not use your best engine in the wet. The water vapour in the air definitely seems to accelerate the wear, and I feel that an engine run under these conditions never seems as fast in the dry again. Use an old engine where the compression has gone down. You will find the power much more manageable and as you will see in a moment, using the old engine may well help to obtain cleaner running.

However, if you find foam suits you better, the following are all good. 'Black Grip,' 'Bajoma 113,' 'Ufra Special Slix' and '211,' 'Vega' and Ken Drinkwater's Tyres on the back with Greeno 'Silvers,' 'PB202' or 'Bajoma 311' on the front.

No one tyre seems to consistently provide the answer, and trial and error on the day is called for.

What I have found is that on a fresh track the tyres with a closed cell structure seem to work best, but as the

day progresses and a layer of sticky oil gets deposited on the track then the more open cell foams take over. They absorb the oil and become sticky themselves. So if you find a pair of tyres that worked well in the early morning, do not assume that they are the best to use all day. Try all your tyres again midday. You may well find that the tyres rejected as useless in the morning suddenly become brilliant. When testing, do at least six laps on each type of tyre. Some improve as the laps go on, and some get worse.

When grooving your tyres do not just hack away at them with a junior hacksaw blade at the track side. The idea of the grooves is to dispel the water and the groove produced by this method is not nearly wide enough to

do this. If you have never grooved your tyres properly you will be amazed just how much of an improvement the proper grooves bring.

Put the tyres up in a lathe or in an electric drill in a bench stand and use a round needle file to put the grooves in. This not only produces the correct width groove but also ensures that the bottom of the groove is rounded, thus making the tyre far less likely to tear and chunk from the bottom of the groove.

Glasses

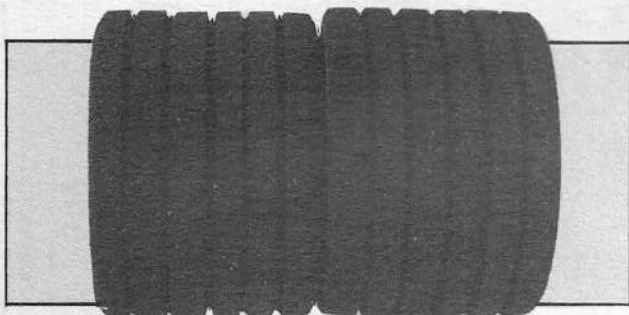
For those of you who wear glasses keep a peaked cap handy. This will keep all but the most driving rain off your specs.

Setting up

There really is not much to say on this subject. Use light oil in the dampers and set all springs as soft as possible. Then experiment to find (a) the most grippy back tyres available and (b) a suitable front tyre compound to balance the car. On two-wheel drive cars a fairly hard front tyre will be required with possibly some increase in toe-in or castor angle to reduce any tendency to spin out. On two wheel drive SG cars, which normally run with a special stiff grease in the back differential to prevent diffing occurring in the dry, it is desirable to have a complete spare back end with a differential filled with 'LM10.' This makes the car much easier to handle and reduces the understeer that would otherwise occur.

Good luck, and remember wet weather racing is best. Tyres last much longer, you use less fuel, less damage is done to the cars, the drive train is subject to much less strain, and you are at less of a disadvantage than normal to the works drivers with their boxes of fast engines to choose from.

My thanks to all those who provided the original tips that enabled us to come to grips with the weather. Bob Errington, Phil Greeno, Russell Buckner and all the others. Thanks. □



Left: foam tyres properly grooved with a round needle file to dispel water.

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Radio Round up

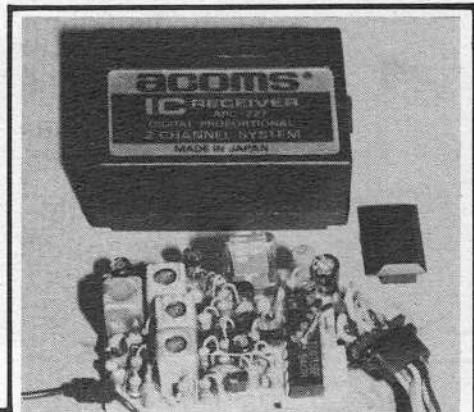
On show new sets of radio control equipment for beginner and novice racers alike

To make a change from our usual focus on the various types of cars we thought it about time we took a look at one of the most important areas of R/C car racing — the guidance system!

And not before time either as several new systems from both new and established manufacturers have become available. A round-up of radio gear — that's what was needed and so here it is.

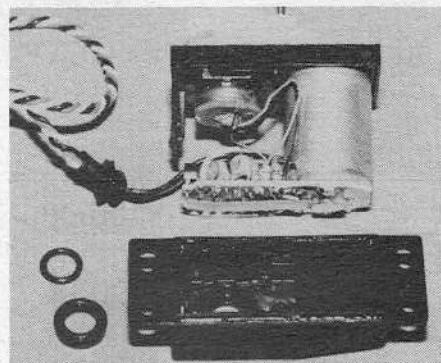
The systems on show here range from specialist 'pistol-grip' sets to the basic two channel stick type with grades of sophistication and price in between.

It is true to say of all modern R/C gear that reliability of operation is no longer linked to the price tag. Thus it is that the higher cost of some radio sets is a result of them having other specialist functions other than the basics. Reliability is a feature common to all the systems on show here.



Above: the circuit board of the 'Techniplus' receiver displaying a 'forest' of discreet components. Fly leads replace the circuit board block connector which accounts for the greatly reduced size of the unit. Below: the new Acoms servo is a very nicely made unit featuring Acoms own custom built integrated circuit. O-ring sealing is present around the output shaft with rubber sealant around the leads.

Acoms Techniplus



The 'Techniplus' is Acoms' replacement for their 'best selling' 'MkIII' system. Basically the changes are cosmetic with new mouldings for the case and stick units. The reasons for this are probably that the 'MkIII' injection moulding tools have worn out!

The electronics remain virtually unchanged although the battery box now requires eight pen-cells instead of six as previous. The 'Techniplus' is sold as a complete system with receiver (smaller version) two servos, receiver battery box and switch.

Available from most model shops, price between £50 and £60.



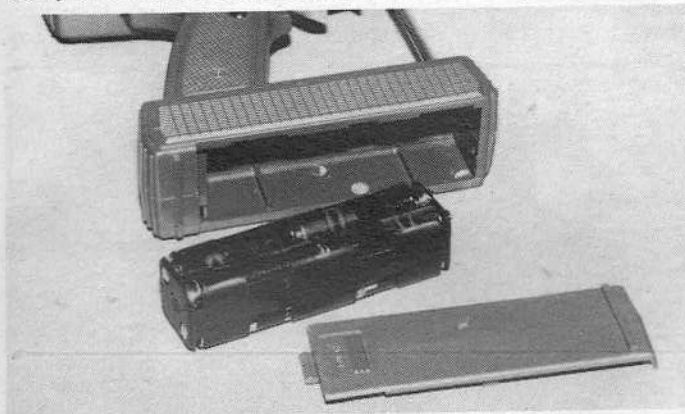
Hi-tech Challenger 2P

The 'Challenger 2P' is *Hi-Tech's* version of the increasingly popular 'pistol-grip' type of radio using a trigger and wheel for throttle and steering respectively.

Below: throttle trim adjustment allows precise setting of the servo travel. Servo reversing switches can be seen on top of the case. Bottom: total steering throw is set by the small trim tab under the wheel. The steering rate trim adjusts the servo throw within that pre-set limit and can be altered whilst driving.

The 'Challenger 2P' is available from *Powermax* stockists approximate price £75.

Below: the base of the 'Challenger' case holds the battery pack, eight pen-cells are needed. Ni-Cad batteries can be fitted very easily as the holder connects into an internal charging circuit.



Sanwa Dash R2

The 'Dash R2' is *Sanwa's* basic two-channel (throttle and steering) system aimed primarily at the car market. Even so *Sanwa's* usual high quality of manufacture is present along with the additional servo reversing feature (see below). This allows the direction of servo travel to be reversed on both channels if necessary.

The 'Dash R2' is available through *Irvine Engines* stockists. Price £50.00 approx.



Test Report



JR Beat 2 Pro

The 'Beat 2 Professional' is JR's specialist car radio system carrying a host of features to make setting up throttle and steering more precise. Servo reversing and steering rates feature along with throttle end point adjustment and over-ride button. This latter feature allows the throttle servo to be over-ridden to a pre-set position regardless of stick position. This allows the brake to be pulsed very quickly without resorting to large stick movements.

Available from MacGregor Industries stockists. Price £79.95 (complete system).



Multiplex Delta

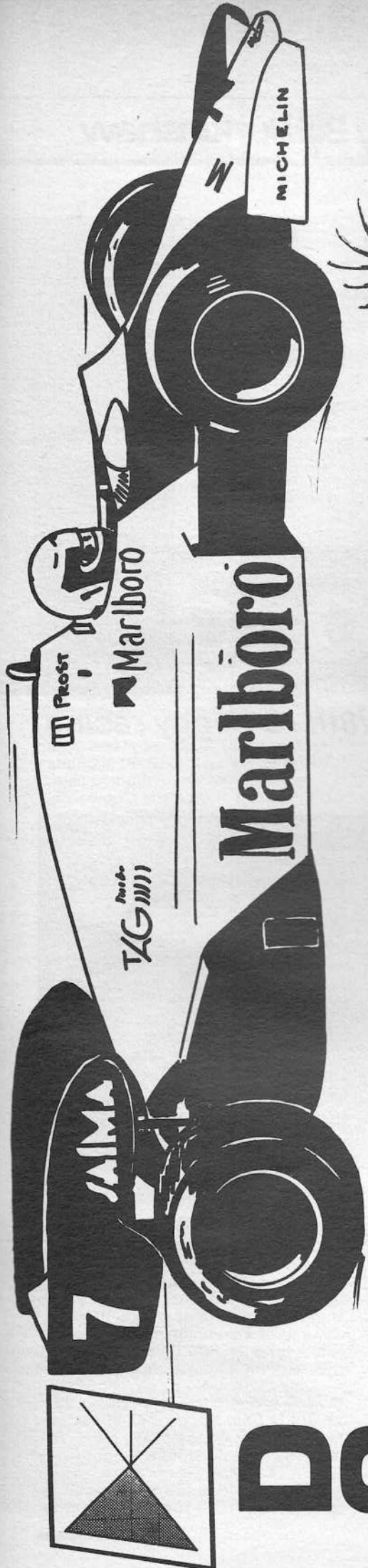
The Multiplex 'Delta' may look familiar and well it might because it is exactly the same radio as the Acoms 'Techniplus' but with a 'Delta' sticker. There are two differences however. The receiver has different fly-leads to allow use of Multiplex range of servos whilst the transmitter features an in-built charging circuit. The 'Delta' is supplied as a combo (no servos) and is available from Powermax stockists. Price £39.50.

JR Beat 2 Alpina

The 'Beat 2 Alpina' is JR's specialist 'pistol-grip' system which along with the 'Beat 2 Pro' allows car users the choice of a specialist car system using the wheel or sticks. Both systems have features in common although the 'Alpina' does not have the brake button.

The 'Alpina' will be available through MacGregor Industries stockist. Price TBA.





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EFRA GPs

The EFRA GP series are not the high pressure, serious events that many racers seem to think they are. Most people that have visited European circuits come home with glowing reports of the warm reception they have received and happy memories of the friendships made. You don't have to be an ace driver to take part, you do need a basic level of competence otherwise BRCA will not issue you with the license you need to compete overseas. The Buggy races are certainly not dominated with works drivers, the atmosphere will be very similar to that at a BRCA Championship round. The Inter-

improvement to wear rate or reliability but by and large the manufacturer knows more about what makes his product work well (or not as the case may be) than we do.

I feel bound to say that in many cases the kits that we can buy show an untoward prejudice for one make of engine or R/C than the others to the extent that it makes life difficult if the purchaser tries to fit 'Brand Y' instead of the intended 'Brand X'. This is a little unfair as is the assumption that the Buggy will not go wrong so access to the works is very restricted.

For whatever reason you decide to embark on an alteration to your

Right: racing action from the Primrose Valley BRCA National meeting. The 'Mustang Xi2' driver (car right) is obviously driving at eleven tenths whilst Kyosho 'Integra' (centre) takes the easy route.



1/8th Off-Road

Bill Burkinshaw gets into top gear as the 1/8th IC buggy racing season gets underway.

national language of EFRA is English and it is an EFRA rule that all the announcements are made in English as well as the national language so it should be quite straightforward to understand what is going on.

The following list of races are open to any BRCA member who wishes to enter and who obtains an EFRA licence. The licence and entry forms for the races are available from the BRCA 1/8th Off Road Section Secretary — Steve Marr, 104 Springhill Avenue, Crofton, Wakefield, West Yorks. Telephone 0924 864396.

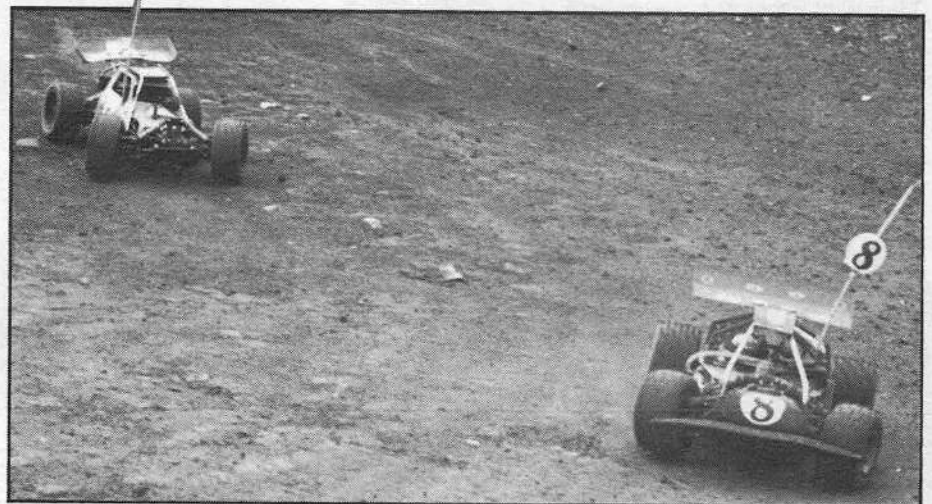
EFRA Off Road Grand Prix

Italy — June 1st/2nd.
Norway — June 29/30th.
Denmark — August 24/25th.
England — September 14/15th.

Modify!

I get the feeling that many manufacturers cringe at times when they see the results of the modifications that Buggy drivers make to their carefully designed and beautifully engineered products. On the other hand I have from time to time been sorely tempted to have a go at a kit design myself to see if I couldn't make it go a bit better!

Making it 'go a bit better' just doesn't work in many instances. Quite right, there will be instances when for reasons of economy a manufacturer has compromised on a design feature and a little beavering away will make a worthwhile



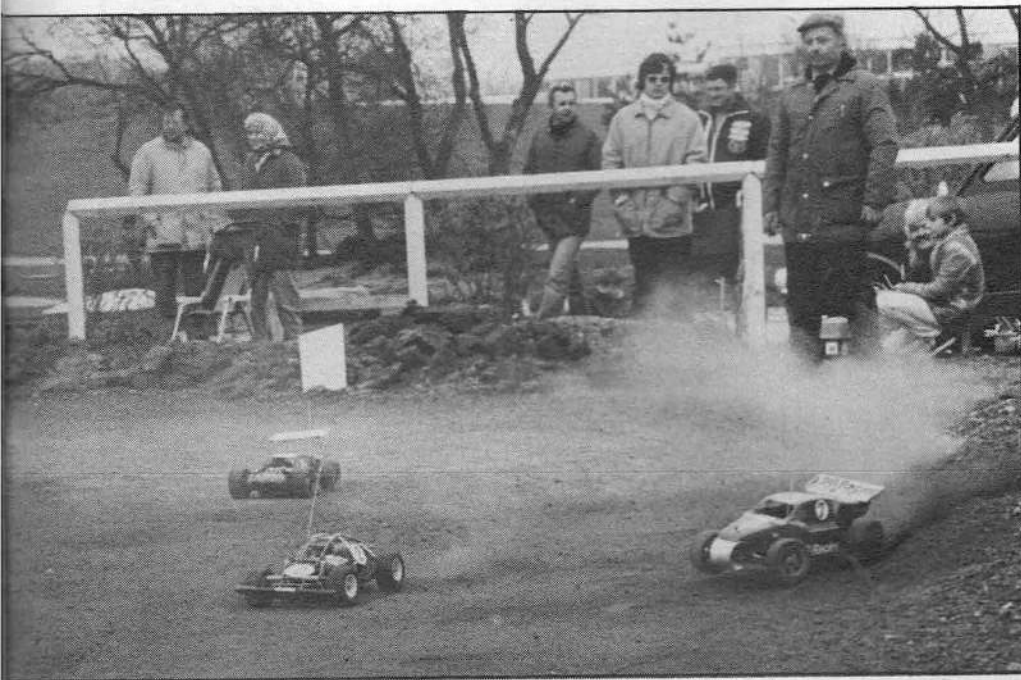
Above: another snippet of racing action from Primrose Valley. This time Serpent 'Cobra' (right) outflanks the opposition.

chosen Buggy, do be fully aware of the likely consequences before you start. At the very least your car will no longer be 'Standard' and any part that you have made can only be replaced by another home made part. Think about it, if you spend one hour making a special wheel spindle or drive shaft, you can guarantee that it will break sometime so you had better make two whilst you are at it. The one hour task becomes two and so on.

Also, do look very carefully before you start, just how many other parts will the simple alteration of one component affect? For each extra

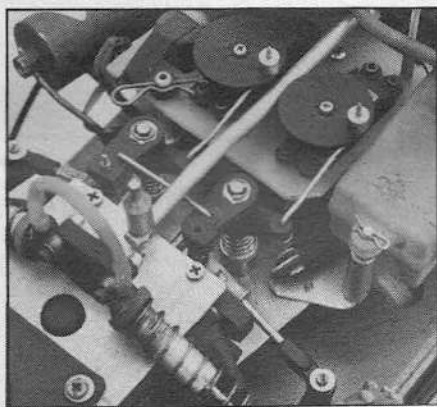
part affected there will be additional spares to make. Wherever possible try to make your modifications using readily available components from the same manufacturer as your Buggy. At least your should then be assured of a common standard of screw threads right through your car.

One of the biggest traps of the lot to avoid is the weight reduction trap. If you are going to try to reduce the weight of your Buggy only consider taking weight off the *heavy parts*! A cubic inch of aluminium weighs 1.55oz. or in other words you have to drill 30 holes 0.5in. diameter in your car chassis to save 1oz. However, with



steel only $\frac{1}{3}$ of the number would be required! Glass/epoxy material is dense and is worth considering as a candidate for weight reduction and it is also comparatively easy to work with. I would strongly advise wearing protective gloves and even a face mask if you file and sand GRP board, the dust is very unpleasant and can cause dermatitis.

Several people have already attacked both the *Serpent 'Cobra'*



and the new *PB 'Mustang Xi2'*, not to try and improve the handling, but in both instances to improve control linkages and accessibility — or so we feel bound to say, the perpetrators felt! I must confess to having made an alternative radio plate for my own 'Mustang', the *OPS* engine and the standard plate are not totally compatible. The angle of push/pull on the throttle causes wear related sticking problems which in any case would probably not occur in the latest *OPS* carbs that have brass slides.

Steve Marr (and it is his 'Cobra' illustrated here) wished to fit double steering servos to his car and Jeff Lindstrom (the happy 'Mustang' owner) wanted as I did, a more direct servo linkage to the throttle.

Factory modifications

DIY jobs are all very well, but you can rest assured that the aware manufacturer is probably working harder than you to improve his products and passing on the results of his efforts as quickly as possible



Above left: close up of Stephen Marr's double steering servo set-up on his *Serpent 'Cobra.'* Left: the revised radio plate devised by Geoff Lindstrom for his 'Mustang Xi2' to allow for a more linear throttle movement between servo and carburettor.

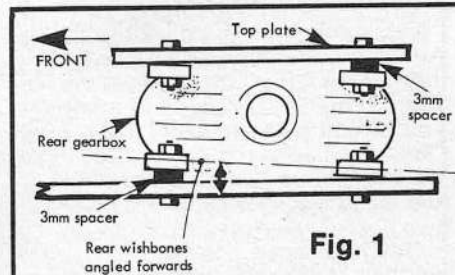


Fig. 1

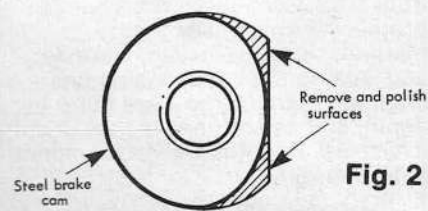


Fig. 2

to racers. Try these *PB 'Mustang'* tips for size:

- Angled rear wishbones to help prevent 'squat' under power. Dead simple, just add four spacers as shown in **Fig. 1** to the rear wishbones.
- New damper pistons available from *PB* now enable 20W50 oil to be used in the dampers. This thinner grade oil does not heat up so much in the dampers which thus stay more consistent during long runs.
- If you really want to give your 'Mustang' a treat buy it a pair of steel bevel gears, not essential for the club driver but if you will insist on thumping the car too heavily into solid barriers then . . .
- To get the best from the brakes, shape the brake cam very carefully as shown in **Fig. 2** polishing with emery cloth and applying a little grease.
- If your car seems erratic and veers from side to side on the straight you have probably got too much rear wheel steering. Cut it down a lot and try again!

We understand a Negative Camber Kit is to be available from *Garbo* to fit the 'Gepard', this and metal gears are the latest factory update to this well proven Buggy.

Air filters

A good way to check on the efficiency of the air filter on your buggy is to take it off! It is not a good idea to run it with the filter off however, just take a look down the carburettor after a short run. If there is any sign of dust at all then the filter is not doing its job. Either fit a better filter or make absolutely certain that your filter is sealed onto the engine. I seal all filter joints as well as the filter to engine joint with silicone sealant.

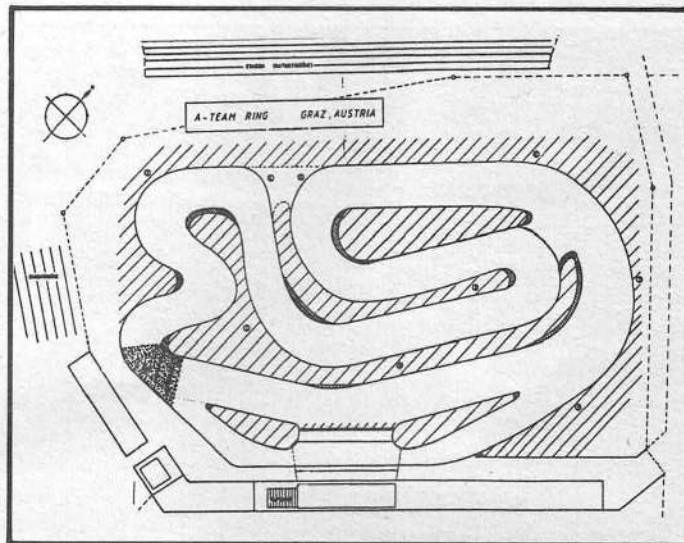
Rough Riders

Austrian Grand Prix

I was delighted to be invited by the Austrian Federation as referee for their EFRA Grand Prix held at the 'A Team Ring' Graz, Austria in mid-May. This circuit is to be used for the Euro Champs in July, the trip thus giving me the chance to assess the track and also do a little espionage for our own Euro Champs team drivers.

Others obviously felt this a worthwhile Championship to visit. Pedro Martinez reigning Euro Champion made the 1,700 Kilometre drive from Barcelona with younger brother and rising star Borgia Martinez, also the Italian, German and Austrian national champions entered. Team *Garbo* were there in depth, and as Martinez is now driving a 'Gepard' one was obliged to admit, great strength!

Right: diagram of the 'A-Team Ring' circuit. Below: overall view of the 1/8th buggy circuit and the practice circuit behind it. Drivers get a superb view of the track whilst the mechanics in the pits stay out of the sun or rain.



The 'A Team Ring' is a permanently constructed track alongside the river Mur with a racing surface comprising of crushed stone chips bound with clay. Very durable but the surface just loosens sufficiently to make the driving 'interesting'. The circuit is superbly edged with resilient rubber tubing and concrete curbing on the inside of the corners angled so as not to damage cars, but discourage them from corner cutting.

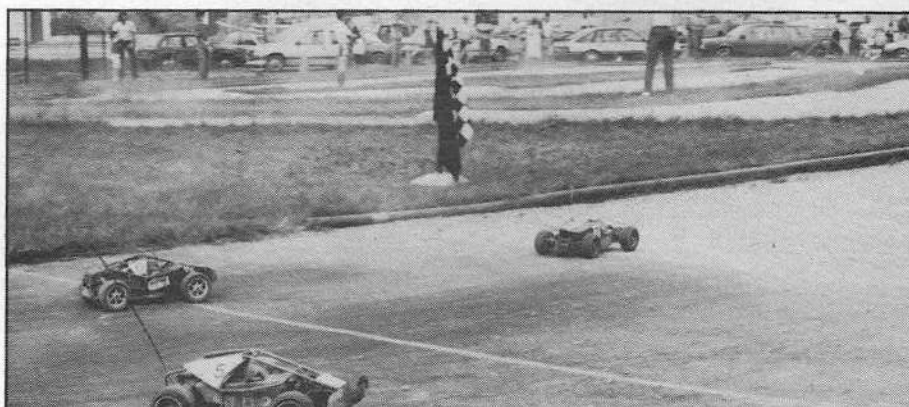
Permanent covered rostrum, timing facilities and covered pits make drivers and organisers feel cossetted compared with the often primitive conditions that appear at U.K. tracks!

The meeting started with two practice rounds of timed heats to give the organisation a chance to settle down. As the *AMB* Auto-Count system was in use, few problems were expected — or encountered. One worthwhile feature of the European races is the brief frequency check that precedes each heat in the first round. This does enable drivers to check out their radios alongside the drivers they will race against for the rest of the day and also serves as a check on racing numbers.

Three rounds of heats put Pedro Martinez firmly on top of the heap with a fast 14 laps, not quite up to his 15 lapper in the timed practice but still very fast. The EFRA Christmas tree final system was used on Sunday with the final eventually comprising a field of 10 *Garbo* 'Gepards' albeit with a variety of engines.

Martinez led right from the drop of the flag for the full 45 minutes to eventually win by 9 laps with Italian Champion Barochello second, Ghedini (also of Italy) 3rd and Borgia Martinez 4th. An excellent race which augurs well for the European Championships later this year. □

Right: Borgia Martinez (holding transmitter) awaits the fire-up from Martinez Sr. as Pedro (back to the camera) looks on. Both youngsters are now driving near Standard *Garbo* 'Gepards.' Below: the cars had to negotiate a short tarmac section in front of the timing area. The receiving wires for the automatic lap-counting system were buried beneath.

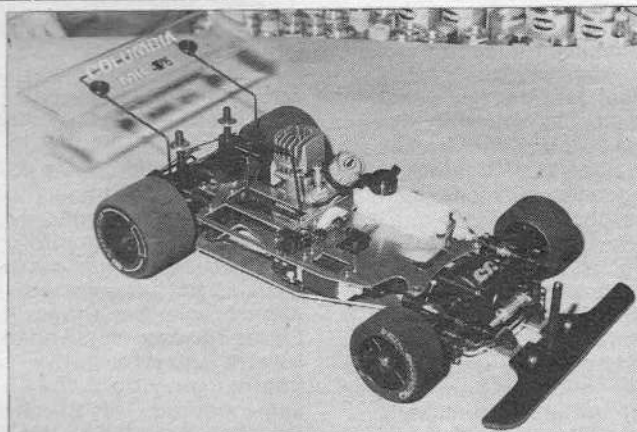




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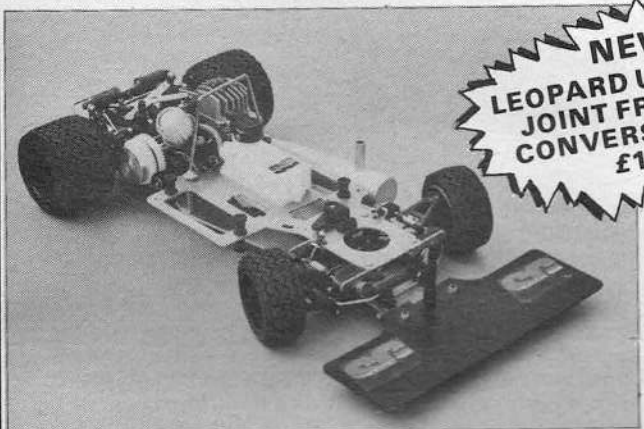
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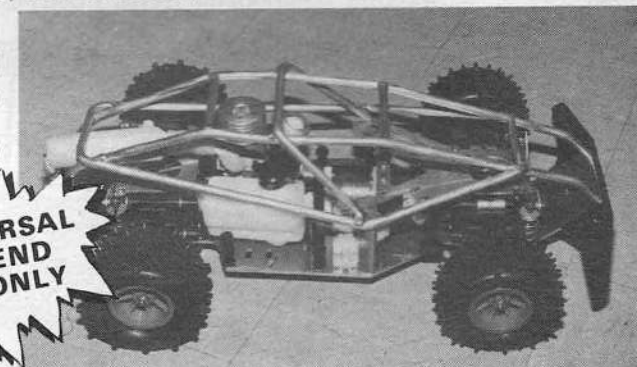
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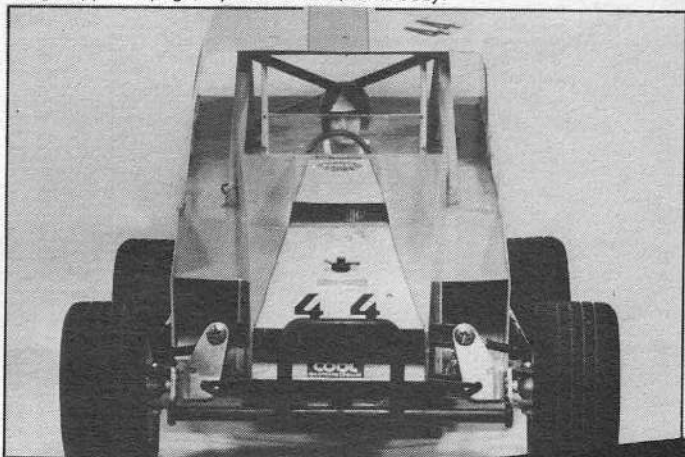
THE DISTINCTIVE 'wedge' bodyshell for my Dirt Modified racer was ABS sheet. I tried at first using Lexan, but not being able to find a suitable method of 'sticking' it all together, chose the ABS to finish this first shell.

Except for the 'T-bird' roof, all the body panels are single-plane flat surfaces, either bolted to supporting members with 1mm nuts and bolts or glued to each other and/or the strengthening brackets inside the shell. All the internal strengthening brackets were cut from 1mm thick polystyrene boxes, giving me beautiful 90 degree angles to work with and glued to the ABS sheeting with UHU 'ALLPLAST' under pressure. To date the glued joints

have stood up well to innumerable shunts and bumps, including a horrifying series of nose-over-tail rolls, after colliding with a stationary vehicle in the middle of a turn, the only damage being to the paintwork on the roof.

I began by constructing the nose section (panels A & B) using the adhesive and angle brackets as shown in Fig. 1. The completed nose was then glued to the internal 'wing' using the same method. This structure was then mounted on the chassis, using the front mounting post and the two rear body-mounting points cut in the 'wing' to correspond with parts C-15 in the 'Frog' kit. These body-mounts are actually used to mount the 'Subaru' body on

Bottom left; view showing method of internal strengthening used in construction of the ABS sheet bodyshell. The underside of the internal 'wing' is clearly visible, as are the plastic angle 'lugs' used to locate the rear body panels. The wrinkled surface over the rear wheel-wells, is unused self adhesive decal sheet used to strengthen the thin plasticard structure. Below; front-view: illustrating the 'wedge' shaped aerodynamic bodyshell formed by the use of an internal 'wing'. Opposite page; top view of completed body.



Dirt Modified Racer

In part two of Roy Yuval's Tamiya 'Frog' conversion feature he details the bodyshell construction

the original 'Brat' version of this kit and are included in the 'Frog'. I next bolted the roll-bar onto the internal 'wing', using the rear section of the 'Blazing Blazer' kit item, this I had salvaged after 'destroying' my own 'Blazer' last year, but it can be ordered as a 'spare' from Messers RIKO with no problem.

The rear side-panels were next glued to the 'wing' nose section and an elongated 'U' bracket, 150 x 20 x 0.5mm cut from aluminium sheet (F). This bracket is bolted into the extreme rear of the shell between the two side panels as shown and also serves to mount the rear panel and rear 'bumper' support brackets.

The rear panel was mounted by glueing it in place between the rear-panels first, when the adhesive had completely set-off, the lower section was gently warmed with a hair-dryer and bent around a wooden dowel until the

smaller end was at 90 degrees to the vertical face.

The aluminium bracket at the rear of the car was then unbolted from the side panels and the 'short-end' of the rear-panel mounted on its upper surface, using 1mm diameter bolts — the whole thing being then remounted between the rear-panels as before. Before remounting however, a 150mm long section of 1cm aluminium 'U' channel was drilled to take a discarded 'Willys Wheeler' roll-bar and then mounted with the 'open' side facing forwards, on the aluminium strengthening bracket — that's how a roll-bar becomes a rear nerf-bar folks, easy aint it?

The lower section of the vertical rear panel was drilled with innumerable 2mm diameter holes and a 5mm gap left between it and the rear of the internal 'wing', to allow air trapped in the rear bodyshell to escape, as seen in the photo'.

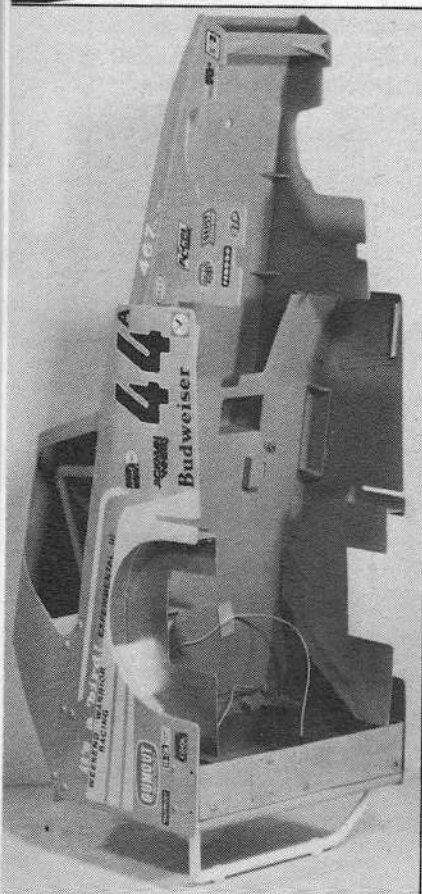
The one-piece 'T'-bird

roof panel and supports was then cut out, after first using thin card to determine its actual shape. I suggest that the modeller also use this method (despite the dimensioned drawing!) in building the roof, because it's a bit tricky and needs quite a bit of patience, a commodity which had a habit of disappearing during this phase of things!

The cut-out roof is then gently bent to shape using the hair-dryer again, then drilled with three, 2mm diameter holes along the lower edge of the rear pillar and two, 1mm holes in the front supporting pillars. Using a supporting 'plate' inside the rear pillars, they can now be bolted to the rear panels, I also glued the joint to be doubly sure.

The front pillars were also glued to the rear panel and riveted, using the following method.

After both pillars and rear panels have been drilled, 1mm diameter plastic rod is cut into short lengths and one end gently warmed with either a cigarette end or



soldering-iron, until it produces a beautiful mushroom-shaped 'rivet-head'. The rivet is then inserted through both roof-pillar and rear panel whilst holding both parts together firmly. The protruding end of the 'rivet' is then warmed until the newly formed 'mushroom' holds the structure together. Wait until the 'rivet' is completely cold before releasing the finger-pressure on pillar and

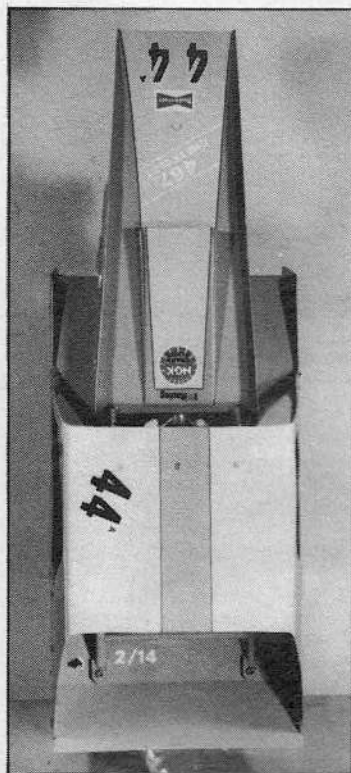
rear-panel. This prevent the still soft plastic from stretching and one ends up with a securely fastened joint, which I then have strengthened with adhesive just to be on the safe side. The roof was also screwed to the top horizontal bar of the roll-cage, thus forming a very rigid yet lightweight structure.

One further item remained to be constructed before the

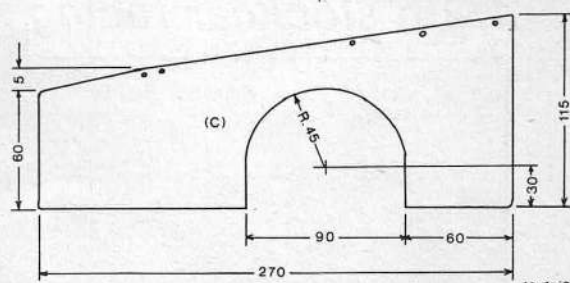
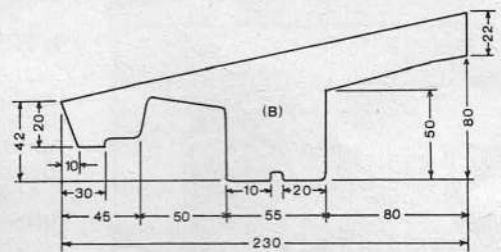
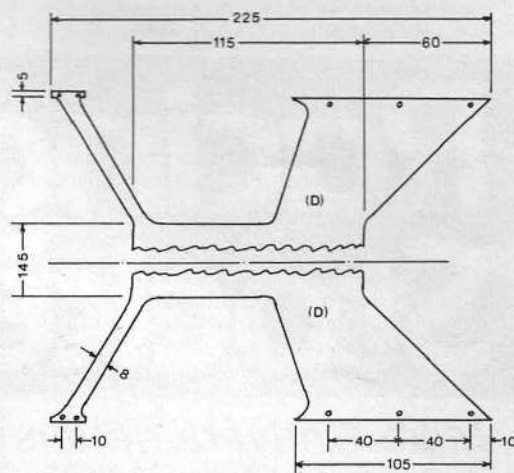
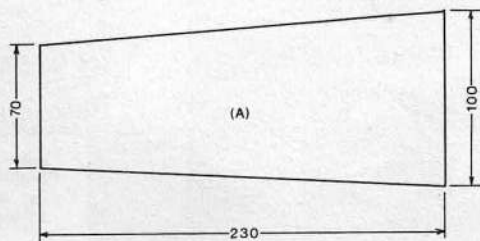
bodyshell could be mounted on the chassis, a pair of lightweight aluminium 'strut-cum-dust excluders', I really cannot think of a more technical term for the damn things! However, in order to hold the bottom edge of the rear-panel in its correct position and prevent the ingress of dirt and dust through the large side mounted scoops, two aluminium 'L'-shaped brackets were formed from

0.25mm sheet and screwed to the chassis.

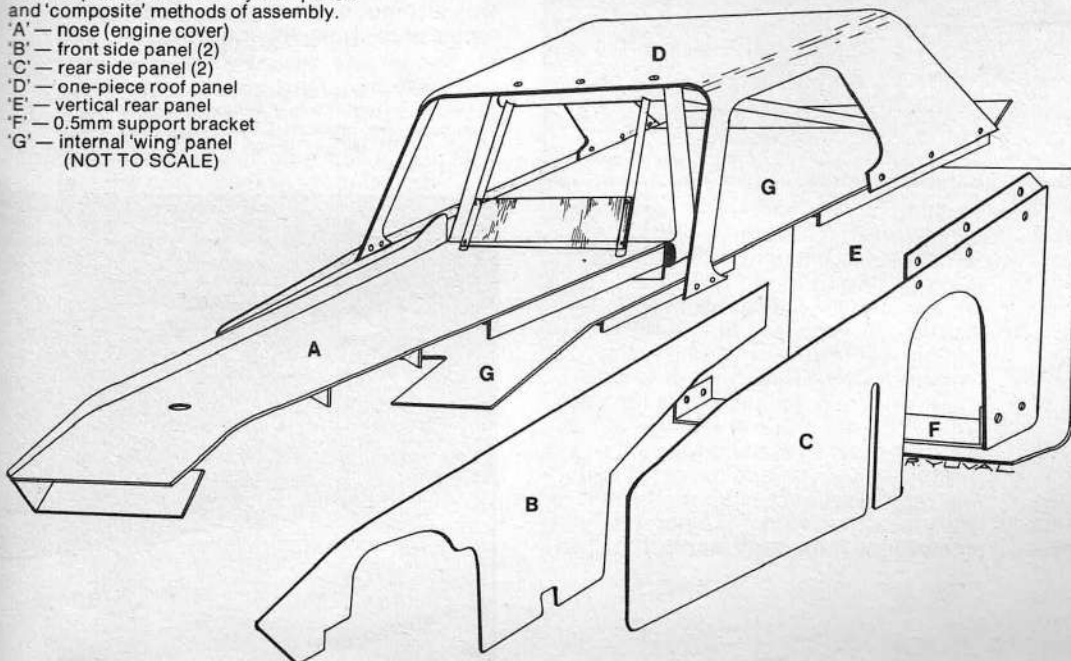
The bodyshell was then mounted on the chassis using the retaining-pins and 90 degree plastic mounting 'lugs' were glued inside the rear panels around the bottom and rear edges of the aluminium brackets. These 'lugs' prevent the bodyshell from moving out of position and the lower edges of the body-panels are simply splayed apart



PRINCIPLE BODY PANELS. MATERIAL: 0.5mm ABS Sheet.
ALL DIMENSIONS IN MM'S — NOT TO SCALE.
DIMENSIONS OF PANELS NOT SHOWN:
(G) Internal 'wing': 290 x 150 x 0.5mm.
(E) Rear panel: 150 x 140 x 0.5mm.



Semi-exploded view of bodyshell panels and 'composite' methods of assembly.
A' — nose (engine cover)
B' — front side panel (2)
C' — rear side panel (2)
D' — one-piece roof panel
E' — vertical rear panel
F' — 0.5mm support bracket
G' — internal 'wing' panel
(NOT TO SCALE)



with the fingers whilst mounting and dismounting the shell.

The completed bodyshell was spray-painted a 'suitable' orange and with the addition of a driver-figure, sponsorship decals and competition numbers, my 'mud-buss' was ready for the fray!

Now I know that American style racecars are not everybody's cup of tea, but I have yet to hear an unfavourable comment about the car. With the right choice of diff' it performs admirably and certainly looks the part — how about it you guys out there, anybody feel like starting a whole new class of 1/10th scale oval-track racing?

FIRSTLY MANY thanks to all those who have made contact regarding my ideas in the May issue towards the abolition of the maximum price for the stockcar kit. Whilst there were some people who agreed in total with what I suggested, and of course some who opposed the ideas, the vast majority of people were in favour of some compromise. It would seem that most would like to see the retention of the price limit on the kits, because it is an attraction to newcomers, and prevents the possibility of money buying success. No one wants to see stockcar racing going the way other branches of the model car sport have gone with increased costs being the only way to remain competitive. Having said that



Above: Peter Whitehorn's 'vintage' style stockcar built for looks first and performance second. The car is basically a Mardave MkIII stockcar fitted with an Irvine 20 Sport Motor.

Racing Stockers

Mike Chilvers details the 1/12th and 1/8th stockcar racing scene



component. Any comments? Whatever you and I may think remember the place for change is the RSCA AGM in December?

1/12th Scene

Once again it is with thanks to Chris Loughran that I bring you the report of the National Meeting at Leicester on April 14th, which was the second round of the National Championships.

At the first National 77 drivers turned up to race, at this meeting a record 84 had booked in, and all turned up, which meant plenty of heats, and a lot of hard work for some people.

Apart from having a good turn out it was also good to see some of the old faces back again, the most notable

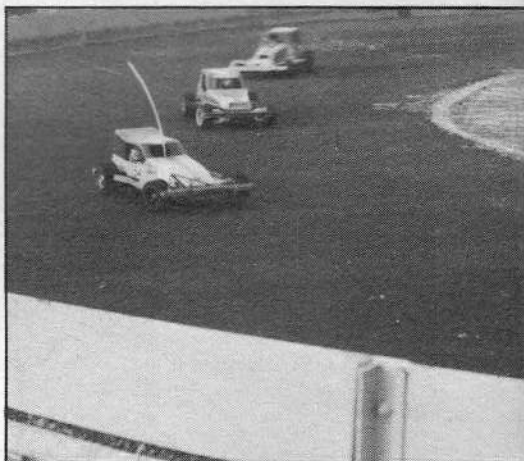
Left: trophy winners at the RSCA series round two, Lifford left to right: Dave Hutchinson (best novice); Ivan Congreve (second); Steve Talbot (first) Sean North (third). Below: action from Lifford, Steve Talbot leads.

the same people who wanted to see the maximum price retained also made the point that there were a number of components on a stockcar that made no difference to the handling or speed, and had no complaints about people using them if they wished. Items listed were such things as alternative servo savers, steering arms and linkages, rear pulleys, axle beams and high tensile rear axles.

So after all that how can I sum up the general feeling? Well it goes something like this. Put up the kit price maximum by £10 to £20, retain all the

existing construction rules, widths, diameters and weights, adding a rule which would ban any kind of limited slip device or differential in the rear axle or wheels, plus a rule that would limit the drive to rear wheels only.

This would appear to satisfy the demands of the manufacturers who want to be able to make a reasonable kit and components at realistic prices. The driver who wants to follow his hobby without paying the earth and yet remain competitive with the rest. Plus the driver who has a personal preference for a non standard



being Adam Longrigg and Joe Brown. Joe had assured Chris that he would have his car built BEFORE he got to the meeting this time, but this meant that he arrived just as practice was finished, so he spent the first heat setting up the car. Adam had not raced his stockcar since last year's Nationals, but had been keeping his hand in racing buggies. The lads from the Wirral Club also turned up, having missed the first meeting due to the travelling distance involved.

One car that caught the eye during practice was the six wheeler of Russel Cooper, very similar to the one of Chris' which was featured in an earlier issue of Model Cars. Russel had overcome the weight problem experienced by Chris by using a *Mardave* top chassis as opposed to the *Lectricar*. Russel also confirmed that the car was very stable through the corners, and very difficult to push off line. A car to watch for in the future.

After practice the concours was judged, and here again the entry was of a high standard, the winner being Kenny Cooper — Russel's brother. (Though Russel wouldn't admit to that.

So to the racing with the early pace being set by the current Championship leader Greg Lloyd, who set a 50 in the first heat. Heat seven was Dave Clarke's first run, and he set a 52 ahead of Adam Longrigg on 47.

In round two Mike Stead stayed out of trouble to score a 54, Tim Fielden once again set the pace with 57 although Dave equalled this in heat seven.

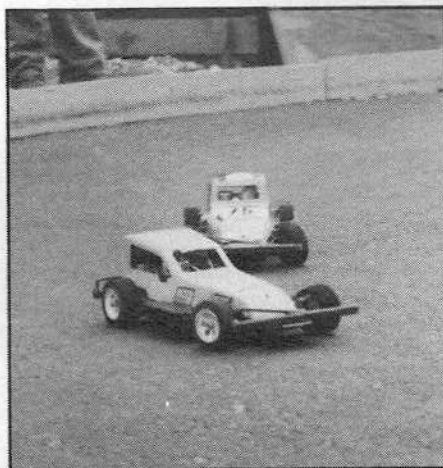
In round three Dave equalled his last round 57 whilst Steve Hubbard took heat six with a 52, one lap ahead of Martin Higham and Jon Cutts.

Russell Cooper's six wheeler had reliability problems, but they looked to be sorted as he scored a 47 in round four. Chris also had a better run taking first place from Shirley, 54 to 53. (Had to mention that as it's not often he managed to beat Shirley!).

With the start of the final round everyone was trying their hardest to improve on their scores. The race of this final round was heat four when Dave went out and did a flying 61 which earned him the FTD. Adam took second but he was nine laps down. In fact the only driver who came near Dave's score was John Cutts who set a 55 to secure a place in the Final and force Martin into the Consolation.

The Consolation was made up of Martin Higham, Simon Farrer, Ian Baxter, Steve Hubbard, Ian Johnson, Joe Brown, Mike Stead and Chris Loughran. Five of the eight drivers were from CESCA, who as a club could do no wrong, and were having a good day's racing. At the end it was Martin who won through, half a lap up on Steve Hubbard who has half a lap ahead of Simon Farrer. As for Chris — well we're not talking about that!

So it was on to the Final, where Martin joined Tim Walker, Dave Clarke, Shirley Clarke, Tim Fielden, Jon Cutts, Adam Longrigg and Phil Smith. From the start Dave shot into the lead, and he simply held onto it. No-one looked like catching him, and even when he ran into trouble he got out quicker than the other drivers, and off he went to extend his lead. Tim Fielden retired after five laps when his car would not go where he wanted it to, and Adam, although going well, just did not have the pace to keep up with the leaders. Shirley was gradually pulling away from the bunch, although she never looked like catching Dave, and the real race was for third spot, between Jon, Tim Walker and Martin. This battle continued through the race, and was only settled by the distances between the cars on the track at the end.



Above: Lilford action — Simon East leads Lee Bishop into a bend.

So Dave is back to his winning ways, taking the Final with 56 laps, four ahead of Shirley. Martin, Tim and Jon were a lap behind all on 51, Phil was on 50 and Adam on 47. So the CESCA drivers took the first three places, as well as Dave setting the FTD, and to complete the day John Goodacre took the Junior Trophy also for CESCA.

Tyres

It seems that the *Motile* 'Prowlers' are the tyres in favour at the moment, they are available at most good model shops, or direct from *Motile Model Developments*, 41 Manor Street, Nelson, Lancashire, BB9 0TS. (Phone 0282-691665).

1/8th Series Round Two and Midlands Round One. Lilford April 21st

All last season Lilford boasted that they had not had a wet race meeting, but as the drivers arrived for this second round of the National Series Championship it looked as if that was a thing of the past, as the rain was falling steadily.

Lilford is my home club and was I was there all weekend along with other club members plus a visiting Coventry driver in my caravan. It was interesting to note that drivers began to arrive at the track from eight o'clock in the morning, and many were soon out practising on wet weather tyres. Conspicuous by their absence in practice were the Lilford drivers, all of us looking heavenward waiting for a glimpse of that blue sky, none of us having any idea what tyres to use in the wet. Panic set in when at 11.30 it was still raining and only an hour to the start of the meeting, by this time the pits were full with 40 drivers, and it was difficult to get a practice slot — our fault we should have gone out earlier!

With booking in and scrutineering over it was time for the drivers' briefing, and guess what — the rain stopped! By the time racing began the track, which does not hold water, was nearly dry, and all the panic to practice in the wet was for nothing, or would it rain later?

The meeting had attracted 40 drivers and included Steve Talbot, the current Champion, European Champion Roy Crowson and ex RSCA Champion Ivan Congreve.

As most people had practised on wet tyres it was not surprising that the

Leicester National Tech Chart

Position/Name	Car type	Cells	Gears	F. Tyres	R. Tyres	Speed
1. D. Clarke	Modified Mardave	Select Sanyo	13:53	Prowler 12/002	Prowler 12/001	Bolink
2. S. Clarke	Modified Mardave	Enduro 1200	13:53	Prowler 12/002	Prowler 12/001	Bolink
3. M. Higham	Modified Mardave	Enduro 1200	13:53	Prowler 12/003	Prowler 12/001	Bolink
4. T. Walker	Modified Lectricar	Sanyo	13:54	STD Lectricar	Med soft 'D'	Bolink
5. J. Cutts	Std Mardave	Sanyo	12:50	Hard in Soft out	Mardave Soft	Mardave
6. P. Smith	Modified Mardave	Sanyo	12:48	Std Mardave	Med Soft	Mardave
7. A. Longrigg	Modified Lectricar	Sanyo	13:54	Prowler 12/005	Prowler 12/001	Lectricar
8. T. Fielden	Std Mardave	Sanyo	12:52	Med Hard	Prowler 12/003	Parma

FTD: D. Clarke (61 laps)
Concours: K. Cooper

Junior Trophy: J. Goodacre

Taking Stock

lap scores were down on what might be expected. Drivers adjusted to the rapidly drying track and experimented with tyres in the first round of heats, which were headed by Ivan Congreve with 40 laps. Much to the surprise of all Steve Talbot was five laps down with 35 after having problems. Having worse problems even than Steve was Tim Holden who never even got his car to the track for his first heat, and was forced out of racing for the day. Hats

44. Next came Scott Grocock with 43, and Ivan Congreve, Sean North, Darren Hart and Dave Hutchinson all on 41. Dave's score was sufficient to gain him the trophy for the highest placed white/yellow grade driver.

After the customary short break for the timekeepers to do their maths the qualifiers to the Final and Consolation were announced. It swiftly emerged that the top four were Steve Talbot (129), Sean North and Darren Hart (122) and Ivan Congreve (120). The Consolation was made up of Scott Grocock and Ken Cornish (118), Adrian Malin and Stew Busby (117), and Colin Bunyard and Lee Bishop (115). These scores indicate how close the day's racing had been. A glance further down the leader board indicates that Dave Grocock missed out by a lap, Pete Taylor by two laps, and Simon Fennel, myself and Dave Hutchinson by three, so there really had been some good scraps going on. Whilst the drivers prepared themselves for the Consolation the rest of us were explaining to each other how we could have been there if only...!

The Consolation got underway at the second attempt after a bit of interference problems at the start. (My fault — should have checked the cars beforehand!). This turned out to be a very good race for all drivers except Stew who managed only ten laps and then was out. The other five were all very close with Adrian Malin just getting home ahead of Scott, 43 laps to 42. Colin was down in third spot with 41, Ken next with 40, a lap ahead of Lee Bishop on 39.

So to the Final, no mistakes this time, frequency check indicated all was well as drivers 'wiggled' on the centre green! The six drivers mounted the rostrum, and cars lined up in a line (as per RSCA rules), and as the hooter went so did the cars on their five minute Final. As with the Consolation this proved to be a very close race, with the Steve Talbot car catching the eye as it was piloted around seemingly in a groove, followed closely by Ivan Congreve and the distinctive car of Sean North. Scott's race came to an end with just over three minutes gone, and Steve began to pull away with Ivan trying to hold on. When the final hooter went it was Steve who was the winner with 56 laps, ahead of Ivan with 54, Sean in third place with 52, a lap ahead of Adrian on 51, who was himself a lap ahead of Darren on 50, with Scott's 37 leaving him in sixth place.

Surprisingly the meeting had been run in the dry, the exception being about a dozen spots of rain during one of my races. As one has come to expect the event had proved to be an enjoyable one thanks to the cooperation and attitude of all concerned. End of meeting comments included surprise at Roy Crowson's

lowly 17th position, and young Darren Hart's dilemma as to whether to keep his grandad on as mechanic or revert back to his racing Dad who was unable to be present, after his fine fifth place.

Bits and pieces

So far I've been to three meetings this season, and already various new bits are being shown to me.

Puma have come up with their answer to the *Mardave* positive drive on the rear axle. In their case it features a machined alloy collar that is retained on the axle with a grub screw bolted either onto a filed flat, or into a small hole. The collar has two roll pins inserted into it, which when the wheel is positioned fit between the spokes and so prevent it from slipping. There is no trouble in fitting this to the *Puma* as it takes the place of existing washers, and it could be fitted to the *Mardave* providing some of the material on the trailing arm was removed. The only problem with this that I can see is that it will have to be removed from the axle whenever a new belt needs fitting on either car. The designer of the collar also incorporates a built in washer, and a pair can be obtained from *Puma Racing*, Moat House Works, Kings Coughton, Alcester, Warwickshire for £3.20.

A new clutch has also come out of the *Kingsway* stable for this season. In fairness, to quote Gerry the man behind *Kingsway*, this clutch is not new in the design sense, but is made from all the best ideas of clutch construction put together to produce a purpose built stockcar clutch. It features PTFE shoes and 'O' ring spring to give smoother acceleration, and has an enclosed needle roller bearings in the clutch housing, and of course the wide clutch drum for the half inch belt. The 'O' ring is of course rubber, and sits in the middle of the shoes, with no sharp edges to cut into it. The entire package is finished in the high standard of perfection one has come to expect from *Kingsway* products, and has already shown itself to be race proven. The cost is £9.50 complete, and can also be supplied with $\frac{3}{8}$ in. wide PTFE shoes on the standard steel drum, or for those who prefer it, steel shoes onto cork lined drum. I hope to put the new clutch to the test in the near future on my *Mardave*. *Kingsway* also produces a vast range of other 'goodies' which will be familiar to all regular competitors, but I note that in addition to the well known machine cut 40 tooth rear drive gear in nylon (£2.50) they are also producing one in alloy at £4.50. If interested contact your local model shop, or *Kingsway Kar Components*, 203 Kingsway, Leicester, LE3 2PP (0533-895361). □



Above: Lilford action - Sean North's car flies around the oval.

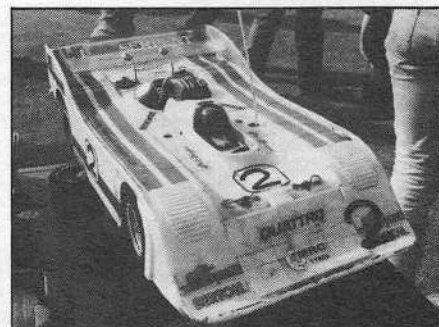
off to Tim though, for instead of throwing it all into the back of the car and heading for home, he spent the remainder of the day in the timing hut with his mum Mary calling the numbers whilst she pressed the buttons. Thanks to both of you.

By the start of the second round the track had dried completely, Steve had cured his problems heading the round with Stew Busby both on 41. Paul Dexter was forced out of the meeting at this stage when his upturned car was hit by another competitor smashing the engine casing.

The pits were the usual hive of activity as drivers searched for that extra speed and grip that they were sure they needed. These of course are the routine problems, others were trying to overcome more serious problems, like Roy Crowson and his quick release wheels which were so quick releasing that they were flying off during racing! Not quite what Roy had in mind.

As round three began drivers were really feeling that they had got to grips with cars and track, and the speed of the racing increased. Steve once again showed his driving skill by setting a 43 lapper. The final round of heats frequently do not live up to the standard of the earlier ones, but this was not to be the case as lap speeds increased, and once again it was Steve who led the way with the FTD of 45 laps, followed by Trevor Heasman with

Model Motor Racing News



1/12th circuit

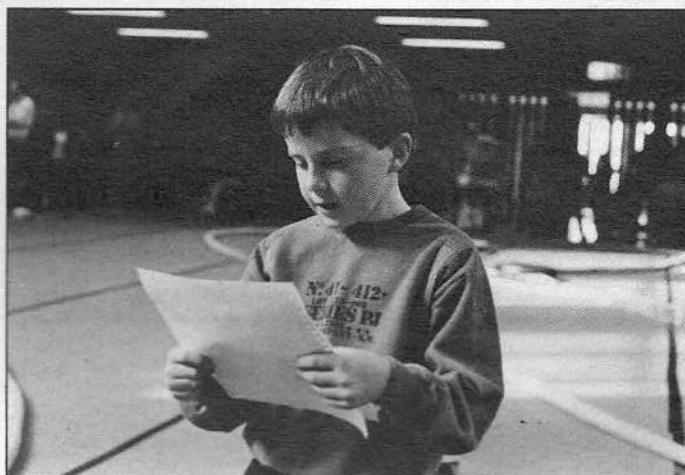
Stafford BRCA National Meeting. Modified and Standard Class. April 20/21. Report by Pete Winton

AFTER TWO excellent days racing at the GEC Sytchfields venue in Stafford, Andy Dobson emerged the double victor with his flowing and unruffled style. There were notable performances from Pete Farmer, with top five places in both A-finals; Alan Wilkinson, who learnt that passing Andy is one thing, staying ahead is something else; and Jim Spencer, maturing as a racer as well as a qualifier.

Rising at dawn, we made north on the long chicane they call the M1. Stopping for breakfast at the services, we found David Gale practising for the A-final on the 'Pole Position'

machine. He would clearly be no threat! Stafford has become a home fixture to many racers due to the popularity of their Sunday League, and the usual high standard of facilities greeted us on arrival. The track had been laid out by Jim Spencer. The main straight ran diagonally across the carpet and the back of the circuit featured a wicked chicane policed by two rubber tyres inside the hose. To prevent the tyres moving, there was a 56lb weight in each of them, so nailing the chicane was not recommended. In practice there was a line through, but only if you were brave or managed to lift off at the right time. This sort of track feature is not needed at a National, and spoilt an otherwise excellent circuit.

Qualifying for Modified on the Saturday started with David Gale having the wrong numbers on his car for heat eight. This is his speciality, practised over many meetings at home and abroad, and set a tone of joviality which lasted the whole weekend. The comedy



Above: Andrew Robson son of the race organiser John checks his results after winning the Sunday Standard Class H-final, his first National win.

continued in round two when Pete Farmer and David (again) tripped over the carpet trying to rescue an errant car in heat two which had strayed off the start line. The carpet split at the tape join, and they frantically tried to repair it as the countdown started. As the cars bore down on them for the first lap, they had only milliseconds to spare, but John Robson called for a restart anyway!

The next act on stage was (I think) John Young. His car had the same paint job as Pete Riley, and they collided at the far side of the circuit! Only one car continued, but now with two drivers! The marshalls were yelling the car numbers at the top of their voices, but John did two full laps before the message

reached him. At the end of the race he commented, "I thought I was turning into the corners a bit earlier than usual."

Although the A-final belonged to Andy Dobson it was Jim Spencer giving chase this time in a spirited drive which saw him only eight seconds down at the end. This is the closest anyone has come to Andy for some time.

Sunday's racing was all the better for commentaries on the majority of the racing. Murray Walker and James Hunt attended to provide this service, but they looked suspiciously like Andy Dobson (Murray) and Pete Winton (James). Andy did a superb job, and I guess mine was a reasonable supporting role, since Sheila Goodyear

Results: Modified

Modified

A Final

1. A. Dobson
2. J. Spencer
3. P. Hobbs
4. P. Farmer
5. D. Gale
6. P. Olson
7. P. Davies
8. A. Bailey
9. T. Biggs
10. A. Wilkinson

FTD Andy Dobson

B Final

- G. Peglar
- C. Evans
- L. Raybold
- W. Jones
- M. Brown
- T. Dakin
- P. Winton
- P. Riley
- J. Young
- C. Hardisty

C Final

- G. Cutler
- S. Haywood
- T. Walden
- R. Roy
- M. Barford
- J. Robson
- A. Croft
- C. Finch
- A. Thomason
- G. Hopkinson

D Final

- M. Doughty
- J. Reid
- T. Walden
- M. Baker
- A. Ruddle
- K. Helmue
- T. Cartwright
- P. Hodge
- M. Prince
- A. Smith

Modified Class A-final technical chart

Name	Chassis	Motor	Radio Tx	Radio Rx	Servo	Speed control	Tyres front	Tyres rear	Dia. mm	Gear ratio	Ultimate ratio	Body	QP
A. Dobson	Schumacher 'C' car	Trinity	Futaba 2LGX	Futaba 'Mini'	Futaba FP132M	Laser Comfet	TRC Green	TRC Green	49	12:50	36.8	Alpha	1
P. Davies	'C' Car	Triple Parma	JR FM	JR FM	FP132H	Laser Comfet	TRC Green	TRC Green	46	12:48	36.1	Shadow Alpha	2
P. Olson	'C' Car	Ferrari Parma	Futaba 3EGX	Futaba FPR4	FP132H	Laser Comfet	TRC Green	Delta A	49	11:46	36.8	Shadow Alpha	3
A. Benson	Alpha Omega	Reedy Double	Futaba 2M	Futaba 2M	FP132S	Firefly Sixfet	Parma Medium kit	Parma	50	11:44	39.2	Alpha Schkee	4
J. Spencer	Associated 12iS	Reedy Double	Futaba 2LGX	2LGX	FP132H	Demon 2c	Associated kit	Associated	53	10:44	37.8	Associated Toj	5
A. Wilkinson	Scratch 'C' Car	Demon Double	Futaba Medallion	Medallion	FP132H	Demon Big Devil	TT07	TT07	52	10:48	34.0	Alpha C100	6
P. Farmer	'C' Car	Demon Double	Futaba 2LGX	2LGX	FP132S	Laser Comfet	Frewer Green	TRC Green Green	49	13:52	38.5	Alpha Shadow	7
D. Gale	'C' Car	Reedy Double	JR FM	JR FM	FP132S	Laser Comfet	TRC Green	TRC Green	52	11:46	39.1	Alpha Shadow	8
A. Bailey	'C' Car	Reedy Double	Futaba 3EGX	3EGX	FP132S	Demon 2D	TT07	TT07	49	11:48	35.3	Alpha Schkee	9
T. Biggs	Alpha Omega	Tamiya Hi-Tech	MacGregor 'A' Series	'A' series	FP132S	Laser Comfet	TT07	TT07	50	10:48	32.7	Alpha Schkee	10

QP - Qualifying position

asked if we could do the same for Chesterfield in May. There was a serious side to the commentaries. In Standard class the cars are so slow that if you make a mistake it is almost irrecoverable, and you quickly lose track of who is where in the race. When lapping back markers, they do not always realise who is leading, and any collisions that result can lead to a large loss of time. The commentator's real job is to assist the leaders in getting past the back markers, and helping the people in the minor placings to let them through without an accident. It worked well, and as I said, was apparently well received. There is no denying that Standard class gives close racing, but all it does is to match motors of equal ability, not drivers of equal ability. If you have a good standard, then you make a good final. If you have a bad standard then you can join me and many others in the lower finals.

Standard

A Final

1. A. Dobson
2. P. Davies
3. P. Farmer
4. D. Gale
5. C. Evans
6. J. Spencer
7. T. Biggs
8. P. Olson
9. A. Wilkinson
10. A. Benson

B Final

- A. Bailey
- M. Brown
- P. Handley
- C. Finch
- P. Riley
- T. Watson
- S. Walker
- P. Hodge
- J. Reid
- T. Dakin

C Final

- L. Raybold
- G. Cutler
- S. Haywood
- J. Young
- M. Doughty
- D. Towell
- T. Cartwright
- C. Hardisty
- P. Winton
- M. Barford

D Final

- G. Peglar
- J. Robson
- D. Attewell
- S. Lythgo
- M. Baker
- E. Hawkins
- T. Walden
- G. Griffiths
- N. Woodhead
- K. Creaser

The 'A' final. Andy Dobson got the start, but a first corner tangle involving most of the field promoted Alan Wilkinson to first, and Andy to fifth. This was not to last, and within three laps Andy was right up on Alan's tail.

Having driven a racing line while in front, Alan then appeared to drive a blocking line. This was futile since Andy was clearly faster, and Alan could not keep to this line without slowing early for the corners. The inevitable happened, and after hitting Alan at the corner before the finish line, Andy was in front. Since the slow pace had allowed the rest of the field to catch up, Alan also got hit by some of the other drivers, and was then at the tail of the field. Styhfields' Chris Evans and Jim Spencer benefitted as well, but it was Phil Davies who led the chase for the leader. This was in vain as Andy lapped everyone up to third place. Pete Farmer drove a

blinder of a race from ninth place at the start, to third place at the finish, aided by David Gale running into the back of Alan on the last lap. Since Alan runs without rear body posts (the body rest on a washer mounted on the roll mast) David went right into the depths of Alan's car and was stuck. Alan did not realise David was trying to finish, and Pete got through.

After the strip-down of the top three motors it was time to applaud the excellent organising team and the very hard working ladies who did the lap counting. Washington started a note of relaxation in the National series, and Stafford added some levity. We look forward to Chesterfield with relish (and a side salad) since the National series is alive and kicking.

1/10th Off-Road

Weston Off-Road Models BRCA South-West regional Championship. May 5. Report by Roy Atkinson

THE WESTON CLUB'S first National meeting of the year, held on Sunday May 5th, incorporated the first round of the BRCA South West Regional Championship and attracted an entry of 76 drivers. Wind, rain and an occasional glimpse of the sun did not deter the driver's enthusiasm and some very good racing was seen in the 60 heats and three finals.

Results

Expert Final

1. A. Butt
2. M. Beale
3. K. Waite
4. J. Bohin
5. R. Gearing
6. P. Wheeler

Intermediate Final

1. S. Hart
2. W. Lewis
3. G. Cuff
4. K. Skinner
5. I. Francis
6. D. Thomas

Novice Final

1. S. Hughes
2. C. Hucker
3. M. Pope
4. S. Gibson
5. B. Kingett
6. J. Williams

Concours D'Elegance: L. Luckham.

Regulations and entry forms for the Weston Nationals to be held on July 7th and September 1st can be obtained from Roy Atkinson, 8 Larch Close, Nailsea, Bristol, BS19 1QN. Tel: 0272 855071.

1/10th Off-Road

'Dorchester Dirt Diggers' Open Day April 21. Report by Tudor Barker

SUNDAY MORNING at 8am is not my favourite time of day but there I was headed for the first Open Day of 1985 at our club track just outside of Dorchester. Arriving at the track I found the preparation well under way, with Terry Burton, Graham (Chatty) Taylor and most of the organising team putting the finishing touches to the day's arrangements.

For this event, we had the luxury of a new timing hut, a great step forward. The timing equipment comprised a Spectrum computer and a standby stopwatch for emergencies, a public address unit, a set of lights and the start horn, all of which were run off 12v batteries.

The track was in first class order with a clean hard dry dirt surface, the car parking marked off, and the all important food wagon, in position and brewing.

'Chatty' Taylor gave the pre-race drivers' briefing stressing the various problems that have come to light in the past, like corner cutting, poor

marshalling, or drivers not marshalling.

The first race of the day got away cleanly, and it was soon obvious that times would be very fast, both for 2wd and 4wd cars (the Dorchester track favours the 4wd car). The racing was fast and furious, with just the odd hiccup on the line, and calls for missing drivers, etc.

Marshalling standards were high, apart from a couple of glaring exceptions. One marshal was so interested in his son's activities, that he ignored cars at his feet, deaf to calls from the driver's rostrum and the timing hut.

We'd managed 11 races in the morning with four drivers in each. Our total entries for the day 75, with most turning up to race.

The afternoon got underway at 1.15pm with some first class racing. Car preparation was very good, with very few problems on the line and a high proportion of finishers in each race. Five heats were run in the afternoon to give the maximum opportunity for each driver. They pulled out all the stops! Long standing track records fell one after the other.

Suddenly it's 6pm and the heats have all been run, now it's sort time. Oh no the program's gone wrong! Terry rolls his eyes heavenward, then starts the sort by hand. Pretty soon we're making headway, and

getting on top of the situation.

Sort finished! Now the finals.

All I can say is fantastic. The standard of driving is really excellent. Thanks for some electrifying racing lads. It also means that we got the timing right, to see such closely matched racing is worth the hassles of the day.

Results

Junior Two Wheel Drive

1. S. White 12/13.40
2. P. Tribble 12/18.22
3. D. Pidgeon 10/10.64
4. G. McCormack 09/5.3
5. A. Pidgeon 09/31
6. J. Foyle 00/00

Junior Four Wheel Drive

1. S. Hart 12/3.60
2. S. Hughes 12/5.92
3. D. Lane 12/18.86
4. N. Langdon 11/14.06
5. N. Fishlock 07/31
6. J. Barnett 00/00

Senior A Two Wheel Drive

1. S. McRae 13/8.89
2. L. Luckham 12/0.22
3. M. Tribble 12/5.62
4. A. Teller 12/13.44
5. G. Cuff 11/7.22
6. G. Symes 11/12.16

Senior B Two Wheel Drive

1. D. Robinson 12/0.24
2. P. Bradley 12/15.28
3. J. Coffield 11/7.82
4. G. Taylor 11/8.8
5. D. Courtney 10/10.2

Senior Four Wheel Drive

1. F. Singleton 15/10.52
2. P. Wheeler 13/2.44
3. P. Hyde 13/7.58
4. R. Perrow 12/1.32
5. K. Waite 12/8.66
6. M. Baker 03/14.08

FTD F. Singleton

As far as we know ours was the first Open Day in the country to have four-wheel drive and two-wheel drive classes. Overall this was judged to be a big success. Being fairer and giving extra trophies for competitors.

The decision was justified by the fact that the Dorchester track favours the four wheel drive vehicle. Four wheel drive times were consistently quicker throughout the day.

The event was sponsored by several local firms who provided the wherewithal for the prizes. A big thank you to Chris Dufal (car body repairs), Geoff Laing (transport) and Howleys (toys).

We'd like to give a special thank you to our patrons and friends Mr. and Mrs. Amey of Birkin House, who provide the club with the grounds and facilities with without whose support our club could not run.

The timing program and computer facilities were provided by *B and G Hobbies*, we'll get the sort right next time.

1/8th Off-Road

Basingstoke Radio Car Club. 1/8th Off Road National. April 28th. Report by M. Woodcock

ROUND THREE of this year's 1/8th Off-Road National Championship at Basingstoke on April 28th proved to be as popular as ever with a total of 53 drivers turning up to what was to become a day of close and exciting racing.

Conditions on the day were good, a little cold and windy but no rain and the occasional burst of sunshine. The track was mainly grass with a small section of gravel with enough bumps to provide a challenge. The main problem with the track was a large bump at the end of the straight which had to be treated with some respect to keep the car on the ground.

Practice proved that the track was too fast as some drivers

were lapping at 14 seconds, so a hastily constructed extra bend was included to slow down the pace a little.

In round one the new car from PB was much in evidence and was performing well, the 'Mustangs' didn't have it all their own way though with competition coming from Garbo 'Gepards,' *Serpent* 'Cobras' and a few SG 'Leopards.' An interesting car in the restricted class was the PB 'Mustang' of Dean Glazbrook which was front wheel drive and four wheel steering, a novel idea which seemed to be going well but needing a bit more work to get it right.

By the end of round two it was clear that 17 laps was going to be hard to beat and at least 15 laps was required to get into the B final, but with the track wearing in and the grass gradually disappearing there were hopes of faster times in rounds three and four. Unfortunately disaster struck in the fourth round with the timing computer going a bit haywire and giving nonsense results. Finally it was decided to scrap the fourth round results

because of this. Apologies to those drivers who did well in the fourth round but there was no time to run through the heats again.

The Unrestricted A-final was a joy to watch with sportsman-like driving from everyone. Gary Marsden was having a very good day having already won FTD and went on to win with 67 laps, Keith Plested wasn't far behind with 66 laps 4.7 seconds, only 12 seconds behind him was Greg Farlie, Kevin Moore was fourth with 64 and Alan Harman fifth with 61, sixth Steve Marr with 59, seventh Tony Marsden with 58 and last but not least, last year's winner at Basingstoke Tommy Chung with 51 laps.

Altogether an enjoyable day's racing only marred (not Steve) by computer failures which after being switched off after the heats worked perfectly for the finals as did the back up computer which was also used for the finals.

Thanks to:

all the competitors;
John Hunt School; (especially Bob the caretaker);

ATS tyres
BRCC club members (the ones that turned up);

Officials:

Race Director Steve Pyne
Timekeeper Tim Painter
Referee Martin Woodcock
PS Hopefully see you all in September.

Final Results

Unrestricted A — 20 minutes

1. G. Marsden	67/11.5
2. K. Plested	66/7.7
3. G. Farlie	66/17.7
4. K. Moore	64/16.9
5. A. Harman	61/
6. S. Marr	59/19.1
7. A. Marsden	58/15.5
8. T. Chung	51/8.8

Restricted — 20 minutes

1. J. Mackey	58/16.5
2. P. Davis	54/4.5
3. D. Glazbrook	42/14.6
4. P. Burns	12/22.0
5. J. Hutchinson	12/22.3
6. D. Smith	/

Unrestricted B — 20 minutes

1. D. Chung	63/6.1
2. J. Glazbrook	60/15.8
3. D. Hill	56/8.1
4. J. Weedon	56/24.4
5. J. Skidmore	52/12.6
6. J. Hawkes	48/4.0
7. J. Paffett	32/12.2
8. P. Willis	8/25.4

1/8th circuit

Wombwell BRCA National Meeting. Saloon, Formula, Sports/GT class. May 4/5/6. Report by Colin Leake

BEFORE I START reporting the racing I would like to take just a little time to dispel any illusion, and answer a question. A number of drivers have recently told me they don't attend National meetings because they "are not good enough". Naturally much of the press coverage of such events is given to the top finals and drivers, and this may well give the impression that this is what National events are all about. Nothing could be further from the truth. The bulk of any entry is made up of club drivers of widely varying standards. Ages range from 12 to 50 upwards and all stand an equal chance of making a final.

During the day even if you fail to qualify you will at least have the compensation of being able to watch the top drivers in action. A sight which you will remember for a very long time.

Secondly, it will improve your driving. Being able to see what the experts do and receiving tips from them

coupled with up to three days solid competition inevitably brings out the best in all drivers. It can also save you money in that many of the tips are aimed at improving the reliability of the cars.

Finally, it helps to support the sport. Many of our clubs have to struggle along on low budgets and small attendances all year. The annual round of the BRCA events, that each holds, can prove to be a financial godsend if well attended, and enable the club to stay in existence continuing to provide the facilities we all must have.

Race day dawned cold and damp with a steady drizzle falling that was to persist to a greater or lesser degree all day. The racing looked like being interesting.

Serpent, SG and PB were all present with 4WD cars. The Serpents looked particularly fast and stable in practice with the PB cars not far behind. It was evident early on that PB were having drive-shaft problems in that there was no limit on the steering throw which meant that the drive-shafts could pop out on full lock. The SG cars looked and felt ill at ease on the tight bends of the Wombwell circuit. The only drivers really able to come to terms with them being, Bob Errington, Steve White, Charlie Dudfield and Colin Strauss. The rest of us were struggling.

Bob Errington must have spent the whole of the week preceding the meeting working on his car. Almost every part had been extensively lightened, especially the rotating parts. The steel bevel gear at the back was an incredible sight. His dedication paid off and he was rewarded with FTD on day one the Saloon day. Further down the field Serpents dominated the day taking by far the largest number of final places.

The new PB cars also putting in a very creditable performance especially in view of the fact that they were thin on the ground and were all brand new prototypes.

The open final was delayed at the start when Chris White's car came streaking down the straight only to hit a mechanic who was standing in the middle of the track, suffering severe damage to his car in the process. I was out of earshot of the rostrum on the other side of the circuit, but by lip reading Chris appeared to say... (no we can't possibly print that) Bob Errington, seasoned campaigner that he is, took the opportunity to nip back to the pits and make some last minute adjustments to his car.

Twenty minutes later the final finally got underway with Bob Errington moving into an immediate lead only to make a mistake and let Phil Hague through. Four minutes into the race Phil Hague was still in the

lead with his Serpent followed by the PB of Chris White. Bob Errington had made a good recovery from his mistake and was beginning to close up on the leaders. His SG looking nowhere near as stable as the two cars he was chasing. Only Bob's superb driving skill was keeping him in contention. Near the five minute mark, Chris White went into the lead when Phil got rolled by a back marker. After the first fuel stop Chris was the length of the straight ahead. At 8 minutes something failed on Chris White's car when he was holding a superb lead and looking as if he was all set to give the new PB car its first win. Frank Chung, happy with his new Serpent, and driving in his first ever open final, was driving a safe looking race in the middle of the field. Fifteen minutes into the race and only four cars remained on the circuit (though others were to rejoin later). Phil Hague, driving on his home track, was building up a steady lead and never looked in any trouble. His car and driving were so smooth that one had the impression that he could have speeded up at any time had his lead been challenged.

Bob Errington continued to battle round with his SG, but had to drive so hard that mistakes were inevitable, each one allowing Phil to increase his lead. The final order was Phil Hague, followed by Bob

(never say die) Errington with Derek Brader also driving a Serpent in third place. A very creditable performance from Derek. Walt Bailey was 4th despite having to pull off the circuit at one point. Frank Chung driving yet another of those Serpent cars was 5th, a good result in his first open final.

It was noticeable throughout the weekend that most of the new faces on the rostrum were driving Serpent cars which certainly seemed to enjoy an advantage over the other makes of car. Especially in the middle to lower ranks of drivers.

Just as an example of the dedication of the top drivers, Chris White had worked out why his drive-shafts kept falling out and had devised a cure. Chris stayed up until 3am the following morning working on his car to cure the problem. He actually pushed the car round the circuit to make sure he had left sufficient lock available to go round the bends. Despite this he was still to be found setting up his equipment in the pits at 7.30 on the Sunday morning.

Sunday was the day for Formula 1 bodies. Once again we awoke to a steady drizzle, this time heavier than on the previous day. Now we know that the inhabitants of this extreme Northern area are a pretty basic lot with decidedly down to earth customs. Even so us Southerners were surprised to hear Chris White shout across the pits, "Da, Mum's ready for you", followed by the sight of Eric running past. All at 8.30 on a Sunday morning!

With Formula one bodies and the lack of downforce these bodies give, it was evident that the superb handling Serpent cars were enjoying an even greater advantage. The new PB cars were not far behind.

In the Open final Phil Hague with his Serpent was in the lead with five minutes gone, followed by Paul Pagdin with the PB car. Ten minutes into the race the position remained the same with both drivers on the same lap. By the 12 minute mark Steve White had pushed his SG through into second place the length of the straight down on Phil Hague. Chris White was by now just behind brother Steve with a gentle battle developing for second. Chris moved through to take the place just before Steve's engine cut.

About 18 minutes into the race Dave Dixon moved up in second place with his Serpent. Dave had been flying and had now made up the three laps that mechanical trouble had cost him at the start of the race. He was hauling in Phil Hague in a most impressive manner when just as Dave looked all set to win his first open, he pulled in for fuel and

incredibly his pit man Frank Chung actually dropped his car, breaking the front suspension in the process. Dave must have been upset, but he came down from the rostrum to comfort a desolate Frank Chung. Gently putting his arm around Frank's shoulder, Dave was heard to murmur "There, there Frank. Never mind, it wasn't really your fault. Look you've cut your finger. Let me find you a plaster for it". (That last bit is not actually quite what took place, but fortunately an accurate report of events would have been unprintable).

By now with 22 minutes gone it was Serpents 1 and 2 with Phil Hague followed by Walt Bailey. Six minutes left and the rain began to come down heavily again. Walt driving a very smooth race moved ahead of Phil into the lead with Chris White third and B. Panasar fourth. All four drivers held these positions through to the end of the race. A fine drive by Walt with an immaculately prepared car beautifully driven.

Chris White's third place was all the more creditable in that for the last few laps his motor was stuck on full throttle. It took two laps afterwards for his pit man to catch the car.

On the Monday when I emerged from the tent everything looked different. A bright yellow object hung in the sky and my previously frozen body gradually became aware of a new sensation. Yes, the sun shone and we were actually warm. With the down force of the sports G.T. bodies the S.G. cars were now beginning to handle. The whole situation looked very much better.

The Serpents were the fastest two qualifiers for the open final and looked all set to complete the hat-trick and win all three open finals. Debbie Preston had qualified her two-wheel drive PB showing that two-wheel drive can still be competitive.

The Serpent cars streaked into an early lead followed by the flying SG of a determined Bob Errington. Bob made an early mistake and allowed the two Serpent drivers to open up a lead over the rest of the field. Steve White edged his SG through into third place and was for some time keeping pace with the Serpents. Three and a half minutes into the race the order changed. Phil Hague remained in first place followed now by the two SG cars of Steve White and Bob Errington. Eight minutes run and Phil Hague in the lead was now followed by Bob Errington and Gary Culver.

Steve White having dropped right down to fifth place. With 24 laps gone Bob Errington's race came to an end with a failed diff. With half the race distance run Phil Hague had pulled out a comfortable lead

over Gary Culver. By the 20 minute mark it was Phil followed by Gary with Steve White back in third. However, Steve was now visibly slowing and being rapidly caught by Debbie Preston. A few laps later Steve lost his front body clip and had to make a slow lap whilst his pit man found a new clip. This was to cost him any chance of achieving a good place.

For the remainder of the race the order was to remain the same Phil Hague holding a smooth lead over Gary Culver with Debbie taking a well deserved third place with the two-wheel drive PB car.

On the equipment front the Serpent cars dominated the meeting. They were impressively fast and smooth. They suffered less mechanical damage than the SG cars, not because they are any stronger, but simply because their drivers did not have to push the cars to the limit. Some ran with the two-speed automatic transmission and some without. It did not seem to make a great deal of difference on this track. The only troubles that the Serpents seemed to experience were broken front suspensions, bent chassis' and clutch problems.

The new PB cars looked impressive and gave a good account of themselves. The only mechanical trouble being the front drive shaft area caused by having no limit on the steering throw. The lesson has been learned and I am assured that suitable stops will be incorporated in the new production kits.

The PB cars incorporated an adjustable torque limiting device that allows the driver to select the maximum amount of torque that can be applied to the front wheels. Talking to Chris White he tells me that the device works very well enabling the cars to literally be dialled from understeer through to oversteer. Looking at the way the gear drive is arranged it is easy to see why Ted Longshaw refers to the new cars as 'Stephenson's Rocket'. There is indeed a striking resemblance to the real thing. However, the geared system worked very well indeed and appeared to be trouble-free all weekend.

At the presentation of the trophies that man Andy Stafford was at it again. He walked up to receive his trophy in his left hand, looked Paul Pagdin straight in the eye and firmly shook Paul's hand with his right hand which just happened to contain half a tin of grease. A look of horror passed over Paul's face. Knowing Andy there was no telling what he may have had in his hand. I believe Paul was somewhat relieved to find it was only grease.

A final word for the organisers. We all enjoyed the friendly atmosphere, the

facilities and the shape of the track. But please can we possibly move away from having tyres marking the track boundaries. These proved to be extremely damaging to the cars, especially with F.1 bodies on. The problem is that even a glancing blow will pull the car in towards the tyres breaking the front suspension in the process. We actually suffered more damage in that one weekend than we had previously experienced all year!

If you can't do anything to improve matters due to lack of resources or the conditions imposed by the landlords, then so be it. We will just have to be grateful that the track exists and get on with driving on it. But do please give some thought as to how matters may be improved.

It was nice to see a fair number of spectators present who all enjoyed the racing. Many confessed they had never seen anything like it before. Do remember at least once a year there will be a BRCA event in your area. Admission is free for spectators and I can promise you that the effort needed to come along for the day will be well rewarded. 1/8th scale circuit racing is unbelievably spectacular and exciting, with a combination of close high-speed racing that you will find in no other branch of the sport. Come along next time and bring the kids for a treat. □

Results

Open Final Saloon

1. P. Hague
 2. R. Errington
 3. D. Brader
 4. W. Bailey
 5. F. Chung
 6. C. White
 7. P. Cook
 8. C. Dudfield
- FTD R. Errington

Open Final F1

1. W. Bailey
 2. P. Hague
 3. C. White
 4. B. Panasar
 5. P. Pagdin
 6. D. Dixon
 7. S. White
 8. N. McLeod
- FTD P. Pagdin

Open Final Sports GT

1. P. Hague
 2. G. Culver
 3. D. Preston
 4. P. Cook
 5. S. White
 6. C. White
 7. R. Errington
 8. W. Bailey
- FTD W. Bailey

Clubs... Clubs... Clubs

HERE AT THE 'Model Cars' office we receive regular enquiries from individuals wishing to know where their nearest racing club is.

Most of the time we can help or else know somebody else who can. However there are times when we just have to give up and write back suggesting that the person contact their nearest Model Shop for information.

Often the information we do have is wrong. The Secretary has changed, the club race somewhere else, on a different night and so on.

We know of great many clubs up and down the country, but we also know that there are an awful lot more besides. Subsequently if someone writes in and we don't have the info we can't help them.

Now, once and for all, we are going to try and get as comprehensive a club listing as we can with **your** help. Below we have printed a form which will give us all the necessary information to produce a complete listing. All you have to do is make sure your club secretary sees it, fills it in and sends it to us as soon as possible.

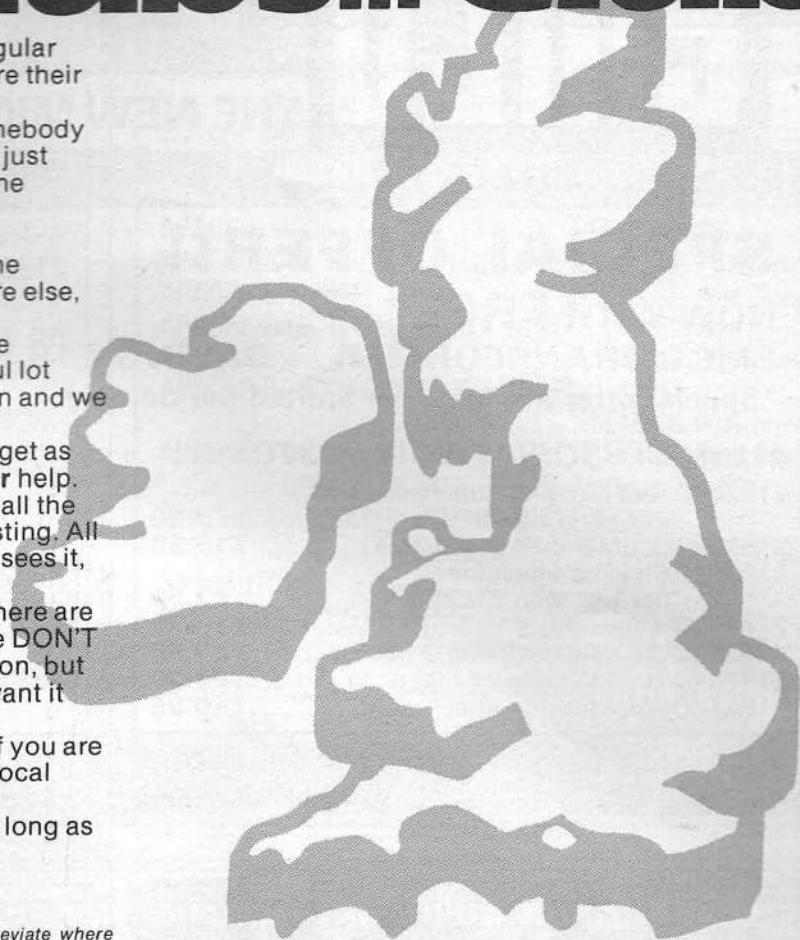
Obviously a great many club secretaries out there are saying: "but you know all about our club" Please **DON'T** assume this, we probably have got the information, but to make the whole operation much simpler we want it again — on this form.

No club, large or small, must be left out even if you are only a small group of people racing around the local park fill in the form — please.

We will keep updating our computer listing as long as the information keeps coming in.

Thanks.

Use only the allotted number of squares for each section. Abbreviate where necessary. Please tick appropriate box for type of racing. Include STD telephone code. Please write clearly in ink using block capitals. Send to Model Cars Clubs, PO Box 35, Wolsey House, Wolsey Road, Hemel Hempstead, Herts., HP2 4SS.



Club name

Location

Street

Town

County

Region

Type of Racing

1/8 circuit

1/12 circuit

1/8 Stox

1/12 Stox

1/10 Buggy

1/8 Buggy

Contact

Secretary

Address

Town

County

Code

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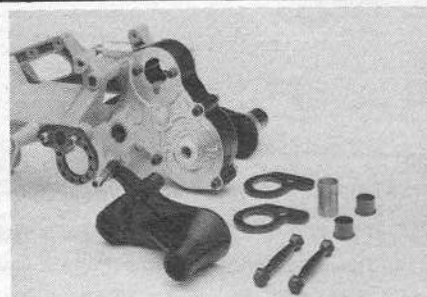
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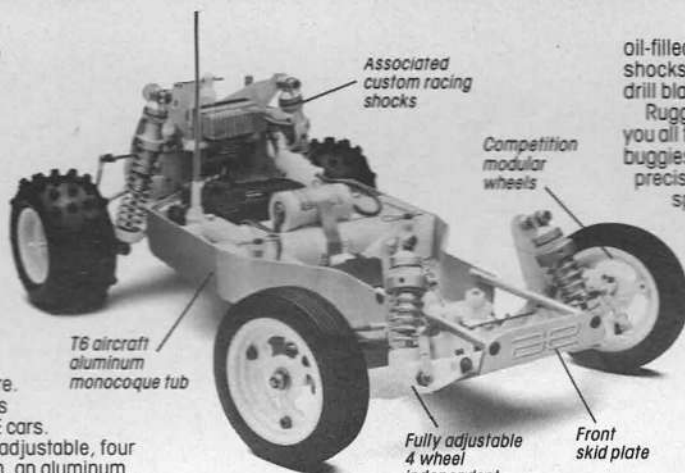
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