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Art Editor Ron Cunnington

Designer Sarah Canvin

Advertisement Manager Simon Forrester

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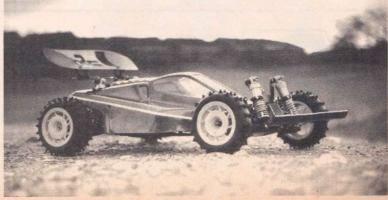
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The MRC MRX is this month's main review subject

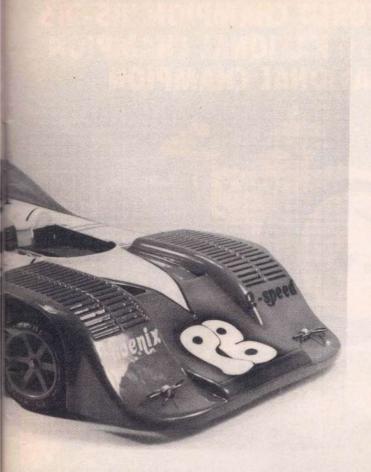


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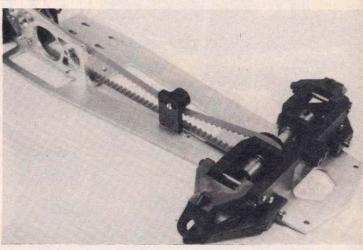


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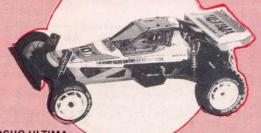


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1	T123 Differential Gear 55T 1 T124 Differential Gear 58T 1	£1.50
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1	(not XL) 1	£1.50 £3.99
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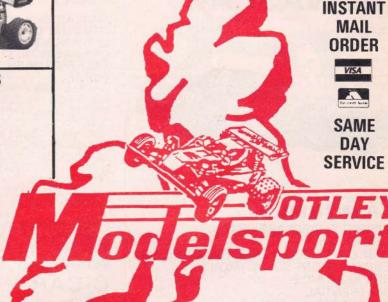
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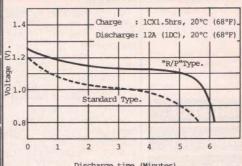
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Discharge time (Minutes). Comparison of high rate "R/P" Type vs. Standard Type.

Using edge welded plates and terminals, the resulting cell has sharply reduced internal resistance and improved voltage characteristics during high rate discharge. See graph above:-



TEAM

CHECKPOINT

MOTORS

fficials electric racing car motors fall into two categories, standard and modified. In practice those motors classed as modifieds fall into three groups. At the bottom end of the performance and price scale come motors direct from Japan with special winds that the importer has specified. Not that I'm knocking them. They are not that far behind the other two groups in terms of performance and at the prices they are sold for represent very good value for many club racers.

Next come the motors that are received from Japan, either in build up form or as parts. These are taken by the specialist engine builders and extensively reworked to improve the performance. There is a great deal of debate as to just how well the motors bought over the counter compare with the works motors. Some manufacturers are better than others in this respect all one can do is to other drivers and try a few to decide which make to go for. By and large the best thing to do is to see what makes the top club drivers, who are not receiving works motors are using and follow their lead.

Now at last we have a third category of so called modified motors available. These new 'Platinum Series' motors are made by *Team Check Point* in the USA. They owe nothing to the Japanese motors being wholly made in the USA.

They feature an end bell and rear can assembly made from T6 aircraft quality aluminium alloy and ceramic magnets that are claimed to have up to 60% greater field strength than those found in motors of Japanese origin. The brushes used are very small slot car types and are claimed to be particularly efficient. In addition they are 1/16in. smaller and 15 grammes lighter than the Japanese modifieds.

Winds available for sale in the UK are 15, 16, and 17 Turn Doubles. The 15T Double holds the current 1/10th Scale Drag Record. Interestingly we shall shortly be trying a special 13T Double that Checkpoint have made for us to fit into a 1/10th Scale Dragster Kit which is coming up for review.

Very few of these motors have

been used in earnest in the UK. but they have achieved an enviable reputation in The States. All of the UK drivers that I have talked to so far, who have used them, have been delighted with the performance. What has particularly impressed them is the motor's ability to deliver all the power they need without making unduly heavy demands on the batteries and speed controllers.

NEW TENTH SCALE

CIRCUIT WHEELS

ith Tenth Scale Racing growing so rapidly in popularity all over the world, and the London club opening its fine track at Crystal Palace for this form of racing I decided that it would make a pleasantly relaxing form of racing to keep the boys' hands in over the winter

That being so I acquired a PB 'Mini Mustang' and an Associated 'RC10' for them to race. From the outset I decided that I would make the cars look as much like circuit cars as possible rather than leave them looking totally out of place on the race track in their original buggy form.

It proved to be surprisingly easy to do. I lowered both cars by simply inserting a short length of plastic tube into each of the dampers, adjusted the suspension to take out most of the camber (in the case of the PB this meant putting some small fibreglass packers behind the top wishbones) and fitted a suitable body. On the PB 'Mini Mustang' I used a BoLink 'Sports GT' body and on the Associated

'RC10 and Ford RS2000 body'.

With the PB I took the opportunity to fit the new front drive shafts, complete with their one-way bearings and universal joints, to improve the handling. I also fitted the mini-pitch belt converision to lower the rolling resistance and hence improve the top speed.

The only problem left was what to do about the wheels. From reading American magazines I already knew that the cars that were doing all the winning over there were using MRC Eighth-Scale Circuit front tyres. With this in mind I obtained a set of American wheels for each car and fitted them with the new low-profile MRC front tyres. I used T7 compound on the front and T9 on the rear. The nett result is that we now have two Tenth Scale Circuit racers that not only look authentic but also have what can only be described as immaculate handling under all track conmditions.

I took one of the cars to be exhibited on the BRCA stand at





Another burst of

On Test material

providing in-depth

reviews of Model

Car racing

products



the Model Engineering Exhibition and later the the Racing Car Show where it attracted considerable attention from existing buggy owners, who wanted to try their hand at circuit racing.

The one question that was on everyone's lips was: 'Where did you get those wheels?' Well now the good news is that they are available exclusively in the UK

froim Belsport.

Not only do they allow the use of either foam rubber or MRC tyres but they also have one other clever feature. All the wheels are in fact identical. To fit them to any given make of car all that is necessary is to purchase a single set of aluminium adaptors to which the wheels are fitted using two machine screws. Thus if you ever decide to change to another make of car all that is necessary is to purchase a new set of adaptors to suit and you can use all your old wheels. As many of us already know to our cost this an represent a considerable saving!

Available by post direct from the importers: Belsport,

Woodpeckers, Stourport Road, Great Witley, Worcestershire WR6 6JP. Price: adaptors £8.50 per set of four, complete with machine screws and Allen key; wheels £7.95 per set of four.

Prices quoted include packing and postage. Also available from selected model shops

SHINWA

MOTOR

DRESSER

rom The Land of The Rising Sun come two products designed to help you get the best out of your motors. Made by the Shinwa Technical Lab. Co. Ltd. these really are two professional pieces of kit designed to take the guess work out of setting and selecting motors.

The first is what they choose to call a motor dresser. With this it is possible to both zero the timing point and accurately set it to any desired value. This can be achieved whilst monioring both

the RPM, the current being drawn and the timing point from the three meters incorporated into the device. The partiular value of this exercise being that one is able to experiment with the motor's timing to find the sharply defined point beyond which if the timing is further advanced the amperage goes on increasing with little or no increase in the motor's RPM.

Obviously the point to aim for to achieve maximum power commensurate with maximum battery duration is just below this point. In effect there are two variables that affect the battery duration, the motor's timing and the gear ratio. This being the case it is virtually impossible to know which to alter. You may for instance elect to retard the timing, which will indeed increase the duration, but at the same time mey be setting it at a point a which the motor will give less than its optimum performance, when what you should have done is lowered the gear ratio. Conversely if you have battery capacity to spare at the end of a race you may have elected to advance the timing and be drawing more amps for little return in performance when it would have been more beneficial to have increased the gear ratio. Now at last it is possible to fix one of the variables at the optimum point leaving you free to adjust the other by trial and error.

The motor dresser has a secondary function in that because the speed of the motor can be adjusted by means of a sliding control it can be used, when necessary, to run motors

The second offering is a motor torque checker. Basically this enables the motor to be set running against a variable torque load and the current drawn checked on the inbuilt ammeter.

If torque is a problem one can of course experiment with the motor's timing but this unit is really designed to be used in conjunction with the motor dresser, which should be used to find the optimum setting for the timing with the torque checker used to monitor the torque characteristics of the motor to decide on the most suitable motor for any given track.

It has to be said that both items are not cheap, and it is very easy to dismiss them as being for the experts only. However one has to wonder if many of the drivers I have seen around the circuits with half a dozen motors in their pitbox, would have been saved the financial burden of having to purchase all those expensive motors if they had been able to optimise the performance of say one or two motors with different winds to suit the different circuits.

The other common complaint often voiced is 'My motor is not in the same class as Mr Wonderful's Works' Motor Whilst there is no denying that there is some truth in this, at least now it will be possible to ensure the best possible performnance is obtaining from any given moor. Thus lowering the gap between yours and the works' motors. Of course if you have a good relationship with your supplier you could try taking it along and use it to select the best motor. Perhaps this will show very clearly just how rival makes of motors compare!

When viewed in this light they are not bad value. Ideally one should have both and use them in conjunction with each other. If funds will not run to the purchase of both then opt for the motor dresser which can have a very real effect on engine performance raher than the torque checker which is merely used to select the most suitable motor for a given track.

Finally the instructions are a fine example of the English as she is spoke variety. They are highly enertaining in this respect whilst just remaining usable. Mind you, it is only just. Available from: Elite Models,

145 Newgate Lane, Mansfield, Notts NG18 2QD. Price each: £59.95

KITTS K-80 MAGIC

MOSFET

t seems that Japanese Mosfet Speed Controllers have suddenly become more numerous than pebbles on a beach. It's not that they are new, most have been available for some time in other markets, it's just that various importers seem to have all simultaneously decided that now is the time to bring them into the country. Without wishing to be derogatory about our own home grown or European products it has to be said that the new crop of Japanese controllers almost universally reflect that country's expertise in electronics, with specifications that we would have only dreamed about a year ago. Not only do the methods of construction show a very professional approach in terms

of design but they also reflect the volumes that these controllers are intended to be made in.

The only down side is that with their tendence to be very compacy, and either partially or totally encapsulated, they are mostly very difficult if not impossible to repair. Having said that the evidence so far is tha they are inherently reliable and are very unlikely to fail unless they are abused. Should this occur all the importers of such units that I have spoken to, including the importer of the speed controller that forms the subject of this review, say that they will provide what they call service replacements that are as good as new. Translated this means that they cannot economically repair damaged units so they will send you a new one at what is in effect trade price!

And so to the Kitts K-80 Magic Speed Controller. As already indicated this is of Japanese origin. The impressive specification reads: instantaneous current 720 amps, continuous current 180 amps, input voltage 6-12 volts DC, dimensions 43.8 × 31.6 ×

15mm, weight 42g. At the rate at which the current handling capacity of these devices is increasing it can only be a matter of time before the CEGB starts using them to control the national

This particular one is of the forward only variety with proportional braking. It uses six mosfets for forward spped control and two for the braking effect. Many drivers may be worried about using forward only speed controllers. However they do have an advantage over those fitted with reverse in that there is no problem with the brake, which may be used to whatever degree and for as long as necessary. Speed controllers that incorporate a reverse feature, mostly have a timing circuit that allows the stick to be pulled back for braking for a spedified time only before the reverse function takes over Whilst this may be fine for those drivers whose cars tend to spend a lot of time stuck in the circuit fencing it is a less that ideal arrangement for the serious driver who is out to win. After all if you need to reverse the car you have already lost. There was a brief period when forward only speed controllers were more efficient than those fitted with reverse, but a loook at the specifications of urrent models wiull reveal that this is no longer the case.

he K-80 comes as one of the most complete units I have so far encountered. It includes a received plug, on/off switch, motor capacitor and a fuse to protect the unit against any damage that may occur if the motor shorts out. It also features a bi-colour indicator lamp which makes setting up the controller simplicity itself.

As is now common to virtually all electronic speed controller circuitry is included to supply the receiver with the correct voltage direct from the main drive batteries. Interestingly this speed controller incorporates a DC-DC converted circuit which can raise the working voltage to 20V to improve the efficiency of the Mosfets.

The instructions are clear and in good English. I must say I like the warning given against connecting the controller up incorrectly: 'PAY FULL ATTENTION TO THE POLARITY. WRONG POLARITY WILL KILL THE CONTROLLER IMMEDIATELY.' You can't saw fairer than that!

Available from: Elite Models, 145 Newgate Lane, Mansfield, Notts NG18 2QD. Price: £59.95.

HAVOC 7 REVIEWED BY DAVID

CUNDELL

he 'Havoc' series of videos, on case you have never come across them, are a collection of thrills, spills, crashes and pile-ups from the many areas of motor racing. This, the very latest in the series, selects various mishaps from the 1986 and 1987 seasons, right up to the 1987 RAC Rally. Some incidents are funny, some entertaining and some extremely rightening, although the producers are quick to point out that nobody gets seriously injured.

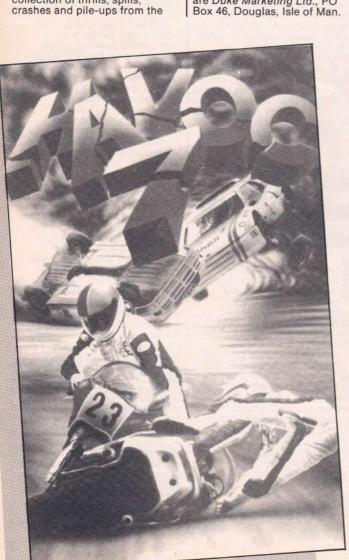
gets seriously injured.

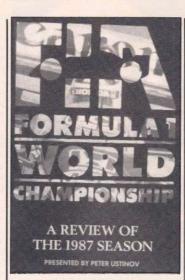
The bulk of the action is of the two-wheeled variety and whilst some of this is quite spectacular, most of it is monotonous sliding too and fro on water-covered tracks. The remainder of the film is taken up with off-road racing of various kinds, including Rally Cross, and this can be very homorous. One highlight involved 450 bikes all getting bogged down on one hill at Weston-super-Mare with only the odd ouple getting through.

The commentary all the way through is very clever and funny and the video has been edited very professionally with plenty of slow motion action replay. If you are looking for an hour's worth of non-stop action, then this and the other Havoc videos are for you.

The only complaint is that the price of around £29.90 is too high for many of our readers' pockets.

Available from Motor Circuit Track Shops and other specialist outlets. Producers are Duke Marketing Ltd., PO Box 46, Douglas, Isle of Man.





'A PAINLESS HALF NELSON' VIDEO REVIEW BY DAVID CUNDELL

Painless Half
Nelson' is the rather
appropriate title for
the 1987 Formula 1 World
Championship. The format is
simple but effective. Each race

simple but effective. Each race is covered with practice information, race highlights and a round-up of the championship standings.

Over half of the video used

Over half of the video used was shot by private television crews and so there is much on here that you won't have seen before, and that includes many track side interviews. Also utilised is some home video footage including Alboreto's Ferrari clashing with Danner's Zakspeed and spopectacularly bursting into flames during practice at Monaco.

The commentary is a double act between Peter Ustinov and Simon Taylor. Ustinov provides the linkage of the races with facts and information and, whilst this is witty, he is very much an acquired taste, (not this reviewer's), and I found it bitty and the pronunciation of some names slightly suspect. Taylor meanwhile, provides the race summaries and these are up to his usual high standard as heard during his radio commentaries. I couldn't help thinking how it wasn't quite the same without Murray Walker though.

On the whole, the video is very well put together with the mixture of film, private video and on-car shots utilised to the full. This two-hour review of the season is an excellent addition to any motor racing collection.

Price is around £32.50 and the video is available from Motor Race Circuit Shops and specialist outlets.

CHALLENGER -PRO MOSFET

CHARGER

here is a bewildering variety of pulse chargers on the market at the moment, emanating from all over the world, so it has to be a pretty exceptional one that will stand out from the rest.

The 'Challenger-Pro' is just such a charger. Quite apart from the fact that it is a totally solid state charger using the now fashionable Mosfets, and should thus be very reliable in use, it has a collection of other features which make it both desirable and very good value.

desirable and very good value.
Basically it is able to charge batteries between 4.8V and 8.4V with a harge rate that may be set between 250mA and 4,000mA. This effectively means that not only can it be used for charging main drive battery packs up to seven cells but also for charging four cell receiver packs as well. A word of caution here though, that is not contained in the instructions. Do not be tempted to use one of the higher charge rates for reeiver packs. Even if you manage to avoid damaging the cells themselves you will burn out the wire which is not rated to handle the higher currents involved.

Once the charge has been completed the cells are automatically kept fresh ready for the next race by current pulses in the trickle charge mode. Bi-colour blinking indicator lights, that are claimed to be unique to this charger, keep the user informed as to what's going on.

The charger incorporates various circuits and fuses to protect it from damage should the 12V supply be connected in reverse.

Thoughtfully the charger has been provided with a pair of outfput terminals that can be switched between voltage and current for the benefit of those who, like me, wish to monitor what is going on

what is going on.
All in all this versatile charger should prove to be highly popular, more especially so for those who do not already have chargers. in that this single piece of equipment can mee all of their trace side charging needs.

Only one thin may mar its popularity. That being the fact that the method used of determining a full charge is by peak detection rather than the currently favoured temperature detection method. On the plus side this method may be used with all types of fast charging cells whereas the thermal method is only held to be suitable for SCR cells.

Available from: Elite Models, 145 Newgate Lane, Mansfield, Notts NG18 2QD.

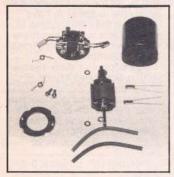
Price £39.95.



Schumacher modified motors

A new release from Schumacher, is a range of three modified motors. Known as Red Heat – 17 Db, Gold Rush – 19Db and Quick Silver – 21Db. These motors complement the range of Reedy modifieds – hand built – also available through Schumacher stockists.

So what do you get? The motors are manufactured by Yokomo, and are machine wound and balanced. The windings however are not epoxy stabilised. The end bell is of a new design which includes a gold anodised brush heat sink. The new end bell gives the illusion that the motor is long, but this is not in fact the case. The car and magnets are also new, being fractionally bigger in diameter – 0.2mm. The motors are ballraced with the normal NMB ballraces used in most modified motors. The brushes are standard Yokomo



items, and are partially run in. Also supplied are a pair of capacitors, two lengths of silicone wire, and a pair of motor screws. I would advise that the motors are run in, preferable with *Rev-tech*, for about half an hour, until the full brush contact area is achieved. This should be done in short runs, 5-10 minutes at a time, on partially charged cells, avoiding excessive heat build up. It is particularly noticeable during this process, the amount of heat absorbed by the brush heat sinks, proving that they are an effective idea.

Performance? The motors when run in are quite well balanced, and there is no detectable brush bounce. On the track they perform very well, behaving similarly to the appropriate Reedy wind.

So Schumacher have an excellent range of budget

modified motors. These compete in the market place withg nmotors like MG Red Dot + and Demon Motors. The motors are catalogued as 'G614-Red Heat', 'G615-Gold Rush' and 'G616-Quick Silver', with a retail price of £29.50.

Cat Rear Tyres 5×24 Minispike (T659)

A new tyre is available from Schumacher stockists. This features five rows of minispikes, internal ribbing and ultra-low profile. This style of tyre is only available at present in rear size.

The new tyres are 8mm smaller in diameter than the original 'Cat' tyres. This means that on a 'Cat' the front wheels are considerably overgeared, inducing power on understeer. In the right track conditions this can be a useful feature!

The tyres are 'T659', and retail for £6.30.

Cat Chrome Wheels

Are you bored with plain black wheels on your 'Cat'? If so, your problem is solved; for black wheels are no longer available. Instead Schumacher are now only supplying attractive bright chrome-coated wheels.





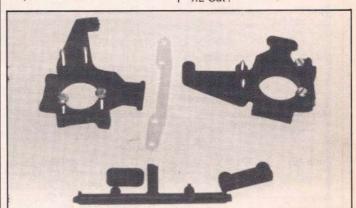
One big advantage with the new wheels is that they are very easy to see from the rostrum. This means that you can see how well your suspension is coping with the bumps on the track.

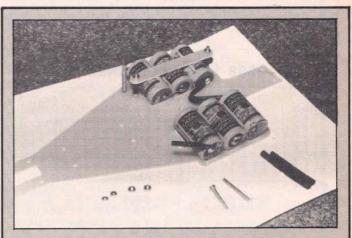
The front wheels are catalogued as T013 and the rear wheels T012.

Cat Front Suspension Geometry Mod Kit (T644)

Finally available, and long awaited is a modified front suspension kit for the 'Cat'.

This features a widened front track, and 'action angle' on the front wishbones, adding about 10° to the castor angle. This modification, in a non-production form, features on all the top drivers' cars, and was used by *Hirusaka* to win the World Championships. The modification makes the car much less nervous in a straight line, and improves handling over bumps. The conversion kit Part No T644, comprises a modified T006 suspension pivot, two pairs of widening spacers, and a widened T116 central track rod plus necessary screws etc. This new suspension assembly is included in the 'XL5' kit. With a retail price of only £3.99 the T644 conversion kit is probably the most useful modification you can make to a standard of 'XL Cat'.





Schumacher 'SPLX' Cat Chassis Conversion (T648)

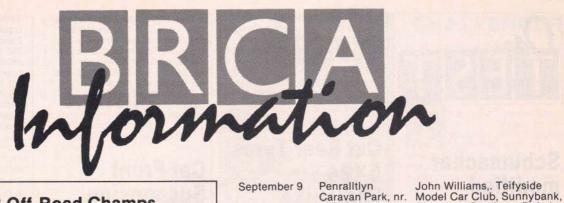
A new item hot off the CNC is the 'Cat' saddle pack conversion kit – for 'XL Cats' only. This comprises a new bottom chassis plate, and a set of *NiCad* retaining straps.

In contrast to other saddle

In contrast to other saddle pack chassis, the 'Cat' uses servo elliptical cut outs, wider at the inside than the outside. This feature allows the *NiCads* to sit very low in the chassis

near the belt, without compromising the ground clearance of the body shell. This gives a slightly lower centre of gravity than the stick chassis.

As with all Schumacher GRP components the 'SPXL' chassis requires a quick clean up with a small file. It is also a good idea to bevel the upper edge of the Ni-Cad cut outs, to allow the Ni-Cads to sit just a little lower than standard. Saddle pack cars are now the dominant force in 1/12, but as yet are quite rare in 1/10. The saddle pack 'Cat' is just a bit smoother to drive than the stick car, but the handling is just as sharp. The conversion kit is Part No T648 and retails at £12.76.



1988 1/8 Off-Road Champs

Date

Location

Contact

April 3

Ipswich

Mr G Weston, c/o Galaxy

Models, Felixstow Road Ipswich, Norfolk. Tel: 0603

419515

April 17

Stotfold

Mr R Wilcox, The Village Farmhouse, Cocayne, Hatley, Sandy, Bedfordshire, Tel: 0767 23316.

May 1

Scarborough

Mr J Richardson, c/o Scarborough Models, 82 St Thomas Street, Scarborough, North Yorks YO 11 1DU. Tel:

0723 378628.

May 14-15

Gloucester British Nat Mr M Hill, The Kobs, Farmington, Cheltenham, Glos GL54 3NQ. Tel: 0451

June 19

July 3

Bicester

Kent

Mr D. Mackay, 29 Blyth Place, Bicester, Oxfordshire, OX6 8GH. Tel: 0869 241705

Mr S Weatherly, 27 St Dominic Close, St

Leonards-on-Sea, East Sussex TN38 0PH. Tel: 0424

1988 1/8 Circuit Champs

Date

Location

Southampton April 3

0703 861219

Aberdeen May 1

Crystal Palace May 15

Tibshelf

May 29

June 12 Wrexham

Mendip July 3

Contact

Mrs B Hooper, 99 Downs Park Avenue, Eling, Southampton, Hants. Tel:

Mr I. Cowieson, 26 Newburgh Road, Bridge of Don, Aberdeen. Tel: 0224 820037

Ian Anderson. Tel: 04862

Mrs J Heffer, 24 Back Lane, Tibshelf, Derbyshire, DE5

Mr D Fletcher, 10 Jarvis Way, Acton Park, Wrexham, Clwyd LL12 7UT. Tel: 0978 364521

Mr T Lawton, 52 Woolavington Road, Puriton, Bridgwater, Somerset. Tel:

0278 683353

1988 1/10 Scale Champs

Date

Location

Contact

August 28

Hetland Hall Hotel, Jimmy Hamilton, Dumfries Carrutherstown Model Car Club, 'Thira', 9 (A75) Dumfries White Row, Powfoot, Annan, **Dumfries DG12 5PL**

September 4

The Wheatsheaf, Maidon Road, Hatfield Peveril, Essex

Barry Buckingham, Hatfield Peveril Buggy Club, 1 Strutt Close, Hatfield Peveril, Chelmsford, Essex

September 9

September 25

October 10

Penralltlyn Caravan Park, nr.

Cilgerran, Cardigan, Dyfed,

N. Wales

Devizes Road, Old Clive Taylor, Swindon Off Town, Swindon, Road Club, 12 Bankside, Wilts. Okus, Swindon, Wilts SN1

SA44 2PE

GEC Sports October 2

Centre

Champs

Stychfields, Salt Avenue, Stafford,

Staffs Junior National John Robson, GEC Stychfield Radio Controlled Model Car Club, 1 Aldersleigh Drive, Wildwood, Stafford ST17 4RY

Cilgerran, Cardigan, Dyfed

Entries to: Dick Taft, Donnisthorpe Car Club.

1/10th EFRA NEWS

1/10th Buggy racing in Europe is now going from strength to strength with more and more countries now planning to hold Grands Prix. Thanks to the sterling work done by Nick Adams, my predecessor on EFRA, the rules have not needed any major changes this year having been carefully thought out from the beginning of the 1/10th section, way back in 1984.

Changes made to the existing rules at last year's EFRA AGM mainly concern the annual European

Championship, which this year will be held near Lyon, in

France.

The most important change is to the maximum number of entries to the EC. This has now been increased to a maximum of 120 drivers - reflecting the increased popularity in the 1/10th - with a maximum from any one country of 25 - which happens to be us.

The start procedure at the EC will be the random-delayed AMB system whereby cars start at one second intervals during qualifying heats. This should ensure a relatively clear race for all drivers and eliminate the first bend pile-ups.
As well as the annual

European Championship 1988 will also see the instigation of a series championship now that six countries plan to hold a Grand Prix. This will be known as the Open International Championship with awards being presented by EFRA to

the top three drivers at the end of the season. Scoring will be as per the EFRA rules with the best four results to count. Points will only be awarded to EFRA driving licence holders 1/12th licences are valid for

1/10th and vice versa.

Two wheel drive was discussed at the EFRA AGM where it was decided not to introduce a separate class at this year's EC although it will be looked at again for 1989. However GP organisers have been asked to introduce this as a concurrent class for this year and so far the organisers I have been able to speak to have indicated their willingness to do so. If this is the case there will be two Open International Championships.

Dates for your diary (Some venues and dates are

provisional):

European Championships, Lyon, France, 24-25-26 June. French GP, Lyon, 7-8 May. Austrian GP, Portschach, 21-22 May, (Rallycross 20

Swedish GP, Ludvika, 3-4-5

British GP, Southend, 8-9-10 July

Belgian GP, to be advised, 30-31 June.

German GP, Hildesheim,

24-25 September. I shall have available entry forms for all of the above Grands Prix as soon as they are published, so if you fancy a trip abroad contact me with a stamped addressed envelope and I will send you details. Serious enquiries only please. Entry for the European Championship is by qualification through the BRCA national series – those eligible will be contacted by the BRCA during April with entry forms.

My address is c/o SRM Racing, 140 West Street, Fareham, Hants PO16 0EL.

Mick Langridge, Chairman EFRA 1/10th Section.

MAIL

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Dali ma

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SRM Racing

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Motor Springs	

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Schumacher

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XL CON	£24.95
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T646 Rear Mod	£2.20
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	Meteor Comp	
	MARDAVE	

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		£9.95
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CAT Hard or Soft Front	
CAT Hard or Soft Rear	£6.80 pair
Optima Low Profile Pintyre	£6.95 pair
Hotshot Spikes Front	£4.20 pair
Hotshot Spikes Rear	£4.70 pair
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Acoms Mint 3.2k 0-15 sec	£28.00

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- ★ New centre differential assembly standard in kit.
- * Exciting new "Tenere" lexan body with wing.
- * New plastic gears incorporating stronger tooth profile.
- * The result is that the new Magnum Force handles with greater precision and ease than its illustrious forebear. Watch out for it on the winner's rostrum in 1988!

NEW MAGNUM FORCE

 $(4 \times 2 £230.00, 4 \times 43 DIFF £339.00)$



THUNDERBIRDS



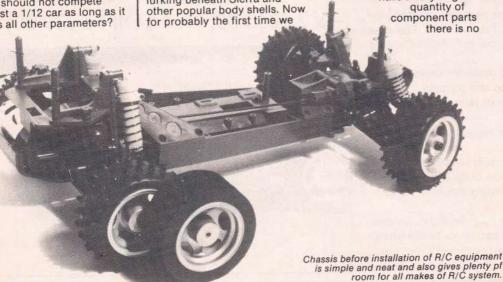
ith over half a decade of 1/10 racing and an even longer period of 1/12 racing now behind us the RC scene is slowly beginning to show some signs of change. Up to now the differences in the type of racing, namely on- or off-road has been one of scale. 1/12 on road and 1/10 off road. This grouping owes more to convenient labelling than to good technical argument. Instances occur when manufacturers ignore convention such as *Tamiya* producing the 1/10 'Road Wizard', as close a model as you are likely to get to a Formula 1 racing car. Is there any good reason why a 1/10 racer should not compete against a 1/12 car as long as it meets all other parameters?

When it comes to off road there is little to commend the use of the title of 1/10 scale. Consider just the size of wheels and tyres used on a 1/10 model and scaled up to a full size off roader. The tyres would be around four feet in diameter. All this leads me to the fact that manufacturers are likely to deviate from conventions we have all accepted in the past. They can see that new markets will open up for new classes and types of racing. Drivers will respond to the challenge as long as pockets are deep enough and the sport is good. One of the latest variations likely to hit the RC market will be saloon car racing. Already we have 'CATs' and PB chassis lurking beneath Sierra and other popular body shells. Now for probably the first time we

have a kit designed for both on- and off-road racing.

The Marui 'Melling Thunderbird' is a copy of an American NASCAR racer. In real life these losely-matched racers are to be found at circuits all over the USA with their own stars and enthusiastic supporters.

The all-plastic injection moulded chassis is constructed from three main sections. Front suspension unit, rear suspension unit with motor and main reduction gearing and finally the centre section that houses RC gear and batteries. All the injection moulded parts are extremely well engineered and fit precisely together. Although the car appears to have a very large





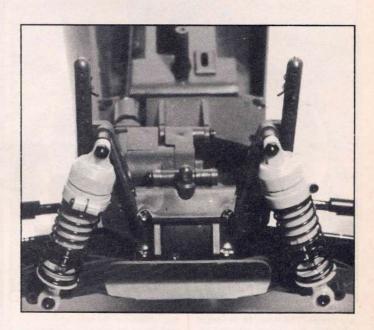
ARIE GOV

Geoff Driver has gone onand off-road with Marvi's latest creation

difficulty in building the kit other than the time taken to put all the bits together. It took me a couple of evenings to build, a total of around six hours. A rear-mounted Mabuchi 540 motor of the latest style with metal end bell drives a gear reduction to the three gear differential. Although the change to the Mabuchi motor may appear to be superficial, I think it is in fact quite important. The Mabuchi 540 series of motor is probably more common throughout the model industry than any other single motor. It is relatively simple in design yet robust and delivers good performance. It is often abused, misused and ignored. Many RC enthusiasts simply take the Mabuchi 540 from the kit, put it to one side and forget about it. Over the years I have developed a great

admiration for this unsung hero, and now Mabuchi have taken the trouble to upgrade it. The move to a metal end bell is interesting for two reasons. Firstly the problem I have occasionally encountered when I have overloaded motors for an excessive amount of time, namely endbell melting will now be a thing of the past. Heat dissipated from around the brush gear should be better although heavy overheating will probably lead to total armature melt down. Secondly, although I have yet to test this out I suspect that performance should be improved. This will be due to the better magneic circuit achieved with the metal end bell.

Back to the gearbox. All gears in the gearbox are plastic, with the exception of the final bevel gears that pick





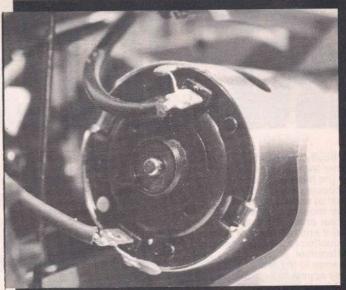


up the differential output, these are metal. The drive to the front wheels is by a bevel gear taken off from the main gearbox via a thin shaft to the front axle. The joints at both ends of the front to rear shaft are nothing more than wire loops fitted into slotted output shafts. Front differential assembly is similar to the rear. Open ball and pin drive shafts complete the drive line to the wheels. The inboard drive cups must have rubber O rings fitted inside them. In the case of the front drive shafts these pass through the front wheel steering uprights. These uprights are some of the few metal components to be found in the car and look very similar to uprights used on the 'Optimas'. Steering is by track rods coupled to twin steering bell cranks, one for each wheel which will keep bump steer to a minimum. Steering lock does not appear to be very great when looking at the stationary vehicle but on the move it should be quite adequate. Bearings throughout the car are plastic (they look like nylon) and can of course be replaced by ball races to reduce frictional losses. The Marui 'Melling' vacuum-formed body is superbly styled and beautifully finished. The shell sits on body posts which allow a range of body heights to be selected for whatever. selected for whatever conditions prevail. To complement the body height adjustment the maximum ride height can also be varied. This adjustment is very simple to achieve by winding an adjusting nut along each of the threaded rods (one for each wheel) so reducing spring travel. This method of ride

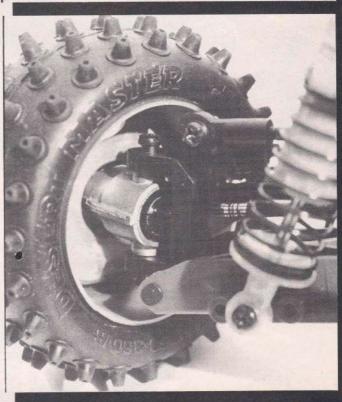
height adjustment is simple, but effective. By having non-progressive springs the spring rate is not affected, other than to make the spring a little harder to compress at the start of its stroke. This should make fairly good on road performance.

Yellow all-plastic dampers are the same as fitted to the Ninja' and, although not of the volume compensating type they are very well sealed with 'O' rings. The kit includes an additional set of damper pistons. By selecting different pistons or using the different bottom damper positions on the lower wishbone arms a complete range of suspension characteristics can be selected to suit on- or off-road conditions. Remember, the further away the damper is from the chassis - the harder the ride becomes. Suspension geometry can be modified by varying either the length of the suspension top arms or by using the three alternative fixing points for the top suspension arms which will affect camber changes with suspension movement. To complete the dual function, the kit comes with two sets of wheels and tyres. Sponge slicks for on-road and spike knobblies for off-road. The wheels are single-piece mouldings so it is essential to glue both the on and of road tyres in place.

Looking at the centre section of the car there is plenty of room to house servos and radio gear. The unique Marui enclosed speed controller switches in the usual type of ceramic resistors mounted at







Top: New motor installed. Centre: Centre drive shaft—note also height adjustment screw on rod. Above: Aluminium uprights house plastic bearings which can be replaced by ball bearings.



the rear of the chassis out of harm's way. Batteries are accessible through a removable panel in the base of the chassis. As the batteries are mounted longitudinally the colling moment along the car's rolling moment along the car's centre line is kept low. This, coupled to the low battery position in the chassis between the front and rear wheels

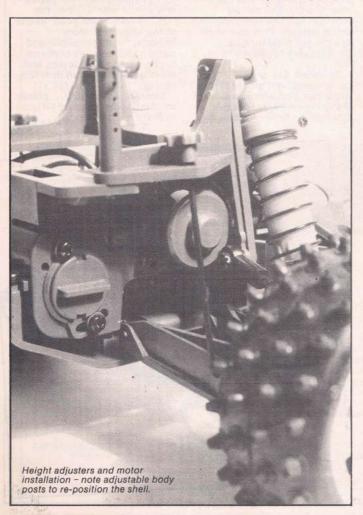
should help front-to-rear weight distribution problems often encountered with a rear-mounted motor. Provision is made for either six or seven cell operation. The lid of the battery enclosure is not easy to remove and requires three hands and very strong finger nails or the careful use of a corowdriver to reise it open. On screwdriver to prise it open. On

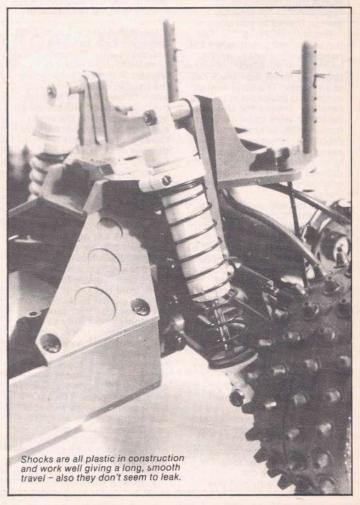
the credit side it is unlikely to accidentally open during a race. The design of the race. The design of the underside of the car gives a remarkable smooth surface, although abrasions will inevitably ocur.

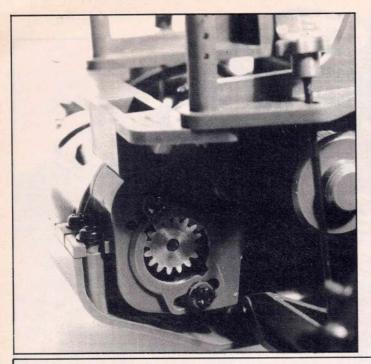
Building the car is quite straightforward and presented no difficulties. The instructions were easy to foillow and well

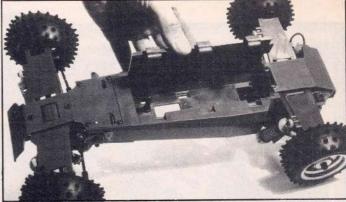
were easy to foillow and well

illustrated. The kit includes illustrated. The kit includes damper oil and lubricating grease for the transmission. The only criticism I had was with one badly-fitting wheel adaptor and a misaligned centre drive shaft. Both of these problem were quickly and easily rectified by drilling and bending the respective parts. parts.









Left: Spy hole allows inspection of motor pinion meshing. Above: underside showing battery position.

The 'Thunderbird' kit is based on the rolling chassis of the Marui 'Ninja'. Together with one other car yet to reach Britain the Marui 'Shogun', this will give the company three cars on the same chassis/ driveline. It seems to me that electric on-road production car racing is still in its infancy.

Marui have backed two horses with this car in making it suitable for on- and off-road. I would not be surprised to see more sophisticated ride height adjustments being developed. Subaru managed to use a hydraulic jacking system on their full size models, but that is going too far, isn't it.

ssons to be Learne

ssociated's RC12L continues to find friends around the circults, and I have received a number of kind words from readers on our regular notes for your car's

set-up; thanks to you all.
Recently RCMC's '12L' has
run into a bad patch, when the
handling went totally wrong,
and faith in the black bullet was dropping faster than the FT30 share index! The sane way of correcting problems is to carefully analyse the situation, detail the work to be done, and move swiftly to eradicate the problems. However (as the saying goes) when you are up to your armpits in alligators it's difficult to remember the original objective was to drain

the swamp! I started well, really! Stripped the car right down, checked everything carefully, rebuilt it with a new T piece and checked all was as it should be. The difference was . . . none. More careful checking revealed that the holes in the front blocks (where the kingpin slides up and down) were quite badly worn, so a new set was purchased and fitted. For a couple of races all seemed well, but soon things returned to normal - or abnormal depending on which way you look at it.

Experiments were being undertaken with silicone grease on the rear damped to try and smooth the car and to give more turn in bite without excessive oversteer. This certainly worked on occasions but the car was nervous. On acceleration the car oversteered badly and this

combination made me mistrust the car. Even after new blocks were fitted, no improvement

was felt. OK, I failed to drain said swamp, and the alligators were snapping at my tail - time to

panic!

I pestered all the Laser-SRM team members for clues however vague. Numerous tyres were tried, nothing worked. Rob Roy, pinpointed the trouble quite by accident when he caught one resetting the rear damper with silicone liquid. I was using the liquid supplied by Schumacher and Corally for use in the rear damper of the 'C' Car and Corally. "No, no" said Rob, "it doesn't work". He was right. Using Schmacher differential grease instead literally transferred the car back to the black bullet of old - well almost. So tip number one to smooth the car out is to apply some Schmacher diff grease between the white nylon damper washers and the top plate, the more grease the more front bite.

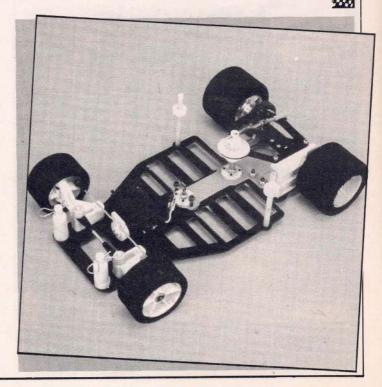
I said almost back to the car of old because that delicious line tightening ability as one comes off the throttle seemed lost, the car just understeered everywhere. Tightening the rear damper just made the car twitchy; similar effects were found by putting more Tractite on the front tyres. The car never performed as well as it had on the original kit tyres, and there lies the solution. For a tight club circuit, the amount of horsepower available leaves the front tyres with too much work to do.

A second set of castor

wedges were fitted under the front blocks and this has made a slight improvement - worth rying, but the car is a bit snappy turning in. The castor is now 4° total, and can be returned to 2° by removing one set of wedges. This also limits the ground clearance so running very small front tyres is

To recap, use only Schumacher diff grease if experimenting with extra clamping on the rear pod. Change the front blocks if the wear in the kingpin holes becomes excessive, and experiment with front castor angle increase should you wish to. Accepting that Phil Davies is a winner with any car, the '12L' has got some good results at National level. More importantly, its simplicity and basic good manners continue to win friends at all levels, and increase participation in 1/12th

Dear Mr. Associated ... please send me some standard kit tyres to make my car handle!



SCENE & HEARD

1/10th Euro-Champs News

Es West (0709-376257) and myself are trying to organise a coach and accommodation for both competitors and spectators who would like to attend the 1988 European Championship to be held in Lyon, France, between June 24th and 26th.

The cost for the coach and the ferry crossing would be approximately \$50 per head, obviously dependent on the number of people. Accommodation will be approximately \$14.00 per head, based on two people sharing a room. There will be a surcharge on single rooms.

The route for the coach is as follows. Leave Rotherham at midnight on June 22nd, M1 to A38 to A5, M6, M1, M25, then to Dover, to arrive at 7.00am in order to catch the 8.00am sailing to Calais. It is hoped to arrive in Lyon at 6.30pm on June 23rd, returning home on June 27th.

Contact: John Stringfellow, 1 St. Andrew's Rise, Walton Hall, Chesterfield, Derbyshire. S4O 3NJ.

French Grand Prix News

The third French EFRA 1/10th Off-Road Grand Prix (Internationale de Genay 1988) will be held on 6th/7th/8th May, 1988 on a new track specially designed for the coming 1988 European Championship.

The new venue is at Rue Jacquard -

Industrial Estate - Genay (Rhône), 15km North of Lyon. Just a few minutes from the A6 motorway.

Two classes: 2WD and 4WD. Modified motors. 6 cells. 5 minute heats and finals.

For more information, please contact your national federation, or write to the organiser:

Jean-Yves Dubout, 8 allée des Peupliers, Massieux, 01600 TREVOUX.

1988 Modelsport Challenge

Two Day Off Road Electric Car Competition at Newby Hall, Ripon, North Yorkshire, 9/10 July 1988. Newby 1988 Modelsport Challenge. Two Classes (a) Two Wheel Drive, (b) Four Wheel Drive. Sponsored by Otley Modelsport. Entry forms available from: Mr. S. R. Hidden, 245a Woodfield Road, Harrogate, North Yorkshire, HG1 4JE. Please enclose SAE. Closing date for entries 10th June 1988.

Reedy Spring International

The Romsey off road club is again holding the Reedy Spring International during April this year. With over 40 Europeans coming to the meeting as well as the Americans and world champion Masami Hirosaka this should be an excellent chance to see Model Car Racing at its best - so go along and watch.

Details from: Bill Jones, 33 Princes Road, Romsey, Hants.

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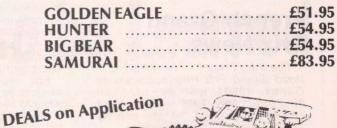
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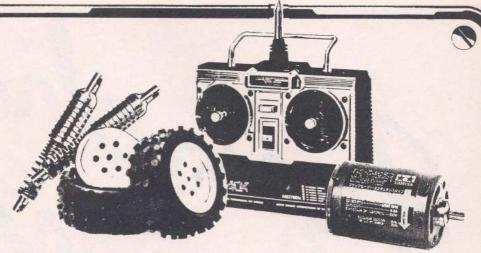
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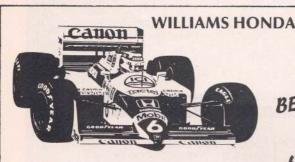
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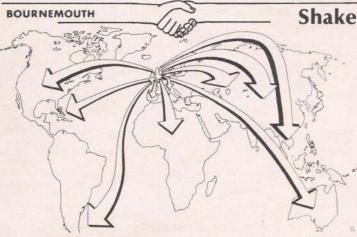
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Model Cars investigates the all-wheel-drive MRX

Dish: MRX, 4WD Competition.

Ingredients: Mid-engined; belt driven 4WD system; fully ballraced; alloy constant volume shocks; universal joint drive shafts; carbon fibre reinforced chassis; geared differentials; front one-way roller bearings; anti-roll bars (adjustable).

Method: Blend ingredients together to form smooth and consistent mixture. Adjust seasoning to suit individual taste. Serve with items of your choice

Designing a 1/10th scale competition off-road car is a bit like Cordon Bleu cookery. It's one thing having all the necessary ingredients but blending them together perfectly is the really clever part. Also not everyone is a great chef and not everyone has the same taste, so considerations have to be made to account for the individual's ability and personal choice to ensure success every time

A look down the list of features for the MRX by Model Racing Car of France should convince anyone that all the ingredients for a successful car, are present in the right measures. The question is, have MRC blended those ingredients

into an agreeable whole?
At this point it is necessary to point out that the car being reviewed here is the top-of-the-line 4WD competition model. A basic version of this car also exists as does competition and basic versions

of the 2WD car. In all four kits the design of the MRX remains unchanged which MRC claim does not adversely affect the handling whatever the class being raced. Furthermore MRC have engineered the facility to convert cars to 4WD from 2WD to the convert cars to 4WD from 2WD to 500 from or the other way around if that is what you wish. Conversion kits to upgrade specifications are also available. Economically speaking this is all good news as the need to have two cars (2WD and 4WD) is not so necessary plus the fact that spares will be identical.

Most purpose-designed 4WD cars have great difficulty makin the change to 2WD whilst still remaining competitive. The PB 'Mini-Mustang' and Schumacher 'Cat' are just such a case in point as neither cars are well suited to 2WD racing. Because the BRCA has wisely decided to introduce a 2WD National Championship this year the results in this class will be particularly interesting. The difference between the

basic and competition versions of each car are quite easy to spot. Firstly the basic cars are cheaper because of what they do not include. Plastic oil-filled shocks replace the alloy competition types as do standard drive shafts for UJs and PTFE bearings for ball races. The basic kits do have a motor and speed controller

whilst the comp type does not. By offering the option between competition and basic kits MRC are covering both ends of the racing

spectrum. This allows us, the racers, the choice of going the whole hog straight away or converting up to the full-blown spec a bit at a time.

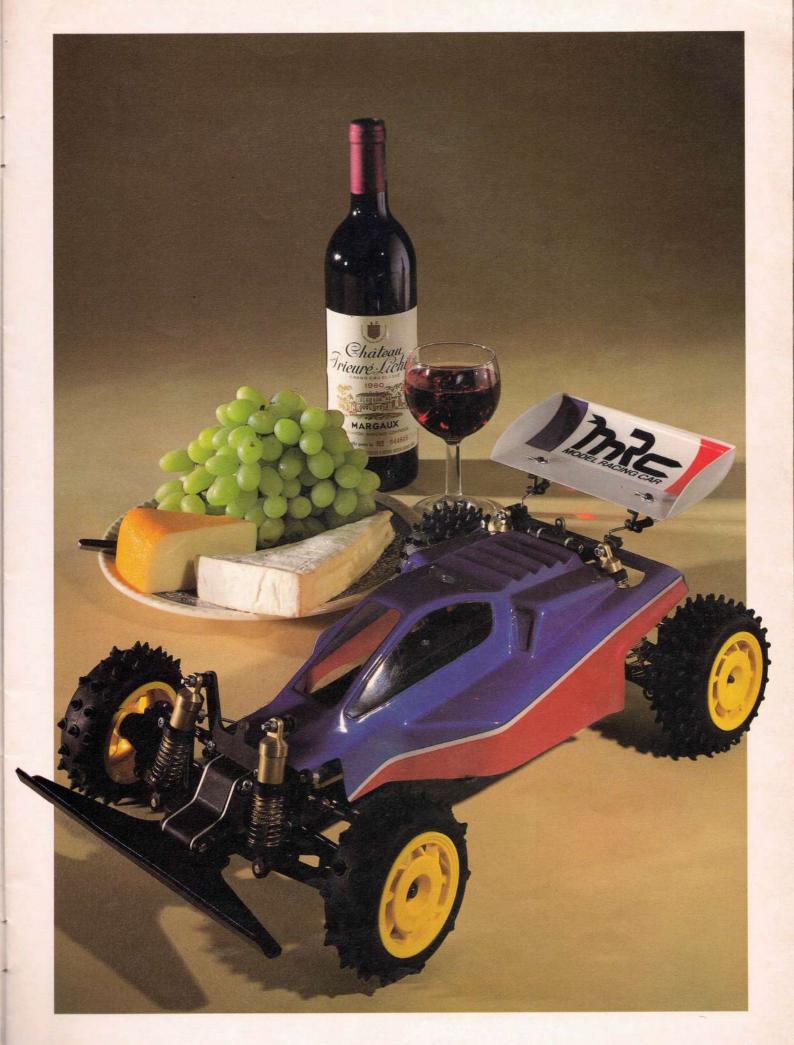
Design features

Prototypes of the MRX were seen in action by observant RCMC reporters as long ago as last year's European Championships. That car was already featuring a mid-engine motor placement allied to a 4WD belt drive system. Since then the transmission has been tested thoroughly by the factory in an attempt to foresee any

problems.

MRC's aim was to produce a car that would be strong, reliable, easy to build and easy to maintain and set up. Having an efficient transmission system capable of transmitting the power to the gound. Likewise a car that is difficult to maintain and set up would be of no benefit to any racer with a hectic race schedule to consider. Last and not least reliability is a difficult feature to build into a car but this again is the aim of the MRX.

MRC have also made their package attractive with a full colour box and blister-packed parts inside. The exploded view, step-by-step instructions look comprehensive and have been transilated into good 'racing English. So aware of the Uk market's importance are MRC that they have produced English versions of the kit box as well as the standard French issue



Transmission

In the race for transmission efficiency MRC have employed the services of a single reinforced belt running directly front to rear. The only deviation from the straight and narrow is over a belt guide to direct the belt out of the top of the rear gearbox. The belt itself features a round tooth form.

Primary drive to the rear gearbox is through gears, leaving the belt the simple job of transmitting drive to the front wheels. The differential units front and rear, are enclosed in a casing for added protection from the elements. As well as a front diff, one-way roller hubs are an added option should

you so desire.

Getting to the gearbox and differential is a simple matter of releasing the screws holding the gearbox side plate and pulling the complete side away to allow access. In theory the whole operation should only be a matter of minutes just to check that everything is running smoothly. Adjustment of the belt tension is achieved at the front by using differential output mounts incorporating on exenctric cam. By rotating the mounts backwards and forwards the belt tension can be increased and decreased acordingly.

Suspension

In keeping with their philosophy of strength and reliability MRC are also stressing the use of a special 'filled' nylon for all the injection moulded parts developed by the

aerospace division of *Dupont*. It seems unlikely that *Dupont* have produced this material specifically for the *MRX* but as long as they are strong and not affected by fluctuations in temperature then this should not matter. In any case the quality of all the moulded parts is superb and certainly comparable with anything else

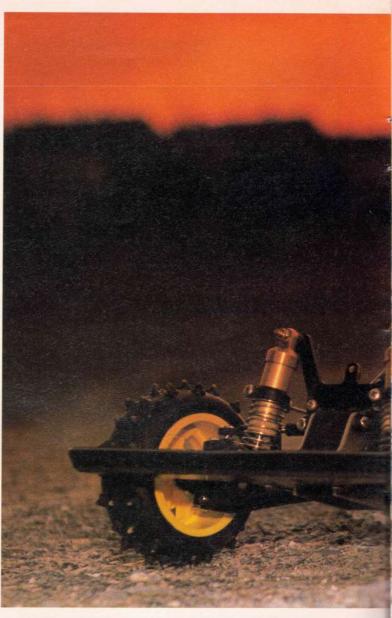
currently available.

The wishbones have a sensible, chunky section, particularly around the pivot pin locations. Camber adjustment can be made through the top links to suit individual requirements. The top links are machined with a left and right hand thread on the rods which allows the link to be adjusted without unclipping the ball joints. This is important because the ball joints are just as difficult to remove as they are to install

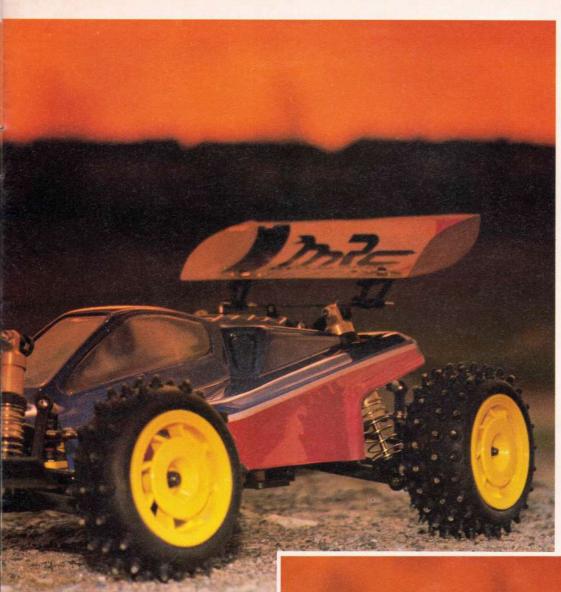
the ball joints are just as difficult to remove as they are to install. At the rear the top links mount onto moulded 'wings' either side of the gearbox. These also have three alternative mounting holes to adjust roll centre.

Dampers

In keeping with current damper design technology MRC's units feature constant volume with a compensating diaphragm fitted at the top to prevent the oil 'foaming'. As mentioned previously the competition kits have alloy shocks, the basic versions are in black nylon. You can if you wish mix and match the plasic and alloy parts togeher which makes for an attractive black and gold combination. Both sets are of the same design and feature a double O-ring seal around the piston. Different







pistons are included in the kit as is a bottle of damper oil.

The shocks go together nicely and operate very smoothly. Getting the damping rate right is a matter for individual taste again but at least they don't seem to leak!

The rear wishbones have three mounting positions whilst the front have just the one. The need to change damper angles at the front is not really necessary as the upright position has the majority vote.

position has the majority vote. Different rate springs will be available in the near future but for the time being the kit items will have to suffice. It looks possible to fit any one of Kyosho, Associated, or Tamiya springs in place. Spring tension is adjusted by inserting spring clip spacers around the damper barrel in a similar fashion to Tamiya and Schumacher on the plastic shoks and screw clamps on the aluminium.

Wheels and tyres

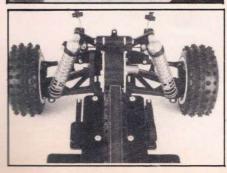
Read this section carefully, otherwise you may become confused.

confused.

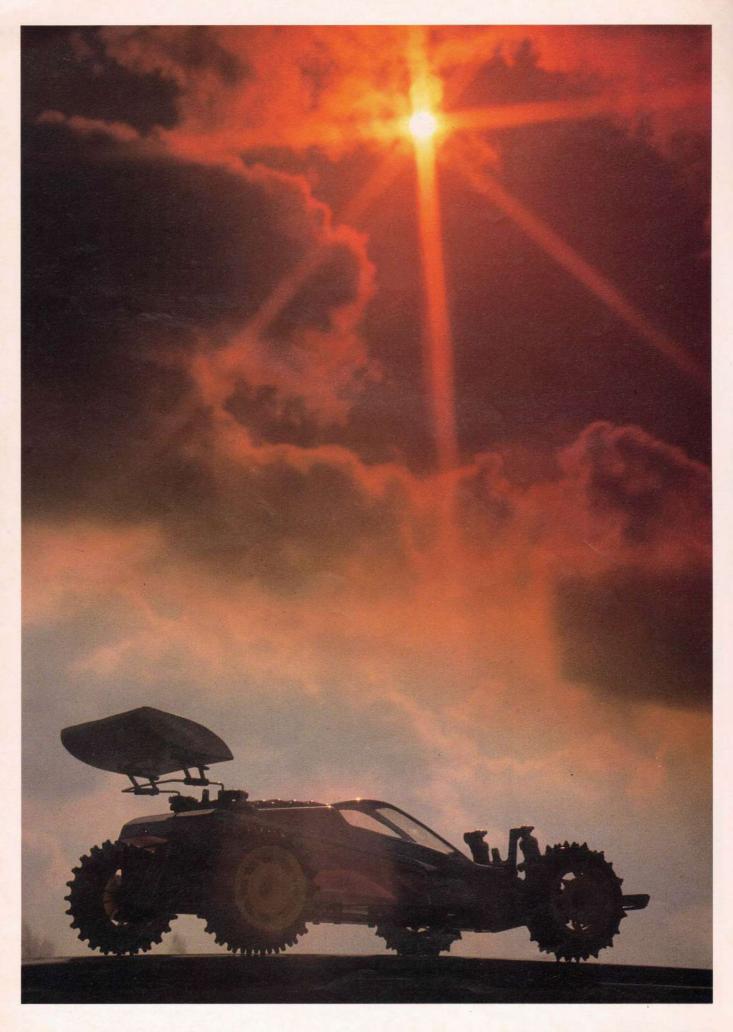
Basically the hubs are a one-piece moulding for light weight with a choice of eight different colours available as follows: orange, yellow, green, blue, red, pink, white and black. Also the wheels are supplied in any of three widths - wide, medium and narrow. The hubs have a hexagonal drive which matches up with the kyosho











system allowing MRX wheels to be used on either car. Furthermore an adaptor to convert to *Tamiya* is also available. Conceivably you could run a different colour wheel at each corner of the car (if your taste runs to that extreme). Worse still you could also use Tamiya coloured tyres for added effect! On the subject of tyres, MRC have various different tread patterns available in the three width sizes. More importantly because the hub is 50mm in diameter virtually all other types

diameter virtually all other types of tyre will fit – *Kyosho, Tamiya, PB* and 'Cat' styles can be used. With different grades of rubber to consider the use of colour-coded wheels to signify hard, medium and soft compounds will make things easier and certainly brighter

Building

Seasonal racers will no doubt be happy to rip apart the blister packaging and get right down to the nitty gritty with maybe a casual glance at the

instructions.
This is fine as the car has no real hidden problems in terms of assembly. However for those of us less confident of our own ability then some thoughtful points have been incorporated

All the injection-moulded parts have a small tag carrying a number. The part number then matches up with the instructions to make identification doubly secure.

Areas where extra care must be taken are few but it is worthwhile double checking that the bearings or ball-races are seated squarely in the gearbox side plates. Also remember that they are fitted from the inside out i.e. with the flanged side on the inside so that they cannot possibly fall out

When assembling the differentials use a little grease to ensure a smooth action - the diffs will be a little tight at first but will free up greatly as soon as the car is run

The other important point to remember is to install the belt between the gearboxes before they are finally assembled!

All the carbon fibre/GRP chassis parts are computer machined and fit perfectly. When screwed together the basic chassis section is extremely rigid. Also of all the screws are screwed securely home then the box section should come out square Between the upper and lower plates a mounting plate for the steering servo, receiver and speed controller to be installed. This keeps the weight low down and allows easy access. The basic versions of the kit feature a different design of top chassis plate to allow the kit-supplied speed controller and operating servo to be installed. The NiCad pack sits across the chassis, raised up slightly to clear the belt and retained firmly with MRC's version of the Schumacher battery clamp

Besides these areas of caution there were also some other nice touches encountered during assembly. Firstly all the ball-joints have chromed heads to ensure that they are free when fitted. Also the wishbone pivot pins are made from hardened steel and as such not able to bend except under extreme provocation. Virtually all the screws supplied in the kit are lightweight aluminium with illips screw head.

Built up the MRX looks strong enough to withstand the pressure of competition and if the performance matches up then the car will do well Comparisons with other makes of car are inevitable and justified in some areas. The point that MRC have made however is that they are not afraid to use race-proven design points to make the MRX competitive. In any case, once you have settled on a mid-engine/belt drive configuration with a shock at each corner then the car will have an instantly recognisable appearance.

Does it work?

With the sort of cars being produced at present you have say - of course it does!

How well it works is the real question, particularly against the competition about at present. Helger Racing are the sole UK importers for the MRX and they are convinced of the car's ability

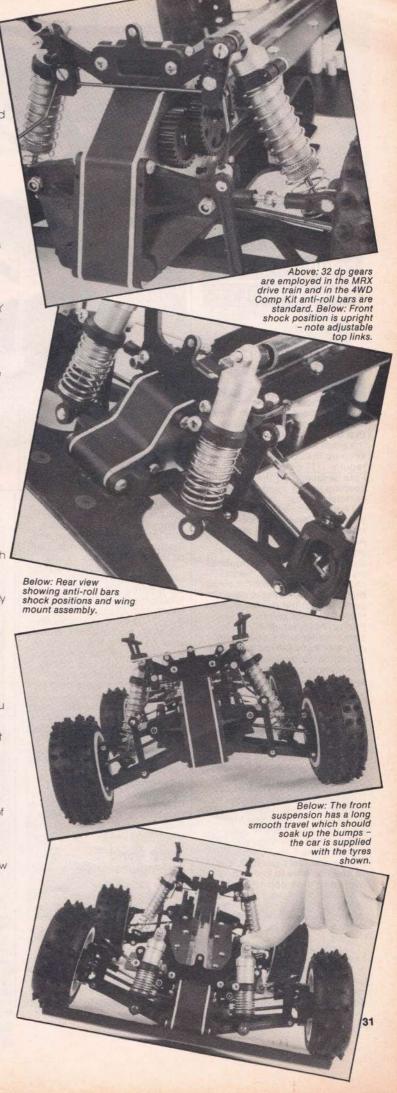
Helger's UK-based R and D team have already been working closely with their French counterparts during the prototype stages and will continue this liaison once the car has been released. Already planned are some different chassis layouts, including a saddle pack variation, plus a lexan undertray and different bodyshell. The bodyshell in the kit is not exactly the prettiest-looking in the world but, as with most cars around these days, performs a mainly functional role. Change it if you like. The main key to the MRX success will be if the transmnission remains efficient and reliable and if the after sales service from the factory holds up. The sory goes that MRC produces the spares before they built the kits!

If this is true, and remember France isn't on the other side of the world, then spares backup

should be good.

In time-honoured fashion, further reports of the MRX's on-track performance will follow in a fuure issue. For now keep an eye on the National Championship rounds to see how the car performs in the hands of *Team Helger/Parma*

Manufactured by: MRC Importer: Helger Racing Prices: 4WD Comp £199.99 4WD Basic £119.99 2WD Comp £154.99 2WD Basic £89.99



CIBCUST

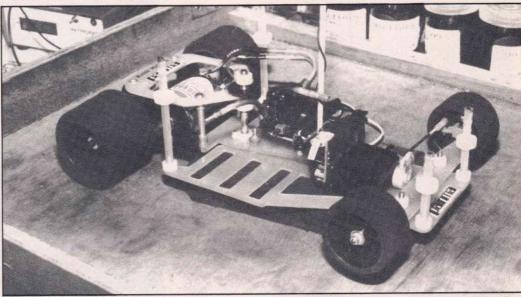
Rob Roy takes over the 1/12 column from Pete Winton

fter several years of racing and writing about 1/12 scale, Pete Winton has decided that his interest has waned to the point that he can no longer keep up the commitment of a regular 1/12 column. I think Pete deserves our thanks for keeping us informed, and for entertaining us.

I have been racing for four years now, and have been fortunate to race at all levels. Also I have been fortunate enough to have attracted support from SRM. Throughout my years of racing my local club has been Luton, which has the benefit of having drivers using four of the major manufacturers' chassis – Parma, Associated, Schumacher and Corally. Not only this but we have drivers of all standards, and levels of experience driving these chassis.

This means that you all will be able to benefit from the experiences, good and bad of people like Keith (shiny head) Helmke and Bill (bowling ball) Boldison who have developed many chassis over the past years, Challenger and Corally, and are now key members of a fledgling team Parma. For Corally drivers I will be able to tap into the wealth of knowledge of John and Matt Ford who have Corally cars. For Schumacher drivers I regularly see Pete Farmer, Phil Davies and Mark Barford, and so shall be able to keep abreast of current developments and try to explain the complexities of set ups used. For Associated drivers, the combined talents!! of team SRM will be put to your benefit.

Throughout my racing career I have managed to race at most of the 1/12 meetings held throughout the country, not to mention two or three Internationals. I shall try to

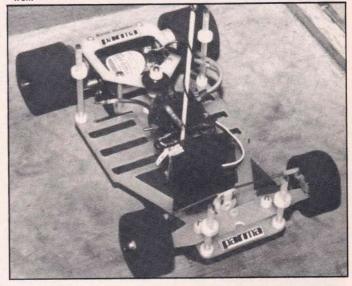


Above and below: Two views of the new Parma Panther 12 cars belonging to new team member Keith Helmke, the cars so far have been going very well.

write regular race reports of most major meetings, certainly Nationals and Internationals, and probably the Watford and Stafford league meetings. I will be interested to hear of any unusual meetings like the inter club challenge being held by Long Berton (near Newcastle/Gateshead) club, which should prove to be a very interesting enjoyable and hopefully annual event. Whilst I shall be writing the column on a regular basis, there will be occasional 'guest' articles by David Gale. David has been racing for more years than he would probably care to mention. He can be described as somewhat of an expert in the field of motors, and matters electronic. Just ask anyone who has bought one of his second hand motors, they'll all tell you how good they are. Additionally David has very firm ideas about the suitability of tyres, what comprises good handling, and how to achieve it. So hopefully we can all learn something useful.

1988 World Championships

The 1988 IFMAR World Championships are going to be held in Holland. These will be organised by the Micro-Baarn club, and will take place on the 15th-18th August. The meeting is organised by Jan Van Kool of *PK Model Making Products*. Race director will undoubtedly be the delightful Max. The entry is limited to 120 of which the EFRA allocation is 40, of



these 40, seven are allocated to the UK although hopefully we will be able to pick up between one and three extra places, fingers crossed. So you may ask who are the British team and how was it arrived at? The British team was picked on the basis of National modified class handicaps, this being voted as the fairest way to pick the consistently best drivers, and these are as follows:

1 Phil Davies – a driver whose

ability defies comment; 2 Pete Farmer - Man of mystery - like why does he become unbeatable at Nationals;

3 David Gale - The thinking man's erratic genius; 4 Rob Roy - Mr. Unexciting

consistently;
5 Glyn Pegler – The man who would dump at 7 minutes with

50 KJ cells; 6 Chris Evans - Mr. Grand Prix

model products;
7 Tim Dakin – National Std
Champion, well known for
being hyperactive on the

being hyperactive on the rostrum.

The people who are unfortunately reserves, but who

hopefully gain places are: 1 Pete Winton;

Mark Barford; 3 Matt Ford.

I only hope all the reserves gain places, as I am sure that important event.

they will be upset to miss this Anyway I would like to pass on my best wishes to all the team members. However I

would like to think that we can all work together, to achieve the goal of a British World Champion. This would be far better than splitting into factions and working against each other. I am sure that we will all enjoy outselves better if we think and race as a team.

Whyever did I do that?

How many times at a race meeting have you had that thought? Usually it comes a few minutes after you've made a complete fool of yourself. Invariably you only have yourself to blame as well

For example, at the first UK meeting to be run using the AMB system it was me who was he first driver to forget to pick up his transponder. I felt such a fool, especially when John Robson announced it over the PA

At the Northampton National this year, Matt Ford was using a receiver battery pack, for the 'ultimate' performance, but did he feel a fool when as a precaution he charged it up - or was it his dad -but with the connector the wrong way around, causing him to miss a heat, and ultimately ruining his day. At a recent Watford meeting Dave Gale switched on his car before his frequency was free. Unfortunately for "Windy" he had let go of his car before he realised his mistake. Anybody watching was then treated to "Windy" chasing an unstoppable, flat out Associated as it jumped hoses, crashed into walls and

generally ran all over the

carpet, with a red-faced

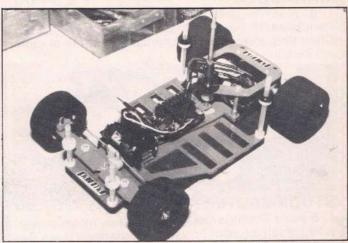


"Windy" in hot pursuit. But finally 'Plonker' of the month award goes mostly to myself, who turned up at a Chesham meeting and absolutely destroyed the organisers' day by carelessly putting one of my number nines on upside down!

The moral of all these stories is this: 'Think before you act!', preparation is essential in all racing, but this goes right the way to the start of the race. The obvious errors to avoid are all the result of carelessness Forgetting to put the 'O' rings on Schumacher live axles, leaving the rear sleeves too loose so that the rear wheels fall off, not checking wires on cells, speed controllers etc, not changing crystals or changing numbers for finals, forgetting to charge in time, forgetting to Tratite one or all of the tyres, fitting the wrong pinion, or wiring the motor in backwards. All of these mistakes are made by someone at nearly every meeting I race at. So before you put your car on the track, check, check, check, then you will get eight minutes of trouble-free racing.

Future articles

In the months to come I shall be taking a close look at the cars and equipment available. This will include kit reviews and track tests. I shall be

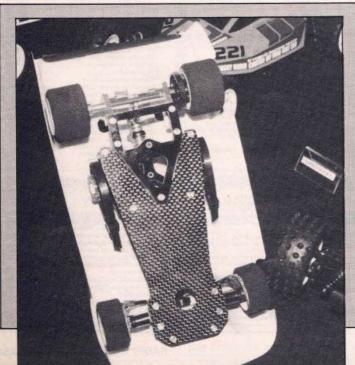


Top: Associated car belonging to Rob Roy used with much success at National meetings. Above: The Parma car belonging to Bill Boldison.

starting, hopefully, with the all-conquering Schumacher 'C' and 'SPC' cars. I will review the 'C' car kit and the 'SPC' conversion kit. Track tests will be carried out by "Windy" and myself, and we'll both be massaging our thumbs in an effort to emulate the talents of Phil Davies - I might even try wearing glasses and growing a moustach!, after all, every little bit helps. In the following months I shall look at the products of PK/Corally, including a test drive on the

new car – even if I have to pinch Matt Ford's, when he isn't looking. Then I shall follow on with products from Tru-Tyres, Parma and SRM/Associated.

So I will see you all at the track, where I will be keeping my eyes open. I shall especially be looking out for interesting modifications to cars, and any unusual ideas. But beware, I shall also be keeping my eyes open for candidates for the 'Plonker of the month' award, so get your acts together folks.





Scene at the recent Nuremburg Toy and Hobby Fair was this new Kyosho 1/12 car. The "Plazma Mk ??" is produced from high quality carbon sheet and nicely machined aluminium components. The car also "Features rear suspension via a single Option House" gold off road damper. As to whether the car would go into production – we don't know, but if it does it should go well

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K 4 Front stub axle with nyloc nut. K 5 Steering belicrank/servo saver, complete K 5 Steering belicrank/servo saver, somplete K 6 Track rod Z 1p K 7 Rear axle bearing blocks without bearings, pair 95p K 8 Nylon rear axle bearings, pair 35p K 9 Front wheel 35p K 9 Front wheel 35p K 10 Rear wheel, with grub screws 50p K 14 Printon drive gear, 12 tooth steel with grub screws K 13 Rear axle, high tensile steel K 15 Battery pack, 4 cells re-chargeable with connector C 10.95 K 20 Speed controller, complete F 7.20 K 20 Speed controller, complete F 7.20 K 21 Speed controller, printed circuit board only K 22 Speed controller, printed circuit board only K 25 Speed controller, wiper contact, cooper K 25 Speed controller, plastic wiper disc K 26 Fast charge lead for 4 cell battery K 25 Speed speed with snap on ball connector K 26 Fast charge lead for 4 cell battery K 25 Speed speed K 26 Fast charge lead for 4 cell battery K 26 Fast charge lead for 4 cell battery K 26 Fast charge lead for 4 cell battery K 26 Fast charge lead for 4 cell battery K 27 Front bumper K 26 Fast bumper K 27 Front bumper mounting bracket K 26 Fast Speed K 27 Front bumper mounting bracket K 26 Fast Speed K 27 Front bumper mounting bracket K 27 Ford K 28 Fast bumper K 27 Ford K 28 Fast bumper K 28 Fast B 35p K 27 Fast B 35p K 28 Fast B 35p K 28 Fast B 35p K 29 Fast B 35p K	and king pins	эрр
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complete K6 Track rod K7 Rear axle bearing blocks without bearings, pair P5P K8 Nylon rear axle bearings, pair S95p K8 Nylon rear axle bearings, pair S95p K9 Front wheel S95p K10 Rear wheel, with grub screws K11 Front tyre K12 Rear tyre K13 Rear axle, high tensile steel K14 Pinion drive gear, 12 tooth steel with grub screws K15 Battery pack, 4 cells re-chargeable with connector K10 Speed controller, complete F1.30 K20 Speed controller, pastic wiper disc K21 Speed controller, printed circuit board only K22 Speed controller, printed circuit board only K22 Speed controller, wiper contact, cooper K25 Servo linkage rod with snap on ball connector K26 Fast charge lead for 4 cell battery K26 Fast charge lead for 4 cell battery K27 Front bumper K28 Rear bumper K28 Rear bumper K28 Rear bumper K28 Rear bumper K31 Rear bumper mounting bracket K33 Bodyshell, white ABS plastic K34 Windscreen mesh K34 Windscreen mesh K35 Winn key (for rear wheel grub screws) K37 Limm key (for motor pinion grub screw) K38 Swing keepers, pack of 4 K39 M3 Nyloc nut (Front wheel retainer) K41 M3 steel nuts, pack of 10 K42 M3 M3 Nyloc nut (Front wheel retainer) K43 M3 Nyloc nut (Front wheel retainer) K44 Rear body mounting pillar K45 Rear body mounting pillar K46 Rear body mounting pillar K47 Front body mounting pillar K49 K87 Rathrantive ball grace bearing for rear axle,	V E Stanting believent /serve save	r
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pair K 8 Nylon rear axle bearings, pair X 8 Nylon rear axle bearings, pair X 9 Front wheel X 10 Rear wheel, with grub screws X 11 Rear wheel, with grub screws X 12 Rear tyre X 13 Rear axle, high tensile steel X 14 Pinlon drive gear, 12 tooth steel with grub screws X 14 Pinlon drive gear, 12 tooth steel with grub screws X 15 Battery pack, 4 cells re-chargeable with connector X 15 Speed controller, complete X 25 Speed controller, pinsteel with connector X 25 Speed controller, plastic wiper disc X 25 Speed controller, wiper contact, copper X 26 Fast charge lead for 4 cell battery X 27 Front bumper X 26 Fast barge lead for 4 cell battery X 27 Front bumper X 28 Rear bumper X 26 Fast bumper X 27 Front bumper mounting bracket X 35 Fast Speed so A 35 Fast Speed speed so A 35 Fast Speed so A 35 Fast Speed so A 35 Fast Speed speed so A 35 Fast Speed speed so A 35 Fast Speed sp	K7 Rear axle bearing blocks withou	ut bearings,
K 9 Front wheel K10 Rear wheel, with grub screws K10 Rear wheel, with grub screws K11 Rear tyre K12 Rear tyre K13 Rear axle, high tensile steel K14 Pinion drive gear, 12 tooth steel with grub screws K15 Battery pack, 4 cells re-chargeable with connector K15 Battery pack, 4 cells re-chargeable with connector K15 Speed controller, complete K20 Speed controller, printed circuit board only board only board only C25 Servo linkage rod with snap on ball connector K25 Servo linkage rod with snap on ball connector K26 Servo linkage rod with snap on ball connector K27 Front bumper K28 Rear bumper K29 Servo linkage rod with snap on ball C30 Seven bumper C35 Servo linkage rod with snap on ball C30 Seven bumper mounting bracket C35 Servo linkage rod with snap on ball C36 Seving keepers, pack of 4 C36 Seving keepers, pack of 4 C37 Servo linkage rod with snap on Servo C37 Servo linkage rod with snap on Servo C37 Servo linkage rod with snap on Servo C38 Rear hand linkage rod with snap on Servo C39 Servo linkage rod with snap on Servo C40 M3 Machine screw × 6mm long, D36 C41 M3 steel nuts, pack of 10 C35 P6 C41 M3 steel nuts, pack of 10 C42 M3 Machine screw × 8mm long (Motor fixing screw) pack of 10 C43 Servo linkage rod with snap on Servo C44 Servo linkage rod with snap on Servo C44 Servo linkage rod with snap on Servo C45 R5 Set O motor with suppressor C49 Set On otor with suppressor C49 Set Otor C40 Set On otor with suppressor C49 Set Otor C40 Set	pair	95р
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K12 Rear tyre K13 Rear axle, high tensile steel K13 Rear axle, high tensile steel K14 Pinion drive gear, 12 tooth steel with grub screws K15 Battery pack, 4 cells re-chargeable with connector K10-95 K20 Speed controller, complete F7.20 K21 Speed controller, printed circuit board only K22 Speed controller, printed circuit board only K23 Speed controller, plastic wiper disc K23 Speed controller, wiper contact, copper K25 Servo linkage rod with snap on ball connector K25 Servo linkage rod with snap on ball connector K26 Fast charge lead for 4 cell battery K26 Fast charge lead for 4 cell battery K27 Front bumper K28 Rear bumper K28 Rear bumper mounting bracket K28 Rear bumper mounting bracket K39 K31 Rear bumper mounting bracket K35 Swing keepers, pack of 4 K36 W37 M36 W37 W37 W37 W38 Self stap screw, M79 K38 Self stap screw, M79 K39 K30 W38 Child screw, X 8 mm long, pack of 10 K35 M36 Child screw, X 8 mm long (Motor K35 M36 Child Server, X 8 mm long (Motor K36 M36 Child Server, X 8 mm long (Motor K37 M36 Child Server, X 8 mm long (Motor K37 M36 Child Server, X 8 mm long (Motor K37 M36 Child Server, X 8 mm long (Motor K37 M36 Child Server, X 8 mm long (Motor K37 M36 Child Server, X 8 mm long (Motor K37 M36 Child Server, X 8 mm long (Motor K37 M36 Child Server, X 8 mm long (Motor K38 M36 M36 Child Server, X 8 mm long (Motor K38 M36 Child Server, X 8 mm long (Motor K39 M36 Child Server, X 8 mm long (Motor K39 M36 Child Server, X 8 mm long (Motor K39 M36 Child Server, X 8 mm long (Motor K39 M36 Child Server, X 8 mm long (Motor K39 M36 Child Server, X 8 mm long (Motor K39 M36 Child Server, X 8 mm long (Motor K39 M36 Child Server, X 8 mm long (Motor K39 M36 Child Server, X 8 mm long (Motor K30 M37 M36 Child Server, X 8 mm long (Motor K30 M37 M36 Child Server, X 8 mm long (Motor K30 M37 M36 Child Server, X 8 mm long (Motor K30 M37 M36 Child Server, X 8 mm long (Motor K30 M37 M36 Child Server, X 8 mm long (Motor K30 M37 M36 Child Server, X 8 mm l	K10 Rear Wheel, Willi grab screws	60p
K13 Rear axle, high tensile steel K14 Pinion drive gear, 12 tooth steel with grub screws K15 Battery pack, 4 cells re-chargeable with connector K10.95 K20 Speed controller, complete E7.20 K21 Speed controller, printed circuit board only E32 Speed controller, wiper contact, cooper C35 Speed controller, wiper contact, cooper C45 Servo linkage rod with snap on ball connector C55 K26 Fast charge lead for 4 cell battery E56 K27 Front bumper E50 K28 Rear bumper E50 K31 Rear bumper mounting bracket E33 Bodyshell, white ABS plastic E42.30 K34 Windscreen mesh E53 Bodyshell, white ABS plastic E53 Servo linkage rod with snap E56 E57 K35 Swing keepers, pack of 4 E57 K36 Swing keepers, pack of 4 E58 K37 Smin key (for motor pinion grub screw) E57 K38 Zmm key (for rear wheel grub screw) E57 K39 Self tap screw, 9mm long, pack of 10 E57 K39 Self tap screw, 8mm long, pack of 10 E57 K39 Machine screw x 6mm long, pack of 10 E57 K40 M3 Machine screw x 8mm long (Motor fixing screw) pack of 10 E58 K40 M3 Machine screw, x 8mm long (Motor fixing screw) pack of 10 E58 K40 M3 Machine screw, x 8mm long (Motor fixing screw) pack of 10 E58 K45 Double sided adhesive tape, per strip E50 K46 Body fixing clip, pack of 4 E47 K47 Front body mounting pillar, plastic E17 K48 Rear body mounting pillar, plastic E17 K49 Rear body mounting pillar E50 K50 Alternative ball graced bearing for rear axle,		
grub screws K15 Battery pack, 4 cells re-chargeable with connector K20 Speed controller, complete K20 Speed controller, complete K21 Speed controller, printed circuit board only K22 Speed controller, plastic wiper disc. K23 Speed controller, wiper contact, cooper K25 Servo linkage rod with snap on ball connector K26 Fast charge lead for 4 cell battery K27 Front bumper K37 Front bumper K30 Front bumper mounting bracket K37 Front bumper mounting bracket K37 Front bumper mounting bracket K38 Bear bumper mounting bracket K38 Bear bumper mounting bracket K39 Fodyshell, white ABS plastic K30 Sodyshell, white ABS plastic K33 Bodyshell, white ABS plastic K36 Swing keepers, pack of 4 K36 Swing keepers, pack of 4 K36 Swing keepers, pack of 4 K37 Sodyshell, white ABS plastic K40 M3 Machine screw 4 fmm long, Back of 10 K40 M3 Machine screw × 6 mm long, Fixing screw) pack of 10 S5p K41 M3 steel nuts, pack of 10 S5p K43 M3 Myloc nut (Front wheel retainer) each 9p K46 Double sided adhesive tape, per strip C46 Body fixing clip, pack of 4 M47 Front body mounting pillar, plastic L19 K48 Rear body mounting pillar, plastic L19 K56 S40 motor with suppressor K49 K50 Alternative ball raced bearing for rear axle,	K13 Rear axle, high tensile steel	50p
grub screws K15 Battery pack, 4 cells re-chargeable with connector K20 Speed controller, complete K20 Speed controller, complete K21 Speed controller, printed circuit board only K22 Speed controller, plastic wiper disc. K23 Speed controller, wiper contact, cooper K25 Servo linkage rod with snap on ball connector K26 Fast charge lead for 4 cell battery K27 Front bumper K37 Front bumper K30 Front bumper mounting bracket K37 Front bumper mounting bracket K37 Front bumper mounting bracket K38 Bear bumper mounting bracket K38 Bear bumper mounting bracket K39 Fodyshell, white ABS plastic K30 Sodyshell, white ABS plastic K33 Bodyshell, white ABS plastic K36 Swing keepers, pack of 4 K36 Swing keepers, pack of 4 K36 Swing keepers, pack of 4 K37 Sodyshell, white ABS plastic K40 M3 Machine screw 4 fmm long, Back of 10 K40 M3 Machine screw × 6 mm long, Fixing screw) pack of 10 S5p K41 M3 steel nuts, pack of 10 S5p K43 M3 Myloc nut (Front wheel retainer) each 9p K46 Double sided adhesive tape, per strip C46 Body fixing clip, pack of 4 M47 Front body mounting pillar, plastic L19 K48 Rear body mounting pillar, plastic L19 K56 S40 motor with suppressor K49 K50 Alternative ball raced bearing for rear axle,	K14 Pinion drive gear, 12 tooth ste	el with
connector K20 Speed controller, complete	grub screws	£1.30
connector K20 Speed controller, complete	K15 Battery pack, 4 cells re-charge	eable with
K21 Speed controller, printed circuit board only		
board only K22 Speed controller, plastic wiper disc. 35p K23 Speed controller, wiper contact, copper K25 Servo linkage rod with snap on ball connector. 25p K26 Fast charge lead for 4 cell battery. £5.95 K27 Front bumper . 50p K28 Rear bumper . 35p K30 Front bumper mounting bracket . 85p K31 Rear bumper mounting bracket . 85p K31 Rear bumper mounting bracket . 85p K33 Bodyshell, white ABS plastic . £2.30 K34 Windscreen mesh K34 Windscreen mesh K37 I. Smm key (for motor pinion grub screw) . 7p K38 Zmm key (for motor pinion grub screw) . 7p K38 Zmm key (for rear wheel grub screws) . 17p K39 Self tap screw, 9mm long, pack of 10 . 35p K41 M3 steel nuts, pack of 10 . 35p K41 M3 steel nuts, pack of 10 . 35p K42 M3 Machine screw, x 6mm long (Motor fing screw) Machine screw, x 8mm long (Motor fing screw) and (Front wheel retainer) each 9p K45 Double sided adhesive tape, per strip . 20p K46 Body fixing clip, pack of 4 . 40p K47 Front body mounting pillar, plastic . 21p K48 Rear body mounting pillar, plastic . 21p K48 Rear body mounting pillar plastic . 21p K55 R5 S40 motor with suppressor . £4.95 K80 Alternative ball fraced bearing for rear axle,		
K23 Speed controller, wiper contact, copper 25p K25 Servo linkage rod with snap on ball connector K26 Fast charge lead for 4 cell battery	k21 Speed controller, printed circle	£1.30
K23 Speed controller, wiper contact, copper 25p K25 Servo linkage rod with snap on ball connector K26 Fast charge lead for 4 cell battery	K22 Speed controller, plastic wipe	r disc 35p
connector K26 Fast charge lead for 4 cell battery	K23 Speed controller, wiper conta	ct, copper 25p
connector K26 Fast charge lead for 4 cell battery	K25 Servo linkage rod with snap of	n ball
K27 Front bumper K28 Rear bumper mounting bracket K28 Rear bumper mounting bracket K31 Rear bumper mounting bracket K31 Rear bumper mounting bracket K32 Bodyshell, white ABS plastic K34 Windscreen mesh K34 Windscreen mesh K36 Swing keepers, pack of 4 K37 L5mm key (for motor pinion grub screw) K37 L5mm key (for rear wheel grub screws) K39 Self tap screw, 9mm long, pack of 10 K39 Self tap screw, 9mm long, pack of 10 K30 Machine screw × 6mm long, pack of 10 K30 Machine screw, x 8mm long (Motor fixing screw) pack of 10 K35 Machine screw, x 8mm long (Motor fixing screw) pack of 10 K35 Machine screw, x 8mm long (Motor fixing screw) pack of 10 K35 Machine screw, x 8mm long (Motor fixing screw) pack of 10 K35 Machine screw, x 8mm long (Motor fixing clip) pack of 10 K35 Machine screw, x 8mm long (Motor fixing clip) pack of 10 K35 Machine screw, x 8mm long (Motor fixing clip) pack of 10 K35 Machine screw, x 8mm long (Motor fixing clip) pack of 10 K35 Machine screw, x 8mm long (Motor fixing clip) pack of 10 K35 Machine screw, x 8mm long (Motor fixing clip) pack of 10 K35 Machine screw, x 8mm long (Motor fixing clip) pack of 10 K35 Machine screw x 8mm long (Motor fixing clip) pack of 10 K35 Machine screw x 8mm long (Motor fixing clip) pack of 10 K35 Machine screw x 8mm long (Motor fixing clip) pack of 10 K35 Machine screw x 8mm long (Motor fixing clip) pack of 10 K35 Machine screw x 8mm long (Motor fixing clip) pack of 10 K35 Machine screw x 8mm long (Motor fixing clip) pack of 10 K35 Machine screw x 8mm long (Motor fixing clip) pack of 10 K35 Machine screw x 8mm long (Motor fixing clip) pack of 10 K35 Machine screw x 8mm long (Motor fixing clip) pack of 10 K35 Machine screw x 8mm long (Motor fixing clip) pack of 10 K35 Machine screw x 8mm long (Motor fixing clip) pack of 10 K35 Machine screw x 8mm long (Motor fixing clip) pack of 10 K35 Machine screw x 8mm long (Motor fixing clip) pack of 10 K35 Machine screw x 8mm long (Motor fixing clip) pack of 10 K35 Machine screw x 8mm long (Motor fixing clip) pack of 10 K35 Machine	connector	25p
K28 Rear bumper K30 Front bumper mounting bracket S5p K31 Rear bumper mounting bracket S5p K33 Rear bumper mounting bracket S5p K33 Rodyshell, white ABS plastic £2.30 K34 Windscreen mesh £36 Swing keepers, pack of 4 S5p K37 1.5mm key (for motor pinion grub screw) £37 K38 2mm key (for met wheel grub screw) £40 M3 Machine screw + 6mm long, pack of 10 S5p £41 M3 steel nuts, pack of 10 S5p £42 M3 Machine screw, x 8mm long (Motor fixing screw) pack £45 Double sided adhesive tape, per strip £45 Double sided adhesive tape, per strip £46 Body fixing clip, pack of 4 £47 Front body mounting pillar, plastic £48 Rear body mounting pillar, plastic £50 K51 Aerial plate mounting pillar £55 R5 850 motor with suppressor £4.95 £60 Alternative ball graced bearing for rear axle,	K26 Fast charge lead for 4 cell bat	tery 15.95
K33 Bodyshell, white ABS plastic	K27 Front bumper	350
K33 Bodyshell, white ABS plastic	K20 Front humber mounting brack	et 85p
K33 Bodyshell, white ABS plastic	K31 Rear humper mounting brack	et 85p
K34 Windscreen mesh 65p K36 Swing keepers, pack of 4 35p K37 1.5mm key (for motor pinion grub screw) 17p K38 2mm key (for rear wheel grub screws) 17p K39 Self tap screw, 9mm long, pack of 10 35p K40 M3 Machine screw 6mm long, pack of 10 35p K41 M3 steel nuts, pack of 10 35p K41 M3 steel nuts, pack of 10 35p K42 M3 Machine screw, x 8mm long (Motor fixing screw) pack of 10 35p K43 M3 Myloc nut (Front wheel retainer) each 9p K45 Double sided adhesive tape, per strip 20p K46 Body fixing clip, pack of 4 40p K47 Front body mounting pillar, plastic 21p K48 Rear body mounting stud, steel 25p K50 Aerial plate mounting billar 50p K51 Aerial plate mounting pillar 20p K55 R5 S40 motor with suppressor 4.95 K80 Alternative ball graced bearing for rear axle,	K33 Bodyshell, white AB5 plastic	LZ.30
K37 1.5mm key (for motor pinion grub screw) 17p K38 2mm key (for rac wheel grub screws) .17p K39 Self tap screw, 9mm long, pack of 10 .35p K40 M3 Machine screw > 6mm long, pack of 10 .35p K41 M3 steel nuts, pack of 10 .35p K41 M3 steel nuts, pack of 10 .35p K42 M3 Machine screw, x 8mm long (Motor fixing screw) pack of 10 .35p K43 M3 Myloc nut (Front wheel retainer) each 9p K45 Double sided adhesive tape, per strip .20p K46 Body fixing clip, pack of 4 .40p K47 Front body mounting pillar, plastic .21p K48 Rear body mounting pillar, plastic .21p K48 Rear body mounting stud, steel .50p K51 Aerial plate mounting pillar .20p K51 R5 S64 omotor with suppressor .44,95 K80 Alternative ball raced bearing for rear axle,	K34 Winderreen mesh	65p
K38 2mm key (for rear wheel grub screws) . 17p K39 Seff tap screw, 9mm long, pack of 10	K36 Swing keepers, pack of 4	35р
K39 Self tap screw, 9mm long, pack of 10 . 35p 40 M3 Machine screw × 6mm long, pack of 10 . 35p K41 M3 steel nuts, pack of 10 . 35p K42 M3 Machine screw, x 8mm long (Motor fixing screw) pack of 10 . 35p K43 M3 Myloc nut (Front wheel retainer) each 9p K45 Double sided adhesive tape, per strip . 20p K46 Body fixing clip, pack of 4 . 40p K47 Front body mounting pillar, plastic . 21p K48 Rear body mounting pillar plastic . 21p K48 Rear body mounting stud, steel . 25p K50 Aerial plate mounting pillar . 20p K51 Aerial plate mounting pillar . 20p K55 RS 540 motor with suppressor . £4.95 K80 Alternative ball raced bearing for rear axle,	K37 1.5mm key (for motor pinion)	grub screw) 1/p
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pack of 10 X11 M3 steel nuts, pack of 10 X12 M3 Machine screw, x 8mm long (Motor fixing screw) pack of 10 X15 M3 M3 Myloc nut (Front wheel retainer) each 9p (K45 Double sided adhesive tape, per strip X16 Double sided adhesive tape, per strip X17 Front body mounting pillar, plastic X17 Front body mounting pillar, plastic X17 Front body mounting pillar X10 M3		
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K45 Double sided adhesive tape, per strip 20p K46 Body fixing clip, pack of 4 40p K47 Front body mounting pillar, plastic 21p K48 Rear body mounting pillar, plastic 21p K48 Rear body mounting stud, steel 25p K50 Aerial plate mounting pillar 20p K51 Aerial plate mounting pillar 20p K55 R5 S40 motor with suppressor 4.95 K60 Alternative motor pinion gear, 14 tooth £1.30	K41 M3 steel nuts, pack of 10	35р
K45 Double sided adhesive tape, per strip 20p K46 Body fixing clip, pack of 4 40p K47 Front body mounting pillar, plastic 21p K48 Rear body mounting pillar, plastic 21p K48 Rear body mounting stud, steel 25p K50 Aerial plate mounting pillar 20p K51 Aerial plate mounting pillar 20p K55 R5 S40 motor with suppressor 4.95 K60 Alternative motor pinion gear, 14 tooth £1.30	K42 M3 Machine screw, x 8mm k	ong (Motor
K45 Double sided adhesive tape, per strip 20p K46 Body fixing clip, pack of 4 40p K47 Front body mounting pillar, plastic 21p K48 Rear body mounting pillar, plastic 21p K48 Rear body mounting stud, steel 25p K50 Aerial plate mounting pillar 20p K51 Aerial plate mounting pillar 20p K55 R5 S40 motor with suppressor 4.95 K60 Alternative motor pinion gear, 14 tooth £1.30	fixing screw) pack of 10	35р
K46 Body fixing clip, pack of 4 40p K47 Front body mounting pillar, plastic 21p K48 Rear body mounting stud, steel 25p K50 Aerial plate moulding 50p K51 Aerial plate mounting pillar 20p K51 R540 motor with suppressor £4.95 K60 Alternative motor pinion gear, 14 tooth £1.30		
K47 Front body mounting pillar, plastic 25p K48 Rear body mounting stud, steel 25p K50 Aerial plate moulding 50p K51 Aerial plate mounting pillar 20p K55 RS 540 motor with suppressor £4.95 K60 Alternative motor pinion gear, 14 tooth £1.30	K45 Double sided adhesive tape, I	don 40n
K48 Rear body mounting stud, steel 25p K50 Aprial plate moulding 50p K51 Aerial plate mounting pillar 20p K51 R540 motor with suppressor £4.95 K60 Alternative motor pinion gear, 14 tooth £1.30 K8/PA Barnantive ball raced bearing for rear axle,	KA7 Front body mounting pillar, p	astic 21p
K50 Aerial plate moulding 50p K51 Aerial plate mounting pillar 20p K55 RS 540 motor with suppressor £4.95 K60 Alternative motor pinion gear, 14 tooth £1.30 KR/R Alternative ball raced bearing for rear axle,	K48 Rear body mounting stud, ste	el 25p
K51 Aerial plate mounting pillar 20p K55 RS 540 motor with suppressor £4.95 K60 Alternative motor pinion gear, 14 tooth £1.30 K8 /R Alternative ball raced bearing for rear axle,	K50 Agrial plate moulding	50p
K55 RS 540 motor with suppressor	K51 Aerial plate mounting pillar	20p
K60 Alternative motor pinion gear, 14 tooth £1.30 K8/B Alternative ball raced bearing for rear axle, each £2.25	VEE DC 540 motor with sunpress	or £4.95
KB/B Alternative ball raced bearing for rear axle, each £2.25	K60 Alternative motor pinion gear	14 tooth £1.30
manuscommunity bactriz.25	KB/B Alternative ball raced bearing	ng for rear axie,
	304000000000000000000000000000000000000	3001122.23



	the musernic leng-	7.00
	KIT	1.00
	T 1 Chassis	50p
	T 3 Battery Holder moulding	50p
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	and self tap screw. Pack of 4 T21 Small nylon ball joint with steel ball and nut. Pack of 4	0.000
	ball and nut. Pack of 4 T23 Front suspension mounting bracket T24 Front suspension mounting bracket T25 Front suspension wishbone T26 Steering uprights. L & RH, T27 Steering uprights. L & RH, T27 Steering arms, L & RH T28 Front stub axle T29 King pin T30 Inner hinge pin (42mm long)	L.H. 50p
	T24 Front suspension mounting bracket	R.H. 50p
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	T29 King pin T30 Inner hinge pin (42mm long) T31 Outer hinge pin (32mm long) T32 Front upper threaded link T33 Servo linkage T40 Gearbox mouldings (pair) T41 Gearbox cover moulding T42 Rear suspension wishbone T43 Rear suspension upright T44 Rear stub axle T45 Bearing, rear stub axle T45 Bearing, rear stub axle	17p
1	T40 Gearbox mouldings (pair)	£1.30
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	T46 Drive pin, rear wheel T47 Rear upper threaded link	17p
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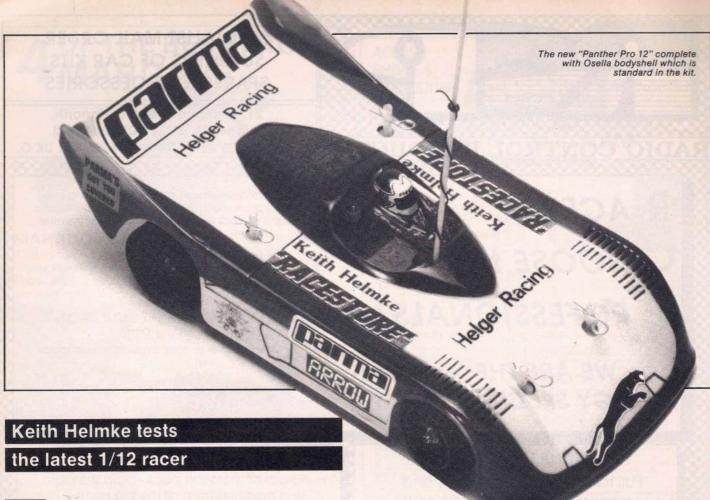
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his is the first new car from Parma for some years and is a natural progression from their World Championship (won by Bud Bartos) and European Championship (Phil Olsen) winning car the 'Euro Panther'.

Some of you will remember how competitive Chris Arnold and Phil Olsen were with the original 'Panther', but as trends changed the saddle pack type layout became unpopular and 'stick' type configuration was the norm. Even Associated following the 'C' car with this style of car. However Parma refused to change and events of the past year have shown they were right with Associated, Schumacher and Corally all producing saddle pack cars.

Enter Andy Dobson, who started working at Parma last year. Andy's brief was to make the 'Panther' work without changing the simplicity of the design too much. This job has now been completed and the results speak for themselves with the car winning many races in the States on carpet

and asphalt. So the 'Pro Panther 12' is launched in the UK and without a doubt is competitive out of the box.

The kit itself

On opening the box the first item inside was the bodyshell, this was a pleasant surprise as few 1/12th kits come with shells these days, especially one of this quality. The body is an 'Osella PA9' one of *Parma's* most popular shells.

After removal of the body we have the chassis, rear pod, all wheels and tyres plus four plastic bags all numbered, which contain parts for front beam assembly, and rear damper etc. The chassis plate itself is very similar to the original 'Panther' item and all holes are drilled correctly, and edges nicely routed. First thing worth doing here is to file a bevel onto the battery cut outs so they sit into the slots better. I then proceeded to build the front end of the car. This consists of a flat glass beam which sits on top of two spacer bloks and are held by a screw, through the chassis, block, and

beam and then a large nylon nut keeps it all together. For adjustment of the castor angle Parma supply nylon wedges which fit under the beam on top of the spacer. These are 1, 2 and 3 degree angles. Kingpins screw into the beam and small nylon moulded steering arms which incorporate the stub axle are dropped on. Suspension is coil spring which goes on next and then the washer and 'E' clip to finish the front end assembly. One of the nice touches is a threaded stub axle so that wheels are held on by a nylon nut and not 'O' rings or fiddly 'E' clips which always come off at the wrong moment!

Up the back

The newest part of the car is the rear flex plate which uses 'rockerball' type suspension. The balls are held in place by a two-piece nylon moulding which screws into the flex plate one at the rear of the chassis and one in the middle. It is well worth polishing the rockerballs before fitting as any binding

will obviously affect the car's handling. Tweak adjustment screws go just in front of rear rockers and use silicone tube to damp suspension movement. On top of the rear rocker goes a damper post of alloy tube and a 'C' car type glassfibre damper plate goes over this and is screwed onto the rear pod.

The rear pod is one item I have always liked from the original car as it is a one-piece U shape folded alloy channel. The big advantage of this is the fact that there are no circlips to fall off or glue to crack when hit by another car, as on most other 1/12th cars. It is also very light.

To complete the car the superb Parma graphite diff is assembled and front and rear wheels put on. The wheels come with ready-trued "Greens". Also in the kit are good quality ballraces and the longest glassfibre roll mast I have ever seen. I obviously haven't gone through the complete build bit by bit, but the instructions adequately cover this. Fitting your radio

gear is a job which needs a bit of time to do it neatly. If you use a mini receiver everything can go more or less up the front near the servo, but if your equipment is on the large size more work is needed to make a tidy-looking car.

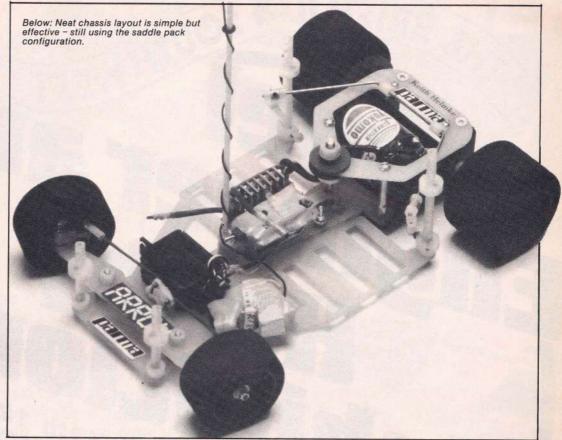
On the road

Eventually the Model Cars Parma 'Pro Panther' was ready for the track. With the tyres trued at 54mm rear and 48mm front, I was a bit worried the car could tip over as there is no rear ride heigh adjustment, as it happens this is not the case as the car handles fine. Ride height has gone down to 48mm rear and to the plastic on front rims and the car has stayed nicely balanced through three meetings. Castor angle was first tried at 2 degree but is now up to 3 (which is what the team is using). The car ran perfectly straight first time and turns in smoothly with just a slight hint of understeer out of very tight hairpins, but long sweeping corners can be taken flat out giving a feeling of confidence which increases with every lap.

Wheelbase is quite long compared to a 'C' car but 5mm shorter than LWB, Corally. Front and rear width is to BRCA legal maximum which makes the car very stable on the straight. The car rides bumps on the track very smoothly and has plenty of all-round grip. Because it is so light it is very kind to tyres, we have lost about 1/2mm per meeting from the rears which is

very good.
Results by Andy Dobson are one thing but what about the rest of us. So far the *Parma* team drivers, Bill Boldison, Pat Hodge and Keith Helmke are said to be delighted with the car. They have been on the pace at Luton and Watford with A final places at two very competitive clubs.

Alf-in the 'Pro Panther' at £116.50 is very good value for money. You get all you need bar radio gear, speed control and motor. Parma importer Helger Racing will carry all the spares and these will be available from Parma dealers up and down the country, if you need them. Helger Racing will also be bringing over the new Parma 1/12th motor winds which should be available by the time you read this. Also Parma matched Sanyo's to complement your motors and 'Pro Panther 12', ready made in



saddle pack configuration can also be obtained from your nearest *Parma* dealer.

So with the resurgence of 1/12th racing carrying on, this car seems to have come onto

the market at the right time, for beginner and expert alike. Ignore it at your peril!





Tel: 0442 41221



Alan Harman

1988 Nuremburg reports from the

KYDSHD

Toy and Hobby

Fair

Toy and Hobby Fair was considered by all those who were lucky enough to attend, to be his year's Nuremburg

premier stage to launch major new products had in recent years not offered the usual amount of new releases which had become expected, but this year's show had a large amount of new products from most major manufacturers which were totally new. one of the best for years. The show which was once considered to be the

car manufacturers Tamiya and Kyosho were both at Nuremburg and both had The two major model

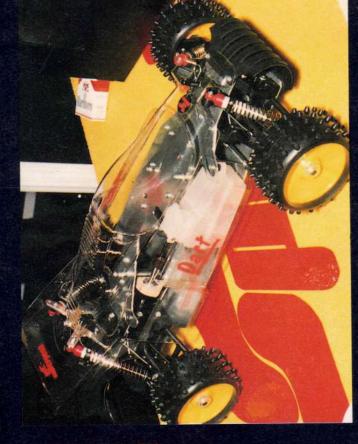
Serpent stand was a revised Spirit featuring revised damper locations and small geometry changes. 2. Robbe had an

1. Seen on the 1 4

> show the "Avante" which from the following photos should go very well if looks new cars on show.
>
> Tamiya had their all new competition model on count for anything. Kyosho had a number of new cars on show including a "Turbo Ultima" and a new economy car the "Shadow"

at Nuremburg and had an impressive 360 degree loop display track which they ran their latest car – The Marui were also present "Shogun" on during the

their totally new circuit car for the first time the were also present showing show. PB Racing Products











SPECIAL

10 ▼



▶ 6

Tamiya stand was the latest fun mobile the Midnight Pumpkin. was this "Grizzly" monster, 2WD tun! B. Robbe had this 4WD 1/10th car on show with the futuristic "wing" bodyshell fitted. 4. On the





said the new car should

rise *PB's* reputation in circuit racing out of the ashes and into the top line various examples of the new 'MRX' 1/10th off road car on show looking every inch a winner. circus MRC of France had Back on the 1/10th

Parma International also had new products to show including the new 'Pro Panther 12' 1/12 car and the new 1/10 on-road car

along with some interesting new bodyshells. Finally Serpent of Holland released their new circuit car the "Sprint" which looked very neatly constructed to the usual Serpent standards – along with the new car the Serpent engine was also on show which should prove popular within 1/8th circles.

altogether a success, helping to make 1988 look like one of the most exciting years yet to come! more on show the 1988 Nuremburg Toy Fair was So with all this and

 This superb Porsche 961 was on the Robbe stand and was beautifully reproduced with working 2WD and independent suspension. 10, Tamiya's 1,12 Ferrair F40 not in production but gave the Tamiya stand an extra touch of class. headlights and indicators. 9. The new 1/10 on road cars from Kyosho the Peugeot 205 and Honda CRX feature



12 ▲

24 ▲



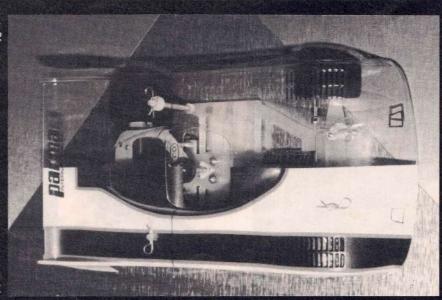
23 A 25. Thunderdragon from Tamiya has finally arrived and is a re-bodied Thundershot. 20. New chargers from Kyosho with built in discharge facility. 26. New "Blue" Head Mondials seen on the OPS stand.









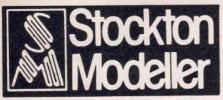


DEVELOPMENT SPECIAL





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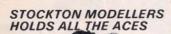


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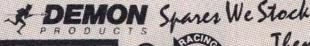
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alin

his past month the postman has arrived bearing information from all over the place, but always on the same subject - mini stox! This formula of oval activity really does appear to have caught the imagination of many, no doubt its cheapness being one of the

main causes

One letter that pleased me was that from Steve Wilcox of Yate, Nr. Bristol, as he was one of those on my mailing list of people in the Bristol area following the Model Engineer Exhibition in January. Steve is the Chairman of the Bristol Model Car Club, which used to run just 1/10th buggies but now also runs 1/12th mini stox. He says in his letter that at the '87 Model Engineer Exhibition he and some of his friends were watching the racing in the Auditorium when they decided it would be nice to have more racing than 1/10th every two weeks, and so decided to do something that would be cheap enough to run alongside the buggies, their answer was to turn to mini stox. On their return home, after a visit to the 'stockcar' stand of course, they found a local model shop that would supply them with ten mini stox, the Chairman of the local Community Centre who was prepared to let them have a hall free of charge on Monday nights, provided they had it after 9p.m., and so there they were as an off shoot of the Buggy Club but running mini stox. Steve says that before he knew what

was happening people were ringing him up and appearing from everywhere, the first week to watch, and the next meeting they were there with a car tucked under their arm. A lap counter was built, and by the end of the Summer of '87 there were about 22 members. a Further advertising campaign linked to a local Hobbies and Model exhibition also attracted new

members

It's now '88 and membership has grown to 32, with new ones still coming - no doubt thanks to the activities of those of us on the BRCA Stand! The venue has now moved to Coalpit Heath, and they hope to be holding their first Open meeting in August helped by the BRCA,

so if you are in the area and interested get in touch with Steve on 0454 310442.

That is how one group of enthusiasts got started, so if you have a similar interest follow their example.

Another mini stox story came via Chris Loughran from Ian Willacy the Chairman of the Carlisle Radio Model Car Club, who held a 12 hour sponsored mini stock race in November at the Sands Leisure Centre in Carlisle, in aid of the BBC's Children in Need Appeal, during which they raised the massive sum of approximately £1000.

Six teams took part, each with four drivers, and the event was run on a relay basis, all the cars were standard Mardave. The six teams came from Sunderland, Edinburgh, Washington and three from

Carlisle.

The main sponsors were the Sands Leisure Centre who supplied the Hall, electricity, tables and carpet to race on. John Davidson Pipes supplied 4" diameter pipes for the track barriers. County Motors sponsored a team which had its cars

Mike Chilvers takes

a look at the

mini-stox scene

painted in their colours, as did Classic models. Trutyres supplied carpet tyres for £1 a pair, Geoff Deakin supplied the trophies and Liza spent all night making sandwiches and coffee. To round it off MGM Motors Carlisle serviced lan's road car, and then told him to make the cheque out to Children in Need.

Lap counting was done with the aid of a computer, thanks to Paul Farmer for the Programme, with lap counters changing every hour, and they really had some button pushing to do, the winning team being the Washington Team of peter Angus, David Harvey, Michael Grant and

the Nationals this year, my spies tell me that a certain Steve Talbot has been seen around the Coventry/Rugby area in recent weeks doing some 'shake down' trials on a Schumacher, and going quite well apart from dumping his cells in one final, and loosing a wheel in another! However I understand that this is not a sign of his return to 1/12th, and that he plans to be on the larger ovals from the end of March with a new car, and perhaps a new power unit.

Slot stox

Apart from my own limited efforts in this smallest of scales of stock car racing I was talking the other day to a driver who races slot stox in the Midlands, or perhaps I should say with the Midlands Club. He was telling me that the racing in that area is very professionally organised, with promoters who agree to stage the meetings, sort out the track, find a venue, provide commentary plus PA system and organise sponsors, in other words just like



Finalist from Coventry earlier in 1987 complete with cars and relevant trophies.

Malcolm Ross with 5,544 laps, well ahead of Sunderland made up of John Doyle, lan Carrol, Stephen Doyle and Graham Howe on 4,917 laps. The Marionville Models sponsored Edinburgh team of Ali Wright, Angy Peggie, Graeme Edwards and Stuart Willacy were in third place with 4,759 laps, leaving the three 'home' Carlisle teams to fight over the remaining three places. No real mechanical problems were encountered, so the event was not too expensive, and a lot of money was raised thanks to the efforts of all. Radio Cumbria put in an appearance on two occasions, but the TV though invited did not

Well done to all those up in Carlisle, and anyone thinking of joining this enthusiastic bunch should contact lan Willacy, 16 Norfolk Street, Denton Holme, Carlisle, Cumbria CA2 5JQ (0228-401214 after 7 pm.) for further details.

Whilst still on the 1/12th scene I understand that the stockcar side is also looking up this year, with some good attendances at Club meetings, which hope will mean a good season ahead for the full sized BRISCA meetings. As a result of all this hard work meetings

attract around fifty drivers.

The racing is as might be expected, very competitive, and they also run a grading system where the higher grade the driver the further to the outside of the track he races, thus giving him more ground to cover during the race. In other words a white top would race in the inside 'groove' whilst a star grade driver in the same set of heats would be in the outer, making it ever harder work for the top drivers to pick up points

Most of the Clubs race during the winter months only, as they have close contacts with the full sized racing which runs throughout the summer, as well as attracting drivers from other forms of radio controlled car racing which tend to have a close season during winter also, but for those who would like to make contact with Clubs for any remaining meetings, or indeed prepare for next season there are nine Clubs that I have managed to get hold of details from. They

Right: At Coventry a drivers' rostrum is employed which makes life easier. Below: Action from Nelson in October. Note Steve Talbot gets away again! Bottom: Impressive display of cars at the British Champs in Brighton.

are Bacup, where the contact is G. Holmes of 7 Hoyle Street, Bacup, Lancashire, (0706-875149), Bradford, the contact being Rob Heleltine, 21 Westroyd Gardens, Pudsey, West Yorkshire (0532-568132), East Anglian where Jill Buddle of 84 New Road, Woodston, Peterborough, (0733-43453) is the contact, Midlands where Shaun Drakeford of 107 Yates Avenue, Rugby, CV2 11DF (0788-543284) is the man, Reddish where the contact is Geoff Breeze of 29 Malanie Drive, Reddish, Stockport, SK5 6XJ, Rossendale, where Roy Hines of 14 Clitheroe Drive, Bury, Lancs (061-764-0556) is the contact, S.G.S.



there is no way that the six car heats, quarter finals etc., could be completed in one day, hence the move to try out a two day format in two meetings, one in Holland and the other in Britain in '88 to see if it will work, with the possibility of introducing it in '89 for the two major meetings.

How will the drivers react to this



where Ian Rivett of 78 The Fairway, Ruislip is the man, South Manchester where the contact is Ted Sharman of 12 Conewood Walk, Longsight, Manchester, and finally Torbay where R. Perrow of 36 Audley Avenue, Torbay, Devon (0803-36781) is the person to contact. If there are more Clubs out there and I've not mentioned you, then I'm sorry, but let me know and I'll put it right in a future issue.

Time for a Change?

After several years of doing things in the same fashion the world of 1/8th stockcar racing, and perhaps 1/12th as well, may now find itself looking at the future and wondering whether its time for a change.

For example this years stockcar fixture list features a two day meeting to be held at Lilford Park on the weekend of July 2nd and 3rd, to be sponsored by *Puma*. This is quite an unusual event in the stock car world. There have been meetings that have run on two or more consecutive days, but each day has been a meeting in its own right, I'm thinking of such happenings at Sandown, Plumpton and Stoneleigh, but this is to be one meeting stretching over the two days.

This has come about not at the whim or fancy of the Lilford organisers, or the sponsors, but as a result of a feeling amongst the members of EMSA who promote the World and European Championships that they would like to open up the entry numbers at these meetings from the present maximum of 84 to allow as many drivers as wanted to enter. The problem of course is that if so many drivers were to enter the meeting

change, and how will the organisers cope? These are questions that at the moment remain unanswered. Possibly a good turn out on the two days will give some indications, but it is a change, and one that I hope drivers will give a fair chance to EMSA and the organisers to evaluate as hopefully it will be to their advantage in later years.

Another problem that has been taxing my mind over the past twelve months concerns the increasing number of different forms of oval racing that are not

around, and the lack of meetings that there appear to be for a number of them.

Anyone taking a look at the fully sized meetings will be aware that no meeting runs with just one formula, e.g. stockcars, but there are always two, sometimes three, different formulas participating in a meeting. True the meeting may feature one of the formula as the main attraction, but there will still be races for the supporting classes.

In the world of model stockcar racing we appear to be 'locked' into a fixed idea of only racing one type of car at any meeting, and I believe I can recall a racing rule or at least suggestion, limiting to one formula, or was it scale only. As a result the '88 Fixture list has indicated a vast number of meetings for stockcars, but only two Clubs have indicated fixtures for

only two Clubs have indicated fixtures for hot rods, for example, with no one as yet thinking of the 1:10th sprint oval cars. Moving into the world of 1/12th stockcars and mini stox, they too occupy separate fixtures.

My journeys around the country last year revealed that there were a number of stockcar drivers who had built up hot rods, the letters that arrived also indicated a number of people from all parts of the country who had built up, or were thinking of building up hot rods. The problem however was that the drivers committed to racing stockcars were not prepared to give up their few free weekends to race at separate hot rod meetings, with the result that none were being organised by the Clubs, the officials also being tied up with stockcar racing, so that in the end the cars were not raced, and those that would have just raced a hot rod never did.

The answer as I see it is for Clubs to race both formulas at the same meeting.



Taking

I'm sure there are few Clubs that have such a high turn out for their Club meetings they they could not slot in a round of heats for the hot rod drivers at the end of each round of stockcar heats. This would enable those stockcar drivers with a hot rod to race it without having to attend another meeting, and would also enable the driver of a hot rod only to come along and race his car, and so capture his interest in oval racing. True it could make it a hectic day for the driver who decided to compete in both formula, but that would be his choice, and yes I know it would mean extra work for those organising the meeting, but is it better to have a few extra races on a race day, or loose another day to organise a meeting for a handful of drivers, or wose still, loose the interest of those who would have raced?

I am convinced that this is the direction we must move in if we are to involve these other formula, and I see no reason why the same should not be true of the 1/10th sprint oval car, which is ideally suited to the 1/8th ovals. Not only are you involving more drivers this way, you are also increasing spectator appeal, to whom variety is very much the spice of life.

variety is very much the spice of life.

I Have just had a thought. What about an Oval weekend, two days of racing with a mixed formula, stockcars, hot rods and sprint oval cars, with no other oval racing allowed at any other Club in the country? Impossible – why? Full sized promoters

manage to do it.

I suppose the same could be done in an indoor meeting for 1/12th stockcars, mini stox and 1/10th sprint oval cars. A venue could be somewhere like Wembley at the '89 Model Engineer Exhibition. What a days racing that could be with three different formulas on the go.

Now I shall just have to wait and see what happens, but I believe that the words of that now rather old song "The times they are a changing" may well come true.

Frequency Check

All drivers will be aware of this phenomenon which tends to occur only at the later stages of meetings, when interference is something that can not be rectified should it happen, and when drivers have often had to change frequency from their original.

However this is written as a warning to both drivers and Club officials, and refers to the increasing use of 40MHz radio gear

by drivers.

Towards the end of last season when this became legal in this country there were a few drivers who splashed out and bought themselves new gear, and they became rather blase about the fact that they were on a different frequency band, and consequently would not interfere with anyone else, and could go on any 'colour', and also go on the track at any time. The result was that such a driver would be allocated a number, e.g. 5, take the green peg during a race and to all intents and purposes that was him sorted. This driver could be seen during practice going out whenever he wanted, confident that no one else was on the same frequency.

This now must stop. More and more drivers are now using 40MHz, and though there are many more frequencies within this band, many of the sets that are being sold have the same frequency crystals, so a driver who was on 40MHz frequency 49



last year, and was quite confident that he was the only one at that meeting, may well find in '88 that he is one of three drivers on 40MHz frequency 49. Imagine the consequences if all three should switch on and go out to practice at the same time! Also there is the possibility that all three could, when booking in be put on different numbers i.e. to correspond to the old 27MHz frequencies, and get put in the same race.

I suggest that race organisers have an additional type of peg board for these drivers, not I hasten to add one with all the available 40MHz frequencies on, but rather of the blackboard type, so that drivers on 40MHz could sign up on arrival indicating which of the frequencies they were on, so that if there were two or more on the same one they would know it, and have a separate peg from all the others. This would also make it clear to those on 27MHz that their frequency was clear, it for example the number 5 driver in a race was in fact racing with a 40MHz unit.

If Clubs developed this type of system,

If Clubs developed this type of system, drivers on 40MHz would know that it was up to them to find the meeting organiser, and find out what the form of checking was, and then to book up in the appropriate manner. Drivers should also remember to tell the organisers when booking in, not only that they are on 40MHz, but which of the frequencies they were using, so that they were not clashed against others on the same frequency in the heats, and that in the event of qualifying at the end any frequency changes that needed to be made could be carried out.

Those on 40MHz should also heed the advise given to those on 27MHz, which is to ensure that a change of frequency crystals are carried at all times. I suspect it could be difficult to find a driver to borrow a set from at the moment.

The Power Game

Writing as I am in the early days of February some interesting rumours have floated in my direction as to power units that are to be seen on the ovals in '88, and in whose hands.

With the '88 price limit of £150 for engine and carb. many engines that were banned in the past now become available for use. Some of these are quite expensive, and are in the upper reaches of the limit, whilst others are about the same price as many being used in the past, but were banned for reasons of brand name rather than cost. I understand that some



O.P.S. engines are going to be seen, along with H.B. Gold or Red Head motors. Some Rossi Buggy engines are liable to be used, providing they can be located by the potential user. Cipolla motors were to be seen in a number of hands last season, the numbers look like being increased in '88, as does the range of motor, some of the more expensive being considered by some potential champions. Of course there are still going to be the old faithful Tigres, Irvines, Enyas and the more recent O.S., but it does look like a most interesting season lies ahead as far as engine choice is concerned.

One of the main questions being asked by the drivers of these potential new power units is whether they can get the power from the engine down onto the track, and whether the tracks being used are large enough to make the best use of that power if it can be transmitted to the track. I suspect there will be a lot of experiementing within the clutch department in the months to come, most drivers having yet to venture out onto a track as none have as yet found a dry one! That of course leads to another question, which is even if the power can be tamed for a dry track, what will the response be

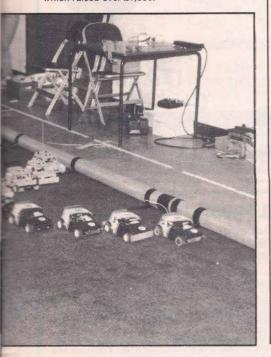
on a wet one, or are we going to have a year with no rain on Sundays?

I must admit to looking forward to the new season with interest, and some degree of uncertainty as I'm not sure what will be powering the No. 30 car in '88, though I can assure all that the pair of Irvines are still in working order and ready to start the year from where they finished last season, though I must admit to a desire to try a O.S. buggy motor or the Cipolla. The rear exhausted Irvine 21 has also caught my attention, but whether the problems of RE could be contained within my existing car is rather doubtful. Time will tell.

Bits and Pieces

Not a great deal to report this month, though I hear Puma are making progress

Left: Well done! A tired but satisfied bunch after 12 hours of mini-stox racing. Below: The Children in Need Appeal cars before the off. Below right: Twelve hours of racing underway which raised over £1,000.



with the construction of a new chassis, which will be made almost to order. Anyone interested should contact Paul Dudley at *Puma Racing*, The Barn, Moat House Works, Kings Coughton, Alcester, Warks on 0789-765496. I understand that chassis should be available by the time you read this, but I'm not sure of the cost. My informant also says that they are, or can be, built to the new maximum width. There is also the possibility of another

There is also the possibility of another chassis coming onto the market later in the year that could be offered as a complete kit, but at the moment I am not able to announce the source. It could turn out to be one of the most interesting seasons on the 1/8th ovals for many a long year if all these plans do come to fruition, with fields comprising Mardave, Puma, Cohmar, the usual scratch builts plus the new car all in competition with each other.

Racing Round and About

If you have obtained your copy early enough you will be in time to go along to the second of the 1/12th Nationals on April 10th Biddulph, or failing that the third in the series at Buntingford on May 15th. The first National Meeting for Mini stox is at Yeovil on April 24th.

In the 1/8th world April 10th has
Bournemouth holding the first of the
Series Championship rounds, with Open
meetings also at Notthingham and

Yorkshire, whilst Lilford and Haywards Heath both have Club meetings. The following week, April 17th. Nottingham host the first of the Midlands Championship Rounds, whilst Coventry and N.O.R.A. both have Open meetings, and Chessington and Hastings have Club meetings. April 24th sees drivers converging on Lilford Park for the very popular Pairs Meeting, with Notthingham and Yorkshire both have Open meetings and Haywards Heath have a Club, along with Adur in the south. On May 1st Hastings host the Southern host the Southern Championships second round, whilst Leicester and N.O.R.A. both have Open meetings, and Bournemouth and Coventry have Club meetings. On May 2nd the Adur Club hold their Brighton Festival meeting, which is open to all comers.

Hot Rod drivers are catered for at Adur on April 24th (along with the stockcars), and at Bournemouth also on April 24th.

There really ought to be something there to suit most drivers and spectators alike, remember the 1/12th clubs will also be running their normal Club meetings on a weekly basis that are too numerous to mention.

Well that is it for this month. Any comments, tips, queries or interesting bits of information, please send them to me at 85 Elliott Road, March, Cambs, PE15 8BP.

See you 'ovalling around'. Mike.





Left: Action from the Puma Grand Prix including Julian Vaux and Tony Bicknall. Below: Jason Watkiss and Sean North rub wheels also at the Puma GP.



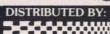
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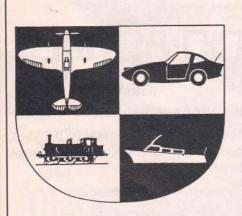
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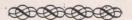


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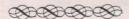
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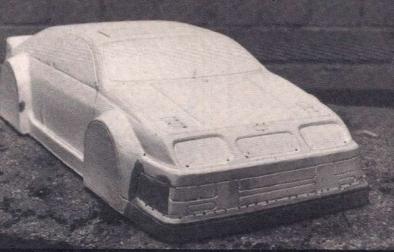
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Above: The mould from which the bodies are pulled – this one the Sarik 1/10 Sierra Cosworth. Below: The vac-forming machine with mould in place.



Below: An F1 shell ready to be removed from the mould as soon as the temperature comes down.



Geoff Driver reveals the secrets of RC car shells ost issues of RC Model Cars carry articles or tips on maintaining motors, squeezing that little bit extra from the batteries or reducing friction in the gearbox. It seems to me that the only thing left to do is improve the aerodynamics of the body with polish. If that is perhaps a little "over the top", then at least it is about time that we gave the humble car body some more coverage.

There are two types of moulded body found on model RC cars. Tamiya set the standard of injection moulded bodies at the start of 1/10 racing. Very quickly however the limitation became all too apparent. The plastics used were brittle and inevitably the bodies very quickly started to break, especially when subjected to the rigours of 1/10 racing. You may ask: "Why bother to make an injection moulded body anyway?" In fact there are some very good reasons for injection moulding. Cheapness of manufacture is perhaps paramount, especially when very large volumes are concerned. Good finish and ability to use self-coloured plastic are other important reasons. The disadvantages are all too obvious. Expensive to tool up, not really worth doing on short production runs and of course the bodies break. Having said all that, injection moulded bodies still do appear from time to time. The latest bodies to be made by this process are the Tamiya 'Tamtech' 1/24 range where clear plastic is used.

Tamtech' 1/24 range where clear plastic is used.

By far the most popular type of body for all types of RC racing (1/12. 1/10, 1/8) are the vacuum formed types. The first RC use of this type of body was in 1/12 racing, but model use of vac-forming (as it is most often called) goes back to slot car racing where competition was as fierce as anything we know today and innovation was equally dynamic. Interestingly vac-forming as an industry never got off the ground until the 1950s although plastic forming by other means goes back long before this. Now it is a massive industry.

Where's it used?

Do not think that it is limited to 1/10 racing. Citroen was the first company to vacuum form a complete full size car body. Before we go much further it is perhaps a good idea to explain what vac-forming is, and how it is carried out. For the purposes of this article I shall refer to materials used as plastics although this really describes the properties of the material and is not the proper name, but we don't want to get that technical. The whole process relies on the property of some plastics to soften when heated. These are known as thermoplastics. You can easily check this for yourself. Just drop a piece of waste body material into boiling water for about 30 seconds, fish it out and see how pliable it is. As soon as the material cools the shape is retained. Very roughly that is what happens when a body is formed, only the heat comes from electric heaters, not hot water, and the moulding method is more sophisticated.

The name vacuum forming is in fact a little misleading as that is only part of the process, the other (equally important) part

of the process is drape

forming. Firstly a sheet of prewarmed plastic sheet is mounted in a frame and clamped on four edges. A very strong heater is placed over the sheet and this heats the sheet until it becomes very soft.

The heater is moved away and a solid body shape is lifted up into the soft plasic sheet. The plastic sheet just hangs or "drapes" itself over the solid body shape (or plug). Before the sheet can harden, all the air now trapped between the sheet and the body shape is sucked out. This is done by creating a vacuum and sucking the air through small holes on the baseboard and in the body plug itself. These holes are only about 1mm in diameter so the effort of the plastic pulling into them is not likely to spoil the body finish. In most cases manaufacturers attempt to put the holes along body lines or at joins. If you look carefully at any vac-moulded body along a sharp inside bend you will probably find the very small indentations created by the sucking holes.

In brief, that is how a body is moulded, but that is only part

How does it start?
The making of the original mould is where the skill comes in. The original pattern will be made from materials such as wood or plaster. From this original another plug is made as the design progresses, finally finishing with a plug made from either very hard resin or aluminium. The production run of bodies will be made from this finished plug. Although a very labour intensive process it is substantially cheaper than manufacturing injection moulding dies. Some of the very large companies will machine the original body shapes on numerically controlled machine tools relying on designers to produce the original drawings Smaller companies carry out a large amount of hand work to achieve similar results and in addition can incorporate small refinements with very little extra cost. The final "pull" or moulded body can only be as good as he plug used to form it and of course fine detail must be included on the original plug if it is to appear in the final body. It is this final finishing that takes time.

Very good finished can be achieved but there are some limitations. Detail tends to be less sharp than with injection moulded bodies and there are some definite difficulties with some body shapes. However the current range of

polycarbonate materials are extremely robust and take the tremendous punishment handed out at all levels of RC racing. Some of the difficulties encountered in the making of vac-formed bodies are deep drawing. This is where the body may have very high sides. The problem for the manufacturer is that unless he takes a lot of care he can reduce the thickness of the moulding as the plastic stretches over the plug so that the final body will just not be strong enough. This is where experience is all important.

There are materials other than polycarbonate that can be vacuum formed. Most, if not all are less robust than are less robust than polycarbonate. They tend to crack and split very easily and are particularly vulnerable in cold weather, when they just simply shatter, but they are cheaper. Fine if you just want to look at the car and are the look at the car and are the look at the car and the look at the look at the car and the look at th to look at the car and not drive

Finishing the body

There are two main features about finishing a vac-formed body, one is the painting, the second is the trimming Dealing with the trimming first

The question of" do I trim the body before or after painting is often asked. There are advantages to both methods.

If you trim the body before painting it is much easier to gauge how the body will need to be cut to obtain the best positioning and appearance. It is also easier to see where the holes for aerials and body posts must be cut. In addition it is easier to plan the colour scheme on a trimmed body fitted to the car by drawing lines on the body with felt tip pens to give a rough plan of the colour scheme. Of course there is also less chance of damaging the trimmed and painted body with knife or scissors. It is a good idea to pre-mark the position of intended holes before you start painting with a felt tip. It is a small matter to make the hole when the paint is dry. Paint first, cut later does

have the advantage of providing something to hold onto whilst painting and there is far less chance of getting overspray on the outside of the

Tools to use

Scissors. The scissors must be sharp and cut well, the best type are those with short, curved blades. Knife. A sharp modelling knife works well, but does require a little more care. I have found that it is better not to cut through the body with the knife as it becomes difficult to control. All that is necessary is to score the body along the

chosen cut line and then flex the material at the score line.

Usually the unwanted section just drops off. Take care not to let the knife slip as you could easily provide unwanted cut lines on more than the car body

Whichever tool you decide to use, a few basic precautions could save a lot of heartache

Avoid making sharp or right angle cuts as this could be a point of weakness that could easily start a longer split

Making holes in a body is often a problem. The best ways in my opinion is to use a punch, however this may not always be possible. A hot steel rod may be used but make sure you take adequate precautions and if possible do this in the open air as the fumes given off are not that pleasant. Finally you can drill holes. The problem with this is that large drills tend to tear the material, so I try to avoid drilling holes larger than 6mm in diameter. Even so it is best to have a piece of masking tape on either side of the body at the point of drilling; also support the body on a block of wood so that the body does not flex during the drilling.

The painting operation

At the risk of stating the obvious, on clear bodies the inside is painted. Bodies can be either hand painted or sprayed. Hand painting may be the thing to do for fine detail, but it is difficult to beat the finish of spraying especially on larger areas. Before starting to paint the body it is worthwhile taking a few moments to degrease it. use methylated spirits as it is cheap, reasonably easy to get hold of and it seems to work. I have no doubt that other solvents will work just as well It is possible to improve the paint key to the body by giving paint key to the body by giving the areas to be painted a light rub with very fine abrasive paper (600 grit, flour paper), do not worry that the plastic appears to go a milky colour, all that will disappear when paint is applied. However, take great care not to rub over the window areas. window areas

If you intend doing a multi-colour job then masking will be necessary. Masking tape can be bought from model shops or car accessory shops. If you do stick the masking tape to the body and then cut it to shape with a knife, it is very easy to cut the body by accident. Even if you do not cur right through the body, you will only need to score the will only need to score the surface of the body to weaken it at that point. It will not require many crashes to have the body splitting along your unintended score line Although much more difficult

to do, it is sometimes worth taking the trouble to cut the masking tape to shape before applying it to the body. The masking tape will need to be well and truly rubbed down, especially along the edges otherwise paint will start to creep under the tape and spoil your sharp line. Even if this does happen all is not lost. Stickers and lining tape on the outside will hide a multitude of minor errors

Of course, it is not necessary to use masking tape. The results achieved without masking (the windows should still be masked) can be very pleasing. Careful selection of colours and colour plan should still be made otherwise it will look as though you have been trying to clean out the spray gun on the body. To get the best results I suggest practising on some scrap material before you start.

We now get to the problem of what paint to use.

Unfortunately it is not just a matter of just having the best. Availability can be a real problem. I should like to be able to give a list of alternative types and the results of tests

on those types of paint.
Unfortunately I have yet to try
all available types.
However, I have found the
best paints for polycarbonate
bodies are those that etch themselves into the plastic They tend not to flake, usually give good colours but on the debit side they are expensive and you must be very careful when using them. Some of the solvents in these paints can be dangerous if used in confined areas. At the risk of sounding like a commercial it is imperative to read the instructions on the car or bottle and do not take them lightly. Most bodies are finished off

with decals. In the case of a new kit the decals are usually included with the kit. If you are decorating a replacement body then you have the option of either buying another set of the kit maker's original decals or trying some of the after-market deals. Most model shops hold stocks of these. Of course, remember to put the RC Model Cars decal in pride of place!! Small decals are no problem to apply. However some of the larger body stripes may well go on better with another pair of hands to assist.

My thanks to Sarik Vacform for allowing me to take photographs of their vac-forming machines.

Below: All types of modelling involves vac-forming including model helicopters. Left: The machine locks which seal the plastic





Rallycross RACING

ast month we touched on the subject of resurrecting your tired, but otherwise serviceable car for the rigours of the new season that is now only weeks away. Well, the time is nigh! Clear a large space on the workbench, and let's get down to business.

The first thing to do is to remove the motor, pipe, tank and all radio equipment and put the lot to one side. At this point, I would strongly recommend that you promptly parcel up the transmitter, receiver and servos and send them off to the manufacturer's service agent for a service and check up. This is usually inexpensive and well worth the effort to ensure a reliable and trouble-free season to come

The motor

Now, take the motor, remove the air filter assembly and tuned pipe and block up the exhaust manifold outlet and carburettor intake with tightly-packed kitchen roll, partly fill a small dish with petrol and sit the motor in it. Vigorously brush the motor until all traces of dirt have been removed and then dry it with clean tissue. If the motor has only run a couple of races and has been performing perfectly without having been obviously run "lean" and overheated, I would recommend that simple external checks are carried out only. Check that all backplate screws and head screws are tight and if the exhaust manifold is of the bolt on variety, that these are tight too. Ensure that the carburettor is locked securely into the crankcase and that this joint has been sealed with silicone rubber during initial assembly. Remove the plug and examine the plug element which should exhibit a bright silver finish. If it appears dull, with a white oxidised coating replace it with a new OPS "Gold" plug. Despite the fact that it may well still glow, it will NOT enable the motor to idle and run at its best, and will frustrate all your efforts to obtain a perfect motor setting.

efforts to obtain a perfect motor setting.

If you have the slightest indication that the motor's performance is dropping off, it is best to delve deeper now to prevent more expensive problems developing later on – more than likely when you are

leading that final!

Remove the head screws, take off the heat sink and head and put to one side. Then remove the motor backplate taking care not to damage the paper gasket where fitted. Rotate the crankshaft until the piston is at TDC at which point the cylinder liner will hopefully have started to move out from the crankcase. If this is the case, grip it with your fingers only and pull it clear from the crankcase. However, if the liner has not moved on no circumstances should any metal tools be used to attempt to move it as permanent damage is sure to result. Instead, move the piston down to the bottom of its stroke, take some clean cloth and pack this down tightly into the liner on top of the piston. Maintaining finger pressure on the packing in the liner, rotate the

crankshaft and as the piston moves upwards, the liner will come with it. With the liner safely out of the way, tap the back of the crankcase downwards against the palm of your hand until the conrod comes off the crankpin and carefully put the rod and piston to one side. Now examine the interior of the crankcase for any dirt or swarf and if there is any trace of this, wash out thoroughly in clean petrol. Check the crankshaft bearings for smoothness and freedom from side float and then remove the crankshaft itself.

Wash the liner and examine the bore for score marks or damage particularly around the ports and if any are visible, the

John Chamberlain suggests a checklist before the start of the season



Broken Siccom! The violent Siccom tyres connected to a team car seen at the Holker Hall BRCA race.

piston and liner assembly will need replacing. If the liner appears unmarked along with the piston, coal them with light oil, assemble the piston into the liner in its correct operating position and push the pison up the bore, until it becomes tight using of course only hand pressure. With an ABC car racing motor, the piston should come to within 2-3mm of the top of the liner and no further. If it appears flush with the top of the liner or worse, come right through, the piston liner assembly needs replacing. If you are in any doubt of the condition of these components and want the best possible performance from your motor, replace them. Whether or not you are replacing the piston and liner, eplace the conrod automatically. This highly stressed component is relatively cheap and preventative replaement can save a wrecked engine later on!

When fitting a new piston and liner, carefully skim the sharp edge on the piston crown with fine wet and dry paper to provide a slight bevelled edge to the piston to prevent scoring the bore during the first few seconds of running. Ensure that there are no burrs on the liner ports and any possible ones should be attended to with a fine swiss file. Fit the new conrod to the piston, always using new circlips to locate the gudgeon pin where used, and noting that the big end bearing has a tapered lead in on one side only and this should face the crank web to clear the radius on the crankpin. Examine the crankpin for any damage, particularly around the inlet port and scrutinise the crankpin for wear and scoring. If all is well, clean the component thoroughly and now prepare for reassembly.

now prepare for reassembly.

Lubricate the ball races in the crankcase with light oil and insert the crankshaft. Oil the piston liner assembly, slip into the top of the crankcase and slide the conrod onto a well-oiled crankpin as outlined above. Lubricate the liner thoroughly and slide it into the crankcase carefully engaging the piston as you go, ensuring that the ports in the polished head and heatsink assembly to the crankcase remembering to refit the required head shims in the process to obtain a squish band clearance of around 22thou. for fuels of around 20 nitro.

Finally, refit the backplate and check all screws for tightness. Complete the rebuilding by fitting a new, good quality air and fuel filter and for peace of mind. connect up when ready with new, thick wall fuel tube.

With a motor that is now rarin' to go, we need a clutch that can handle the power! Whatever make of car you are driving, it is worth fiting a new clutch now, following the maker's instructions for installation., Make sure the clutch drum is in good condition and fit it with a new bearing lightly lubricated. My personal choice is for a Siccom 3 shoe clutch, fitted with Serpent springs. With carefully lightened shoes, the clutch works superbly and can last for nearly a season's racing.

The chassis

The best policy again if the chassis has had a lot of running, is to strip it down completely, wash off all the components in hot, detergent water examine and replace all worn components and reassemble. Ensure that the chassis plate is completely flat and remove any obvious "tweaks" and ensure that it is clean and dry

dry.
Wash out all ball races in petrol (except those fortunate to have rubber dust sealed versions) spinning them in the liquid until they run smoothly, then put on one side to dry. Replace any worn bearings with new ones, where possible selecting rubber dust sealed versions for greater reliability. Check all differentials for wear, replace any worn shafts or gears, repack with a good molybdenum-based grease and reassemble.

Refit completed gearbox assemblies to

the chassis sealing them onto the plate with silicon rubber sealant and lightly grease any enclosed and coated bevel drive gears used in the drive train. If rebuilding a pre X3 "Mustang", only grease the bevel gear train sparingly with high cling chain lube, otherwise the enclosed disk brakes will cease to the train sparing page 18. function! Replace all plastic drive gears with new ones and replace any worn brake

disks and pads.

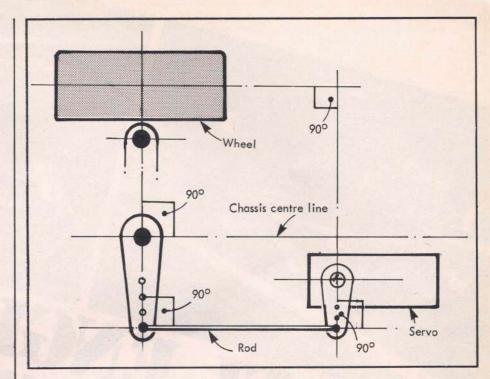
Check all plastic wishbone mouldings and pivot pins or balls for wear and damage replace the offending items, and refit. Attach the hub carriers to the wishbones, fiting the driveshafts at the same time. Ensure that all steering and track control rods are completely straight, adjust the lengths to provide equal tracking for all wheels and connect up. Examine the servo saver assembly and replace any worn parts to provide a slop-free system for accurate steering.

Install the re-built motor and clutch assembly, mesh the drive gears to provide a touch of backlash, and tighten up the motor mounts, attach the tuned pipe to the manifold with heavy duty reinforced silicon tube that is totally proofed against splitting and well worth the extra cost, refit the fuel tank and connect up with the thick wall fuel tube as discussed earlier.

Make sure that the throttle linkage provides the straightest pull possible to the carburettor to eliminate the possibility of binding up in service and that the over-ride spring system is working without causing an undue strain to the servo.

Brake linkages should be adjusted so that they are not operating the brakes with the carburettor set at idle, but begin to work immediately after that. The steering linkage should likewise be

formed so that the servo arm and servo saver arm should be



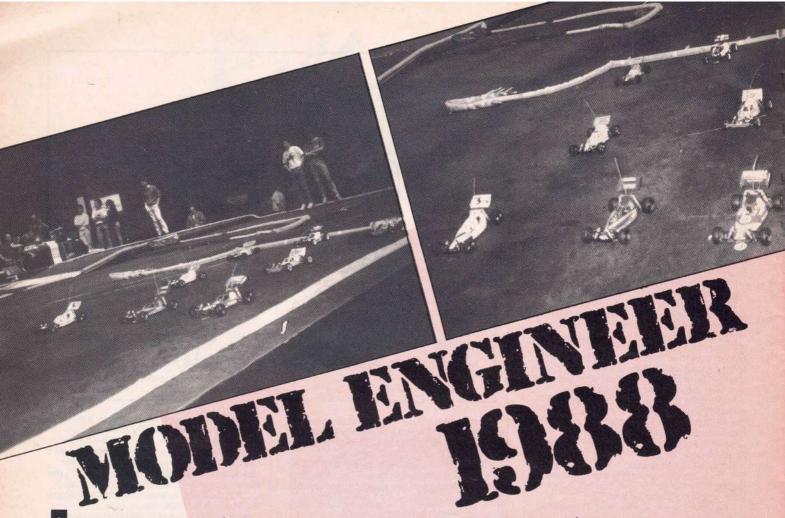
chassis centre line with the radio gear set to neutral and the front wheels pointing straight ahead. This is essential to provide equal and proportional steering.

With the chassis fully rebuilt and ready to run, it is worth finally checking the steering geometry to provide the desired

amount of toe-in or toe-out, and the manufacturer will usually offer a good setting to start from. If your car offers the facility to adjust the wheel camber, ensure that the settings you have selected are identical on each side of the car. Refill the shock absorbers with the recommended grade of oil and ensure the spring lengths are the same across each axle.

All that remains is to get that custom paint job done on that new body that you've been promising yourself and get racing!





f it is the first weekend of the New Year and you still have a hangover from December 31st, then it must be the Model Engineer Exhibition race.

This unique feature has firmly established itself as the first major event of the season for the past six years. In reality this is not difficult as the racing takes place only a couple of days after the New Year festivities. Whether it is the venue itself, or the fact that it is an indoor race the ME exerts a firm pull over literally hundreds of drivers from all over the UK. Unfortunately there is only a finite amount of room available, which roughly translated means a great deal of entries have to be returned.

This year was no exception as the meeting was over-subscribed by roughly 300%! As always amongst the unlucky there are a dissatisfied few who feel they have been short changed. RCMC's policy of accepting entries on a first-come, first-served basis is applied stringently without fear of favour to anyone. The system is as fair as humanly possible and means that no matter how good a driver you are you have an equal chance to receive an entry.

The mantle of organisers fell once again to George Land and Lewis Eckett. Scrutineer caps were donned by personnel from *Pit-Stop Models* of Barking, with special mention to Dave Taylor and Gordon Brice who wielded their rulers with authority!

The lap counting arrangements were given a touch of class by the use of an AMB automatic lap-counting system on loan from the Rallycross section of the BRCA. Fortunately Ken and James Weedon arrived with it to ensure that results were tabulated efficiently.

tabulated efficiently.

Traditionally 1/12th scale circuit racing has a place at the ME. This year was no

laps in eight minutes. It also makes for some close and exciting racing with the emphasis on precision and nerves.

Unfortunately a heads-up race between Phil Davies of Schumacher and Andy Dobson was not to be as Andy struggled to run for eight minutes. However, the new Parma "Pro-12" car looked very competitive during the heats.

through the hairpin to get back onto the carpet. For the 1/10th scale drivers two days of racing was on offer for Standard and Modified motors respectively.

Standard Class kicked off the proceedings on the Sunday with an immediate testimony to the excellent form of Jamie Booth and his Schumacher "CAT". I should point out at this point that Jamie's name will be mentioned a lot in this report – read on and see why.

Jamie took FTD in the first round with a time that was a full lap ahead of everyone else. Behind him the pecking order began with Stevie Haynes followed by Richard Isherwood.

On this circuit the "CAT" did have an advantage over the rest of the field even the few "Optima – Mids" being races. Round 2 was more of the same. Jamie on top and no one else able to break 31 laps. Kevin Moore came closest but not close enough. Phil Davies jumped from 27th to 5th whilst Peter Stevens slipped from the "A" as Tim Walden, Simon Tooley and Rory Cull all improved.

In the third round Jamie added another lap to make it 32 whilst in the same heat Pete Stevens with the "Mid" hit 31 laps. Nino Athanasiou hung onto the coat tails of his team mate to qualify 7th fastest to make it two "Mids" in the final. Andy Carter squeezed in at the last joining fellow team Parma driver Lawrence Harris who also made 31 laps to qualify second fastest.

Model Cars repors from the

first race of 1988

exception although the event was in jeopardy right up to the last minute simply through lack of entries. Keith Helmke should be congratulated for giving a fair number of people a kick up the behind to ensure a healthy entry on the day.

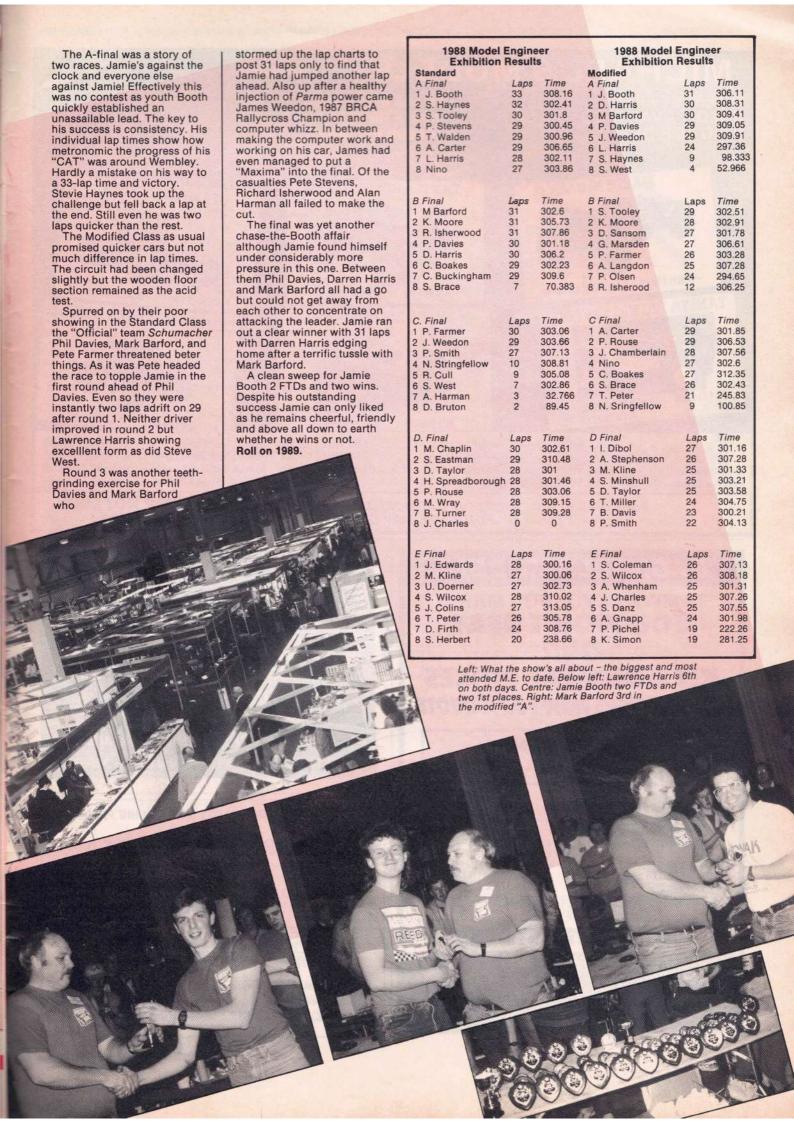
entry on the day.

One of the surprise entrants turned out to be none other than Andy Dobson who is currently working at the Parma factory in Cleveland, Ohio, USA. Rumours quickly circulated that Andy had been sent to clean up this race. In truth he had come home for Christmas and was just fitting in some racing before returning Stateside.

Because of the limitations of the stage area in the main auditorium of the Wembley Conference Centre, the circuit comes out on the small side. This in turn makes for a lot of As is so often the case Phil Davies made short work of the rest of the A-finalists to notch up his first victory of 1988.

1/10th scale

The stage area of the main auditorium comprises of large wooden blocks mounted on hydraulic ramps. This allows them to be moved up and down to form a sort of "undulating" track. The surface is normal household carpet which provides excellent grip and makes for very quick racing. Just to make things interesting the organisers had removed some of the carpet from the section of the track in front of the drivers. Underneath was polished wood which, in contrast to the carpet, provided no grip. Precious seconds were lost here as drivers struggled to control their cars under power



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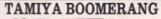
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HERE AT THE 'Model Cars' office we receive regular enquiries from individuals wishing to know where their nearest racing club is.

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 🗌
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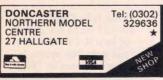
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