

# MRX

# PARMA 1/10 4WD

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Takes an in depth look at  
Parma's new racer

# COMPETITION CAR

The UK trade will all know of Parma distributor Helger Racing, and will of course know of this excellent range of competition parts they distribute. I stand to be corrected, but not since the 1/12 Euro Parma Panther car kit, have they had the sole rights of distribution of an up to the minute state of the art car kit for supply to the trade.

A short trip across the English Channel would now appear to have put that to rights. The French company MRC have been working feverishly over the last few months to complete tooling, and commence production of their MRX 1/10 off road car.

Helger have very kindly passed on to ourselves at Radio Race Car, one of the pre-production models, and as such, because certain parts are not at our disposal, coupled with minor design changes, we have decided to review the kit in two stages. Part One herewith will look at the design concept and manufacturing quality, Part Two, once the parts are with us, will look at its reaction to hard driving on varying surfaces, hopefully if all goes well this second part will appear in next months magazine.

MRC have produced four versions of this car, 2 wheel drive Standard and Competition and 4 wheel drive Standard and Competition.

We have at our disposal, the top of the range 4WD Competition kit, and as such everything is included in the kit to cover the requirements of the most serious of racers.

It is difficult at this stage for us to be specific about the exact difference between 'Standard' and 'Competition', but experi-

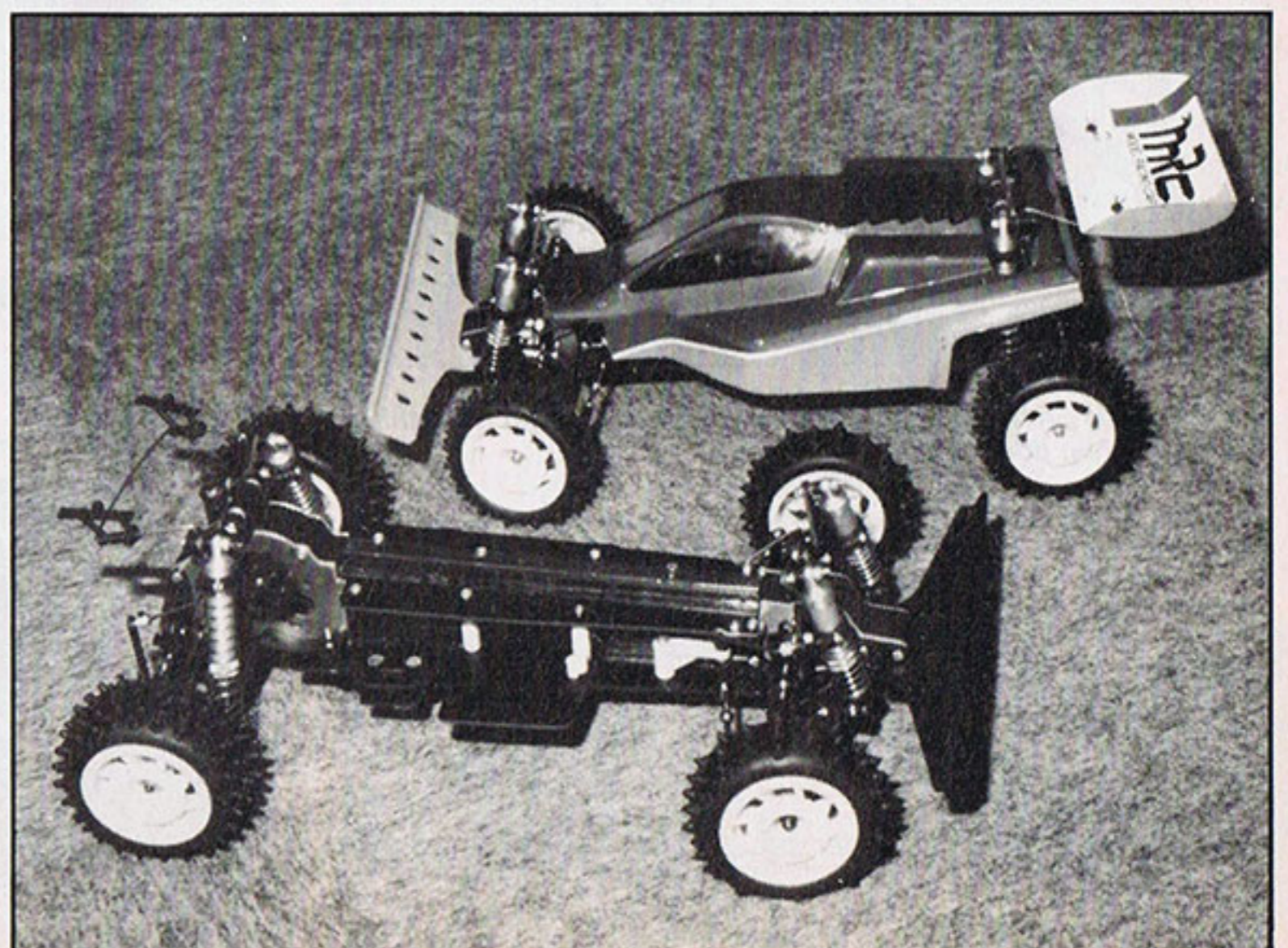
ence suggests that 2WD would differ by virtue of bushings for ball races and simpler, cheaper shock absorbers for top quality constant volume types.

4WD would we believe have similar differences, plus dogbone driveshafts against universal drive shafts incorporating one-way bearings on the front wheels.

The development of the car can be made relatively simple for the beginner, by initially purchasing a 'Standard' 2WD kit. Once basic driving skills have been learnt this can be uprated to 'Competition' level, thus giving a more efficient version of the same car.

With thoughts of moving on up into the

*This is how we saw our first glimpse of the MRX at Earls Court earlier this year.*



4WD class, £34.50 spent and your car is converted from 2 to 4 wheel drive.

Helger Racing intend to keep as comprehensive a range of spares as possible, and made mention of the fact that each spare part can be purchased separately ie, A left hand front wishbone does NOT have to be purchased with a matching right hand one, if not required.

Close examination of all moulded parts will reveal a small tag attached to that moulding. The tag has a number moulded into it representing the part number of that individual moulding. Spares can be ordered by quoting that individual number, so I am told.

Our kit instructions came to us as rather a compromise set of papers, but within the next few days prior to the UK launch these instructions will be supplied in written and pictorial form to offer simple stage by stage instructions, allowing for little if any room for error on the part of the builder.

Let us at this stage, get down to the basic details of the MRX car.

The car is designed as an off-road, four wheel drive, with bevel differentials at front and rear. Coarse pitch belt effects the drive between front and rear, with a simple spur gear train from motor to rear wheel drive. The drive can be full four wheel, with dog-bone rear driveshafts running with front universal drive shafts. For further handling improvements on higher grip surfaces, the front universal shafts can be replaced by other similar ones incorporating a parallel stub axle section for one-way bearings to run on.

Precision machined alloy shock absorbers of constant volume type handle the damping on each corner of the car.

Front and rear suspension is by A-arm

wishbones at the bottom, with adjustable top links utilising right hand/left hand turnbuckles, with a hexagon centre section for very easy spanner adjustment. This means of adjustment when creating the camber angle you require, is far easier on the life of the ball joints at each end of the suspension link, in that they never have to be removed in order to fine adjust the length of the link.

Anti roll bars are supplied for both front and rear suspension, all necessary ball joints and connecting links also supplied. The diameter of the wire from which the roll bars are produced, would suggest that antiroll effect could well be minimal but, be that as it may, we believe that roll bars are an essential part of the correct setting up of any racing car, and intend to run this car with both assemblies in position.

This concludes our description of the basic format of the car, let us now take an even closer look at the quality of the components to ascertain the value for many we are getting.

Both differentials are of identical design, with nylon bevels running on precision hardened dowels, with the main housing produced in two halves. One half incorporating the toothed belt pulley, and the other spur gear housing. Should the rear differential suffer damaged spur gear teeth, it can be interchanged with that at the front, because the front one does not utilize the spur.

If wear occurs on the bevels, metal shims are supplied in order to take up the wear and preserve the life and efficiency of the differential.

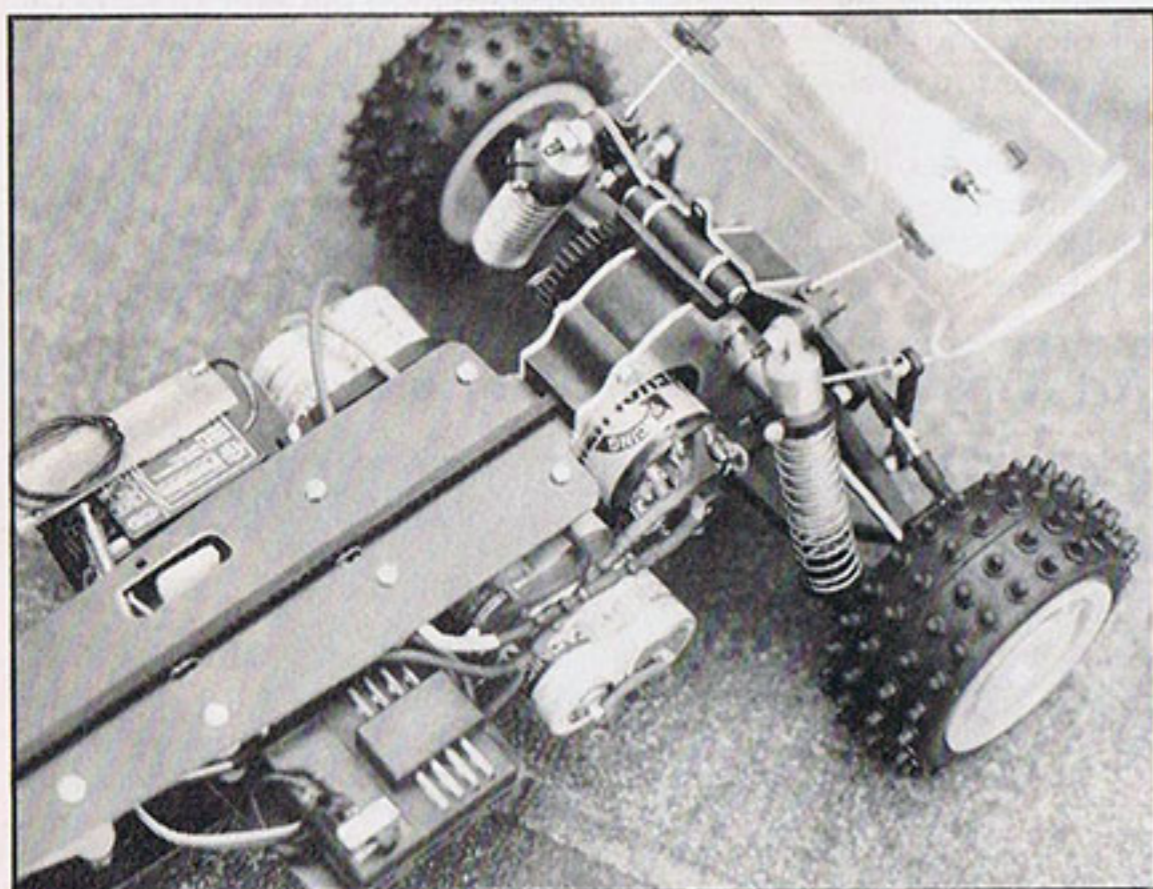
The housings in which both front and rear diffs run are designed as a sandwich of two aluminium side plates with a nylon

moulded centre framework. All the front, each sideplate is held in position by self tapping screws which also retain the nylon moulded blocks for the wishbone pivots, and the support blocks for the top suspension links and shock absorber mount.

Incorporated into each side plate are moulded can housing's that retain the ball races for the front drive cups. Loosen two M3 screws and simply rotate clockwise or anticlockwise to obtain the belt tension you require. Note - take care in your choice of screw to hold these parts, a fraction too long and you are fouling the differential, thus preventing it rotating properly. Also make sure you move each side identical to the other, otherwise the differential will be running at an angle to the belt.

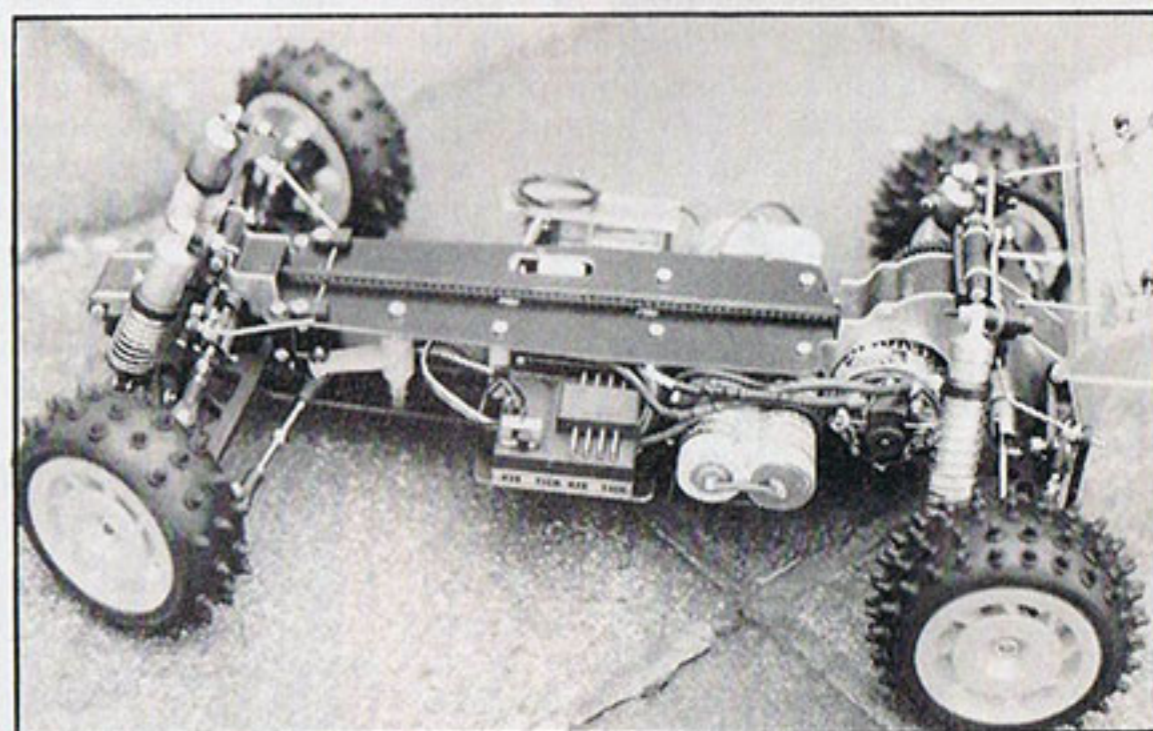
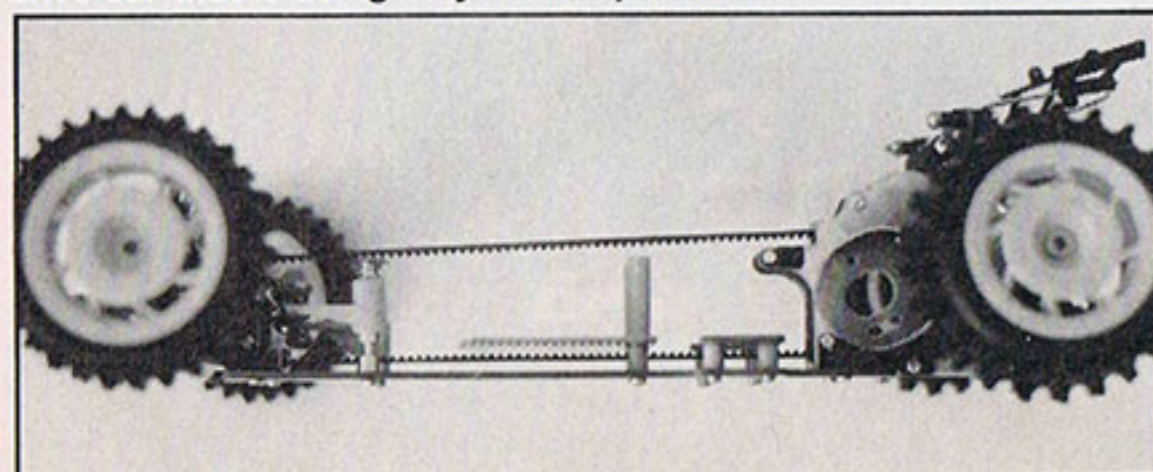
Whilst we are studying the front suspension, we note that the steering block mounts, steering arms and king pins are almost identical to that in kyosho 4WD kits, and could possibly be interchangeable with them. The long wishbones are obviously built for strength and longevity. Their quality and cross section would not be out of place on a 1/8 scale car, along with the 3 mm dia pivot pins held firmly in place each end with blocks having 'blind' holes moulded into them. No fear of losing a wishbone pivot halfway through your race, and no infuriating circlips to drop or shed when running the car.

The chassis, top plate and radio plate are all produced from 2.5 mm carbon reinforced GRP. Photographs will show that the radio plate is separate to the main chassis, and is sited immediately in front of the battery location with nylon spacers provided to clamp top plate, radio plate and chassis into a box section of very high strength and little if any flex.



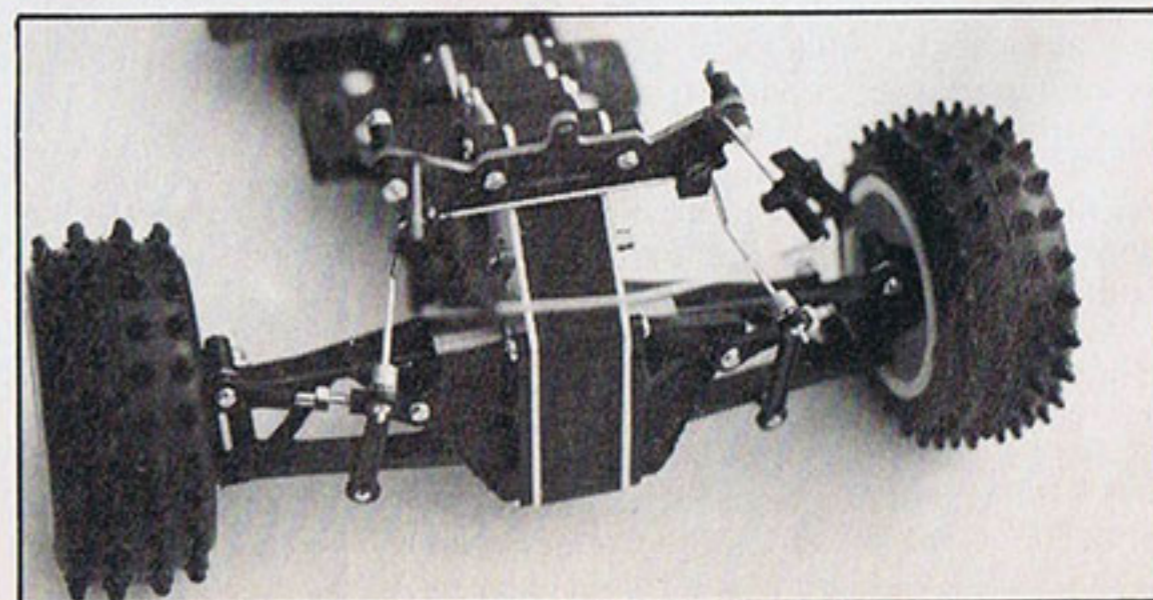
Above, a radio tray is provided, it is a very tight squeeze to get everything fitted but when done looks very neat.

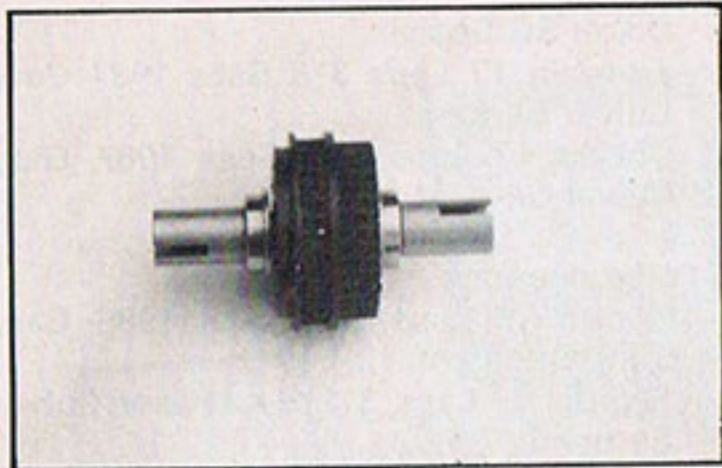
Below, the MRX is very closely styled on a Japanese mid engine belt drive car that is doing very well at present.



Above, the rolling chassis a purposeful design that promises great things.

Below, a multi position rear end ensures complete dialability.





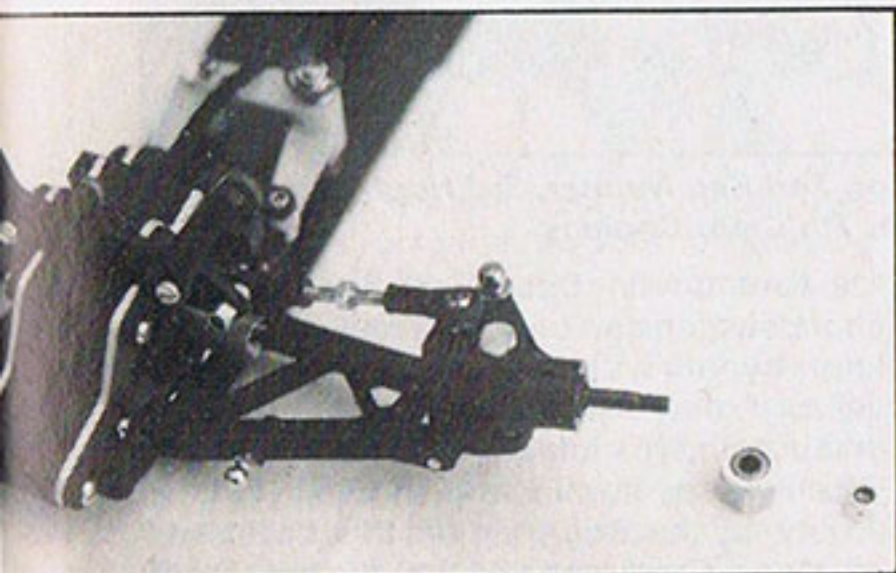
Sealed diff with belt carrier

The batteries of 'stick' configuration are held on small platforms raised above the chassis in order to clear the belt. They are clamped a la Schumacher, thus retaining their position safely, and permanently.

Rear suspension arms are once more designed with strength in mind, of the same section to these at the front. Pivots are identical to those at the front, with a very nice moulding designed to retain the rear end of the pivot and incorporate the location for the upper adjustable suspension link.

On top of the rear gearbox are provisions for fitting the location for the shock absorbers, anti-roll bar and wing wire support. Once more easy to fit and nicely thought out.

Shock absorbers is the Competition kit, and anodised gold, manufactured from aluminium. 1, 2 or 3 port pistons can be fitted in order to obtain varying damping effects. Both ends of the shock body are threaded, in order to screw on the top cap incorporating a rubber diaphragm, and the bottom cap to hold in place twin 'O' ring



Wishbones all round would do credit to a 1/8 car, this gives you some idea of the cars strength.

seals and plastic spacer.

We found with our shock absorbers, that when the car had stood for a short while, it was difficult to work the shocks effectively. A couple of presses would easily free them but once the car stood again the 'skickiness' reappeared. Close examination found that the nylon spacer between the two 'O'-ring seals was a tight fit in the shock body. When pressed into position, it closed onto the piston shaft causing it to 'clamp' up when left for a period. We suggest that the builder looks for this and lightly sands the outside diameter to make it a loose fit in the shock body. A small point, but it can be the undoing of a cars handling.

The only parts not mentioned thus far, are the steering truck rods of right hand/left hand design for simple adjustment, two-part steering servo saver, lexan undertray, lexan body and wing. In our case we received excellently moulded yellow hubs, with spiked rubber rear tyres, Hot Shot spike type front tyres on hubs approximately 3/8 the width of the rear, and a further pair of narrow front hubs with Pro-line style 'pimple' tyres.

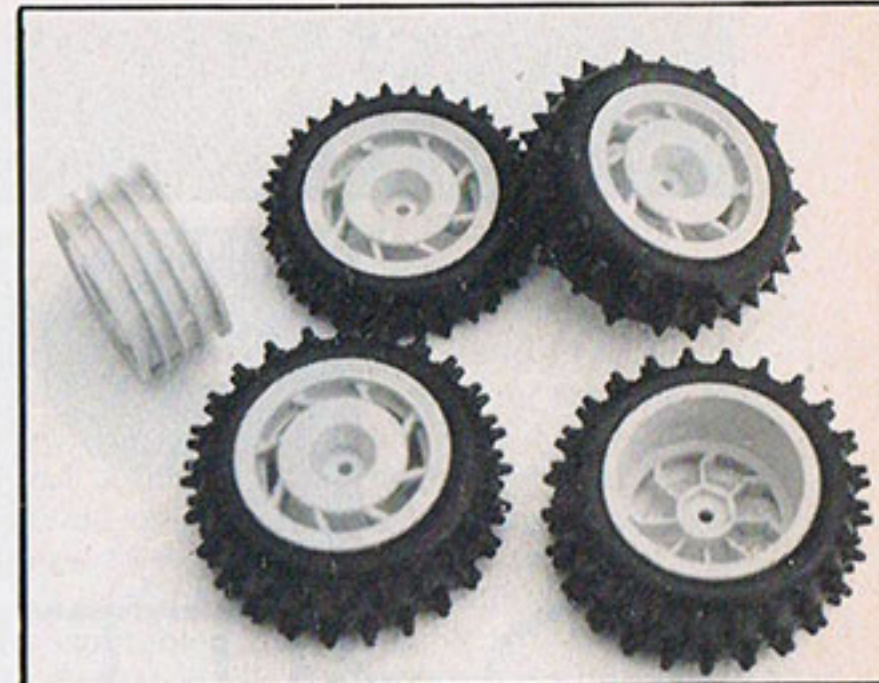
As stated at the beginning of the article, we will appraise the car on the track in a further review, so let us make mention of the following technical aspects, for the purists amongst us, before making known our own personal opinions.

Wheelbase	— 265 mm
Track	— 375 mm
Rear toein	— 4°
Front kick up	— 12°
Front castor	— 5°
Rear anti-squat	— 0°

First impressions are of an overall no nonsense car, that incorporates accepted principles of tried and tested designs. All of the mouldings are of excellent quality and strength. The car offers the ability to be easily worked on, and parts requiring simple adjustment at trackside are designed with that thought in mind.

It has adequate built in kick-up at the front, suggesting that it will take rough ground in its stride. The wheelbase is of an acceptable length to give the car stability in cornering with perhaps a bias towards power understeer rather than oversteer (obviously tyre choice has a large effect on this).

The choice of four wheel drive or one-way front drive, very quickly altered, has its obvious benefits from loose surface tracks to high traction surfaces. If it has an achil-



Wheels are very nicely styled and are available in a variety of colours as spares.

les heel, then it could be its weight, that appears (we have all our missing parts) to be around 3lb 12oz, but that we feel can easily be reduced at little if any cost.

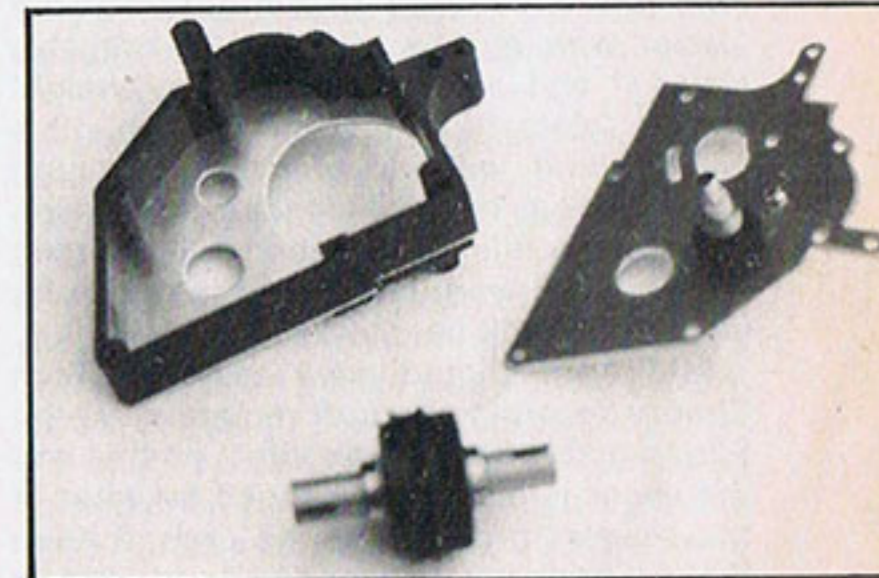
The centre of gravity is built-in as low as possible within the constraints of the car design thus again helping greatly with the cars handling characteristics.

More next month - WATCH THIS SPACE.

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2WD — Standard	£89.95
2WD — Competition	£154.95
4WD — Standard	£119.95
4WD — Competition	£199.95

Say you read about it in Radio Race Car.



Gearbox and differential, couldn't be simpler.

Below, gearbox in situ, note upper links are of one turn variety allowing camber changes to be carried out while wheel is on car.

