

Scale Saloon

Shoot Out

INTRODUCTION by the ED

practically every week- especially in the "competition" arena.

Touring car racing (Full-size that is) probably commands more interest from the viewing public now, than Formula One. National Super Touring series run in Europe, Asia, America and Australasia, and they all run to rules which originated in the UK. What the UK does today, the World does tomorrow. However this was not the case with our model cars:- Having "done" Off-road those inscrutable gentlemen at Tamiya saw the wind of change coming. Thus the first Scale Saloons were born, based on the now legendary 4wd Manta Ray mechanics and topped off I believe, with a Nissan Skyline bodyshell. Since then we have been regularly bombarded with beautiful Radio Controlled Scale Saloons from Tamiya.

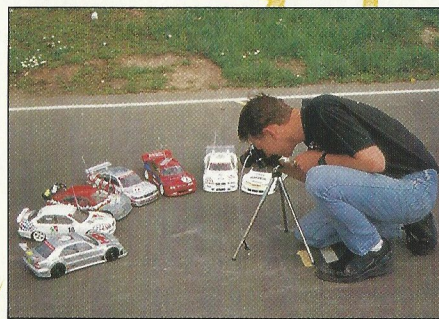
Scale Saloon racing really started with Tamiya's own Eurocup series, but this is now being challenged with the arrival of "pure" competition racing models. However don't think you can dismiss Tamiya in the National racing arena, with a few "Hop-ups" a Tamiya can still be competitive. With the increase of available models, RRC in the next two issues, will, Build, Review, Test, the latest and best in Scale Saloon models:- The Tamiya BMW 318i, Predator DTM, H.P.I. RS4, M1 Striker, Yokomo YR4 MC, and the two latest additions the Schumacher SST 2000 and Yokomo's YRF.

As I write this Race Cars intrepid team of reviewers (Des "Electric's" Chand, Russ "Chairman" Giles, Mike "Laptop" Haswell, Steve " Let me sleep" Rouse & Chris "The ED" Deakin) are doing battle with their review kits, just to bring you lucky readers all the "Griff" on Scale Saloons.

The series of reviews will culminate with a Shoot- Out At Ashby Wouds circuit. Who will win the RRC Car Off the Day Award ???

August Race Car will tell all. Anyway to start the reviews, as Tamiya started the ball rolling, lets look at Tamiya's latest, over to you Arther Ramage, or is that Steve Rouse.

Des gets "Framed"



RRC expects all its reviewers to be fully equipped.

RRC's intrepid review team, (L-R) Steve Rouse, Mike Haswell, Russ Giles, Des Chand.

Having taken a look at the 1/5th Scale Saloons in a recent edition of Race Car, we now go to the other extreme, and take a look at 1/10 Electric Scale saloons. This segment of our hobby has seen some major growth recently, with new cars appearing



Tamiya BMW 318i Super Touring

BY ARTHUR RAMAGE

Seemingly since the dawn of time, the BMW marque has been at the forefront of International touring car racing. British fans watching touring cars on T.V will know that BMW were British Touring Car Champions in 1988, '91, '92, and '93 in recent years; and they were class champions in '89 and '90. Domination!!!

However, the 1995 season saw a decline in BMW fortunes in England: the weight penalty for RWD cars, combined with a new team and drivers who were unfamiliar with the BTCC, meant that they were left scrapping in the mid-field. But that is not to say that the car had been overtaken in the technology stakes. On the world stage, BMW had one of its most successful seasons ever: it won the Australian, Belgian, French, New Zealand, German and Japanese titles, along with the Nurburgring and SPA 24 hour races. But it was probably the German and Japanese titles that gave the Munich marque the most pleasure, and these are the two cars that are celebrated in the latest kit from Tamiya: the BMW 318i Super Touren Wagen.

BMW M-Team Schnitzer may be remembered as the team that came, saw, and comprehensively conquered the BTCC at its first attempt in 1993, with Smokin' Jo Winkelhock and Steve Soper. Having cracked the British nut, Schnitzer set itself the target of winning in Germany and Japan. Soper was beaten by a couple of points in 1994, but finished the job in '95, the Japanese vanquished. '95 also saw Winkelhock take the German crown at the last round, from the Audi of Frank Biela.

As Tamiya is a Japanese company the BMW success will have been noticed and acted upon, with the result that they have launched what I believe to be their best looking kit so far: and when you bear in mind that all Tamiya kits feature spot-on detailing, that's quite a car. And due to the afore-mentioned Worldwide success, the new kit should be a big hit.

We've seen it all before

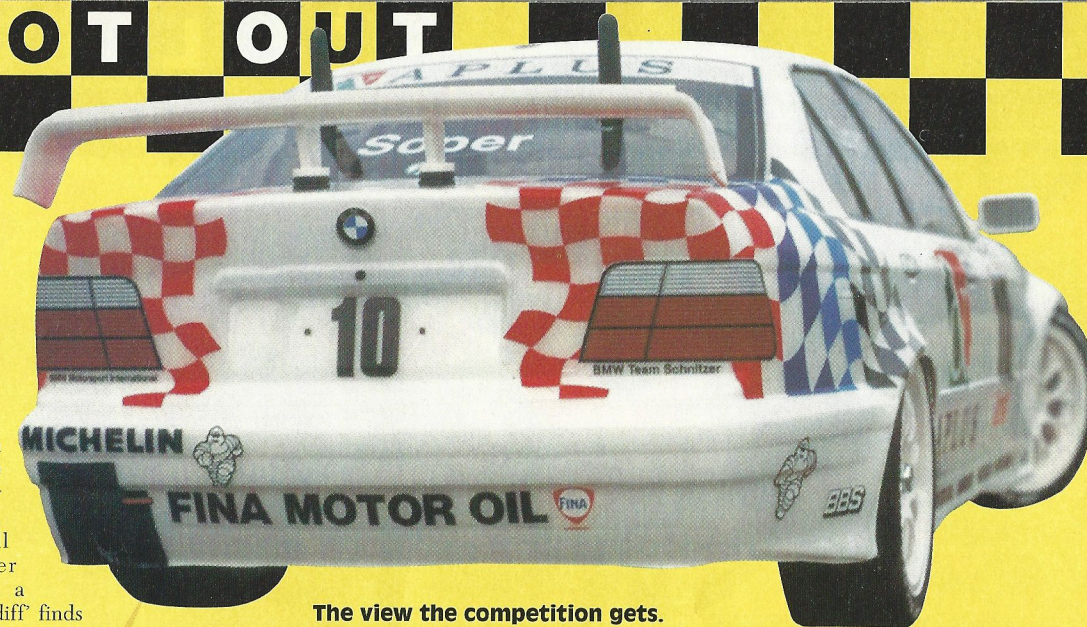
But what about the model itself? The chassis and running gear of the new BMW should be familiar to almost everyone as the 4WD TA-02 system. Originally derived from the Manta Ray off-road car, this is undeniably the most well proven Tamiya chassis on the market today, and forms the basis for almost the entire range of 4WD tourers. For the uninitiated, a pair of geared transmissions supply power to the four wheels, and a wire propeller shaft links the front and rear gearboxes. The front and rear

suspension is very similar - both ends employ a double wishbone system, which is controlled by well proven oil filled dampers. The rear end uses a ball differential to put the power down reliably, while a conventional planetary geared diff finds favour at the front. This combination of differentials provides safe handling in all conditions.

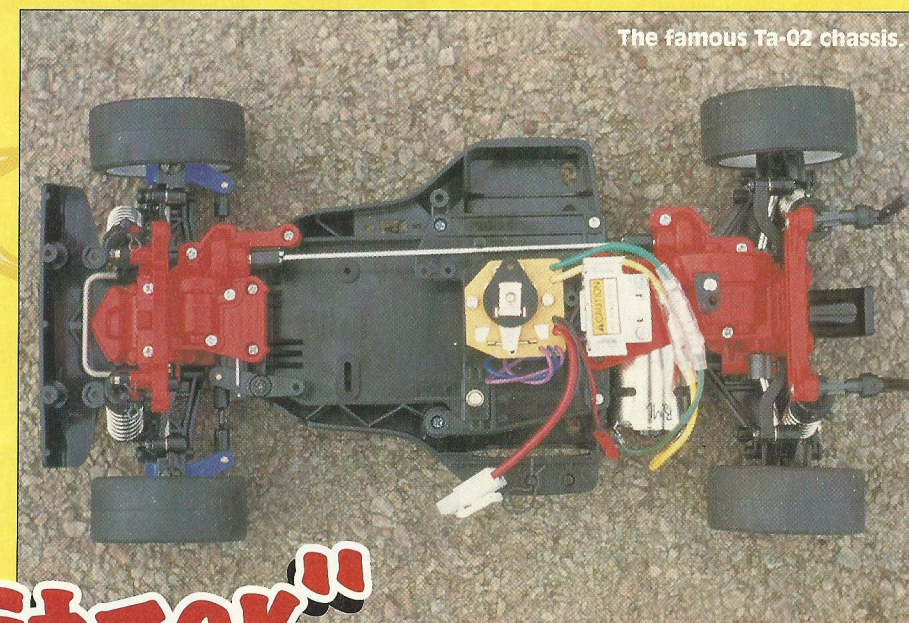
Pass me the Lego !!

I've said it before, but I'll say it again - the assembly of a Tamiya car is something akin to Lego with a screwdriver, and I challenge anyone to make a mistake! So, to prove the point I decided to let a complete amateur loose on the car; my University house-mate Richard G.E. Latta Esq. After seeing the car he was so impressed that no persuasion was needed, and after a couple of hours a rolling chassis was returned to me. Problems? None.

I didn't let him paint the body, though, thought I'd better do that myself. As I said, two Championships were being celebrated by this new kit, and because of this Tamiya has included the decals necessary to complete the car in both Japanese and German liveries. The basic BMW Motorsport colours of white with coloured chequered corners prevails



The view the competition gets.



The famous Ta-02 chassis.

"Schnitzer Blitzzer"

A Bavarian Beauty.



pretty much Worldwide, so only the main sponsors decals and other details separate the two continents. Thanks to the window masks and the protective vinyl film, the spraying process is as easy as the assembly process - though I never had to paint my Lego... As usual, it took me hours to attach the decals; possibly the most tricky part of any Tamiya car, and patience really is the only key to a great result. The rear wing, injection moulded nylon, is attached by body clips and should prove tough enough.

I decided on Steve Soper's Japanese title winning car, and the result is quite stunning. For '96 Soperman will be flying the Union Jack in the German Championship: lets hope he brings home the silverware.

The supplied wheels and tyres are similar to those of the Opel Calibra; BBS wheels and standard slick tyres.

Though Tamiya cars are looked upon as ideal starter cars, they tend to be dismissed when thoughts turn to competitive scale saloon racing. This is not entirely fair. With the addition of various Hop-up parts it is possible to turn the TA-02 into a quite acceptable club racer, while retaining the usual Tamiya attributes. The obligatory ballrace kit, adjustable top links, sponge tyres, hard prop shaft, roll bar kit and possibly a pair of universal joint drive shafts will all help to boost performance: when combined with reasonable electrical equipment, of course.

Pedantic or What

Do I have anything bad to say about the new BMW? Yes. About 11 years ago my first R/C car, a Tamiya Hornet, had a huge receiver aerial tube, but the tubes on the latest cars are rather short. Pedantic or what?

I said at the start that BMW had struggled a little in the BTCC in 1995. So what has been done? McLaren Cars has been brought in to develop the 1996 car, and the Schnitzer team has been brought back with Smokin' Jo and Italian Roberto Ravaglia. My tip for the title? Definitely.

A full size 1995 spec BMW 318i Super Touring will cost at least £90 000, but a model will cost around £130 - and you don't have to drive to Munich to collect it.

"Schnitzer Blitzer"

QUICK SPEC

4WD. Shaft Drive. Front Ball Diff. Rear gear diff. Dog Bone Drive-shafts. Plastic Bushings. Moulded Plastic Chassis. Moulded Plastic Transmission Housings. Independent Suspension. Wishbone and Top Link. Coil-Over Oil Filled Shock absorbers. Multi-spoke Wheels. Slick Tyres.



"The diff just dropped out guv"

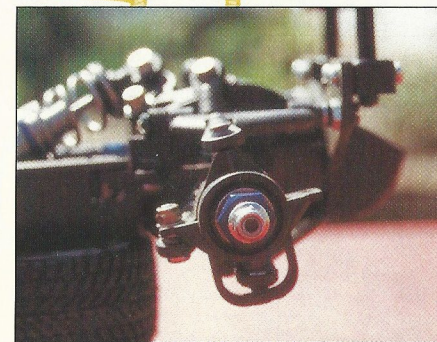


Tenth Technology Predator DTM

BY MIKE HASWELL

Tenth Technology is more well-known for its successful four wheel drive off-road cars and its latest baby is a scale saloon called the DTM. The kit comes very nicely packaged in a glossy topped box, very reminiscent of a certain well-known Japanese manufacturer. Lifting the lid we find the chassis tub and bodyshell on one side, with the shocks and anodised parts all nicely displayed in a blister pack on the other side. All the rest of parts are enclosed in numbered bags in the box underneath the blister pack.

The DTM is refreshingly different from the rest of the scale saloons with its 'Integral moulded chassis', with the bottom halves of the front and rear gearboxes built-in, and its shaft-driven 4WD system. Another unique feature is that it has inboard suspension and utilises push-rods on the front suspension just like a pukka F1 car. The DTM when this review was written, was available in one spec, bushed, slick tyres, with either an Opel Calibra or an Alfa 155 bodyshell as raced in the DTM/ITC races, recently though Tenth Technology has reviewed its marketing approach. Now the DTM is sold in three specs, the Teardown Standard, with-out body shell and tyres and has bushings,



The design of the front upright would not disgrace a full-size Formula One car.

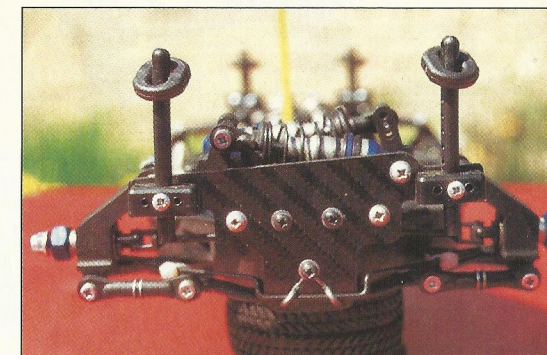
the Teardown Plus which is ballraced and the original DTM. Both the Teardowns come packed in a plastic tube, the DTM is still boxed,

Go buy a screwdriver

Before you start building, I recommend that you get a good quality No. 1 Philips screwdriver with a decent handle. If you don't then it makes



Rear suspension and Drive train.

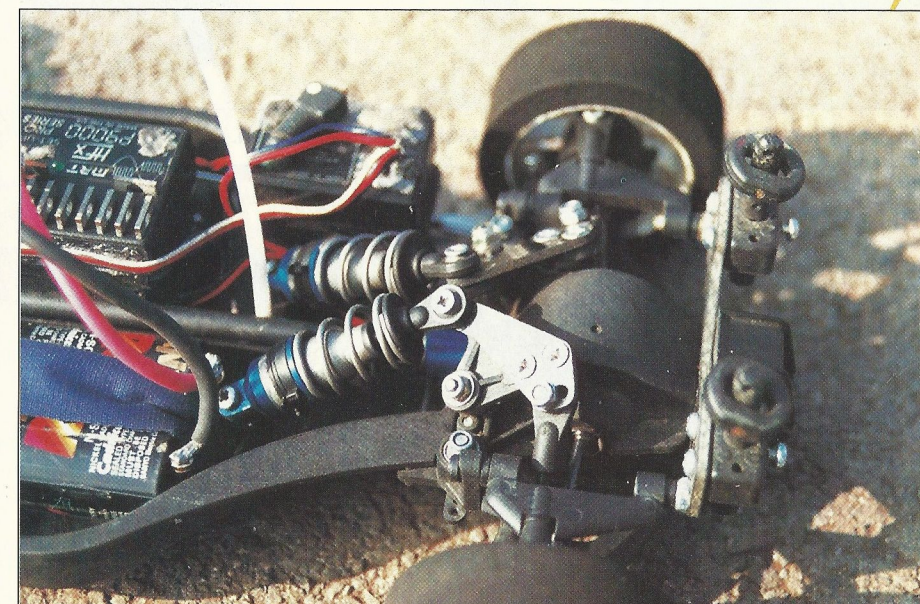


Rear Roll-bar.

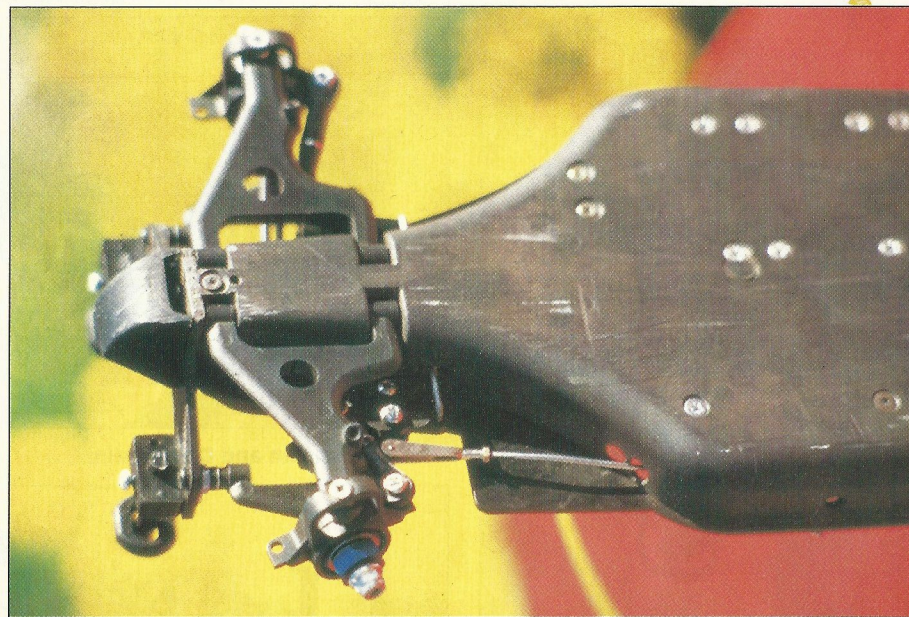
assembling the car that much harder, particularly as it is held together by self-tapping screws. Some drivers have been known to fit M3 screws on their Predators after using a 3mm tap on all the holes. Another alternative is to open the holes up slightly, too much though and the self-tappers will pull straight back out. Building the car isn't difficult for anyone who has built a car before or can follow the average D.I.Y. plans, providing a modicum of common-sense is used and despite a couple of minor hiccups in the instructions (which has been rectified in later kits). The most critical area of the assembly is the epoxying of the propshaft to the drive couplings. The carbon fibre

Optional Grand Prix front rockers and Grey springs.

Predator on the Prowl



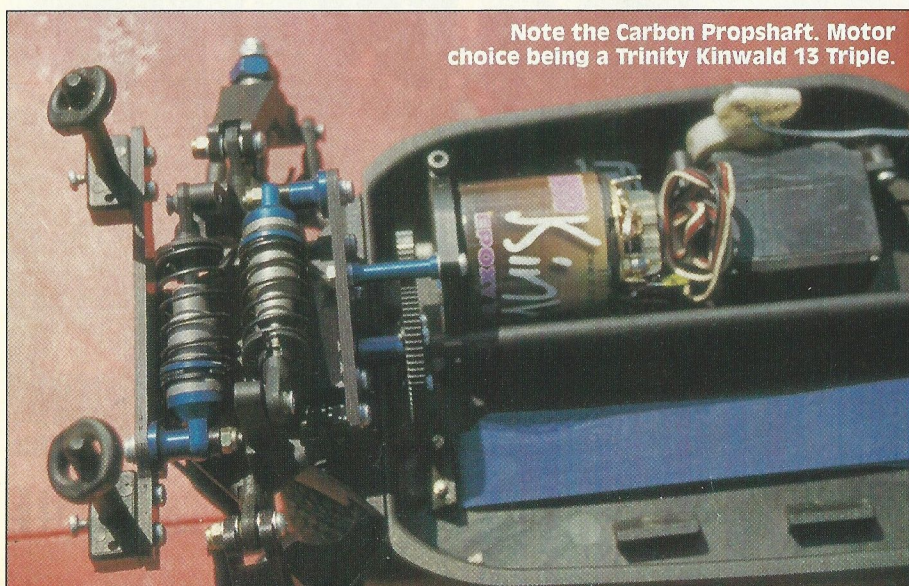
Scale Saloon Shoot Out



Even the bottom of the chassis is aerodynamic.



The completed car running a very Scale Martini Alfa 155 Shell.



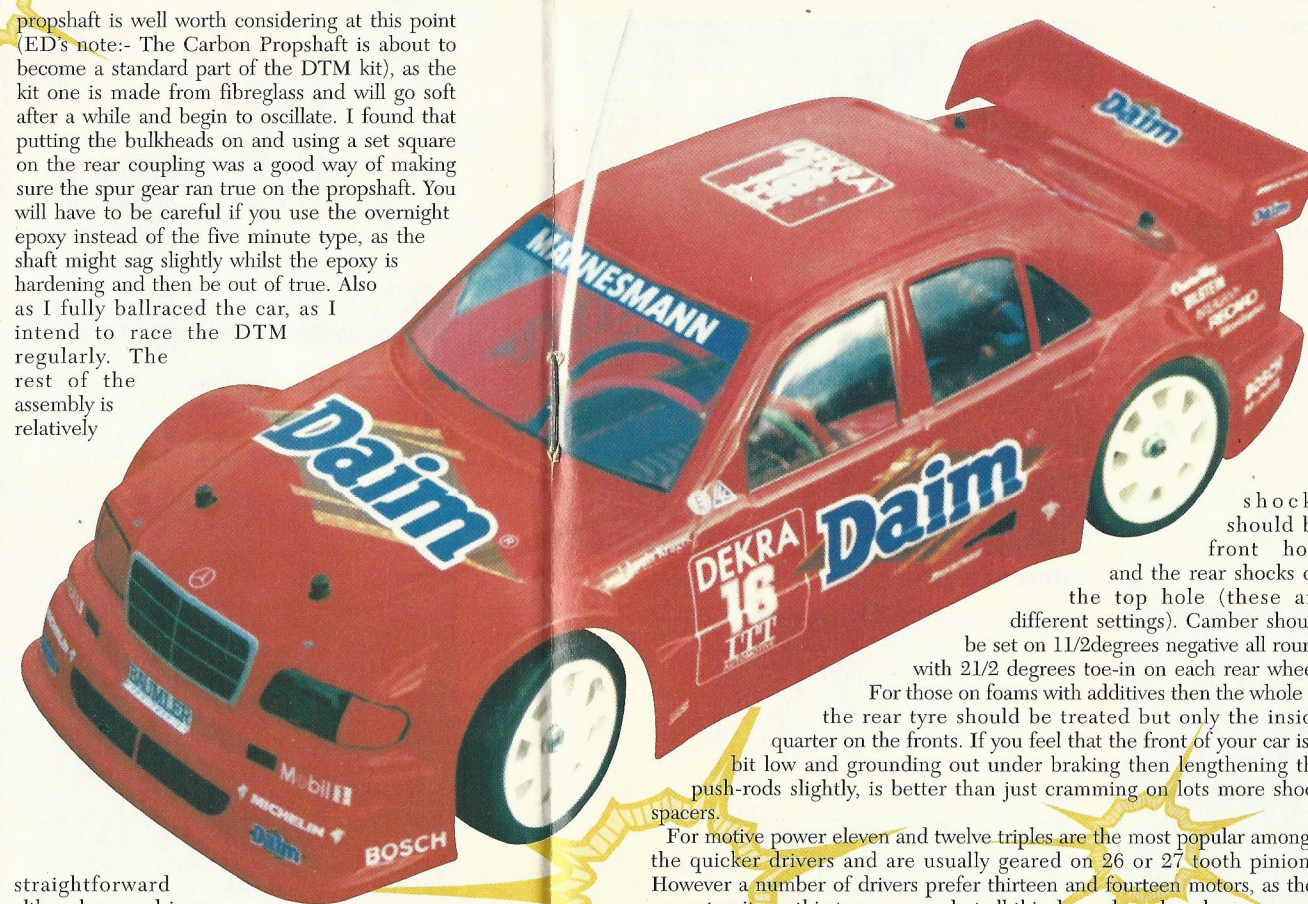
Note the Carbon Propshaft. Motor choice being a Trinity Kinwald 13 Triple.

propshaft is well worth considering at this point (ED's note:- The Carbon Propshaft is about to become a standard part of the DTM kit), as the kit one is made from fibreglass and will go soft after a while and begin to oscillate. I found that putting the bulkheads on and using a set square on the rear coupling was a good way of making sure the spur gear ran true on the propshaft. You will have to be careful if you use the overnight epoxy instead of the five minute type, as the shaft might sag slightly whilst the epoxy is hardening and then be out of true. Also as I intend to race the DTM regularly. The rest of the assembly is relatively

straightforward although some drivers prefer to use a smaller spacer inside the front shock. My kit was supplied with the Work's Martini Alfa 155 body as raced in the DTM and ITC by Messrs. Nannini and Larini. Painting and fitting all the replica decals will take almost as long as building the entire car.

How Does It Perform?

First time out at the Aldershot track the car was run on a set of Ian Foxwell's Tamiya super-slicks, the car was good round the infield with plenty of steering but had an alarming tendency to swap ends at the sweeper at the end of the straight. Even changing to stiffer front springs didn't manage to cure it. However some mid-week testing with a different bodyshell, a Racecraft BMW, made the car a lot better. In fact further testing has shown the Calibra to be the better of the two bodies, but I would still recommend changing bodyshells as this makes the biggest difference to the handling of the car. The first round of the BRCA winter touring car championships saw the DTM's take a 1-2-3, with Ian Foxwell winning and going on to win the championship outright, with a round to spare, from myself. Most of the running of the car, until recently, has been on damp or wet tracks which means using Caps or Damps. Richard Weatherley, the cars designer, has now come up with basic set-ups for those running foams or moulded slicks. On slicks it is the kit black springs all round with two hole (soft) pistons, 20wt oil in the front and 30wt in the rear, with both front and rear shocks being mounted in the middle holes. It is also worth trying a roll-bar on the back (A rear anti-roll bar is now available - ED), 1.8mm is pretty good, although this is down to personal preference. For those on foams it is 30wt oil and two hole pistons all round with grey springs on the front and black on the rear, front



shocks should be front hole and the rear shocks on the top hole (these are different settings). Camber should be set on 11/2degrees negative all round with 21/2 degrees toe-in on each rear wheel. For those on foams with additives then the whole of the rear tyre should be treated but only the inside quarter on the fronts. If you feel that the front of your car is a bit low and grounding out under braking then lengthening the push-rods slightly, is better than just cramming on lots more shock spacers.

For motive power eleven and twelve triples are the most popular amongst the quicker drivers and are usually geared on 26 or 27 tooth pinions. However a number of drivers prefer thirteen and fourteen motors, as they are not quite so thirsty on power, but all this depends on how heavy you are on the throttle.

So if you are looking for a scale saloon to race then the Tenth Technology Predator DTM is well worth a good look and best of all it's British, another good reason to buy one. The DTM is available, along with any spares you may require, from good model shops.

| | |
|-----------------------|----------|
| DTM Teardown Standard | rrp £175 |
| DTM Teardown Plus | rrp £209 |
| DTM | rrp £199 |

| | |
|-----------------------|--------------|
| OPTIONS FITTED | |
| Hard Anti-roll Bar | rrp £ 5.99 |
| GP Front Rockers | rrp £ 9.99 |
| Ball race Set | rrp £ 35. 98 |

QUICK SPEC

4WD. Carbon Shaft Drive. Adjustable Ball Diffs. Plastic Bushings. U/J Drive-shafts. Moulded Integral Tub Chassis. Alloy Motor Mount. In-line Stick Pack. Independent Suspension. Double Unequal Length Wishbones. Front Push-rod Operated Oil Filled Dampers. Rear Rocker Operated Oil Filled Dampers. Multi-spoke Wheels. Radial Slick Tyres With Foam Inserts.

THE TESTERS KIT

| | |
|---------------------------|---|
| SERVO:- | Futaba 9401 |
| RECEIVER:- | Hitec Mini Gem |
| SPEED CONTROLLER:- | Novak HPC |
| CELLS:- | ESP |
| MOTOR:- | Trinity 13 Triple |
| BODYSHELLS:- | Tenth Tec Alfa, Racecraft "C" Class Mercedes, Racecraft BMW 318i Tenth Tech Radials (Rubber) Ellegi Soft Radials Russ Giles "Greens" Brand Unknown (Foam) |
| TYRES:- | |

Schumacher SST 2000

Part I

BY STEVE ROUSE



Just as it fell out of the box.

Super Slim Tourer

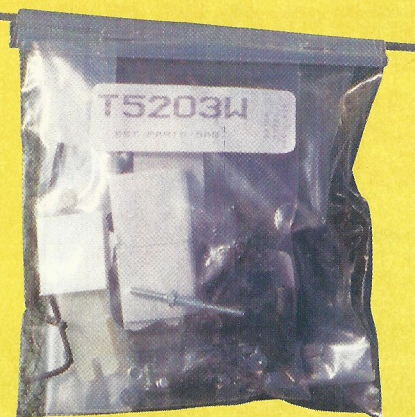
The last few years has seen a large rise in the popularity of Touring Car Racing, initially full sized and more recently model touring car, lowered and fitted with the appropriate bodyshell, and to this day this form of 'wide' touring car racing has remained the most popular. However, these 'wide' tourers are sadly not accurate scale models, being much wider in girth than a real 1/10th car; so maybe they need slimming done a little.

As the paying public could easily relate to cars that looked just like real racing cars, scale saloon racing really hit the nail on the head, and the popularity of this new class has increased quite markedly; and this meant that all the big cheeses in R/C wanted their slice of the cake. So the last 2 years has seen new cars from such as Yokomo, Tenth Technologies, Kyosho, and H.P.I. to name but a few. One large name was still missing until recently however, Schumacher. Not wishing to be left out of what is sure to be a huge growth area, Britain's big name has developed it's own challenger for scale saloon honours - the BMW M3 SST 2000.

Schummi !!!!

Based on the well proven and highly successful CAT EC 2000 Off-road and wide touring car, the new Schummi has a very smooth and efficient belt transmission, allied to some new suspension components arranged in the legendary unequal length double wishbone suspension form. Oil filled multi-adjustable dampers are fitted all round; together with universal joint nylon drive shafts, joining all these parts together is a double deck

Left: All you need to finish your SST.

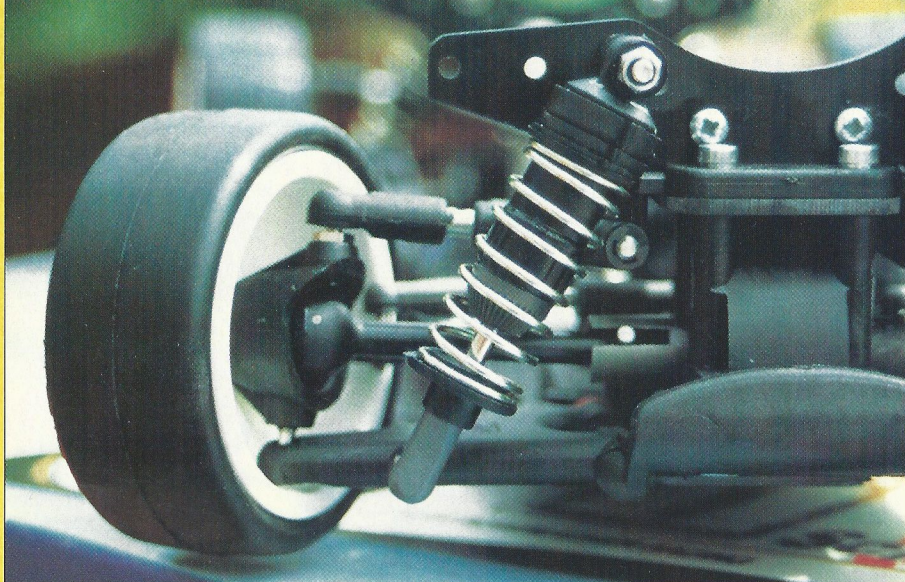


chassis upon which stick pack cells should be fitted. The whole lot is topped of by a Parma BMW M3 GTR bodyshell which has a large rear wing, as well as a good sticker sheet. Suppose I'd better build it, then.

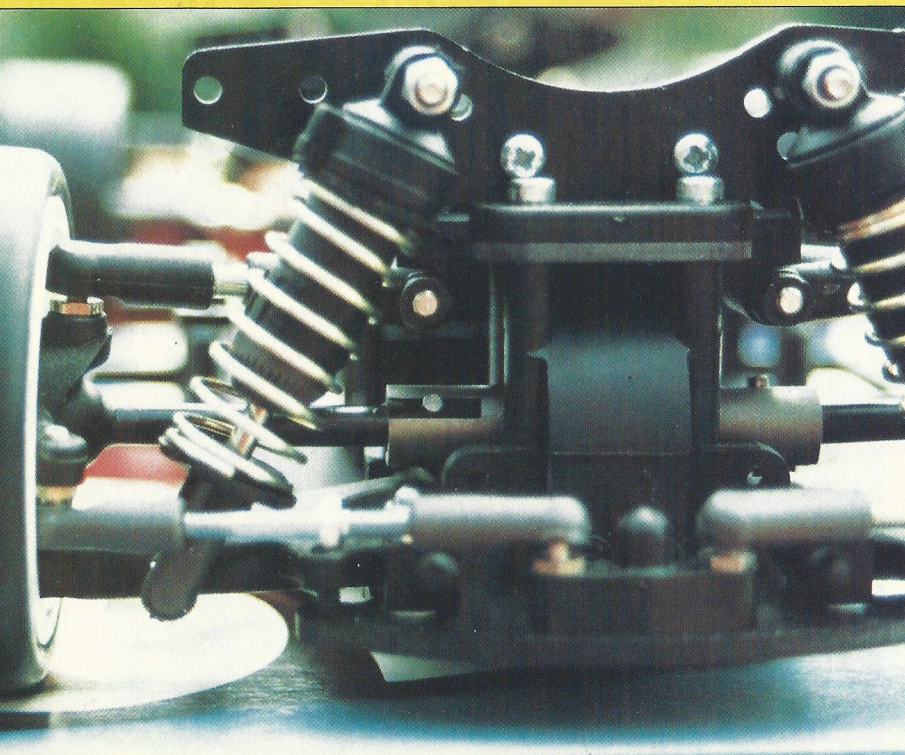
Put those tools away

And therein lies the beauty of the Schumi - no building is required! The car arrives as per the adjacent photos, a fully built rolling chassis with the transmission, suspension, dampers and even the wheels all bolted on and ready to run. Brilliant. So, go down to your local model shop and buy one. But it seems that the Ed wants a little more than that, a technical appraisal, apparently.

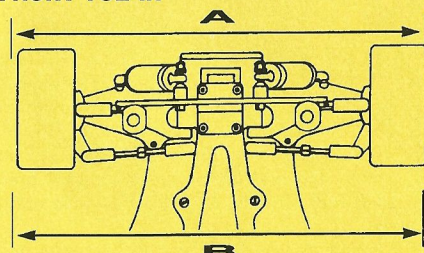
Front suspension detail.



Rear suspension detail.

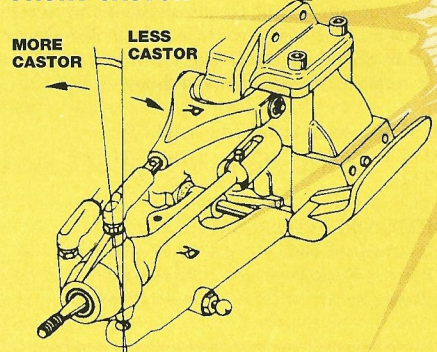


FRONT TOE-IN



TOE-IN = A LESS THAN B
TOE-OUT = A GREATER THAN B

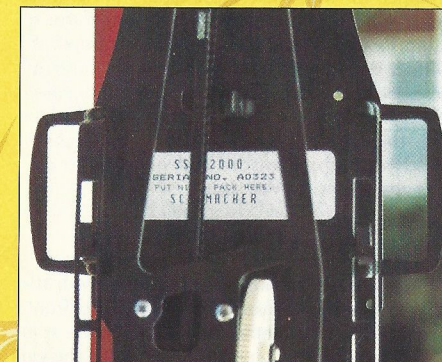
FRONT CASTOR



You don't get off that easy Steve

First impressions of the car are those of a neat, compact and highly adjustable model racing car. Starting from the top, the following aspects of the suspension can be tuned to your exact requirements: Camber, front and rear. Tracking, front and rear. Spring and damping rates all round. Front caster and rear anti-squat. Front and rear bump stops. And last but not least, damper mounting points. This vast array of variables provides the opportunity to get the set-up pretty close to perfection and allows the car to be set-up for any circuit, and any tyre combination. It could be argued that this system also gives the less experienced the chance to dig himself a huge hole and become well and truly lost; but Team Schumacher will not want to see their customers in an un-competitive situation, and can supply set-up sheets for most circuits and tyre combos.

How yours should look.



Is this sticker really needed?

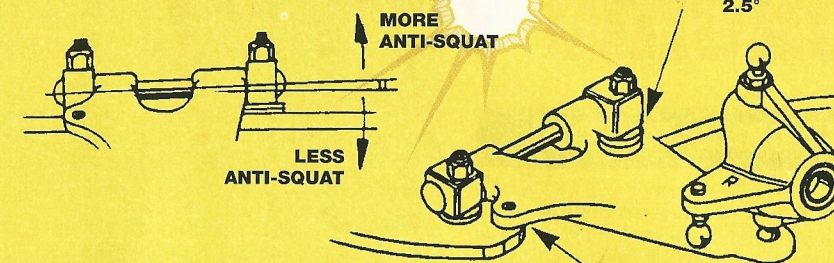
Balls and Bushing's

In order to price the car competitively, it arrives only partly ballraced (Moly-coated plastic bushings for all other bearing surfaces) the layshaft gets the treatment - and it cannot be stressed highly enough how important these rotating bits of metal are. 12 more bearings are required for a super-smooth transmission, and these can be bought as a kit - part of the substantial Speed Secrets range of go faster goodies already launched for the new Schuey. Further Speed Secrets components include a double deck carbon fibre saddle pack chassis, spring kits and other valuable accessories.

Don't slip it's illegal

National scale saloon rules do not allow a slipper clutch to be used for competition, and as such the Schuey does not have one - though it's importance in a 4WD touring car is fairly questionable at the least...After all, what's wrong with a good powerslide? Ball diffs are allowed, though, and consequently two are fitted to the SST. The motor mount is a standard nylon item, perhaps not best heatsink in the world, but then again the motor is right in the underbody airstream so maybe it isn't so bad - and you can replace it with a purple alloy example... (ED's note:- As most Scale Saloons seem to run very "Hot" motors the alloy motor mount is a must) Nylon drive shafts are also included with partially shielded UJ's - light in weight and they should stand up to the stresses of racing without problems.

ANTI-SQUAT & SUSPENSION DROOP



THE SUSPENSION DROOP CAN BE ADJUSTED USING THE GRUB SCREW IN THE LOWER WISHBONES. MAXIMUM GROUND CLEARANCE IS 11.5mm

Wishbones and Wheels

The great thing about the suspension is that the front and rear lower wishbones are exactly the same for easy service work; shop owners may also feel slightly relieved at this point. The lower ball joints screw straight through the lower wishbones into the uprights, exhibiting commendable simplicity and reducing the unsprung weight. This means that the suspension can harness the actions of the wheels in a more controlled manner. Also identical at both ends are the uprights, shock towers, dampers, and upper wishbone mounting brackets.

The supplied wheels are a Tamiya fit (bonus!) and are surrounded by yellow compound rubber tyres. These tyres will be the control in the new British Touring Car cup and their performance will be interesting to compare with the established rubber tyres.

The final item on the list is the BMW M3 GTR bodyshell supplied by Parma. Nicely moulded as you would expect, and a generous fit. The infinitely adjustable body mounts will be familiar to most, and are of the highest quality.

So there you have it, a top line scale saloon for less than £200 similar pricing to another British scale saloon - and it has that all important Corally factor: you don't have to build it!

What? You want me to tell you how it goes? Well, when a car as significant as this arrives on the scene, a quick run around the local track is not really good enough. So in next month's Radio Race Car you can read about my testing exploits at various Midland circuits. The trials, tribulations and perhaps even a definitive set-up.

Speak to you next month.

OPTIONS FITTED

| | |
|--------------|--------|
| Ballraces | £38.95 |
| Roll Bar Kit | £ 3.99 |

QUICK SPEC

4WD. Twin Drive Belts. Adjustable Ball Diffs. Part Ballraced Part Bushings. U/J Driveshafts. WFE Chassis and Top Plate. Plastic Motor Mount. Transverse Stick Pack. Independent Suspension. Double Unequal Length Wishbones Front and Rear. Oil Filled Dampers. Multi-spoke Wheels. Radial Slick Tyres With Foam Inserts.

THE TESTERS KIT

| | |
|---------------|---|
| SERVO:- | KO 704 |
| RECEIVER:- | Futaba Attack |
| SPEED CONT.:- | Novak Tempest Pro |
| CELLS:- | Orion |
| MOTOR:- | LRP Generation X 12 Triple |
| BODYSHELLS:- | Kit, Tamiya BMW (Pinched from A.Ramage) |
| TYRES:- | Kit (Rubber) UltraSlix Greens and Blues (Foams) |

I really must buy some paint.



Super Slim Tourer

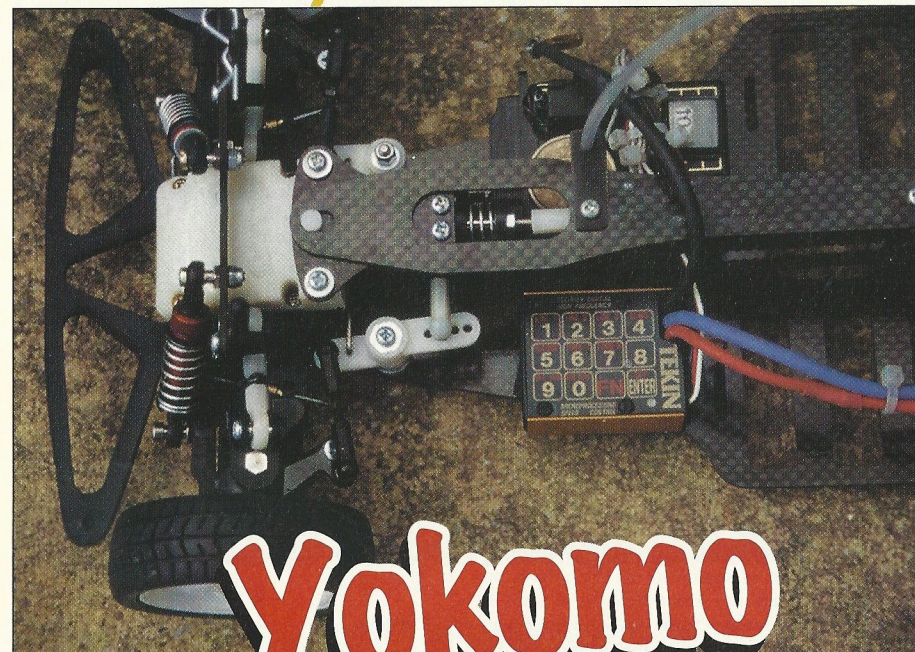
Scale Saloon Shoot Out

Yokomo YR4 MC

BY CHRIS DEAKIN

After Tamiya, Yokomo was the first major manufacturer to create a range of Scale Saloon racing cars. The YR4, based very much on the World Championship winning YZ10 mechanics. In small numbers this car found its way onto our shores. Most cars raced in and around the Midlands area, which was only to be expected as Yokomo's distributor C.M.L. is Birmingham based. With the boom in Scale

Front end detail-Note the Roll-Control shock absorber.



Yokomo Master Class



Saloons the YR4 range now encompasses three models, the original car, now called the Sport, the SP and the car we are reviewing, the MC. Both the Sport and the SP are "stick-pack" cars, the MC is "saddle-pack".

Designed as an out and out racing car the MC has a spec which includes: Carbon chassis, carbon top plate and shock mounts, fully ballraced, U/J driveshafts, one-way bearing (higher top speed due to running 2WD in a straight line but 4WD when cornering) and a very interesting roll control fifth shock absorber, more of this later.

Such a Small Box

As the MC is sold without a bodyshell, the kit is

packed in quite a small box. Due to the fact of being Japanese in origin the instructions are in a "broken" English, but the diagrams tell the story pretty much. Building begins with the two diffs. As the transmission comes from its Off-road brother it is very strong and durable. As the loads of on-road are much less than off-road, only six balls are fitted in the diff (12 for off-road). Assembling the thrust bearing is very fiddly and the Associated "Black" grease recommended in the kit is a must.

Top Loader

The diffs fit into two composite moulded housings, these are split horizontally along their centrelines, allowing for easy maintenance. Both housings and the alloy motor/layshaft mount (no heatsinks required) are then screwed to a flat 2.3mm carbon chassis. All screw holes are countersunk so a smooth underneath results. The cell cut-outs are just large enough to allow the nicads to sit low in the chassis for maximum grip, no chamfering is needed. The nicads have to be "strapped-in" with Glass Fibre tape. Not the most secure, and I would recommend some form of clamp, bolted to the chassis being sourced. As befits a World Championship manufacturer all the carbon parts are of an extremely high quality, although I think the main chassis plate could be made thicker. Once the two drive belts have been fitted top caps are screwed on to the diff housings, shame they're white.

Only One Way

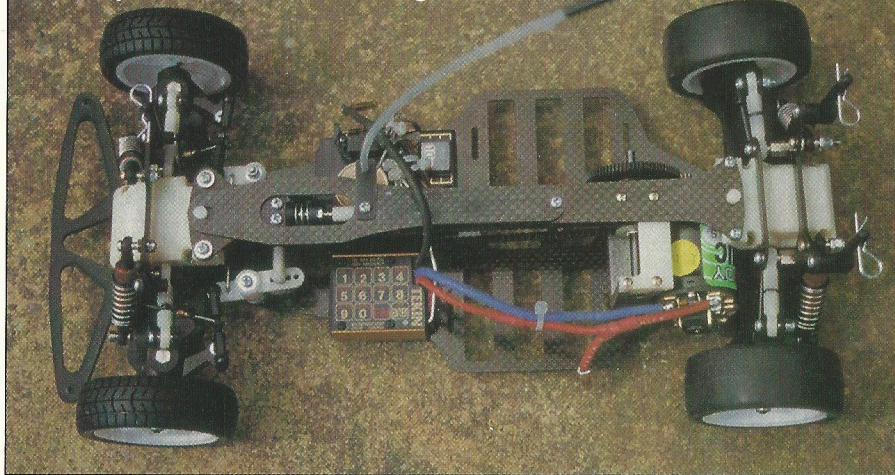
The transmission build is completed with the fitting of the layshaft and one-way bearing front-drive pulley. This method allows a bolt-on spur gear, any Associated type spur will fit. So the car can be geared for any motor-track configuration. Also by running slightly smaller diameter front tyres, the front wheels spin faster than the rears for any given speed thus all the power goes to the rear wheels, which gives a much higher top-speed. Also the handling can benefit as on turn-in to a corner, as the front wheels are not actually driving, so an improved turn-in results.

Roll Control???

The next part of the build contains some very interesting components and thinking. On both the Sport and SP a one piece top plate connects the transmission housings together, this is done to stiffen the chassis and normally in some way to control the tension of the main drive belt.

The M.C. has a totally different and somewhat innovative system. A two piece carbon brace is bolted to the front and rear diff housing, the longer part to the rear. Between the longer section of the brace and the chassis are alloy stand-offs, bolted to a n d

The completed "Saddle Pack" rolling chassis.



bottom, which stiffens up the rear of the chassis. The front of the brace clamps to the front diff housing. Now for the clever bit, a coil-over shock absorbers is mounted between the two halves of the brace, why? Well:- 1) As the car rolls into a corner the brace is softened by compressing the shock, allowing a small degree of chassis flex behind the front suspension. Thus more front end grip.

2) Any small high frequency bumps which could unsettle the car at speed, can be absorbed again by a small degree of chassis flex.

3) As the fifth shock also controls the main belt tension, the M.C. has a slightly longer wheelbase which also makes the car more stable at speed.

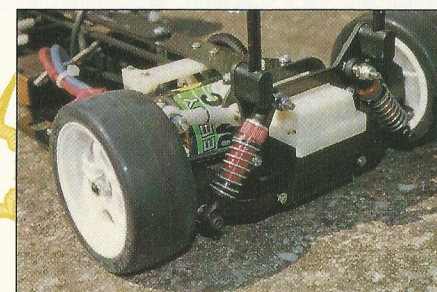
4) By making small adjustment to the spring or oil in the fifth shock different grip levels can be tuned-in.

All very ingenious, and they say the Japanese can only copy European ideas — enough said.

Front Suspension and Steering

Twin bellcranks are bolted through the chassis plate connected together with a wire link. One bellcrank is in two pieces which join in a "V" section, this is then sprung to give a servo saver. A transverse steering servo then connects to the bellcranks. Most servo's will fit as space is no problem.

A solid lower wishbone pivots on the diff housing setting a 11° castor angle, different angles have been tested by Yokomo, 11° being the best set-up. A substantial moulded kingpin/carrier, supports the axle block. This allows the axle-block centre line to run very close to the centre of the tyres "footprint", which give good grip and very positive steering. A universal joint drive-shaft also acts as the stub axle, running in ballraces. An adjustable top link completes the "corner". Connected to the axle block (common to all YR4's) is a small carbon plate. This moves the track rod pick-up outboard, this changes the Ackermann effect (inside wheel has a larger amount of lock than the outside wheel in a turn) which increases the power-on steering of the car. Two small capacity red alloy dampers mount to a carbon plate and the bottom wishbone. These shocks seem to me to be a retrograde step by Yokomo, the earlier YR4's had much larger volume shocks, which allowed a better range of adjustments. The new shocks have such a low capacity that I feel they will not cope with bumpy or low grip tracks we tend to race on. As the M.C. has such a high standard spec,



The very grippy slick rear tyres. Also note the Red Alloy shocks, and a "well hot" Reedy motor.

why spoil the ship for a halfpenny of tar. A lightweight bumper and adjustable body mounts complete the front end.

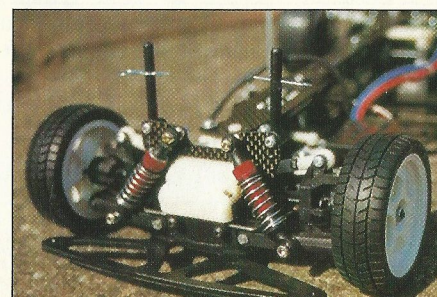
Rear Suspension

The rear end is very similar to the front suspension. A fixed axle block mounts in another solid wishbone, which again pivots on the diff housing, around 4° of anti-squat is built in. This improves rear traction. An adjustable top link connects to the rear body/shock mounting plate. Also a carbon brace goes between the inboard pick point, stiffening it up. The same red alloy shocks are fitted to the rear. As the chassis is a long wheelbase and as most of the weight i.e. the nicads are in the centre of the car, the spring rate is the same front and rear. Again the rear is finished off with some very smart adjustable body mounts.

Radio Installation

With the saddle pack layout there is plenty of room to mount normal size radio gear, you may find due to the slight "coke" bottle shape of the chassis, that the edge of the speedo may just overhang. This is no real problem. With the alloy motor mount any "hot" wind motor can be installed without extra heatsinks.

A rather strange tyre choice the P3 radial. Carbon shock plate. Also the turn- buckle top link.



Topping Off

The rolling chassis is topped off with very smart spoked wheels and a rather strange choice of tyres. On the front are some narrow "P3" patterned radials with sponge inserts. At the rear are some wider "slick" radials again with sponge inserts, only the track test will prove their effectiveness.

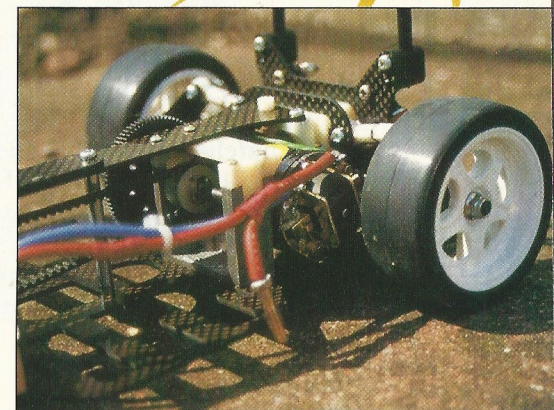
As the YR4 comes without a shell, I chose a C.M.L./Racecraft "C" Class Mercedes and a Frewer B.M.W. 3 series so I could see what effect bodyshells have on the car.

Conclusion

The YR4 is what you would expect from a world championship constructor, a real racing car. All the components are mounted as low as is physically possible, for the best grip. Layout as simply as possible, for ease of maintenance. Constructed from the highest quality materials. Other than the latest shock absorbers I can't fault the car. But how does it drive? Well you will have to wait till the August Edition for the giant test at Ashby.

Available from your local take-away r.r.p. £225.

Alloy motor mount and the One-way layshaft. If you look closely you can also see the rear top link stiffening plate.



QUICK SPEC

4WD drive. Twin belt. One way drive layshaft. Adjustable ball diffs. Fully ballraced. U/J driveshafts. Carbon saddle pack chassis. Carbon roll-control top plate. Alloy motor mount. Independent suspension with wishbone and top link. Coil-over oil filled shock absorbers. P3 and slick rear tyres. Multi spoke wheels.

THE TESTERS KIT

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|--------------|---|
| SERVO:- | Sanwa SM 103 |
| RECEIVER:- | Futaba 40 Meg Mini |
| SPEED CONT:- | Tekin 410 K2 |
| CELLS:- | Reedy Orion |
| MOTOR:- | Reedy Sonic 12 Double |
| TYRES:- | Kit Hot Laps Proline Road Hawks (rubber) Jaco Green Jaco Blue (foams) |
| BODYSHELLS:- | CML/Racecraft "C" Class Mercedes Frewer BMW 318i |