PREDATOR

Born to win?

KIT REVIEW

Reviewed by Graham Creasey

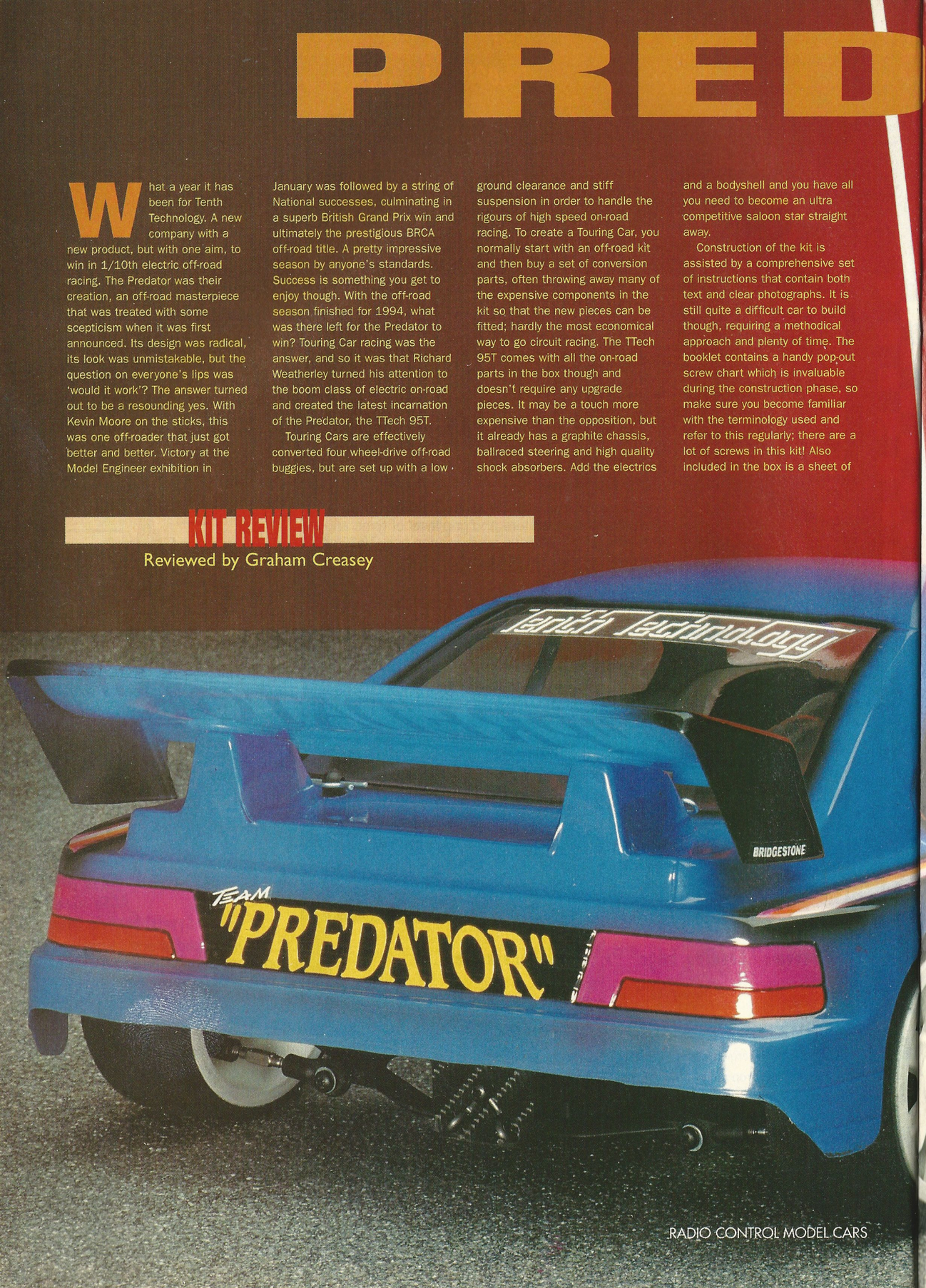
What a year it has been for Tenth Technology. A new company with a new product, but with one aim, to win in 1/10th electric off-road racing. The Predator was their creation, an off-road masterpiece that was treated with some scepticism when it was first announced. Its design was radical, its look was unmistakable, but the question on everyone's lips was 'would it work'? The answer turned out to be a resounding yes. With Kevin Moore on the sticks, this was one off-roader that just got better and better. Victory at the Model Engineer exhibition in January was followed by a string of National successes, culminating in a superb British Grand Prix win and ultimately the prestigious BRCA off-road title. A pretty impressive season by anyone's standards. Success is something you get to enjoy though. With the off-road season finished for 1994, what was there left for the Predator to win? Touring Car racing was the answer, and so it was that Richard Weatherley turned his attention to the boom class of electric on-road and created the latest incarnation of the Predator, the TTech 95T.

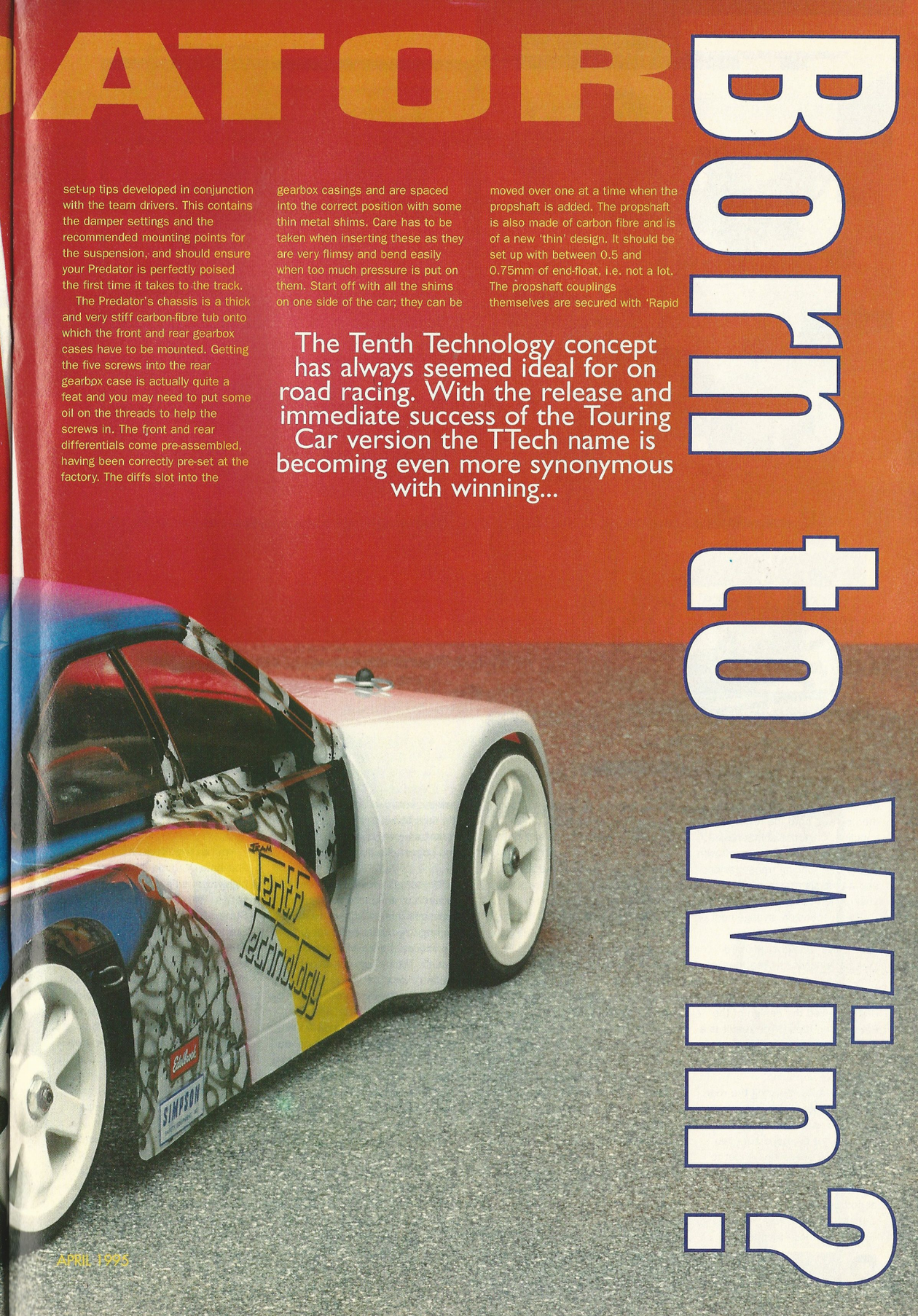
Touring Cars are effectively converted four wheel-drive off-road buggies, but are set up with a low ground clearance and stiff suspension in order to handle the rigours of high speed on-road racing. To create a Touring Car, you normally start with an off-road kit and then buy a set of conversion parts, often throwing away many of the expensive components in the kit so that the new pieces can be fitted; hardly the most economical way to go circuit racing. The TTech 95T comes with all the on-road parts in the box though and doesn't require any upgrade pieces. It may be a touch more expensive than the opposition, but it already has a graphite chassis, ballraced steering and high quality shock absorbers. Add the electrics and a bodyshell and you have all you need to become an ultra competitive saloon star straight away.

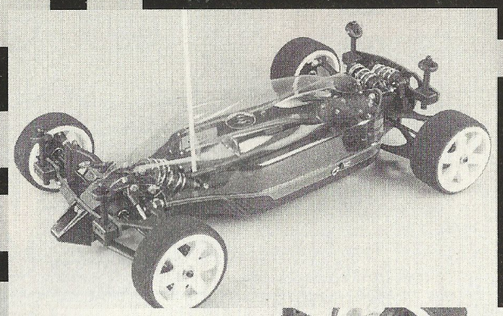
Construction of the kit is assisted by a comprehensive set of instructions that contain both text and clear photographs. It is still quite a difficult car to build though, requiring a methodical approach and plenty of time. The booklet contains a handy pop-out screw chart which is invaluable during the construction phase, so make sure you become familiar with the terminology used and refer to this regularly; there are a lot of screws in this kit! Also included in the box is a sheet of set-up tips developed in conjunction with the team drivers. This contains the damper settings and the recommended mounting points for the suspension, and should ensure your Predator is perfectly poised the first time it takes to the track.

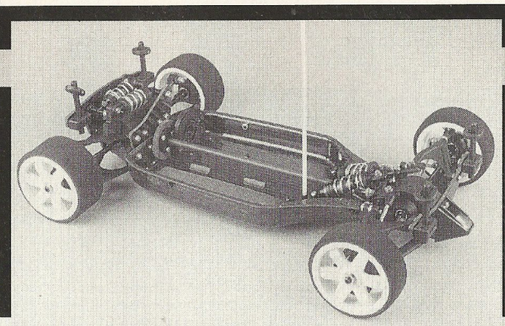
The Predator's chassis is a thick and very stiff carbon-fibre tub onto which the front and rear gearbox cases have to be mounted. Getting the five screws into the rear gearbox case is actually quite a feat and you may need to put some oil on the threads to help the screws in. The front and rear differentials come pre-assembled, having been correctly pre-set at the factory. The diffs slot into the gearbox casings and are spaced into the correct position with some thin metal shims. Care has to be taken when inserting these as they are very flimsy and bend easily when too much pressure is put on them. Start off with all the shims on one side of the car; they can be moved over one at a time when the propshaft is added. The propshaft is also made of carbon fibre and is of a new 'thin' design. It should be set up with between 0.5 and 0.75mm of end-float, i.e. not a lot. The propshaft couplings themselves are secured with 'Rapid

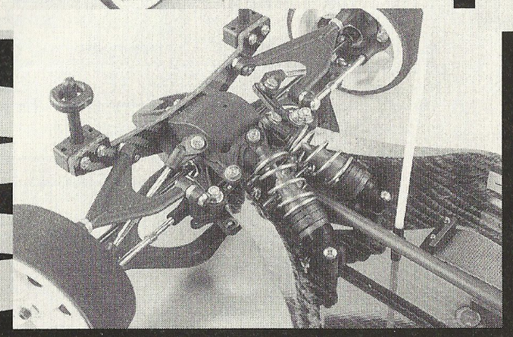
The Tenth Technology concept has always seemed ideal for on road racing. With the release and immediate success of the Touring Car version the TTech name is becoming even more synonymous with winning...

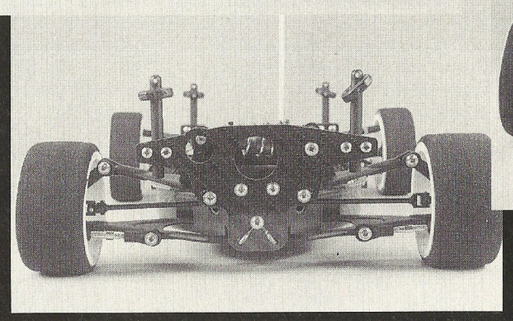


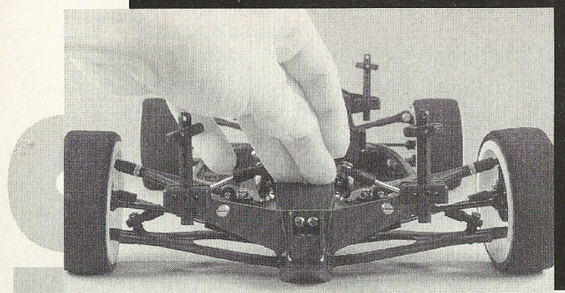


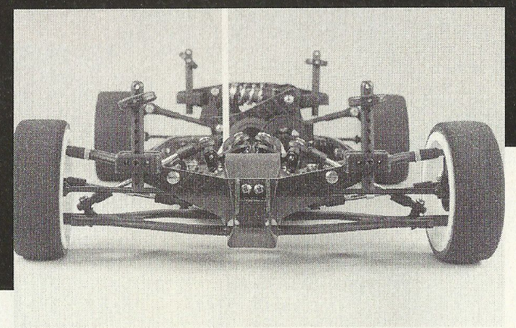












Araldite' glue and the spur gear then screws onto the rear flange coupling. Once the shims have been moved over, you are left with a very free running transmission, and a chassis that is ready for the suspension to be added.

The suspension arrangement on the Predator is particularly impressive. Designer Richard Weatherley spent a great deal of time studying the suspension systems on full-size racing cars and modelled the design of the Predator on these. The result is a car with a very low roll-centre which gives it very positive and predictable cornering characteristics. Building the rear shock mounts and front and rear wishbone assemblies isn't too difficult, but do make sure you refer to the set-up tips sheet to ensure the recommended link positions are used. All four shock absorbers are constructed in exactly the same way. Tenth Technology recommended smearing the 'O' rings and bearing washers in gear grease to give a smooth shocker action and prevent dirt entering the damper. The damper rod itself comes pre-coated with a PFTE dry lubricant, so make sure you do not scratch the surface of this when locating the rod in the damper. Since full suspension travel is not required for on-road racing, an alloy ball from a ball-joint is slid onto the piston rod underneath the piston to act as a restrictor.

The off-road version of the Predator has impressed many with its positive steering response, and the steering design is carried over into the Touring Car version. The steering and rocker crank assembly both come fully ballraced, giving all of the moving parts an exceptionally smooth operation. With the wishbones, trackrods and dampers in place, the car is almost finished. All that remains is to add the nose cone, the unique aluminium motor mount and the velcro battery straps. Then it's time to squeeze the radio gear in (not an easy task!), fit a motor and some cells and test everything out.

Of course, there is still one item required to complete the car, a bodyshell, and this is where Touring Car racers really must be the luckiest bunch of drivers around. Their choice of saloon shells is vast and the quality is excellent, allowing everyone to pick their favourite BTCC or DTM car. For the Predator, we prepared two bodyshells; one of the new Parma Ford Mondeo shells and a Frewer BMW, both looking resplendent thanks to sparkling custom spray jobs by the Hampton brothers. The bodyshell is held firmly in place by some solid adjustable bodymounts at the front and rear of the car, ensuring it doesn't scrape on the circuit at all during cornering. With a new set of PAP Green tyres fitted, the TTech 95T looked mean and purposeful and ready for some action. Luckily, we didn't have to wait long to get the car on the track.

We ran the TTech 95T for the first time at round one of the highly competitive TEMAC Winter series. With the likes of Pete Stevens, Mike Penfold, Ellis Stafford, David Gale and Chris Grainger as opposition, the meeting offered a prime opportunity to discover just how good the car was. Unfortunately, conditions were damp for much of the day, so it wasn't until the final few runs that we really got to see what the Predator could do, but throughout the day the car performed extremely well.

Out on the circuit, two things are immediately obvious; the Predator is extremely quick and it's also pretty noisy. While many of the belt drive cars whisper their way round the circuit, the Predator packs a roar that takes some getting used to. The noise the car makes might lead you into

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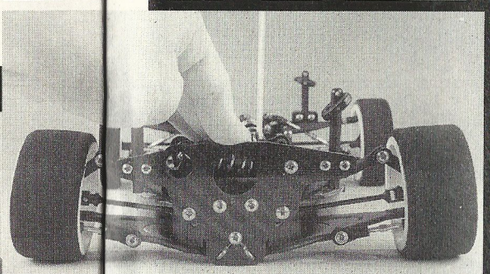

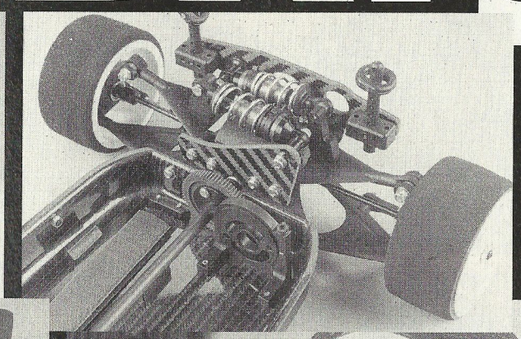

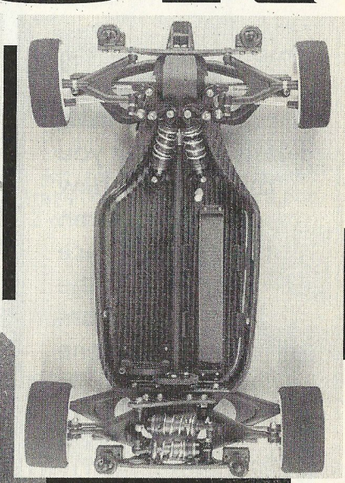

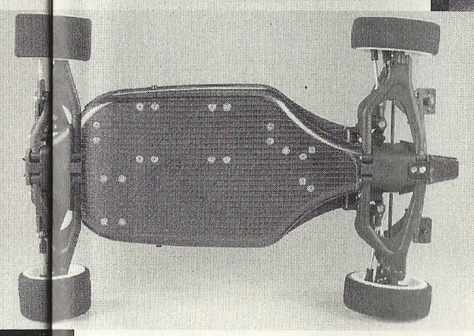

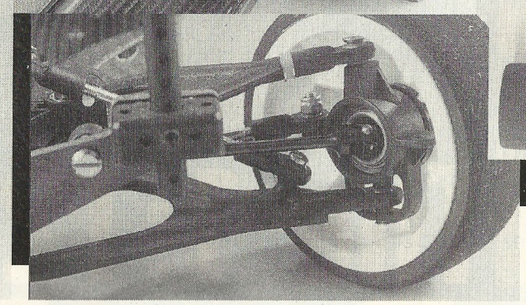

The Predator's low centre of gravity and smooth lines make it an ideal subject for the on road class.

believing the transmission must be very inefficient, but this does not seem to be the case at all. For a Touring Car, the Predator's acceleration and top speed is simply awesome. It is by far the quickest Touring Car I have ever driven and really leaps under acceleration; not bad for a car that complies with the new 3lb 10oz BRCA weight limit. In fact, the sound effects seem to emanate from the drive gears themselves, the noise being amplified by the solid tub chassis. It's a bit disconcerting the first time you hear it, but once you have blasted past a few cars like they are standing still, the decibel level is soon forgotten!

The Predator's road holding was very good indeed. Turn in from high speed was particularly impressive. At TEMAC you could come off the banked sweeper and flick it into the chicane, before getting straight back onto the power. Low speed turn in was also positive, but I still felt I could have done with more. Moving the front link point to the upper position did improve matters here, while other Predator drivers achieved a similar effect by changing to the more positive handling Frewer Peugeot 405 bodyshell.

If there has to be one criticism, it is that the car did lack a little in rear end grip on some corners. Every now and again it was necessary to engage in a little opposite locking to keep the car under control, something that is fun to do, but ultimately adds a few tenths to your laptimes. Again, using a Peugeot bodyshell may have improved matters here, as this has a more steeply angled rear wing than the Mondeo and BMW shells and hence generates more rear downforce. Also, it was not possible to run tyre additives at TEMAC on the test day, thanks to a number of persistently wet corners. With super sticky additived tyres fitted, grip should not be a problem at all.

In the end, the TTech 95Ts did rather well at the TEMAC meeting. Four production cars were raced and all four made the A-final, with one in the hands of Tamiya star Ian Foxwell taking TQ. The success story continued the following week at the first BRCA National of the year, with David Ward taking TQ and six cars making the A. Then a fortnight later the TEMAC National was dominated by a certain Kevin Moore, annihilating everyone in both qualifying and the A-final to give the Predator TTech 95T its first big win. With success like this, it is impossible to rate the Predator as anything other than superb. It has the qualities needed to win races and win them it already has. Is it good enough to win the 1995 BRCA Touring Car series though? Keep reading the RCMC Touring Car race reports during 1995 to find out...

The Predator TTech 95T is available from all good model shops.

For further details, contact Tenth Technology on 0474-824444.

Kevin Moore's TEMAC National Set-up

Front damper oil	40 wt 'Associated'
Front damper pistons	Single hole
Front valves	Underneath piston
Front springs	Silver
Front camber	2mm
Front 'droop'	20mm
Ground clearance	7mm
Front tyres	PAP Blues + TQ tyre additive
Rear damper oil	35 wt 'Associated'
Rear damper pistons	Single hole
Rear valves	None
Rear springs	Silver
Rear camber	1.5mm
Rear 'droop'	18mm
Ground clearance	9mm
Rear tyres	PAP Blues + TQ tyre additive
Motor	LRP Blue SE (12x2)
Pinion	23 tooth
Cells	LRP SCRC
Speed-controller	LRP Mk3 (100 Amps current limit)
Steering servo	KO 1001
Radio	KO Esprit II
Bodyshell	Frewer Peugeot 405