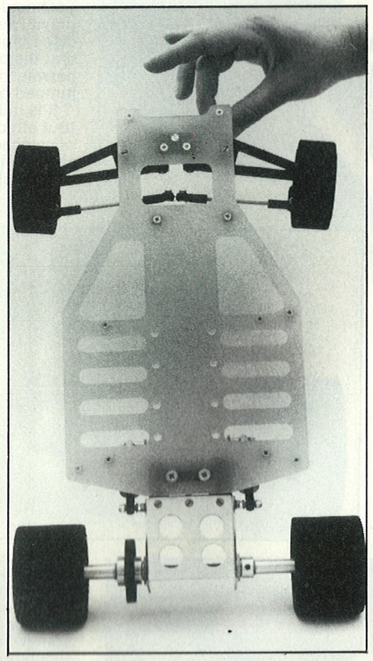
Talisman Pro10

Jeff Driver builds Brimod's tenth scale Talisman



Brimrod Engineering Developments have made their name with the manufacture of some of the finest quality shock absorbers. Over the past few years the company has gradually increased its product range, adding useful accessories and modification kits for numerous RC cars.

It was just a matter of time before Brimrod decided to produce their own car.

To take on the production of a new model car is a big step for even the most seasoned RC car company, but for a company that has in the past specialised in add on parts, the decision was especially significant. Inevitably a tremendous amount of thought went into choosing the type of car. Should it be on road, off road, 4WD or 2WD the choices are wide. After some experimenting and making a few prototypes the decision was taken that the kit should be for the new 1/10 circuit racing class.

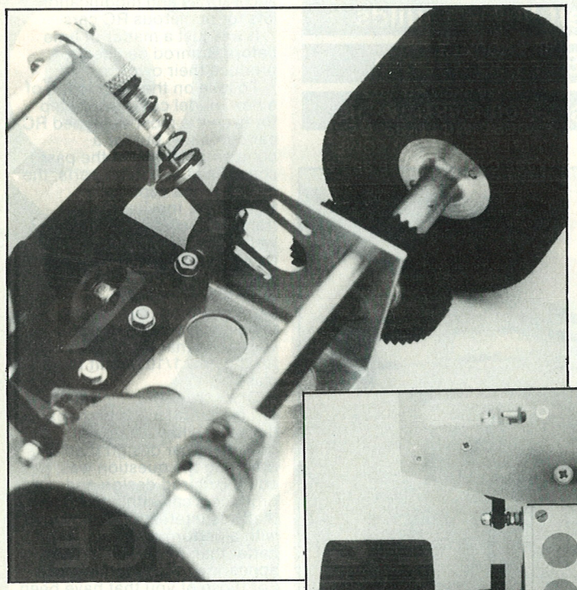
Of all types of racing to go for, circuit racing is perhaps the sport with more rules governing car design than any other. So the question was; could Brimrod design and produce a car within the rules that was interesting, innovative, with a performance similar or better than other 1/10 racers appearing in the market place. For those of you that have been around 1/12 and 1/10 circuit racing for some time it might have seemed that most designs have already been tried.

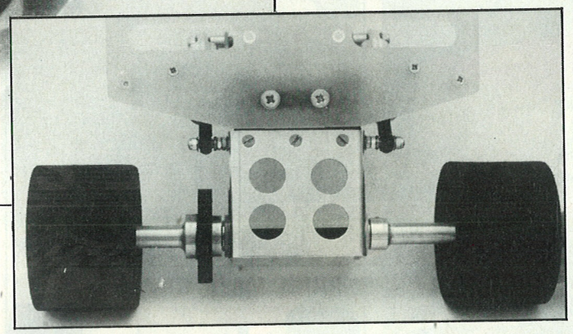
After months of designing, experimenting, modifying and more testing Brimrod have produced a new car – the Talisman.

The car incorporates new innovative ideas on front and rear suspension. The kit comes complete with Jaguar style body, spare wheels, alternative springs, ballraces and is probably one of the best engineered kits available anywhere, let alone the most complete.

Basic design

The basic chassis configuration of the Talisman is in the same league as most other 1/10 circuit cars. This is due primarily to the strict rules of 1/10 car racing. The base unit of the chassis is a nicely machined GRP pan of 2.75mm thickness providing the necessary rigidity. Thoughtful design permits the use of either saddle or in line battery packs. Excessive weight has been shed by removing areas of the chassis without dramatically reducing its torsional strength. This strength is crucial, not only to provide a sound platform to carry suspension and transmission units but should the car encounter some immovable object (i.e. a marshal or rock) then it should not disintegrate into a thousand pieces. To make sure that the car stays in one piece it is essential that the complete car as well as the individual units are (as they say in a current TV advert) tested without mercy. It is in the area of component testing that Brimrod excell, ensuring that their products stand up to all the knocks that us, the less





Above: the neat dual dampers – also seen far right. Right: the rear pod which houses the motor. Far right: the novel front suspension and springing – the wheels and the complete diff.

skilled drivers subject the cars to.

The extended rig testing of their shock absorbers is legendary, often with over a quarter of a million operations to fully test a design. Perhaps less well known is the method employed for chassis testing. This could be described as a gravity assisted kinetic energy dispersion system. It means that the chassis is placed between two blocks and jumped on.

It is this somewhat crude (but effective) test that convinced Brimrod that they should increase the thickness of their chassis to 2.75mm, where most 1/10 cars use a thinner material.

The testing of other components make use of somewhat more scientific techniques, but all parts are substantially tested before any component goes into production.

Front suspension

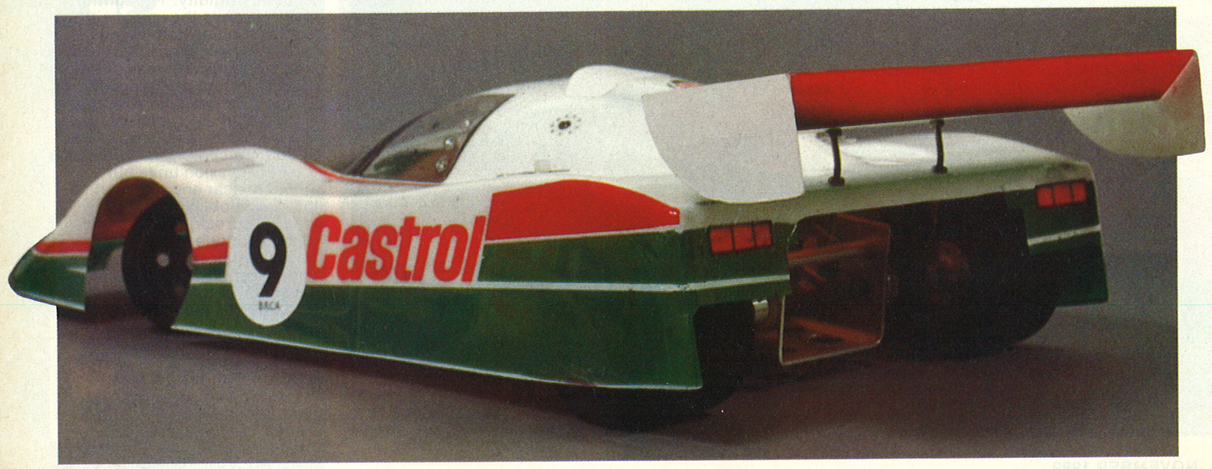
Brimrod have taken a fresh look at possible suspension systems and have decided upon single wishbone for the front, or as is sometimes described a swing axle. By making the suspension arms as long as possible and pivoting them close to the centre line of the car the maximum possible tyre area remains in contact with the road surface. Wheel pivot points are set slightly in front of the axle which provides some steering drag and so ensures straight line stability. The suspension arms are light and rigid, but are moulded from a plastic with enough 'give' to prevent cracking when subjected to impacts. The centre wishbone mounting block provides a trail angle of some three degrees. Steering arms are operated from track rods directly connected to the steering servo. The front suspension spring is located over a sleeved screw which is itself mounted on the chassis. The screw passes through the suspension arm with the spring held in compression between the top of the arm and the end of the screw. I particularly liked the idea of sleeving the location screw, maybe a small point but it is this sort of attention to detail that counts. Another nice detailed point is the provision of an inset metal cup in the top of the suspension arm to carry the load of the spring. A case of simple but careful thought being put into the design.

The ball raced wheels are supplied with tyres glued and trued in place. Wheel securing is by a single self locking nut.

Rear suspension

Most racers would think that just about every option on rear suspension has been tried out, but Brimrod have managed to come up with an original design for their car. Considering that the rules condemn 1/10 cars to a solid rear axle Brimrod have managed to create a design that offers about as close a design as possible to a fully floating axle but without a plethora of joints and links.

A gimble allows both up and down axle movement as well as axle tilt. The gimble is a simple unit made from injection moulded plastic and machined nylon components. The main pivot pin is a substantial hexagon socket bolt running in an aluminium bush.



Once again this simple feature of providing a metal bush to carry the load shows in my opinion a good mechanical solution to the possible problem of wear and tear. The whole gimble assembly is secured to the rear end of the main chassis unit by two screws. Above the gimble assembly is the anchor points of the rear damper units, once again a combination of GRP and aluminium fabrications.

The aluminium formed motor pod is screwed to the other end of the gimble and is free to move and down but is restricted in side to side axle movement. Suspension movement is controlled by the inevitable Brimrod damper units specially modified for the Talisman.

Transmission

The motor is mounted in the formed aluminium pod and drives through a single machine cut reduction gear to the ball differential. This differential is particularly smooth. The unit is factory assembled, although adjustment is possible to increase or decrease the differential action. The carbon fibre axle (standard) runs on ballraces (also standard).

Brimrod's own design of lightweight injection moulded wheels are held in place by two screws to the hub carriers.

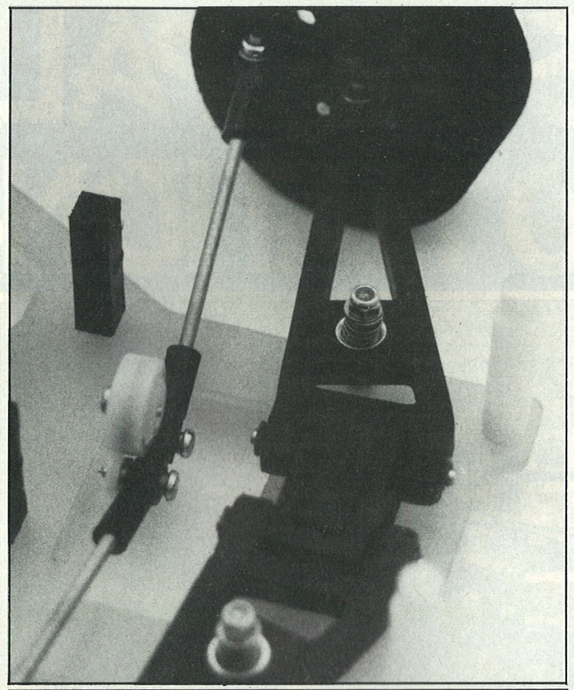
It is obvious that by just looking at the car one can see new and imaginative ideas have been incorporated into the Talisman design. What, of course, is particularly important is that these ideas both work and are reliable.

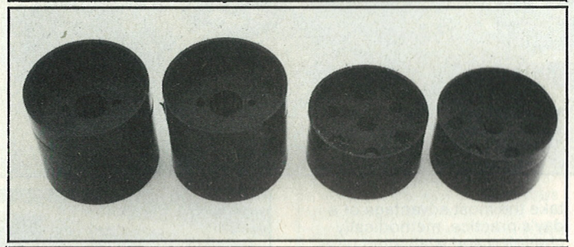
Track performance of the Talisman is good, what is outstanding is the car's robustness. The car is obviously designed for the enthusiast with the high level 'extras' supplied as standard. Fully ballraced, alternative springs for the front suspension, a spare set of wheels on which you can fit alternative tyres. A very complete kit indeed. Yet because this car is probably one of the toughest available it would be equally at home in the hands of a beginner.

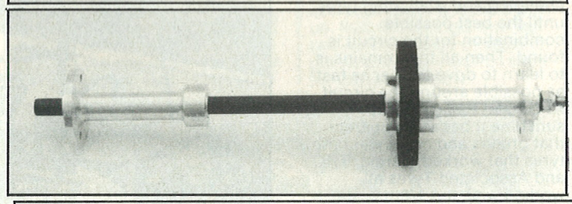
The body supplied with the kit is a Sarik Jaguar JXR9, which when fully painted in the appropriate purple or green and white depending upon your own inclinations looks exceptionally good. As suitable decals are now available from many model shops a good looking model can be produced.

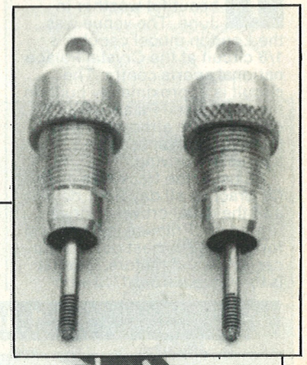
Building

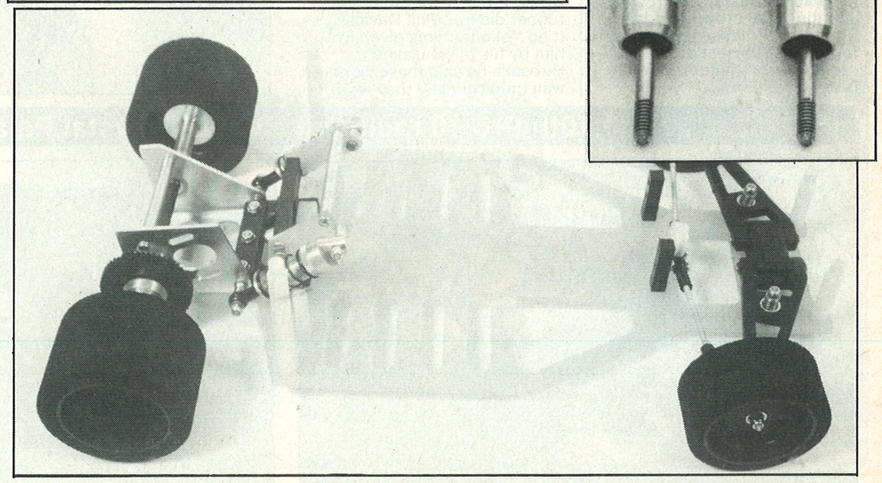
In truth little needs to be said about this. The instructions are quite adequate. I had a set of early typewritten instructions which were quite easy to follow, I understand that these have now been replaced by conventionally printed instructions. The individual components are in plastic bags and easy to identify. As with most 1/10 or 1/12 circuit cars there are not that many parts to worry. So building takes only one or two hours at the very outside. I found no difficulty in building the kit, everything fitted perfectly.











Conclusion

A very complete kit that has, in its short life had a few detailed changes made already. These being to damper units and to the inclusion of extra items in the kit such as alternative rate front springs. It is policy of Brimrod that all modifications to the design could be incorporated into earlier production versions of the car. The kit is manufactured to a very high quality and specification which includes ballraces, a ball differential and a carbon fibre rear axle.

The only point of criticism is in fact not a criticism at all, it is more an observation. The car is very obviously designed and produced by an engineer. There is no unnecessary decoration. All the aluminium parts are left in their natural colour, as such you are paying just for good solid design and engineering, really quite refreshing nowadays.

Any potential purchaser should have no fears about performance. The front and rear suspension works very well indeed and with the addition of the Brimrod dampers the handling of the car is first class. Success will depend not on how well this or the other 1/10 cars go, but on the popularity of 1/10 racing as a sport.