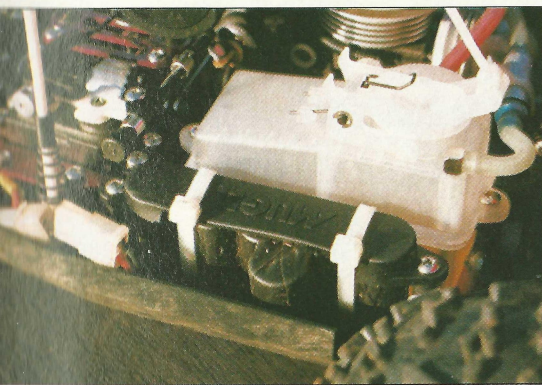


The very latest 1/8 IC RallyCross car from Mugen of Japan, reviewed by Dave Mackey.

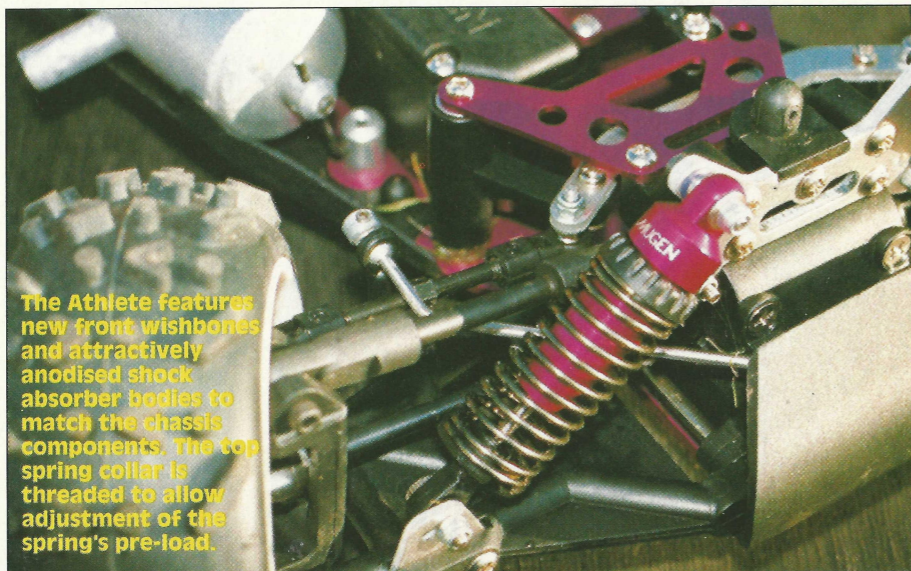


Mugen Athlete



The latest receiver battery pack assembly is nicely protected by the moulded side skirt.

When you first look at the picture on the lid of the box, you could well be forgiven for thinking that this car looks very similar to Mugen's last offering, the Super Sport 93. The truth is that this car is virtually totally new, and not merely just an upgrade of the Super Sport 93. In fact there are only 3 items that are interchangeable with the old kit and they are the shock absorbers, wheels and the internal diff gears. The Athlete was designed by Kohji Sanada, the 1990 World Champion, who also held FTD in all of the qualifying rounds at the 1992 World Championships, so obviously it comes with a very good pedigree.



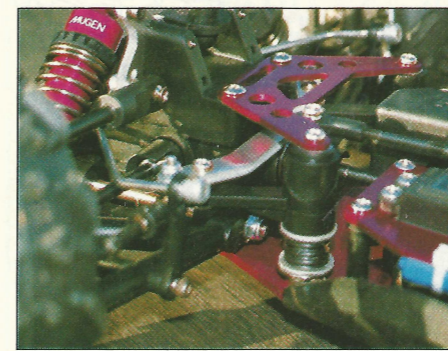
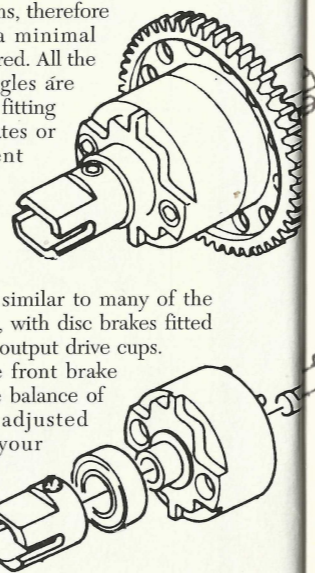
The Athlete features new front wishbones and attractively anodised shock absorber bodies to match the chassis components. The top spring collar is threaded to allow adjustment of the spring's pre-load.

of the externally visible aluminum parts are anodised in snazzy purple, and the whole kit has a feeling of quality about it. Before tearing open any of the parts bags, it is recommended you read the instruction manual thoroughly if problems are to be avoided.

An Athletic Physique?

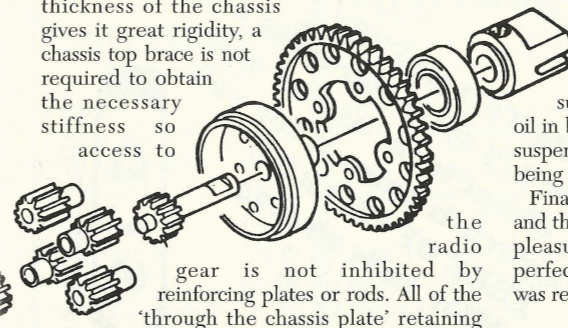
Mugen have retained the same kind of differentials as used for the previous model, except that these are now smaller in overall size. They come supplied ready assembled and are prepacked with grease, but I would recommend that you remove the drive cup grub screws and refit them with loctite to prevent them coming loose in action. The gearbox casings are identical front and rear, as are the left hand and right hand suspension arms, therefore when carrying spares a minimal amount is all that is required. All the suspension geometry angles are fully adjustable by either fitting alternative mounting plates or by using different suspension positioning holes. I set the castor, camber and tracking as recommended in the instruction book.

The braking system is similar to many of the other cars on the market, with disc brakes fitted to the centre differential output drive cups. One disc is used for the front brake and one for the rear, the balance of these can then be adjusted individually to suit your driving style, ie more rear brake balance can be dialled in to bring the tail of the car round when driving on a tight track with lots of hairpins. There is plenty of room on the drive cups to increase the number of discs used if required. Justin, my son, always likes very good brakes, so I fitted two discs on the front and retained a single set up at the rear. Note that if you fit another disc you will need another pad as well.



The new and substantial steering linkage.

The chassis could well be the strongest available as a standard kit item, because Mugen have used a 4mm thick material whereas most other manufacturers use 3.2mm or less. As the thickness of the chassis gives it great rigidity, a chassis top brace is not required to obtain the necessary stiffness so access to



the radio gear is not inhibited by reinforcing plates or rods. All of the 'through the chassis plate' retaining screws are countersunk to produce a flat, smooth underside to the car, and two nicely moulded side skirts are attached to either side of the chassis to help keep out the dirt.

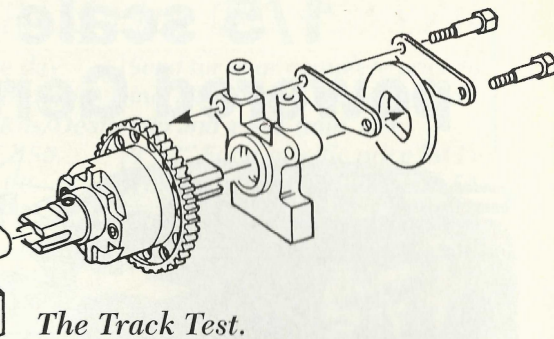
The radio installation has been very well thought out, with the receiver fitting into a dirt and water resistant box. When the servo plate, receiver box and battery are all fitted to the car, the layout looks very neat and effective. If it has to be removed for cleaning or servicing you only need to undo seven screws and out it all comes.

The Heart Of The Matter.

The clutch supplied is of a two shoe design, and is intended for use with S.G type crankshaft engines. Optional parts are available to fit the clutch to standard crankshaft engines, but these are not supplied in the kit and will need to be purchased separately. The kit's engine mount is of the universal type so any rear exhaust engine will

The moulded receiver box can be seen to the left of the tuned pipe, as can the neat centre differential and brake linkage (note the twin front disc set up).

fit with ease. Also supplied is an exhaust manifold that is so designed that the tuned pipe exhaust (not supplied in the kit) will fit neatly down the righthand side of the car. To finish off the engine installation a good quality air cleaner is also to be found in the box. This uses foam as the filtering medium, and I would suggest that it is given a good coating of air filter oil before it is fitted.



The Track Test.

Halfway through building our car, Graham Wright of G.W. Racing rang me up and asked me if I would like a days testing at the Remote World track at Slough using his car. So I had a word with Justin and off we went (may as well get his car dirty rather than ours!). There had been heavy rain for about a fortnight, so the track was very wet and muddy.

The engine in his car was a brand new Nova Rossi, so a couple of tankfuls of fuel were run through it to run it in. The car was built as per standard except for the addition of 2 degrees extra castor, achieved by fitting a different front lower suspension arm mounting (these are supplied in the kit). Justin drove the car around for ten minutes to get used to it. When he brought the car in we asked for his verdict. He thought it was generally very good although a little low geared for the long track at Remote World, and he felt the rear suspension was slightly too hard. We changed the rear shock absorber oil for a 300 grade and fitted a 14 tooth clutch bell to the engine. Justin then tried it again, this time it handled much better and with the higher gearing was faster down the straights.

Athletes Need To Be Supple!

The shock absorbers are supplied unassembled, and are fitted with diaphragms in the top cap to compensate for oil volume variations. To adjust the suspension spring's tension, the body is threaded and the top spring collar can be wound up or down. Shock oil is supplied but there is no way of knowing what grade it is, although it is probably quite suitable. Therefore I used 400 grade silicon oil in both the front and rear units, this made the suspension's action feel really good, with the rear being slightly stiffer than that at the front.

Finally, the bodyshell was painted and trimmed, and the wing fitted. Overall, the Athlete kit was a pleasure to build, with all of the parts fitting perfectly and no cutting, filing or modification was required to make it track ready.

Because the car is actually quite light in weight, we thought the car might be improved if a heavier lubricant was used in the front and middle differentials. This would control them better and stop the wheels from spinning excessively. Justin also said he could do with a little more steering effect, so the castor angle was set back to standard, 50,000 grade silicon oil was put into the front differential and 30,000 in the middle.

The car was now very quick, with plenty of turn in for the corners. Justin was now quite happy, so he continued to run the car all afternoon and was consistently putting in 38 second laps. The following day, at a club meeting, only one driver managed to achieve a few 37 second laps and the track had by then dried out considerably.

The Athlete is altogether a very impressive machine, both in its build quality and performance on the track, and should perform very well in next year's BRCA Championships. The Mugen Athlete is available from Ted Longshaw Model Cars, PO Box 89, Orpington, Kent. Tel (0689) 855313, and all good model shops.

