

all change for Mugen

Mugen MBX4 Rallycross car reviewed

It's been a long time coming but it was worth waiting for. Mugen Seiki of Japan, with their Chief designer Mr. Sanada, have developed an all new 1/8th Rallycross car. Straight out of the box, this car is capable of winning. One for the true competitor.

The only items that have been kept from the earlier model are the differentials, the shock absorbers and the wheels, the rest has been in for a serious rethink. I remember back in 1996, Sanada spent a lot of time studying other cars while at the world championships held in the UK at Beaulieu. Clearly Sanada was in the early throws of a new design, ready to do battle at the 1998 worlds. The first two prototype cars arrived in the UK in late April. The two team drivers were then able to build test and report back if something was not quite right. The production model appeared a couple of months later, just in time for the world championships.

Now build one

Lets now take a look at the new car. I find that the easiest way for me to describe the car is by going through the build sequence. So here goes! The instruction manual has become much easier to follow, it now tells you which bags you will need to open for that particular section. With some other kits, the fastening would be found in one bag, this for the whole of the car, it can be very confusing.

The first step is the construction of the three differentials. To say that the differentials are identical to the old ones is not quiet true, for the diffs in the new kit come with rubber 'o' rings and shim washers to maintain the correct mesh, these were optional on the old Super Athlete. The differentials sit in completely new gearbox housings that are considerably smaller than before. One of reasons being that the suspension arms are now hung from carriers that are bolted directly to the chassis. The centre diff unit also has the brake mechanism mounted on either end, this area has also changed, the discs are now steel instead of being fibreglass. There is now a form of brake lining glued to the calliper, this seems to work very well. The mechanism for operating the discs remains the same. When mounting the drive train on the chassis, what hits you is how much further

forward they have mounted the centre diff. Whereas before the centre shafts were almost the same length, now the front shaft is about 60 mm and the rear nearer to 100 mm, the weight distribution in the car has been totally changed.

More changes

The next change to look at are the suspension arms. The inboard mounting points are now bolted to the chassis which should provide a more rigid mount to pivot from. At the same time Mugen have built

in an amount of kick up at the front of the rear wishbones, this helps the wishbone and therefore the wheel to ride over a bump when the suspension is depressed. The amount of rear toe in is now infinitely adjustable, from an adjuster built into the wishbone, whereas on the older model, one had to change the mounting blocks. Also, whilst on suspension, the kit includes as standard, both front and rear anti roll bars, essential on a 1/8th car. Moving to the front of the car, the car is fitted with a new kingpin and hub assembly, which I feel is absolutely bullet proof. The front hub units are stronger than any brick built shed at the bottom of the garden I have ever seen. Sanada must have spent hours and hours designing this unit, gone are the kingpin bolts that are a racers nightmare -



Ready to go

coming loose at the worst possible time. Gone is the in-built wobble, for these units are infinitely adjustable.

They consist of a stainless steel ball top and bottom, that sit in

the hub carrier, poking through with the threaded ends, that locate straight to the end of the wishbone. These balls sit in cups and then have a second cup, that is retained by a cap that threads in to hold the ball and small amount of adjustment, brilliant!

On the old Mugen Super Athlete, the whole idea was to allow the chassis to flex, it even allowed you to fit a fifth shock absorber between the front bulkhead and the centre diff mount. Designer Sanada has obviously had a total rethink here, as both between the centre

Rear end shows clearly the turnbuckle adjustment for camber



diff and front bulkhead, there is a solid 5mm bar and again to brace the rear of the car, another bar between the rear gearbox and down to between the radio box and engine, bolted directly to the floor of the chassis. So the whole chassis is very rigid.

Engine and Radio installation

The next step in the manual is the engine installation, this again has changed. The engine now sits on the left hand side instead of the right hand, it actually sits where the fuel tank used to be in the Super Athlete. The tank therefore also has a new home and that is forward of the engine on the same side.

Finally the radio installation, well that has also changed sides or to be correct, part of it has changed sides. The steering servo and throttle servo have moved over to the right-hand side of the car and towards the front, the receiver sits in a watertight box towards the rear with its receiver pack attached to its side. The aerial exits the box and sits in its mount just alongside, a very neat installation is easy to achieve.



Long, long travel suspension a feature of all cars

Well that about concludes the alterations to the old car to the new MBX4. I have missed out various sections, mainly because they haven't changed from the old car but I am assuming that you all know what the older version looked like. Now that is perhaps a little unfair, so for you who don't know the more basic details of the car, then now I will try and put that right.

The Mugen car is 1/8th scale and comes in a bright purple box, complete with a very smart cap for the proud owner to wear on completion, embroidered with MBX4. This is the new code name for the new car. I have to ask, what's happened to the good old names like Vitesse or Elan, surely it sounds better than MX5? - or is it me? Inside the box there is everything to build the car to a rolling chassis. The suspension is fully independent and controlled by four oil filled dampers with coil springs.

The drive is via three differentials with universal

drive shafts at the front, so you can obtain maximum lock and not lose drive and straight dogbone type shafts at the rear. The braking system for the car is mounted around the centre differential unit and brake bias can be adjusted both fore and aft.

All over now?

That about concludes the review of the new car. My only major moan about the car is that I do feel that the steering arms should be a little beefier. Optional items are available, these also feature opposing threads so that adjustment is very easy but it's a shame they aren't included in the otherwise superb kit. What I did like, was the fact that the kit comes complete with a tool set, that is a set of Allen keys, that are needed and a man size box wrench for wheel nuts, glow plug and two other common sizes.

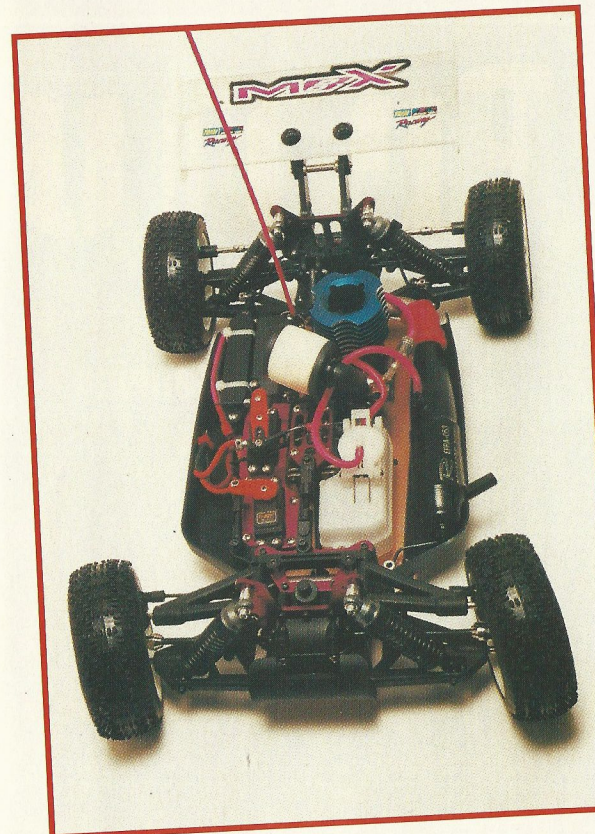
What else do you need?

So now lets take a look at what you will need to make the car burst into life. First item is a 21 type engine, then some fuel and a glow start. Add a set of two channel radio with servos. Once this is installed, then you will be ready for action and I mean action with a Capital 'A.'

Now a .21 type engine is 3.5cc in capacity and produces anything up to 2 brake horse power and perhaps a little more. This is enough to propel your beast up to 60 mph true speed - not scale speed - and that is why the brakes are important. If you are bored with your toy car, with its 10 single motor, a so called missile which runs out of steam at 5 minutes! I hope that I have whetted your appetite. Come and play with the big boys toys, feel what its like to race for 20 minutes at a time, race into the pit lane for fuel, scream at your mechanics to be quicker, you need to be back on the track! Now throw your battery chargers away, just get a fuel bottle and come on down. For more information on where you can watch or take part with your new Mugen, then give me a ring on 01584 877 422.

'one for the true competitor'

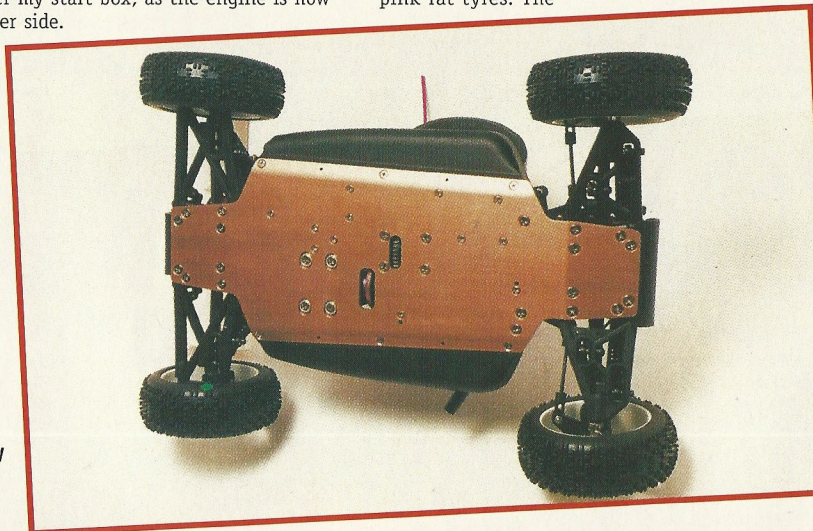
Body beautiful by Wesley Miles



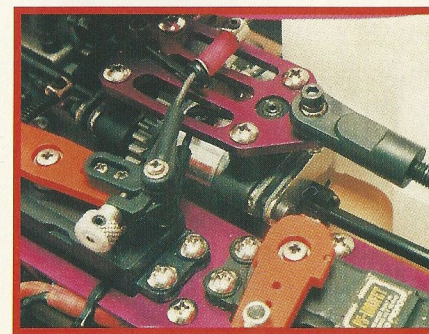
Will it work?

With my radio and engine installed in the car, it was time to find out if it all works. Before that another evening was needed to change over my start box, as the engine is now on the other side.

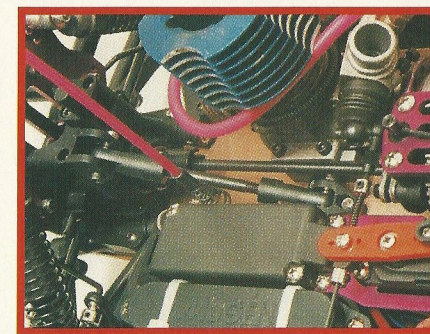
Neat and tidy underneath



Centre diff and forward brace bar detail



Note the adjustable brace in the centre



In the Pink

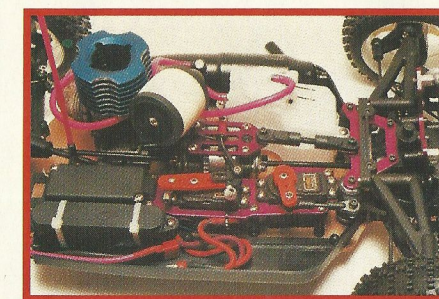


Once done, the first meeting for the car was the national at Sandy. Basically what could go wrong did, not the cars fault I hasten to add, and not really my fault, but! In qualifying run number one I finished early because the receiver aerial wire shook itself out of its outer tube and snagged in the wheel.

In the second run the engine cut, odd I thought, but try again. In the third run the engine cut again so check everything and there's the problem, a split pressure pipe. With qualifying now over, it was back home. The next stop was Pendle and the sun was out, the car was ready and boy did I have a good day! The Mugen performed brilliantly. I used 25 weight shock oil all round and Medial Pro pink rat tyres. The

car ran well all day and was set for a B final - for me that's good - but driver error stopped play.

Special thanks to Ted Longshaw for supplying the Mugen MBX4, also to Models in Motion for their expertise in the set up of the car and to Wesley Miles for his excellent paint work. **RRCI**



Busy but not cramped for space on the chassis

Quick Spec

1:8th scale Rallycross car for 2 channel radio and .21 size Nitro 2 stroke engine. Kit is fitted with three differentials and two disc brakes. Requires Radio, engine, polycarbonate paint, fuel and glow start to complete.

Likes:

Quality of components
Competitiveness of car 'out of box'

Dislikes:

Weak steering arms

