Lazer SHOW

A new challenger enters the 1:10 arena and has already proved to be a serious contender. Andy Carter looks at the Kyosho Lazer ZXR

Kyosho are not a new name in the world of Radio Control Model Car Racing. The company have long produced good quality model cars, the list of which reads like a very creditable job application form. The job? The job in question is to produce a world championship winning car which will compete and win against models such as the Yokomo Works 91 and the Schumacher Pro-Cat.

Many moons ago, before the advent of the original Schumacher Cat, Kyosho produced a National Championship winning car – the Optima. A car, which, in the right hands, namely those of Pete Stevens, was capable of beating 'the best of the rest'.

The Optima was the first 4WD car to continually beat the 2WD cars which may not seem like a hard task today but, back in 1985, the task was certainly daunting if not virtually impossible.

Since then many things have changed. The Optima was beaten by the Cat which prompted the men in Japan to revise the Optima – enter the Mid Optima. The car was certainly successful – in fact, in the World Champs in 1987 (Romsey) 5 out of 10 A finalists said they preferred it. However, it too was beaten by the Schumacher Cat XLS. The Mid continued to find success at club level and, if somewhat limited, it was successful at National competitions.

For the 1989 World Champs in Sydney, Kyosho had developed a new 4WD successor and contender for the crown – The Lazer. Schumacher too developed a revised edition of the XLS Cat – the Pro-Cat but, in the September of 1989 at the St. Ives showground to the north of Sydney, both cars were beaten by the Yokomo, the American Kyosho team looked promising with the Lazers they had had for some months to set up.

Since 1989, the Kyosho car has become almost a rarity at the BRCA National events although the car itself was still being contested in the USA, Japan and most of Europe. It seemed like a total exclusion zone around the UK and some, less creditable drivers were almost scoffing at the virtual lack of competitiveness of the car at national level.

However, as most things do, things certainly changed. The first real taste of this was at the British Grand Prix at Birmingham last May when Mark Pavidis of the USA stormed home to a well deserved victory. Heads were beginning to turn and questions were being asked like 'is that really a Lazer?

The answer was both yes and no. Yes it started life as a Kyosho Lazer and yet, it wasn't completely a Lazer ZX. Kyosho had continued to develop the car so that it would become more and more competitive, the result is the Lazer ZX-R, Kyosho's latest edition to their fine stable of model cars and the subject of this kit review.

First Impressions

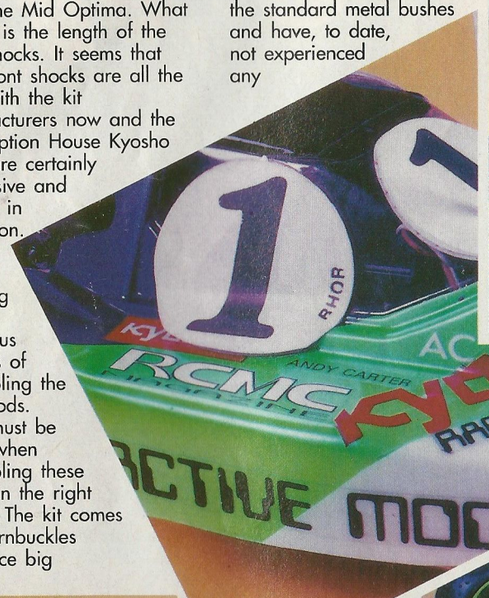
The first impression is one of size, or rather lack of it. The box is somewhat on the small side and leads one to question whether everything is all there. Well, Yes, it's all there and very neatly packed.

Gone are the large bubble packed pieces familiar with many Japanese kits and in their place is a white box containing everything except bodyshell and undertray.

The first items on the agenda are the shock absorbers. These already have the seals fitted to them and only require disassembling to install the top pressure diaphragm and to fill with oil (which is supplied in the kit). The shocks themselves are nothing new having been used on all the Kyosho Competition kits since the Mid Optima. What is new is the length of the front shocks. It seems that long front shocks are all the rage with the kit manufacturers now and the new Option House Kyosho items are certainly impressive and smooth in operation.

Next up is the long and laborious process of assembling the track rods. Care must be taken when assembling these to attain the right length. The kit comes with turnbuckles with nice big hexagons in the middle of them in order to adjust them. What is missing is a tool that fits this 'nut' and I resorted to a Tamiya item which used to come in the old Hotshot kits (amongst others). It would be a nice touch if Kyosho were to include such a spanner in the kit although it isn't strictly required.

The steering geometry is the next big item and is the same unit as found in the triumph. Once again, provision has been made for 4 ballraces which are NOT included in the kit. I built the car up with the standard metal bushes and have, to date, not experienced any problems with them and the whole set-up still seems very smooth with no signs of wear due to the bushes.



Transmission

The transmission system is almost the same as was employed in the old Lazer ZX but with subtle additions and differences. The most obvious difference is the inclusion of ball differentials which come ready assembled. A quick check for the appropriate tightness is all that's needed for these. The next big difference is the slipper clutch. This unit replaces the third differential found on the ZX which was not always greeted with enthusiasm, in fact some companies have benefited by manufacturing replacement solid top pulleys for the ZX. The spur gear is fitted to the top pulley between two fibre slipper plates which are then, in turn, tightened onto the gear by a series of curved washers held in place by a lock nut. A big change for Kyosho is that this spur gear is 48DP and not .6 module as in previous kits. This does mean that existing ZX owners using .6 module gears will have to change their range of pinions but, in a way, this isn't such a bad thing as 48 DP now seems the generally accepted gear type to use on a buggy.

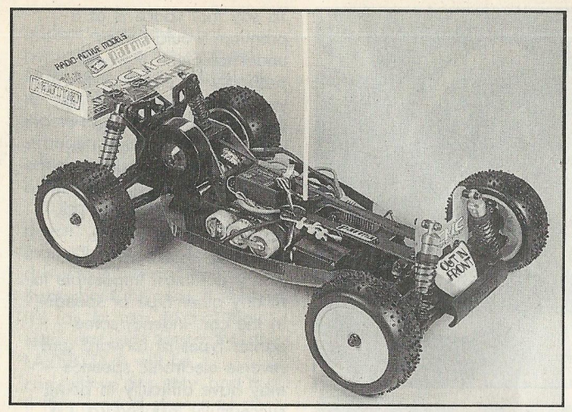
Drive down to the rear diff is by a short belt held in place by some rollers that act as tensioners. Do not be tempted to take these rollers out as in doing so, you run the risk of shredding belts on a regular basis. No provision for belt adjustment is given, but the belt pitch is quite coarse and the tooth form is quite deep so this doesn't appear to be a problem.

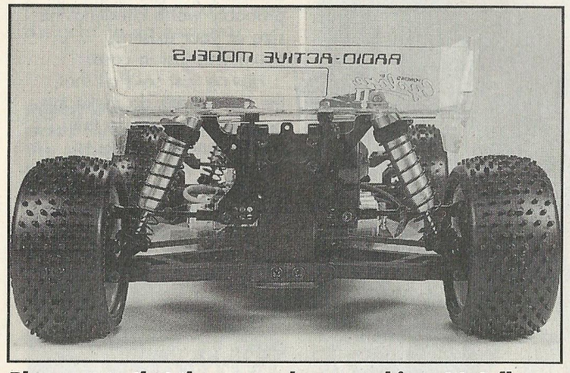
The rear gearbox moulding is designed so that the rear diff can be maintained and removed with the minimal amount of effort. It isn't as easy as the Yokomo system but it seems a lot easier than the present Schumacher system.

Drive to the front pulley is from the top pulley via a roller clutch. This enables the front belt and wheels to over-roll the drive to them when speed is sufficient (i.e. in a straight line). This is the same system which was used on the old Lazer and there is still provision to lock this roller clutch up so that the car becomes permanent four wheel drive if conditions become slightly slippery.

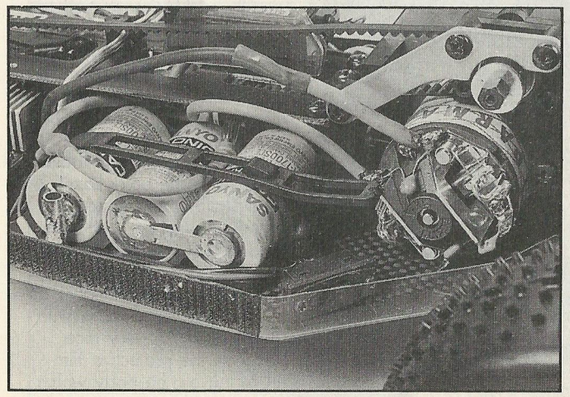
The Backbone Of It All

Item 9 on the agenda is the assembly of the chassis. This too hasn't changed from the old kit and is still made from GRP. Once the gearboxes are bolted to the lower chassis plate, the car really seems to take shape rapidly and easily. The front shock tower is next up and only requires the upper control arms bolted to it. The instructions recommend the use of threadlock on these parts and it is strongly advised else you run the risk of losing a nut during a race. The shock tower itself is also made from black GRP but does look rather weak across the gearbox and could do with being slightly thicker.





Please note that the car we have used is not totally standard, front shock bracket and chassis have been changed. Our car has also been fitted with Schumacher battery straps.



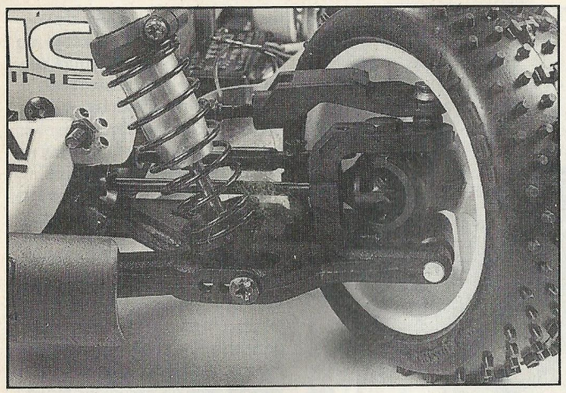
The front uprights, knuckle joints and wishbones are all the tried and tested Lazer ZX items which shouldn't give any problems at all. In fact, the wishbones and pins are very chunky and should be almost indestructible in normal collisions. It's probably just as well that the wishbones are as chunky as they are because the front bumper just about covers the gearbox and little else. This means that virtually any front impact will be taken by the wishbones. Not necessarily a good idea but, you can't deny that the bumper looks neat and the car is aimed at the more experienced driver so hopefully it shouldn't be a problem.

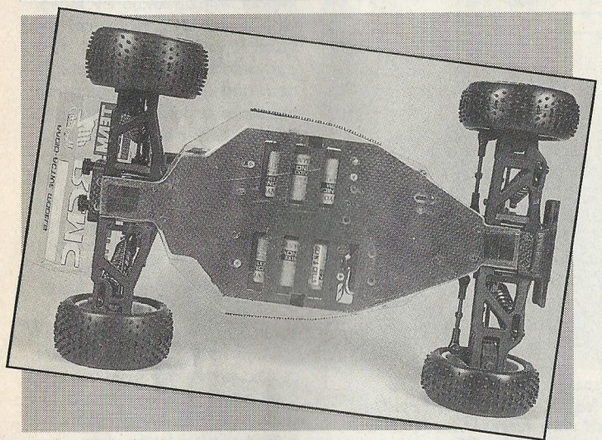
The rear shock tower is also slightly revised with different shock absorber mounting positions. It too is made from black GRP but seems stronger than the front item. The wing mount is the same item as found on the Triumph and consists of two plastic arms with a multi-positional wing stay bolted to each side. The wing itself is held on using body clips.

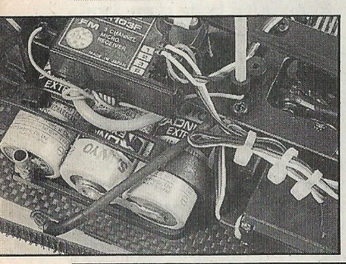
As with the front, the rear wishbones and uprights have been taken from the original car. What is surprising is that the rear driveshafts (unlike the front) are only dogbones and are not Universal joints. This may not be so bad as the universal joint only remains efficient over a limited suspension movement and, in extreme cases of suspension travel, can become inefficient. However, if you decide to fit U.J.'s to the car, the normal Kyosho items fit exactly and have been available for years so they are easily obtained. At this stage, I decided to build the car up using the standard dogbones and haven't noticed any real problems with them. One thing has been noticeable is that at full suspension drop (i.e. when the car is at it's highest), the drive cups rub on the wishbone very slightly. Not enough to be really noticeable but enough to show signs of wear at the point where they rub.

My Next Trick...

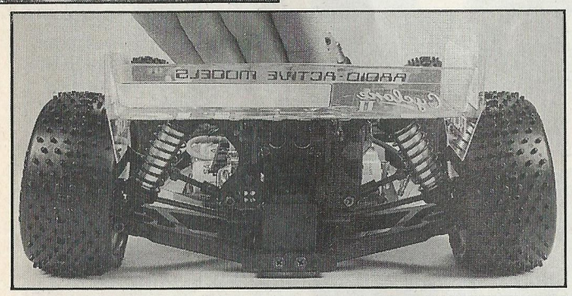
This is where the fun really starts – the Radio installation.

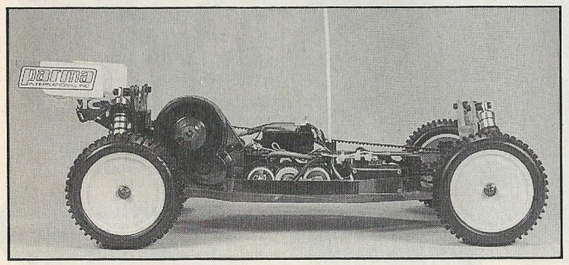






Top; UJ detail on the car, these are tough and give ample lock. Underside of the car features the moulded undertray. Car is designed for saddle packs but straps in kit are fussy.





To say that space is at a premium would be an understatement. It would probably be easier to fit all your racing equipment into the boot of a Mini. In designing the car as it is, Kyosho have not left you a lot of room in which to put your radio equipment. The car is designed to take electronic speed controllers and it is almost impossible to fit any other type of speedo in the car. Indeed, some earlier types of forward and reverse electronic speedos may have difficulty in being successfully installed so it is probably worth checking the size of your existing equipment just in case.

Having just said all that, the instructions do make the best of a bad job in this respect and it is easy to follow the steps involved. My Tekin 600 and Futaba radio gear was easily installed but not quite as neatly as I would have liked with the receiver having to be installed on the top plate.

On the subject of top plates, the ZX-R one is different from the old ZX item in that it is now a one piece item which will increase rigidity and therefore reliability.

Last But Not Least

Last of all is the wheels and tyres and the bodyshell etc. The wheels are 2.2 inch diameter and dyed in that bright yellow now associated with Kyosho wheels – I think I'd prefer just plain old white wheels (please!). The tyres are the Kyosho H pattern which seem to work almost anywhere. The ones supplied in the kit are the medium compound although the softer compound seems better for racing at this time of year. Gluing the tyres is recommended but it does mean that more than one set of wheels will be necessary items in your pitbox but they do seem very reasonably priced and easily available.

Gone is the boxy Lazer ZX bodyshell to be replaced by a more streamlined shell and undertray combination. This new bodyshell is one of the nicest kit bodies available as it combines good looks with functionality. A very nice touch is the protective film covering on the body which helps prevent damaging the body whilst in the factory and will stop overspray from ruining your new bodyshell. This covering is very transparent and several people I know have forgotten to remove it so BE WARNED!

The rear wing is also different from the old kit. Gone is the two tier wing and in its place is a single tier wing with sidedams. The overall effect that the new body and wing combination gives is a streamlined one which is infinitely more attractive than the old one.

First Outing

The first outing for the car was at a local club meeting at Southend. Using the kit settings but with 30wt front shock oil and 20wt in the rear gave the car a very docile feeling. This car is certainly competitive straight from the box. The car accelerates very well (when the slipper clutch is set properly) and the instructions are very accurate for the length of the trackrods. Using a Parma 12 triple geared on a 17-18 tooth pinion gave the car a great deal of power. I was impressed with the way the car handled this power and it remained easy to drive quickly. The car is very positive to drive and reacts very quickly but without any tail slides or drama. The key to successful driving is smoothness and you have to be careful here because the car can be driven faster than the track will allow therefore actually slowing you down.

One or two problems were encountered, one being the front shock mount/gearbox combination. During the first practice run with the car, I collided with a concrete bollard which broke the front gearbox casing. Fortunately, I managed to get a spare (thanks Ellis!!) so that I could continue racing. Stripping down the front end is relatively painless and quick – 8 screws will have the front half of the gearbox housing off ready to accept the new part. Although the gearbox housing may be slightly too weak, the problem I encountered was due to the Shock mount flexing too close to the gearbox housing – as was envisaged during building.

The other problem/ breakage was entirely self inflicted when I hit a concrete wall (I seem to like concrete??) at full power.

Not even a wide bumper could have prevented me breaking the wishbone and bending the pin so my misgivings regarding the small bumper were unfounded. To this day, they are the only incidents that have happened to the car in 3 months of racing. In that time, the car has proved very competitive and has certainly turned a few heads.

The Job ?

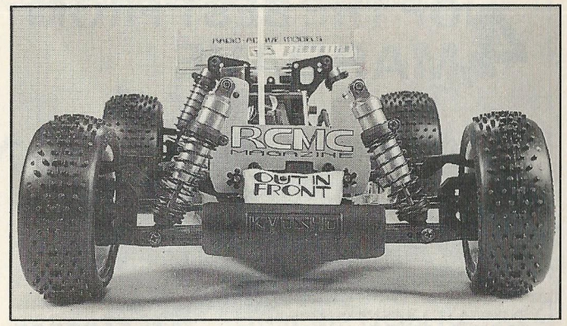
Whether the car will win the next World Championships still remains to be seen but it seems that this car is certainly a step towards that ultimate goal. Kyosho are back in the UK racing scene in a big way and with the support of the UK distributor – Ripmax, there will be 2 Kyosho teams contesting at the nationals this year. The teams consist of drivers like Jamie Booth, Steve West, Ellis Stafford and Marc Neale (4WD only) so they should provide some very tough competition. A taster of what may come was the Model Engineers result – Jamie Booth winning the A final.

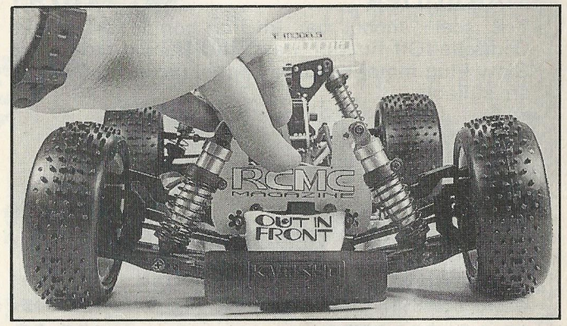
Team Bits

On the subject of team drivers, the team has been trying some different bits out. Firstly there is a revised chassis which moves the weight of the cells back 5 mm to help aid stability during jumping. Having racing a standard chassis against the new one I can comment that it doesn't seem to make a great difference as my car seemed to jump well enough as it is. Whether the chassis will reduce the amount of front grip due to the weight distribution is debatable.

One thing I have tried is some wider front uprights with increased castor angles on them. This has made the car slightly better over very rough sections of track but it seems to have reduced the positiveness of the standard ZX-R. Whether this is due to the extra front width is at the moment unknown but I shall be trying some new uprights with more castor but no added width which will hopefully cure the problem. New front shock mounts are in the pipeline but for the moment , I have made a stronger front one which has affectionately been called 'The bill board' due to its size.

Although winter racing doesn't always give a true indication of how the car/ driver combination will work throughout the year, I think it's fair to sum up that the team are very happy that the LAZER ZX-R will be competitive this year and that it has a good chance of finally fulfilling that job it was designed to do next year.





Right; Our front suspension bracket keeps the shocks in standard place but is much tougher. Below; Radio equipment fitting is difficult. Bottom; ZXR shape is nice to our eyes.