

Yokomo YZ10

Since its release at the 1993 World Championships in Basildon, England, the Yokomo YZ10 has seen very few major design changes. As time progressed changes were inevitable, especially if the car was to remain at the top in both Europe and Worldwide. I would like to take this opportunity to run through the modifications that I have made to keep my YZ10 up with the best.

Originally the car was introduced with problematical fine pitch belts that continually slipped on high traction tracks, making duration and maintenance difficult. Once replaced by the 3mm belts you see today things couldn't have been made easier.

When I teamed up again with Yokomo and CML, the YZ10 resembled the specification of the one that I raced at the World Championships. Improvements had been made to mouldings and materials, but in general the car was almost identical, or so I thought.

When I first raced the car, it was on a loose, slippery track, and it worked perfectly. Excellent was my first impression. It was only when I raced on a high traction track that I noticed that it would require some retuning to perform as well as on dirt.

Suspension simple but effective

To help combat the 'rugged' feel of the car over rough terrain, we simply switch to a different length shock absorber. The long bodied Associated 1.32' shocks with 1.02" shafts made the car feel right, work much smoother and regain its suppleness through rough terrain. Associated's 0.89" bodies for the front and 0.71" front shafts had a similar effect on the bump handling of the car, allowing more corner speed to be gained with greater ease. Not to mention the way in which the car jumped, fantastic!

It is also important to use the right internal spacers inside the shocks. If you are racing on a high traction track which is smooth, try limiting the drop slightly as this will reduce the cars tendency to want to roll. On high grip tracks, I find it is good to try and reduce the traction that the car develops as it can sometimes generate too much (great on dirt though).

The adjustable upper link.



Chassis Stiffness

The more traction that I encountered, the harder the car became to drive. Now what people must understand is that cars designed in foreign countries are designed to suit their particular track surfaces. It's a known fact that a softer or more flexible chassis generates more traction especially on a loose surface. Now Yokomo has a

tendency to design a car which incorporates lots of flex. In England we tend to run on higher traction surfaces which effects the car considerably, so we change the car accordingly.

The first and most important means to stiffen the car, was to simply use a different top plate. CML developed a Fastrax high traction top plate that uses fixing points over the motor mount thus increasing rigidity. Now this was not done

up with the best



All that attention to chassis stiffness really pays off.

until mid-way through last season, the Southport National to be exact. This was when the car started to feel and work like it should do, and resulted in some good finishes in the remaining rounds. The track was high traction and bumpy in certain areas; areas in which the car suffered considerably before now showed promising signs.

We have recently been also adding two small posts between the top plate and the steering assembly brace to further stiffen the chassis. This has really produced a 'box type' section at the front and made the car even more rigid, in an area of the chassis that is quite narrow, and therefore prone to be flexing. I believe that these posts will soon be available from Fastrax.

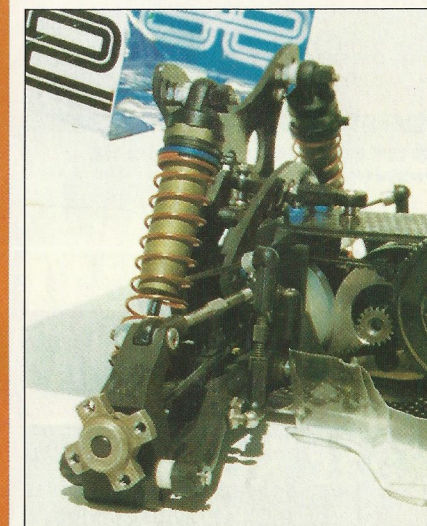
The rear top brace fastening screws usually screw in through the top and are prone to stripping after a number of rebuilds. To overcome this and also increase the rigidity, I mounted the screws from the inside of the gearbox and placed thin nuts on the top. This enabled me to clamp the top plate down harder without fear of stripping the nylon. Make sure that you countersink the screws so that they miss the rear belt. I also used a small amount of superglue to keep the screws locked in.

The purpose of strengthening the car was to enable the suspension to do the work rather than the chassis, increasing the response and feel of the car, reducing the tendency for it to hook and snatch. For instance if one corner is smooth and the other bumpy, the car has a tendency to do peculiar things due to the chassis flex, making it impossible to see where the fault is. If the car is stiff, all you have to do is dial the suspension in, nothing else. Certainly, since we made the car more rigid, we have found it safer to drive, making the car less aggressive and with more consistent steering.

Wheel Base Adjustment

Everybody hates having to do additional work to the cars, but more often than not it's the small changes that make the difference between winning and losing. Are you a winner or a loser? Well then, get working! One small change that helped a great deal was an idea I took from the RC10B2, the wheelbase adjustment. By cutting the arm away it enabled me to get the same effect. Running the car longer, especially on grass again improved the way the car steered and carried the speed through a corner. It also improved the overall stability.

The wheelbase adjustment improved the way the car steered on grass.

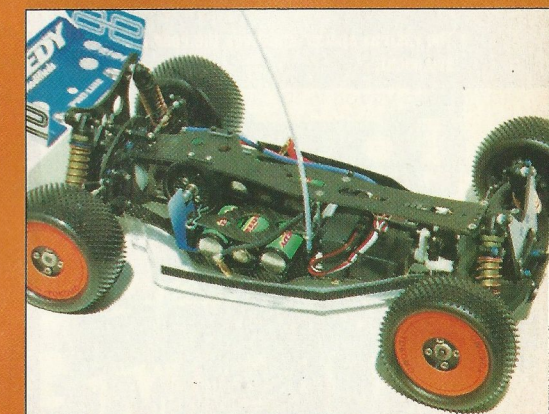
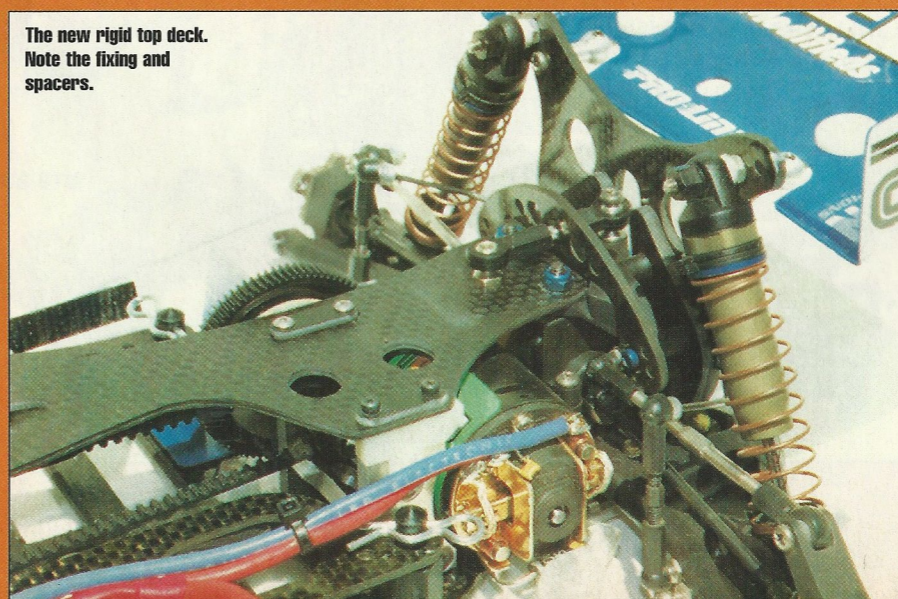


Weight Distribution

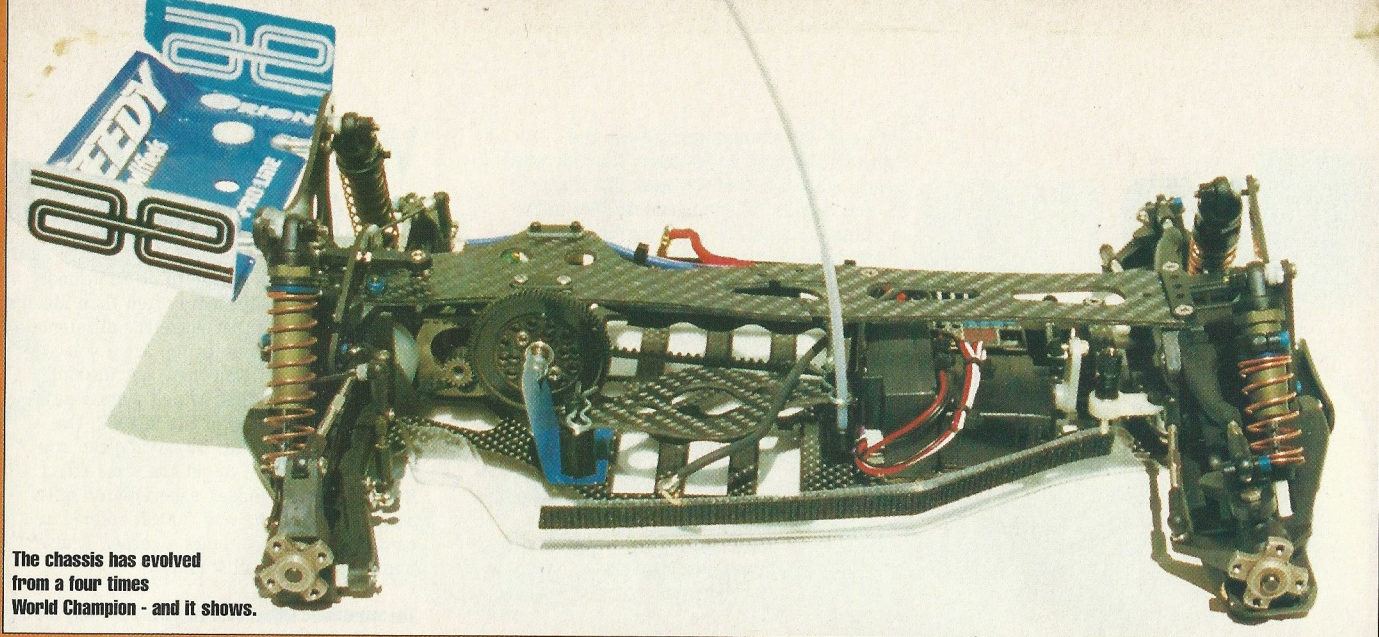
Chassis changes as far as weight distribution, have increased set-up options, allowing the weight to be changed according to the track conditions. The rule generally goes something

Drescher makes sure!

The new rigid top deck. Note the fixing and spacers.



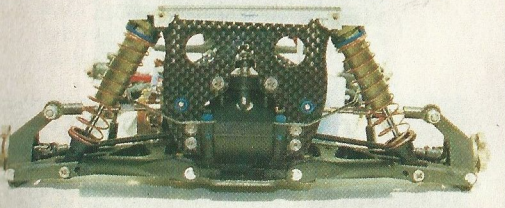
Adjust the steering feel by moving the batteries.



The chassis has evolved from a four times World Champion - and it shows.

like the further forward the batteries are mounted, the more steering you will get. Not always, it depends on a number of characteristics, mainly the track. In many cases I found

The rear roll bar, particularly helpful on high traction tracks.

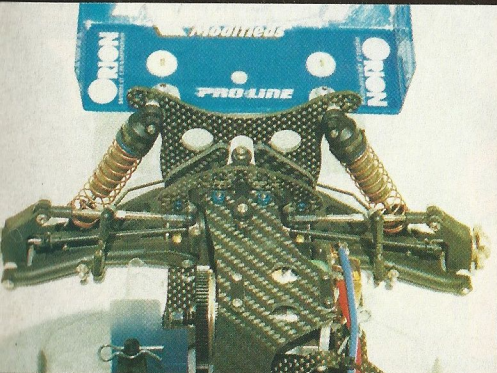


Rear Roll Bar

Always try and run the rear roll bar. In testing we have found that, especially when racing on high traction tracks, the car has a tendency, under heavy acceleration coming out of a corner to diff out, or lift a wheel slightly, thus pulling the car to one side. When running the roll bar this helps keep both wheels on the ground, and accelerates cleanly. We have also found that the roll bar link is better when it is long. The shorter it is the stronger the action. This is something that you can experiment with, to suit your own needs.

Fastrax make a neat little graphite spacer that fits in front of the rear shock tower to spacer it back slightly. This helps to bring the shocks in level with the tower rather than leaning forward, and thus improves the action.

The Fastrax spacer improves the rear shock alignment.



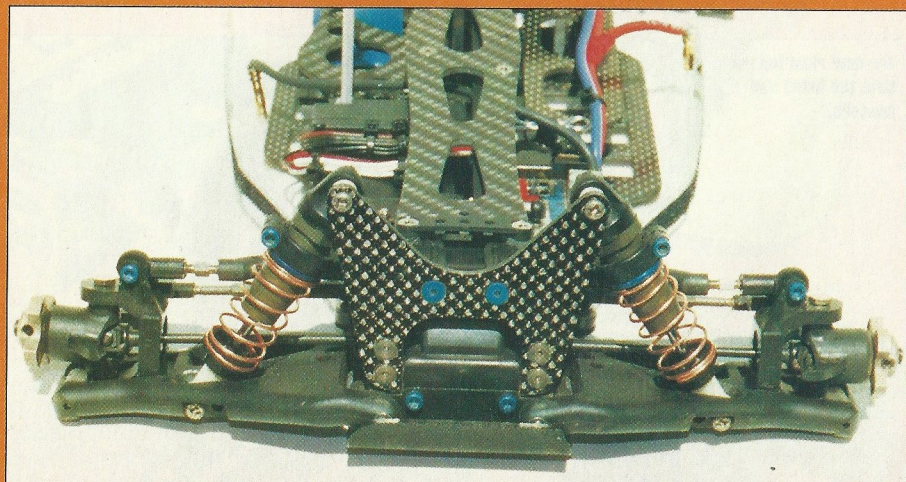
on certain tracks that running the batteries at the back often gives more steering especially at high speed, whilst, keeping the car smoother. Again this will depend on the track layout, surface and terrain. Try it and see what you think! If you always run the batteries forward and never like running them in the back, then try setting the car differently, to suit the change of weight. Thinner front and thicker rear oil or vice versa. Remember no two tracks are the same, even if they are laid out at the same location, one will require something different from the car than the other.

Steering

Yokomo have two steering options available, the standard wire link or the ballraced graphite track bar. Experiment with both as I have found that the wire link set up makes the steering nice and predictable, and easy to drive, whereas the graphite bar tends to make the steering very aggressive. I tend to like my car aggressive, although you may prefer something a little more forgiving, especially on a high traction track.

The team also modify the position of the front upper arm, in standard form the position is fixed. We have drilled a new inner pin position directly above, and raised the position of the upper arm. This adjustment changes the camber angle and we have found increases steering, particularly coming out of bends. However, experiment with this as we have some drivers that prefer the stock set up as it is more forgiving.

The simple but effective front end.



Belt Tension

If you struggle to adjust the tension of your rear belt, as it is difficult, then why not try my method. If the rear belt is too loose put two small washers between the chassis and the rear bulkhead where the front bulkhead mounting screws fix. This will very slightly tilt the bulkhead back and thus tension the rear belt. Note, that you only need thin washers as this is a sensitive adjustment. If the belt is too tight do the opposite, by placing washers at the back.

Drive Train

To improve the drive train, I find that it is best to free up the diffs in the housings. You will find when you build a new car that the diffs at a snap fit into the bulkheads. This is OK but it can tend to clamp the bearings a little and cause them to drag. I like to cut the corners of the bearing slots in the bulkheads so that the diffs fall in and are not under too much pressure. When rebuilding I am always aware not to over tighten the bulkhead caps as this again can clamp the bearings. Always back them off a little to produce a little play and float.

The Worlds specification car with a few small, but very beneficial changes has and will prove to be world beater. After all it is Yokomo who have won the last 4 World Championships, and that takes a lot of team work and dedication so don't give in yet - watch this space! **ARG!**