



## UPDATE

apart from the original. The new Grasshopper is basically a re-styling of the old with little or no performance benefits. With the addition of some selected items the results are startling.

The RCMC car has been given the benefit of a wholehearted performance update and no expense has been spared. However Grasshopper owners may wish to add certain parts a bit at a time.

Number one on our list was a full set of ballraces. These were thought essential because we also intended to uprate the motor specification for a hotter wind. The fear was that without the introduction of ball races we might blow the gearbox to bits.

To be honest you don't really need to fit ball races into the front wheels (not at first anyway) and you could certainly get away with installing them only in the gearbox where the majority of the loads will take place. Quite a few people advertise ball race kits for the really popular cars including model shops and can supply just the ones you need rather than the complete set.

The choice of motor was far more difficult because these days there are so many different winds available. The Grasshopper is designed for a 380 size unit but this doesn't really do justice to the car's potential. A 540 size motor fits in quite happily just by removing the mounting plate.

In the end we decided to choose a Tamiya Technigold motor which has a double wind of 27 turns specification. It was tempting to fit something really brutal but really there is no point because the car would just spin round in a circle spraying bits of gearbox all over the place. (Interesting to watch though).

Fitting the larger motor also means the motor pinion has to be changed to an 18 tooth type otherwise the gears will not mesh.

In order for the power of the new motor to be transmitted to the ground something serious had to be done about the damping system. The basic car just has ordinary friction type, coil spring shock absorbers and these will not be able to prevent the car from



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*“The car would just spin round in a circle spraying bits of gearbox all over the place”*

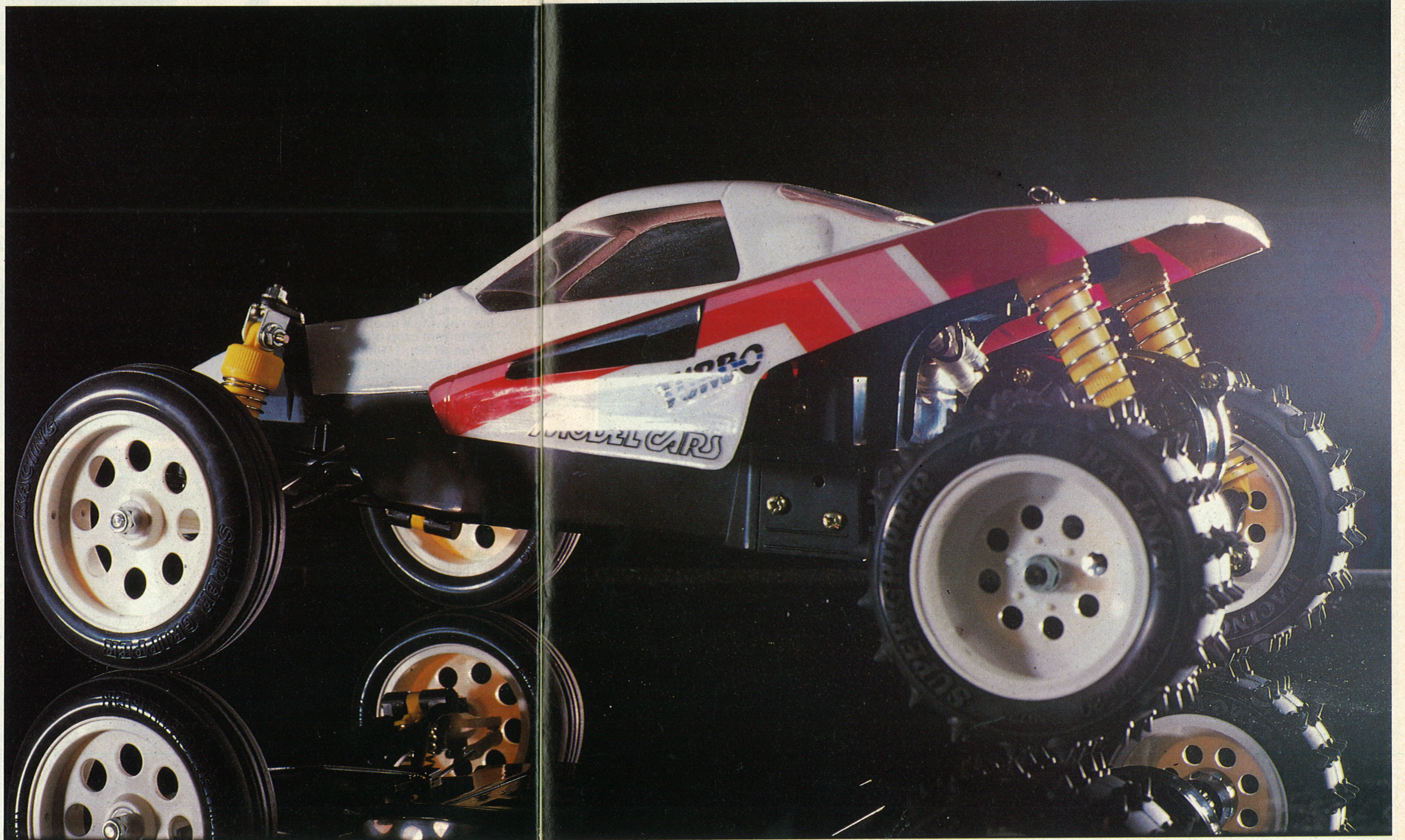
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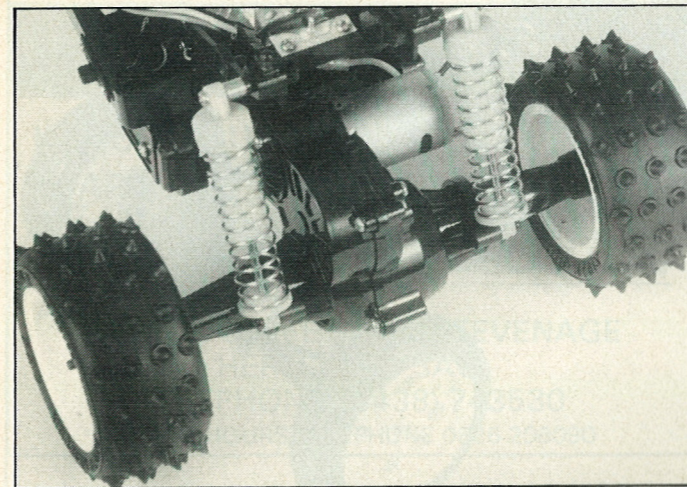
jumping all over the place once the car gets going. No point in having an efficient drive system and loadsapower if the car is in the air all the time. Not going anywhere is it?

So we needed proper oil-filled dampers to absorb the

bumps and keep the car in contact with the ground so that the power could be laid down.

Again the answer comes from Tamiya themselves with their CVA front and rear shock sets. The kits allow a choice of damper



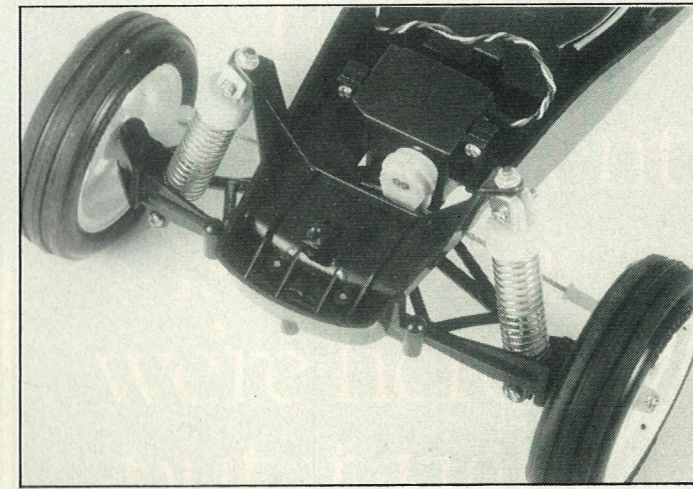


The rear CVA shocks fit on easily as do the Fox wheels and tyres. (Technigold motor not fitted in photo).

systems to be fitted to change the rate of damping. Careful filling with the oil provided is a must to get dampers which are smooth in operation and the same

hard cornering. Instead (hopefully) the front end will still be able to provide suspension and keep the car stable.

On the RCMC



The front shocks bolt on easily with the angle brackets supplied in the Grasshopper kit.

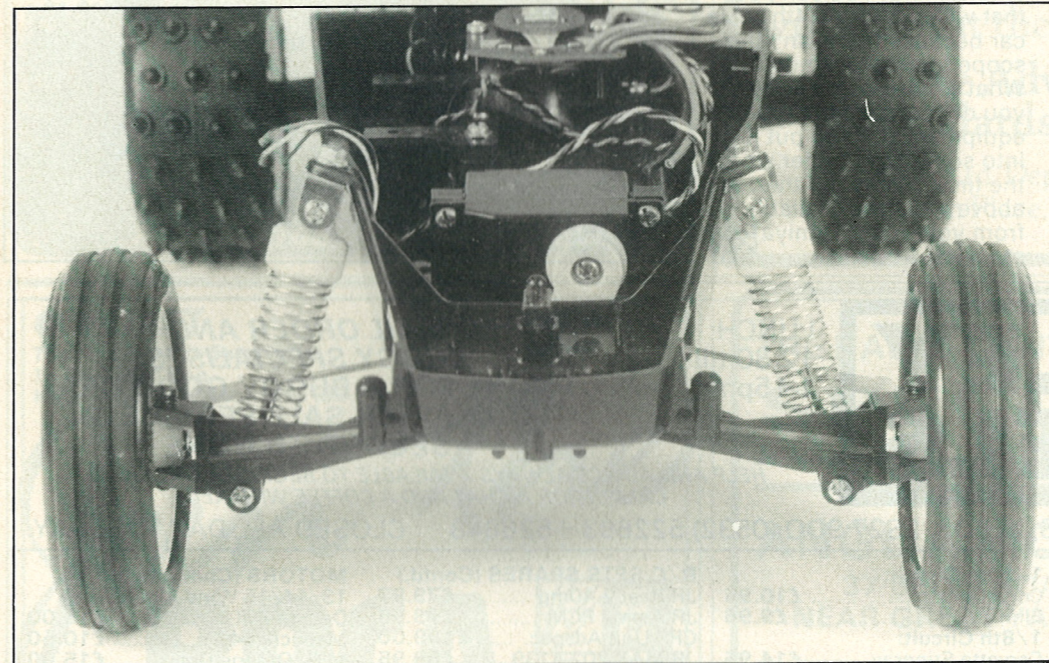
Grasshopper we decided to fit Fox style wheels because they are slightly wider and taller. At the front this means a bigger wheel able to take a more chunky tyre

to improve the ground clearance and steering response. At the rear the standard tread pattern tyres supplied in the kit can be kept but alternatively pin-spike are available to match the fronts. The larger wheels also increase the ground clearance.

Finally the bodysell has been swapped for a lighter polycarbonate version from Parma.

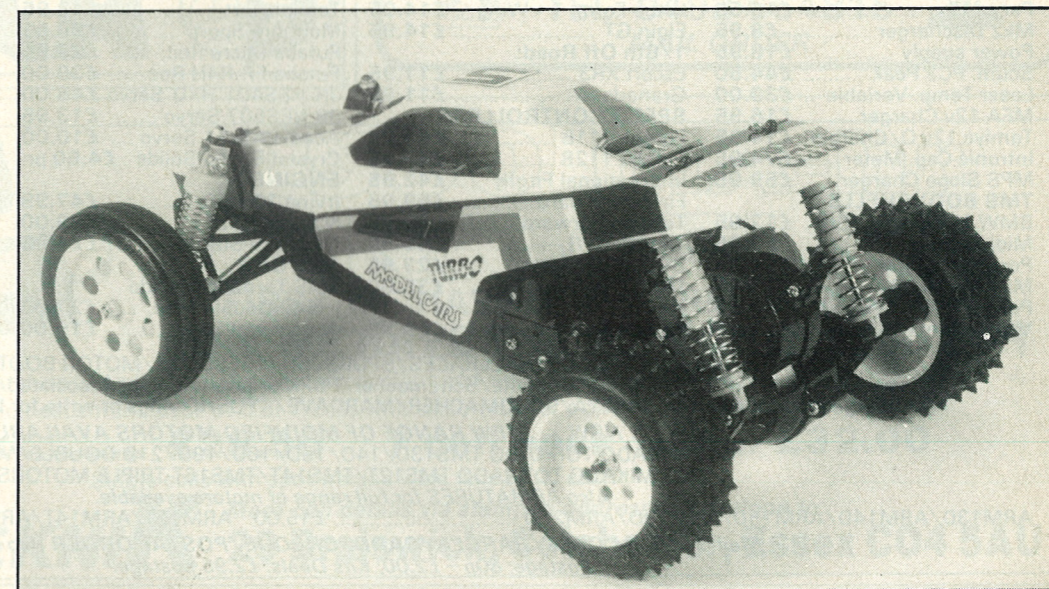
Just as we thought, the differences on the track are dramatic when compared to the old car. Not only is it far quicker but it also handles much better (well to be honest it does actually handle now).

The application of the throttle does have to be made with care otherwise the tail-end will start spinning round in circles if full power is punched in. Thankfully the gearbox and differential seems to be holding up under the greater strain and once we have satisfied ourselves that it will survive we will

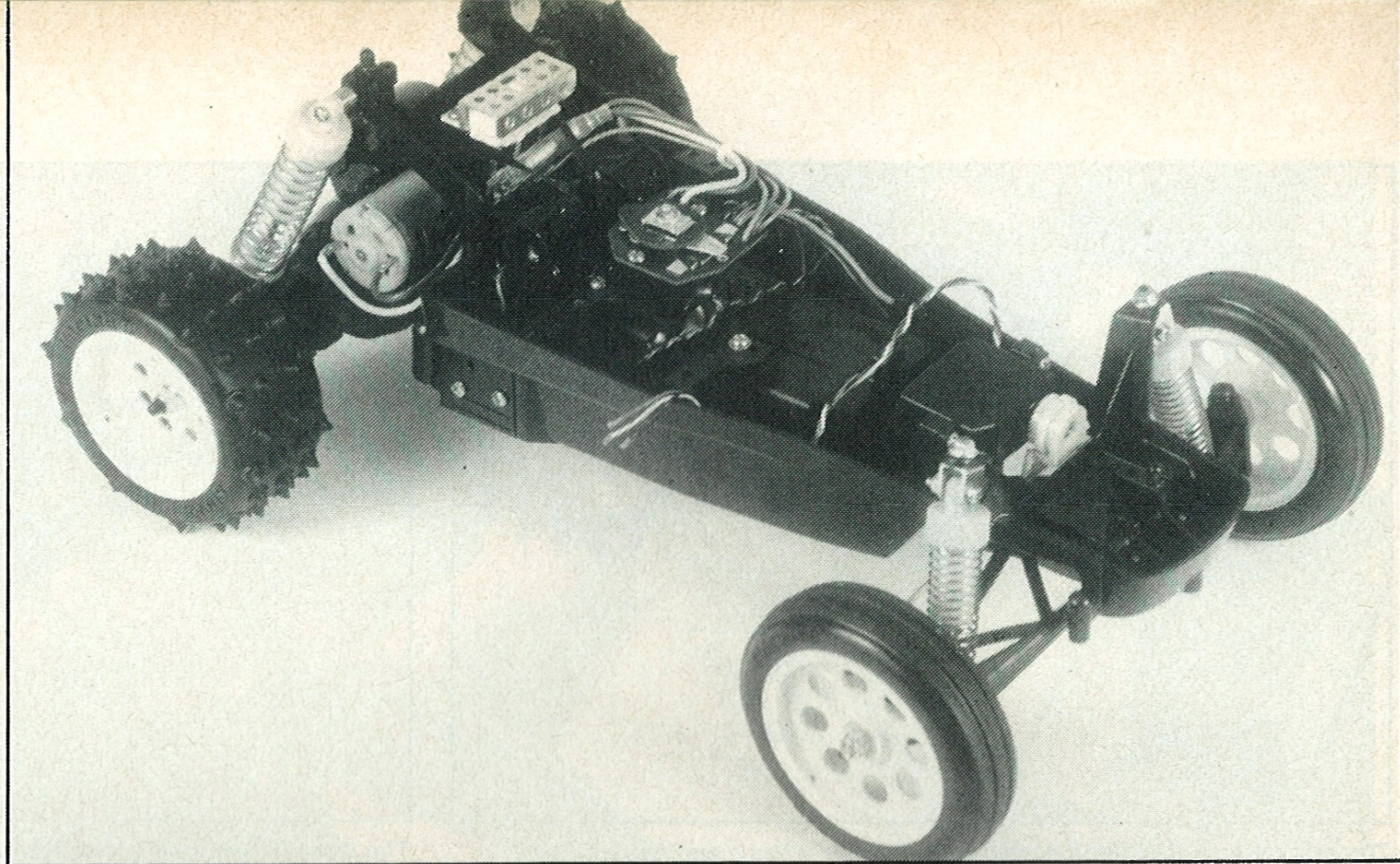


either side. But when fitted the change is dramatic. The Grasshopper's suspension system is not independent because the car has a solid rear axle which floats from side to side and pivots up and down.


With the new dampers fitted the action is much smoother and more controlled rather than the gearbox and rear axle slopping from side to side uncontrollably. Exactly the same situation applies to the front where the introduction of proper oil filled shocks make the front suspension much more controlled. With the new set-up the handling will be improved because the front end won't give up during



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experiment with some other winds.

What really impressed us is how a basic, beginner's car could be transformed to provide something really entertaining. You can't do that with a RTR 1/14th scale car because there isn't the scope for improvement. What's more with a RTR you cannot take the radio equipment out and put it into something better when the time comes. All the above parts are available from your local Tamiya  stockist.

