Lewis Eckett uprates the

Grasshopper II

t's a long time since I've had a chance to do something with the new Grasshopper II buggy from Tamiya. Regular readers of RCMC will know that we reviewed the car back in February issue, since then the car has taken rather a back seat to the continuing coverage of the competition end of things.

Which is a shame since the Grasshopper is a damned good car of its type and deserves to be promoted just as well as the rest of the kits that pass through the RCMC office.

The Grasshopper since its introduction in 1981 has stuck around and continues to fill an important slot in the model shops shelves. It is the ultimate beginner's kit, easy to build, easy to look after and great fun. The reason why I am so

the reason why I am so keen on it is because I have been having a good look at the current crop of ready-to-run (RTR), 1/14th scale buggies from *Tamiya* and *Kyosho*.

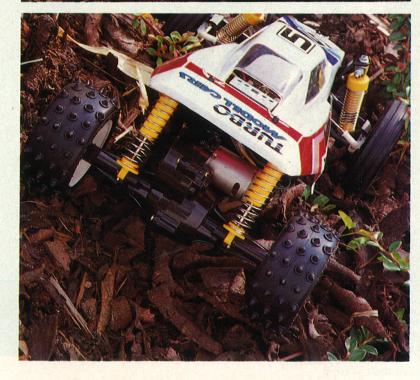
Apart from being smaller than 1/10th and ready-built (obviously) these cars are virtually identical to the Grasshopper in design and looks. The big difference is in the performance. The Grasshopper is vastly superior to the smaller RTR equivalent in every sense. Faster, handles better and gives more scope for racing.

The big problem is that you have to build it yourself, which for some is a terrible prospect even with a kit this simple. It annoys me that people limit themselves so much – if they tried a little harder then the end result would be so much better. If RTR provides a stepping stone into proper R/C cars then all well and good, but why not promote the latter in the first place.

Back with the Grasshopper however and at the end of the first article we mentioned a range of optional tune-up parts available for the car to set it







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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

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.

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).

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

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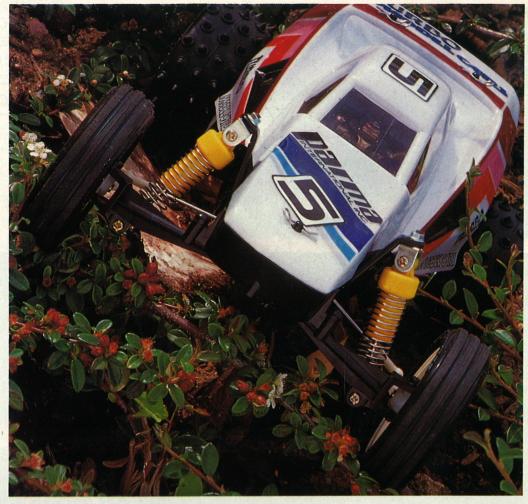
jumping all over the place once the car gets going. No point in having an efficient drive system and loadsapower if the car is in the air all the time. Not going anywhere is it?

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So we needed proper oilfilled dampers to absorb the

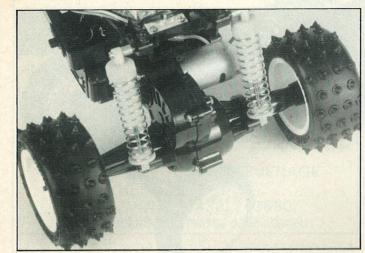
bumps and keep the car in contact with the ground so that the power could be laid down.

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







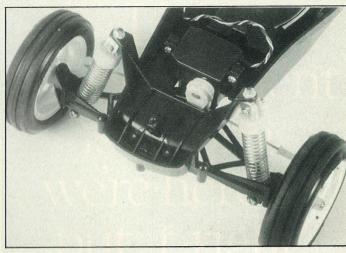


The rear CVA shocks fit on easily as do the Fox wheels and tyres. (Technigold motor not fitted in photo).

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.

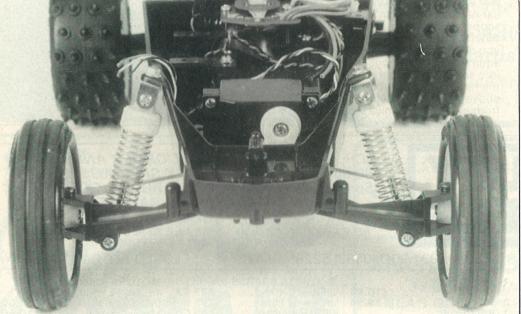
Grasshopper we decided to fit Fox style wheels because they are slightly wider and taller. At the front this means a bigger wheel able to take a more chunky tyre

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.

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Finally the bodyshell 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).

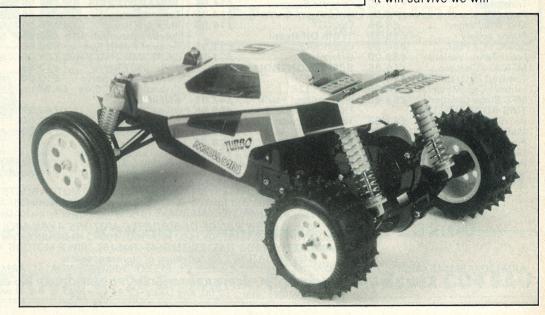
The application of the throttle does have to be made with care otherwise the tail-end will start spinning round in circles if full power is punched in. Thankfully the gearbox and differential seems to be holding up under the greater strain and once we have satisfied ourselves that it will survive we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



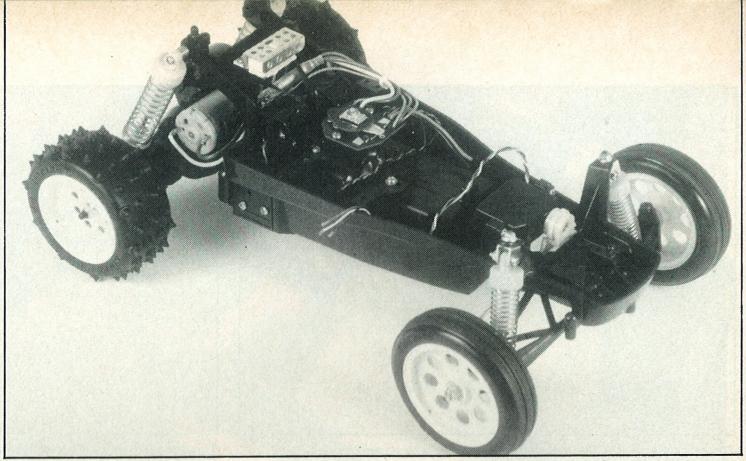
either side. But when fitted the change is dramatic. The Grasshopper's suspension system is not independent because the car has a solid rear axle which floats from side to side and pivots up and down.

With the new dampers fitted the action is much

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.

