TOP-FORCE

Simon Rodway reviews Tamiya's newest 4WD racer, the Top Force.

Front suspension detail.

Rear gearbox.

Front gearbox.

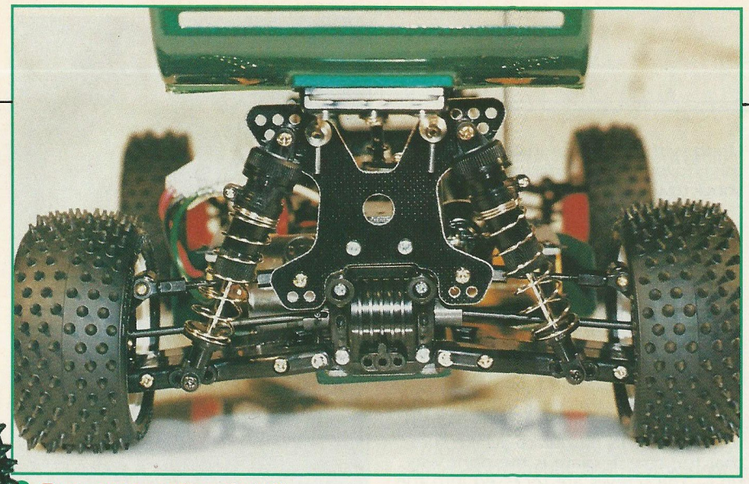
Over the past few years, the growth of 1/10 scale Off Road buggy racing has produced a steady flow of new models coming onto the market which has given the potential competitor more and more choice when looking for 'that' car.

From one of the leaders in the field comes the Top-Force. Tamiya's latest contender has been released very recently and is likely to prove popular in this scale and a force to be reckoned with around the circuit.

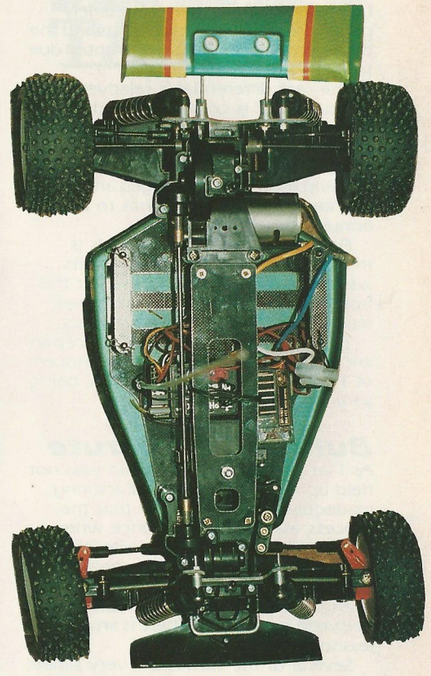
The Beast

The Top-Force follows many of the recognised build and material techniques now long established with a number of variations that at first seem rather surprising, and then seem to beg the question "why hasn't this been done before?!". It has been designed with ruggedness in mind — reflecting the pounding that it is likely to receive in off-road use and there have been definite attempts either to protect the more delicate parts of the car, or to replace them with parts that are less likely to suffer from the constant jarring when in use.

What your get for money is a kit that will form the basis of higher level competition and will, as standard, allow you to make those first stumbling steps in a highly competitive area. Hot up options for suspension and drive train (sealed ballbearings and so on), are freely available through Riko stocked model shops but the rest of the car is fairly standard no matter what level of use you intend to put the Top Force to.

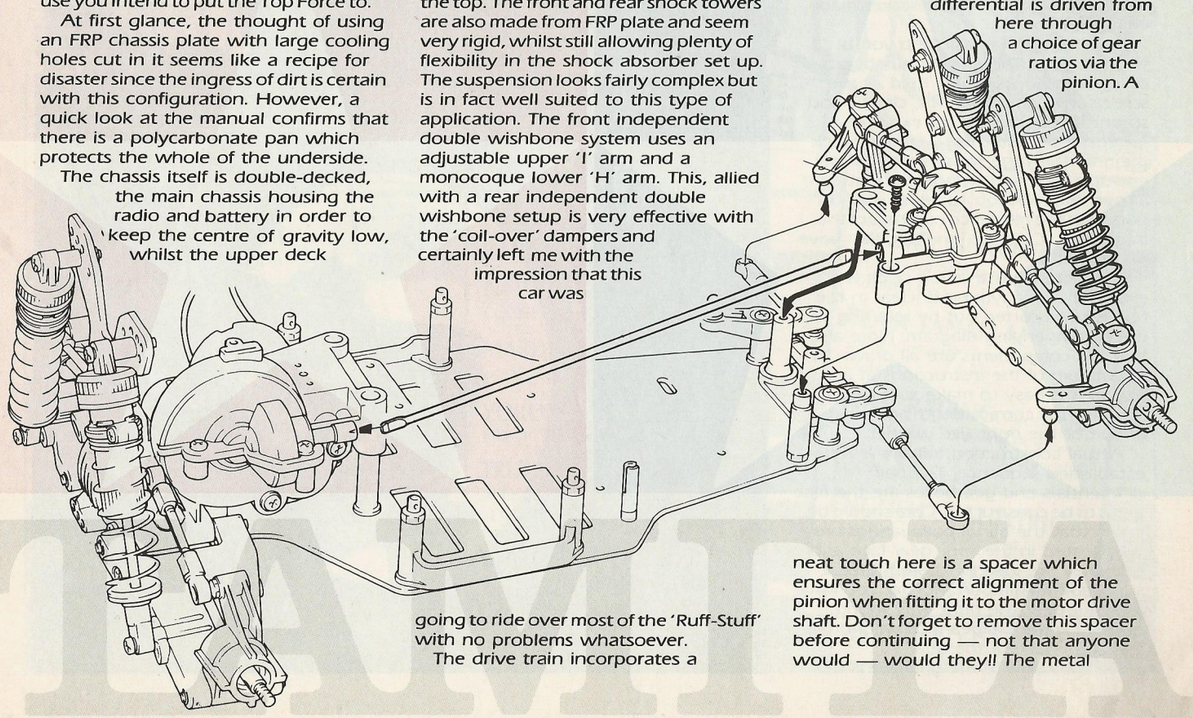


Rear suspension detail.



At first glance, the thought of using an FRP chassis plate with large cooling holes cut in it seems like a recipe for disaster since the ingress of dirt is certain with this configuration. However, a quick look at the manual confirms that there is a polycarbonate pan which protects the whole of the underside.

The chassis itself is double-decked, the main chassis housing the radio and battery in order to keep the centre of gravity low, whilst the upper deck provides rigidity between the two differential housings and protects the radio gear from possible damage from the top. The front and rear shock towers are also made from FRP plate and seem very rigid, whilst still allowing plenty of flexibility in the shock absorber set up. The suspension looks fairly complex but is in fact well suited to this type of application. The front independent double wishbone system uses an adjustable upper 'I' arm and a monocoque lower 'H' arm. This, allied with a rear independent double wishbone setup is very effective with the 'coil-over' dampers and certainly left me with the impression that this car was going to ride over most of the 'Ruff-Stuff' with no problems whatsoever.



The drive train incorporates a standard 540 type motor (with an optional upgrade to the Dynatech 02H) fitted to the rear gearbox. The rear differential is driven from here through a choice of gear ratios via the pinion. A neat touch here is a spacer which ensures the correct alignment of the pinion when fitting it to the motor drive shaft. Don't forget to remove this spacer before continuing — not that anyone would — would they!! The metal

bearings throughout are extremely good 'click' fits in the mouldings and the build process was never interrupted due to faults in manufacture.

The rear differential is relatively standard and is connected to the front diff via a stainless steel propeller shaft. There are always pro's and con's to this method of transmission but there is no denying that it is both rugged and fairly maintenance free which has to be a bonus.

Final drive at the rear wheels is through standard rigid drive shafts which are familiar to us all whilst the front features drive shafts with well made and slop-free universal joints.

The polycarbonate shell and floor pan are standard items and are reminiscent of Tamiya's excellent reputation, being very clear and blemish free.

Building the Brute

As I've already said, the build was not held up through any manufacturing inadequacy. The only time that the process was halted was once when I realised that I'd left the pinion gear spacer in place (well, someone's got to do it!), and once when I misread the instructions and got a little confused between two sprues. There is an object lesson for all us here.

Several of the sprues are very similar and are stamped with the same letter identifier (there are two 'D' sprues in this kit which hold the suspension wishbone arms) and it is extremely easy to confuse one with the other. Proceed with care and read the instructions first. There is nothing wrong with the car or the instructions — any mistakes made will be all yours!

Another tip that will help you is yoghurt pots! There are a number of cellophane packs which hold all the screws, washers, bearings, circlips and so on. These packets are extremely brittle and repeated use will soon break them up with the result that you will end up with small components scattered all over the worktop. Label old yoghurt pots with the reference numbers of the bags (A, B, C, D etc) and you will have no problems.

The pictorial instruction book is excellent and anything unclear in the text is soon sorted out by referring to the accompanying diagram. Note also that the components are all drawn in the margin of the instructions at actual size so it is easy to make sure that you are using the correct length and guage of bolt or the right size washer.

Actual construction follows a well established sequence. The ball differentials and gearboxes are the first items to be constructed. Care should be taken that the metal ballbearings are well seated in the spur gear face and that they are well lubricated (grease supplied). It is important that you have the spur gear the right way round otherwise the ballbearings will not sit inside the face of the gear.

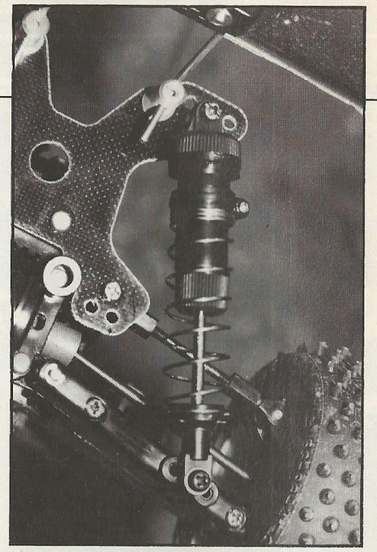
Construction of the gearbox is next along with the motor installation and this is followed by the fitting of the rear shock tower, drive cups and suspension.

This whole process is repeated for the front end — diff, gearbox, damper stay and suspension — before moving on to the dampers. It is very important that you take the time to ensure that there is no air present in the dampers — full instructions are given to eliminate air bubbles from the system — or else you will find that the dampers stick or lock, usually at an awkward moment!

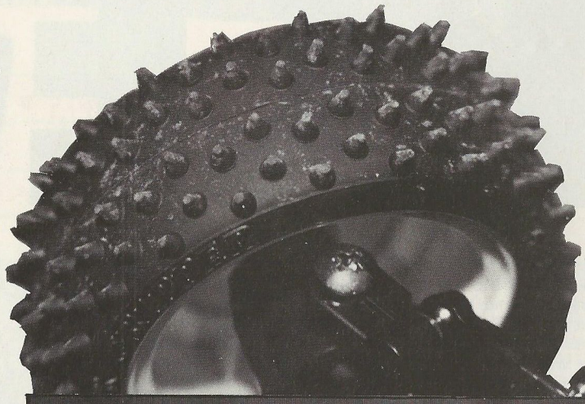
The chassis' lower deck is then fitted out with its towers and plates on which to hang all this hardware. Make sure that the chassis plate is the right way up — the screws are recessed into the underside of the plate — make sure that all screws are fully tightened.

The steering linkage is next to be added before putting the rest of the car together.

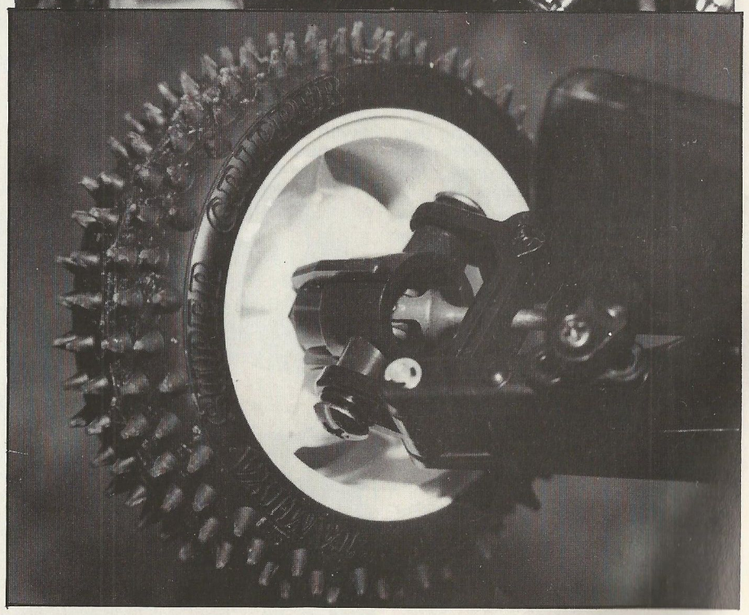
The rear gearbox is first to be attached to the lower chassis. Two components

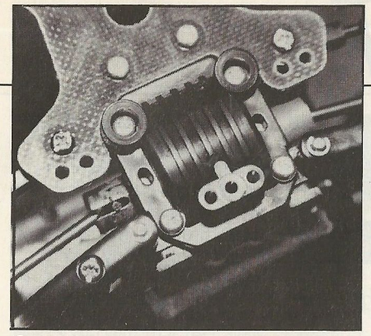


Plastic oil filled shock absorbers.

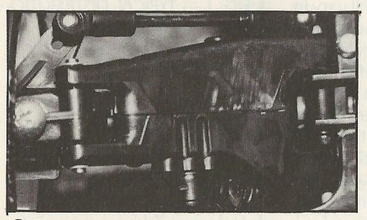


UJ driveshafts are used at the front.





Quick removal rear differential inspection hatch.



Two part lower wishbones are used all round.

to watch for here are the items J3 and J11. Make sure that they are fitted at this stage otherwise you will have a problem later with alignment and the fitting of the upper deck. The front gearbox is now installed with the propeller shaft installed before finally screwing everything down tight.

There are a number of different radio layouts shown in the instructions — Tamiya's own radio gear which incorporates a receiver and speed controller in one unit, or a standard layout with separate speed controller. There is no mechanical speed controller included with this car since it is designed as a racing thoroughbred and it is expected that an electronic unit of your choice will be fitted.

In the end, I fitted a two-channel Weston UK Phoenix system with an SP-1802 MOS-FET controller. Installation is easy since there is plenty of room on the chassis lower deck to obtain a tidy layout and neat wiring.

After thoroughly cleaning the bodyshell, it was carefully masked around the glazed areas and spray painted using Pactra Metallic Green. Several thin coats were built up, but it is a good idea to remember that this paint does not like the cold! When using it, make sure that you do so at around room temperature or it will run and produce a less that perfect finish.

The final job is to fix the stickers in place and this will obviously be a matter of personal preference. For the sake of this review, I chose to stick (no pun intended!) to the scheme provided in the box.

May the Force be with you!