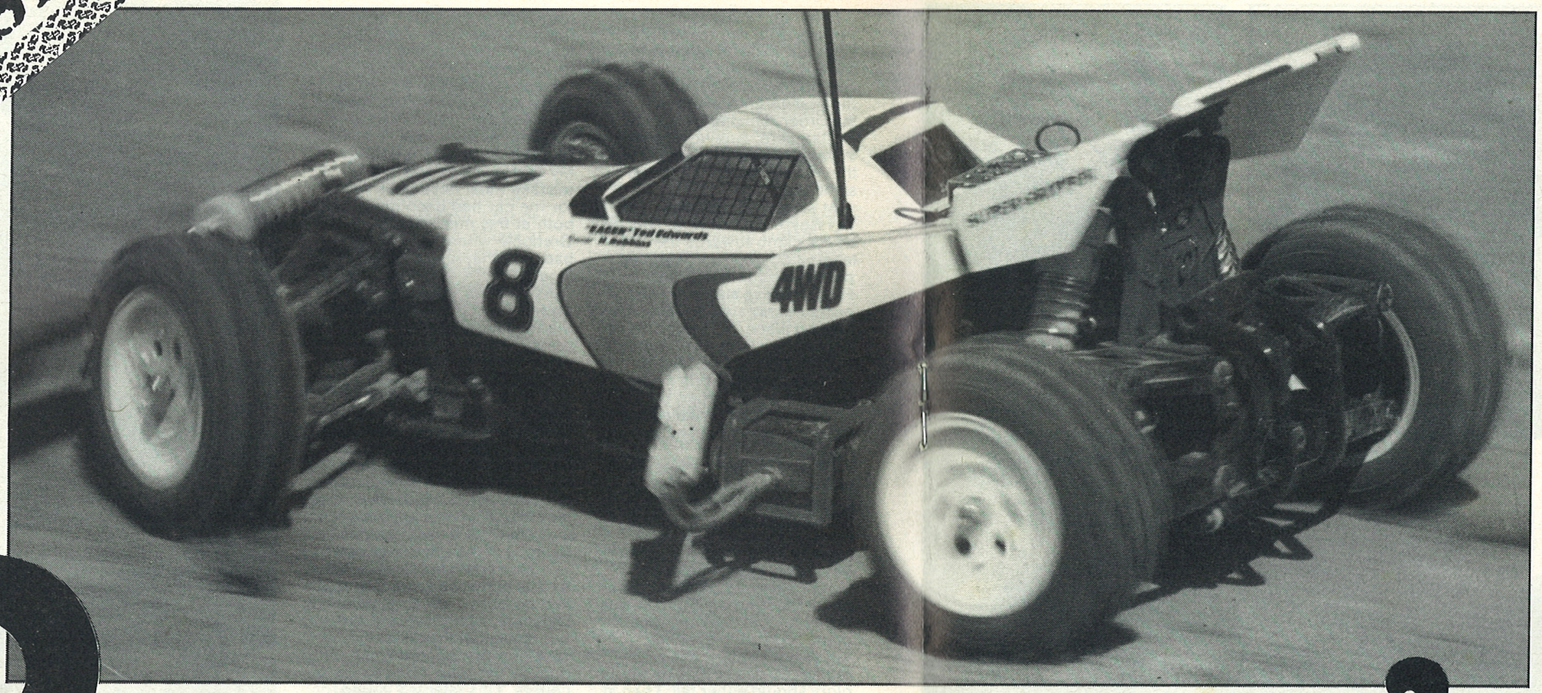
TRACK TEST

TAMIYA



The Boomerang

With hardly a backwards glance Tamiya continue to produce new models at an alarming rate. Ron Cunnington takes a look at a recent introduction for four-wheel drive electric Off-Road.

When *Tamiya* introduced their first 4-wheel drive competition model over two years ago a collective raising of eyebrows is perhaps the politest way of describing the reaction.

Shaft drive for a 4WD electric buggy had been given a firm thumbs-down by the racing pundits as being too inefficient.

At the time the Hirobo 'Zerda' was 'belting' round our tracks and the Associated 'RC10' was beginning to find favour over here despite the price.

The 'Hotshot' however disproved the experts argument and put *Tamiya* firmly back into the competition picture. Since then the Japanese R&D boys have improved the breed with the 'Supershot' and added to the range with this, their latest 4WD machine.

'Boomerang' has to be the most absurd name for an R/C car yet; on a par certainly with such classics as 'Digger' *(Bolink)*, 'Gallop' *(Kyosho)* and 'Dobbermann' *(Playtron)*.

The all-time title for most ridiculous name will ultimately go to another *Tamiya* car, the 'Bigwig' when it is released here later this year.

Even if the name of the 'Boomerang' is a slight rib-tickler the rest of the car most certainly is not. Although described as a lower specification 'Supershot' the 'Boomerang' has a few desirable features of its own.

The most obvious change is to the chassis which is an open 'bathtub' type as opposed to an enclosed monocoque. Owners of the 'Hotshot' and 'Supershot' have long bemoaned restricted space in the chassis for the R/C equipment. Even worse is having to separate the monocoque to change the receiver crystal or maintain the speed controller. The 'Boomerang' chassis eliminates the fuss without losing much of the torsional rigidity associated with the monocoque.

Space limitations in the 'Hotshot' also forced a particular type of mechanical speed controller to be employed.

I must confess to being less than enthusiastic about circuit board style controllers, particularly when they are working in an enclosed space hidden away from the mechanics eyes and fingers.

Thankfully the 'Boomerang' unit is a return to the wiper arm and contact style which has proven to be more reliable.

For the expert, fitting the excellent *Parma* wound resistor unit or one of the popular electronic types will present no problems.

At the rear 'Boomerang' features independent shocks. Once again proven race winning parts have been used and these all plastic dampers have found favour with 'Fox' and 'Supershot' drivers.

Interestingly the dampers are mounted inboard of the rear wishbones putting them out of harms way. As a result the bottom wishbones are different which in turn improves the suspension geometry.

At the front however the mono-shock is brought into play. Once again I feel it necessary to voice personal criticism. I don't like monoshock suspension systems. There, I've said it, but to be fair one damper is cheaper than two and this set-up seems to work better than most I have seen.

In any case fitting independent shocks will present no problem. The chassis has the provision for fitting 'Supershot' damper mounts as does the lower front wishbones.

With reference to the *Tamiya* spares list it is easily possible to achieve the desired result although the anti-roll bar will have to be discarded.

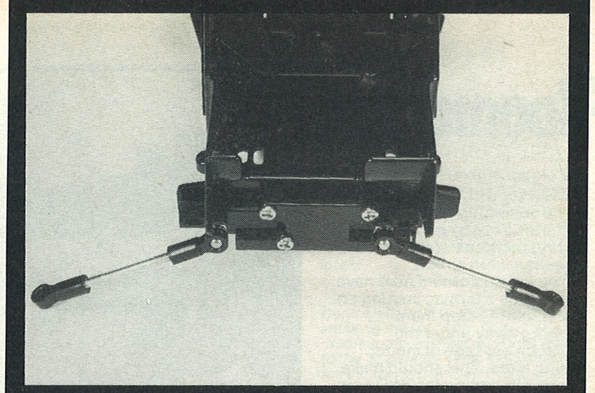
The drive system is virtually the same as the original car's, with only one difference. Instead of an hexagon headed centre drive-shaft, each end of the piano wire shaft has been formed into a loop. This fits into the slotted drive cups, to reproduce the performance of the higher specification parts at less cost.

The differential units are pure 'Supershot' and to all intents and purposes so is the rest of the car.

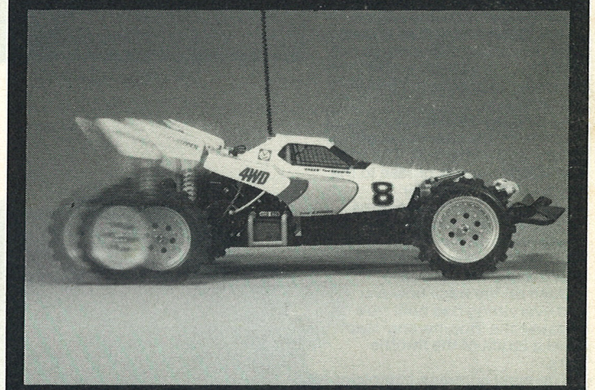
The inclusion of a *Mabuchi* 540 plain bearing standard motor plus plastic bearings throughout also serve to keep the price of the kit under £100. This is not to say that these components are markedly inferior but as with everything, better performance costs money.

Other performance boosters included in the kit are block and spike pattern low profile tyres and a battery eliminator switch harness. The latter item connects between the speed controller and receiver to enable onboard R/C equipment to be powered from the main Ni-Cad pack.

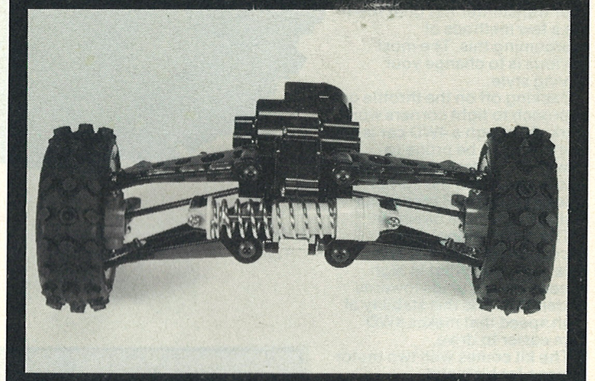
With a full complement of ballraces on board there is no reason why the 'Boomerang' should perform less well than



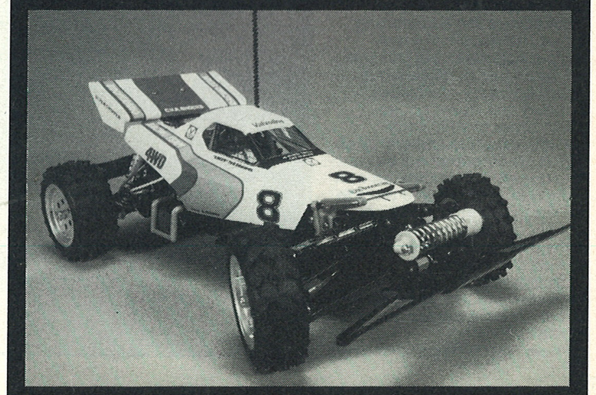
Above: close-up of the rack and pinion steering system. This set-up virtually eliminates bump-steer.



Above: 'Boomerang' takes off.



Above: the front mono-shock acting on the lower wishbones.



Above: front three quarter view of the 'Boomerang'

The Boomerang

the higher priced 'Supershot'.

Even so, with plastic bearings the 'Boomerang' is no slouch, a fact borne out by a visit to the testing contours of the Chesham club circuit.

The infield corners here have been given a tarmac coating on the apexes to stop them wearing away under the constant passage of model racing tyres. This should make things interesting for 2WD cars, particularly in the wet. On wet tarmac as on all slippery surfaces 4WD should perform well. The only time the wheels on the 'Boomerang' had turned prior to this test session was when I had set up the speed controller to ensure full power contact.

As with the 'Hotshot' and 'Supershot' the gearboxes felt notchy and a little stiff. The trick is to liberally apply grease to the gears inside to aid their 'bedding in.' The grease turns into a slightly abrasive paste which smoothes everything off. After the first few runs a distinct improvement is noticed.

Back on the track however and everything had built true because the 'Boomerang' leapt off at a touch of the throttle stick.

The most common complaint heard from 4WD racers is not enough steering. Apart from a firm twist of the rate switch (if your transmitter has one) there are a few methods of overcoming this. The most obvious is to change your driving style.

Backing off on the throttle on approach to tight corners won't work. Although a 4WD car is far more likely to be prone to power-on-understeer the trick is to throw it into the corner sideways so that it comes out facing in the right direction.

The 'Boomerang' is no exception because the tyre balance is such that at high speeds the are tends towards understeer. It is this stability at high speed that makes 4WD cars easier to drive.

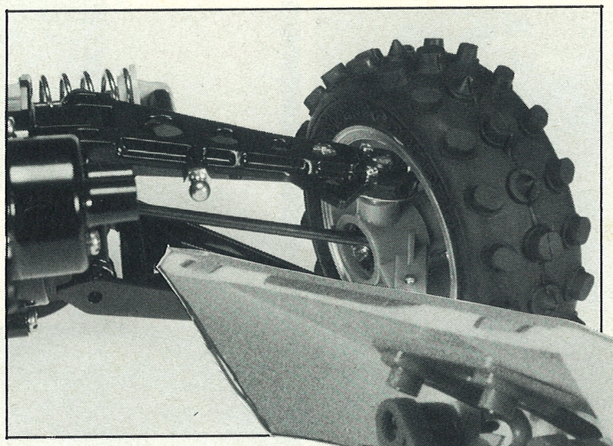
The kit comes with two motor pinions for high and intermediate ratios. Naturally we fitted the higher ratio to see how the car would perform.

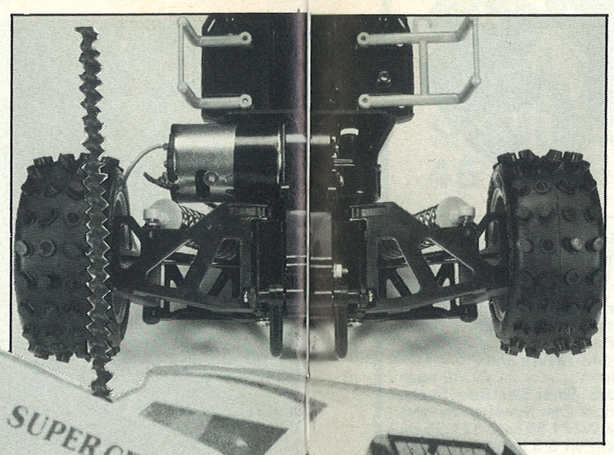
Speedwise the 'Boomerang' lacked the sparkle of a top competition racer, but this was not surprising considering the lack of ballraces and *Mabuchi* motor. A diet would not go amiss either to shed some performance restricting ounces.

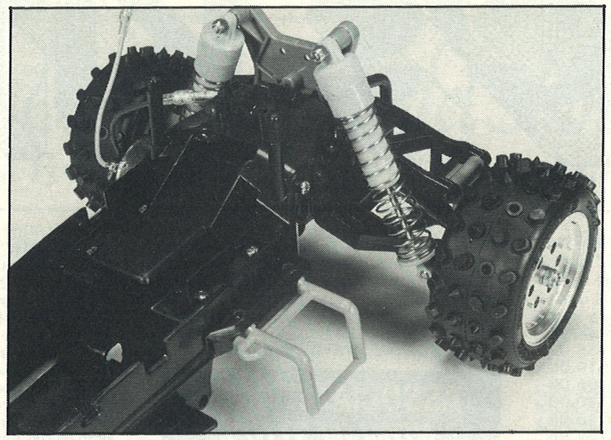
This 'Boomerang' will be tested again in competition with a few changes here and there to see if it can compete on a par with the 'Supershot' and others at the higher end of the competition market.

UK importer: *Richard Khonstam Ltd.*, 13-15a High Street, Hemel Hempstead, Hertfordshire.

Price: £99.00 (approximately).



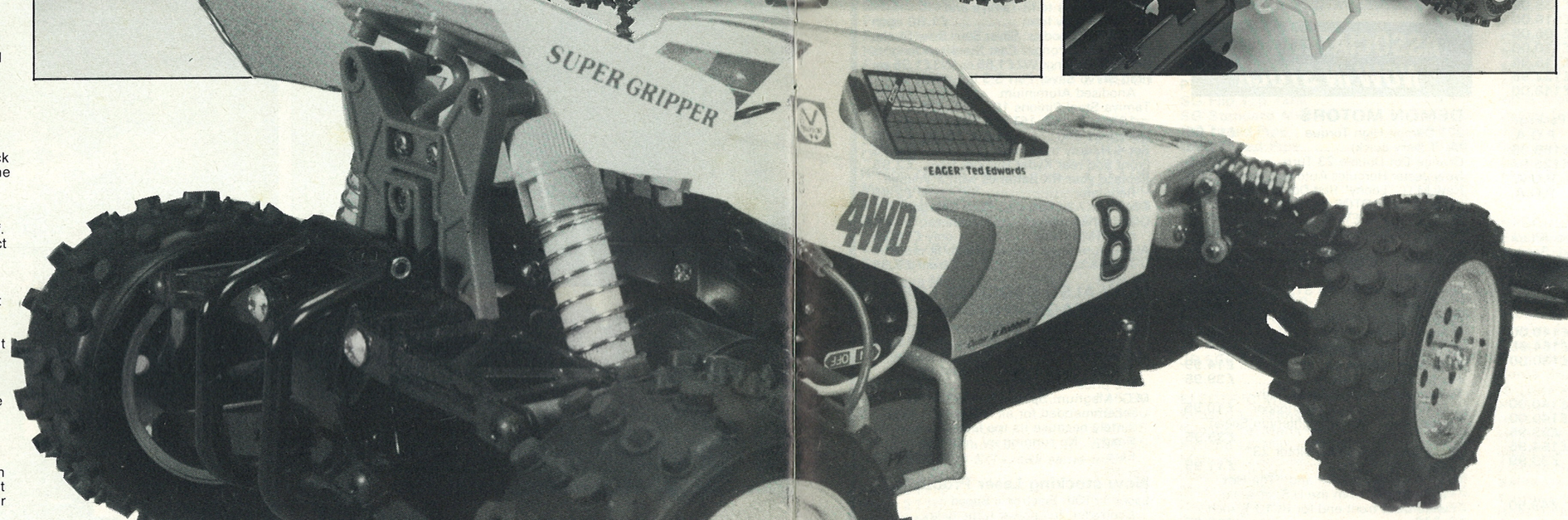


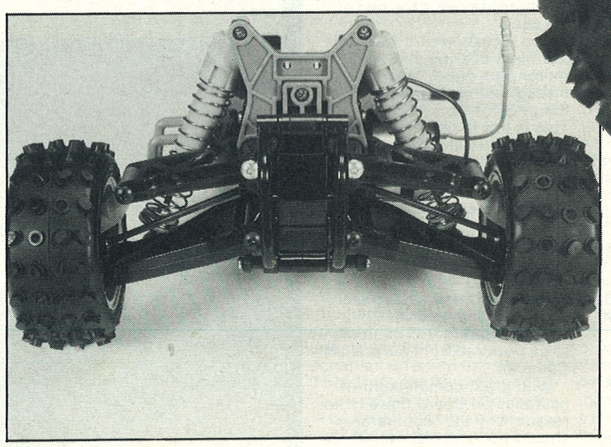


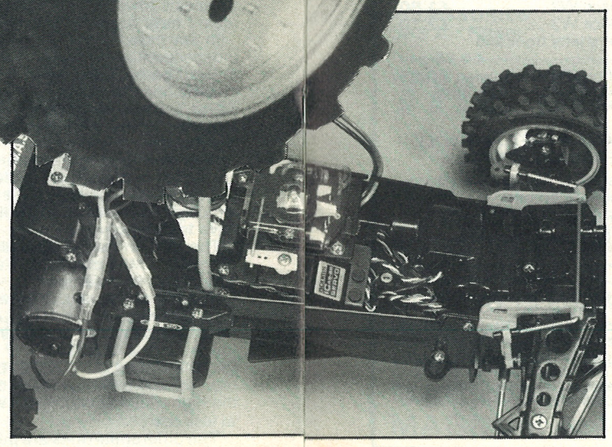
Far left: close-up of the front drive shaft and steering/stub axle block. The drive shafts and cups are manufactured from hardened steel. The screws that clamp the suspension ball joint plate onto the wishbones must be treated with thread lock to stop them vibrating loose.

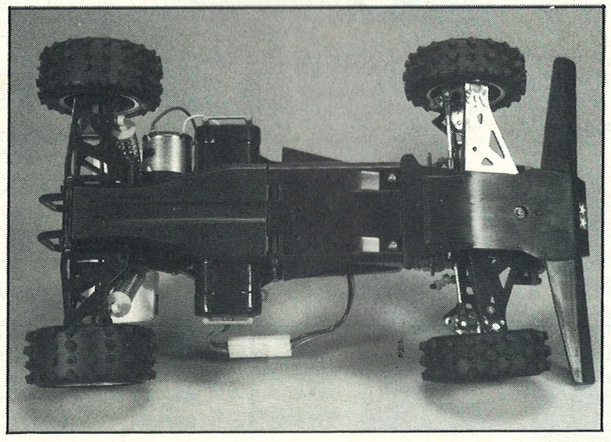
Centre left: from underneath showing the rear-end. The 'Boomerang' wishbones are different to the 'Supershot' type. This allows the dampers to be mounted inboard.

Left: the rear dampers are of the long throw type as originally used on the 'Fox.' These all-plastic items have three different pistons included in the kit to give different shock action according to the type of surface being raced on. The spring tension can be adjusted by using different width plastic spacers that clip between the top of the damper and the spring.









Far right: from behind showing the double wishbone suspension and long stroke of the coil-over shocks.

Centre left: close-up of the 'bath-tub' chassis showing the speed controller and the throttle servo. The front anti-roll bar can be removed and 'supershot' shock mounts fitted instead to allow independent dampers at the front.

Left: underside of the chassis. The Ni-cad battery pack is fitted by lifting up the rear under chassis hatch. 7.2 volt, 6 volt or 'humpback' battery packs can be used.