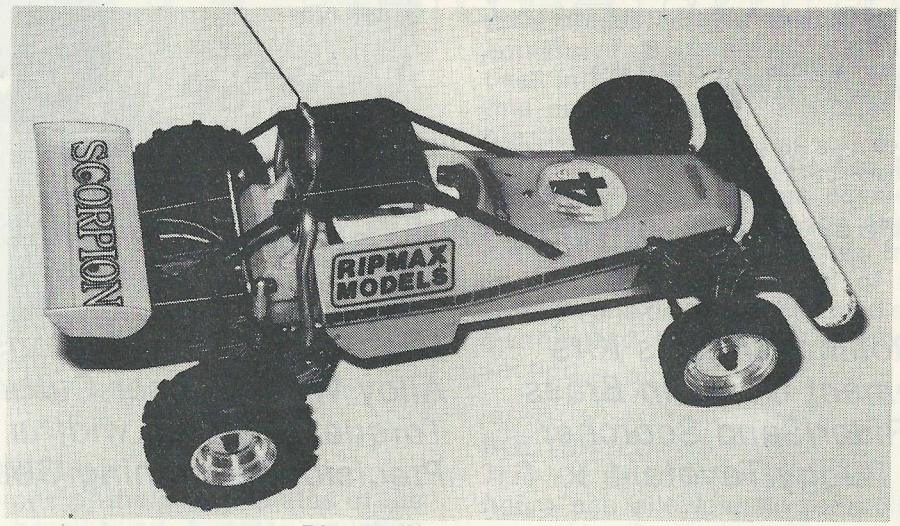
The Kyosho Scorpion

A Radio Race Car Kit Review



Ripmax/Kyosho Scorpion.

THE recent Worlds End Endurance Race saw the advent of two challengers to the present Tamiya rule. One was the superb performance of the BoLink Team, the second, perhaps not quite so noticeable, was the very creditable effort managed by the Ripmax Team. Here were four drivers, not normally associated with the hurly-burly world of off – road racing, competing with new untried cars – the Kyosho Scorpions. We were fortunate enough to have one of the team's cars handed to us at the end of the event for Radio Race Car's evaluation. Despite completing a good proportion of the laps covered by the team, the car showed few signs of its considerable use.

First impressions are of a well thought out design with a somewhat spindly, almost fragile appearance. However, these first impressions belie the car's superb handling and robustness. Some initial problems with the rear wishbone castings have been overcome by a beefing up operation with radius bends being introduced where previous straight edges had given rise to failures.

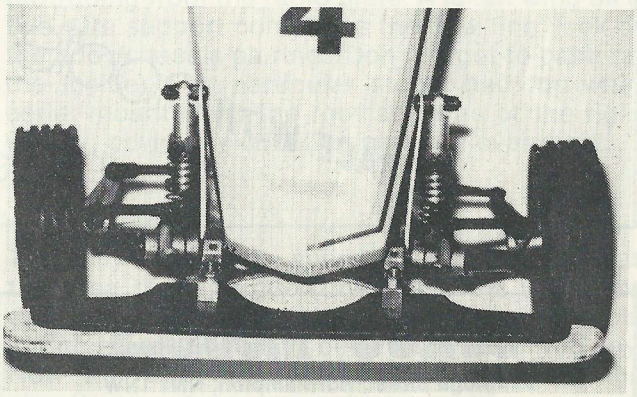
So, what's it all about and how does it compare with the other offerings?

CHASSIS

This is formed from 2 alloy bar sections joined by sheet metal spacers. This rigid assembly carries the front axle, radio box and rear wheel drive components.

FRONT SUSPENSION

Here's where one can see a distinct difference to other buggy suspensions. A system that is infinitely adjustable to suit all terrains. Reminiscent of the old AYK circuit racers is the solid rod cross beam which supports the moving components. In this case it is supposed to be bent (invariably the AYK ones ended up like these). These angled ends form the trailing arm pivots to



Fully adjustable front suspension including camber and caster adjustments.

which are attached on each side cast aluminium arms. The bolts which secure the rod can be loosened to permit altering the camber angle. (This is the inwards tilt of the wheels when viewed from the front). The wheels are attached via king pins which are secured by nylon ball type joints which double as top trailing arms. They, too, are fully adjustable giving infinite castor adjustment (this adjustment refers to the tilt or angle of the king pins – fashionable in circuit racing is 10° castor). These adjustments allow you to 'dial in' the right sort of chassis adjustment to allow your car's performance to be used at its optimum. Whether you experiment or not is up to you. Oil filled coil over shocks (fully adjustable spring rate) complete the front end.

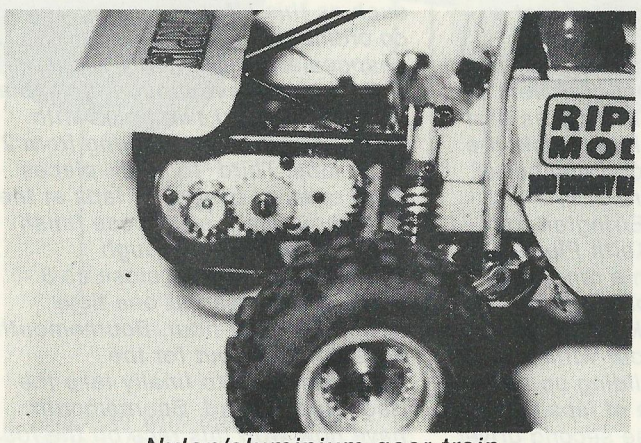
REAR SUSPENSION

Here again trailing arms are used – a single arm and independently adjustable coil over shocks. This set up allows full uninterrupted movement to the rear drive shafts/wheels, always keeping them relative to the ground, even with the suspension struts fully extended.

Rear trailing arm and coil over shocker (adjustable).

FINAL DRIVE ASSEMBLY

This is bolted to one of the spacer plates of the chassis and can be oil filled. A motor mounting plate attached to the right hand side of the casting provides a mount for the primary gears and the 540 motor. Nylon/aluminium seems a typically Oriental preference here. These gears are fully accessible with the gear cover removed (simply achieved with one neat fixing). Gear changes are extremely simple as only the motor drive pinion needs to be undone separately. Removing these gears gives access to the motor fixings shielded by a rubber boot to prevent ingress of moisture. The half shafts transmit the power with pegged universal type joints (reminscent of XR311 or Cheetah type). All of this assembly is encompassed by a plastic cage which is bolted through the chassis.



Nylon/aluminium gear train showing ease of access.

WHEELS AND TYRES

The ribbed front and knobbly rear tyres are fitted to attractive alloy finished plastic wheels. One piece hubs with 'cyano' fixed tyres run on phosphor bronze bushes (ball races available as an option?). The rear wheels are three piece mouldings and the large knobblies need silicone sealing to prevent air leaks!

RADIO BOX

An ingenious feature of this unit is the removable bottom section. This permits rapid removal of the drive nicads without disturbing any of the radio equipment. Batteries supplied were 7.2v six cell pack in a flat configuration. A single clip retains this section once it is slotted into its support bracket.

The top section of the box houses the radio equipment and it hangs pannier style over the nicad section. Here lie the steering and speed controller servos. The receiver batteries fit neatly in a moulding at the rear of the box and the receiver sits on top of the nicad section. The radio switch and aerial are attached to the body section.

BODYSHELL

This is a smart lexan shell with a moulded driver figure and alloy/plastic roof/roll bar. The whole assembly clips to the rear gearbox cage whilst the front is retained by a single body clip to a post protruding from the radio plate. A lexan wing on a two wire support completes the 'low line' look of the body/chassis pairing. (Don't forget to paint on the inside). Our particular model had the whip aerial mounted on the roof and was of the rigid variety, obviously doubling as a roll over mast.

TRACK TEST

The fully adjustable suspension capability was the area that intrigued me most. Up until now different grades of oil and torsion bar or hairpin spring adjustment have been the order of the day. Now we have the opportunity to 'tune' to the circuit.

The handling of this car with its low centre of gravity and wide wheel track and soft suspension proved incredible. Whilst it was possible to induce a roll it took some considerable effort. The arrival of a differential in the New Year should combat the present ill feeling to sophisticated devices. Here is a car that looks right, drives right and is very clearly able to compete 'out of the box'. Some preparation of suspension, bearing conversions, alternative gear ratios (10:1 is on its way from Japan) and a good 540 motor should see this motor winning consistently. Who will be the first established racer to take the plunge?

CONCLUSION

This ready assembled kit tipped the scales at 3lb 7oz. This compares with the 3lb of the BoLink and the 5lb of the Rough Rider. Competitively priced at around £60, I'm sure many will be in evidence in 1983. A not unknown 1/12th champion recently turned up at a midland venue, watched with interest as FTD was established, then promptly demolished many a seasoned off road performer by bettering their performances by some 2 laps with another of these ex-works Scorpions – well done Neal!