ROBBE 'Sonic Sports'

Track Test

by Dave Day

PORSCHE 936-78 Turbo

AT FIRST SIGHT the *Robbe* 'Sonic Sports' *Porsche* 936-78 Turbo is a most attractive model since it is a very acceptable representation of the full size works Le Mans car, affectionately known as "Moby Dick". To those familiar with 1/12 electric car racing, it may be rather less attractive because it features front-wheel drive which is generally regarded as being uncompetitive. Personally, I dislike full-size FWD cars due to their well-known terminal understeer characteristics (the characteristics caused me some anxious moments during my rallying days). It is worth noting that *Ford* are currently developing a rear-wheel drive version of the latest "Escort" FWD for next years works rally cars, as it is impossible to transmit more than 160BHP through the front wheels.

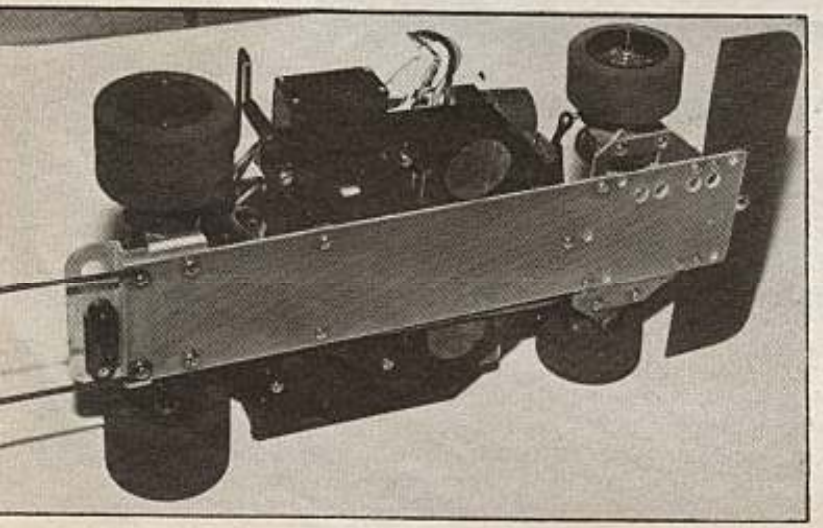
As I simply do not have the time to become heavily involved in electric car racing, I wanted a car which would allow me to acquire the technique of driving them with the minimum effort. In this respect the *Robbe Porsche* is ideal. The chassis is completely assembled and needs only the batteries and radio gear to be installed to complete it, while the polycarbonate body-shell is supplied painted white on the inside and with a full set of stick-on vinyl decals.

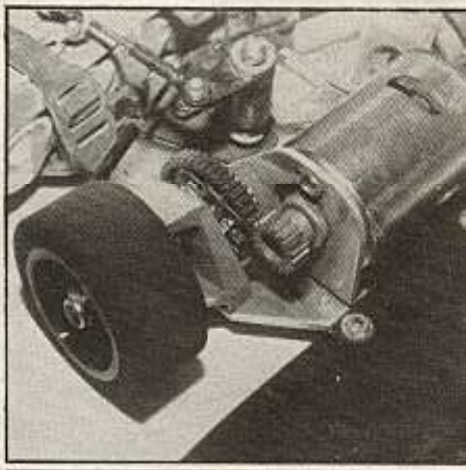
Assembly

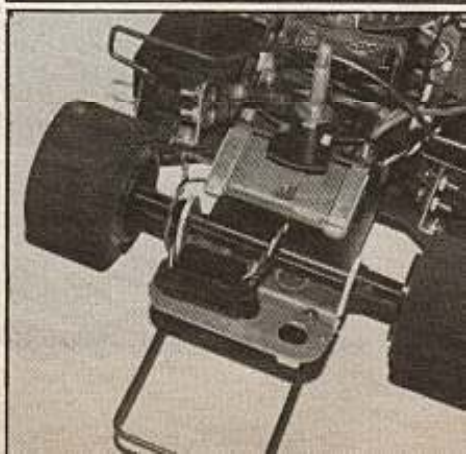
A full set of brackets, nuts and bolts are supplied for mounting the servo's and these, together with two sets of slotted holes in the chassis, allow virtually any type of servo to be fitted. Low cost *Futaba* type servo's were used and the linkages supplied fitted these with hardly any adjustment being necessary. Two brackets in the centre of the chassis support a standard battery box with the receiver mounted on top of it, the whole being retained by a rubber strap. Similar straps retain the six-cell battery pack for the drive motor. In order to save weight and reduce battery costs a voltage regulator (see Model Cars Quarterly, Spring edition) was connected between the drive battery and the receiver battery box. Addition of the various decals to the body-shell completes the car, apart from the painting of the driver figure which is moulded in clear acetate and can, therefore, be painted with virtually any type of paint to your taste.

Running

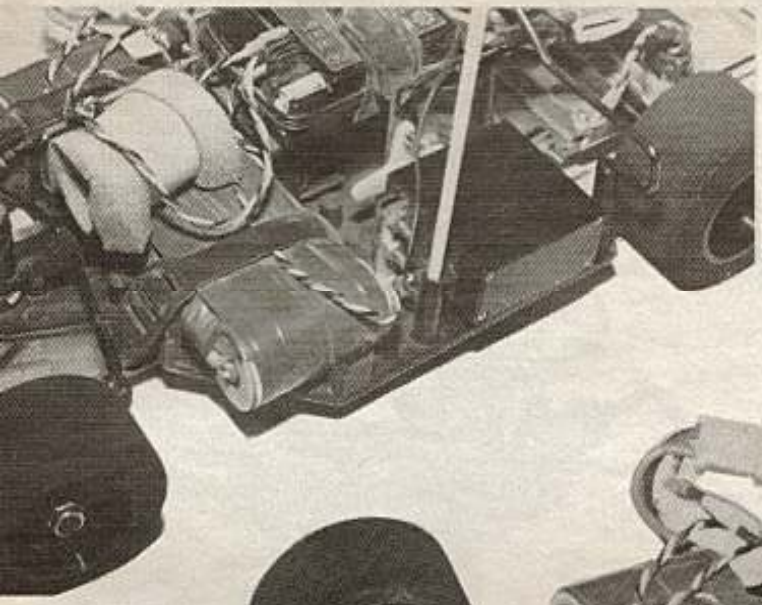
Three different gear ratios are supplied with the car, the highest ratio being fitted when received. On this ratio the car is quite fast and has a running time of 4-5 minutes depending on type of use. The speed controller is of the mechanical forward and reverse type with no braking being fitted (a brake kit is available as an extra) and the only quick way of stopping is to apply reverse which shortens the running time considerably!



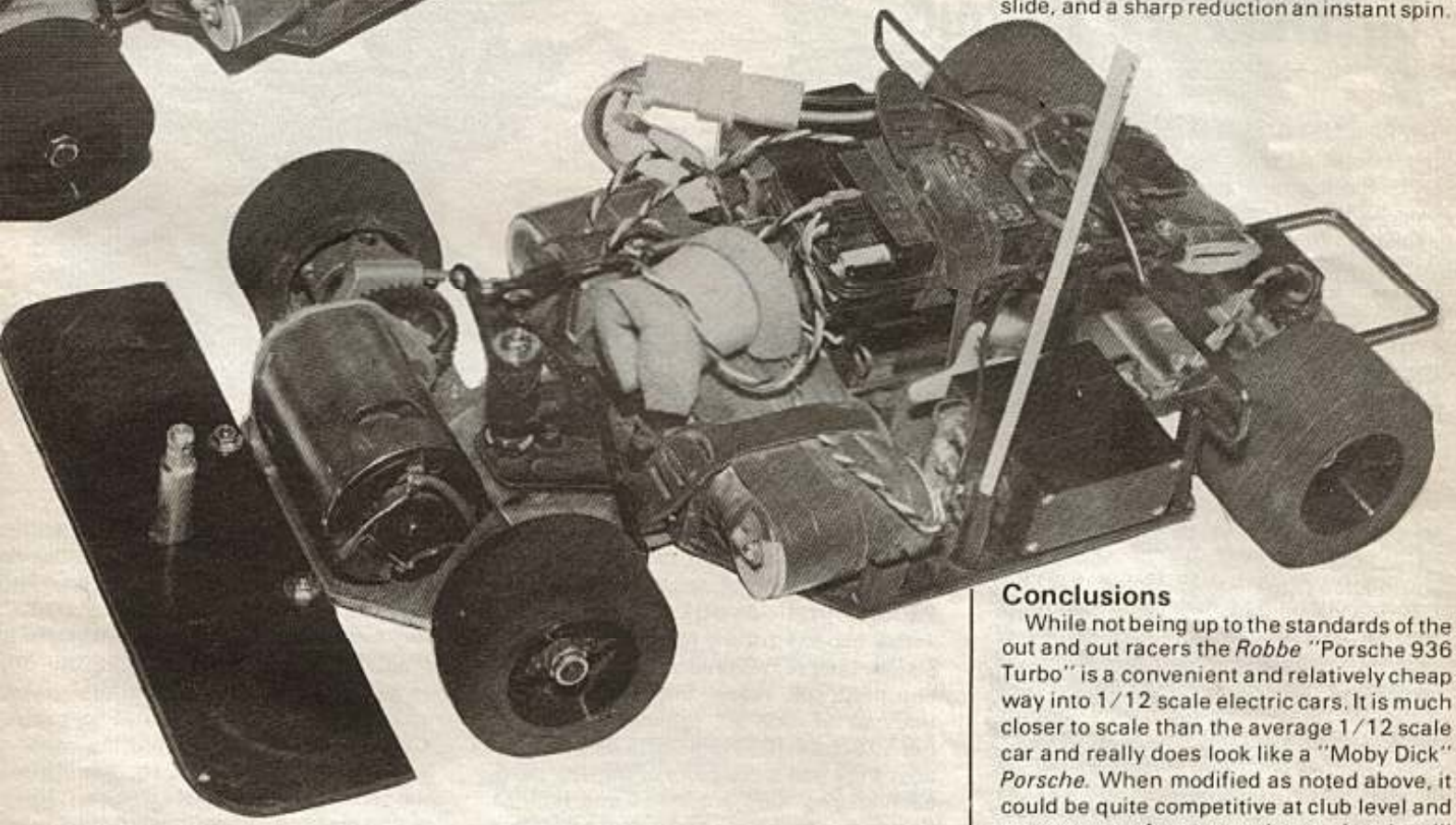




Left: the underside of the car showing the full length glass fibre chassis one of the areas in which the car may be lightened by fretting out. Above right: close-up of front end assembly. Below right: the other end showing the forward/reverse proportional resistor speed controller (contacts between the wiper arm and coil should be cleaned regularly).



Left: Ni-Cad pack secured by quick release harness. Note voltage regulator packed in foam for protection.
Below: the finished item ready to go bar bodyshell fitting.



When more than about half power was applied, the car simply would not steer and plunged straight on into the scenery. As supplied, the front wheels have a considerable amount of toe-in and removing this helped somewhat, but did not cure the problem. This was, of course, roughly what I had expected and much fun was had driving the car in this form and lifting off to go round corners.

Taking a second look at the steering one day it was noted that when on full lock, the wheel on the inside of the turn was not moving as far as the outside one. Usually, of course, the inside wheel moves further, this being known as "Ackerman" steering. I queried a local expert on this point and he said: "Ah, yes, that's reverse Ackerman invented by *Associated*, it gives better handling."

Not being one to question the experts, I immediately examined the car again to see if there was some way that I could convert it to true "Ackerman". The servo-saver is supported on a bolt which is screwed into a tapped hole in the chassis and, curiously enough, there is another tapped hole in the chassis roughly where I would expect to find one in order to give the correct geometry for "Ackerman" steering!

A few minutes work had everything changed around and a longer link made up to the servo (see photo's). The result was a complete transformation and the car could now be steered at high speed. Once started into a turn, an increase in power merely causes the car to drift outwards with virtually neutral handling, while a reduction in power gives an oversteering slide, and a sharp reduction an instant spin.

Conclusions

While not being up to the standards of the out and out racers the *Robbe* "Porsche 936 Turbo" is a convenient and relatively cheap way into 1/12 scale electric cars. It is much closer to scale than the average 1/12 scale car and really does look like a "Moby Dick" *Porsche*. When modified as noted above, it could be quite competitive at club level and we can say from experience that it will withstand a tremendous amount of punishment.

The *Robbe* "Sonic-Sports Porsche 936-78 Turbo" is distributed by Europex UK Ltd. and available from your model shop, price £38.31.

Below right: steering layout in its original position. Below left: modified layout to give 'Ackerman' type steering. Note modified track rods.