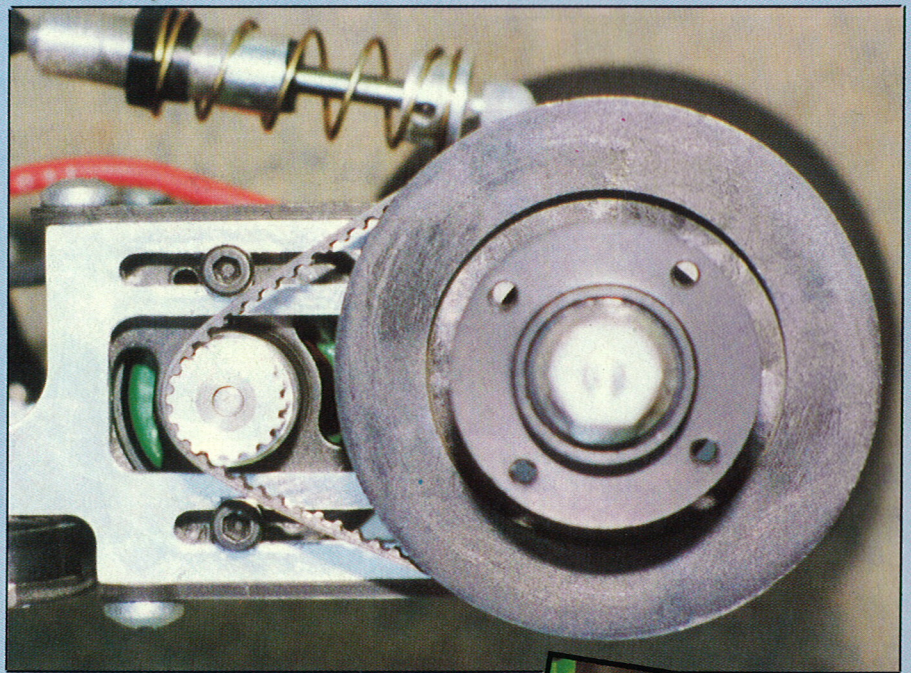


HYPER



⊙⊙ *The Hyperdrive system.*

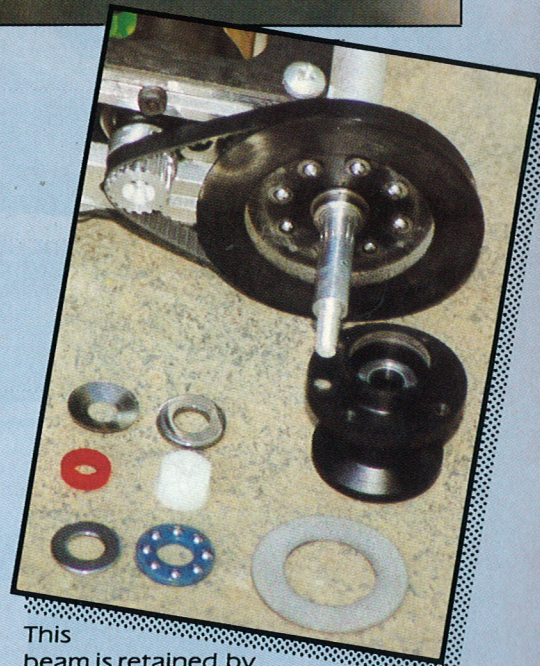
⊙ *The very smooth unassembled differential.*

(U.K. agents for Hyper drive) was the Hyper 10 Competition, all singing, all dancing version that, to be fair, has been raced in the U.S. for some time. In fact the Hyper 10 has held the world speed record for Pro Ten cars in the hands of Ralph Burch Jnr, quite an achievement!

Hyper 10

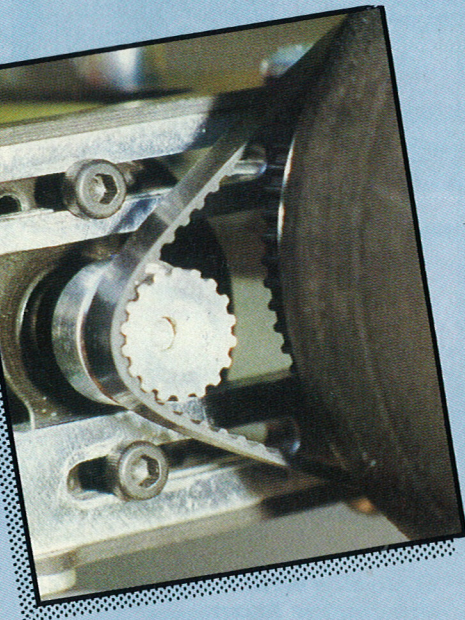
On paper the car looks very impressive. It includes amongst many other things a graphite chassis and differential, ultra lightweight Delrin differential hubs, adjustable ride height and adjustable wheelbase!

The front end of the car is in many ways very similar to other popular, successful Pro Ten cars. It consists of an aluminium axle beam that supports the steering blocks and servo mount.



This beam is retained by two aluminium mounts, with the right hand one having adjustable tension so that the amount of caster can be altered by simply turning a screw.

A small graphite plate is attached,

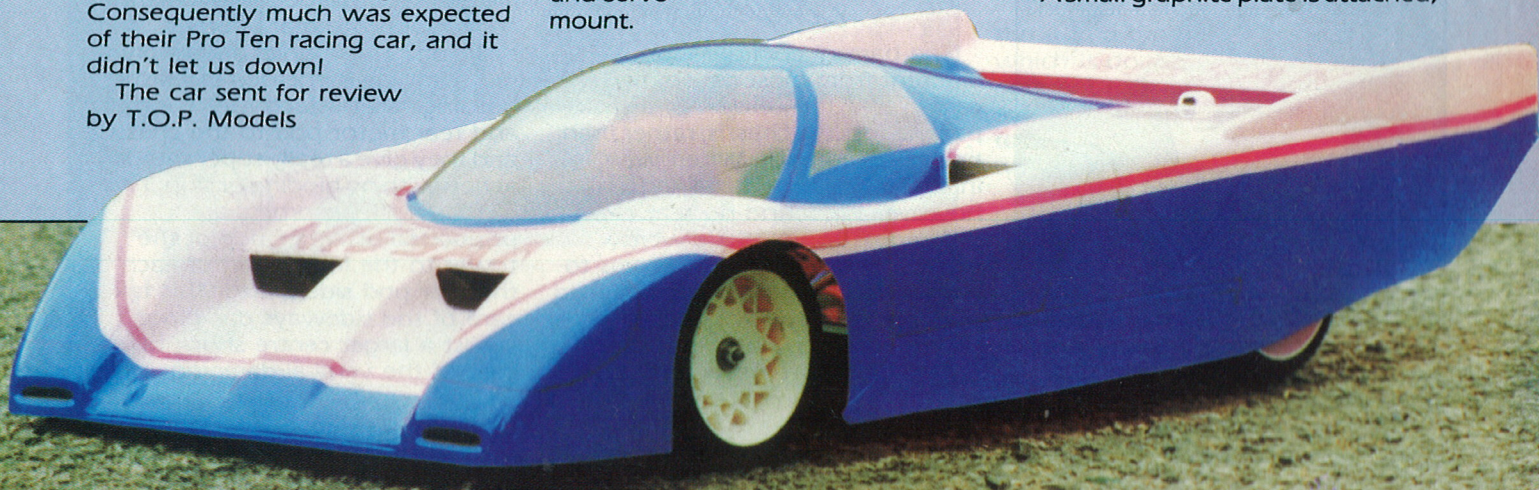


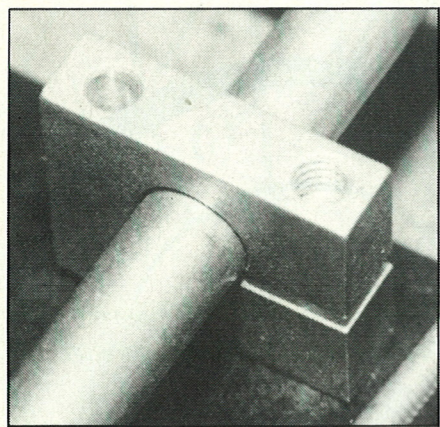
10

RRC tests the latest Pro Ten racer from the USA

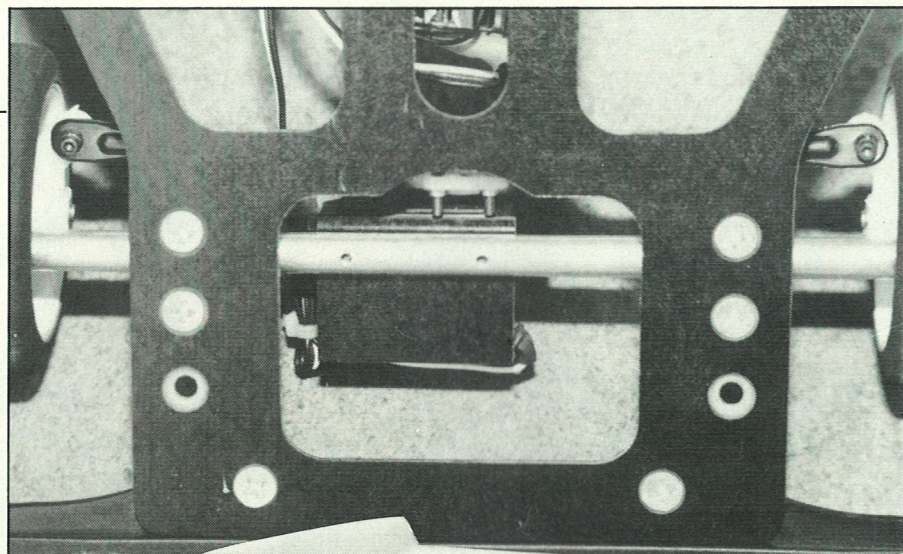
Hyperdrive are an American company that have been making exceptionally high quality model car accessories for some time now. They have, in no small way, revolutionised transmission systems for both circuit and buggy cars with their unique belt drive systems. Consequently much was expected of their Pro Ten racing car, and it didn't let us down!

The car sent for review by T.O.P. Models

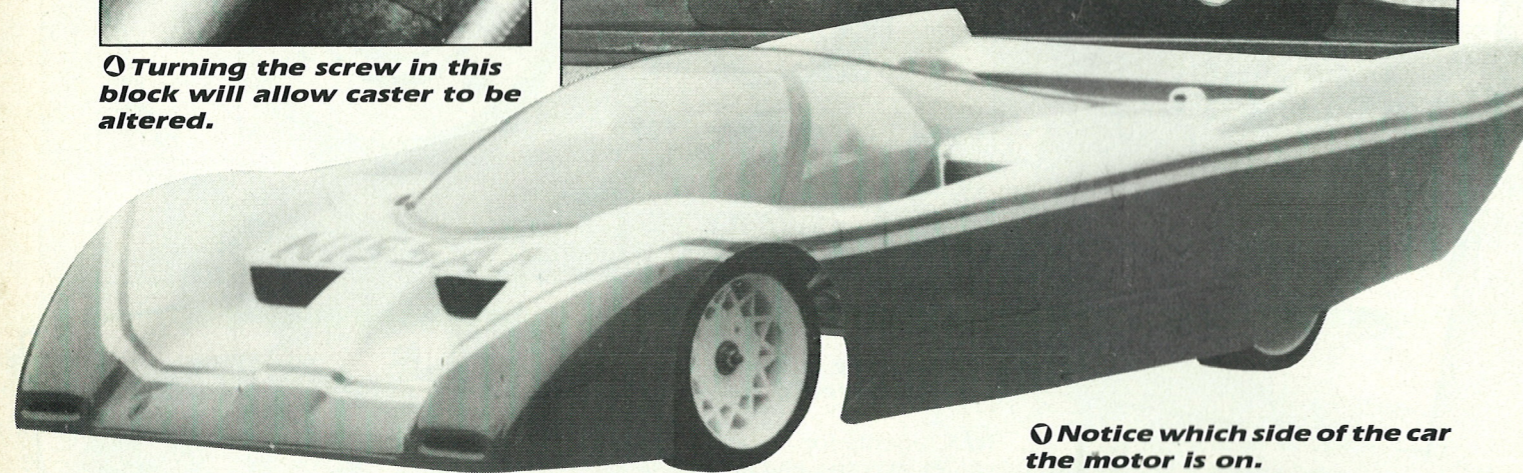




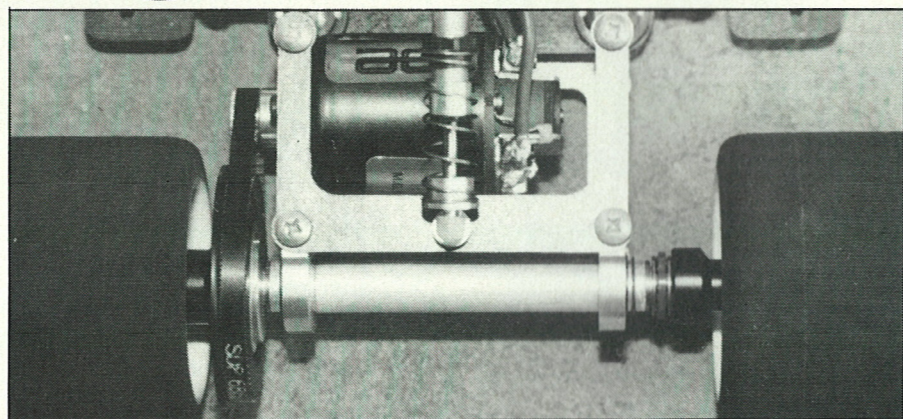
Turning the screw in this block will allow caster to be altered.



Notice which side of the car the motor is on.



just off centre, to the top of the front axle beam that the servo, in our case a Futaba 132H, is fixed to. The reason for doing this seems to be because the chassis has weight saving cut outs where the servo would normally go. This is quite a good idea as it leaves plenty of room for the rest of the radio gear, ie speed controller and receiver.



Hyper 10 Competition

The battery configuration is different from most other Pro Ten cars in that the cells sit in a stick pack, across the chassis, rather than being saddle pack. When we initially track tested the car however we found no real differences to what we were expecting, so this set up seems to work well. The nicads are retained at either end by cut down 'Associated' type holders, which makes battery removal easy, as

there is no need for any tape, etc, to keep the cells in place.

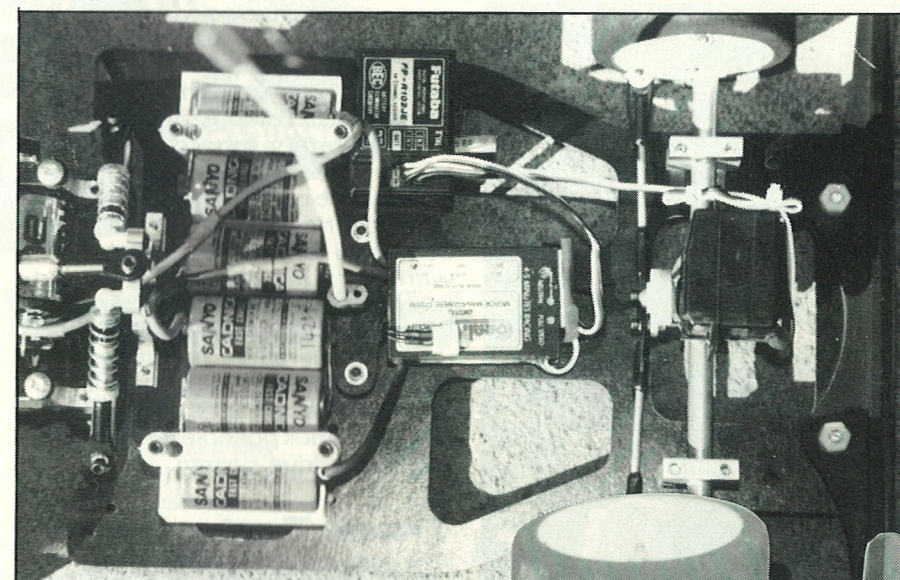
Just behind the cells is the shock absorber tower. This is a neatly machined piece of alloy that has fixings for all three of the small oil filled shock absorbers. Movement is achieved at the rear via four balljoints. These units are simply four alloy balls encased in plastic housings that attach the 'T' piece and rear motor pod to the chassis, and they give a really super smooth action with no binding or slop. Two of the shock absorbers are positioned at either side of the tower to the lower part of each of the rear pod side plates. This takes care of the sideways damping, whilst a larger centre shock takes care of the vertical damping. This

Front steering blocks and springs.

Underneath showing adjustable wheelbase.

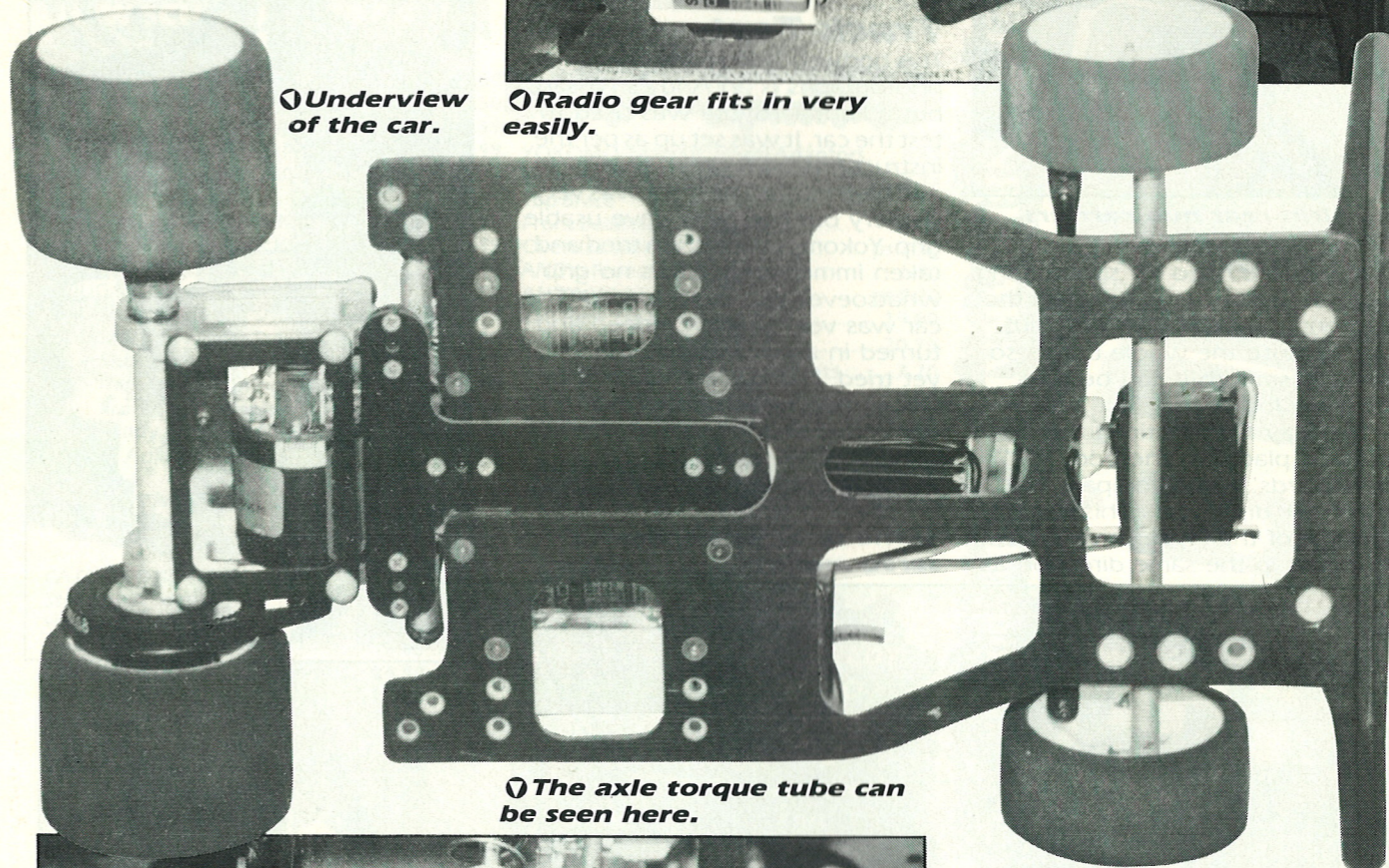
unit is positioned behind the shock tower to a graphite plate on top of the pod side plates.

It is important that time and care is taken when constructing the shock absorbers so that a smooth action is achieved. A choice of two spring tensions is available for all of the shocks and the instructions suggest that they are filled with 10wt oil. As already mentioned the rear pod consists of two machined alloy sideplates and an upper and lower graphite support plate. Apart from going together very well and

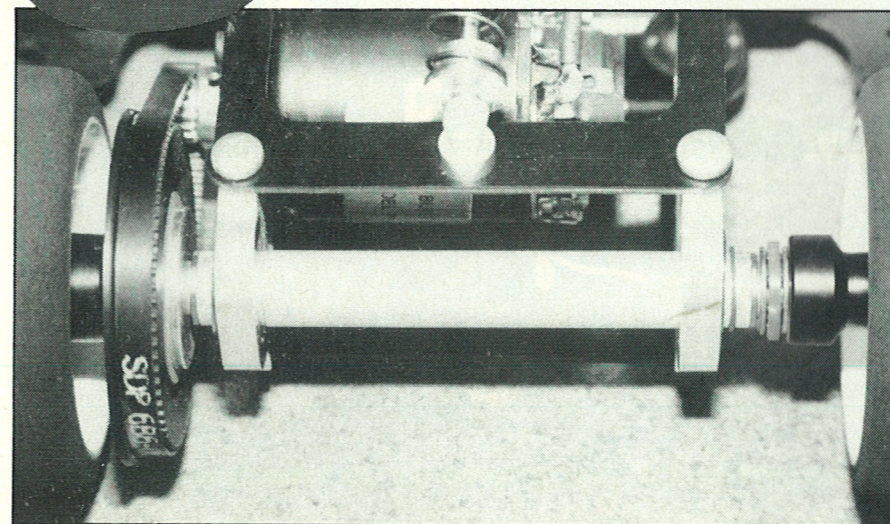


Underview of the car.

Radio gear fits in very easily.



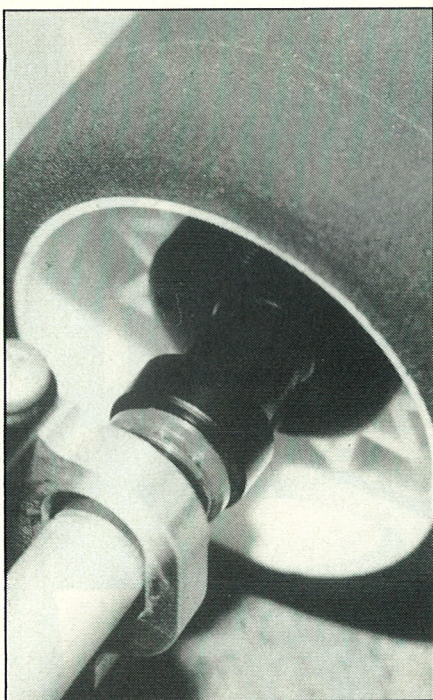
The axle torque tube can be seen here.



being perfectly square, the whole of the rear pod should be a really good 'heatsink' for the motor.

The rear carbonfibre axle runs through a type of torque tube which is double ballraced. Three different ride height adjusters are available for full adjustability. The tube is retained at either end by two large 'E' rings.

The wheels are fixed to black Delrin hubs which are lighter and stronger than the alloy type. The differential pulley (spur gear) is also ballraced for optimum efficiency. The diff rings are of a simple but clever design as they have an abrasive side that rides on their carriers to



⓪ **Delrin rear hub carriers.**

eliminate the need for supergluing them on. Tension is adjusted for the differential via the usual locknut, and because the whole unit is so free and smooth it can be run relatively loosely.

You may have noticed that the motor is placed in the pod 'backwards' when compared to other gear driven cars. This is simply because of the Hyperdrive system, as it runs in the same direction as

the motor, ie anticlockwise. The kit consists of two motor pulleys, two differential pulleys and two belts giving a fairly wide choice of gear ratios. Belt tension is one of the most important aspects of this car as you have to get it absolutely correct. The belt should be adjusted so that it has about 1mm of deflection when pressed lightly with your fingertip. Any tighter and too much drag will occur. Any looser will cause the belt to slip under acceleration. A comprehensive, self-adhesive gearchart is supplied with the kit showing all of the gear ratios possible when using the Hyperdrive system.

Track Test

The body shown in the photographs is an Andy's Nissan, but a Parma Toyota was used to test the car. It was set up as per the instructions with green rear tyres and blue fronts. The track was very slippery but the tyres gave usable grip. Yokomos were then tried and taken immediately off as no grip whatsoever was experienced! The car was very smooth indeed and turned in as well as any other car yet tried. The ballance with the 'stick pack' nicad configuration worked well and the car was generally very good indeed.

Further intensive track tests of

⓪ **The front end showing servo mount.**

the car will take place throughout the winter, with experiments on the shock absorbers and belt efficiency.

There is no doubt that the Hyper 10 has got great race winning potential and surely it is only a matter of time before the car begins to make national A finals.

Available from T.O.P. Models. ●

⓪ **The shock absorbers should be built carefully.**

