



The rear window will need to be part cut out for engine cooling.

When the Editor asked me if I would like to review this kit I was most interested to see how well engineered the car was compared with other mainstream producers cars. The basic idea behind this car is that for an all in price you get a great deal of the equipment that would normally be considered optional extras.

## What do you get?

The model is supplied as a chassis, the body shell and engine/pipe assembly are not included.

The chassis on this car is a double decked arrangement with a purple anodised alloy lower plate with countersunk screw holes for the suspension component bulkheads and recessed areas for the engine and steering servo mountings. To improve the stiffness the chassis has a pair of flanges part folded up at each side of the rear bulkhead mount. The suspension is standard RS4 with the provision to run the car in either 200 mm overall width or the current hot arrangement - scale Saloon (190 mm) width. It is a simple matter to reduce the width to the narrower size but to reverse the process requires a little more attention to the instructions!

The car includes a full set of quality ballraces - more kits should supply ballraces with their kits. I can understand the logic of supplying metal bushes but my experience with kits using plastic bushes has been unsatisfactory. You also get a full set of excellent alloy bodied dampers with a choice of Teflon pistons with the kit and some decent silicone oil as standard. The high zoot orange and white progressively wound springs are excellent.

## Morning Assembly

I found building this car to be a very pleasant task. Everything fits together well without the degree of slop that seems to be the norm with some manufacturers. Setting the recommended geometry was a simple task thanks to the turn-buckle links. When you are building shocks you

might want to try some RCPS green slime. If you oil the 'O' ring shaft seals with damper oil before you push the threaded shaft ends into the seals assembly is much simpler. It is good idea to lightly sand down any sharp edges of the damper threads with some very fine emery cloth. Provided that you allow all the trapped air bubbles to escape before you fit the rubber bladder and end cap the dampers will work great.

The transmission system of the car features bevel geared differentials that rapidly run in become extremely free very soon after the car first runs. The rear axle differential is located in eccentric adjustable collars that allow accurate drive belt tensioning. The drive to the wheels is by way of some very neat universal jointed steel drive shafts with pin drives at the differential ends. The result is very efficient drive train. The rear belt drives the layshaft complete with Ferodo material brake pad. The layshaft is driven by the engines clutch drum. In standard trim the car is single speed but a 2 speed conversion is an optional extra. For serious racing the 2 speed gearbox will be an essential fitment.

A short belt couples the layshaft to the slave shaft in front of the engine thence on to the front differential by way of another belt. If I have a complaint about this kit it has to be the absence of a brace between the layshaft and front slave shafts. There is close to 1/3rd of a horsepower being transmitted across the short belt. There is a great deal of shaft overhang. I gather HPI offer a brace kit complete with tension pulley. I feel that this should be included in the kit. The rear bulkhead, layshaft housing and radio tray are neatly linked together with a nylon brace that works very well indeed. I like

## 'this car is well engineered is reasonably priced and it goes like a rocket'

the way that the radio tray stiffens the lower chassis, it is a good design feature.

## Engine room

The go department deserves some comment. The car will accept .12 and certain .15 engines that use small crankcases. Engines using 3.5 cc crankcase sizes will not fit. Obviously all HPI engines will fit along with OS Max .12CV in pull start and non pull start versions. Thunder Tiger and Dynamite also will fit. Beware some engines with slide carbs will not fit in the restricted space available. HPI have helpfully put some instructions on their Internet site to help in fitting slide carb engines. A Nitro Star 15SS was fitted in the RRCi car along with its complimentary tuned pipe and manifold. The engine mountings in the kit are designed to fit pull start equipped engines. If a standard engine with no pull start is fitted then lower blocks are available along with a smaller diameter flywheel. The kit includes a silencer but it is highly recommended that a tuned pipe is used it gives the engine an easier time with less heat build up in the cylinder. Remember that a decent manifold and tuned pipe will make the car faster. I like the clever use of rough knurling on the end of the silencer where the silicone joiner fits. I am a little concerned that the outlet pipe sticks out and could be damaged when some fender rubbing occurs in racing. It would a wise move to reform the wire hanger so that the pipe outlet faces downwards and does not protrude so far. The car uses a twin shoe centrifugal clutch system with steel hairpin springs. Fitting the flywheel requires care. The retaining nut needs to be very tight. The tension of the springs is quite high so the point on the power band of the engine that the shoes actually engage fully with the drive gear bell is quite high. With 4 wheel drive and a tuned pipe the threshold of gear engagement is higher than a two wheel drive car. The fuel tank is a typical flip top 75 cc capacity job. It should be allowed to float on its mounting screws to fuel frothing with engine vibration. It is good idea to install an in-line filter.

## Radio

Fitting the radio equipment is a delight with this car. The kit includes discrete servo horns that will fit most if not all common radio gear. In the past the Hi Tec servos have caused the author grief because of their non standard 24 spline servo output shafts. HPI cater for Hi Tec servos with very neat moulded horns.

I used a Hi Tec Hs60-5BB servo for steering duty. For the throttle I am using a MS-X6 budget servo from at Punctilio Model Spot. The throttle operation is a lot easier on servos than steering duty. The servo still has to be accurate and what is more important - 100% reliable. In my experience dealing with many newcomers cars it is very surprising how often people spend a great deal of cash on a new car then fit poor condition radio gear to it.

## Linkages and tidying up

Obedying the fitting instructions to the letter the Throttle and brake linkages set up resulted

in a first class operating system. I used a 5 cell AA welded battery pack to power the radio gear. Please do not use loose AA batteries in battery box in cars such as this. The chance of a bad connection occurring are too great. I used a 27MHz Novac Mercury receiver, and I am greatly impressed with this unit.

Body mounts are neat and there is the option of a facility to mount Tamiya bodies if required. The front bumper is very tough and will protect the rest of the chassis in the event of a good shunt. Consideration should be given to fitting one of the foam body savers to the top of the bumper. The wheels are lightweight strong and neat looking. The treaded pattern moulded rubber tyres not only look great seem to work well on some very poor surfaces. A set of foam inserts give much need support to the tyre carcass.

## The body beautiful

There are several options available with regards to bodies suitable for the car. I wanted to run the car in its widest state. HPI fortunately offer the following shells of suitable width:

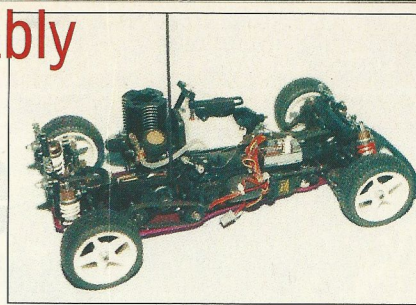
Ford F150 pick up truck, Mercedes CLK GTR, Chevrolet Corvette, Porsche 911GT1, Lamborghini Diablo, Ferrari F355, Dodge Viper, Honda NSX, Dodge Ram Truck, McLaren F1 GTR.

Not a bad choice, thanks to Mirage I was able to fit a Corvette shell. Some of the windows will have to be cut out to allow decent motor cooling or the engine will overheat with dire results.

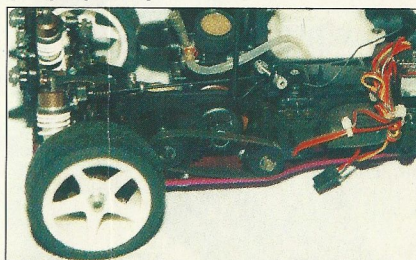
## Running the RS4 IC

After filling the fuel tank with Tornado 25% fuel starting the engine was easy in spite of the piston/liner fit being quite tight. It fired up on the 3rd pull of the starter after priming the engine with fuel with the glow plug removed. It ticked over superbly. I ran about half the tank out gradually using more throttle. After about 3 minutes I let it cool down then took the car out onto the test track and let it run rich for the rest of the tank. The second tank full showed that this car wanted to go. So I gradually leaned out the main jet mixture and the car got faster and faster. Eventually I gave it some real stick and believe me this thing is one of the fastest cars on initial acceleration yet tried by the author. Son Stuart decided to try the latest toy and lost control and belted a kerb very hard. Damage was remarkably light for such a hard impact. A front damper mount being all that broke. After a few words from the Author (!) and some repairs it was back to the running in process - the car was getting faster all the time.

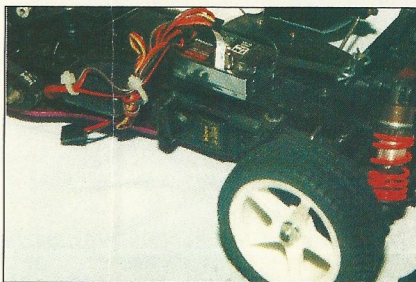
The car was tried at the Ryton stock car oval, the venue of the 1998 World Championships. Here the car was quite brilliant in both speed acceleration and cornering. For a pull start equipped engine this car was faster than any of the stock cars there on the day. Stuart found he could throw the car into the corners and four wheel drift the car all the way round. It looked highly impressive and is easily the fastest 1/10th scale car ever driven around that circuit. All in all I am very pleased to report that this car is well engineered is reasonably priced and it goes like a rocket.



Typical modern 3 belt, 4 wheel drive layout with quality engineering.

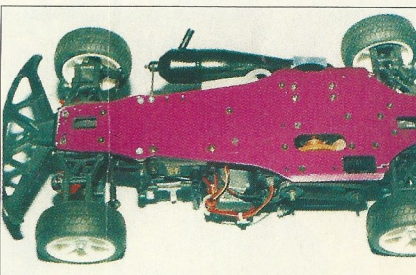


The slack mid belt referred to in the text. The brace is an essential upgrade.



Steering servo with spring loaded servo saver. A neat slop free arrangement.

From next year this Radio Race Car magazine are joining forces with HPI to run a race series for all the HPI cars including the Racer. I am so impressed with the Racer that Stuart and myself will have a go at some of the rounds with this car - come and join us! **RRCi**



Smooth underside of chassis already showing battle scars from running!

## Quick Spec

1:10th scale competition rolling chassis kit. Requires Nitro .12 or .15 engine and accessories, Body shell, Radio gear to complete.

## Likes:

Engineering, quality Performance with HPI .15 engine Ease of build

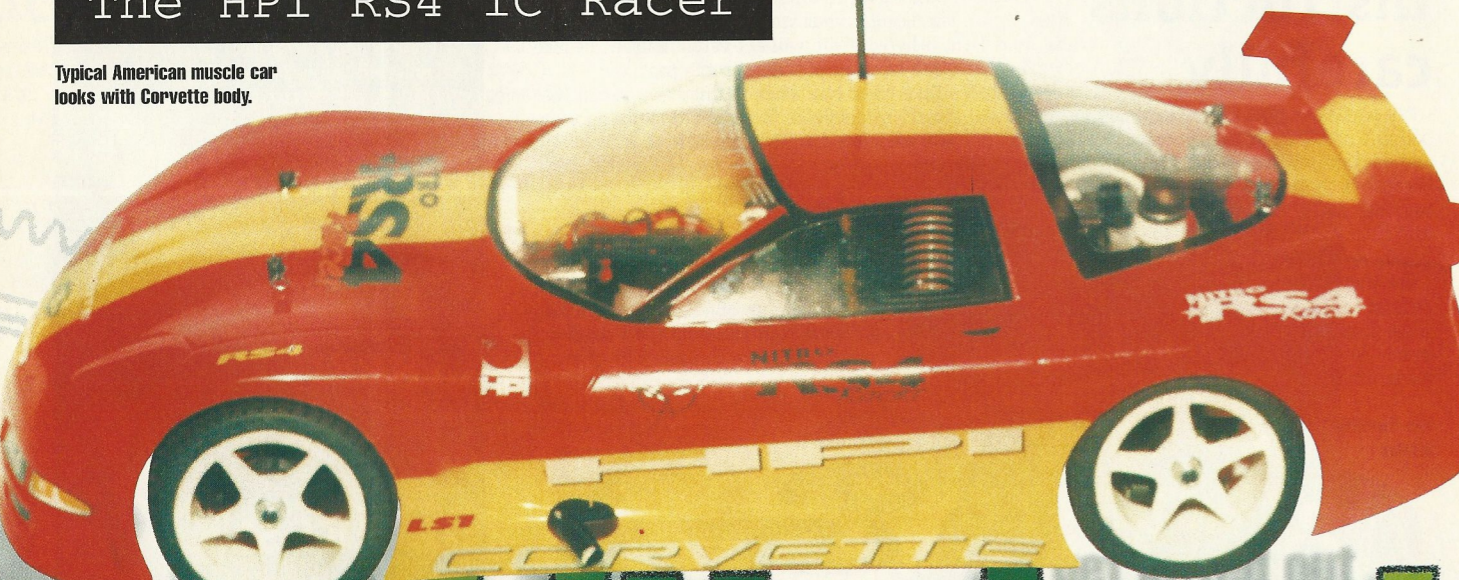
## Dislikes:

Slack Belt Lack of chassis bracing

# I see a winner

The HPI RS4 IC Racer

Typical American muscle car looks with Corvette body.



# get kitted out