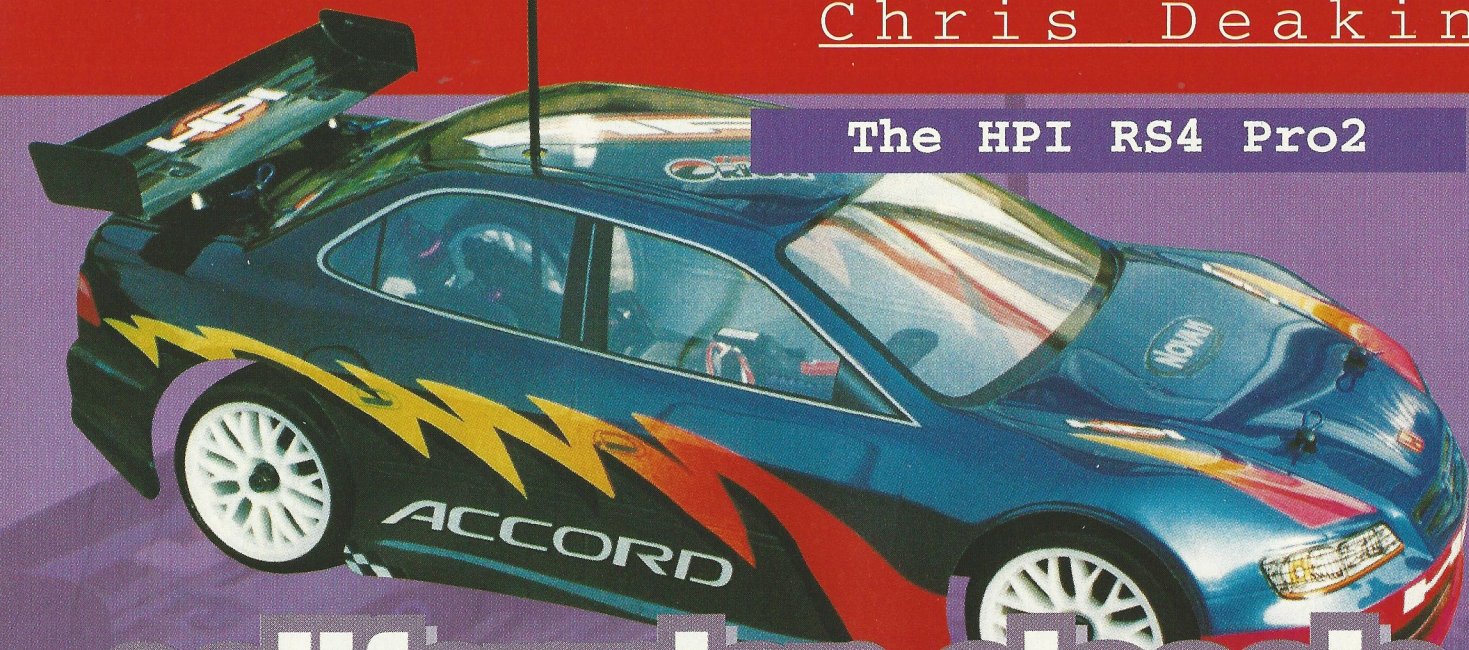


The HPI RS4 Pro2



californian classic

And then the phone rang. "Hi Chris it's Pete, how's things". "Not bad thanks, just not enough racing at the moment." That was the start of one of many long conversations I have had with 'himself' recently, and just like all Godfathers PeterE made me an offer I simply couldn't refuse, indeed I was more than pleased to accept. No doubt by now you will, as regular readers of RRCi, know that the magazine has joined forces with HPI Europe to promote a true low cost electric racing series. Something that I wholeheartedly agree with. Luckily for me also at this time HPI have just released their new top line electric racer the RS4 Pro 2. So with thanks to Mirage, HPI's UK partner, a

large box of goodies arrived at chateau Deakin. My brief from our Ed being to build, review, race, then pass the 'sorted' car back to be used as one of the Race Car 'guest' cars in the race series.

Guess who did it first

The Pro 2 is in fact a third generation RS4, the first version being reviewed in RRCi in August 1996, when I was sitting in the editorial hot seat, as part of the Scale Saloon Shoot-out. Built and reviewed by one Dez Chand, a name to strike fear in many a racer. The RS4 received some very high praise from Dez, so

much so that a second review of a fully loaded carbon fibre chassis RS4 came from Mr Chand's keyboard later that year. At that point HPI had no real solid UK commercial trading base and many certain RS4 sales were lost to other manufacturers. Well with the partnership with Mirage, HPI have now an 'in your face' marketing tool. This will help to guide the RS4 and the whole HPI range to the position in the market place they deserve. This has got to be good for all you fun and sport racers out there. The basic layout of the RS4 has stayed throughout out all its revisions, if it ain't broken don't fix it, comes to mind. So we have a very normal Scale Saloon layout, i.e. Twin Belt 4wd, flat chassis radio plate, open plan transmission etc. A fixed drive middle layshaft is carried up high on a slim alloy motor plate to allow the heavy motor to sit as low as possible, a major plus point in the handling stakes. One way drive pulleys are available as an option. Do take care though with your ratio choice with the long gears that scales seem to run it is possible to get the motor can hanging below the chassis. Twin steel ball diffs take the drive to the wheels via some very smart purple lightweight alloy M.i.P

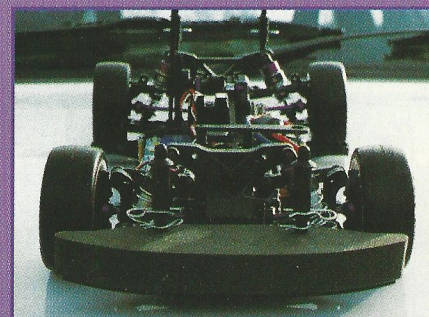


The kit wing should give plenty of downforce

The space for the electronics is very tight



springs. HPI have also made the Pro 2 a little brighter by adding a nice coat of purple to several of the alloy parts in the kit, got to be worth a least 1/2 a second a lap. You get a foam front bumper to protect that expensive paint job and some very neat adjustable body mounts to mount it with.



Adjustable body mounts are a nice touch

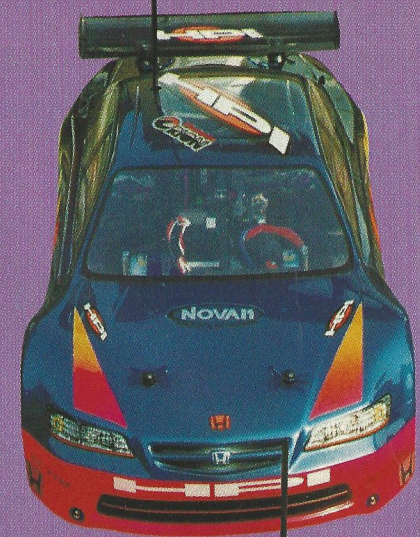
CVD drive shafts. These are without doubt the very best in the world. Zero backlash, drag free and totally re-buildable. The diffs and drive shafts all run in some of the very latest Teflon sealed low friction ballraces. At the rear the original Pro double wishbone rear suspension has been kept. At the front the original RS4 double wishbone suspension has made a return. This change was requested by that many racers than have visited the HPI web site, some manufacturers do listen it would appear. I must also mention here the fact that HPI include extra mouldings in the kit at no extra cost, these allow three different caster settings 8,10,14 degrees and two different levels of rear toe adjustment. In my book this makes the Pro 2 one of the most adjustable cars straight from the box I have come across. The mounts for the suspension etc. have not changed at all, except for a change of material for some of them. The twin bellcrank steering system has an integral servo saver and has been redesigned for increased ackermann, i.e. inside wheel turns a greater arc. The platform for all these components is a 2 mm thick carbon chassis and carbon top deck. A nice feature being the moulded trays, no filling of slots and absolutely no chance of the pack 'shorting' through the carbon chassis, neat. All these components are all sprung by some excellent hard anodised alloy shock absorbers and some softish

Get tooled up

As with any kit build it is essential to have the right tools, the type of plastics used in many of the mouldings can take a great deal of effort to cut a thread in them, using an assembly lube does help a lot. Do make sure you have a really good Phillips screwdriver, a sharp craft knife will be needed to dress a lot of the mouldings. Please be careful, and never work close to young children. Along with the supplied Allen keys and nut wrench all you really need are some needle nose pliers and a vernier. As the Pro is kit only you will also need to acquire radio gear and electric's. The Pro will accept any of the current range of servo's, KO being my choice. A mini receiver is a must due to the lack of space, again KO was my choice. Also due to the small amount of space the speed controller will have to be quite small, my Novak Cyclone being a bit of a squeeze. Andrew Robson HPI Team driver uses a Novak Atom for just that reason. On the motor front as the Pro was being built to the HPI/Race Car series spec, a 12 Triple Orion BB was chosen. A nineteen page manual gives you all the information to build the RS4 in a very clear pictorial form, a supplemental sheet suggested there were several modifications that were to be done by HPI, in fact all the modified parts were included with my kit. Now for the only real moan I have with the kit, HPI seem to have a very annoying habit of not packing the parts bags in kit order. If you build in bag order you often find that a part will not be included in the bag that the instructions suggest. The only way is to open all the bags and separate all the parts using the parts reference page. Also never throw any of the parts sprues away till the car is completely built. You may end up looking for that spacer or belt guide.

Tip time

I'm not going through the build screw by screw, there is no need the instructions spell it all out, however there are a couple of recommendations I will make. Spend a lot of time on the preparation of the drive line parts. Make sure all the ball races fit in their respective housing with out being to tight. Ease them with a knife or a dremmel. The layshaft mount into the motor plate was just one of several tight fits. I did find that the drive washers for the diff were best fitted with their radiused side to the middle pulley, the diffs just ran that bit smoother. As ever the thrust bearing requires a steady hand and lots of grease to build. Once assembled the transmission should be very free indeed. Most of the mouldings in the rear suspension needed some work to free them up so that they would drop smoothly. When you glue the belt guides to the various pulleys be very sparing with the super glue it would be very easy to fill some of the teeth up. Thin super glue is a no no. I did try assembling the rear suspension a few times to see how slack I could run the rear drive belt, the recommended no 5 position was I felt a little tight. I settled on position 3, but this may be too slack only a track test will tell, this really is down to each kit and individual builder. The rest of the kit just slid together with no real problems at all.



Top: '98 Accord shell will be a very popular choice Above: 3 Litre VTEC, that will do nicely

I did short circuit the instructions slightly by building the dampers first, this gave them time to bleed out all the air in the shock bodies. Use a little of the grey supplied grease on the 'O' rings for a real slippy fit. Also checking the memory banks from the previous review I filled the shocks with 50 wt oil rather than the kit supplied 30 wt. When I came to the spur/pinion gears I dispensed with the kit supplied 68 dp gears, as the ratio was very short, 7.33:1 only really suitable for 8 or 9 turn motors, and fitted a 48 dp set from my own box of goodies, giving the maximum allowed gear ratio for the series of 5.8/1. This ratio has been set so the series racers don't need the most expensive Nicads to stay competitive. With the space available it is important to fit your radio gear neatly, speeding drive belts make very effective saws. Using the very neat adjustable kit supplied body mounts it was a breeze to fit the Terry Atkinson painted Honda Accord '99 bodyshell. The decals suggesting I had a 3 litre power plant, I wish. The last part was the soft kit slicks these being series legal tyres. Trimming the inside edges of the sponge inserts made them fit a little better to the multi-spoke rims, mind the super glue as you fit them. If you want to run the Pro to the maximum legal width you will have to use the supplied wheel spacers.

'excellent hard anodised alloy shock absorbers'

It's a set up

As ever I went through the set-up of the car after the build. With the Nicads fitted I had just got a 6 mm ride height, with very little droop at the rear and none at the front. This I think will not be enough travel or running clearance, so I will expect to alter the shock lengths come track test time. The given lengths for the turnbuckles for both front and rear wishbones gave 1 deg positive camber all round, a quick run round with a spanner and camber gauge changed this to 1 deg neg (wheels face in at top). Tracking at the front also needed adjustment. I must admit to being a little disappointed with the level of information on set-up supplied with the kit, in the past with HPI kits there was often several pages of very valuable information. Not so this time. One adjustment they have missed totally are the 'tweak' screws in both front and rear lower wishbones. These can be a great help, in low grip condition you can stiffen the front springs against the front stop. This makes the suspension much harder without raising the ride height. Only do this if the track is smooth though. Do make sure that each side is adjusted equally, else the car will not run straight under power. In high grip conditions do the same with the rear. Use both sets of screws if the car is grip rolling, i.e. stiffen both ends. With the extreme level of adjustment available with the RS4 Pro 2 1/2 a page is just not sufficient, I think HPI should check out some Serpent instructions, as they set the standard.

Track time

Ashby again folks, but wait a minute who's nicked the rostrum?, ho hum it will be nice when it is finished! Weather, dry, bright, yes even warm. But look at the dust. Yes due to the current redevelopment at Ashby the track was far from its best and as the 1st round of the series was to be held there in a little over a weeks time I decided to test anyway.

Straight from the gun it was clear that my fears had been realised, the low ground clearance and lack of travel made the Pro 2 jump around very badly. It was a simple job to lengthen the shocks to 66 mm at the rear and 65

mm at the front. The extra length at the rear would give more traction. Once this was done the car was transformed, although the track was very dirty the soft slicks gave a lot of grip. Slow corner turn in was a little woolly, so I changed the caster for the lowest setting, 8 deg. A quick strip and change of front suspension blocks gave the desired result. In and through the corners power could be applied very smoothly. I did lose a little high speed steering but that was to be expected. With the amount of dust around it was just as well. In fact the dust made me pack up quite early, as the car was covered. I must apologise for the lack of track test information I will do an up date after the first round of the series.

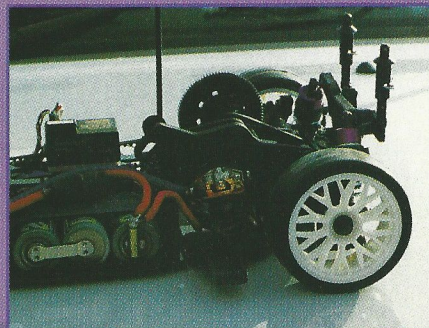
Last lap

First impressions suggest the RS4 has got a lot going for it, it was quite nice to drive, a lot of the grip coming from the soft tyres, a well known trait of HPI rubber. Once the shocks were reset the car was a great deal better, the settings in the manual would possibly suit the USA rather than UK conditions. I can see no reason with a little time the car could be dialled to any track. HPI do a range of springs and roll bars which should be all that is needed. The only item on the kit which may need replacement is the thin motor mount. Then only if you intend to run a very hot wind in the motor. On the motor front I found the series spec Orion motor to be very quick indeed - quite a surprise for a budget machine wound modified. No doubt some of the speed came from the very free transmission. All in all the RS4 Pro2 is a high calibre bit of kit, it has a very high basic specification giving a racing shell and tyres. It also builds like that well fitting glove. Now HPI has at long last got a very good customer back-up with HPI Europe/Mirage RCP, a race team that includes Jamie Booth, it has a very reasonable price, its own race series what more could you ask for? **RRCI**

Neat transponder mount over the steering servo



The 'Traplet Towers Terrors' are all finished in this paint scheme for the HPI Race Series, nice



The performance of the Orion/HPI Motor was a nice surprise

Quick Spec

1:10th Electric Scale Saloon. 4WD. Belt Drive. Fully Ballraced. Carbon Saddle Pack Chassis. Ball Diffs. CVD Drive Shafts. Double Wishbone Suspension. Alloy Shocks. Moulded Trays. Multi Spoke Wheels. Slick Tyres. Honda Accord Body Shell.

Tester Kit

Radio: KO Esprit Vantage
Receiver: KO Mini
Servo: KO 714 Fet
Speedo: Novak Cyclone Mk2
Nicads: Yokomo Gold Star
Charger: LRP Quadra (5 amps charge)
Motor: Orion 12 Triple (Series spec motor)
Gearing : 85 spur 23 pinion = 5.8/1 (Series spec maximum)
Tyres : Kit (Series spec)
Body shell: Kit Honda Accord

Set Up

Front
Camber: 1 degree negative
Caster: 8 degrees
Ride Height: 8 mm
Toe: 1 degree in
Shock Length: 65 mm
Spring: Kit
Piston: Kit
Oil: 50 wt
Tyres: Kit
Rear
Camber: 1 deg Neg
Ride Height: 8 mm
Toe: 2 deg in
Shock Length: 66 mm
Spring: Kit
Piston: Kit
Oil: 50 wt
Tyres: Kit
Motor: Orion Series Spec
Nicads: Yokomo Gold Star

Likes

High Specification
Moulded Trays
CVD Driveshafts
Race Series

Dislikes

Thin Motor Mount

JUNE 99 Megamix Review