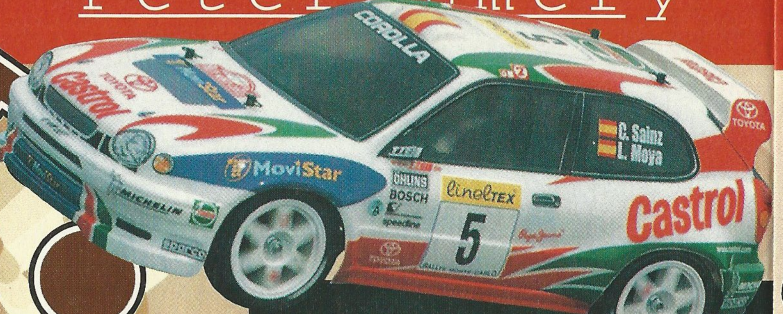
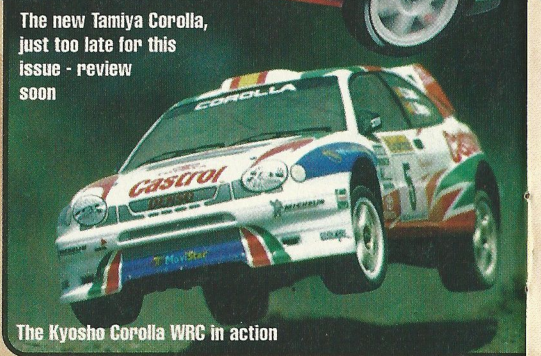
Peter Emery

DIRT DEVILS

RRCi gets dirty!





The new Tamiya Corolla, just too late for this issue - review soon

The Kyosho Corolla WRC in action

Looking back in RRCi to prepare the 'Reverse Gear' feature I am struck by how heavily RRCi, and the Hobby, was biased towards Off-Road. Now we have an excellent balance between two, extremely healthy, branches of the Hobby. With the IFMAR On-Road championships set to dominate next months RRCi we thought that the time was right to give the Off Road fraternity a shout. Touring Cars may be the fastest growing sector of the Hobby but if you want to mess about with your first R/C car an Off Road car makes a lot of sense. So we have Stadium Trucks, Buggies and Rally cars all out to get your attention. Get Dirty, get Off Road!

WRC Rally Cars - good looking or what?

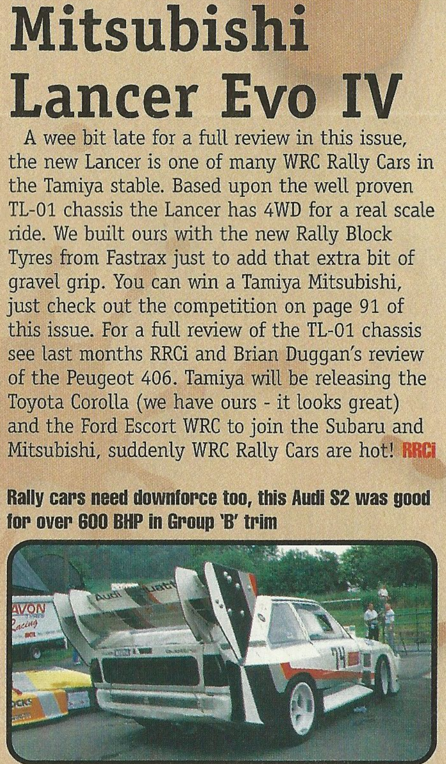
With a positive glut of WRC Rally car releases we are not alone at RRCi in thinking that Off Road Touring cars could be very big. New releases from Tamiya, Kyosho, Yokomo, and HPI point to a lot of fun cars that could be made suitable to compete in an 'Off Road Touring Car' type category. The ideal would perhaps be a true 'Rallycross' circuit with mixed surfaces and sensible sized jumps. Let us know what you think in the 'Readers Writes' letters page.

The new Subaru WRC from HPI mmmmmmm nice!

Tamiya Mitsubishi Lancer Evo IV

A wee bit late for a full review in this issue, the new Lancer is one of many WRC Rally Cars in the Tamiya stable. Based upon the well proven TL-01 chassis the Lancer has 4WD for a real scale ride. We built ours with the new Rally Block Tyres from Fastrax just to add that extra bit of gravel grip. You can win a Tamiya Mitsubishi, just check out the competition on page 91 of this issue. For a full review of the TL-01 chassis see last months RRCi and Brian Duggan's review of the Peugeot 406. Tamiya will be releasing the Toyota Corolla (we have ours - it looks great) and the Ford Escort WRC to join the Subaru and Mitsubishi, suddenly WRC Rally Cars are hot! RRCi

Rally cars need downforce too, this Audi S2 was good for over 600 BHP in Group 'B' trim



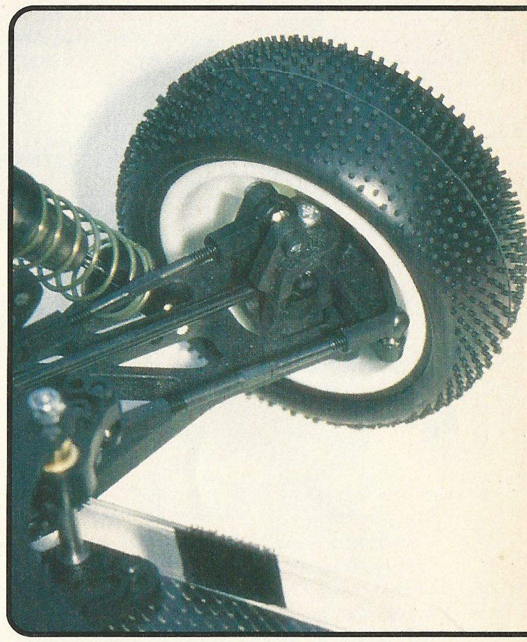
The new Tamiya Mitsubishi Lancer Evo IV shows off the Fastrax Rally tyres - made for each other

Kevin Grffin

DIRT DEVILS

YOKOMO MX4 REVIEW

this Yoke's no joke....



Track rods and top link, both are adjustable with left and right hand threaded ends. Neat spanner provided. Also look closely and you can see the MIP shafts.

For those of you who may not realise Yokomo have been producing off road racing buggies since 1984. It was 14 years ago that the first Yokomo car called the 'Dogfighter' was reviewed in Radio Race Car magazine. CML, who are now the importers of the Yokomo range in the UK, kindly provided a sample of the latest in this long line for RRCi to try.

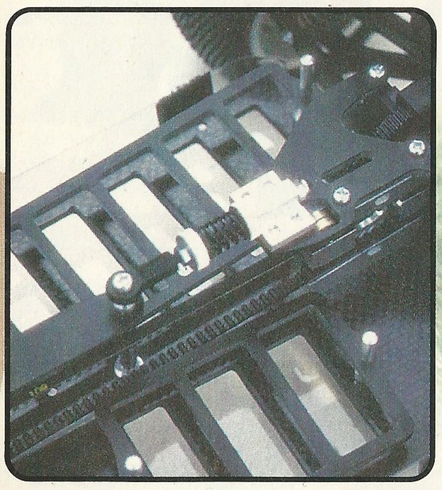
This being a small world it is perhaps not a surprise that in 1984 the Dogfighter was reviewed by John Varley, Jason's father. John was better known for his circuit racing but had been persuaded into reviewing the Dogfighter, which I am sure would have been raced around a park somewhere by young Jason! As can be seen in the photos I just happen to own an original Dogfighter, one can see that the car was very basic. It had four wheel drive transmission. Drive to the front was via a chain which would continually stretch, suspension was independent but operated through just one shocker at the front and one at the back.

The car came pre-assembled weighing a gross 4 lbs and in those days batteries were only 1200 mah, so lasting for 5 minutes was a real test. But the car was very popular being one of the very first competitive 4wd cars on the market, selling for just £79.95 complete with motor and resistor type speed control.

That was then, this is now

Now let's take a look at what's on offer on the current 1998 car. The car was first seen at the 1997 World Championships out in California where it dominated the 'A' final. The Yok not only set the fastest time but there were no less than 4 cars in the main 'A' final. Yokomo have a tremendous track record, for out of 7 world championships that have been held Yokomo have won six, the latest being 1997 with the prototype version of the MX4.

The production model was not available until early 1998 but Yokomo have stuck with tradition and called their car the 'MX4 Super Dogfighter'. The car comes with a beautifully crafted carbon fibre chassis, fully ball-raced transmission belt driven, slipper clutch with full



The 5th spring mounted between the centre and rear top deck.

In the grass where it belongs ready for the off.

The very original Yokomo of 1984-85.

independent suspension drive taken to each wheel via mid drive shafts. As to the price, well that has risen since 1984 but so has the price of a loaf of bread! CML have just announced a reduction that makes a champions car very affordable.

Build up

Down to the build. Well unlike the original car which came pre assembled, much to John Varley's annoyance (!), this car comes in a complete kit of parts. Firstly the chassis requires a small amount of adjustment quickly carried out with a file, a slot is filed to allow the belt to run freely as it exits the front diff housing, and at the rear full drop on the suspension can only be achieved after a small amount is filed from the edge of the chassis. Finally to allow your cells to sit snugly in the saddle of the chassis it is necessary to chamfer the edges of the ribs.

The next step is to assemble the differential and the centre gear with slipper clutch unit combined. Care is needed here to make sure you don't lose any balls, as they seem to be running in all directions. What was confusing was when assembling the slipper unit, the instructions state that you must use the black MIP grease, well my tube was red, no black grease could be found anywhere only black threadlock. So please take note, use the MIP grease irrespective of the colour.

Once the diffs were assembled they felt very smooth, the centre bolt that adjusts the ball diffs locks itself by the fact that it is bent. Do not think this is a fault, as I do remember someone straightening the bolt before assembly in an earlier Yokomo and complaining bitterly about the poor quality when supplied bent balls, it is meant to be, and works extremely well.

Moving on to the next step in the building and the driveshaft. These are made for Yokomo by MIP and are rated as one of the most efficient type of shafts available and an obvious choice by Yokomo. Their action is extremely smooth throughout the complete rise and fall of the cars suspension movement. One tip here, the grub screws used to lock the pin in place in the centre of the drive cup are imperial not metric and are very small. If lost then it must be replaced with the correct one not the usual grub screw that is used in a pinion, as the thread for these is metric.

The next stop is to assemble the drive train, the front and rear bulkheads are screwed to the chassis and then the differentials and bolts are dropped in. The rear diff and centre shaft with slipper assembly run extremely close to one another, so make sure that they are fitted correctly, once these are in the bulkhead caps can be fitted. The motor mount is milled out of a solid block of aluminium, motor installation is via two screws, motor adjustment is as per usual via two slotted holes. What is worrying is that these slots don't seem to allow for many variants of pinion sizes, with only one spur gear size available this could be a problem, but one can't tell until the car is run so let's wait and see.

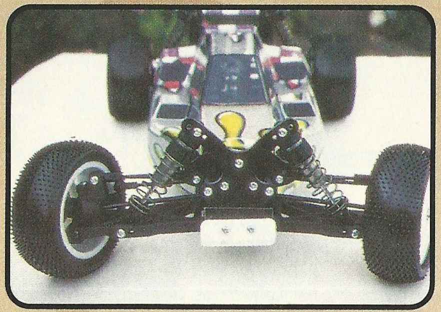
Suspension

The suspension arms are hung from the gearbox bulkheads, Yokomo have worked really hard in this area to make the gearboxes as narrow as possible to allow for the wishbones to be as close together as possible about their centre point, this will provide the best possible arc for the suspension to travel in. The closer they are together the less camber change will be noticed throughout the suspension travel. Next on the list is the steering linkage perfectly standard with a centre drag link, the pivot posts are bushed but an optional ballrace set is available for ultimate smoothness and is worth fitting. All the track rods are threaded with left and right hand threads with a centre hexagon, for which a very neat little spanner is supplied for you to adjust them with.

Moving on to the top deck and a fifth shock absorber. Not a totally new idea as it was an option on the 1/8th scale Mugen Super Athlete, but I think this is the first time that it has appeared on a 1/10 off roader. As you can see it is mounted between the centre bar and the rear gearbox casing, if you pick up the car and attempt to bend it front to rear then the chassis will flex but only slightly. The idea behind the shock absorbers is to control the amount of flex which they say aids the car over the bumps.

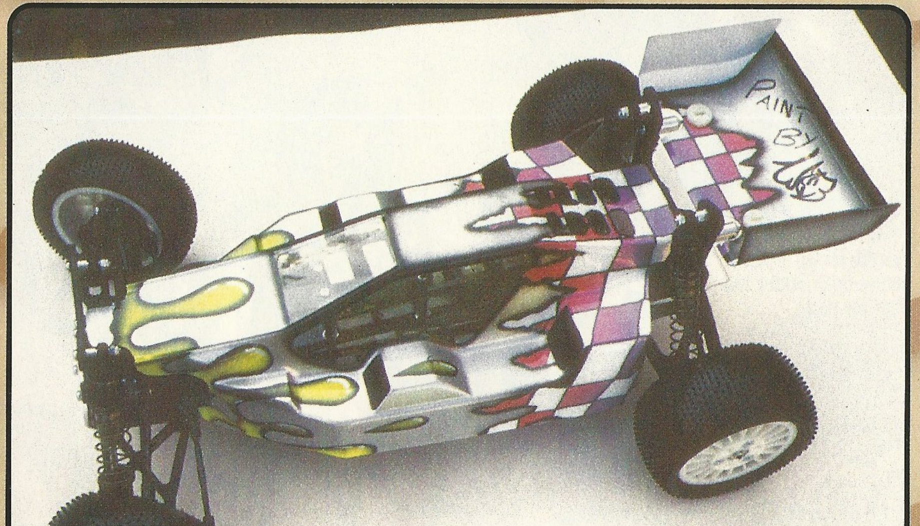
Next the shockers and shock towers, with shock towers up first. Well, these I am afraid are cut from mere fibreglass and not from the same beautiful carbon fibre that the chassis is formed from, but nonetheless they are very beefy and look well capable of performing the job. The shocks are hung from each corner of the car, alloy bodied with pre assembled seals in the base of the body, absolute bliss, as these are my pet hate when building a car. Yokomo supply their own 30 weight oil for the shocks but I chose to use Ballestic Buggy shock oil as I have all the varying grades, so if I need to change them I have a bench mark to work from. As far as I know Yokomo Oil is not available as an after market option. Shocker tops are a little different for although the shock bodies are alloy the tops are moulded resin, care has to be taken when screwing them to the body for the first time. Also in the shock cap Yokomo have provided a bleed screw to enable you to bleed out the very last air bubble.

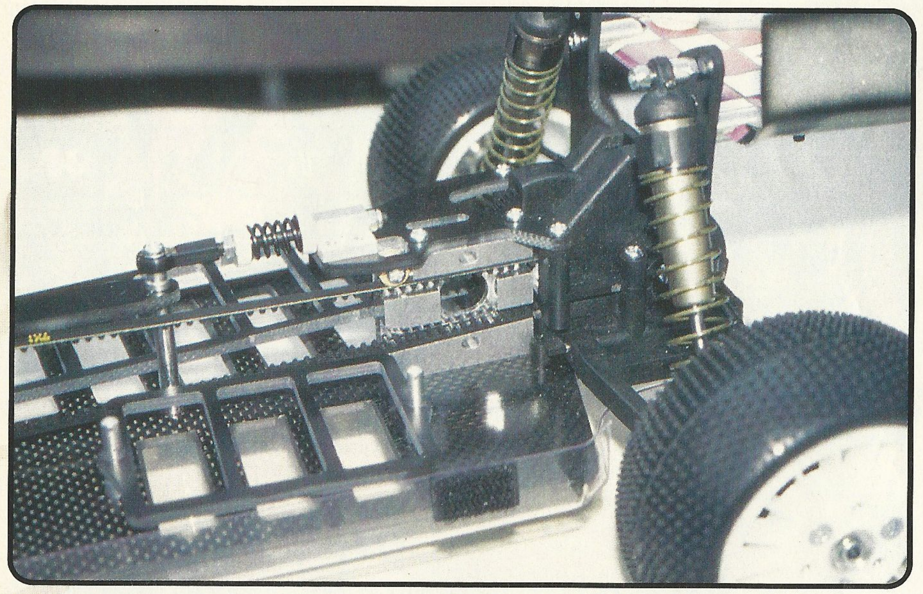
Front view.



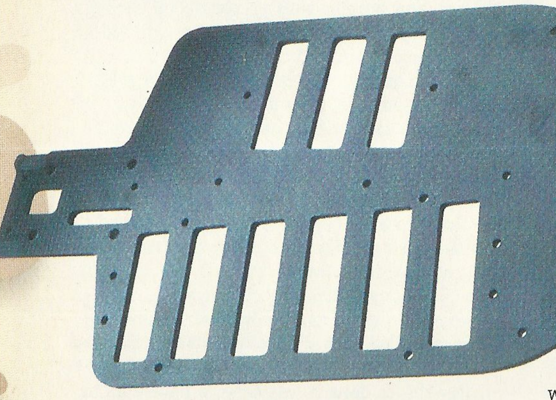
Slotted into rear bulkhead, note how close everything is and with the top on that slipper nut just disappears.

View from the top.





The all alloy motor mount beautifully milled out of a solid block, will certainly help to dissipate the heat from the hot motor.



Carbon fibre chassis showing area that has to be filed to clear the belt, both at the front and rear.

A Beautiful Body

Once the shockers are mounted then all that is left to do is the bodyshell. This was passed on to my fellow racer Wesley Myles as he is considerably more artistic than I will ever be, so thank you Wes for the marvellous paint job. Tyres? The MX4 is supplied with TR and TF 39's which are okay on clay or maybe astro turf but not fresh grass, so for test purposes a set of new Ballestic Buggy Blues were fitted.

As regards radio installation, on first appearance there seems to be loads of room but space soon disappears. Battery configuration, the permutations for saddle packs are almost as many as for the lottery! The standard saddle arrangement of 3 and 3 will fit quite comfortably, or a standard stick pack will also fit in. But these big boys have gone for a 4-2 saddle configuration, as they seem to think that this balances the car out evenly. Surely it depends on how heavy your other components are, for instance does your speedo need to go on a diet or is your receiver anorexic. My installation was based on a KO 1001 FET servo, a 40 mg Futaba receiver and Mtronics Pro digi max speedo, as regards batteries these were CARS ASP 2000 in standard 3.3 saddle pack configuration.

Testing

Next stop a club night race meeting at my local track Ludlow. The track is all grass and very short (which also incorporates a jump), for a change the conditions were dry. Firstly the car was tried with a 13 triple which is quick enough for me, over the jump the car tended to nose dive so I moved the cells on the right hand side to the rearmost setting, this made quite a noticeable difference the car now was happy over the jump. Shock oil at 30 weight was just okay, but next time I intend to up it to 40 weight as the track is usually fast and flowing so the car can be set up fairly stiff.

Whilst still on suspension there are no anti roll bars provided in the kit and no mention of them as an option, but I feel that the addition of a rear anti roll bar would be advantageous certainly on a track such as Ludlow. The gear ratio that I chose was 84.16 and I still had plenty left in the cells. No one appears to know the actual internal gearbox ratio but after counting all the teeth calculated it to be 2.2.1 so on that assumption my overall ratio was: 84/16 x 2.2/1 = 11.55.

This was on the conservative side and certainly a 17 or even 18 tooth pinion could have been used. My next run was with a standard ARS Terminator 24 motor that I use in the Radio Race Car series. Now my usual ratio for this motor is 8.1 so a 23 tooth pinion was fitted and out I went for a blast. It was ballistic! The motor was a little hot after its five minute run so maybe next time I will fit a 22.

Conclusions

The car has been through a considerable development period during the run up to the 1997 Worlds, appearing with alloy diff casings and various other parts that had been all hand made. The car dominated the Worlds and yet again Yokomo were World Champions. The production car as one would expect comes off a production line, no hand made parts but the quality is excellent. I was a little disappointed with the lack of carbon fibre, also the method of adjusting the slipper is diabolical, having to use a pair of pointed nose pliers to grip the knurled adjuster is not what I call good engineering practice. Finally on the down side the instruction book is also very poor, being difficult to understand, admittedly the person that would be building a thoroughbred racing model such as this will have already built a number of cars previously so would be able to build the car without too much hassle.

Looking on the bright side the car is beautifully free running, almost zero drag on the transmission and with the MP shafts as standard they are an excellent compliment to its transmission. The suspension is very smooth throughout its travel, the shockers are nicely made and I feel are of very good quality. Owners of previous Yokomos always tended to fit Associated shocks, this time it will not be necessary. Its ability to be competitive goes before it, as regards the production model, Phil Sleigh raced his MX4 for the first time at a Radio Race Car event at Broxtowe, qualifying second and winning the 'A' final, what more can one say! **RRCi**

Quick Spec

4wd twin belts, one way roller unit fitted to front belt, MIP driveshafts, all round carbon fibre chassis, ball diffs fully adjustable, independent suspension, fully ballraced transmission.

Testers Kit

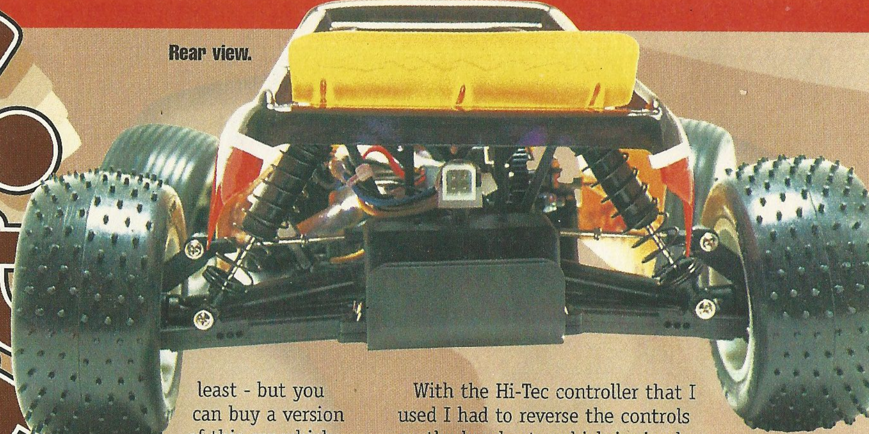
Radio:	KO Vantage
Receiver:	Futaba 40 MG
Servo:	KO 1001
Batteries:	ESP 2000
Speedo:	Mtroniks Pro Digi Max
Motor:	Trinity 13 Triple/ARS Terminator
Tyres:	Ballestic Buggy Blue Minispikes

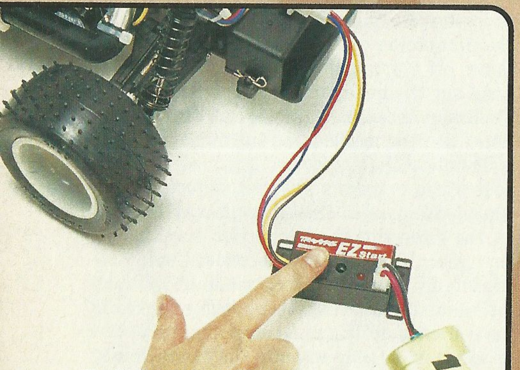
DIRT • DEVILS •

TRAXXAS NITRO SPORT TRX .15

start me up!

Darren Morris


Rear view.



The EZ-Start plugged in, and with one press from the magic finger it's away we go!

Start right here

Wow! Top! These are a couple of the words that went through my head when a certain Editor (PeterE stand up!), passed me what seemed like a six by four foot box with very nice decor and the words 'Nitro Sport TRX.15 all over it. We could say it's a little dream come true (but only a little one!), my very own IC. RC. car, 'nice'!

Further examination of the box revealed that it was an Electric Start Nitro powered Stadium truck. A couple of colleagues looked a bit envious of this fact (sorry chaps!). 'You won't have to do any tugging with that' one remarked. What was this supposed to mean? I was later to find out that some of you unlucky modellers have to tug away at your 'little cars' to get those engines turning over, so I was in for a little bit of a treat shall we say.

The Opening

The anticipation was getting too much by now, it had been at least two whole minutes without opening the box itself! My previous car had been a 'Mini Mardave', which was quite a nippy little thing (for what it was). But this is 'wow', the size, the power, the EZ start. 'Factory Assembled' they say, more like fully factory assembled, is what we are talking here (without radio gear at least - but you can buy a version of this car which does come complete with radio gear as well. 'GREAT'!). It looked like the only thing I had to do was put my servos in place...

The Build?

OK, you might be thinking that this bit is going to go on a bit, I don't think so! After opening the box what you get is a ready built (or should I say assembled) truck down to the last bolt. Remember the box did say 'Factory Assembled'. Now where are those servos!

Servos

When choosing your radio gear for Traxxas kits, they do recommend Futaba - which I didn't choose! See I never take the easy route! But anyway it doesn't really matter if you don't use Futaba, all you will need is a few different servo heads for your throttle control, which is easily found, even if you don't have a 'tame editor' at hand.

After reading the instruction manual on servos, one of the main points it highlights is 'install the radio system components and hook up the linkages as shown in the following drawings. Route your wires neatly to prevent them from being damaged' (!) Cheers! Certainly it does come with a very nice and handy diagram to follow. The rest is pretty simple, all you have to do is basically screw your servos in place, easy as that.

With the Hi-Tec controller that I used I had to reverse the controls on the hand set - which is simple and not really a problem, just flick a switch on the underside of the handset and we're in business.

Spray Job

Back to the box, there was a very nice looking truck with a very nice paint job, reds into yellows, and purples with graphics - oh the graphics! Have a go at that, easy enough eh! No problem!

First things first, I've got my razor sharp scissors in my hand and the shell in the other, time to cut out. As long as your scissors are small enough you should be able to work them around the tight corners. The cutting out went pretty well, I think! It's not too difficult, all you have to do is have a steady hand and follow the lines provided for you from those nice guys at Traxxas - cheers.

You probably will find, I did anyway, that there will be some rough edges left which are easily removed with a bit of sand paper, or even a nail file, which did the trick just as well.

After this is done it was time to have a go at spraying it. I had plunged for three colours - purple, orange and yellow. Purple for the top and orange and yellow for the sides. In the box you should find some masking plates for the windows, stick them on the inside! Right, my windows are masked and I have a plan for masking off the bottom half of the shell.

This is the plan - one piece of newspaper and a roll of masking tape! With this in place spray the shell carefully, trying not to get any runs in the paint, easier said than done. Someone gave me a tip to spray the dark colours first, because if sprayed over the lighter ones they will show through - pretty obvious really. After the spraying was completed and masking tape removed, I was left with a finished shell with a bit of a 'wonky' line - um, what do I do now? Then it hit me, go faster stripes 'GREAT'! These can be purchased from any good modelling shop and hide mistakes quite well and look good too.

Decals

Commonly known as stickers! These are supplied in the box by Traxxas, and we are given a very nice range to choose from. Who knows what your car might look like at the end. An obvious tip, plan where you are going to place your decals, as these stickers once they go down they 'aint going to move! After learning this I planned out my sticker layout/design carefully. Avoid disappointment here as it can take the gloss off the whole build. For my part - I'm quite chuffed with the end result.

EZ-Start

Now this is a nice little invention which is made to make life that little bit easier, 'allegedly'! With no previous experience with Nitro model cars you could say that I was going to be spoilt!

What can I say - awesome!

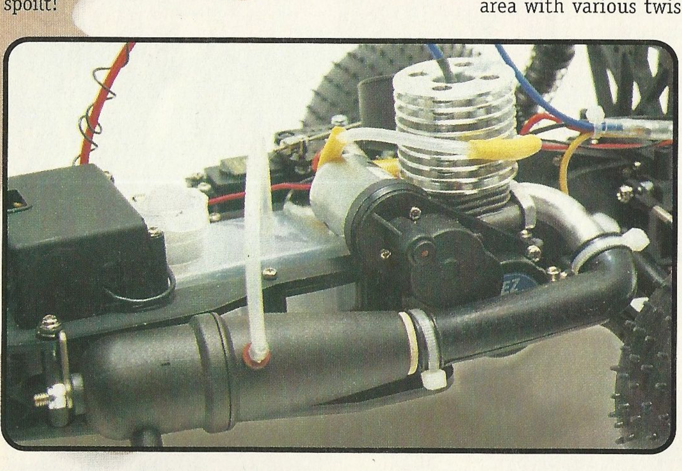
The EZ-Start is a very smart looking black box supplied with two plastic wraps. With these in my hand you will need a 7.2 volt battery pack, place this under the EZ-Start and secure it with the wraps and plug the battery into the EZ-Start. You should be left with a smart looking hand held device with enough power to make your engine roar into life.

Engines Ready!

Great everything's ready; I've got my batteries, I've got my EZ start, I've got my fuel, oh heck fuel! Someone recommended that I used 16, 16 what's that? Finding out later that this is the strength of the Nitro fuel which does vary, eg. 10-21%, so I guess 16% is middle of the road.

Yep, I've got everything I need for my first run, this is the bit that I have really been looking forward to. Let's run it!

Choose a nice safe location, remembering that this is an off-road truck, I found a nice area with various twists and turns, couple of bumps here and there - commonly known as an empty car park!


Close-up view of the engine and the important bits of the Traxxas Sport.

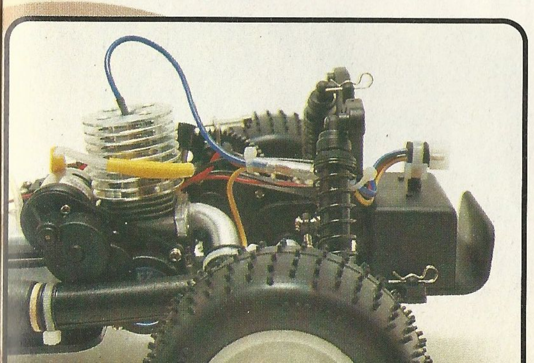
Now starting your engine, I've been told that sometimes this can be a little bit tricky, a little bit eh! A good place to start is the instruction manual (for the last time hopefully), page 5 - STARTING THE ENGINE. After reading what they had to say I had set my engine mixture correctly - 1 3/4 turns if you want to get technical, this was done, my fuel was in the tank, my EZ-Start plugged in the back - ready to go I think.

With my one magic finger, I pressed the EZ-Start button, with this pressed the red light on the magic box lit up. This little button indicates that the glow plug is hot (ignited). If it doesn't light up check that the glow plug connector is firmly in place, if still no red light your glow plug has probably had it. Anyway back to my finger on the button - the red light was on, the electric start engine was roaring (a bit like an electric car motor) but no Nitro engine. I think this was to be expected but I wasn't happy. A bit more tuning with the mixture, a couple more pumps on the primer bulb, a press of the EZ-Start, and my engines flooded, 'GREAT'.

This is easy to solve (with a friend at hand), simply loosen off the glow plug and then press the EZ-Start and stand back as I was later to find out. Fuel flew everywhere, time to try again me thinks. This time it felt right, one press and the engine kicked in revving its little head off, then nothing. This happened a few times, apparently these are called 'break-in-pains'. Break-in-pains, more like pains-in-the-a*s*!

First run a bit of power and it's not running in straight lines, more to the left - a few more adjustments needed and we're looking good. A bit of power and the cars front wheels are bouncing along the ground - then skidding into doughnuts, it didn't take long to figure out that this is a serious car with plenty of power.

What can I say but 'GREAT'! For a beginner like me this is a tasty bit of kit to have with its off road capabilities, take it almost anywhere and I'm sure it will live to tell the story. Who knows, a bit more practise and I could be trying it in competitions. RRCi



Quick Spec

1/10th scale 2wd stadium truck for 2ch R/C.
Powered by .15 size two stroke engine, with EZ-Start.
Supplied fully assembled with polycarbonate body and decals.

Testers Kit

Hi-Tec Ranger 27meg Radio, including HS-300 standard servos and HP-2RNB Receiver.
Borrowed Fuel and NiCad Battery Pack.

Likes:

Ease of build
EZ-Start
Speed!
Capability for doing 'donuts'!

Dislikes:

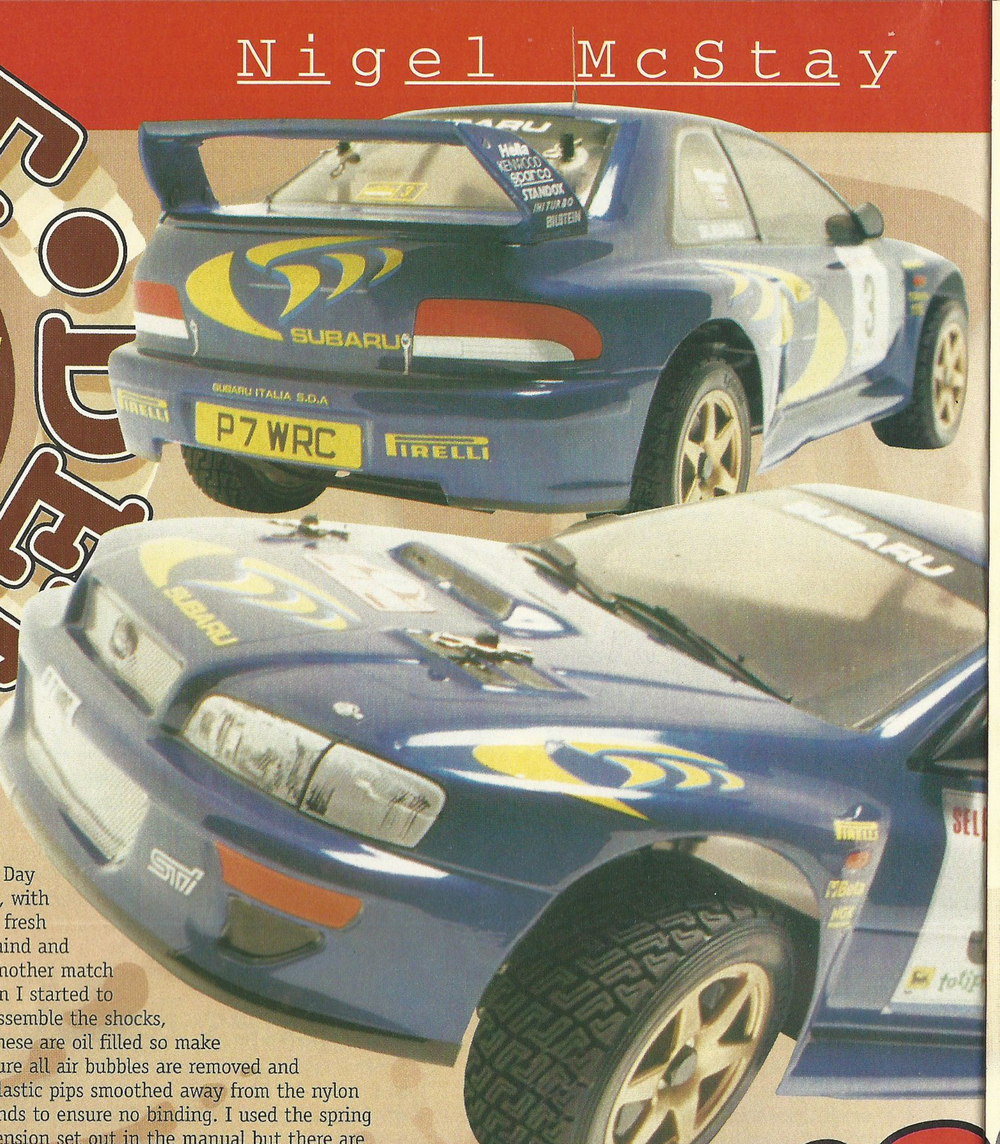
Can be hard to handle at times
When it runs out of fuel!

Nigel McStay

DIRT • DEVILS •

KYOSHO 1:8TH SCALE 'LANDMAX' SUBARU WRC

impressive impreza!



The Subaru Impreza has been a name in rallying since Colin McRae got behind the wheel, especially after McRae's famous win in the RAC rally in 1995. Since then this impressive looking car and its performance has been very popular. With a 6 month waiting list to own a new one, I think this model car is the closest I am going to get to driving one!

So here we go. Plastic pots at the ready, a clear instruction manual and a can of beer for company. First up reading the first couple of pages of the manual and sorting which tools are needed, and thinking ahead a radio set, fuel, plus a glow start would be needed. On opening the box you quickly notice that the Impreza is a very sizeable model with the 1/8th polycarbonate shell highlighting this. Huge compared to the 1/10th Mini Cooper review I had recently built.

This was a very nice piece of kit, the chassis is 25% pre-built and looks very well engineered. The front and rear differentials were pre-built along with the front and rear drive shafts and the .21 engine was already in place. All I had to do was to finish off putting this together. Each bag of screws is numbered and there are pictures of each diff screw clearly printed in the front of the manual, so there shouldn't be too many difficulties.

Build me up Nige'

With my table set up, I emptied the appropriate bags into plastic pots and started to assemble the suspension. This was done with very little problems, apart from the odd goal on the television to make my attention wander! (it is the World Cup after all!). The rear suspension was the first job, and it was pretty straightforward. The front suspension is very similar and did not take too long to complete. I completed my first nights work in about 3½ hours, I did say the World Cup is on, so 3½ hours is not bad considering!

My final job was fitting the cooling fan. This is driven by the drive shaft and it is the first time I've come across it in I/C. So what's next, electric windows or air conditioning?

Day 2, with a fresh mind and another match on I started to assemble the shocks, these are oil filled so make sure all air bubbles are removed and plastic pips smoothed away from the nylon ends to ensure no binding. I used the spring tension set out in the manual but there are five different widths to choose from. Fit the shocks to the pre built suspension and chassis and we are starting to look something like a car.

The steering was next up and this had a very simple direction to follow with 1.1 scale diagrams in the manual to measure against. Fixing all the steering together produces a very solid unit which I think will be needed to hold this car in a straight line and in and out of bends.

Next up is the fitting of the fuel tank, pipes and air filter. A nice touch is the printed ruler on this page for cutting the lengths of silicone tubes needed for fuel tubes and for the brake rods. The air filter has a cover for running in the wet, but for photo purposes and this being the summer (!) this was left off, but is very easy to fit on at any time. With all the tubes fitted and the fuel tank in place the radio gear could be fitted. Here lay my biggest problem. I had been intending to use an Acoms radio to use but their servos are too big to fit the servo plate, and so I had to strip down my Mini's radio gear which has Futaba servos. To fit the rest of the radio gear was slightly tricky, fitting the brake rods into the specified gaps (help at hand with the 1.1 scale diagrams) and bending the throttle rod to the correct angle so there is a smooth movement on opening and closing the throttle.

Finishing touches are all that are left now with front and rear bumpers fitted, the rear is a good carrying handle as well, but don't overdo it. The exhaust is held in place by nylon straps attached to the side guards. These stone guards are very useful to keep the workings clean from stones and dirt. The only thing left was to put the wheels on. The wheels were the only real surprise with this kit, the wheels needed to be painted gold as the standard kit wheels were white. This was not a problem and I used brush on Pactra gold paint. One coat covered the wheels inside and out and with the brake disks fitted they looked very realistic. Fitting the wheels on the car is always satisfying as the building is almost over and the only thing left is to paint the body shell.

Blue metallic

I was asked if I would like the body shell to be sent away to be sprayed professionally, but I declined this offer as painting them is very satisfying, especially when you see the end result and after all it was only one colour. So I set to work cutting out the shell and drilling the relevant holes. This kit requires more holes than just the bodymounts; with windscreen wipers, wing mirrors and the spoiler fixed to the shell. Before painting each hole was covered with masking tape to stop any excess coming through but the outer shell is protected by a clear film. The windows on the inside have masks provided with the kit. The day I sprayed the shell the weather was perfect, very hot and humid (must have missed that one - Ed'!) and with the size of the shell two tins of true blue metallic paint were needed with a tin of white to enhance the colour.

I made a major mistake with spraying the shell, using all the blue paint up and suddenly realising I had not sprayed the spoiler! This caused me great concern because I had bought the last two tins of paint in the model shop and with the copy deadline looming I was in a bit of a hole. I was saved with a tin of brush on paint. This is a bit tricky to get two coats on but the end result turned out OK.

Run In

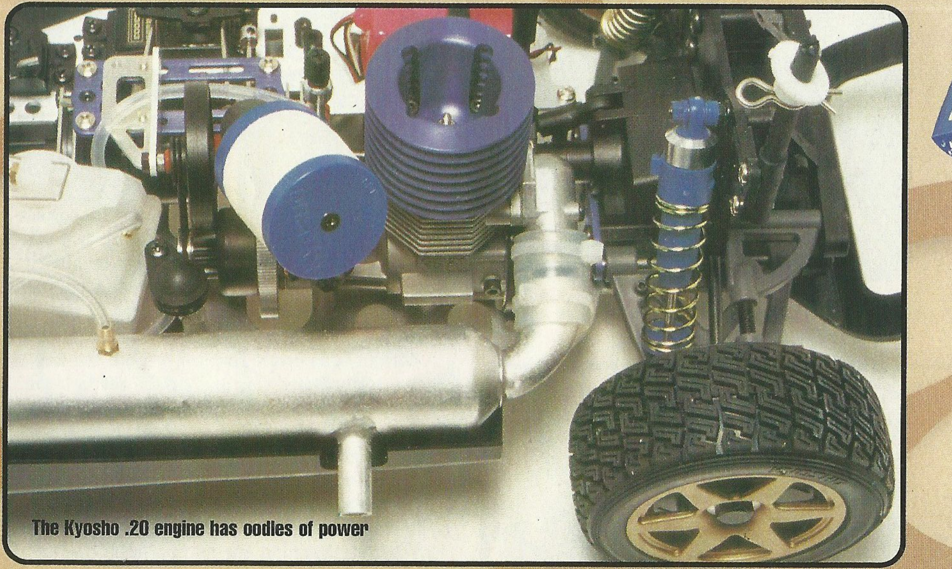
Now is the time to run the Impreza and after doing all the final checks on the throttle and in particular the brakes, the moment in truth arrived. Fill the fuel tank and prime the fuel through, glow plug on and after half a dozen pulls the engine roars into life. A radio range check was carried out, this model is too big, too heavy and too fast to risk losing control. With a clear and empty car park in front of me and keeping the bodyshell off for now, I sent the Impreza on a few GENTLE laps around the car park. I needed to check the running and to see if the brakes work, because one concern is there is no protection for the body shell at the front of the car.

With everything OK the body shell gets its first airing and now all that hard work in building is paying off. The Impreza looks wonderful and now I can test it properly. The cornering is outstanding and I have only fitted a standard servo, and as for the acceleration the car park was certainly not big enough, because the throttle lever was only half way forward and I was having to turn around. So with tarmac tested lets get dirty or shall I say dusty!

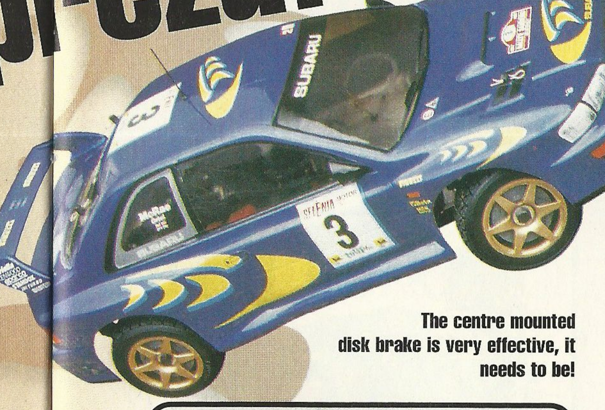
Well this is a rally car and is made for off road driving. This car gets better and better and is excellent fun on gravel with the power of the .21 engine spraying gravel and dust everywhere from all four wheels as it pulls away. Nothing seems to cause it any trouble, the car bounces in and out of pot holes, sliding into corners and kicking everything out of its way. There was only one problem with running the car on the gravel, was the mess it was going to get into, or at least I thought it was because the side guards had done a great job and kept the chassis quite clean.

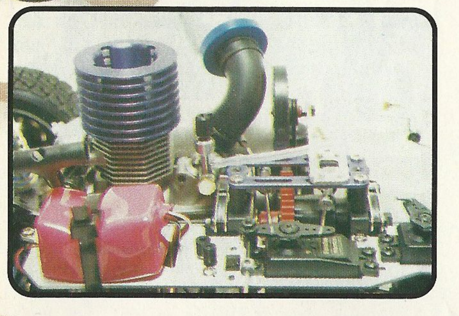
What more can I say this car has it all, looks, quality throughout and plenty of speed. The Kyosho Subaru Impreza has made a great impression on me. The bad news is that I have to give it back now, but let me tell you the 'Sube' is worth every penny if you buy one. **RRCi**

'what's next, electric windows or air conditioning?'

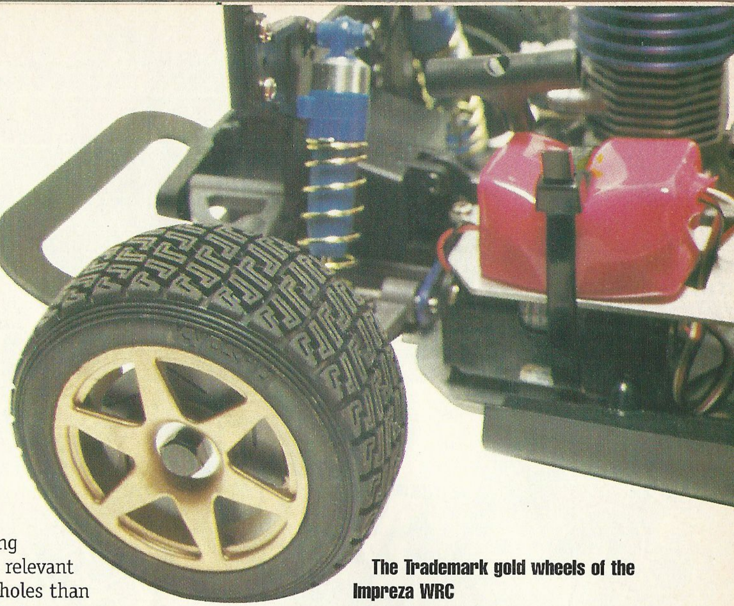


The Kyosho .20 engine has oodles of power

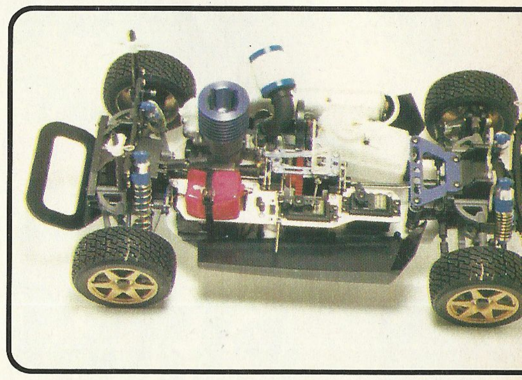




The centre mounted disk brake is very effective, it needs to be!



The Trademark gold wheels of the Impreza WRC



The rolling chassis, note the carry handle and side guards

Quick Spec

1:8th scale Nitro powered 4WD Rally Car. Disk brake. Shaft drive. Independent suspension with wishbones and coil over, oil filled shocks. Engine driven cooling fan. Pull start .20 Glow plug engine. Polycarbonate body. Available as Subaru Impreza or Ford Escort Cosworth.

Testers Kit

Futaba Attack II 27 MHz 2 channel radio and Futaba 3003 servos.
Quickfire 16% Fuel
Ripmax Glowstart

Likes:

Quality of kit
Superb looks
Speed and handling!

Dislikes:

Giving it back!
Should be fully ballraced

DIRT.DEVILS.

HPI RS4 MT

class leader!

Andy Benson

HPI are a company that have been around for a fair few years but it is only recently that they have become more recognised in the UK. Through their last distributor, Mike Drescher, and more recently through their current distributor, Mirage Distribution, they are now a force to be recognised in the UK, certainly in Touring cars where the RS4 is a top running car, and now HPI have moved the pace up one and have been brave enough to venture into the highly competitive Electric Stadium Truck market. HPI have gone one better than the rest and this review looks at a totally unique concept, a 4 wheel drive Stadium Truck. Enter the HPI RS4 - MT. I must confess to a slight cringe here as 'MT' stands for Monster Truck, but make no doubts about it, this is a Stadium Truck through and through with its name getting confused somewhat in the translation!

Hey Good Looking

So 'waddya get for your hard earned wad?' Well if looks sold anything then this kit is a winner before you open the box, as it incorporates some of the best artwork around, but packaging isn't everything so lets open the box and have a look. Based around a moulded tub chassis is a belt driven four wheel drive system, driving via a slipper clutch to geared front and rear differentials, with power taken to each independently sprung and damped wishbone via conventional 'dog bone' drive shafts. A beautifully moulded Ford 150 Stadium Truck shell finishes off the kit superbly with an 'ever so sexy' Hi-Level rear wing, low profile tarmac spec. tyres mounted on awesome looking six spoke chrome wheels.

Now this is an entry level kit so perhaps it is no surprise to find that plain bearings are used through out and there are no free wheeling front hubs, but as a base level kit it appears to have a pretty high spec. The instruction manual was the first item to be visited to give a good familiarisation as to what goes where and more importantly how it goes where! A nice touch was found on page three, where all the tools required for assembly were detailed. Nothing special required except a small and a large Philips screwdriver. Do make sure that you have a good quality Philips driver as one with a damaged end can be very frustrating and can be dangerous as it can slip and puncture your hand. Other tools such as Allen drivers are supplied and appear to be of ample quality for the job at hand.

Ready Steady Go

Differentials were the first task and as previously mentioned these are of the geared variety. Each planet wheel is made from a cast metal alloy, do make sure that plenty of the grease supplied is used to coat these gears as a lot of heat can be generated in a differential when cornering hard under power, and when assembling make sure that all the teeth are meshed properly. Do not worry if it feels a bit notchy at first, it will soon bed in. These differential units neatly drop into place in the moulded chassis with gearbox covers holding them intact. Do follow the instructions when fitting the differentials as it is at this point the drive belts are fitted, and these have to be put in place at the right time, otherwise it is a case of taking them apart again! A decent servo saver is included to protect that all important (and expensive) servo, so breakages should be kept to a minimum. I decided to fit a mid -range servo, as being an entry level kit I thought my spare KO 2015 was a bit 'over the top' so a KO713 fitted the bill nicely at £50. With 5.3 kg torque and a reasonable speed this servo would have plenty of power to turn those wide front tyres when under power. As with any four wheel drive kit do not be tempted to think that the cheapest servo will do the job adequately- I know a lot of people who have complained of understeer (not wanting to turn) with their four wheel drive cars, only to find that their servo wasn't strong enough, and burnt out quickly.

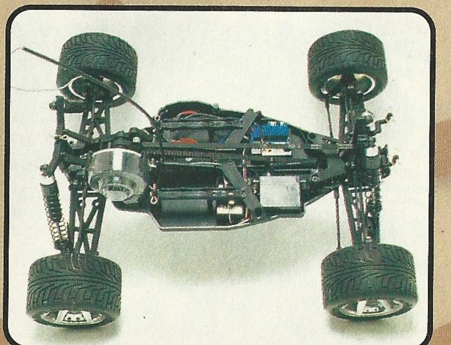
Wishbones are attached via hardened screws which lock nicely in place on the gearbox mountings, be careful not to over tighten these, as you could easily strip the plastic. They only need to be finger tight.

Get it taped

Plastic bodied dampers control the movement of the wishbones with a small bottle of damper oil provided. Take a great deal of care when building and filling the dampers, as it is very important to get all the air out of the oil. This took about three minutes with each damper but it is worth it in the long run. A word of warning here, the alloy top which goes on to the top of the damper body is a very fine thread and can easily be cross threaded, take care to get the thread straight before tightening. The seal seemed to be quite good but as an extra precaution I wrapped a small piece of PTFE tape around each thread just to provide an extra seal. PTFE tape is a very thin white tape that is used by the plumbing trade to help seal pipe joints and is a valuable asset to any pit box.

With the chassis now taking shape it's time to move back onto the drive train and the slipper unit. Despite being an base level kit this unit would not look out of place on a top Losi or Associated Truck and looks identical in design. A yellow friction pad is sandwiched between two polished plates, with tension provided by a spring. Loosening the spring reduces the pressure on the pad and gives more slip, increasing the tension gives less slip, to the point where completely tight gives no slip which defeats the object really. The aim is to have the slipper 'slipping' for the first two feet of flat-out accelerating, so that the power is fed smoothly to the tyres rather than the tyres spinning frantically when full power is applied. One point to note here is that the set screw that the slipper mounts onto must be threadlocked into the main idler shaft. No threadlock is supplied in the kit, so if you cannot scrounge some off a fellow racer, I'm afraid that you will have to buy some. One small tube will then provide enough for at least 10 years racing!

Plenty of room for the R/C gear



Motivation time

It is now time to fit a motor which is down to personal choice as no motor is provided in the kit. Any 540 size electric motor will fit, and if you are a beginner I would not be tempted into rushing out to buy the latest mega-psycho motor, as it will be too quick for you. Any of the current breed of standard motors (27turn single wind), are an ideal starting point, or a budget modified will give improved performance and a longer life. I would recommend something like an 18 or 17 turn wind for starters, a Yokomo Pro stock/Orion Orbital or Trinity GT2 would be ideal. Totally ignoring my own advice I fitted the mildest motor that I currently have in my pit box which was a Trinity Golddust 14 x 2. The gear ratios suggested looked a bit ambitious to me but I fitted the supplied pinion which was a 22 tooth Linked to the 96 teeth spur gear this gave an overall ratio of 11.35 :1 once the overall ratio of 2.6: 1 had been taken into consideration. The recommended ratio for a 14 turn motor was around 9.00: 1, which may be OK for 4 minute racing but I doubt would have made 5 minutes. The next job is to fit the radio gear. A basic two channel radio control system is required, one channel to control the steering and one channel to control the electronic speed controller. The Speedo' again is down to personal choice. I am a fan of LRP speedos, so my spare IPC quickly found a new home snuggled up to the drive belt. No problems at all with space on the chassis, with ample room for even the largest receiver. I would recommend keeping to the instructions and mounting the receiver behind the steering servo as this then ensures that the aerial wire can be neatly tucked away from the drive belt. We're getting close to completion now, and it is time to unpack those superb looking chrome wheels and low profile road tyres. A quick dab of superglue is required to hold the tyres in place, and then the wheels can be bolted onto the axles. Power is transferred from the axle to the wheel by means of a roll pin driving through to a hex drive, which should ensure positive drive at all times. That's it we now have a rolling chassis! No put it down Big Wheels and paint the body first before you go out to play!

Body works

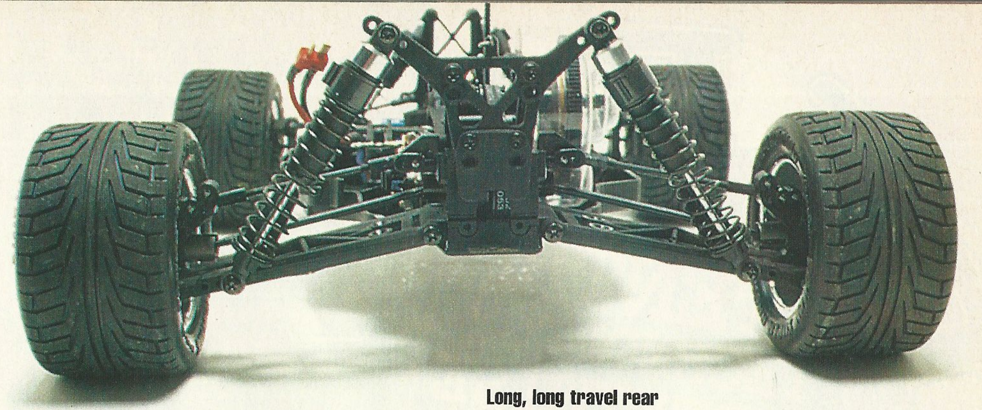
The clear polycarbonate shell is a superb moulding and the paint job on the box really does it proud, but the scheme used was probably a bit ambitious for a beginner, so armed with blue, fluorescent orange, and silver aerosol cans from Custom colour, I adopted a scheme which was close to the box but relatively easily achieved, and should be within reach of most first time racers. The ample sticker sheet was one of the best I've seen, and I think would do any colour scheme proud. I nearly forgot something and that is that superb looking rear wing. Reminiscent of early Sierra Cosworth's, this wing stands roof height and gives a real 'psyche-out' look to the Truck. I'm not to sure how durable it will be in racing incidents, but it certainly looks the part.

OK, that's the inside part of the review done, lets go and get dirty ! Now this is where we hit a problem, what class does the RS4 come under? It is too wide to be classed as a 4wd buggy, and the Electric stadium truck class only allows two wheel drive trucks. Until now there were no 4wd Stadium trucks available. Ah-ha, Big Wheels has had a brain wave (yup that's two this year now!), we can run in the Soda class, whoops, no sorry we can't, the wheels must be enclosed. Oh well, we will just have to go out and do what the RS4 is designed to do and that is HAVE FUN! With its low profile street tyres, the handling along our road and up our drive was pretty near neutral, and ideal for a learner.

Applying full power resulted in understeer when turning, whilst breaking while turning produced oversteer. A quick blip on the breaks and a flick of the steering followed by full power resulted in some awesome four wheel drifts, but these were short-lived as the tyres worked surprisingly well on the tarmac, and grip was soon restored.

As you can probably tell this Truck is about one thing and that is FUN! It is without a class at present so as such it cannot be treated as a serious racing machine, although it has the engineering and build quality to be just that. With its slick tyres and 4wd drive system it handles like a touring car on tarmac, and with the right tyres it handles like a 4wd buggy on the rough, so maybe where the RS4 scores is its versatility. You could go 'touring trucking' in the summer and 'off road' trucking 'in the winter, all for the price of one kit!

Did I like the kit. A big yes. Would I recommend it to an absolute beginner, well if some form of modelling had been done before then yes, as some aspects needed care and attention, such as building the differentials and the dampers. A good quality kit, great all round performance, but no class to race in! Now I think that the next Stadium Truck Committee meeting might have a proposal for a 4WD Truck class! RRCi



Long, long travel rear suspension

Hey good looking

Rear end dominated by a huge wing

Add cell pack, body and go!

'Did I like the kit. A big yes'

Quick Spec

4WD Stadium Truck suitable for 2 channel radio and a 540 type motor. (Not supplied). Belt Drive 4WD system with geared diffs. Independent suspension with wishbones, coil over oil filled dampers. Polycarbonate body.

Likes:

Great all round performance
Superb looking bodyshell and wheels
Slipper clutch included

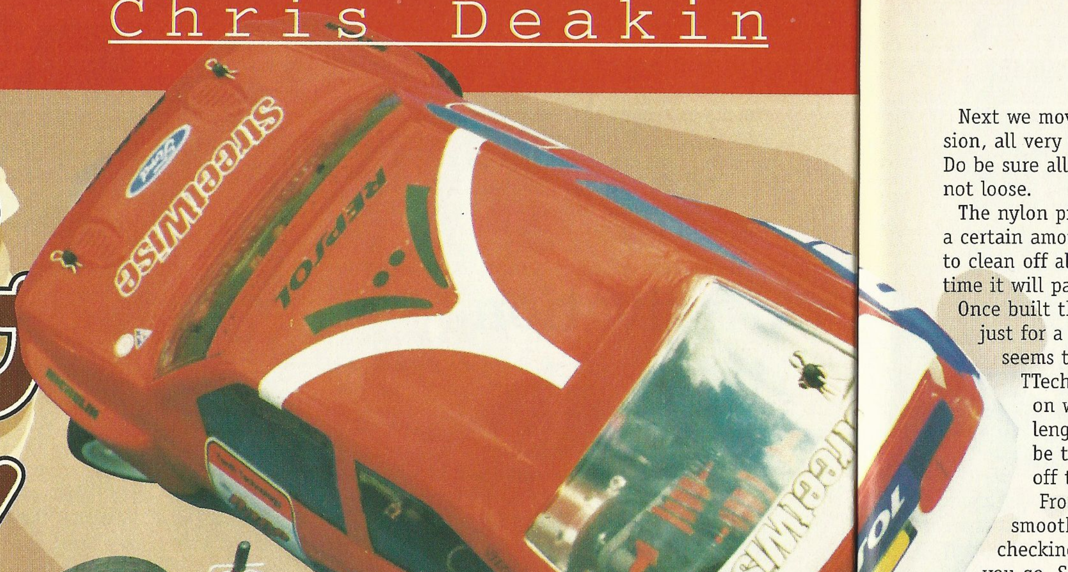
Dislikes:

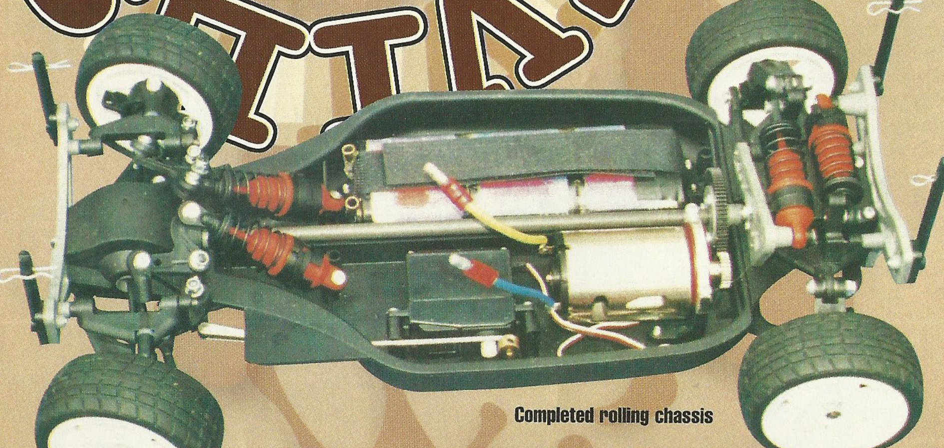
No ball races included
Geared not ball differentials .
Worst of all, No class to race in!

Chris Deakin

DIRT.DETAILS

TENTH TECHNOLOGY STREETWISE FORD ESCORT WSC





Completed rolling chassis

A pedigree as good as Lassie

Most of you out there in Race Car land will probably have started your addiction to our hobby with some form of basic fun car, possibly a Tamiya or Kyosho. This was no doubt discarded along the way as you out grew it, and I expect you also spent a great deal of your hard earned cash along the way. Well those nice people at Tenth Technology have come up with a stunning answer for most racers quest for performance at a real budget price, the Streetwise. I would expect that, because of its total package, and with some form of pro active marketing, such as featuring in RRCi, it will attract a great deal of new people to our hobby as purely a car for running in the garden or local car park. In fact it would be ideal for small groups of friends or work colleagues just to get together and have some real racing fun

I'm rushing a little bit...

So what is the Streetwise? Well TTech have take the basic mechanics of their very successful DTM 4WD Scale Saloon racer, and with a little redesigning, have come up with a range of budget racers/fun cars. In the range are On and Off- road, trucks and cars, all are 4WD, run stick pack nicads, using a carbon fibre propshaft, gear driven ball differentials, all fully ballraced, moulded nylon chassis, a very trick in-board suspension system and the best bit, they come with an electronics package containing an MTronics speed controller plus a sport tuned motor. All in all a very impressive bit of kit. With all the components coming from the race proven DTM, the Streetwise will be very strong, this means crash resistant. With quite a low built weight and sport pack 2000 mah nicad or similar the cars will be very fast. The Streetwise could be up-dated to the fuller spec. of the DTMi at any time without having to buy another new car.

For a first timer buyer the Streetwise may seem a little complex with its in-board hi-tech suspension and gear driven transmission, but have no fear the car builds very easily with no real complications. In reality it's no harder to assemble than your average Tamiya. So let's get building. Oh! By the way the version I am building is the Escort WSC, this is more Scale Saloon than rally car, but it should be OK on short grass, or clay, but not mud. Ideal probably for something like your local BMX track.

Right: Moulded tub could only be TTech

New mouldings at the front carry the body mounts and the suspension pivots

Build Sheet

Before the build read through the very clear colour instructions. If you have never built any type of car before it would be wise, as all the assembles are bagged in build order, just to check out all the various parts in the bags. In the instruction TTech recommend a no1 posidrive screw driver, I would recommend you buy a new one as there are a great deal of self tapping screws in the kit.

The build starts with the transmission system, both front and rear diffs are factory assembled as is the carbon fibre propshaft, so all you have to fit are the relevant ballraces. Do make sure that all the races are sitting properly on all the shafts etc. Add the grease supplied on all the mating surfaces as shown, this will help with the running in of the transmission.

'pennywise is streetwise'

Next we move on to the steering and suspension, all very much knife and fork assembles. Do be sure all the moving parts are free but not loose.

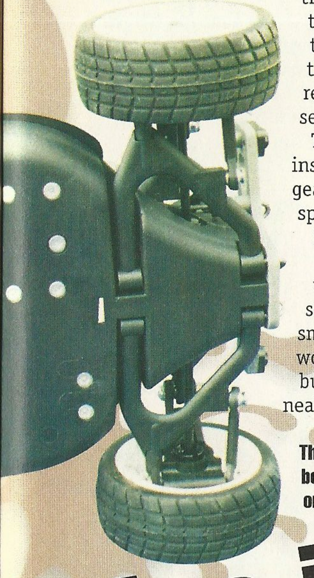
The nylon pistons for the dampers will need a certain amount of work with a sharp knife to clean off all the moulding marks, take your time it will pay dividends in the long run.

Once built the dampers are very smooth, and just for a change the supplied damper oil seems to be the correct grade, nice one TTech. The only other thing to check on with the dampers is the overall length of them, as all four need to be the same length. Screwing on or off the ball joints does the job.

From here the build just flows on smoothly, the pictures tell it all. Keep checking all the suspension is free as you go. Some of the ball joints may be a little tight a gentle squeeze with a pair of pliers on the outside edges normally works. Do remember which spec. of car you are building as there are different settings for on or off road at various points in the build.

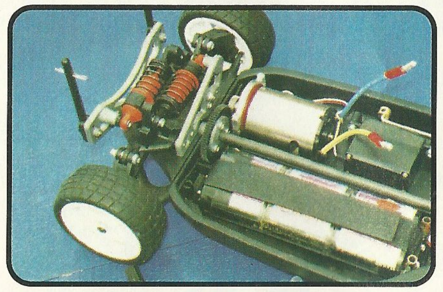
You should find the complete rolling chassis should only take a matter of hours to complete. When you get to the stage of fitting the radio gear you will need to set-up the neutral position of the servo out put arm for the steering prior to fitting it to the car. Also at this point you will need to refer to the instructions which come with the electronic speedo, regarding fitting it and setting up.

Take care with the installation of the radio gear, with the propshaft spinning at high rpm, it would cut through or drag any wires in very easily. TTech supply a couple of small cable ties, but it would be sensible to buy a few more. Keep it neat.



The Streetwise has in-board toe-in for better grip on rough tracks

The Streetwise has a very high tech in-board suspension system



Bodyshell Prep'

Finally we come to the preparation of the bodyshell. As you can see I had a Ford Escort World Rally Championship car. This is the only area of the kit that TTech do seem to have fallen down on. The shell was very thin, had no mounting points or rear wheel arches marked. I doubt that it will last the rough and tumble most people would dish out. Also it has become the norm these days for window masks to be supplied, and even for some type of covering for the shell to protect it from overspray. On the whole these are relatively minor moans, especially as TTech have kept the rest of the kit to a very high specification and the cost down.

So you will have to spend time with the masking tape prior to painting the shell. Do buy the correct type of masking tape for polycarbonate paints, automotive type tape has the wrong type of tack and the paint will bleed under it. I used Ripmax brown tape and Pactra paint. As you can see I didn't follow a scale paint job, going for a much simpler two colour livery, add TTech's stickers and it looks pretty smart (total time for paint stickers etc. 60mins).

Once I fitted the shell the Streetwise looks pretty effective, racy even. With all the pre-set links for the tracking and camber there is hardly any adjustments to do, just set up your steering trim on your radio to make it run straight.

Damn this weather

At this point in time I have not had chance to test the Streetwise, that well known variable the weather, having been more than a little uncooperative at present However, in some ways I don't have too. Having built and raced several DTMis I know the performance will be pretty stunning, all the basic parts come from that car. It will have a great deal of stability, an absolutely stunning straight line speed, and will go round corners on rails. However, with the treaded tyres that come with the Escort, its off-road capabilities may be a little limited. Also I would expect that most people will soon find that the kit motor supplied just isn't up to the same level of performance as the chassis. The good thing being that both the car and the speed controller will handle the horsepower from any of the current budget modified motors that are about at present

What you need

With the high spec. of the Streetwise the shopping list is a little shorter than normal. Any basic two channel radio will do, Futaba, Acoms, JR etc. in most cases this will give you a spare servo (most basic radio come with two servos as standard) for the steering. Some type of stick pack nicads, 1400, 1700, or 2000 mah sport pack will do. I used a Orion 1700 V max, which really was a little too much. A good 12v nicad charger, I would recommend some form of peak voltage type. Finally some polycarbonate masking tape/paint such as made by Pactra or Tamiya. Some open space, loads of time.

Final words

Tenth Technology have come up with a winner in the Streetwise. In this sector of the market place most of the cars are by nature and cost fairly basic. TTech have been very clever by creating a car with the kind of spec. that you could pay a great deal more for. They have built in strength and performance by using race winning components from another winning car in their range, not only that but they include a really good electronic speed controller, when most supply an old fashioned mechanical one. And it's all British. This car and concept deserves to win, it gives so much. RRCi

Quick Spec

4WD. Shaft Drive. Ballraced. Moulded Tub Chassis. Sport Tuned Motor. Electronic Speed Controller. Oil filled Coil Over Shocks. Inboard Suspension. Hi- Tech Mouldings. Treaded Tyres. Lexan Bodyshell.

Testers Kit

Radio:	Futaba Attack
Receiver:	Futaba
Servo:	KO 701
Speedo:	Kit
Motor:	Kit
Nicads:	Orion 1700 V max
Charger:	Tekin Pro-master

Likes:

Specification
Cost
Easy Build
Quality

Dislikes:

Poor bodyshell

Jonothan Emery

DIRT. EVILS.

TAMIYA SUBARU IMPREZA WRC

Mean Moody and magnificent

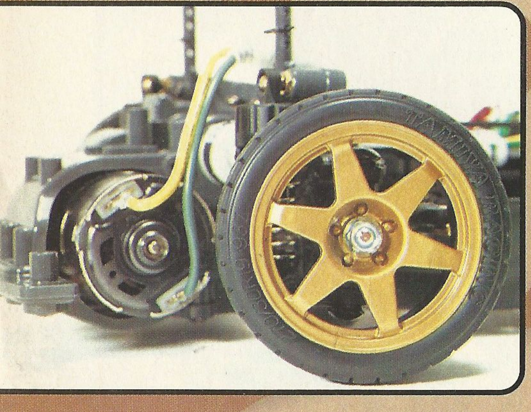
Remember me?

Hi there, anyone remember me? Well if you don't I'll tell you who I am. I'm an ordinary 11 year old boy who enjoys racing 1/10th radio controlled cars. I reviewed a Kyosho Pure Ten Spider last year, and I am enjoying racing it in the Kyosho Cup. Even though I am having some trouble starting the cars it is still good fun.

How, what, when

The other day, Dad brought home two cars, one was a Tamiya Peugeot 406, and the other was the Subaru Impreza. Dad said, "here you are you haven't done a car for a while, it's about time you did something different". With my love of Subarus it was fairly easy to choose which one I wanted. You see I wanted a Tamiya electric, and possibly a race in the Tamiya cup next year, so I needed a car. In this family you have to write an article if you want a chance to drive one of these so I agreed to get writing - well typing really! I hope the 'Chairman' enjoyed the Pug 406!

The reason for the 'F' in TAO3F is the unusual motor location



Building the beast

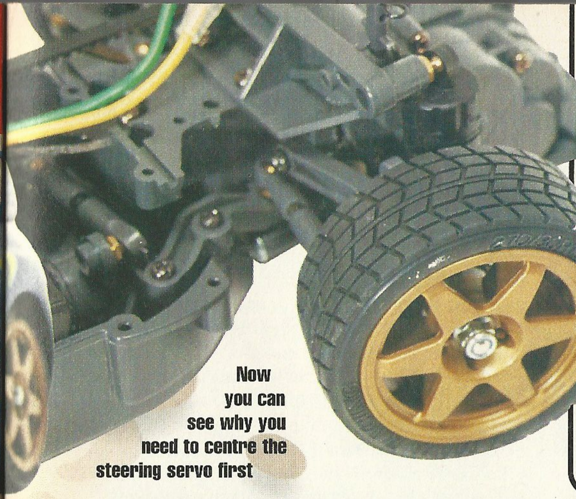
When you look inside your new model's box you will find: a standard 540 motor and mechanical speed controller. It also includes the normal Tamiya bath tub chassis and a beautiful body and sticker sheet. The car is run on the very reliable and well proven TAO3F chassis.

Now this is the first Tamiya I have built, so I didn't know what to expect. The first thing that you have to build is the diff and diff case. Now I can recommend a few things here, one is to use more rather than less grease, and the other one is read the instructions. What happened was I was sat there on the floor trying to screw the big screws into the little holes, WRONG! Anyway after sorting that problem I carried on along my merry way. Next was to put the diff into its case, this was a simple job except again better to use too much grease than too little (I thought, 'at this rate I'll run out of grease', and I was right in fact I did run out before the end and had to get some more off, guess who - Dad!).

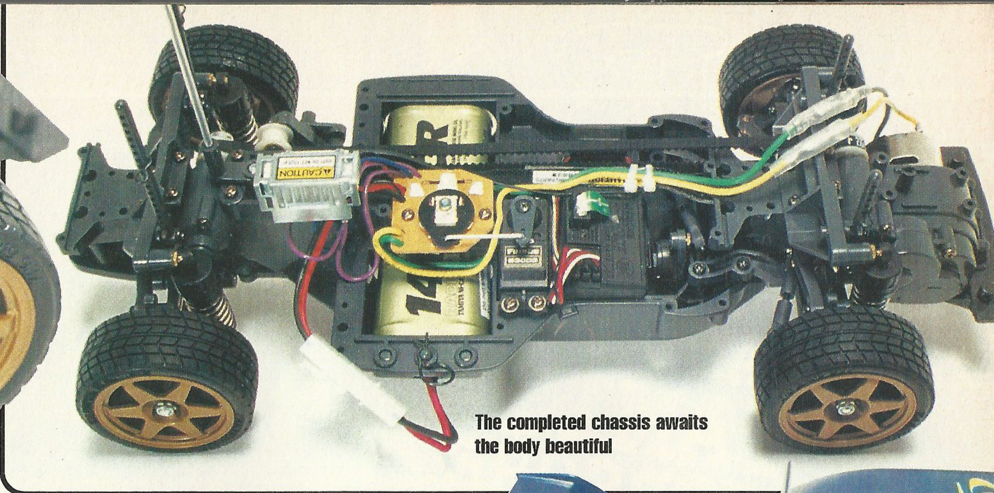
The next challenge I came across was fitting the rear axle, it wasn't exactly difficult just a fiddle. The problem arose when I tried to fit two screws and a dog bone at the same time. I managed it in the end, but before I build one of those bits again I will grow a third arm before I start! Just another thing to watch out for is the suspension arms, it is very easy to get these the wrong way around as I found out. Look out for the counter gear you have to use even more grease! Another 'look out' is getting the right screws in the right holes, the screws that keep the gear cover on line up so perfectly in the wrong holes, you can't really tell they're the wrong holes until you have screwed it together. Then you notice the gear cover is upside down and it isn't covering the gears fully. On fitting the belt drive cogs make sure the grub screw is on the flat of the shaft because it is not something very obvious in the instructions.

Next in the instructions is attaching the motor, this is not the simplest thing in the world. I know all you professionals out there will wonder how it is possible to have trouble putting a motor in, well you can keep wondering because I did. Anyway back to the job in hand, the difficult bit on the motor was screwing the screws in and getting the gear mesh right. The screw problem was simple it went a bit like this: 'Dad Help!' Where as the gear mesh was me spending for ever over it trying to get it right and then I resorted to 'Dad Help again!' Now on to my favourite job, I'm not sure, the shock absorber. The nice thing about Tamiya shocks are that you get a super shocker at the end of it. You have a lot of options when you build the shockers like: different pistons with different holes and the other thing is the bit you clip onto the bottom suspension, you have two different sizes of this part, a very small one for running the car low and a high one for raising the ride height of the car. When building the shockers I kept 'pinging' the 'E' clips across the room. The shock oil you are given is all right, but if you want really soft suspension (or hard) you should purchase one of the six optional shock oils.

WRC wicked rally cars!



Now you can see why you need to centre the steering servo first



The completed chassis awaits the body beautiful

When putting the steering linkage together it was really hard to get the turn buckles exactly the right length. You have to make up the two steering linkage ones with 0.5 mm between the sections and the centre one, that connects the servo, needs to have 3.5 mm between the two sections.

Radio gear

On installing the front steering servo, put the servo in first and don't put the frp reinforcing plate on first. Before you screw every thing together on your wonderful Tamiya model check your steering servo is centred. When I attached the steering assembly onto the tub I put it on the wrong way around to start with. You need to look really hard at the diagrams to avoid this happening. The instructions show you how to fit a special Tamiya c.p.r. unit and not the standard mechanical speedo'. This c.p.r. unit incorporates a receiver and a special speed controller. But rummage in your box some more and you will find an extra instruction sheet, which tells you how to fit a mechanical speedo'. A standard 27 MHz receiver fits perfectly on top of the servo if you insert it lengthways which is also shown in the extra instruction sheet. You need to make sure fit the frp. part flat before you put the receiver on top of the servo.

Finishing touches

Be very careful when gluing the tyres onto the wheels, don't get glue on your beautiful wheels! It would be nice for this job if you use some kind of glue which can be peeled off but still sticks well! Is there such a glue? Well evo-stick is as close as I could get. Dad said that for racing you really should use superglue, better safe than sorry.

The beautiful Tamiya body is the latest WRC Subaru Impreza rally car which is driven by Colin McRae and Nicki Grist. The body shell has got to be one of the best shells Tamiya make and is worth the money straight away! Our Subaru was done not by me but by the superb body shell painter Tony King. Tony did the car in metallic blue and did a super job of it as well. The fluorescent stickers came out brilliantly on the blue background of the Subaru.

Running the beast

The first thing you immediately notice about the driving style of the car is understeer, understeer, and guess what, more understeer! I found that it is almost impossible to slide the darn thing, which means that it is very easy to drive. I did in fact manage to slide it once or twice but this was at full power and on some pine needles, the tail gentle stepped out and for a second I thought I might spin it, but I didn't. The next challenge was 'Can I get round a 180 degree turn on full throttle?' Yes just about: after three attempts I managed to get it round by the skin of my teeth. The only problem with driving the car is that it works its tyres very hard. The place where I practice at home is very narrow and you either have to go in one direction or the other. So one of the tyres will get worn, very worn. After one session with the Subaru (and I only used three cell packs) the left tyre was almost bald......um does this car use its tyres or what! The tyres I tested it with were the Tamiya M-grip radial tyres, these are very soft and grippy but they do wear down quite quickly. So if you are going to get these tyres for your Subaru you better fit them with some harder inners!

Going, going, gone....

The car is super: it has great handling, brill' looks and was easy to build as standard! It comes with every thing you need, except for the radio and some tyres that have some grip. Over all this car gets the thumbs up from me. Until my next time in RRCi, Be Happy! RRCi

Quick Spec

1:10th Electric R/C Model Car. Front engine, 4WD by belt drive system. Independent suspension with oil filled, coil over shocks and wishbone type arrangement. Clear Polycarbonate body with decals. Mabuchi 540 type motor. Requires 2 channel radio and 2 x servos or 1 servo and 1 x Electronic Speed Control unit.

Testers Kit

Acoms Techniplus Alpha 27 MHz Radio and Servos
Kit motor and mechanical speedo'
Various Cell packs including Powers and Tamiya

Likes:

Clear instructions
Nice body
Value for Money

Dislikes:

The car is a bit heavy
A lot of slack in the suspension
Ride height too low for rallying Off Road

Alex Jung

D·I·R·T·D·E·V·I·L·S

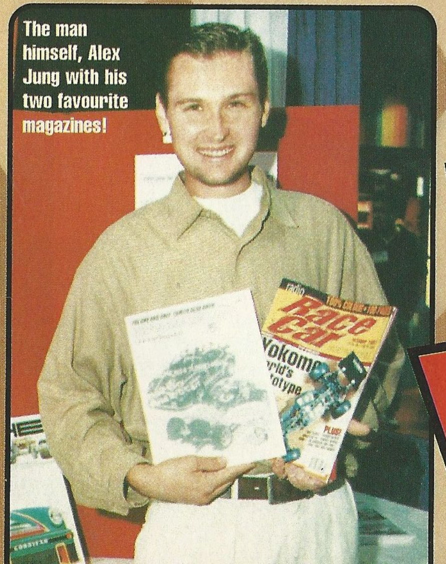
1987 AND THE TAMIYA PORSCHE 959

remember when?

A memorable year for radio-controlled cars, 1987. Tamiya revealed a 1/12th scale on/off road four-wheel drive vehicle; the Porsche 959, that was simply awesome! This scale 959 was modeled after the real life, well sponsored Porsche 959 rally winner. In the Paris to Dakar on/off road races of the mid 1980's, the Porsche 959 took first and second place in the four-wheel drive class. Piloted by the Metge/Leymont driving team, having the backing of Porsche engineering and design made victory all that much easier.

Porsche had given the 959 a large amount of horsepower (450 hp) from a flat six cylinder turbo-charged engine. This mean machine had all the necessary power to perform well in all kinds of conditions and elements. The advanced four-wheel drive system transmitted the enormous amount of horsepower to the front and rear wheels equally. Coincidentally, the Tamiya version of the Porsche 959 falls under the kit number 58059. Coincidence or planning? The world may never know. This was the only Tamiya r/c kit to bear the similarities of the kit and the kit number. Tamiya did not forget the word performance as well when they designed this replica. The kit came with all the necessary performance components available at the time; full ball bearings, and newly developed RX-540VZ Technigold motor, shaft driven four wheel drive and front and rear differentials for optimum handling and performance.

With and average selling price between $225.00 and $265.00 US dollars, entry level modelers need not apply. For 1987 and several more years to come, the Tamiya Porsche 959 had it all; looks, performance and style. The 959 even made its way into Playboy magazine, where a mini-review of the car was found in the ultimate gift section for the man who had everything. I love to continuously glamorise Tamiya's box art when it comes to their radio-controlled kits. The 959 was definitely one to be remembered. This is one of the few kits Tamiya produced with a ' see-through' drawing of the vehicle on the box cover. A sea of minuscule components and hardware encompassed the box subtly reminding its owner to study the instructions thoroughly before tearing into the kit. From mini ball bearings to tiny 'e' rings, the Tamiya 959 was an intricate piece of engineering beckoning assembly and admiration.



The man himself, Alex Jung with his two favourite magazines!

Chassis & Gearboxes

Construction begins with the two piece monocoque black chassis halves held firmly together by ten tapping screws. The front and rear gear boxes will eventually become attached to the chassis. One chassis halve sits on top of the other. Forming a 'sandwich' resemblance. A fairly simplistic assembly, but wait....... The fun is just beginning! After the steering mechanisms are installed to the front of the chassis, the gear selection and rear gearbox are ready to be assembled. Since the Porsche 959 is designed for on and off road surfaces, the initial drive gear selection is entirely up to the modeler. Select a 41 tooth drive gear with a 16 tooth pinion for uneven roads and a 40 tooth drive gear with an 18 tooth pinion for flat road surfaces. Since the 959 has front and rear gear differentials, plenty of thrust washers, c-rings, thrust bearings, bevel shafts and spider gears make up the internal workings of the gearbox. A ball differential from kit #58065, the Toyota Celica Group B Rally was a nice 'hop-up' option for smoother operation. Insertion of the propeller shaft through the thrust washers and thrust bearings may take a few attempts, attention to proper assembly is crucial for optimum performance. Like most traditional Tamiya R/C's, the gearboxes are two-piece durable plastic, coming together precisely. A unique 2mm ball thrust bearing inserts into the counter bevel gears, one for each gearbox. I have not seen this ball bearing utilized in any other kits other than the 959 and the Toyota Celica Group B. A very tiny bearing that you do not want to lose!

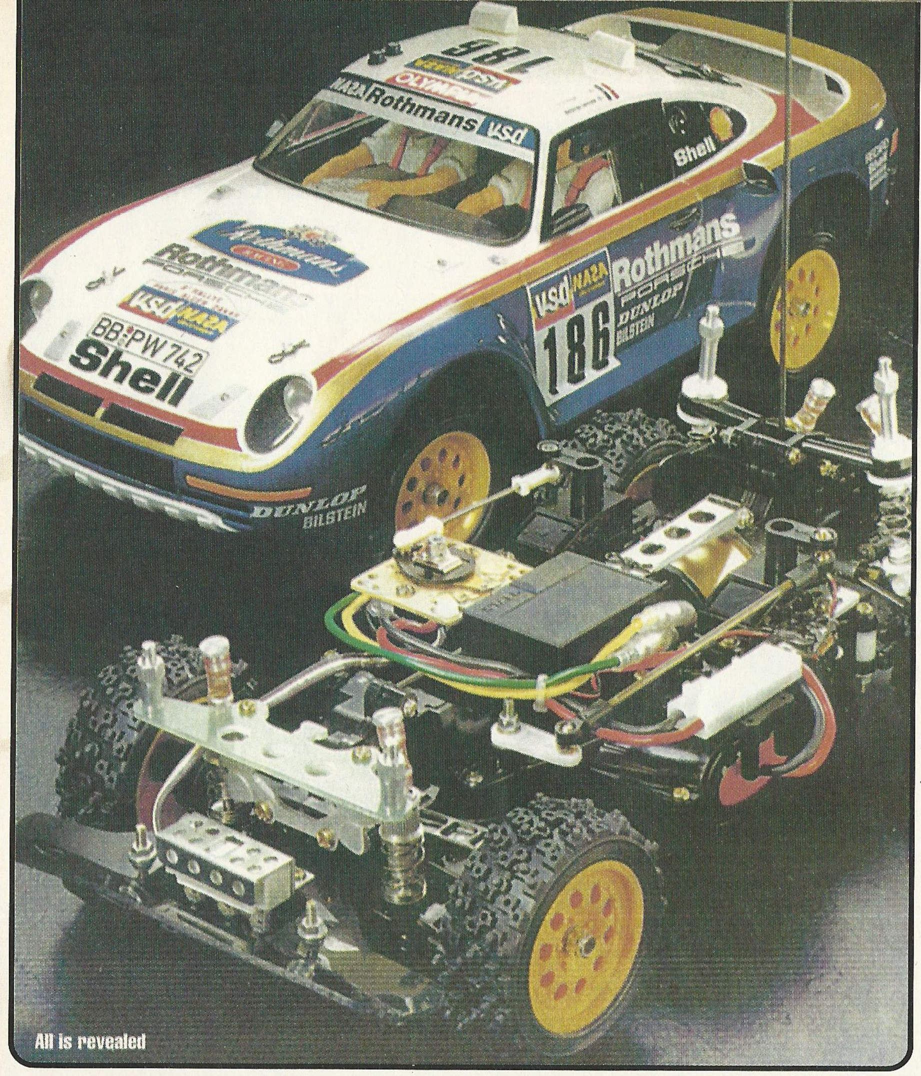
Once the gearbox is assembled, the rear control arms are held to the gearbox with the aid of link pins. Essential lubrication of the link pins is necessary to allow even travel of the control arms once the dampers are installed. Insert the dual drive shafts or 'dogbones' into the wheel axles and support them with the left and right axle housings, leaving a little bit of play between the screws which hold the housings to the control arms. Before the gearbox is installed, the long steel propeller shaft must be inserted into the rear propeller joint. Once this step is completed, the front gearbox and propeller shaft come together simultaneously.

Motor

Tamiya supplied the Porsche 959 with their most powerful motor at the time. The RX-540VZ Technigold. Some may remember the Technipower motor (RX-540SD) which first debuted as factory equipment in the Supershot (#58054). The Porsche 959 was the second production car by Tamiya to have the Technigold motor, their tenth anniversary BigWig (#58057) was the first. The Technigold motor churned out maximum power at 19,000 rpm. This motor was designed to be used in conjunction with Tamiya's gold power battery packs. The motor had fully adjustable timing. Installation of the motor was a tight fit. With the rear of the motor butted up to the center of the chassis, it was recommended that the motor wires be re-soldered to a 90 degree angle to prevent interference. The motor was center mounted in the rear gearbox and further supported by a large plastic washer in the center of the chassis.

Suspension

Damping of the 959 was another first for Tamiya. Incorporating four-wheel independent suspension through four oil filled shock absorbers gave the 959 a smooth ride. Everything about the damping system was unique; the dampers, the mounting, the springs and they way the dampers could be re-filled with oil. Four identical tiny aluminum cylinders were each capped with a clear pink vinyl tubing and corked with an aluminum plug. Filling and re-filling the dampers simply required the removal of the aluminum plug. This was a nice change from practically disassembling the whole damper unit and unscrewing the top of the cylinder, common on most R/C cars. The front dampers were supported by a large aluminum cross brace on the top and ball ends at the bottom which attached to the lower control arms. The rear dampers are identical to the fronts with one exception: the damper springs. The damper springs were positioned in front of the cylinders with their own mounts. Once again, proper lubrication of all assembly points is crucial for adequate travel and performance. Simply filling the dampers with oil will not cut it. The four damper cylinders have no adjustments on them (their spring positions remained fixed). The front top and bottom dampers remain stationary. However, the top of the rear dampers can be adjusted horizontally and further length of travel can be achieved through choosing one of three different camber braces. The suspension was definitely a unique set up and was re-used on the Toyota Celica Group B and retired thereafter.



All is revealed

Electronics

A two channel radio was required for operation. The radio components (servos and receiver) all are mounted mid-ship, each easily accessible. The receiver is affixed to the top of the chassis with double sided servo tape. The steering and throttle servo each mount on the left and right side of the motor, almost flush with the top of the motor. There was no need for receiver batteries since the supplied mechanical speed control had the battery eliminator circuit (BEC) and the working headlights were powered through the speed control as well. ESC's could have been utilized, however the stock mechanical speed control was quite reliable and efficient. Tamiya supplied a rubber cover for the control to prevent moisture from making contact. The battery pack was positioned mid-ship as well, directly underneath the speed control and receiver, fitting into the chassis quite snugly. All the components fit securely and were easily accessible for adjustments and routine maintenance.

Wheels, Tyres and Body

The final steps in completing the 959 is the assembly of the wheels, tires and body. The chassis comes to form with the installation of the wheels and tires. The wheels are a one piece durable deep yellow plastic which slide into block pattern spike tires. The wheels and tires were made to withstand substantial usage for longevity. Purchasing the optional slicks was a great idea if a lot of pavement driving was planned.

The plastic support bushings for the wheel housings could have been replaced with optional 850mm ball bearings (four) for added performance. The body of the Porsche 959 has to be without a doubt one of the most intricate and detailed lexan bodies Tamiya has ever produced. Unfortunately, the body did not have the durability of the rest of the car. Tamiya was the only one who could achieve the blow molding details which this body required. Made of lexan, caution in cutting and assembling was required. Patience during finishing the body would yield great results. Improper cutting weakened the whole shell. Like most Tamiya R/C cars, the body has many steps and small details, a Tamiya trademark. Take your time, the finished product is beautiful. Back in the late 1980's when the Porsche 959 was in production, replacement body kits were $50.00 to $60.00 US. The final step in the body is the application of the decals, another small project within itself. Positioning the rally stripes to alleviate the 'ripple' effect is almost impossible. A hair dryer may help a little. Even the pictured 959's in the Tamiya catalogues have curls and ripples in the rally stripes. Another alternative for the creative and skilful modeler is to paint the stripes on from underneath.

Box of delights

Desert Rally winner at speed

Conclusion

The Porsche 959 was a remarkable R/C model with beautiful lines and design which did not fall short of looks, reliability and performance. The successor to the Porsche 959 was the Toyota Celica Group B Rally special, practically a twin. Some improvements Tamiya made to the Celica compared to the 959 was the inclusion of a ball differential and a front stabilizer. The 959 still remains the more sought after of the two due to its looks. Unfortunately, this chassis design was axed after the Celica. The collectability of the 959 and Celica will always remain strong due to the large amount of them sold and their scale resemblance of the real-life vehicles. If you enjoy collecting Tamiya R/C cars from the past and want to learn more about them, check out Tamiya R/C Car Enthusiast, the only international trade publication for discontinued Tamiya R/C vehicles. Subscriptions outside the US are $40.00 for foreign air mail for one year. Free want ads with your subscription. For more information on how to subscribe, please write to: Jung Publishing, P.O. Box 1205, Palatine, Illinois 60078-1205, USA or visit their web site at : http://www.rcplanet.on.ca/tamiya

RRCi

'The 959 still remains the more sought after'

Nigel McStay

drive in

• DIRT • STIA

OI McSTAY, NOWWW-DRIVE IT!

Thunder Tiger Bandit - Running at Last

Well I am sorry to have kept you waiting so long for the Bandit's running review but as reader Mr T.Avis said in his letter 'I'm waiting for the drive review of the Bandit so get on with it naaawww', I will sir.

On a dry Friday afternoon at the local car boot site which is made up of pot holes and loose gravel the Bandit had its running test. Minor adjustments were made to the throttle and brake and then I pumped the fuel through and made my first attempt to start her up. Very pleasing was that on the second pull the engine roared into life and raced, so a few more minor adjustments and we were ready for the off. Plenty of stick was the thought but not straight away, a gentle break in, as all new engines need a little TLC, but after a couple or three laps round the car park and in and out of pot holes, a sudden change in engine noise indicated that I had a problem, the Bandit was moving at nearly full speed and I was not in control of the throttle.

Not so clean now as when it appeared in the July edition

Help!

My ever ready friend stood in the path of the Bandit as it came screaming towards him. He managed to stop the truck with just a little bruise to his shin and a little burn from the engine to his finger from the exhaust.

Moral, always check that you have tightened up your screws after those minor adjustments as my throttle linkage had come loose and had caused this problem. Luckily there was no serious damage to the truck which is great news as I have only just got started to get used to this off roader. And guess what, I love it! Neeeeeeaaaawwwwwww! RRCi