

LEE MAKES GP HIS OWN - How Lee Martin dominated in Belgium

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RADIO CONTROL CAR

RACER

SERPENT'S NEW ELECTRIC RIDE

We talk to Ronald Baar about their
new touring car project



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SPEC: 4WD CARBON FIBRE CHASSIS CLASS: ON-ROAD COST: £124.99



Xray had a surprising amount of success with the original M18 which was launched a couple of seasons back. The 1:18 scale class was a small category and the Xray gave it a much-needed shot of excitement. Once people see a heat of these small cars driven well they get hooked very easily and the class has continued to grow – especially as indoor winter fun!

CONSTANT DEVELOPMENT

Xray never stop with their products constantly being tweaked and refined. Although some may feel that this is a negative aspect, racers will love this as they

continue to develop the cars and when they are happy that they have found useful improvements, the relevant upgrade parts are released to the public. Xray now have a formidable reputation for the quality of their parts, both in the original kit and the upgrades.... After a while all the upgrade parts and more tend to get put in one box and the car re-released and in this article, we are looking at the latest version of the M18, the highly upgraded, race ready M18 Pro.

The car looks a lot different from its predecessor even with just a quick glance. The old car was based

on a moulded plastic chassis, the new car is based on a machined carbon one. It is the chassis that sees the most advances over the earlier car as this chassis boast Xray's patented MFT. MFT stands for 'Multi-Flex Technology' and by using different screw locations and carefully positioned slots and machined cut outs in both the chassis and top deck, the car is allowed to flex in a controlled and adjustable manner. This technique was debuted and developed on the 1:10 scale touring cars. The whole effect makes the car look much more race ready than the old car – after all carbon looks a lot more purposeful than plastic!

Micro Racer

This is the ultimate in micro racers as Xray's newest M18 release aims high with the Pro version of their popular M18 micro car



The remainder of the car incorporates a lot of part evolution rather than revolution of the chassis however all the modifications add up to a more race ready car.

TIME FOR CHANGE

So let's take a look at the changes that the Pro has over its predecessor. Along with the chassis the top deck is also sheet carbon fibre, milled from the premium grade material. Bolted to this is a revised suspension package. At first look it doesn't appear much different but after much testing, Xray has

moulded the suspension arms in a stiffer type of plastic. The uprights also feature small revisions to make them a little stiffer and stronger. The geometry that the front arms use is also changed; the caster has changed from 12 degrees to six making for a sharper steering response. To add to the increased steering the rear toe-in has been reduced from four degrees to two and a half giving a looser feel whilst cornering, it also means less drag from the high-grip foam tyres whilst on the straights. One of the least professional looking parts of the original car were the push to fit slide on type wheels. The Pro has

dispensed with that system and utilises a method similar to its bigger brethren, a normal looking wheel is now secured to the stub axle with a large nut and the tool for tightening this is included in the kit. This has also meant a redesign of the axle part of the driveshaft. Included in the kit are both plastic links that fix the front and rear toe-in and adjustable tie rods that allow individual adjustment. We built our car with fixed rear toe-in arms but the adjustable fronts. Access to them all is easy once the car is built so it is quick to swap when you want. The kit also included small plastic bungs that push

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into the wishbones and form the up stops – and therefore set the ride height. As the instructions suggest the supplied small grub screws should be used instead to allow the ride height to be adjusted to perfect the handling.

On the transmission side of things the Pro now features as standard front and rear ball diffs – these are tiny and come pre-assembled. They are both externally adjustable and feature tiny steel balls, polished diff rings and small bearings! Included in the kit are two lightened spur gears and a selection of pinions to optimise the gearing for a wide range of different motors and tracks. There is a good guide in the manual to help you choose a starting point.

The car still retains a few parts from the original M18 as some parts just couldn't easily be improved upon! The diff housings are the same as is the ground centre driveshaft. The whole transmission is supported on miniature ball races and as with most shaft drive cars the transmission ended up with minimal friction. Also retained are the tiny shocks although these don't provide any damping unless you pack them full of thick silicon grease and so are mainly a spring guide. However, they do have multiple mounting positions to adjust their stiffness and progression – another valuable tuning setting. The adjustable body posts support the body well but unfortunately the rear post is somewhat hidden by the bodyshell wing, making clip removal pretty tricky.

FOAMING UP

The Pro is supplied with foam tyres pre mounted and trued – and they offer a lot more grip than the rubber ones with the early car. There are 45 and 50 shore (narrow) fronts available and 35 or 40 shore rear tyres. The Pro is supplied with 50 shore fronts and 35 shore rear tyres, this gives the least amount of steering of all the combinations but after the changes to the suspension geometry this car has a lot more steering than the older one anyway. With the different combinations of tyres (there is a guide table in the manual) and the Multi-Flex Technology a good balance of front to rear grip should normally be possible.

In addition to the tyre options there is also a range of upgrade parts available, which is typical of Xray. These

"There's a lot of evolution with the Pro rather than the revolution of the chassis however all the modifications add up to a more race ready car."

OPTIONAL PARTS

- blue or silver graphite chassis kit
- adjustable suspension links
- alloy shock absorbers
- alloy shock towers
- UJ driveshafts
- front one-way
- anti-roll bar set
- alloy steering arms
- alloy motor mount



New wheel fixings adopt a more traditional design

We installed an Xray electrics package that includes a servo, speed controller, motor and battery

ON TEST

Once complete the car looks right! It has a tidy layout, improved suspension geometry and a low centre of gravity but how would it all translate on the track? Well as a typical Xray the car worked well from the start, the power pack gave it a fair turn of speed although a little down on the best brushless systems that are being used frequently in the 1:18 class. The Multi-Flex Technology makes a noticeable difference to the car but take note – the screws only need loosening a little in the top deck and the changes can be felt. Also running the car at its most flexible did provide the most grip however, it became less nimble so a good balance is the most important target, changing the tyre compound also helps to achieve the balance between grip and the stiffness required to change direction fast enough.



Above: Futaba's excellent R203HF receiver

It was a tight squeeze to install the radio

Above: The MFT upper chassis with slots to induce flex

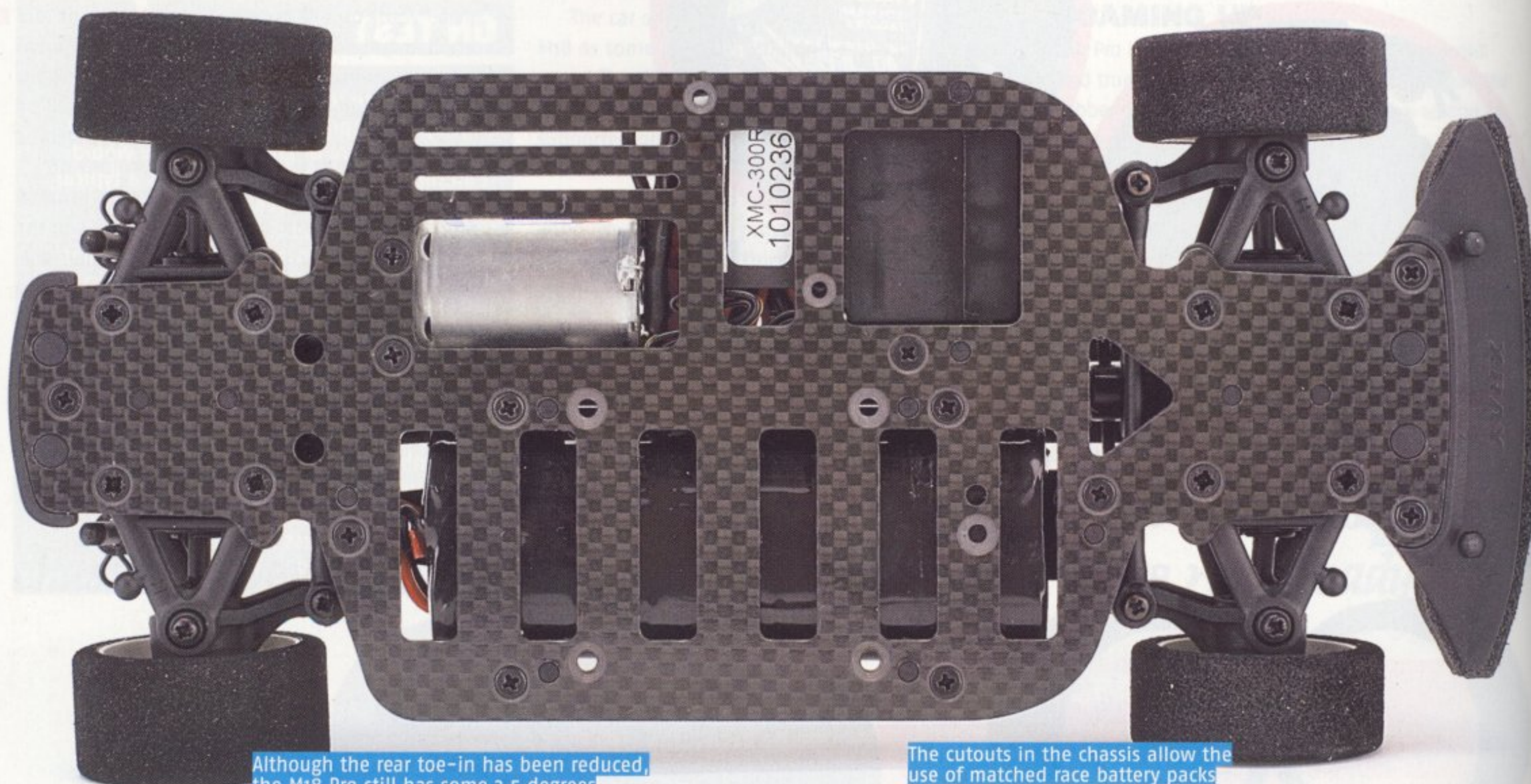


The plastic shock absorbers are not oil-filled and rely on friction to dampen the spring action

We trimmed the foam front bumper to clear the bodyshell

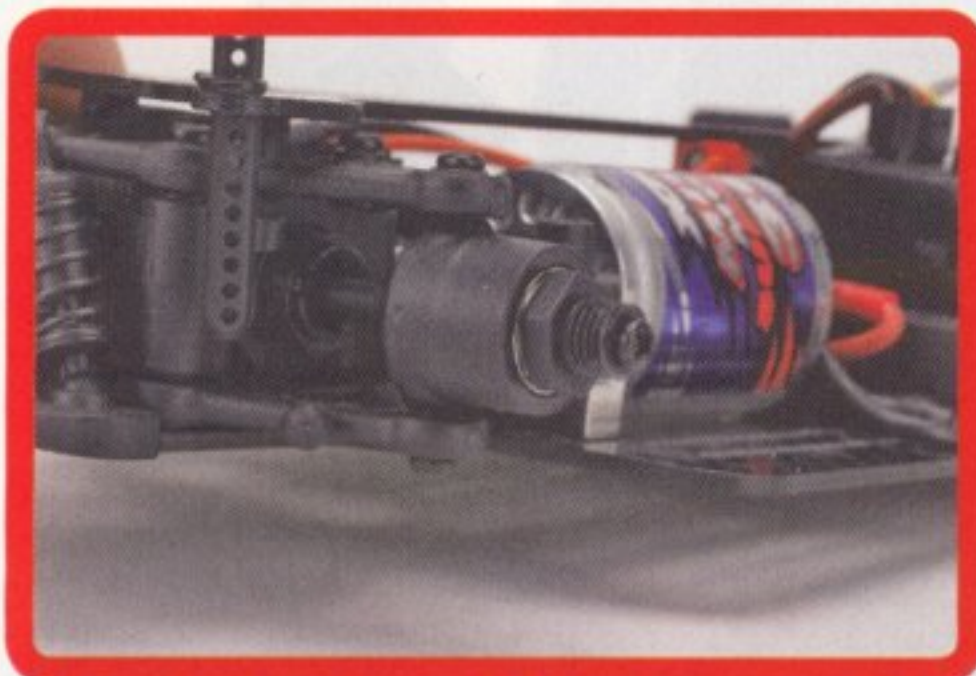
The small Futaba receiver covers the servo and speed controller

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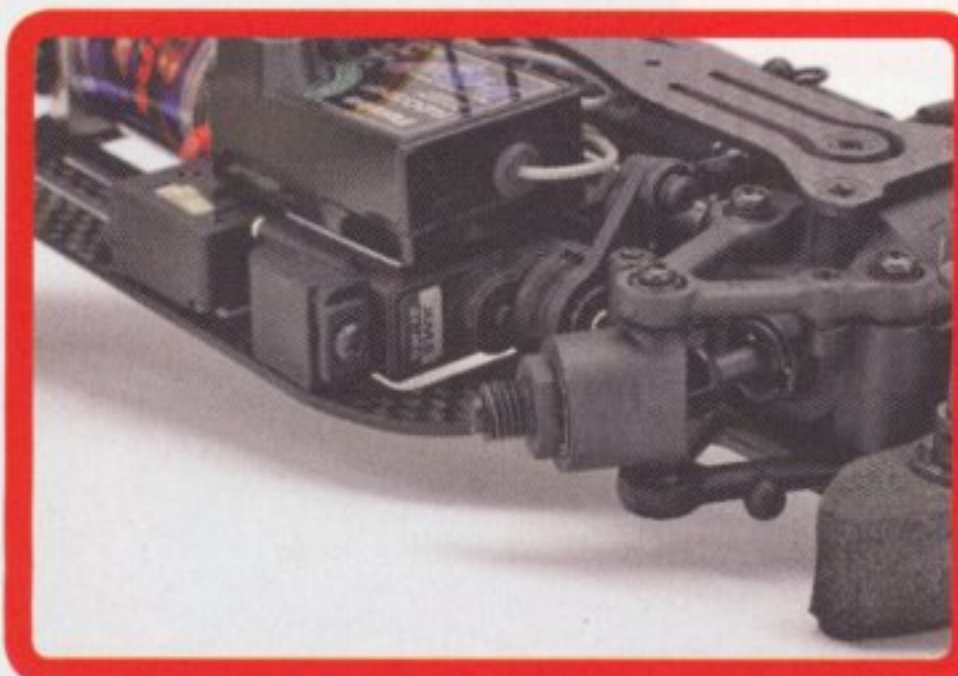


Although the rear toe-in has been reduced, the M18 Pro still has some 2.5 degrees

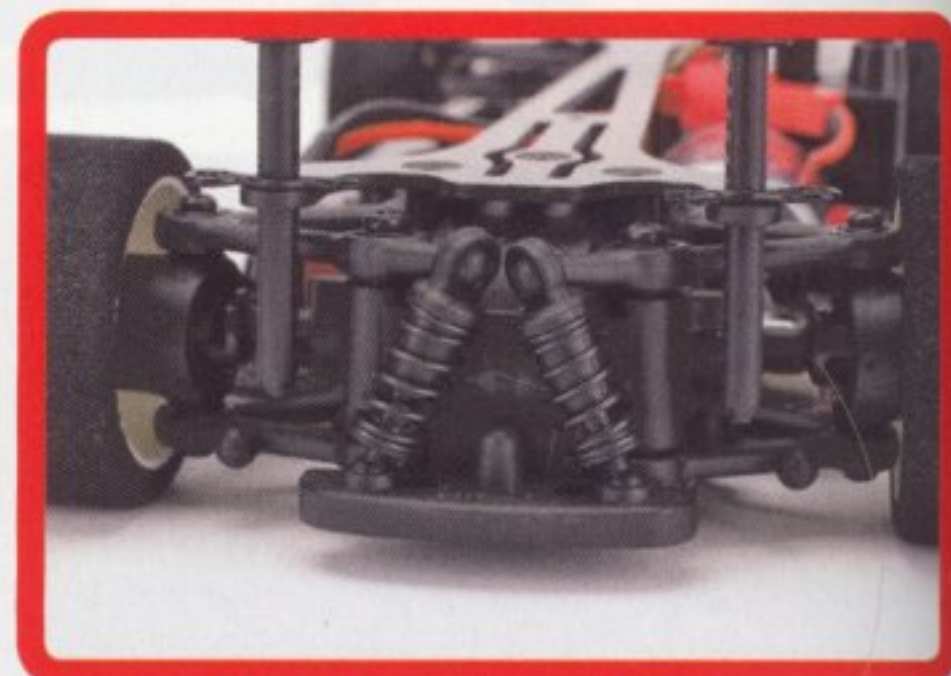
The cutouts in the chassis allow the use of matched race battery packs



The new axles are designed to accept a regular hex wheel fitting that is secured with a nut



The caster angle is set by the upper front wishbone although this can be altered



There is a choice of two positions for the rear shocks' lower mounting

WHAT WE USED

Electric Kit

Transmitter: Futaba 3PK
Receiver: Futaba R203HF 40MHz
Steering Servo: Xray XMS01MG
Servo: Xray XMS 01-MG
Speedo: Xray XMC 300R
Motor: Xray Micro 300
Battery: Xray 7.2V 1100mAh

with the machined slots in the chassis allowing it to sit as low as possible. As you would imagine, the Xray parts are all high quality and fitted reasonably easily in the small space allowed on the chassis. There are several bodyshells available that all subtly change the cars handling, they are small so quite tricky to paint, however a great job was done by Gavin Clinch. ■

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VERDICT

⊕ high spec out of the box better wheel fixing
⊖ no oil-filled shocks

Racer Rating ★★★★★

SPECIFICATION

MODEL: XRAY M18 PRO



SCALE: 1:18
CLASS: ON-ROAD
APPLICATION: COMPETITION
FORMAT: KIT
POWER: ELECTRIC
CHASSIS: CARBON FIBRE
DRIVETRAIN: 4WD
TRANSMISSION: SHAFT
DIFFERENTIALS: BALL-TYPE
SHOCKS: PLASTIC
BEARINGS/BUSHES: BEARINGS

TECHNICAL DATA

LENGTH	235MM
WIDTH	192MM
HEIGHT	78MM
WHEELBASE	150MM
FRONT TRACK	184MM
REAR TRACK	192MM
WEIGHT	590G

SUMMARY

Once again Xray have upgraded a car improving almost every aspect of it. It is certainly proving to be a competitive race car and works with a wide variety of power systems. We were impressed and will be using it through the winter to keep out thumbs and eyes sharp!