

RACING CEN'S MATRIX 1:8 GP BUGGY • BUILDING XRAY'S NEW NT1

# Racing Lines

No. 129 JUNE 2007 \$12.95 (inc. GST)

AUSTRALASIA'S PREMIER RADIO CONTROL CAR MAGAZINE

## GST7.7

CEN'S LATEST  
GP MONSTER TRUCK



## HPI SAVAGE XSS

## NOVAK BRUSHLESS CRAWLER



- > XRC'S 1:5 LARGE SCALE TOURING CAR
- > MELBOURNE TOY AND HOBBY SHOW
- > ESSENTIALS FOR RTR RACING
- > WHY LRP HAD TO GO BRUSHLESS



JUNE 2007

# BUILDING XRAY'S NT1

200MM NITRO TOURER

BY PETER JOYCE



**B**ack in Issue #127 (April 2007) we announced and published the first official photographs of XRAY's latest baby, the NT1, a 1:10 Nitro Tourer and since then XRAY have pulled out all stops to send us one of the very first kits available.

It came to us in very much raw state: no packaging, no manual and no setup book although XRAY did provide us with an electronic version of both manual and setup book.

That XRAY would turn their attention to the Nitro Tourer segment came as a bit of a surprise to most, in many parts of the world this category

is not as big as others.

After our build and drive of the NT1, however, we suspect the Slovakian company will raise the bar of this class to a new level of quality and on track pace—and that can only be good for everyone.

There's nothing like competition to breathe life into a segment and we've no doubt other manufacturers will be keeping an eye on the NT1 and its race track performance and results.

XRAY are unquestionably at the top of their game for it seems every kit they release hits

## WHAT ELSE?

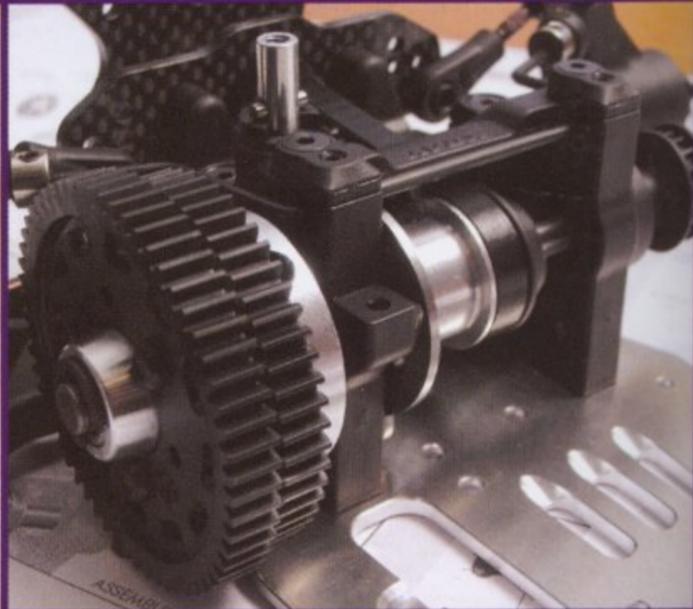
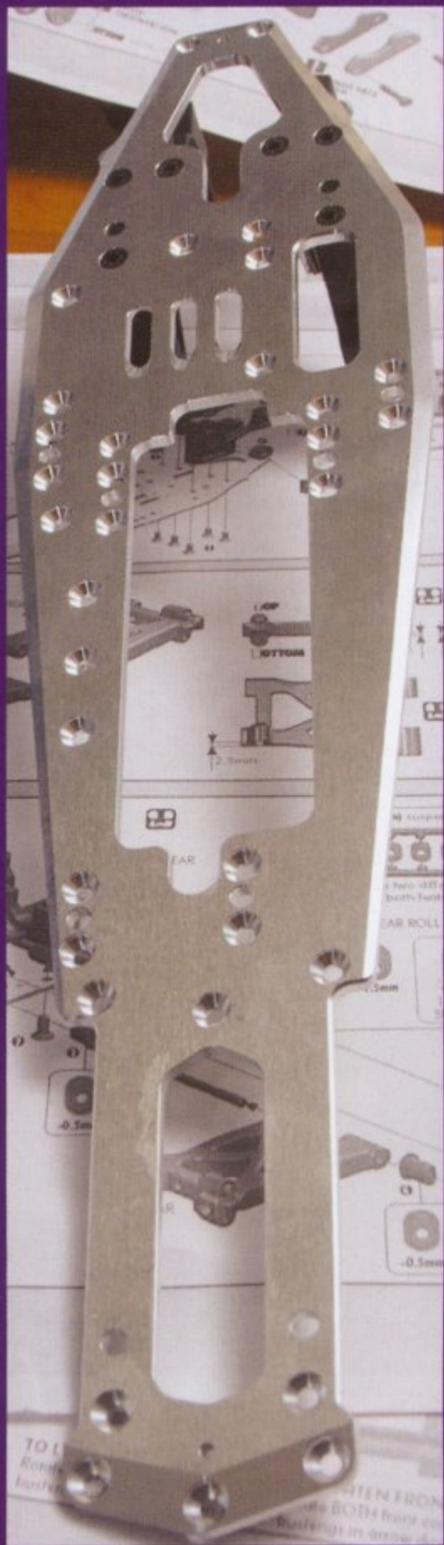
XRAY's NT1 is a full blown competition racing kit and, like all such kits, it leaves the purchaser with choosing what equipment to use to fit it out.

Here's what you'll need to get the NT1 up to racetrack ready:

- .12 bump start engine, tuned pipe and air filter,
- 2 channel radio system with good quality servos,
- receiver battery pack (NiMh or LiPo),

- If using LiPo for the receiver pack, a voltage regulator,
- 200mm touring car body and paint,
- Nitro Starter Pack (to include glow warmer, plug spanner and fuel bottle),
- Starter box,
- Fuel

To most people who pick up a NT1, all these things won't be a problem but if you're looking for a ready to run, the NT1 is not for you.



foam rims but without donuts mounted.

The first question we asked ourselves was, can you still buy donuts—almost every foam tire offering today comes as pre-mounts.

Regardless, a set of 40F and 37R would probably have been a good general starting tire and will probably be a good way for you to start off unless you have a pretty good idea of what works best for your situation.

So being a roller means you will need a fair bit of gear to get on the track and you can see by the accompanying box, there's quite a bit more shopping to do once you've purchased your NT1.

Another highlight of what XRAY supply is a complete set up book (XRAY sent us an electronic version as the printed version was not ready at the time of shipment).

The set up book is really one of these features that clearly sets XRAY apart from other manufacturers and in this instance, it makes the NT1's adjustability easy to understand and easy to work out what to try to get the result you seek.

### The Build

First up we pulled all the carbon parts out of their bags (along with the brake pads), to apply super glue to the edges of the carbon to strengthen and make it look 'trick'.

This is not strictly necessary but it's a good idea nonetheless.

Normally we would be giving XRAY a big wrap as their instructions are usually exceptional to the point where we have had confidence in the

past to give an XRAY kit to a total beginner who then built the car perfectly.

Not so with our NT1, as the build got underway a few anomalies crept in.

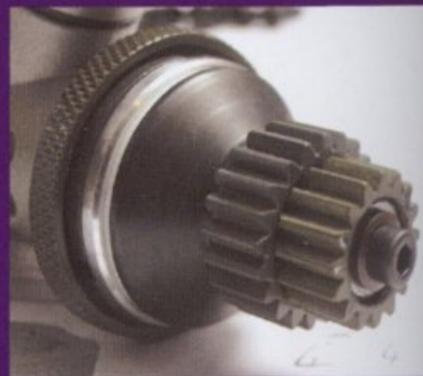
Our advice is set the brake pad clearance as you normally would, in our case with the disc sitting in situ, install the brake cam post before you fit the brake pads.

The clutch set up is rather complex when following the manual, we concentrated on getting the end float right and were happy with the outcome.

Another anomaly, the foam

bumper just appears on the car, not that it's a complex install.

Finally, with our kit anyway, the linkage on the servo horn had to have the screw fitted from underneath, through the linkage and screwing into the servo horn, rather than the other



new highs for chassis tunability, features and quality.

XRAY has pressed on releasing new contenders into most segments of the RC market, EP touring cars, 1:18 EP and GP on and off road and, most recently, 1:8 GP off road.

On each occasion they have been a major influence and are a recognised major player.

### What you get

Our example of the NT1 is very much pre-production—no box, manual or any other goodies that are usually found in XRAY kits.

What you can expect is a nitro touring car constructed from components of exceptional quality.

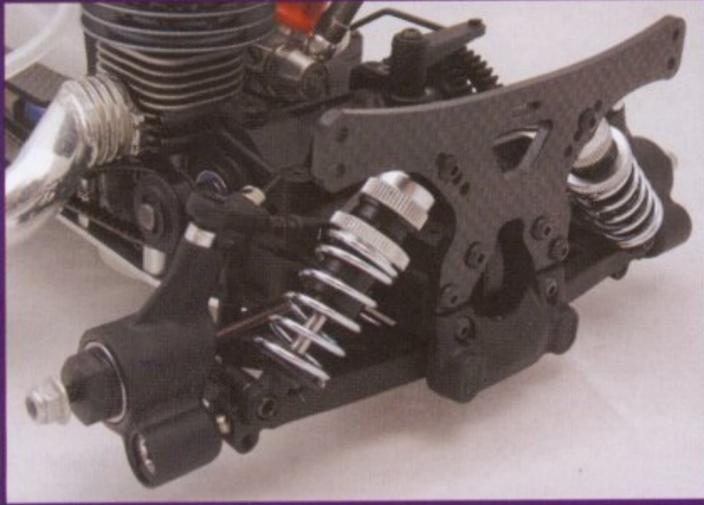
In the box you will get an "almost" rolling chassis.

Almost?

Well, XRAY supply a set of

**NINJA ENGINE**

Much the same time as the NT1 arrived, we received the Ninja MR12-TO1A so it has become our powerplant for further NT1 racetrack forays. We'll have a full report on the Ninja next issue.



## JAKE ZARB: FIRST LOOK

The build of the much anticipated NT1 was perfect, the car has been very well thought out and went together nicely, however I'm not here to tell you about that stuff, I'm here to tell you about my first thoughts on its performance at the race track.

At the time of writing, I've run the NT1 twice so far, at the Gold Coast Challenge and the AARCMCC GP On Road New South Wales Championships at John Grant International Raceway, Moorebank, both events last month.

The NT1 straight out of the box felt extremely balanced and very easy to drive.

It had a little understeer dialed into the standard setup but this was easy to adjust with the many different setup options the NT1 offers.

I had a little trouble with setting the timing of the second gear's engagement as it seemed to always be too early, even though I kept tightening.

So if you have the same trouble with your NT1, don't be afraid to keep tightening the gearbox as it will go along way until it feels good.

I tried a lot of setup changes with the NT1, however I will only go through the ones I felt were most substantial and I recommend trying on your car for now as I am still learning about the car and its characteristics.

At first I only had a gear diff with a heavy front oil in the front of NT1

way around as described in the manual.

It's likely that the manuals that end up in production kits may well be different from our pre-production electronic version and we think it's a case that XRAY have set the bar so high in the past with their other offerings that we simply expect perfection and when it's not 100% perfect it stands out.

These things aside, the build is fantastic—XRAY quality is simply awesome and the NT1 is no different in this regard.

Overall the build process is logical and pretty easy to follow, however a set of allen drivers is recommended, as is having a set of vernier callipers on hand for a number of measurements where accuracy

is required.

HUDY make two superb sets of such drivers and wrenches, one a luxurious set with an accompanying price tag or a more economical set, Profi-Tools, which are often favoured by racers over the more luxurious ones (something to do with being softer on their hands).

While the NT1 is a complex 'pro' car, most people would not have much trouble building the NT1.

### New Nitro

Now we have the roller, what does the NT1 look like?

The 7075 3mm chassis is beautifully finished with weight saving milling and cooling cut outs.

It will be a shame to put the ultra narrow chassis on the track as it will no doubt get scratched!

The chassis is aided by composite bulkheads and a 2.5mm carbon fibre upper deck.

These things combine to create a very sound chassis.

XRAY will be introducing option parts to assist the chassis tuner introduce more chassis flex, as they have with their electric touring car range.

A trick two piece engine mount is a great home for the Ninja engine.

It doesn't seem, at first look, there is any opportunity for gear mesh adjustment but this turns out to be the easiest touring car that we have ever had to mesh the gear on.



XRAY have developed their own adjustable clutch (called the XRAY Centrifugal Axial clutch).

It's complex to set up but certainly features quality componentry.

Power moves into the two speed adjustable clutch.

It is the smooth shoe type. From here, a three belt driveline takes over.

Gear differentials are supplied, XRAY claim they are lightweight, they are certainly compact.

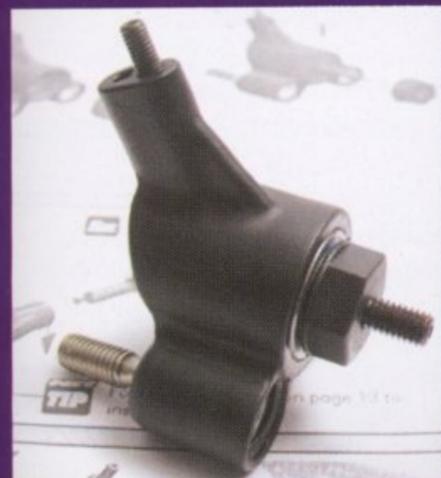
The front has an optional composite 'block' that locks the front diff, turning it into a spool.

Silicon greases are used to give a limited slip effect in the rear (and front if using the gear diff).

Suspension is magic, smooth composite body shocks do the hard work.

These can be built as either fixed or adjustable dampening, we went adjustable as we have been happy with this design in the XRAY electric touring cars.

Pivot ball suspension is used all round and the amount



but changing this to a full time locked diff made the car feel more direct when getting on the power out of the corner.

Next to try would be running a high rear roll center to help the car corner faster.

The advantage that change made was most noticeable on Moorebank's fast sweeper off the end of the main straight.

Next I ran a relatively soft spring for a nitro car (XRAY's blue spring) but set my front sway bar to full hard and the rear to 75% hard.

This change made the car feel more balanced and helped with corner speed once again.

My full setup that I used at Moorebank is available on the Team XRAY website.

Issues I had with the car would have to be the brake pads.

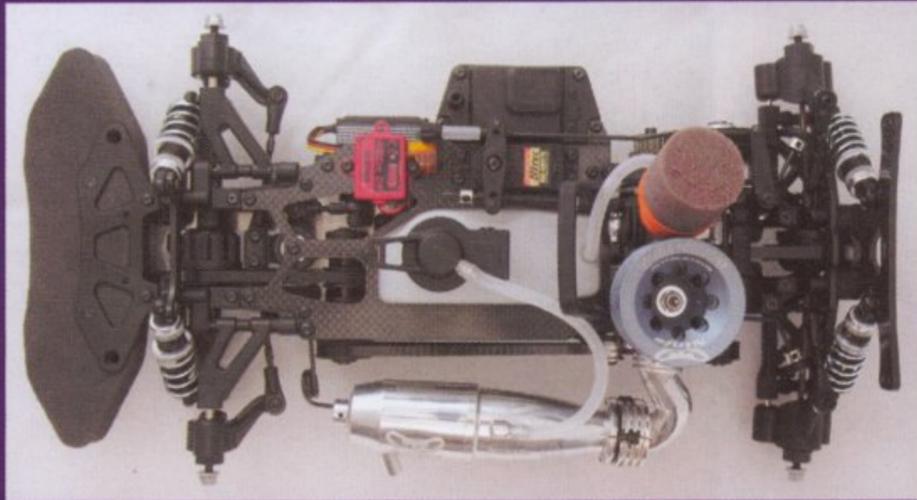
They seemed to wear very fast and I decided to change them before the start of the A-Main although this isn't a big issue but one you might want to keep an eye on.

I broke one thrust bearing after roughly three and a half hours of running which is not too bad.

Otherwise the durability of the NT1 is great with no broken plastic or graphite parts to date.

I can't wait to get the NT1 out again for another race, probably at the Tamworth Cup this month (May).

There's still a lot of potential I haven't explored yet, however I am positive this is a yet another very competitive car from XRAY and one I am looking forward to campaigning as the racing season builds up to the AARCMCC GP On Road Australian Championships at Lilydale 26-28 October.



of adjustment is almost endless.

Carbon fibre shock towers have are found front and rear, in both instances the shock towers help to strengthen the bulkheads.

Sway bars are also part of the package.

Turnbuckles found on the steering links and rear upper link are made from the famous Hudy spring steel.

The steering has an easy to adjust central servo saver and ackerman adjustments made through the use of inserts.

XRAY have furnished the NT1 with a series of features that help it perform better and also make it easier to live with.

XRAY plan to release a carbon plate to replace the box if you are looking for the maximum weight savings.

The fuel tank can be lowered in the chassis up to 3mm if you use a small receiver pack.

A standard 5 cell 2/3AA pack will fit, however by us using VXR's LiPo pack we lowered the tank and fitted the regulator on the battery tray.

Even with the tank at its 'highest' position the NT1 is a supremely low touring car as everything possible has been done to lower the centre of gravity.

The chassis also has the weight as central as possible to the point where clearance between the front layshaft and the steering servo horn is a bare minimum (XRAY recommend 1mm).

A fully enclosed receiver box is welcome to protect the 'delicate' receiver, thoughtfully a rubber lid can be removed to access the crystal (if you're still using crystals).

Maintenance is a boon, the top deck is easily removed with a few screws, the diffs can be removed from the top.

The two piece engine mount allows the engine to be pulled without upsetting the gear mesh.

This car is designed to be quick on the track and easy to live with.

## Conclusion

The NT1 will be another landmark chassis from XRAY, our prediction is it will breathe new life into 1:10 GP touring cars, a real cat amongst the pigeons!

While the manual we had did disappoint, we feel certain that this was a pre-production issue that will be resolved with the release kits,

Otherwise, the car is quality all the way.

The spec level is at or above the level expected of pro level racing cars.

This not a car you would want to run in the street, however on a racetrack look out—it's a weapon.

With four cars in the A and four in the B finals at the US Winterchamps and a Dutch national title already under its belt, you have to wonder how long before the NT1 is dominating everywhere.

## Our thanks

XRAY is distributed in Australia through Custom Model Cars. Thanks to XRAY for the review NT1, you will want to consider holding off any purchase until you get a chance to check out the NT1 at your local hobby shop, it's got winner written all over it!

## The Specs

**Manufacturer**  
XRAY

**Model**  
NT1

**Type**  
1:10 4WD 200mm  
GP Touring Car

**Importer**  
Custom Model Cars

**Dimensions**  
LOA .....425mm  
Wheelbase .....258mm  
Track rear .....198mm  
Track front .....197mm  
Weight .....~1685g (dry)

**Technical Chassis**  
7075 anodised 3mm alloy, 2.5mm carbon fibre radio tray, composite bulkheads.

**Suspension**  
Fully independent pivot ball style, composite hub carriers and arms, Hudy steel turnbuckle upper rear camber link, Adjustable

toe, camber, caster, kic-up and anti-squat angles. Uses offset hole bushings throughout. Short travel coil over oil-filled shocks, adjustable upper and lower shock mounting points on carbon fibre shock towers.

**Transmission**  
Adjustable clutchf, adjustable automatic two speed gearbox, front and rear gear diffs, supplied front spool option. Hudy steel dogbone drive shafts, machined steel ventilated disc brake, fully ball raced.

**Engine (not supplied)**  
Ninja MR12-T01A competition engine and Ninja EFRA approved inline alloy tuned pipe.

**Other gear used**  
TKO Helios EX10 transmitter and KO 302 receiver, Hitec HSC5996TG digital servo for steering and Hitec HSC5997TG throttle/brake. VXR 750mAh LiPo receiver battery, Novak voltage regulator. Jaco 40F/38R tires, PROTOform Stratus 3.1 body (Tamiya paint), Team Magic X5 Starter Box.

**Fuel**  
Hot Stuff 16%