

BY STEVE BASS



XRAY SPECS

RRCi Examines the Xray 808-09

TIME AND TIDE...

It is exactly one year since I first got my hands on the eagerly anticipated Xray XB808 and wrote the first review of it here in RRCi. Following that, it was featured once again, but on that occasion it was all about upgrading it with a lot of goodies designed to improve its performance and its durability. At that time, my overall impression was that it had been vastly improved over its predecessor, the XB808-EC, thanks to a myriad of small design changes, rather than being radically different.

Since that time we have raced the same upgraded car during the winter, and at the start of the 2009 season it was used for the early rounds of the BRCA Nationals and the four day Neo 09 International event. The upshot of that competition experience is that the car has proved to be 100% reliable, with not a single breakage, even after taking a fair old 'beating up' at the very unforgiving Super-cross style track at Harper Adams.

As for routine maintenance issues, the only parts that have been replaced are clutch bearings, air filter elements and a couple of glow plugs. So, when I heard that I was going to take delivery of the new XB808 2009 specification kit, although I was already won-over as a fan of this constructor, I thought it was going to have a difficult act to follow.

Once again, I shall be taking you through design changes on the new car, after which we shall be subjecting it to a full track test, before the car is used in anger for the rest of the 2009 National season with my son Scott on the sticks.

What's more, in a future article the 09 car will be further upgraded using Xray's new Active Diff™ (plus a few other goodies) which can deliver very different performance dynamics, but for now let's get the 09 build underway.

2009 SPECIFICATION

If you already own the XB808, you can upgrade it to the 2009 specification by purchasing Xray's appropriately named upgrade kit. This makes a lot of sense because it can be purchased for considerably less than it costs to buy all the components individually. Nice one Xray!

On opening the box you first clap your eyes on the selection of superb quality product and accessories brochures. Separately bagged are the original build manual, and a four page supplementary manual, detailing the 2009 specification changes with assembly instructions. When I say the 'original' manual, that's not quite correct because there was a supplementary manual supplied with our 2008 review car, but thankfully those amendments have now been incorporated within the new manual.

Right: 2009 spec includes rubber and rubber/steel shield bearings in the front and rear diffs



The updates include a new redesigned fuel tank, air filter and low profile bodyshell. Also revised are a number of ball joints, the shock barrel nuts, the rear body post, servo saver and the front and rear diff bulkheads have been redesigned to accommodate new bearing collars and high speed bearings. The kit also now comes with a set of folding boots to protect the shocks from the ingress of dirt.

As with the XB808, the design changes are small and detailed, but once again they are all there to suit a purpose, as you will find out later.



Above: Diff assembled ready to bolt on and you are soon looking at a rolling chassis

THE BUILD

As we have already covered the XB808 build in detail (RRCi 297, August '08), I will concentrate only on the build elements that are new to the 2009 specification, and let the photographs do the talking.

First off, let's take a look at the new servo saver. As with so many rallycross cars, our 808 servo saver tensioner had a nasty habit of unwinding itself, despite applications of thread lock and even heat shrinking some plastic tubing onto the steering post. So I am glad to see that Xray have addressed this, by the simple addition of an 'O' ring inside a new design locking collar. You are still advised to thread lock the collar, and I will still fit my heat shrink tubing, just in case!

Next up are the aluminium bearing collars that are 'sandwiched' between the rubber and (new) rubber/steel sealed bearings in the front and rear gear cases for the 'captive' high-speed propshaft assemblies. Personally, we have not previously had any problems in these areas, but we know some who have. The new parts are a better solution anyway, but just make sure that you follow the supplementary manual and insert the bearings with the correct orientation.

The 09 car comes with a new design fuel tank which has a slightly larger capacity than its predecessor, and to compensate for this you receive two inserts. The inserts are screwed into the base of the tank, and you can reduce the capacity by 1 or 2 cc. The latter is recommended if you are using a fuel filter as the fuel system is measured as a whole and the slight capacity hike of an external filter could put you over the legal 125 ml limit.

Once again, refer to the manual to ensure that you fit the inserts with the correct orientation. The fuel tank also now features a pair of double fuel pipe clips so that you can secure your fuel and pressure pipes as they run along the left hand side of the tank. The pipe clips are affixed to the tank by screws, ensuring a good secure attachment.

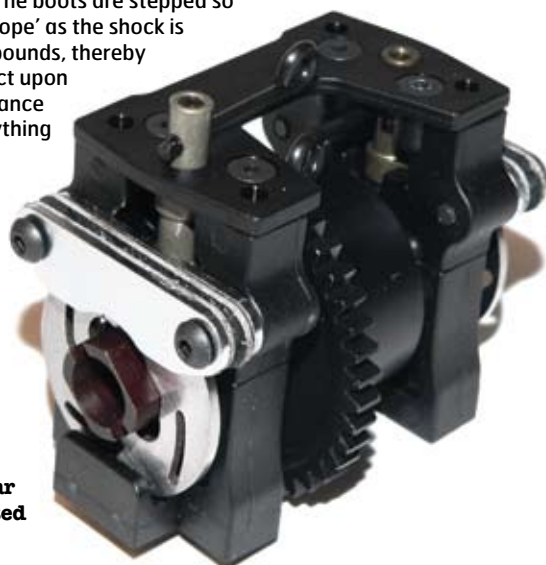
The next area to receive an update is the shock absorbers. Gone are the felt shims that sit atop the 'O' rings, as these are now replaced with a thick and a thin shim, which sandwiches the lower of the two 'O' rings. Once again this is not an area that we have experienced any problems with previously, but the assembly has a more positive feel about it.

New aluminium shock body nuts are included, and these are machined to help locate the new shock boots that are now standard issue in the 09 car. The boots are stepped so that they will 'telescope' as the shock is compressed and rebounds, thereby having minimal effect upon suspension performance whilst keeping everything clean and grit-free.

The 09 car also comes with a new lower profile bodyshell, and our thanks go out once again to TelsShells for yet another stunning paint job. The lower profile of



Above: New servo saver adjusting ring has an internal 'O' ring to keep it adjusted correctly, but I still like to fit some heat shrink to the servo post

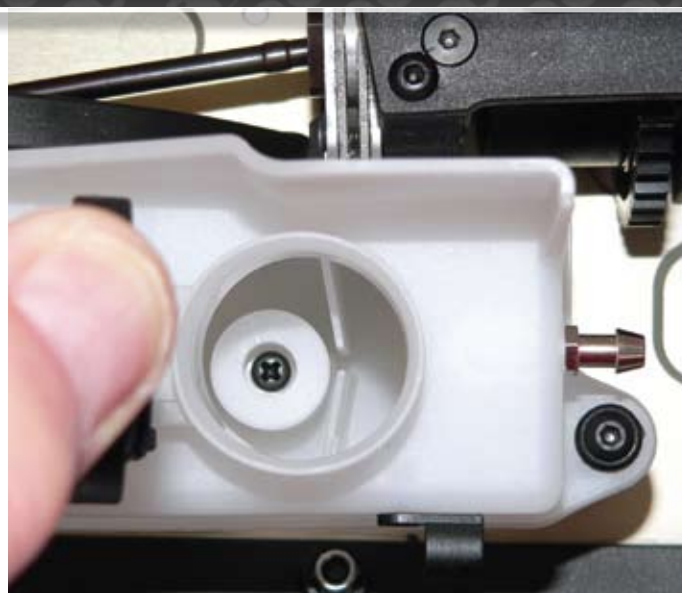


Right: Centre diff with front and rear Ferodo brakes fitted

XRAY 808-09 1/8 4WD NITRO OFF ROAD



Above: When you fit the front brace and torque strut, make sure you align the centre shaft to the correct side of the strut before it all goes together!



Above: New fuel tank has a larger capacity, so you get 1 and 2 cc inserts. The 2 cc insert (shown) is recommended if you fit a fuel line filter



Below: New shocks now come with convoluted 'boots' that are held in place by the new machined shock barrel nut



the new shell necessitates the requirement for a lower profile air filter, so that is exactly what you get. Following the current fashion for an oval design, the new two stage filter is mounted to a very stubby 90° rubber intake manifold.

Xray have also upgraded many of the ball joints on the 09, with new composite design pieces included for the rear inner camber links, both ends of the steering arms, the front upper arm and lastly the lower shock ball joints, to accommodate the aforementioned shock boots.

One very early failure on our 808, and, looking around most pitting areas it appears to be a common problem; the rear bodyshell splitting behind its rear mount. So the last upgrade on the 09 is a new, long version of the rear body mount. This positions the mounting hole further forward on the shell, and just to help matters, I also cut the shell a little shorter at the rear, so that it sits with just a little bit of clearance between itself and the rear shock tower.

So once again, the change is in the minor detail, and they appear to have been designed to make the car even more durable. That has to be good news, because apart from the split in the shell around the rear mount, and the servo saver problem, our 808 has, so far, proved to be 100% reliable.



Above: With front and rear gearboxes plus central brake/diff assembly fitted you are almost there



Above: Carbon radio tray with HB/HPI servos installed awaits attachment of PT and optional switch. We would prefer to see the battery box cover pinned on the opposite side

Below: One of the few upgrades we fitted from the outset was the adjustable mount that enables engine swapping without having to realign the clutch bell and spur gear



As always, it's a pleasure to build an Xray product. However there are a few minor niggles that I found (all are carried over from the 09's predecessor), which are, firstly, the holes for the shock tower fixings and the front and rear gear cases. You will almost certainly need a 2.7 mm reamer or twist drill to open these up a little before starting assembly, or you will end up stripping the screw heads.

My other criticism is the continued use of captive M3 nylock nuts in the torque and wing struts and (to a lesser extent) on the outer ends of the steering arm fasteners. Lastly, we would like to see the 'R' clip for the battery box cover on the opposite side. Because we run twin exhaust manifold springs (as most serious competitors do), you always have to remove the lower spring before you can pull the pin and open the lid.

Not a big deal I know, but just a minor niggle as this is a job that is often done in a rush when you are bumping up between finals. We overcame this problem on the 09 car by fitting narrow diameter springs to the exhaust. Apart from these minor issues the fit and finish is top drawer, making the build process a very satisfying experience.

FINISHING TOUCHES

After the test, we shall most probably be using the Nosram RS21 RR engine, which has proved to be quick and reliable. Since running this engine we have fitted the latest specification carburettor. This has a fixed 7 mm venture restrictor, but more importantly the main needle has been redesigned, and quite frankly, it has transformed the performance of this engine. Power delivery is much more progressive, and the engine is easier to tune.

We made the changeover halfway through the Neo 09 meeting, where we had been struggling to get the car back to the pits on the wind down lap at the end of the 10 minute heats. It was only thanks to getting our starts timed to within a few seconds of the clock starting, that we managed to record any times at all. We were typically out of fuel with about 10 minutes 45 seconds on the clock. The carburettor swap gave us another two full minutes running time in a stroke!

However, the Nosram has been on a diet of O'Donnell 25% fuel from the outset, so for this test, and for an up and coming special feature on active diffs, we shall be running a brand new RB in the 808-09, fed by the new Optifuel (25%) UK blended nitro fuel.

XRAY 808-09 1/8 4WD NITRO OFF ROAD

In the radio department we will stay with our trusty 2.4 GHz Futaba system, but we shall be trying out some new servos. The steering will be controlled by the new DSJ-2ST high performance digital servo from Hot Bodies. This lightweight steel and aluminium hybrid geared servo produces 16 kg-cm torque over a 60° point to point sweep in the 'blink of an eye' 0.09 seconds. It is compatible with Sanwa and JR servo horns and is fitted with the same style plug.

For the throttle/brakes we shall be using HPI's 80594 metal-geared servo, with a slightly less powerful but more than adequate 8.9 kg-cm of torque at 6 V.

TRACK TEST

After going through the recommended break-in procedure with the new fuel, it was time to give the 09 specification car its first track test, prior to its competition baptism in the BRCA Nationals. Our chosen venue was for a private test at Baginton, alongside Coventry airport, where we could give the 09 its first outing, on the all-weather AstroTurf track.

I bolted on a set of Elements 'Trekks', and after a few careful laps to bed in the clutch and make sure that the engine settings were correct, Scott ventured out again and slowly upped the pace. After about 5 minutes running time he was knocking out fast, consistent laps, finding the Xray very much to his liking. A quick splash and dash fuel stop followed, after which he upped the pace a little more and started to explore the limits of the car's handling capabilities.

As the engine bedded in, and with the consumption of each tank full of fuel, the car was getting ever so slightly faster. I liked what I was seeing in the fuel department, as we shall be reporting on later in great depth, the Optifuel was burning cleanly, with a lovely smoke trail visible all the way through the rev range, making engine tuning that much easier.

It also smells quite pleasant compared to some fuels that I could mention, and we were comfortably getting 11 minute runs on each fill up with the 2 cc insert fitted. Not bad for a very tight, new engine fitted with an 8 mm venturi restrictor!

SUMMARY

Once again Xray has trodden a fairly conservative path in the evolution of the 808, and it appears to have paid off. The performance capability of the 808 is proven, as is the quality of every component that goes into it. So what you are now getting for your money is the coming together of a highly competitive and reliable package, with added improvements in performance, and particularly durability.

The punishment that these cars are subjected to in race conditions can be as extreme and highly stressed as in any form of R/C model sport. The 808-09 leaves you with that 'feel-good' factor that you only get when you race a machine which you just know is going to be quick, and will most likely shrug off the worst that is thrown at it, all day long! **RRG**

QUICK SPEC

Class: 1:8 4wd Nitro Off Road
Type: Self-Assembly Chassis Kit
Manufacturer: Xray
Price: £469.99 RRP

REQUIRED TO COMPLETE

Nosram 97100 Racing starter box
RB WS7 3 engine
Nosram 94855 manifold and in-line
2063 pipe combo
Nosram VTEC 99974 LiPo Rx pack
Nosram 9500 6 V 5 A regulator
Nosram glow starter
Optifuel 25% nitro fuel
HB DSJ-2ST steering servo
HPI 80954 throttle/brake servo

DISLIKES

Diff case M3 screw holes needed reaming
Use of captive lock nuts
Fiddly access to battery box

LIKES

Light, balanced chassis
Captive propshaft pinions
Upgrades improve a very reliable car
Quality components
Value for money

CONTACT

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