

# Forest Fire

## The Subaru Forester XT comes alive with MRT's XC power-up kit!

Words by Michael Knowling, Pix by Julian Edgar

**At a glance...**

- 55 percent more power
- Up to 65 percent more torque
- Awesome spread of torque
- Easy 5-second 0 - 100 km/h
- A highly recommended buy!

We all know that turbocharged Subarus can go fast. Bloody fast. But what you seldom hear about are the downsides - the annoying traits of the Subie flat-four that have owners tearing their hair out.

An abysmal lack of bottom-end torque, snatchy light-throttle characteristics and a temperamental clutch/gearbox combo are the biggest sufferance's for owners.

Well, what if you can have all the Subie speed you can handle without any drawbacks? It might seem too good to be true, but that's exactly what MRT Performance has achieved with their power-up kits for the MY04 Forester XT 2.5 turbo - awesome speed with no downside.

MRT offers three power-up levels for the Forester XT - the XA, XB and XC kit. We'll detail each kit shortly but, for now, let's focus on driving the top-line upgrade - the XC kit.

### Driving the MRT's Forester XC Kit

At the wheel of a XC-kitted Forester XT, we were gob-smacked by the constant availability of torque. And we don't mean just a bit of torque - we mean push-your-head-against-the-restraint type torque! From around 2000 rpm to 6000 rpm (500 rpm shy of redline), the XC-kitted Forester is a real weapon. Forget down-changing to get around a dearth of bottom-end torque - this thing goes no matter what gear you're in.



The XC kit also delivers noticeably improved throttle response (the Forester XT uses factory electronic throttle control), starting remains as standard, and the idle is factory-smooth. Interestingly, MRT reduces idle speed by about 100 rpm to maintain smoothness after the mechanical hardware is fitted; there are no problems with stalling.

Our one and only gripe is the considerable amount of induction noise from the revised air intake set-up (which replaces the factory airbox). At moderate acceleration, the turbo can be clearly heard spooling and it makes various irritating whooshing noises in other conditions. On the other hand, the high-flow exhaust provides a define flat-four beat without being obtrusive.

Now let's talk numbers.



The 2.5 litre Forester XT is already a pretty torquey bit of gear with a claimed 320Nm peak at 3600 rpm. On MRT's 4WD Dynapack dyno, this equates to about 1200Nm at the hubs. But whack on a MRT XC kit, and you can revel in 1700Nm at the hubs at just 3300 rpm - a 42 percent peak torque gain achieved 300 rpm earlier in the rev range! This graph shows the 'before' and 'after' torque curves in blue. Note that the biggest percentage torque increase is achieved in the bottom-end - up to 65 percent!

The Forester XT's factory power figure of 155kW (at 5600 rpm) equates to around 132kW on the MRT hub dyno. Once XC-kitted, output rockets to 205kW at the hubs - a 55 percent improvement at the same revs! The comparative power curves are shown in blue in the above graph.

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So what sort of straight-line performance come from these monumental torque and power gains?



Well, with a relatively small amount of stall applied off the line in an auto Forester, the car spins its front tyres on the way to posting a 0 - 100 km/h time of 5.7 seconds. Read that again – a 5.7 *seconds* 0 - 100 without effort. No gearbox-destroying launches or slam-changing - just give it a bit of stall, floor it and watch everyone else fall back in your mirrors!

It couldn't be easier.

About now you're probably wondering about the modifications involved in the MRT XC kit and how much it costs. So let's get into it...

### MRT XC Kit Modification

The top-line XC kit, as tested, comprises six elements - a replacement exhaust, fuel pump and turbocharger, a cat-less up-pipe, pod air filter and remapped factory ECU.



MRT's upgrade exhaust is a full-length 3 inch system with a dump pipe splitter, high-flow cat converter, centre resonator and custom rear muffler. The system's stainless steel construction helps ensure maximum visual appeal and longevity.

The XC upgrade also includes cat-less up-pipe which is installed prior to the turbocharger. The Forester XT (like some recent WRX models) is factory fitted with an up-pipe containing a pre-turbine catalytic converter. This cat is known to fail under duress – the MRT cat-less replacement pipe improves reliability and exhaust flow.

At high power levels MRT says the Forester's factory airbox causes a noticeable power loss, so MRT replaces it with a polished aluminium induction pipe leading to a pod filter mounted inside the guard cavity. An aluminium airflow meter body is also required for the conversion (see pic). This configuration ensures cold air induction with minimal restriction. Note that the factory pre-airbox resonator is also removed from inside the inner guard.

For the top-line XC upgrade, the standard Forester XT turbocharger must be replaced. The small TD04 factory turbocharger is removed to make way for a brand new IHI VF34 roller-bearing unit which gives greater top-end potential with only a small driveability trade-off. One MRT technician told us it gives the same sort of drivability characteristics you'd expect if the factory produced a 200+ kilowatt Forester - strong bottom and mid-range with a slight drop-off in the top-end.

With the 2.5 litre turbo engine breathing efficiently, the fuel system must also be upgraded. A replacement '500hp' pump is fitted inside the tank. The rails, regulator and injectors remain standard.



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The final step in all MRT Forester kits is a remap of the factory ECU using EcuTeK programming software. Air-fuel mixtures, cam timing, ignition timing and tumble-generator valve control are tailored to suit and boost pressure is lifted from 11 to around 15-16 psi. The standard intercooler remains in service.

Given these mods, you can expect your Forester XT to pick up at least 70kW at the hubs along with a simply stunning increase in torque across the rev range. And the cost? Well, MRT charges AUD\$6490 including fitment and GST. That's an attractive deal considering you get a brand new turbocharger and a 12 month parts warranty – not to mention a whole lot of on-road performance...

Combine the cost of a new Forester XT (AUD\$39,490+) and MRT's XC upgrade (AUD\$6490) and you've got a machine that'll run alongside an Impreza STi for under 50k.

This XC kitted Forester XT is a vehicle we would gladly own. Tame the induction noise and it would be absolutely spot-on.



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## MRT XA and XB Kits

If you don't want to go to the extent of the XC upgrade, MRT Performance offers the entry-level XA and intermediate XB kits for the Forester XT.

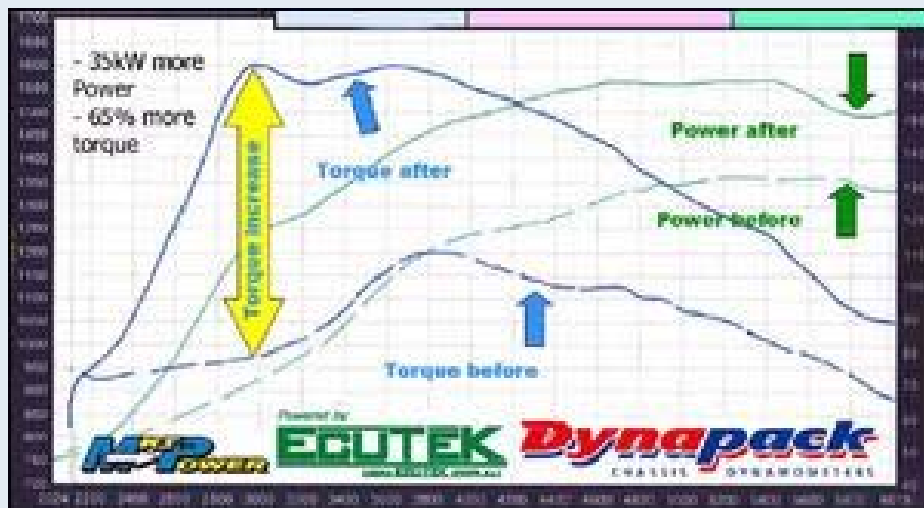


The XA upgrade involves merely tweaking the original package. The rear muffler is replaced with a 3 inch (the same as used in the XC kit), the factory air intake resonator is removed, a drop-in foam air filter is installed and the ECU is remapped using EcuTeK software. Boost pressure is increased by just 0.5 psi (to 11.5 psi).

The XA kit adds a minimum of 15kW at the hubs with up to 45 percent more torque. The fitted and GST-inclusive price is just AUD\$2290.

The intermediate level XB kit is attractive because it delivers maximum performance without the expense of a turbocharger upgrade.

The XB kit includes everything you get in the base kit except you get a full-length 3-inch exhaust and pod filter induction set-up (as used in the XC kit). The ECU is also mapped a bit more aggressively and boost pressure increases to 13 psi.



Interestingly, the XB kit gives almost the same mid-range torque figure as the top-line kit but the top-end is held back by the turbocharger - power maxes out with about 35kW extra at the hubs. The cost is AUD\$3990 including fitment and GST.

We drove a Forester XT (a 5 speed manual version) with MRT's XB kit and, although it didn't provide the top-end thrill of the XC, it delivered awesome response and immediate grunt. Your head gets pinned back even when you short-shift at around 3500 rpm...

It's a real bottom-end/mid-range torque monster.

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