

MRT Performance ACN: 114 802 523 ABN: 66 114 802523  
1 Averill Street  
(Cnr Averill St & Concord Rd)  
Rhodes NSW AUSTRALIA 2138

Phone +61 2 9767 4545  
Facsimile +61 2 9767 4599  
[info@mrtrally.com.au](mailto:info@mrtrally.com.au)  
[www.mrtrally.com.au](http://www.mrtrally.com.au)



**For Your Total Auto Care  
& Suspension Specialists**

# Tuff EVO

## EVO IX Exhaust Testing

October 2006, Ver 1.0

*Written by Sean Day – Owner of S&J Automotive.*

*Additional Editing (incl photos) by Chris Milne – Workshop Manager, MRT Performance.*

Rumours of an exhaust upgrade being ‘sufficient’ for safe power gains on the EVO 9 got us curious enough to test both on the road and the dyno recently. An EVO 9 owner seeking an exhaust visited S & J Automotive in Adelaide, with his initial request for a better exhaust note (and no ECU tune) creating an opportunity to find out exactly what the results would be!

### **MRT Performance XB Kit – The Total Solution**

The testing and development MRT put into the EVO 9 upon its release in Australia showed the first few restrictions in standard form and addressed these with the XA and XB Power Kits. After further consultation and a detailed discussion of the benefits, the client made the decision to have a complete MRT XB Power Kit fitted. The kit consisted of not only the full MRT exhaust system, in tank upgraded fuel pump and ECUTEK remap, but also a guaranteed gain in performance and the MRT Factory Warranty Guarantee.

### **Fitting the Parts**

The MRT 3” Stainless Steel exhaust was an easy and tidy fit due to it’s ‘jigged’ design, looking great hanging from behind the car. The MRT replacement exhaust system includes a centre resonator and a straight through rear muffler, along with high flow cat converter for improved flow. Correct location of the new cat with relation to OEM factory sensors means no issues are encountered with the factory ECU (*many aftermarket systems have problems with Check Engine Lights and Fault Codes*). With the MRT fuel pump fitted it was time to turn the key. Sound at idle was a fantastic improvement, but what about on the road?

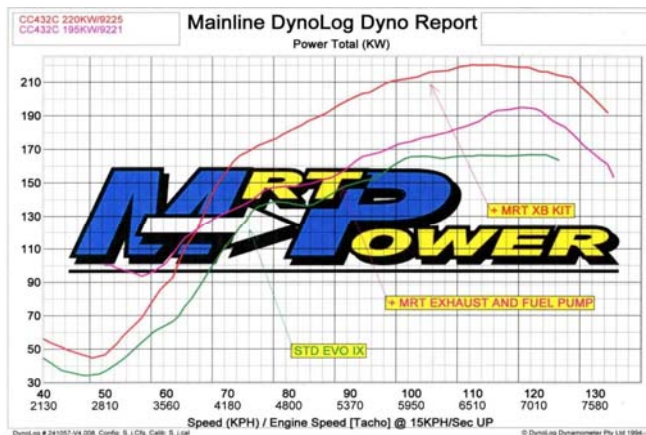
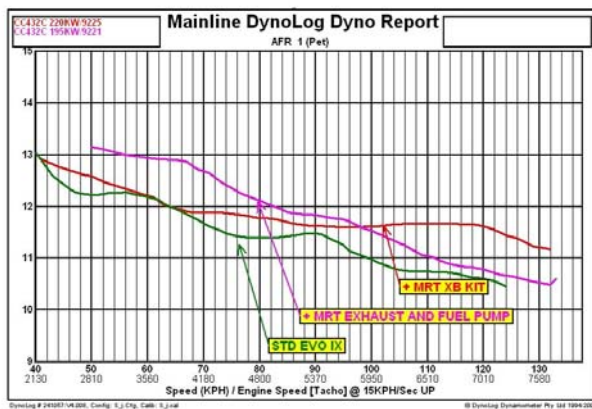


## Road Test

The sound was definitely Tuff EVO through and through but amazingly, no drone at all! Seat of the pants testing proved power was reasonable with a decent initial torque improvement to match, but the unsteady boost at full throttle was definitely disappointing. This was not due to the exhaust system design, but rather typical behaviour of the Mitsubishi ECU reacting to non standard parts.

## Dyno Testing and Tuning

The EVO 9 was loaded onto the dyno so we could see what was happening. With initial setup completed, power runs showed a respectable figure of 195KW (by comparison a standard EVO 9 will make between around 170KW – see dyno graph below). Boost surge was definitely a problem however, and unlike Subaru's that boost spike dangerously, the exhaust had just enhanced the unsteady plot that EVO 9's have in factory trim (albeit 2psi higher). More importantly, Air/Fuel ratios were a concern for engine reliability/longevity. Lean conditions were being seen during peak torque, before tapering off to quite rich (and power dampening) levels closer to redline. While the higher capacity fuel pump had already been fitted, its job was to supply fuel once tuned and was having no impact in current state of tune (OEM fuel pressure regulator was ensuring pressure in fuel rails was at standard level with excess fuel supplied returning to the tank).



The last step of our test was to complete the final part of the MRT XB Power Kit by recalibrating the factory ECU with ECUTEK software. This included loading the pre-tested MRT XB Kit map into the EVO, and fine tuning its settings to suit the vehicle. Immediate changes were apparent with boost and Air/Fuel ratios now exactly where we needed them for peak performance, reliability and consistency! Needless to say the road test was a lot more exciting, with notably more mid range torque and upper rpm power!

Punting hard through each of the 6 gears, the EVO 9 was now unleashing some G-Forces to go with that unmistakable Tuff EVO note! With no compromise over the standard cars drivability, the XB kitted EVO 9 felt as if the car was now going how Mitsubishi should have built them!

## Summary

If you want only that Tuff EVO exhaust note, be cautious of anything more than a rear muffler as you will be risking performance and reliability as a result of increased boost levels with unsuitable Air/Fuel ratios. For more details on the large range of MRT Performance Power Kits (including their Factory Warranty Guarantee) for your Ford, Mitsubishi or Subaru, please refer the MRT Website at [www.mrtrally.com.au](http://www.mrtrally.com.au).

**MRT PERFORMANCE.....more than just Subaru!**  
**EFI Specialists, EcuTeK, Motec, Link and more**