



South Pacific Turbochargers NZ (2018) Ltd

NEW PRODUCTS - NEW SERVICES

As part of the Euro Tune Network we are now able to provide a much wider range of services. Here's a list of just some of the new services we now offer:

EGR Off (exhaust gas recirculation) from \$400 +GST

In diesel engines, the EGR valve opens between idle and approximately half throttle to allow some of the already burnt exhaust gases to enter a recirculation system where they are sent back through the intake to be burnt for a second time. The issue is that these already burned gases are wet, carry carbon and as a consequence stick to the intake. With heat they cake on, dry hard and over time the layers of carbon build up to the point where the intake ports can be 75% or more blocked. This seriously affects engine efficiency, robs fuel economy and kills power/torque, as the engine simply can't breathe. We see this often in EGR equipped diesel vehicles with more than 150,000kms.

We can turn off the EGR electronically so your engine will only breathe fresh clean air and the coking up process will be halted. If the intake ports are already blocked this will need to be cleaned, then turn the EGR valve off afterwards. The benefits you will see are a smoother running quieter engine, improved accelerator response from idle to half throttle, and in many cases reduced fuel consumption.

DPF Delete (diesel particulate filter) from \$400 +GST

In diesel engines, the DPF acts like a big filter taking carbon particles out of the exhaust gases resulting in cleaner emissions. The Filter has pressure sensors as part of its construction so it can understand how full (blocked) it is. At the appropriate time the ECU commands additional fuel to be injected into the exhaust filter to provide additional heat to burn off the deposits, on some vehicles, this can be 2 to 3 times for every tank full of diesel! Sometimes the DPFs become over full or faulty necessitating a new DPF to be purchased for many thousands of dollars (\$5,000+).

Given that DPFs contain precious metals, thieves are now targeting cars and removing the DPF to be sold to scrap metal dealers necessitating the purchase and fitting of a new DPF. As an alternative, we can remove the DPF electronically in the factory ECU, or in the case of a stolen DPF, you can have the exhaust pipe repaired and we can turn off the DPF pressure sensors in the factory ECU.

There are no power gains to be had but you will see the exhaust gas temperatures drop by up to 150degrees C, your engine will breathe easier and there will be fuel savings. The reduction in exhaust gas temperatures can allow for further tuning of the ECU or Ultraboot for more power.

Start/Stop Off

Most European vehicles have feature that when the vehicle comes to a stop and the driver's foot is pressed on the brake, the engine stops. As soon as the brake is released the engine restarts. The purpose is to save fuel and reduce emissions. Yes, it can be turned off, but only until the key is turned off when it resets itself to come back on again. Whilst the feature does save some fuel and reduce some emissions, it shortens the life of the turbocharger, battery and starter motor, and many drivers find it irritating. We can turn this feature off permanently

AdBlue Off \$800 + GST

AdBlue is a chemical liquid used in Selective Catalytic Reduction (SCR) on diesel vehicles in order to reduce NOx levels. The AdBlue fluid (urea and demineralized water) is injected into the exhaust system just before the SCR catalyst. The introduction of AdBlue into the exhaust gasses generates a chemical reaction inside the SCR Cat which results in NOx being converted into Nitrogen and Water Vapor. AdBlue was introduced by vehicle manufacturers in order to hit the stringent emission targets set out by governmental bodies.

The AdBlue and SCR system is a relatively complex system with an array of electronic sensors, modules, injectors and pumps, these systems can fail and can be very expensive to maintain or repair. A vehicle which is used on a regular basis will consume a large amount of AdBlue and the tank will need to be refilled on a regular basis. Our AdBlue delete service will electronically disable the AdBlue system along with removing the associated dashboard lights and warning messages. Disabling the AdBlue system is normally completed by reprogramming the engine management system, however some vehicles will require a small electronic unit to be hardwired into the vehicle.

NOx Delete from \$300 + GST

The NOx sensor, also known as Lambda Sensor, is a sensor that detects oxygen in exhaust gas and reports back to the engine ECU. It is placed just before the SCR, (selective catalytic reduction) system. Generally, there is only one Lambda Sensor but in new generation vehicles, often there are two Lambda sensors. Over time, accumulation of materials reduces precision of the sensor or even break it. When the precision of the sensor is reduced, or sensor is broken completely, the ECU of the engine will start to receive wrong feedback or none at all because of this, performance of the engine will be reduced a lot, and fuel consumption will increase. Usage of cheap fuel or the fuel that is not recommended by the manufacturer causes this.

The NOx sensor is very expensive to repair or change. With cancellation of NOx sensor system from vehicle you will save costs of repair and fuel consumption. The ECU of the vehicle is modified to remove the Nox sensor system and NOx sensor itself is removed from vehicle.

Swirl Flaps Off \$400 +GST

Swirl flaps are small butterfly valves located within the inlet manifold on modern diesel and petrol engines, they are designed to help regulate the fuel to air ratio, improve emissions and help generate better torque at low engine speeds. At light engine loads the flaps close, causing the air to swirl into the combustion chamber, the swirling affect aids combustion and helps to improve emissions and generate more torque. After 2000 rpm the flaps are generally activated to a fully open position and have very little effect on engine performance and emissions. If a swirl flaps fails it's usually a very expensive repair bill or sometimes a new engine is required if a flap falls into a cylinder and is crushed by a piston. We turn these off electronically in the ECU.

Torque Limiter Off \$400 + GST

Some vehicles have torque limiters that cut in and prevent owners from unleashing extra power and torque when tuning their vehicles This is particularly the case for Ford Rangers 3.2 and Mazda BT50 3.2. We can turn the torque limiters off to allow for more aggressive tuning for those who fit an upgraded turbo and the likes.

Catalytic Converter Delete from \$400 + GST

Catalytic converters have been part of the emissions regulations for decades as they play a role in ensuring unburnt hydrocarbons are converted into harmless gas before being pumped

into the air. They are bolted between the exhaust and muffler. If an issue in the engine overwhelms the catalytic converter (ignition or fuel contamination) the catalytic converter will need to be removed or replaced. The cat is made of honeycomb structure that can be extremely restrictive. It takes some effort for exhaust gases to flow through them. Thus, causing exhaust gases to flow slowly and unnecessarily occupying the combustion chamber. By removing the CAT, you allow the exhaust gases to leave quickly which means the combustion chamber is now vacant and more air and fuel can enter to create more combustion.

With the CAT gone, your vehicle's exhaust will significantly reduce backpressure. This is good for performance but you must re-tune the engine otherwise you risk of running lean when there's too much air in the air/fuel mixture. Removing the CAT without tuning is a horrible idea. Your engine will not run well – don't skip it.

Speed Limiter Off \$400 + GST

Most modern vehicles have a speed limiter built into the electronics. Some customers' road vehicles are also used at the racetrack where speed is unlimited. We can turn off the Speed limiter so that the vehicle's full potential can be reached on the Race Track.

Engine Tuning \$1000 + GST

Most vehicle manufacturers of turbocharged vehicles leave Power, Torque, Fuel Savings and Response sitting in the ECU ready to be unleashed. We can tune the boost, injector duration, injector timing, common rail pressure and throttle response parameters to give you a vehicle the way it should have come from the factory.

- Up to 30% more Torque

- Up to 30% more Power

- Up to 15% improved fuel economy

- Vastly improved throttle response.

At the same time as we tune the vehicle we can include any of the above listed features at no extra electronic tuning cost.

All of our tunes are developed right here in New Zealand on a dyno – they are tunes designed for New Zealand road conditions and New Zealand fuel.

If any of these services spark some interest, do give us a call on 03 5458506 to discuss your options or book a time to have work done.

Kind Regards

Craig Mills

03 5458506

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