

# A QUESTION OF POWER

Although there's a common misconception that engine conversions within the same family of vehicle do not require LVV certification, this is not correct. LVV certification is required even when a vehicle has been fitted with a larger capacity engine from the same model vehicle, for example when a V8 engine is installed into a six-cylinder Commodore, or even a change from a 1300cc engine to 1500cc of an identical family.

## POWER INCREASES

The question of when LVV certification is required for a power increase on the OE engine is one that's easily answered, yet often overlooked. In section **13-1 Engine and transmission** of the VIRM, it states LVV certification is not required if the modifications result in not more than 20 percent more power than the OE engine. This is simply translated as, if the vehicle has an increase in power of over 20 percent, then LVV certification is required.

As there is no simple way to accurately determine a 20 percent increase in power during a WoF inspection, vehicle inspectors are encouraged to contact LVVTA if they have any questions, or point out the applicable requirement in the VIRM to the vehicle owner if they believe the threshold has been exceeded.

## FORCED INDUCTION

As per the wording on the Engine and Transmission page of the VIRM, 'LVV certification is always required for the fitting of a supercharger or turbocharger

as a modification, or the upgrading of a supercharger, turbo or wastegate, or the re-chipping of electronic engine control units (ECUs) on turbocharged vehicles.'

This includes converting a vehicle fitted with a factory twin turbo system to a single turbo. Part of the reason for this requirement is the potential for these types of modifications to have an impact on other parts of the vehicle. For example, LVV certification requires minimum distances that heat sources such as turbochargers and exhaust systems must be from steering and braking components.

LVV certification is also required for the fitment of a turbo/s from an OE turbo-equipped vehicle to a non-turbo vehicle, or the complete replacement of an engine with a turbocharged OE option if it were not fitted from the factory into that particular vehicle. A common example of this is vehicles such as Nissan

Skylines and Silvias, which are available from the factory in turbo and non-turbo options, and the non-turbo vehicles are often later fitted with a turbocharged engine. Thankfully, in most situations such as this, the vehicle's chassis tag can be decoded to confirm the configuration the vehicle left the factory in.

## SAFE AND LEGAL

The LVV certification process ensures that the engine conversion or modifications have been performed correctly, as well as the vehicle undergoing a cyclic brake fade resistance test to ensure that it remains safe with the increase in power. As part of the process, Landata is also updated with the vehicle's new engine capacity, ensuring the vehicle owner isn't questioned to its legality going forward.

For any engine conversion or performance increase enquiries, feel free to email [tech@lvvta.org.nz](mailto:tech@lvvta.org.nz)



All conversions to an increased capacity engine, even those within the same family of engines or vehicles require LVV certification, as do modifications to a factory-fitted engine resulting in an increase of over 20 percent in power.