

Cleaning soot from turbos, EGRs and intakes

Since 1995, VAG diesel vehicles have been equipped with variable geometry turbochargers. Other manufacturers followed suit and the majority of diesels manufactured today use variable vane technology. While these turbos are far more efficient, they are prone to carbon build up on the variable vane mechanism, resulting in restricted movement and causing either under or over boost. Revive's Andy Amor explains what can be done to overcome these problems.

Soot buildup within the turbocharger causes the vehicle to be underpowered, and eventually ends up triggering the engine management light, generating fault codes and the vehicle going in to 'limp mode'. Soot can also cause problems by preventing EGR valves from operating as needed, or by partially or completely blocking passageways.

One way to overcome this problem requires the turbo to be removed, stripped, cleaned or replaced at a considerable cost to the owner. An easier, quicker and economical way is to use Revive, a safe water based, non toxic and non flammable fluid, that uses technology developed and used for the cleaning and maintenance of aviation jet engines, power station turbines, large marine diesel engines and now automotive engines.

The fluid is sprayed into the vehicle's intake system, before the turbo inlet while the engine is running. As the Revive fluid passes through the intake and exhaust paths, it locks on to built up oily/carbon



One side of the twin EGR system on a TDV8 Range Rover was treated with Revive, leaving it cleaner than the side on the left

deposits and strips away a surface layer. These tiny carbonised particles are then carried away through the exhaust, making the Revive cleaning process safe for vehicles fitted with catalysis and diesel particulate filters (DPF's).

Directions for cleaning

This 3 step cleaning process can be completed in just 10 minutes. Starting with a cold engine, unclip the intake trunking downstream of the air filter and MAF sensor, if fitted.

Spray Revive in 3 doses of 250ml into the intake, first with a cold engine running at 2200 RPM, and then a second 250ml dose at 1800 RPM. Stop the engine for approximately 3-5 minutes. During this time, if the vehicle is fitted with a vacuum operated turbo actuator, a Mityvac could be used to agitate the mechanism before administering the final dose. The engine should then be run at 2,000RPM while the third and final quantity of Revive is applied. Keep the engine running for a few more minutes, until all of the Revive has passed through the system.

Take the vehicle for a 20 minute drive, making sure to get the vehicle in a high gear and at higher engine speeds, exercising the turbo by demanding boost.

The Revive cleaning process can be performed before a service, this allows the vehicle to be checked over and filled with clean oil.

Revive is extremely effective at cleaning carbon deposits from both petrol and diesel engines, particularly engines with variable vane turbochargers. However, Revive can expose mechanical



wear issues that have previously been masked by the carbon build up, so this needs to be considered when diagnosing the problem."

Revive, is available as a Starter kit, which includes a sprayer head a 750ml bottle of Revive cleaning fluid, a 750ml refill bottle or a 300ml Service Shot dose. The Service Shot, can be used as a preventative maintenance treatment at every oil service, to minimise the risk of carbon/soot deposit related issues.

Scan the QR code below to see a demonstration of how to use Revive to clean the intake system, and the resulting improvements in test results on a rolling road.

