



Top Tools

with Jeff Smit

The BG fuel induction kit



The carbon debate has occupied a lot of TaT space since we opened this can of worms back in June 2008 (Issue 3).

There's no question that the build-up of carbon in modern induction systems on petrol and diesel engines is causing great concern and the problem is not going away. In fact, it's getting worse and workshops, including dealerships, are looking for the best solutions.

Carbon build-up and the throttle body condition are by-products of new engine technologies and management of the problem is going to need a concerted education campaign to inform customers of the necessity to service this area of their vehicle.

We've looked at other techniques before, but this time, it's the BG two-part fuel induction kit. In TaT workshop trials, the results have been very good. Customers tend to comment on how well their cars are running, idling better and have power on take-off, with no flat spots.

There are two components in the kit – BG Air Intake System Cleaner 207J (pic 1), and the BG44K Power Enhancer 208J (pic 2).

First step is to add BG44K to the fuel in the tank (pic 3). This rapidly removes engine deposits in combustion chambers, ports and on valves. It restores flow in fuel injectors and cleans the entire fuel system. Fuel economy improves and exhaust emissions are reduced.

The next step is most important – clean the throttle body and inlet manifold.

This is one of the most forgotten areas of the modern vehicle and ignoring it will affect the driveability of all vehicles. This step uses BG Vehicle Injection Apparatus (VIA) (pic 4) together with the BG Air Intake System Cleaner (AIS) (pic 5).

The cleaner goes into the throttle body air intake hose (pic 6) and the VIA is connected to the workshop air supply.

Fill the VIA with the system cleaner (pic 7). Adjust the air supply pressure up to 4 bar

via the adjuster on the side of the VIA (pic 8).

The vehicle is then started and run while injecting the cleaner into the throttle body and inlet manifold. Moving the nozzle from side to side will ensure that the cleaner is accessing all the throttle body and inlet manifold (pic 9).

A quick inspection of the throttle body before (pic 10) and after (pic 11) will indicate the true cleaning power of this two-part kit. We have had cases where the carbon build-up is so bad that two or three doses of cleaner are needed.

The vehicle in this demonstration was a 2000 Mitsubishi Magna with a 3.5 litre V6 engine which has been well looked after and run on high octane fuel. This explains why the throttle body was in relatively good condition with only a thin carbon build-up on the throttle body butterfly and in the inlet manifold.

Still, the system was much cleaner after the process.

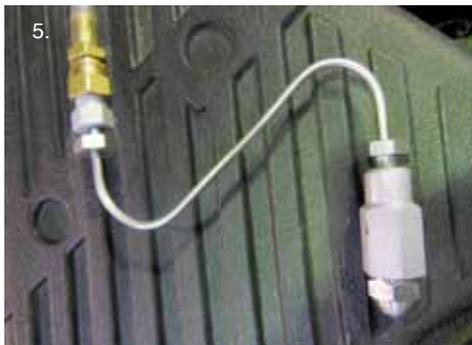
Pics 12 and 13 are from a 2001 Holden Commodore VX and pics 14 and 15 are from a 1997 Toyota Camry with a 3VZ-FE V6 engine.

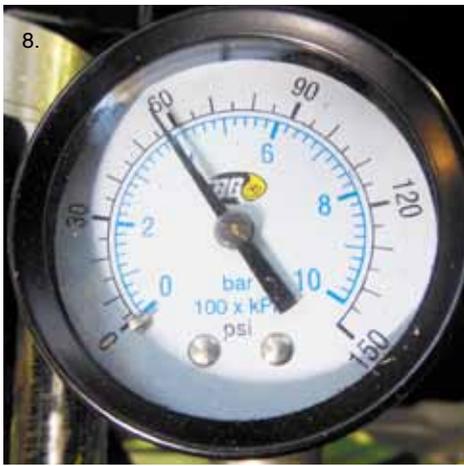
TaT workshops have accepted that regular maintenance of the fuel system is essential on a modern vehicle. The process takes less than 15 minutes and can be a good earner, with charges ranging from \$99 to \$150 being reported.

With late model vehicles, customers tend to notice driveability improvements and they have come to expect such improvements after a routine service.

Regardless of which fuel cleaning system is adopted, you must ensure that it removes carbon and varnish deposits from injectors, valves, combustion chamber, sensors and EGR systems.

And one last word from Wayne Mander, technical and production manager at Autodata Australia, 'With the advent of ethanol blended fuels, coupled with factors such as extended service intervals, ▶





increased EGR use for combustion temperature control and the need for diesel particulate filter-friendly exhaust concentrations, we have seen a marked increase of inlet tract fouling.

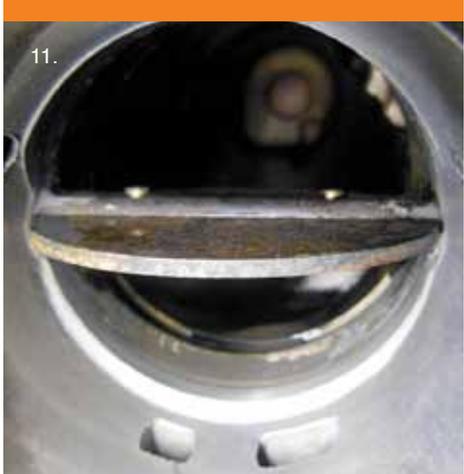
Cleaning intake deposits demand correct chemical cleaners properly applied.

'There are some pitfalls. With modern plastics and teflon coated alloys in throttle body units, some cleaners are too aggressive and will strip away these coatings, rendering them unserviceable. Hydraulic locking of the engine from over-use of cleaning products can also be a costly result. Carried out correctly, and with

the right products, upper engine cleaning can provide the automotive workshop with a revenue return as well as providing an in-service scheduled cleaning regime for customers.'

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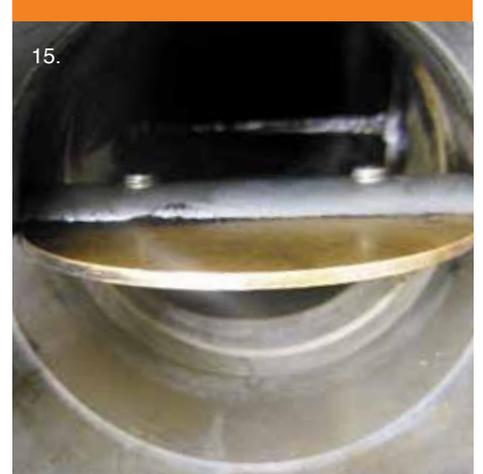
Before and after cleaning



Commodore before and after cleaning



Camry before and after cleaning



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