Cleaner Diesel Operation

by Allan Gray

Preventative maintenance on Common Rail Diesels includes more than oil and filters.

Clean Fuel

Fuel purity is at the forefront of many drivers thoughts.

(I have yet to meet a driver who agrees that he may someday put petrol instead of diesel in his tank - every workshop I visit has drums of petrol/diesel mix after being drained from a diesel's tank).

An absolute must according to the majority of good workshops, is the fitting of an extra primary fuel filter (preferably with a sight bowl). A Flashlube 30 micron water/dirt filter is available with suitable bracket/hose kits. If a secondary 5 micron filter is chosen some workshops install an in-line fuel pump to improve fuel economy when towing.

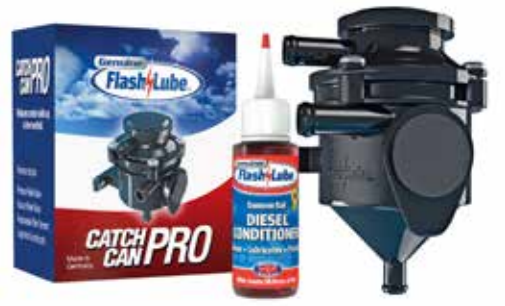
To preserve fuel cleanliness fuel pipes and fittings should be sprayed, blown dry or wiped before removal and open holes plugged. If fuel tank removal is indicated I use a piece of chain to slide around inside to remove rust, dirt & scale (chain is easy to retrieve). The use of Bio Diesel should be discussed with your mechanic.

Clean Air

Clean air supply to any engine is critical, contaminated air has worn engines out in remarkably short periods. Some vehicle owners who drive in very dusty areas (4 wheel drive, mines dept, etc.) should consider fitting a well-sealed snorkel assembly which collect air from the cleanest area on your vehicle. A snorkel will also increase the service life of the factory fitted air filter element.

A source of air contamination not attended to by most Common Rail Engine manufacturers is oil fumes piped from the tappet cover through the turbo charger to the EGR valve, inlet manifold, and intercooler then into the engine. These oil contaminated fumes burn on and around the intake system building up thick hard deposits which can almost block off the inlet tract. These days all workshops would be familiar with inlet manifold clean up procedures. The inter cooler also becomes ineffective due to oil contamination (not a good look).

Available now is a simple unit with the highly technical name of 'Catch Can'. This unit will dramatically reduce the carbon/oil build-up by removing the condensation and oil from the tappet cover fumes. The captured oil is drained to a reservoir or capped drain tube. A well designed Catch Can with relief valves and a dedicated oil/air separator unit will trap a surprising amount of oil.



As well as it not being responsible to block off an EGR valve the oil in the fumes coat the inter cooler and eventually burns in the engine and goes on to gradually shorten the life of the DP filter. So fitting a Catch Can results in cleaner cooler air = much improves combustion = less soot = less pollution = longer diesel particulate filter life (less regenerations). Win – Win!

Compounds to clean out the carbon build-up maybe used regularly to reduce this problem however (depending on kilometres travelled) it may be wise to suggest a dismantle and manual clean-out and then recommended regular use of cleaning compounds.

Clean Injectors

Leading injector reconditioners report that a significant number of injector failures are caused by corrosion, scoring and seizing due to lack of lubricant in diesel fuel. The reduction of sulphur in diesel appears to be a factor.

Using a product such a Flashlube Diesel Fuel Conditioner constantly should ensure that the extremely high pressure pump and injectors are lubricated, kept clean resulting in more complete combustion, lower pollution and less blocking of exhaust filters.

Manufacturers of quality additives follow strict guidelines ensuring that their products are compatible with engine sensors, DP filters and differing fuel systems.

Clean Oil

It is becoming obvious that oil change periods for normal use 'Common Rail' engines should be at 5,000km. If very cold, short runs are the norm then even this period may not often be enough. Many workshops have discovered a sump full of thick deposits when unable to drain oil (it is almost uneconomical to restore an engine in this condition).

It is of utmost importance to follow the handbook when refilling modern engines, many times when incorrect oil has been used a fault has shown up in a very short time.

Clean Driving

Probably an overlooked item that Joe owner may appreciate is your advice. It's actually about his driving habits. Sure, we cannot tell him how to drive but he may appreciate some tips from his favourite mechanic (particularly if it is likely to save money!)

Advice should include:

- Idling no more than 5 minutes
- Try to reach operating temperature every drive
- Driving at maximum legal speed for 30 minutes twice weekly
- Allow at least 1 minute for cooldown before turning engine off
- Do not drive at all if any dash warning lights are on (consult owners handbook)

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