

GREAT ASSIST

CVW takes a look at Envirox DPF Assist, which is a new workshop treatment for blocked Particulate Filters from Energenics Europe.

Particle emissions from diesel exhaust are extremely damaging to human health, particularly at concentrations experienced in large cities, so in recent years legislators at European, UK and city levels have responded by drastically limiting the output from road vehicles. The new requirements have led to the development of Diesel Particulate Filter (DPF) technology. The Euro 5 emissions limits have led to every new diesel van <3.5 tonnes being factory fitted with a DPF since autumn 2010.

A DPF is a filter, usually made of a porous ceramic or sintered metal substrate, which traps the harmful soot particles downstream in the exhaust system. However, the filter will rapidly block up unless a process called regeneration happens to clear it out. Soot or carbon particles will burn completely away – like charcoal on a BBQ – provided they reach a minimum temperature of roughly 600°C and DPFs rely upon exhaust

gas temperatures becoming hot enough for this to happen.

Vehicles which regularly run at speeds above 40 mph – ideally carrying significant loads – produce enough heat in their exhaust gases to achieve this but manufacturers know that this is not always the case. To compensate they have applied various regeneration strategies which are triggered when pressure sensors in the exhaust system detect a build up of back pressure.

Regeneration cycles

Most modern systems make additional injections of fuel which are intended to ignite or 'light up' the front face of the DPF and facilitate soot burning. Light levels of blockage initiate automatic regeneration cycles while the vehicle is in service but higher levels trigger the illumination of dashboard warning lights which advise the driver to either (1) make a deliberate high speed journey to generate sufficient

heat, or (2) if the latter is inadequate, then visit a workshop immediately sometimes in 'limp home' (reduced power) mode.

Workshops of franchised dealers will run a 'forced regeneration cycle' where with the vehicle stationary the engine is driven by computer through a cycle involving intensive post combustion fuel injections to achieve soot burn off. Independent workshops that do not have the capability to carry out forced regenerations are faced with a problem.

Fuel treatment

Envirox DPF Assist is a new fuel treatment designed to help workshops deal with this situation. Belonging to a well established class of fuel additives, known as Fuel Borne Catalysts (FBCs), which have a proven history of regenerating DPFs, it contains cerium oxide, a common industrial oxidation catalyst widely used in catalytic converters. Cerium oxide is not compatible with diesel fuel but using

nanotechnology it has been reengineered into an active liquid form which mixes in easily.

After combustion the cerium oxide particles combine with the soot particles that accumulate in the DPF. Instead of needing to reach approximately 600°C to burn away, Envirox DPF Assist lowers this temperature to 450-500°C. This has a significant effect by greatly widening the window of the vehicle operating cycle when the exhaust gas becomes hot enough to initiate the burn off of carbon deposits, thereby unblocking (or regenerating) the filter. It also includes a strong dose of the detergent additive chemistry used by premium fuel retailers to clean fuel injectors and preserve optimal spray patterns.

It is supplied as a workshop fluid in a convenient 500ml bottle with a dispensing chamber and contains 20 concentrated shots of 25ml. An effective treatment to a DPF blocked with soot is to pour 2 shots into the fuel filler pipe, wash it down with a few litres of diesel and then carry out a prolonged period of highway driving e.g. at least 40mph for 15 minutes or longer (engine speed about 2,000rpm). Envirox DPF Assist can also be retailed to the vehicle owner/driver to be used on a regular one shot per tank basis to guard against reblocking.

GIVEAWAYS

Energenics Europe are offering ten lucky readers the chance to win a bottle of the Envirox DPF Assist and all you have to do to be in with a chance of winning is circle 159 on the readerlink card



For more information on Envirox and the issues in this article circle 160 on the readerlink card



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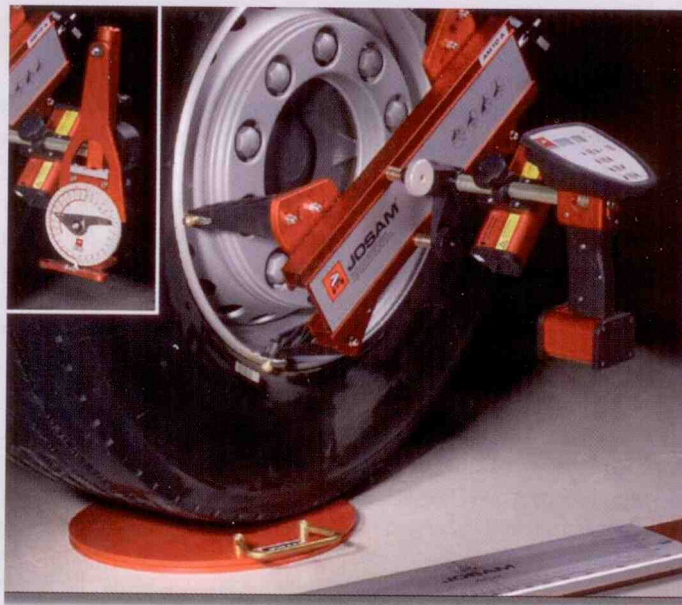
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