

# WORKING WITH DIESEL VEHICLES

**Diesel vehicles remain among the most prevalent vehicles on the road. Find out how you can maximize the diesel opportunity**

**D**espite falling sales, diesel vehicles are still a major part of the UK car parc. Garages that can offer diesel servicing will be in a very good position, with millions of diesel engine vehicles out on the roads that need professional attention. Awareness of the specific requirements of diesel engines, as well as the benefits offered by additives will help you turn diesel into a profit centre.

As with many areas, there is a seasonal element to the diesel sector too. Winter invariably causes travel chaos in the UK. The cold weather often leads to problems on the roads with drivers struggling to cope with the icy and inclement conditions. However, it is also a time of great opportunities for workshops as it brings a boost in the demand for glow plugs for diesel vehicles.

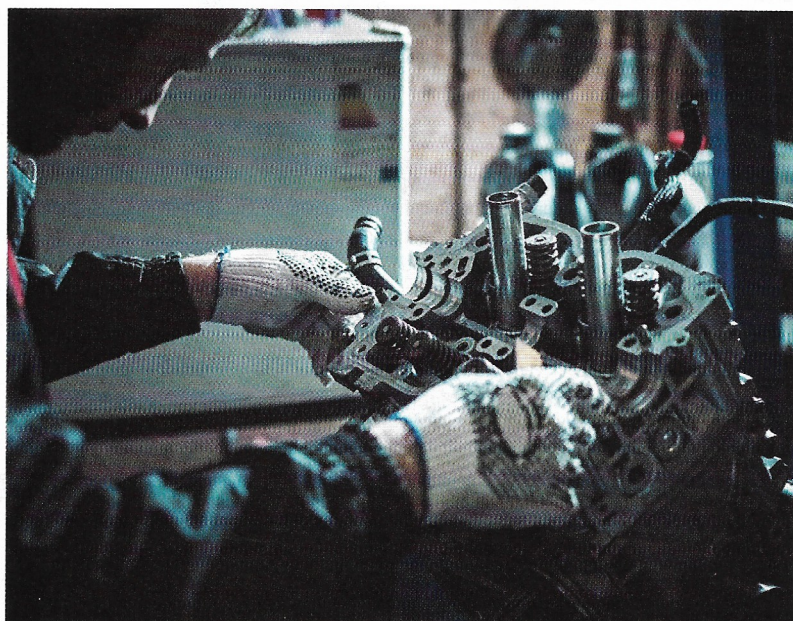
## Increased demand

Mark Hallam, Marketing Manager, NGK Spark Plugs (UK) Ltd, says: "UK garages are fully aware that their glow plugs sales spike in the winter months and NGK is there to help them cope with the increased demand. NGK works closely with its distributors to make sure they always have the correct glow plugs in stock to cope with increased winter demand. The winter months are the key selling period for glow plugs and motor factors have been stocking up in preparation to ensure they don't miss out on any sales opportunities."

Mark continues: "The NGK Area Sales Representatives can help our customers stock the right profile of glow plugs to ensure they leverage the sales opportunity fully as well as providing expert advice and on-site product training utilising our award-winning cataloguing data and training portals."

## Part numbers

NGK works hard to supply the right glow plugs for the UK car parcs says Mark: "Many part numbers are brought into the aftermarket from the OE side of our business. The range comprises metal glow plugs as well as the latest New High Temperature Ceramic technology – which can reach temperatures of 1,350°C and hit 1,000°C in one second. The vast amount of R&D carried out in conjunction with the vehicle manufacturers constantly ensures we meet new challenges head on and our focus is firmly on quality from the design stage to distribution."



**Above:**  
Glow plug  
removal is a  
precise process



Mark continues: "As an OEM supplier to many vehicle manufacturers, NGK products have a strong reputation with the OE fitment benefitting end-users. Reliability is key to our success. Vehicle owners can be confident that their engines are fitted with glow plugs which meet or exceed vehicle manufacturers' specifications. This ensures improved drivability during engine warm up and the ever-important reduction of emissions – thanks to outstanding extended post-glow capability."

"NGK has a great team behind the cataloguing of our products. Extensive research is carried out to ensure compatibility. Internally produced catalogue data and external catalogue systems accessed by our customers is kept tenaciously up to date, so we can ensure right first-time supply."

## Growth

Diesel is a growing market despite the negative publicity surrounding diesels says David Eszenyi, Commercial Director at Ivor Searle: "We are seeing continuing growth in demand for remanufactured diesel engines and turbochargers, as well as our DPF cleaning service, so it's clear that diesel continues to represent an opportunity for independent garages. A robust market for used cars and the expansion of the three-year-old plus vehicle parc for

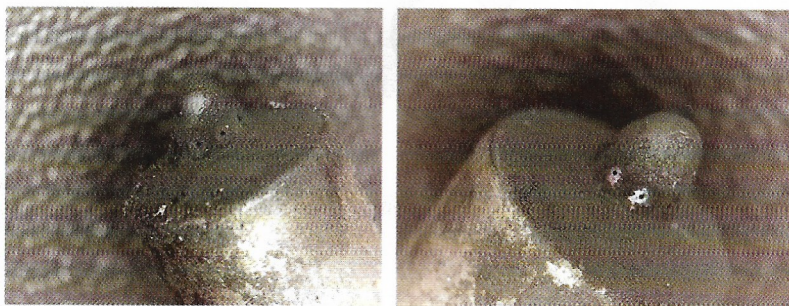
diesel cars and light vans, the bulk of which are out of warranty, are key factors behind the growth in diesel-related workshop business.

Knowing what problems are likely to occur is vital: "Diesels are highly prone to contamination in the fuel and emissions control systems which typically results in a blocked diesel particulate filter (DPF). Further diesel contamination problems include sticking vanes in variable geometry turbochargers causing component failure, clogged exhaust gas recirculation (EGR) valves and blocked injectors. In the worst instances contamination can lead to total engine failure requiring a replacement unit.

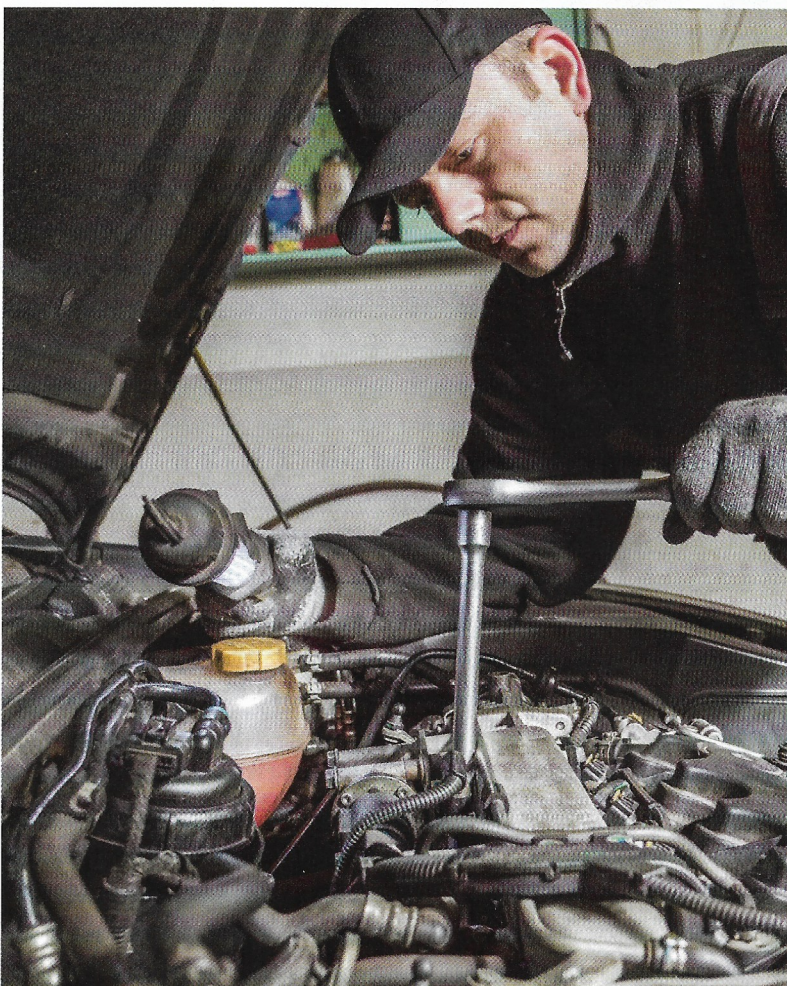
"DPFs are designed to effectively self-clean in a process called regeneration where the soot is burnt off the filter at a high temperature, typically when a vehicle is travelling consistently at moderate to high engine speed. However, if a vehicle is frequently used to travel short distances it is unlikely to produce the exhaust temperatures required to enable regeneration to take place, resulting in excessive soot build up and the DPF becoming blocked beyond regeneration."

## Clean

Last year Ivor Searle introduced a new professional DPF cleaning service which provides the most thorough DPF cleaning possible by using state-of-the-art Flash Cleaning technology. David observes: "The environmentally-friendly water-based process delivers as new levels of DPF cleanliness by removing all soot and ash deposits, including PM10 particles, cerium oxide and oil residue. As a result,



**Above:** Diesel injector before and after, LIQUI MOLY's Super Diesel additive was applied



our fast turnaround service provides garages with a cost-effective alternative to replacing a blocked unit with a brand-new DPF. For peace of mind, all Ivor Searle professionally cleaned DPFs are provided with an inspection report and carry a no quibble 12-month unlimited mileage warranty."

## Combustion

There are a number of options available when dealing with diesel engines, and engines in general. Take additives as an example. They can help with inevitable issues that result from the normal running of engines. As soon as an engine is running, combustion deposits are created that get stuck on the inside of the engine. They lead to the engine gradually losing performance, consuming more and the risk of a breakdown rising.

"The injectors are a critical component," explains David Kaiser, Head of Research and Development at LIQUI MOLY. With the injectors the diesel fuel is sprayed into the combustion chamber as a fine mist. "If encrustations form on the tiny openings of the injectors, then the fuel is no longer as finely atomised. It therefore does not combust as thoroughly." The result: The engine performance level drops, fuel consumption rises and the exhaust gas values become worse. Because this is a creeping process, the driver often doesn't even notice it.

"Add to this that the injectors are high-precision, sensitive components that have to endure pressures of several thousand bars and carry out hundreds of precisely dosed individual injections per second. Combustion deposits clog it up and ensure that they fail. An injector is not cheap and should be fitted by a garage, which makes the whole enterprise even more expensive. This money can be saved if, every 1,250 miles a can of LIQUI MOLY Super Diesel Additive is added to the tank. The ingredient dissolves the encrustations on the injectors and thereby improves the spray pattern. This means the engine recovers its original performance and fuel economy."

## Performance

Alongside cleaning, Super Diesel Additive also offers two further advantages says David: "It increases the cetane number and improves the ignition properties of the diesel fuel. And it protects the entire fuel system from corrosion and wear-and-tear. Thanks to its versatility, the Super Diesel Additive also offers protection for the engine, if the fuel quality should ever not be quite so good.

"Regular use of Super Diesel Additive offers the best cleaning performance," adds David Kaiser. "This allows the engine to regain its original values – both in engine performance and consumption. And expensive repairs are avoided."

## Tips from NGK: Glow plug Removal

The removal of glow plugs is often difficult and there is a risk of damaging or snapping the plug. In case of removal difficulties, NGK recommend the following:

- Heat – Always remove when engine is still warm. If possible, let old plugs glow.
- Oil – If removal is urgent use special penetrating oil to help release the plugs.
- Time – If removal is not urgent apply synthetic oil to penetrate the glow plug thread and ask customer to drive car for at least a week before returning. Glow plugs should then be removed more easily.
- Tools – reversible torque wrench – observe the shear torque to avoid breakage.

## Shear torque NGK glow plugs

Thread Ø	Shear torque
M8	20 Nm
M9	30 Nm
M10	40 Nm
M12	50 Nm

## Other manufacturers

Thread Ø	Shear torque
M8	20 Nm
M9	22 Nm
M10	35 Nm
M12	45 Nm

**Note:** if the manufacturer is unknown, use the lower value

## Installation tips

- Do not drop glow plugs, especially ceramic types, as the impact will cause damage!
- Keep threads clean
- Before tightening – seat glow plug by hand and if difficult check the thread or carbon obstruction in glow hole
- Observe the torque settings! They are clearly displayed on the NGK glow plug boxes
- Do not fasten the glow plug too tightly or you risk damaging the plug
- Terminal nut torque (if applicable)  
4mm = 0.8-15 Nm  
5mm = 3.0-4.0 Nm

## Tightening torque

The ideal torque for each glow plug is printed on its box. Some glow plugs have very strict values e.g. 7,65-9,35 Nm. Other glow plugs have a bigger window e.g. 8-10 Nm. If the product box isn't available, please use the torque settings from the table below:

Metal Glow Plug					Ceramic Glow Plug	
Thread diameter					Thread diameter	
M8	M9	M10	M12	M1	M8	M10
8,5Nm	11Nm	15Nm	23Nm	23Nm	10Nm	18Nm
+/-10	+/-10	+/-10	+/-10	+/-10	+/-10	+/-10

## LIQUI MOLY Diesel Purge

LIQUI MOLY Diesel Purge removes deposits on the injectors and thereby helping to restore the engine's original power and efficiency. This not only keeps the injection nozzles clean, but also simultaneously protects the entire fuel system from corrosion. Diesel Purge also increases the fuel's cetane number. Diesel Purge can be introduced into the system by being poured into the fuel tank. A more direct method would be to place the disconnected fuel line into the additive can, or by filling the new fuel filter with Diesel Purge instead of diesel fuel. The engine then runs with pure additive instead of diesel fuel. This provides the maximum cleaning effect.

[www.liqui-moly.com](http://www.liqui-moly.com)




## Fast-turnaround DPF cleaning from Ivor Searle

Ivor Searle offers a fast-turnaround professional DPF cleaning service for cars and light commercial vehicles. The direct to workshop service also includes a guaranteed 12-month no quibble unlimited mileage warranty. Utilising Flash Cleaning technology, Ivor Searle's, water-based DPF cleaning process removes all contamination, including PM10 particles, cerium oxide deposits and oil residues, from the DPF. This returns a DPF back to OE levels of performance at a much lower cost than purchasing a new OEM unit or risking fitment problems with a generic aftermarket replacement.


[www.ivorsearle.co.uk](http://www.ivorsearle.co.uk)



Visit our website  
or call 01353 720531  
today for a quote



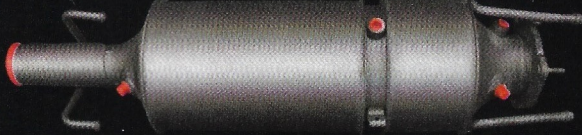
AUTOMOTIVE PRODUCTS OF EXCELLENCE  
SINCE 1946



## Think Ivor Searle

# Think DPF Cleaning

Why risk a chemical clean or an inferior aftermarket product, when you can have your DPF cleaned back to OE standards at a fraction of the cost?



Fast turnaround service backed by a no quibble  
12-month unlimited mileage warranty.

Contact us today on 01353 720531 or visit [www.ivorsearle.co.uk](http://www.ivorsearle.co.uk) for a quote

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