

'BOTHER. I'VE JUST PUT PETROL IN MY DIESEL LAND ROVER'S FUEL TANK. HELP! WHAT SHOULD I DO NOW?'

'Don't turn that ignition key,' says Neil Watterson. And here's what you do next...

In your haste, you grab the fuel nozzle and start filling up. But you fail to notice the error. Too late... you finally twig that 20 litres of premium unleaded have been pumped into the tank of your diesel-powered Land Rover.

What can you do? The options race through your mind. How about filling the rest of the tank with diesel and hope for the best? Could you drive home and drain the tank? Would driving to the edge of the forecourt and calling the recovery services be the best bet?

Well... Land Rover says that you shouldn't do any of the above. The company recommends you don't even put the key in the ignition – as soon as you turn it, the fuel pumps in modern Land Rover diesels will prime, and suffer damage from unleaded petrol.

There are an estimated 120,000 misfuelling incidents in the UK each year, with the AA handling 44,000 callouts from its members. Some drivers realise in time and call for recovery immediately, while others take the chance and drive on regardless. But, what exactly is the problem?

Diesel fuel is designed to be ignited by compression ignition. As the air in the cylinder is compressed, it increases in temperature and this heat ignites the fuel. To get the engine to run smoothly



and efficiently, diesel fuel has to be injected into the cylinder at exactly the right time for combustion. Petrol engines rely upon the timing of a spark to dictate ignition.

Petrol is very resistant to compression ignition and either won't ignite or will ignite at the wrong time. When a mixture of

petrol and diesel is injected into a diesel engine, the diesel will ignite under compression, followed shortly after by the petrol. If there's more petrol in the mix, then it's less likely the fuel will be ignited. But lack of mobility after you've filled your diesel tank with petrol will be the least of your problems.

Because diesel has to be injected into a cylinder full of heavily compressed air, the injectors have to work at an incredibly high pressure (4061psi for a 300Tdi engine and substantially higher for newer diesels). This in turn needs to be fed by a high-pressure fuel system.

The fuel pump is lubricated by the diesel and additional additives are included in the fuel to enhance that lubrication. These additives aren't present in petrol. Not only that, but as petrol is a solvent, it will quickly strip any lubrication from the fuel pump, causing swarf to enter the fuel lines.

There are four stages of severity if you have misfuelled your Land Rover.

Photos: Tom Critchell

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