

WHY DIESEL?

Quiet at the back there, as it's time to concentrate. In this back-to-basics feature, Barnaby Jones provides more answers to that simple question: Why Diesel?

It seems that despite the best efforts of manufacturers and journalists alike, some people still do not know the numerous reasons for choosing diesel over that other power source.

- Firstly, using diesel helps preserve our planet's precious fossil fuel reserves. Diesel vehicles can typically travel a **third further on a given amount of fuel** than can an equivalent petrol engine, so a third less fossil fuel is used in the process. In fact, if the world's population changed to diesel, it has been estimated that we could double the remaining life of fossil fuel reserves;

- Diesel engines are much more efficient than their petrol counterparts. Because they use a higher compression ratio and don't suffer from the pumping losses that a petrol engine does, **diesel engines can convert 40-45 per cent of their fuel energy into heat energy**, compared with the 25-30 per cent managed by petrol engines;

- This improved fuel economy means that the diesel driver has a **hugely increased touring range**. He can wave cheerily to the petrol owner, who must stop every 300-400 miles to refill, safe in the knowledge that there is another 200 or so miles to come from his tankful. And while he is waving, he might want to save a smile for the 200-mile-between-fills LPG driver, if he can find one;

- This high efficiency is preserved whether the car is driven carefully or hard, unlike in a petrol engine;

- Diesel engines don't wear out nearly as rapidly as petrol engines,

because diesel fuel acts as a lubricant, where petrol is a solvent. This solvent cuts through engine oil, causing metal-to-metal contact in the engine, and so accelerated wear;

- Diesel engines do not require cold-start fuel enrichment to ensure smooth running, so they don't damage themselves on warm-up as do petrol engines;

- For the same reason, a diesel's emissions are far more consistent between cold and hot running;

- Because of the high compression ratio, diesels produce their **pulling power, or torque, lower down the rev-range** than do petrol engines. This means the car is more flexible with its power delivery, and there is no need to rev the engine hard or down-shift to achieve useful acceleration;

- In fact, such is the abundance of torque produced by a modern turbodiesel engine, that they are easily **more effortless than equivalent petrol-powered cars** in day-to-day driving;

- Such low-rev urge enables **long gearing, allowing quieter cruising** and reduced engine wear;

- Contrary to popular belief, **diesels are largely cleaner than petrols**. They emit less of three of the five significant problem gases than do petrol equivalents: less CO₂ (carbon dioxide – the main cause of global warming), less CO (carbon monoxide – toxic to the point of fatality when inhaled), less HC (hydrocarbons that cause photochemical

smog). Also, over the car's lifetime they emit less NOx (nitrogen oxide, which causes acid rain and respiratory problems), despite having higher emissions of these when new;

- Diesel engines are more reliable, as there is no need for a separate ignition system. The fuel is spontaneously ignited by the temperature of the compressed air inside the cylinder. This lack of an external ignition source means that there is **less to service and less to malfunction**;

- Inherently cleaner combustion also means there is less need for exhaust-based emission controls, hence greater reliability;

- A further result of the improved thermal efficiency is that the air coming out of the exhaust is cooler than in a petrol engine. This means that the **exhaust system is put under less heat strain and thus has an increased service life**;

- Diesel fuel is cheaper, easier and less polluting to refine from crude petroleum than is petrol;

- Diesel is one of the safest fuels. Because it is less volatile than petrol, it poses little risk of igniting in an accident;

- This low volatility means that it doesn't evaporate as quickly as petrol either. It therefore **doesn't pollute the atmosphere when the car is standing unused**, and there is no health risk when refuelling;

- Of more interest to company car



drivers, diesels are much more tax efficient than petrol engines. As benefit-in-kind taxation is now based upon carbon dioxide emissions, changing your company car from petrol to diesel could save you hundreds of pounds every year;

- Finally, as every car manufacturer will tell you, diesel is the most viable transport power source for the next

ten years at least;

- Electric vehicles have died a quiet death due to their excessive weight, inadequate performance and poor travelling range.

- Although it is widely accepted that fuel cells will provide the answer to our motoring prayers, production-

ready examples are said to be still a decade away.

So there you have it: diesel is the only solution to our current motoring needs. All that's now needed is for the Government to recognise that fact!