

PETROL VS DIESEL

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1. INTRODUCTION

This research is between petrol engine and diesel engine. Which is the best fuel ic engine. The engine used in research is of honda city to compare both diesel and petrol

Petrol vs Diesel : Performance Compared

Diesel engines are generally heavier than their petrol counterparts making them slower. The compression ratio of diesel engines is much higher than petrol engines since the flash point (temperature at which it catches fire) of diesel is higher than petrol. The compression ratio, the ratio between the largest and smallest capacity of the combustion chamber, required for diesel engines is about 22:1 whereas 8:1-9:1 for petrol engines. Thus a heavier/denser metal is required for the engine assembly.

This has two very noticeable consequences on the performance of the car, specifically on the torque and the brake horsepower (BHP). As a consequence of a higher compression ratio (longer stroke), diesel engines produce more torque which means you get more acceleration off the line. This is also the main reason for diesel cars having a much smaller power band, so you generally get more torque but spread over a smaller area. This problem is amplified by turbocharging, which is employed on all diesel engines these days to improve efficiency. The upshot of this is that you often have to wait for the turbocharger to 'wake up' before the car's performance is unleashed for a short time. After the surge, it's time to change gear again as the torque tapers off. In petrol engines, on the other hand, the power builds in relation to the revs. Therefore more usable power is available for a longer amount of time. It's extremely satisfying chasing the needle to the red line on a petrol car, but even if you're not going for it, it's impossible to ignore the surplus usable power you have over a similar diesel. So if you do say words like "POWER" every time you put your foot down on the throttle, you'd find it more gratifying driving a petrol car.



In a diesel car, the maximum torque is available at lower revs, so you can change up earlier. This tends to make for a more relaxing drive. For a more exciting drive, it's difficult to ignore the racier nature of most petrol cars, especially if they've been tuned for higher performance.

But, there is no substitute for a test drive. Don't just look at the performance and economy figures on a piece of paper. Once you've driven the cars you may find that the option you prefer is the more expensive to run – but that you're happy to pay for it.

2. Which is the more powerful engine: Diesel or Petrol?

When deciding between which engine is more powerful, you will have to look at two figures: Brake Horsepower and Torque. In very simple terms, higher horsepower translates to a higher top speed and a faster car. Conversely, a higher torque figure translates to more power at a lower RPM. When this is taken into consideration, diesel engines are the more powerful of the two. If you are looking to go off-roading or will be carrying heavy loads, a powerful diesel engine would provide the power you need. Petrol engines are not far behind, but when it comes to power as a metric, they lose out to diesel engines.

3. What is the difference between Petrol and Diesel engines?

We've already mentioned few of the differences that are evident in a petrol and diesel engine. However, there are a few more differences that you should be aware of:

- **Effective RPM:** Petrol engines provide power on more of the RPM band while diesel engines provide most of their power on the lower range of the RPM band.
- **Fuel Efficiency:** Due to the higher RPM band, petrol engines are less fuel efficient than their diesel engine counterparts.
- **Drivability:** Diesel engines provide better acceleration while petrol engines provide better top speed
- **Maintenance:** Due to the nature of combustion, diesel engines have a higher maintenance cost as compared to petrol engines.

4. RESULT

Both engine best in their own way we can use them in different situation and as per our requirement

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REFERENCES

1. Mrs Monica bazzad, professor and HOD of mechanical department, M-tech .