

DIESEL VS. GASOLINE

2.1. Vocabulary

Ex. 1. Match the words to their Russian equivalents.

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|----------------------------|------------------------------------|
| 1. durable | a. предварительная камера сгорания |
| 2. fuel injection pump | b. биотопливо |
| 3. diesel | c. техобслуживание |
| 4. biodiesel | d. степень компрессии |
| 5. glow plugs | e. свечи накаливания |
| 6. combustion chambers | f. топливный насос |
| 7. compression ratio | g. нагреваться |
| 8. maintenance | h. экологически чистый дизель |
| 9. clean diesel | i. камеры сгорания |
| 10. precombustion chambers | j. дизель |
| 11. heat up | k. работать на бензине |
| 12. run on gasoline | l. прочный |

Ex. 2. Translate the following sentences into English:

1. Автомобиль может работать на бензине или дизельном топливе.
2. В этом грузовике используется дизельный двигатель.
3. Камеры сгорания - это место, где топливо и воздух смешиваются вместе.
4. Мне нужно заменить топливный насос высокого давления в моей машине.

5. Камеры предварительного сгорания повышают топливную экономичность.
6. Свечи накалывания в моей машине не работают, поэтому она не заводится в холодную погоду.
7. Двигателю нужно время, чтобы прогреться перед началом движения.
8. Более высокая степень сжатия может увеличить мощность двигателя.
9. Чистое дизельное топливо полезнее для окружающей среды, чем обычное дизельное топливо.
10. Некоторые автомобили могут работать на биодизельном топливе, которое производится из натуральных материалов.
11. Регулярное техническое обслуживание важно для бесперебойной работы вашего автомобиля.
12. Долговечный двигатель этого автомобиля выдерживает суровые условия эксплуатации.

2.2. Reading

Ex. 1. Read the text.

Gasoline vs. Diesel

Engines that run on gasoline and diesel are both internal combustion engines. The difference is how the fuel is ignited or burned inside the engine. In a gasoline engine, the fuel is mixed with air, compressed by pistons, and ignited by spark plugs. In a diesel engine, however, the air is compressed first, and then the fuel is injected. This causes the air to heat up and ignite the fuel without the need for spark plugs.

Gasoline engines are also known as petrol engines, and they are the most common type of engine in passenger cars. They are lighter and quieter than diesel engines and provide a smoother ride. Gasoline engines have lower compression ratios than diesel engines, which means they do not compress the air as much as diesel engines do. As a result, gasoline engines produce less power than diesel engines.

Diesel engines are typically found in trucks, buses, and some cars. They are more fuel efficient than gasoline engines because they have higher compression ratios. The higher compression ratios allow diesel engines to extract more energy from the fuel, resulting in better mileage. Diesel fuel also has a higher energy density than gasoline, which means it contains more energy per unit volume. This further contributes to the fuel efficiency of diesel engines.

One of the main advantages of diesel engines is their durability. They are built to withstand higher temperatures and pressures, making them more robust and long-lasting than gasoline engines. Diesel engines also have fewer moving parts, which means there are fewer components that can wear out or break. Additionally, diesel fuel has lubricating properties that help reduce friction and wear in the engine.

However, diesel engines are generally more expensive to manufacture than gasoline engines due to their higher compression ratios and stronger construction. Diesel fuel is also typically more expensive than gasoline, although diesel engines are more fuel efficient. Another downside of diesel engines is that they produce more nitrogen oxide (NOx) emissions, which contribute to air pollution. Diesel vehicles are subject to stricter emissions regulations in many countries.

To address these concerns, advancements have been made in diesel engine technology. Modern diesel engines are equipped with advanced fuel injection systems and exhaust after-treatment devices to reduce emissions. There are also clean diesel fuels available that contain lower levels of sulfur, which further reduces emissions. In addition, alternative fuels such as biodiesel can be used in diesel engines to make them more environmentally friendly.

Ex. 2. Answer the questions.

1. What is the main difference between gasoline engines and diesel engines in terms of how the fuel is ignited or burned?
2. Why are gasoline engines known as petrol engines?
3. What type of engine is more common in passenger cars?
4. Why are diesel engines more fuel efficient than gasoline engines?

5. What are some advantages of diesel engines in terms of durability?
6. What are some downsides of diesel engines compared to gasoline engines?
7. How have advancements in diesel engine technology addressed concerns about emissions?

2.3. Communication

Ex. 1. Make sentences using the following words:

1. Diesel/engines/fuel-efficient
2. Type/fuel/better
3. Gasoline/widely available/United States
4. Diesel/vehicles/higher initial cost
5. Type/car/prefer
6. Diesel/engines/emit less carbon dioxide
7. Gasoline-powered cars/tend/faster
8. Driven/diesel vehicle/before
9. Diesel/fuel/more expensive
10. Type/engine/towing heavy loads