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Дисциплина: Английский язык
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Тема: Система зажигания
Цель урока: познакомиться с темой «Система зажигания» и научиться употреблять их в речи.
Формы работы: дистанционная,письменная работа, индивидуальная работа. Элементы автомобиля на английском языке.

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In the first engines (for example, the Daimler engine, as well as the so — called semi — diesel), a mixture of fuel and air was ignited at the end of the compression stroke from a hot potash head-a chamber communicating with the combustion chamber (synonym-potash tube). Before starting, the potash head had to be heated with a blowtorch, then its temperature was maintained by burning fuel when the engine was running. Currently, this principle is used for calorific engines used in various models (aircraft, auto, ship models). Kalilny ignition in this case wins by its simplicity and unsurpassed compactness.

Diesel engines also do not have an ignition system, the fuel is ignited at the end of the compression stroke from the highly heated air in the cylinders.

Compression carburetor engines do not need an ignition system, the fuel-air mixture ignites from compression. These engines are also used in modeling[1].

But really on gasoline engines, a spark ignition system has taken root, that is, a system whose distinctive feature is the ignition of the mixture by an electric discharge that breaks through the air gap between the spark plug electrodes.

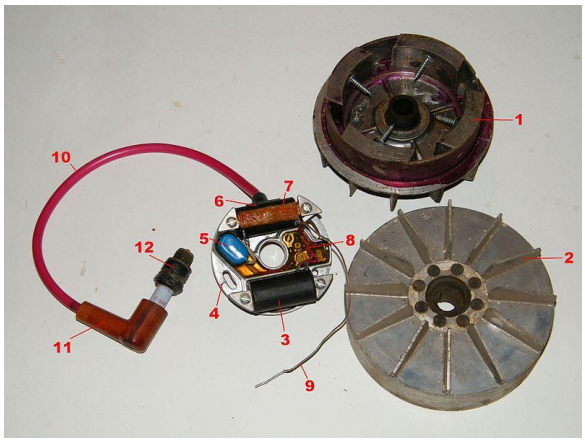
Currently, there are three types of ignition system: using magneto, battery ignition with a car battery, and ignition system without a battery using a motorcycle alternator.

It is possible to distinguish: circuits without the use of radio-electronic components ("classical") and electronic.

Circuits with electronic ignition are divided into:

1.with the presence of interrupter contacts

2.contactless



One of the first was the magneto-based ignition system.

Magneto is a specialized alternator that generates electricity only for the spark plug. The design is a permanent magnet that receives rotation from the crankshaft of a gasoline engine and a stationary generator winding with a small number of turns of thick wire (inductor). On a common magnetic circuit with the generator winding is a high-voltage (with a large number of turns of thin wire). The generated low-voltage voltage is transformed into a high-voltage one that can "break" the spark gap of the spark plug. One of the terminals of each coil is connected to the" mass " (motor housing), the other terminal of the high-voltage winding is connected to the Central electrode of the spark plug. If the magneto is a contact, a circuit breaker with a parallel capacitor is connected in parallel to the other output of the low-voltage winding to the "ground" (necessary to reduce sparking and burning of contacts). At the right time (the moment of advance of ignition), the Cam opens the contacts of the interrupter and a spark jumps on the candle. In electronic contactless magneto, there is no interrupter, there is a control coil, and at the right moment a control pulse is generated to the electronic unit. Transistors or thyristors are opened, current is supplied to the high-voltage coil. Energy is additionally stored in capacitors or inductors, which increases the power of the spark.

The advantage of magneto is simplicity, compactness and lightness, low cost, no battery needed. Magneto is always ready to go. It is used mainly on small-sized equipment — for example, on chainsaws, lawn mowers, portable gas generators, etc. Magneto was also used on piston aircraft engines.