IGNITION SYSTEM

5.1. Vocabulary

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

1. alternator	a. регулятор напряжения
2. turn over	b. запускать двигатель от аккумулятора другого автомобиля
3. jump start	c. вращаться
4. start	d. переключатель зажигания
5. starter	e. генератор переменного тока
6. starter relay	f. ключ
7. ground	g. стартер
8. voltage regulator	h. заземление
9. ignition switch	i. реле стартера
10. key	j. заводить

Ex. 2. *Translate the sentences into Russian. Write the translations in your notebook.*

1. The starter relay is an essential part of the car's ignition system.
2. To start the car, turn over the key in the ignition switch.
3. If your battery is dead, you can try jump starting your car.
4. The ground wire in the ignition system ensures proper electricity flow.
5. Make sure to press down on the clutch before turning the key in the ignition switch.
6. A malfunctioning alternator can cause problems with the voltage regulator.
7. The starter is responsible for turning over the engine when you start the car.
8. After replacing the broken alternator, the car was finally able to start.
9. The mechanic checked the voltage regulator to see if it was causing the issue.

10. In order to start the car, the driver must first insert the key into the ignition.

5.2. Reading

Ex. 1. *Read the text.*

The Ignition System

The ignition system of a car provides the spark that ignites the fuel/air mixture in the cylinders, producing the power that makes the car go. It is made up of several components, including the battery, alternator, starter, and various electrical switches, wires, and relays.

The battery is the primary source of electrical power for the ignition system. It stores chemical energy and converts it into electrical energy when needed. The battery is typically located in the engine compartment or trunk of the car. It has two terminals: positive (+) and negative (-). The positive terminal is usually red, while the negative terminal is black. The battery must be properly connected to the rest of the ignition system for it to work correctly. The negative terminal is connected to the ground of the car, while the positive terminal is connected to the starter motor and other components via electrical cables.

The alternator is responsible for recharging the battery and providing electrical power to the car's electrical system when the engine is running. It is driven by a belt connected to the engine crankshaft. The alternator produces alternating current (AC), which is converted to direct current (DC) by a set of diodes. The DC output of the alternator is then used to charge the battery and power the car's electrical system.

The ignition switch is a mechanical switch that is used to start and stop the engine. It is typically located on the steering column, dashboard, or center console of the car. When the key is inserted into the ignition switch and turned to the "start" position, it completes the circuit between the battery and the starter motor. This allows electrical current to flow from the battery to the starter motor, causing it to turn over the engine and start the combustion process.

The starter motor is an electric motor that is used to start the engine. It is connected to the engine flywheel or flexplate via a small gear called a pinion gear. When the ignition switch is turned to the "start" position, an electrical current flows from the battery to the starter motor, causing it to spin rapidly. The spinning motion of the starter motor engages the pinion

gear with the flywheel or flexplate, which turns over the engine and starts the combustion process.

The starter relay is an electrical switch that controls power to the starter motor. It is typically located in the engine compartment near the battery or on the firewall. When the ignition switch is turned to the "start" position, an electrical current flows from the battery to the starter relay. The starter relay then activates, allowing electrical current to flow from the battery to the starter motor. This causes the starter motor to turn over the engine and start the combustion process.

The voltage regulator is responsible for regulating the electrical output of the alternator. It ensures that the electrical system receives a consistent supply of power, regardless of the engine speed or electrical load. The voltage regulator is typically integrated into the alternator assembly and is not a separate component.

Ex. 2. *Answer the questions.*

1. What is the function of the ignition system in a car?
2. What are the main components of the ignition system?
3. How does the battery contribute to the ignition system?
4. Where is the battery typically located in a car?
5. How is the alternator powered and what is its role in the ignition system?
6. What is the purpose of the ignition switch and where is it usually located?
7. How does the starter motor work and what activates it?
8. What is the function of the starter relay and where is it typically located?
9. What is the role of the voltage regulator in the ignition system?
10. Why is it important for the battery to be properly connected to the rest of the ignition system?

5.3. Communication ***Ex.1.*** *Make sentences using the following words:*

1. check/car/ignition
2. mechanic/spark plugs/replaced
3. explain/ignition system/works
4. start/car/faulty
5. maintain/clean/ignition system
6. replace/ignition system/car
7. responsible/starting/engine
8. strong/ignition system/smoothly
9. main/components/ignition system
10. fails/car/turn on