

МИНИСТЕРСТВО ОБРАЗОВАНИЯ И НАУКИ
РОССИЙСКОЙ ФЕДЕРАЦИИ
Курганский государственный университет
Кафедра английской филологии

АНГЛИЙСКИЙ ЯЗЫК

Методические указания по развитию навыков самостоятельной работы с
профессионально направленными текстами
для студентов специальности «Автомобили и автомобильное хозяйство»

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Составитель: ст. преподаватель Е.П. Острянина

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LESSON 1

Text 1

1. Read the text.

MAN AND MACHINES

People make use of machines in all their activities. Most of these machines are of recent origin. Some of them, however, date back to the ancient times. Automobiles, tractors, trains, planes and rockets appeared not so long ago. To design these machines, engineers must not only know how to determine the stresses and deformations in machines and structures under a variety of possible loading conditions. They should also know how well the selected material is to resist loads.

It is very important to find suitable engineering materials for every part of machines or structure. That is why great attention is paid to the science of engineering materials.

Our scientists have developed many alloys having greater resistance to various loading conditions. In recent years many non-metallic materials have been widely used in engineering.

2. Answer the questions on the text.

Where do people make use of machines?

When did most of machines appear?

What must engineers know to design these machines?

What science is paid to when making machines?

What kind of materials have been used in engineering?

3. Get ready to retell the text using these questions.

4. Words to be learnt:

to be of recent origin – недавнего происхождения

ancient times – древние времена

variety – разнообразие

loading conditions – нагрузки

to resist loads – сопротивляться нагрузкам

to find suitable materials – находить подходящие материалы

alloy – сплав

resistance to – сопротивление (чему-либо)

various conditions – различные условия

Text 2

1. Read the text using a dictionary.
2. Write down the narration of the text in Russian.

INTRODUCTION

The motor car as we know it has developed from its early beginnings in the 1870s when it began to replace the horse drawn carriage which was the main means of land transport in these days. The modern car has many similarities to the old “horseless carriages” of Daimler, Benz, Pachard and the numerous other inventors of that age, but engineers now know much more about how and why things work and can use their knowledge to design cars that are more efficient and more comfortable. They also have better materials to use which are lighter and stronger and computers to help them to make the best use of these advantages. In addition modern machinery enables these complicated vehicles to be made in large numbers economically. The present day car is a complex piece of machinery involving advanced technology.

3. Words to be learnt:

to draw (drew, drawn) – тащить

similarity – сходство

to design – конструировать

efficient – эффективный

in addition – в дополнение

to enable – давать возможность

complicated vehicle – сложный автомобиль

to involve – вовлекать

advanced technology – сложная технология

1. Read and translate the dialogue.
2. Dramatise the dialogue.

AT INDUSTRIAL EXHIBITION

Boris Antonov is an engineer from a Moscow factory which is taking part in an industrial exhibition in Sokolniki Park. Mr. Bennett, a businessman from Canada, is talking to Antonov, who's working at the exhibition as a guide.

A: Yes, and I must say it's a very up-to-date design. My cogratulations!

B: Thanks, I am happy to hear that.

A: We are interested in buying some of these machines for our factories.

B: Are you? How many would you like to buy?

A: I can't give you a definite answer now. I think it may be quite a big order. Would you like to visit the factory and talk to the Director General?

B: I'd love to if you could arrange it soon, because I'm leaving Moscow next Saturday.

A: No problem, Mr. Bennett.

B: Good. Thank you ever so much.

LESSON 2

Text 1

1. Translate the text in a written form.

UNDER THE HOOD

What makes a car go? A full tank of gas? The key? The gas pedal? The wheels? All these things play a part, but none of them would do much good without the sparking, pushing and spinning that happen under the hood.

The engine's job is to change gasoline into power. The parts of the engine work together to make this happen. Much of the work is done inside the cylinders, or hollow tubes, of the engine. Inside each cylinder is a piston, which moves up and down.

When a driver pushes down on the gas pedal, gasoline mixes with air and enters the top of the cylinder through a small hole. Electricity flows to the spark plugs and ignites the gas and air. This burst of fire pushes the piston up and down. This pumping turns the crankshaft, which is connected to the bottom of the piston. The engine is now making the power needed to move the car.

In cars with "rear-wheel drive" the crankshaft sends the power back to a part in the rear of the car called the final drive. This turns the rear wheels. And away we go!

2. Words to be learnt:

tank – бак

key – ключ

gas pedal – педаль газа

spark – искра

to push – толкать

to spin – крутить

gasoline – бензин

hollow – полый

hole – отверстие

spark plugs – свечи зажигания

to ignite – зажигать

rear-wheel drive – задний привод

crankshaft – коленчатый вал
final drive – главная передача

3. Read the dialogue. Make up your own sentences of the beginning of the dialogue and dramatise it.

PART OF A BUSINESS TALK

A: According to the catalogue, this model can be used for several purposes. Does that mean that you want a higher price?

B: Well, the price will largely depend on the number of machines you're going to order.

A: We need twenty now, but we may require many more in the near future.

B: I think we could agree on \$ 1000 per unit. Would that suit you?

A: Yes, I think so.

B: Believe me, it is, without any doubt, the best equipment you can get at this price.

A: Oh, yes. It meets all our requirements.

4. Words to be learnt:

per – предлог латинского происхождения, означающий единицы

per hour – в час

per day – в день

per head – на человека

unit – зд. единица оборудования

5. Repeat the sentences using the given words.

Model: We can offer you a new model (the latest models). – We can offer you the latest models.

We can offer you a new model (a portable model, our latest design, our help, another explanation, the most up-to-date equipment, our services at a lower price than other firms).

I suggest that you should go with us (look through the catalogue, give your own opinion, listen to some other opinions, begin your story from the beginning, test the set more carefully).

I suggest going there together (having short break, discussing the results more carefully, taking part in the next conference, discussing the project again, listening to the expert's opinion).

Text 2

1. Read and translate the text.

COMPONENTS OF THE AUTOMOBILE

Automobiles are trackless, self-propelled vehicles for land transportation of people or goods, or for moving materials. There are three main types of automobiles. These are passenger cars, busses and lorries (trucks). The automobile consists of the following components: the engine, the framework, the mechanism that transmits the power from engine to the wheels, the body.

Passenger cars, as a rule, propelled by an internal combustion engine. They are distinguished by the horsepower of the engine, the number of cylinders in the engine and the type of the body, the type of transmission, wheelbase, weight and overall length.

There are engines of various designs. They differ in the number of cylinders, their position, their operating cycle valve mechanism, ignition and cooling system. Most automobile engines have six or eight cylinders, although some four-, twelve- and sixteen-engine cylinder engines are used. The activities that take place in the engine cylinder can be divided into four stages which are called strokes. The four strokes are: intake, compression, power and exhaust. Stroke refers to the piston movement. The upper limit of piston movement is called top dead centre: TDC. The lower limit of piston movement is called bottom dead centre: BDC. A stroke constitutes piston movement from TBC to BDC or from BDC to TDC. In other words, this piston completes a stroke each time it changes the direction of motion.

2. Words to be learnt:

self-propelled – самоходный

a lorry (truck) – грузовик

an engine – двигатель

a framework – рама

to transmit – передавать

a wheel- колесо

a body – кузов

to propel – управлять

an internal combustion engine – двигатель внутреннего сгорания

to distinguish – различать

a horsepower – лошадиная сила

a transmission – трансмиссия

a wheelbase – колёсная база

weight – вес

overall length – общая длина

to differ (in) – различаться

a cylinder – цилиндр

an operating cycle – рабочий цикл

a valve mechanism – клапанный механизм

an ignition system – система зажигания

a cooling system – система охлаждения

a stroke – такт

intake, compression, power, exhaust – впуск, сжатие, раб. ход, выпуск

TDC – верхняя мёртвая точка

BDC – нижняя мёртвая точка

in other words – другими словами

3. Get ready to answer the following questions:

What types of automobiles do you know?

How many cylinders have automobile engines?

What components does an automobile consist of?

What is a passenger car propelled with?

What is a stroke?

4. Retell the text using these questions as the items of the plan.

5. Translate into Russian paying attention to the word **as**:

As the mixture burns, high pressure (давление) is created.

The automobile uses gasoline **as** a fuel (топливо).

As long as the car is in order, you can be carried from one place to another.

No special cooling fans (вентилятор) are, **as** a rule, required.

6. Use the following sentences in all forms and tenses adding suitable adverbial modifiers where necessary:

Combustion (горение) within the cylinder takes place at a high speed.

This type of engine is used to drive automobiles.

7. Combine the following pairs of sentences according to the model:

Model: The piston moves forward (вперёд). It forces the burned gases from the cylinder. – Moving forward, the piston forces the burned gases from the cylinder.

The automobile is a trusted (надёжный) and valuable (ценный) servant (слуга) men. It is used everywhere.

The piston moves down. It draws a mixture of air and gasoline into the cylinder.

The engine has a four-stroke cycle. It is called a four-stroke cycle engine.

The engine has a two-stroke cycle. It is called a two-stroke cycle machine.

The piston completes the stroke. It changes the direction of motion.

LESSON 3

Text 1

1. Read the text.

WHAT DOES “GB” MEAN?

An Englishman, who couldn't drive, bought a car. As he had to learn to drive, he went to a driving school and took driving lessons. While he was learning, he had a large “L” plate on the back of his car to show that he was a learner. After some time he took the driving test and passed it. He got a driving licence and was then able to drive without the “L” plate. He decided to spend his holiday abroad, and so he had to fix a “GB” plate on his car, because every car that leaves Great Britain has a “GB” plate on it.

One day his little son was playing with another boy, and they were discussing the new car. “Why did your father hang an “L” on the back of his car at first, and now a “GB”? What does that mean?” the other boy asked. “Well”, the car driver's son answered. That's very simple: “L” means learning, and “GB” means getting better.

2. Words to be learnt:

a plate – табличка

an “L” (learner) plate – знак «неопытный водитель»

to fix – прикрепить

3. Get ready to retell the text.

Text 2

1. Read the text.

ENGINE OPERATION

An automobile, powered by a petrol engine, begins to operate when the driver turns a flywheel connected to the engine crankshaft. As the crankshaft revolves, a mixture of fuel and air is drawn from a carburetor into the engine cylinders. The ignition system provides the electric sparks that ignite this mixture. The resultant explosions of the mixture turn the crankshaft and the engine starts moving. By regulating the flow of the fuel and air with a throttle the driver controls the rotational speed of the crankshaft.

Cooling, electrical, ignition and lubrication system are of great importance for the good performance of a car. The lights, radio and heater add to the flexibility, comfort and convenience of the car. The indicating devices keep the driver informed as to engine temperature oil pressure, amount of fuel and battery charging rate.

Brakes are of drum and disk types. The steering system consists of a manually operated steering wheel which is connected by a steering column to the

steering gear from which linkages run to the front wheels. It is difficult to turn the steering wheel, and special hydraulic power mechanisms are used to lessen this effort. Suitable springs are used against shocks. These are leaf springs, coil springs and air suspension.

2. Words to be learnt:

a petrol engine – бензиновый двигатель
to operate – приводить в движение
a flywheel – маховик
to revolve – вращать, поворачивать
a mixture – смесь
fuel – топливо
to ignite – воспламенять
to draw (drew, drawn) – тянуть, втягивать
explosion – воспламенение
a flow – поток
a throttle – дроссель
a rotational speed – скорость вращения
a cooling system – система охлаждения
lubrication system – система смазки
a heater – печка
flexibility – гибкость
indicating devices – индикаторные приборы
a battery charging rate – уровень зарядки батареи
drum brakes – тормоза барабанного типа
disk brakes – дисковые тормоза
a steering system – система управления
manually – вручную
a steering wheel – рулевое колесо
a steering gear – механизм управления
a linkage – соединение
to lessen – уменьшить
a leaf spring – листовая рессора
a coil spring – пружинная рессора
an air suspension – воздушная подвеска

3. Get ready to answer the following questions:

When does an automobile begin to operate?

What ignites the mixture of fuel and air?

What do the resultant explosions of the mixture do?

How does the driver control the rotational speed of the crankshaft?
What types of brakes do you know?

4. Translate into Russian paying attention to the word **by**:

The method of cooling by water is easy to accomplish.

A new car factory will have been constructed by the end of the year.

The crank is linked to the piston by means of the connecting rod.

The driver can make the car operate by turning.

LESSON 4

Text 1

1. Read the text.

AIR-COOLED ENGINES

All vehicle engines are air-cooled to some degree. Even in water-cooled engines heat is transmitted first from cylinder to water and afterwards, in the radiator, from water to air. This method of cooling is not difficult to accomplish, because the heat taken off the hot cylinder walls by water can be distributed without difficulty upon the large cooling surface of the radiator, and so easy transmission of heat to air is made possible.

Reciprocating engines used in aircraft are almost entirely air-cooled. Aircraft engines cooled by air are manufactured today in sizes ranging from 50 to 3500 hp and they have superseded water-cooled engines. The principal advantages of air-cooled aircraft engines are low weight and greater reliability in operation. Modern motor-cycles are also designed almost exclusively with air-cooled engines.

New designs of air-cooled vehicle engines are notable for their easy maintenance, reliability and economical operation.

2. Words to be learnt:

afterwards – после этого

a radiator – радиатор

to accomplish – выполнять

to distribute – распределять

a difficulty – трудность

without – без

upon – на, по

a reciprocating engine – возвратно-поступательный двигатель

an aircraft – самолёт

entirely – полностью

an air-cooled engine – двигатель с воздушным охлаждением

reliability – надёжность

a motor-cycle – мотоцикл
exclusively – исключительно
to design – конструировать
a design – конструкция
notable – значительный
maintenance – обслуживание

3. Translate the sentences into English.

1. Мы получили письма с заводов, которые интересуются Вашими машинами, г-н Беннет, и сегодня я могу дать определённый ответ на Ваш вопрос о наших планах на будущее. 2. Цена этой машины немного выше цен других моделей, но её качество гораздо выше. 3. Это фактически самая лучшая модель, которую мы сделали за последние несколько лет. 4. Конструкция современна, машина надёжна и легка в эксплуатации. 5. Моя старая машина была меньше новой, и она была менее удобной, но она тратила меньше бензина. 6. Извините, что я причиняю Вам столько беспокойства, но мне хотелось бы встретиться с Вами ещё раз и обсудить некоторые вопросы. 7. Я уверен, что у Вас не будет никаких неприятностей с этой машиной. 8. Это одна из наиболее надёжных машин на мировом рынке.

4. Dramatise the dialogue.

THE TROUBLE WITH THE ENGINE

(You have come to Mr Jackson's office to discuss your problem).

Jackson: Good morning, Mr... Won't you sit down?

You:

J: Isn't it cold today! Won't you have a cup of coffee?

You:

J: Well, let's get down to business then. So what exactly is your problem?

You: ...installed...a month ago. At first...normally, then...funny noise in the engine...defects... .

J: I'm very sorry to hear that. It's a new model, but it's selling well, and we're using it at our own factories, too.

You: Are you? Could I...and speak... .

J: Good idea! I'll make all the arrangements for you visit at once. When would you like to do?

You: The sooner... . Say,

J: Very good. I'll call for you at your hotel and we'll go to the factory together.

You:

Text 2

1. Read the text.

TOYOTA AND VOLKSWAGEN TO BUILD CAR PLANTS IN RUSSIA

Toyota, the Japanese car giant, was Russia's fourth biggest auto seller in the first quarter of this year. The Economic Development and Trade Ministry and St. Petersburg's administration are planning to sign a memorandum for building an automobile assembly plant near Russia's northern capital next week, Svetlana Ganeyeva, chief of the ministry's investment department, has told reporters. She said the plant would be built in the Shushary district. The project's formal launch was set for April 26, and an investment agreement for the project will be signed later. Toyota "will spend around \$ 150 million on this project", *Reuters* reported. Svetlana Ganeyeva announced that Toyota would initially produce 25,000 cars per year, but the yearly output might rise to 100,000 cars within two years. The terms, investment level and the models list have not been made available, but the Japanese corporation could start with the C-model Toyota Corolla.

At the same time, Volkswagen is intending to sign a similar document for building an assembly plant in Stupino, near Moscow. A Moscow region official said the regional administration could sign an investment agreement with Volkswagen in May. According to Andrei Sharonov, Deputy Minister of Economic Development and Trade, VW is going to assemble its Boras, Pointers, and Skodas at the new plant. "The initial output will not be over 50,000 cars per year but later it might exceed 100,000 cars", he said.

As the import tariffs for automotive components are to be lifted soon, the cost of a Corolla could be close to that of the Ford Focus and Volkswagen could undermine not only AvtoVAS but also Ford and Renault.

2. Point out words and expressions repeated throughout the text.

3. State the structural type of the paragraphs, find the body, commenting part and ending.

LESSON 5

Text 1

1. Read the text.

TRAM DISMANTLING ROLLS ON

One of Moscow's original tram lines that runs along Lesnaya Ulitsa will be discontinued. According to city administration, this move comes as part of a broader attempt to improve traffic conditions in the area.

However, with city traffic growing at an alarming rate, there is some doubt that this move will make a significant difference. Running on electricity as

opposed to leaded petrol, trams have provided a greener alternative for the capital, already among the world's most polluted.

The Moscow Committee for Architecture has been given the task of working out a new transport system for the area. Plans include creating new bus lines to replace the trams routes. By the time the tram lines are dismantled, city administration plans to increase the number of bus lines operating in the area, as well as making the service more regular.

City officials did not explain how swapping trams for buses would help to alleviate the problem. A spokesperson said that 13.9 million rubles from the city budget is to be spent on replacing the tram and creating bus lines. Muscovites may be left asking themselves whether the replacement of the much-loved tram system is really worth all the effort.

2. Find the commenting part of the paragraphs and state the degree of the rigidity in the sequence of their elements.

Text 2

1. Read the text.

2. Say some words about the four strokes of the engine.

THE FOUR-STROKE CYCLE

Practically all car engines operate on the four-stroke cycle. This means that piston travels up and down twice between each ignition of the petrol/air mixture. The cycle of operations is as follows:

1. Introduction: The inlet valve opens and as the piston moves downwards a petrol/air mixture is drawn past the valve, into the cylinder.

2. Compression: As the piston completes the previous downstroke the inlet valve closes. The rotating crankshaft pushes the piston upwards, compressing the mixture in the cylinder into the combustion chamber at the top.

3. Power: As the piston's highest point (called top dead centre) a spark jumps across the electrodes of the spark plug. This ignites the petrol/air mixture; the resulting heat causes the burning mixture to expand which pushes the piston down.

4. Exhaust: Towards the end of the downstroke the exhaust valve opens and on the following upstroke the waste products of combustion are pushed past the exhaust valve and out of the engine. The exhaust valve then closes and this is followed by the induction stroke of the next cycle and soon. These cycles will be repeated about 28 times every second in a car travelling at 96 km/h (60 mph).

3. Words to be learnt:

an inlet valve – впускной клапан

downwards – вниз
a spark plug – свеча зажигания
an exhaust valve – выпускной клапан
waste products – отработанные продукты
an induction stroke – следующий такт

4. Fill in the right article.

1. I suggest that we make ... appointment with ... production manager for Tuesday, not for Monday. Does the day suit you all? 2. "What time will ... talks begin?" "At exactly eleven. Did'n Miss Gray tell you ... time? 3. I fully support ... idea of ... special conference on ... subject, but I don't think this is ... right time for it. I suggest that we put it off some time towards ... end of the year. 4. Her English is perfect, and she never has trouble with ... most difficult translations. 5. In my opinion Alan's ... best sports commentator we've ever had on television. It's always ... pleasure to listen to him, and besides, he's fluent in several foreign languages (он говорит на нескольких иностранных языках) so he interviews most foreign athletes without ... interpreter.

Text 3

1. Read the text.

DANGER – DOG DRIVING

An American, whose car was zigzagging along the road, was stopped by the police for reckless driving. Mr. William Bowen refused to take a breath test and told the Kentucky police his dog was driving. Mr. Bowen explained to the police that he is legally blind although he has some peripheral vision. He had matched the speed of his car with that of other cars alongside and trained his dog to bark as he approached traffic lights – one bark for red, two for green. He had managed to drive two kilometers before being stopped. Mr. Bowen pleaded guilty and spent thirty days in jail awaiting trial. The court considered this sufficient punishment. Mr. Bowen said neither he nor his dog will drive again.

2. Words to be learnt:

to zigzag – ехать зигзагом
reckless driving – неаккуратная езда
a breath test – проверка на алкоголь
blind – слепой
peripheral vision – слабое зрение
to match the speed – выравнивать скорость
to bark – лаять
to plead guilty – признавать себя виновным

a jail – тюрьма
a trial, a court - суд

LESSON 6

Text 1.

1. Read the story.

THE PROBLEM OF TRANSPORT

What are cities for – cars or people? Do people without cars not matter at all? In some cities, such as Los Angeles, it is impossible to live without a car. A friend of mine used to live opposite a supermarket (напротив универсама) in Los Angeles. Unfortunately the road was a sixlane (с шестирядным движением) motorway, and there was no way of crossing it. She had to drive two miles to a clover-leaf junction (развилка) where she was able to turn round, drive two miles back and buy her food. By the time she reached her home again, she'd driven eight miles to cross the road!

All large cities have the problem of transport. In some of them people think that the only answer is to forbid (запретить) cars from coming into the centre of the city. But then what will all the people do? There must be better public transport, with more busses and underground trains. Perhaps we will have monorails like they have in Tokyo. In London, Oxford Street, one of the most important and busy roads in the capital is closed to private cars, and a lot of roads have special lanes for buses. This helps traffic to move more freely, and stops traffic jams (пробки).

2. Answer the questions (mind that “Don’t...”, “Aren’t...”, “Isn’t...” take quite a lengthy explanation as a rule).

1. Are the cities for people? 2. Aren't they for people? 3. Do people without cars matter in the city? 4. Is it impossible to live without a car in some cities? 5. Isn't it possible to live without a car in the city? 6. Is to forbid cars coming into the centre of the city the only answer? 7. Isn't there any other answer? 8. Must there be better public transport? 9. Mustn't there be better public transport? 10 Do all large cities have the problem of transport? 11 Don't all large cities have the problem of transport? 12. Is it exciting to have a car? 13. Isn't it exciting to have a car? 14. Do you want to have a car? 15. Don't you want to have a car?

3. Speak on the following.

1. Do you think that to forbid cars in the city is a good idea? 2. Why is public transport more useful than private in big cities? 3. What do you prefer: the bus or the underground? 4. Why? 5. How is the problem of transport solved in London, Oxford Street? 6. In what part of Moscow it is possible to do the same?

7. What is a traffic jam? 8. Where does one need a car more, in town or in the country? 9. Why?

4. Speak for or against cars and give your reasons.

For

Car allow people to travel faster.

To travel in cars is more comfortable.

Good motorways help the economy.

Cars are necessary if you live in the country.

You can stop and see all the beautiful places on your way.

Cars save time.

Against

Cars destroy (разрушают) the beauty of the countryside.

People walk less and exercise less.

Cars bring air pollution to our cities.

There are so many cars that they leave no place for people.

Cars don't save time at all in the cities because of traffic jams.

You pass beautiful places without actually seeing them.

Text 2

1. Read the text.

THE FUEL SYSTEM

A mixture of petrol and air is burnt in the engine to provide the energy to drive the car. The petrol has to be stored in the fuel tank and supplied to the engine via the carburetor as required. Petrol is highly inflammable and its vapour when mixed with air in a confined space can be explosive. The petrol tank therefore is located away from the engine. It is also positioned so that it will not burst in the event of an accident when sparks could start a serious fire.

With the engine at one end of the car and the fuel tank at the other, a pump is necessary to send the fuel from the tank to the carburettor. The pump is driven by the engine, usually from an additional cam on the camshaft. The operating rod moves up and down and works a diaphragm which is held at its circumference and moved by the rod at its centre.

Thus, when the rod moves downwards the diaphragm moved down and petrol is drawn through the one-way valve on the right. When the rod moves upwards the one-way valve closes and the fuel above the diaphragm is pushed out to the engine through the one-way valve on the left. Then the one-way valve on the

left closes so that the fuel cannot be sucked back from the engine while the valve on the right opens allowing more fuel to be taken from the tank.

The fuel tank holds enough petrol for about 500 km (310 miles) running (about 55 litres (12 gallons) for a medium size car). A sensor in the tank sends a signal to the fuel gauge on the dashboard to tell the driver how much fuel there is left in the tank.

2. Words to be learnt:

petrol – бензин

via – через

inflammable – воспламеняющийся

vapour – испаряться

to confine – ограничивать

explosive – взрывной

tank – бак

while – пока, в то время как

gauge – измерительный прибор; масштаб

dashboard – приборная доска

to suck - всасывать

3. Find the sentences with Absolute Participle Construction.

1. The first engines appeared in the 17th century and people began using them to operate factories, irrigate land, supply water to towns, etc. 2. The steam engine having been invented in 1825, a self-propelled vehicle was built. 3. The supply of steam in the car lasting only 15 minutes, the vehicle had to stop every 100 yards to make more steam. 4. The cars at that time were very small, the engine being placed under the seat. 5. Motorists had to carry a supply of fuel, because there were no service stations. 6. Brakes supply become more efficient, cars achieved greater reliability.

Text 3

1. Read the text and smile.

ON THE BUS

It was during the rush-hour (часы пик). As usual, all the seats in the bus were occupied. When a good-looking young lady got in, an elderly man sitting near the door wanted to rise, but the lady at once pressed him to keep his seat. "Thank you", she said, "I don't mind standing" "But madam, permit me...". "I insist upon your sitting down", she stopped him, and putting her hands on his shoulders she almost forced him back into his seat.

The man tried again to stand up and said, “Madam, will you allow me ...”. But once more the lady said, “I don’t wish to take your seat, sir!” and forced him back with another push.

With a great effort the man finally pushed her aside. “Madam” he called out. “I don’t care whether you take my seat or not. The bus has already taken me two stops beyond my destination and now I wish to get out”.

LESSON 7

Text 1

1. Read the text indicated below. Make a list of key fragments picked out from each paragraph. Rearrange the key fragments, make a plan and then use it to write a précis. The number of statements in your précis should be approximately the same as the number of paragraphs in the original.

SAFETY

Vehicle safety comes under two headings: primary and secondary. The aim of the former is to avoid having accidents in the first place, while the latter is intended to avoid or minimise injury.

Primary Safety. The vehicle should have good handling with a progressive response to the steering. When the limit of adhesion is reached during cornering, the car should not break-away and spin but should rather come out of a bend at a tangent, with the front wheels tending to go straight on. Front wheel drive cars should not tuck in or turn more sharply into a bend when the driver’s foot is lifted off the accelerator.

Dual circuit brake systems are also important. There are many other features in car design that contribute to primary safety and these include: good acceleration, all round visibility controls and adequate instruments in the correct position, good heating and ventilation, comfortable seating, warning lights, good lighting and visibility.

Secondary Safety. Cars are now designed to have crumple zones at the front and rear. These absorb the shock of impact and reduce the injury to the driver and passengers. On impact neither the steering wheel nor the engine should be forced into the passenger compartment.

2. Words to be learnt:

a heading – заголовок

to avoid – избегать

an injury – травма

handling – управление (вручную)

steering – управление

adhesion – прилипание

to spin – вертеть
a tangent – касательная
to tuck in - выворачивать, поворачивать
a dual circuit brake - тормоз
visibility- видимость
adequate – подходящий
to warn – предупреждать
a crumple zone – защитная зона
to absorb – поглощать
an impact – удар, столкновение
to reduce – сокращать
a compartment - кабина

Text 2

1. Read the story. What do you think of it? Tell the story in your own words.

Which is better – to drive on the left or right? Or do you think it doesn't really matter? If so – you are wrong. American scientists say that cars driving on the right-hand side of the road probably help to make tornadoes – strong winds going around in circles. The Americans say that cars and trucks going very fast each other make the air turn anti-clockwise (против часовой стрелки). The air in tornadoes turns anti-clockwise in the northern hemisphere (полушарие). In the southern hemisphere the air goes clockwise. So cars in the USA must drive on the left and cars in Australia, for example, must drive on the right!

There are about 2,5 million cars moving on the roads in the USA at any given moment. The air that they move is probably enough to change the movement of the atmosphere. Between 1933 and 1973 there were six times as many tornadoes in the USA than there were before. These 40 years were the years when day more and more people started driving cars. The scientists also say that there are not so many tornadoes on Saturdays. The times when traffic is heaviest are during the week when people go to work and on Sundays when many people go for a drive.

This news is a surprising answer to the old arguments on the question of “right” and “left”.

2. Where do you want to live – in a big city or in a small town? Why? Here are some arguments for and against each. Think of the arguments.

In a small town

People are never in a hurry.
People know everybody they pass

In a big city

People are always in a hurry.
People don't know anybody they pass

in the street.
Everybody knows everything about
the people in his/her street.
Life is very quiet.
You can walk to any place you
want to.
You can often see your friend.

in the street.
People know nothing about their
neighbours.
Life is very exciting.
You spend a lot of time in public
transport.
You talk to your friends mostly on
the phone.

3. Read and learn.

BOB'S NEW USED CAR

John: This is the car that Bob bought from Mr. Adams.

Bill: I didn't even know that he had bought a car. When did he tell you that he had bought it?

J: He told me yesterday that he had bought it two days earlier.

B: Do you know how much he had paid for the car?

J: Well, he had said he had paid 800 dollars for it.

B: I wonder why he bought an old car. I didn't think he needed a car.

J: Well, I suppose he will use his new job.

B: Do you think that the car is in good condition?

J: He told me that the car was in perfect condition. The tires are practically new. The generator works perfectly. Frankly I think that it was a good bargain.

B: I believe you are right.

J: I haven't mentioned that the car had been driven only 25 000 miles. Also, the covers which are on the front seats are new. They are made of material that can be washed.

B: Now I want to see how well the car really runs.

J: O.K. Let's ask Bob when he is going for a ride. Then we can see whether or not the car runs well.

B: Do you know if Bob is going to come back here soon?

J: Yes, I'm sure he'll be back right away.

B: By the way can you tell me where Bob is keeping his car.

J: He is using the garage of the people living next door.

LESSON 8

1. Read the text.

TRANSPORT FOR TOMORROW

One thing is certain about the public transport of the future: it must be more efficient than it is today. The time is coming when it will be quicker to fly across

the Atlantic to New York than to travel from home to office. The two main problems are: what vehicle shall we use and how can we plan our use of it.

There is already a number of modern vehicle which are not yet in common use, but which may become a usual means of transport in the future. One of these is the small electric car: we go out into the street, find an empty car, get into it, drive to our destination, get out and leave the car for the next person who comes along. In fact, there may be no need to drive these cars. With an automatic guidance system for cars being developed, it will be possible for use to select our destination just as today we select a telephone number, and our car will move automatically to the address we want.

For long journeys in private cars one can also use an automatic guidance system. Arriving at the motorway, a driver will select the lane he wishes to use, switch over to automatic driving, and then relax – dream, read the newspapers, have a meal, flirt with his passenger – while the car does the work for him. Unbelievable? It is already possible. Just as in many ships and aircraft today we are piloted automatically for the greater part of the journey, so in the future we can also have this luxury in our own cars.

A decade ago, the only thing electronic on the most automobiles was the radio. But at present sophisticated electronics is playing a big part in current automotive research. For example, in every gasoline-powered car that General Motors Corporation makes there is a small computer continuously monitoring the exhaust. The device, about the size of a pack of cigarettes, adjust the vehicle carburetor fuel intake to get the best fuel economy. Ford cars are equipped with an electronic instrument panel that, among other things, will calculate how far one can drive on the fuel left in the tank. It also will estimate the time of arrival at destination and tell the driver what speed he has averaged since turning on the ignition.

According to specialists these feature made possible by microelectronics are only the beginning. Radar may control the brakes to avoid collisions, and a display screen may show the car's position on the road. Recently a radar to be mounted on lorries and cars has been designed in the USA. The radar aerial looks like a third headlight placed directly above the bumper. Having summed up the information about the speed and distance of various objects ahead, the computer detects all possible dangers and their nature. A third component in the system is a monitor on the instrument panel. The radar only observes objects ahead of the vehicle. It is automatically turned on when the speed exceeds ten miles an hour. The green light on the panel indicates that the system is on. The yellow light warns of stationary objects ahead, or something moving slower than the car. The red light and buzzer

warn that the speed should go down. Another red light and sound signal make the driver apply the brakes.

A Japanese company is designing a car of a new generation. When completed, the new model will have a lot of unusual characteristics. The car's four-wheel control system will ensure movement diagonally and even sideways, like a crab, at right angles to the longitudinal axis. This is especially important when leaving the car in parking places. To help the driver get information while concentrating on the road the most important data will be projected on the wind screen. A tourist travelling in such a car will not lose his way even in Sahara with its impossible roads: a navigation Earth satellite will indicate the route.

A new ceramic engine has been developed in Japan. Many important parts as pistons, pressure rings, valves and some others have been made of various ceramic materials, piston rings made of silicon materials being in many respects better than those of steel. They withstand temperatures up to 1.000 degrees above zero. Therefore, the engine does not need a cooling system.

NOTES TO THE TEXT

lane – ряд

gasoline-powered – с бензиновым двигателем

fuel intake- впрыск топлива

among other things – кроме всего прочего

what speed he has averaged – какова была его средняя скорость

pressure ring – уплотнённое кольцо

piston ring - поршневое кольцо

2. Words to be learnt:

to adjust – регулировать

to apply – применять

an angle – угол

to avoid – избегать

an axis – ось

a destination – пункт назначения

to detect – обнаруживать

directly – прямо, непосредственно

to ensure – обеспечивать, гарантировать

to exceed – превышать

an exhaust – выхлоп

a guidance – управление, наведение

to indicate – указывать, показывать

to mount – монтировать, устанавливать

to place – помещать

to select – выбирать
sophisticated – сложный
a valve – клапан
to warn - предупреждать
to withstand – выдерживать
to many respects – во многих отношениях
to look like – быть похожим
to turn on/off - включать/выключать

3. Answer the questions about the text.

1. What is the text about? 2. What kind of a car may be in common use in the nearest future? 3. How will a public electric car operate? 4. How will it operate on a motorway? 5. What electronic devices are there in a modern car? 6. What electronic devices does General Motors Corporation offer for cars? 7. Can a radar be used in a car? 8. What will its functions be? 9. What functions will a Japanese car of new generation have? 10. What materials do the Japanese offer to use for car motors?

4. Choose the right sentences.

1. An automatic guidance system was developed for the electric car. 2. Small electric cars are in common use. 3. Many ships and aircrafts are piloted automatically for the greater part of the journey. 4. Usually having arrived at a motorway a driver switches over to automatic control and relaxes. 5. A decade ago there were many electronic things in the cars. 6. There is no future for microelectronics in automobiles. 7. Recently a radar to be mounted on lorries and cars was designed in the USA. 8. A new ceramic engine has been developed in France.

5. Translate the following expressions.

To go out into the street, a usual means of transport, to get information, to get the best economy, a decade ago, to play a part, the size of a pack of cigarettes, the vehicle's carburetor, an electronic instrument panel, the car's position on a road, objects ahead of the vehicle, stationary objects ahead, ten miles an hour.

6. Find the Russian equivalents of the following English expressions.

One thing is certain, public transport, the time is coming, from home to office, a modern vehicle, in common use, to get into a car, a pack of cigarettes, how far one car drive, various objects ahead, directly above the bumper, get out of a car.

Различные объекты впереди, общественный транспорт, современное транспортное средство, приходит время, сесть в машину, пачка сигарет, от дома до работы, одно явно, в повсеместном использовании, выйти из машины, сколько (как далеко) можно проехать, непосредственно над бампером.

7. Translate the following sentences.

1. Читая книгу, он обычно делает заметки (to make notes). 2. Прочитав текст, мы обсудим его. 3. Отвечая на вопросы, он сделал несколько ошибок. 4. Ответив на вопросы преподавателя, мы начали переводить новый текст. 5. Увидев зелёный свет, мы перешли (to cross) улицу. 6. Покупая газету, он потерял деньги. 7. Купив газету, он пошёл к метро.

LESSON 9

Text 1

1. Read the text and write out the key fragments from it.

ENERGY-SAVING CARS

The hybrid car will be produced by Yarovit motors, and an online competition for the best name has been launched. The winner will get the first 8.800-euro car free when mass production starts in 2012.

But the tycoon faces competition from other local producers who have clubbed together to jump-start the race for the first competitive eco-car.

In July automakers Sollers, UAZ, Ssang Yong and Fiat along with Kompomash, a producer of space and aviation machinery, unveiled Russia's first electric vehicle, the Ecobus. Similar to the Fiat Ducato, it has two 40 kilowatt engines providing 109 horsepower and can last 180 kilometres before needing a recharge.

Looking at the American car industry, it is clear that GM, Chrysler and Ford, which are eagerly seeking to prolong the life of their high-fuel consuming engines, are half-bankrupt – but Japanese hybrid engines have a good future.

Even the much-maligned Avtovaz is getting into the business of green, after 25 per cent shareholder Renault announced it is seeking to invest in electric car production in Russia.

2. Answer the questions.

1. What are the main problem of public transport (a new type of vehicle and its much more efficient use). 2. What type of modern vehicle may become a usual means of transport in the future? (a small electric car). 3. What is the possible

development in private cars? (the use of an automatic guidance system). 4. What electric devices are used in modern cars? (a computer, fuel adjusting devices, electronic instrument panel for indicating the speed, time, distance covered and fuel left). 5. What is the main function of a radar for a car? (detecting all possible dangers ahead of the vehicle on a road). 6. What unusual feature will a new generation car have? (four-wheel control system ensuring diagonal and side movement). 7. What materials are used in current automotive design? (ceramic).

3. Find the Absolute Participle Construction and translate the sentences.

1. Numerous experiments having been carried out at the orbital stations, it became possible to develop new methods of industrial production of new materials. 2. President Jefferson having offered his personal library, the foundation of the Library Congress was laid. 3. Anthony Panizzi designed the Reading Room of the British Museum, the Reading Room being a perfect circle. 4. A beam of light being transmitted forwards, it is possible to measure the distance between the car and the other cars in front of it. 5. The distance having been measured, the computer adjusts the cars speed. 6. The first TV sets having been shown in 1939, the news about it spread throughout the world.

Text 2

1. Translate the text without a dictionary.

A new vacuum-controlled constant velocity carburetor developed by an American company offers several advantages over ordinary carburetors, including 25 per cent gasoline economy, improved engine performance and easier starting. The device having only 54 parts compared with some 300 in conventional carburetors has no choke (дроссель). It constantly adjusts the mixture of fuel and air, which cannot be done in usual carburetors. Provided with special mechanism the carburetor helps the engine turn on at once in cold weather. Though developed quite recently it is already being used by cars and other kinds of public transport. With diesel engine becoming almost standard equipment, the vacuum carburetor will never be used on new cars. It may be said that present-day carburetors are a dinosaur and in 20 years there won't be any more. But there are some countries which are interested in importing the device as a replacement for existing carburetors.

Text 3

1. Read the text and retell it in English.

TALKING INSTRUMENT PANELS

For a few years now some of the most advanced new automobiles have been equipped with instrument panels that can “speak” providing instrument readings or safety warnings from special electronic circuits.

In a polite female voice, the device will report on engine oil pressure, parking-brake and headlight operation, seat belt connection, totaling 14 different functions. The driver can even program the voice warning system to announce the time or to give a low-fuel warning for any preset gas tank level.

The heart of the voice warning system is a microprocessor-based electronic speech module made by National Semiconductor Corporation (US). The device requires the connection of 18 wires, but it is simple enough to install in a car.

LESSON 10

Text 1

1. Read the text. Find the topic sentence in each of the following paragraphs of the text.

FROM KARL BENZ TO IVAN LIKHACHEV

Vincent Bendix, Grigory Wasserman, Ettore Bugatti, Rudolf Diesel – half a thousand names that are the pride and joy of world auto-making. You can now learn perfectly fascinating facts about each of them and get a better idea of how the automobile – later described as one of the wonders of the 20th century – emerged and developed: *Za rulyom* publishers produced an “Encyclopedia of Auto Celebrities”. It’s the first time this kind of book has been published not only in Russia but also in the world.

The encyclopedia, which took nearly two years to prepare, was written by a large group of contributors – well regarded Russian auto specialists, collectors, historians, and journalists.

It is gratifying that the publishers managed to find photos of almost all celebrities presented in the encyclopedia; in all, the book offers more than 1,000 illustrations, including some rare ones.

What is even more important is that the names of many Russian and Soviet designers, engineers, and manufacturers, which were undeservedly expunged from the history of auto-making, were brought back from oblivion. These include Pavel Belyaev, a pioneer of the Russian auto industry and winner of Russia’s first motor race, in 1898; Pyotr Engelmeyer, a Russian engineer and mechanic, founder of technology theory; Georgy Vedenyapin, a talented Soviet designer, Boris Gold, one of the first developers of three-axle vehicles...

The encyclopedia's other attraction is that in addition to reference and bibliographic material, it contains the basic facts about the most important auto inventions, complete with schemes and drawings, offering an overview of the evolution of engineering concept.

According to chief editor Sergei Dorofeyev, the encyclopedia has a print run of 5,000 copies.

2. Translate the sentences paying attention to the Gerand.

On detecting danger on the road, the computer signals the driver. Detecting an object in front of the car in the dark is the purpose of the "night vision system". One of the main problems of a driver on the road is keeping the speed constant and watching the car ahead. A new device for monitoring and adjusting air pressure in tires has recently been developed. Before starting a car one must examine it carefully. Computers are widely used for controlling all kinds of processes. Alexander Bell's being a teacher of deaf people influenced his interest in sound and its transmission. Starting a car one must be very attentive. Samuel Morse's hobby was experimenting with electricity.

Text 2

1. Translate the text in a written form.

TRAMS

The tram, which disappeared in many cities before and after the war, may come back.

The advantages of the tram are that it is considerably cheaper than the railway, silent in operation, free from exhaust gases and able to provide a more frequent service with more stops.

Much interest is being shown in both Europe and America, where existing systems are being extended and new up-to-date vehicles are coming into service.

Studies are being carried out in many countries. Considerable amount of work has been done in the development of electric light railway systems in various parts of the world.

2. Epitomize the content of the text in the form of a statement.

3. Translate the sentences and determine the functions of the Gerund.

1. One of the best ways of keeping the speed steady is using a computer for the purpose. 2. Supercomputer is able of performing one billion operations a second. 3. The white line in the centre of the road is one of the most effective means of controlling traffic. 4. The function of a car computer is detecting and

summing up the information about the road conditions. 5. It is difficult to solve some of the present-day scientific and technological problems without using supercomputers. 6. On seeing a red light or hearing a warning sound the driver should decrease the speed.

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640669, г. Курган, ул. Гоголя, 25.

Курганский государственный университет.