Учебно-методическое пособие для

студентов заочного отделения

для специальностей

35.02.16 Эксплуатация и ремонт сельскохозяйственной техники и оборудования

Оглавление

КОНТРОЛЬНАЯ РАБОТА

ВАРИАНТ 1

I. Перепишите предложения. Переведите их на русский язык, обращая внимание на неопределенные местоимения *some, any, no* и их производные. (§1)

1. We have met some of these mechanics before.
2. Somebody has taken my car keys.
3. - Have you got any luggage that needs a special car? - No, I haven't.
4. No mechanical engineer specializes in this particular type of machines.

II. Перепишите следующие предложения. Выпишите причастия, определите их функции. Переведите предложения на русский язык. (§ 4)

Образец: Designing new cars engineers use **advanced** technologies.-

designing – Participle I, обстоятельство

advanced – Participle II, определение

Конструируя новые автомобили, инженеры используют передовые технологии.

1. The construction is a major industry consuming plastics and ceramic materials.
2. Volvo S60 offers seats for five and an enlarged baggage compartment.
3. Nowadays, fingerprint identification is used instead of a key for modern car starting.
4. He has just taken his car from the garage and is driving out of the town now.

III. Перепишите следующие предложения, подчеркивая в каждом из них глагол-сказуемое. Определите видовременную форму и залог сказуемого и переведите предложения на русский язык. (§ 2)

Образец: This company **has started** to produce its vehicles in our country. **–**

has started – Present Perfect Active

Эта компания начала производить свои автомобили в нашей стране.

1. Far advanced Ford's models will employ this innovative ignition system in the future.
2. We got their engineer's answer only yesterday, because he did not send it on time.
3. This automobile is kept in the first-class conditions.
4. If we find a properly qualified worker, the car will be fixed by next Monday.

IV. Перепишите следующие предложения, подчеркивая в каждом из них модальные глаголы или их эквиваленты. Переведите предложения на русский язык. (§ 3)

1. Your business partner will be able to test new trucks tomorrow.
2. The moisture content can be measured with the required accuracy in the laboratory.
3. The driver might inform us about the accident, but he had no mobile phone.
4. Special technical means are to be provided so that air could come into the cylinder of the engine.

V. Перепишите текст и переведите его на русский язык (письменно).

AUTOMOBILE PRODUCTION

Specialists in automobile industry deal with designing and manufacturing of cars and trucks. In this way they should know that the overall production of an automobile comprises the following phases:

1. Designing (that is creating the project which is to be brought to life in full accordance with public and industrial needs and technical and ecological requirements).
2. Working out the technology of manufacturing processes.
3. Laboratory tests (at the plant or in specially organized test centers).
4. Road tests (practical field running of ready machine elements and completely

assembled units).

5. Mass production and further marketing of the ready-made vehicles.

Modern automobile must have high efficiency, long service life, driving safety, ease of maintenance. It also must be comfortable and have all conveniences.

In order to obtain all these qualities, engineers should develop advanced methods of designing cars, using new types of corrosion resistant light materials. Also, it is important to know computer science, because it is to shorten the time between designing and manufacturing.

Before the car is put into mass production, all its units and mechanisms are subjected to tests, first in the plant laboratory, and then the car undergoes a rigid quality control in road tests. These tests are to prove that the car is rapid in acceleration, have a smooth acting clutch, a silent gearbox, dependable brakes and steering system, as well as pleasant appearance.

ВАРИАНТ 2

I. Перепишите предложения. Переведите их на русский язык, обращая внимание на неопределенные местоимения *some,any, no* и их производные. (§ 1)

1. Does this model have anything in common with the previous Ford's models?
2. Nothing was done about this problem, so we have to ask the technical director for help.
3. Could I see any of your mechanics? – I think they might be somewhere in the garage.
4. There was some water in the radiator, so repair shop workers did not have to refill it.

II. Перепишите следующие предложения. Выпишите причастия, определите их функции. Переведите предложения на русский язык. (§ 4)

Образец: Designing new cars engineers use **advanced** technologies.-

designing – Participle I, обстоятельство

advanced – Participle II, определение

Конструируя новые автомобили, инженеры используют передовые технологии.

1. The automobile emergency brake is a set of brakes operating on the rear wheels only.
2. The ceramic discs that are installed into machine protect the car from corrosion.
3. The World Wide Web is a part of Internet helping people connect and search for technical and general-interest information.
4. My friend was collecting his car from the garage early in the morning.

III. Перепишите следующие предложения, подчеркивая в каждом из них глагол-сказуемое. Определите видовременную форму и залог сказуемого и переведите предложения на русский язык. (§ 2)

Образец: This company **has started** to produce its vehicles in our country. **–**

has started – Present Perfect Active

Эта компания начала производить свои автомобили в нашей стране.

1. The plant re-equipped several shops last year.
2. You can see that he always maintains his automobile in good running condition.
3. Fingerprint identification is used instead of a key for vehicle access and starting.
4. Possibly in future a joystick, mouse, or voice command will substitute the steering wheel.

IV. Перепишите следующие предложения, подчеркивая в каждом из них модальные глаголы или их эквиваленты. Переведите предложения на русский язык. (§ 3)

1. Every owner should know how his car operates in order to drive it carefully but freely.
2. Our specialists will be able to repair your car in a short time, so you can come later.
3. In this new model of BMW the “computer systems of the future” are to be realized.
4. This Porsche model has to be tested carefully, as far as the first testing failed.

V. Перепишите текст и переведите его на русский язык (письменно).

DRIVING A CAR IN ENGLAND

It is about the same to drive a car in England as anywhere else. To change a punctured tire in the wind and rain gives about the same pleasure outside London as it does outside Rio de Janeiro; it is not more fun to try to start up a cold motor with the handle in Moscow than it is in Manchester.

There are, however, a few characteristics, which distinguish the English motorists from the continental ones, and these are some points which the English motorists have to remember.

1) In English towns there is a thirty miles an hour speed limit and the police keep a watchful eye on law breakers. The fight against reckless driving is conducted extremely skillfully and carefully according to the very best English detective traditions. It is practically impossible to find out whether you are being followed by a police car or not.

There are, however, a few indications which may help you here:

a) the police always use a 70 h.p., blue car;

b) often three uniformed policemen sit in it; and

c) on their cars you can read the word POLICE written in large letters in front and rear.

2) England is the only country in the world where you can leave your lights on, even if you park in a brilliantly lit-up street. The advantage is that your battery gets exhausted, you cannot start up again, and consequently the number of road accidents is reduced greatly. Safety first!

ВАРИАНТ 3

I. Перепишите предложения. Переведите их на русский язык, обращая внимание на неопределенные местоимения *some, any, no* и их производные. (§1)

1. Has anybody seen my truck tools and checking instruments? I can't find them.
2. Where is your spare wheel? – It must be somewhere in the garage.
3. I have no spare parts to repair this car or its modifications.
4. Any mechanical engineer must know everything about his machine construction and functioning.

II. Перепишите следующие предложения. Выпишите причастия, определите их функции. Переведите предложения на русский язык. (§4)

Образец: Designing new cars engineers use **advanced** technologies.-

designing – Participle I, обстоятельство

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Конструируя новые автомобили, инженеры используют передовые технологии.

1. The home-made robots that are available today serve as a sign of the future.
2. The foot brake in cars is always of four–wheel type, operating on all the wheels.
3. Stephenson's early locomotives were used to carry loads in coal mines.
4. Hybrid engines are becoming a popular option on mid-size and compact cars.

III. Перепишите следующие предложения, подчеркивая в каждом из них глагол-сказуемое. Определите видовременную форму и залог сказуемого и переведите предложения на русский язык. (§ 2)

Образец: This company **has started** to produce its vehicles in our country. **–**

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Эта компания начала производить свои автомобили в нашей стране.

1. Tomorrow this engineer will correct the program during the test on the engine.
2. In England the traffic keeps to the left, but on the continent it keeps to the right.
3. The workers have applied these operations to a wide variety of production operations.
4. Today robots are extensively used while testing some automatic devices.

IV. Перепишите следующие предложения, подчеркивая в каждом из них модальные глаголы или их эквиваленты. Переведите предложения на русский язык. (§ 3)

1. The use of this system may reduce noise transmission to the car interior.
2. Repair shop assistants must use the new tools to cut and form these metal parts.
3. Elements mounted on the engine, brakes and other hydraulic systems have to withstand a wide temperature range.
4. These instructions should be considered as a general guide to maintenance.

V. Перепишите текст и переведите его на русский язык (письменно).

THE HISTORY OF ENGINES

The first steam engine was made by Heron*, an Alexandrian philosopher and mathematician in the third century BC*. It was a metal ball, empty inside. Steam was

produced in a small boiler, it passed into the ball, making it rotate.

Some centuries later a man called Savery constructed a primitive engine to pump water out of mines. It didn't use pistons or cylinders. In the 18th century Newcomen, an English engineer, greatly improved Savery's engine. He used a piston, moving in a cylinder. The next important improvement was introduced by James Watt. His engine was able to keep a high and uniform temperature in the cylinder.

These early engines did not use the force of steam to drive the piston. The steam was used to make a vacuum and the outside air pressed the piston into the vacuum.

But not only steam engines were used in early cars. Vehicles with electrical engines were also invented. Between 1832 and 1839 Robert Anderson of Scotland invented the first electric carriage. Electric cars used rechargeable batteries that powered a small electric motor. The vehicles were heavy, slow, expensive, and needed to stop for recharging frequently.

Both steam and electric road vehicles were abandoned in favor of gasoline- powered ones. Gottlieb Daimler and Karl Benz invented highly successful and practical gasoline-powered vehicles that looked and worked like the cars we use today.

*Heron - Герон Александрийский

*BC - Before Christ – до нашей эры

ВАРИАНТ 4

I. Перепишите предложения. Переведите их на русский язык, обращая внимание на неопределенные местоимения *some, any, no* и их производные. (§1)

1. Our mechanical engineer has not any assistants.
2. Have you seen our new specialist in engine maintenance anywhere here today?
3. Our designers constructed some models for the exhibition which will take place next year.

4. Your car is not in the garage. I saw no vehicles there.

II. Перепишите следующие предложения. Выпишите причастия, определите их функции. Переведите предложения на русский язык. (§4)

Образец: Designing new cars engineers use **advanced** technologies.-

designing – Participle I, обстоятельство

advanced – Participle II, определение

Конструируя новые автомобили, инженеры используют передовые технологии.

1. There are some students in the lecture hall discussing different problems.
2. Mr. Fishman cannot receive you now. His technical expert group is testing a new sedan car.
3. Aluminum is mainly used in mechanical systems which must be light.
4. There are some new systems designed for this new BMW model.

III. Перепишите следующие предложения, подчеркивая в каждом из них глагол-сказуемое. Определите видовременную форму и залог сказуемого и переведите предложения на русский язык. (§ 2)

Образец: This company **has started** to produce its vehicles in our country. **–**

has started – Present Perfect Active

Эта компания начала производить свои автомобили в нашей стране.

1. Look, there! A man is trying to open the door of your car.
2. I have known this corporation’s engineers for many years by now.
3. We were late yesterday, as the lecture had started already.
4. The latest technology and ease of maintenance are combined in our new equipment.

IV. Перепишите следующие предложения, подчеркивая в каждом из них модальные глаголы или их эквиваленты. Переведите предложения на русский язык. (§ 3)

1. Sorry, I am late. My car broke down, and I had to wait for assistance for a long time.
2. Our specialists will be able to modify the new brake system to the model 911 Turbo.
3. You may join this expert group and visit the plant with our engineers who must be there now.
4. You should obey the rules written in this user manual.

V. Перепишите текст и переведите его на русский язык (письменно).

MACHINE TOOLS - A MEASURE OF MAN'S PROGRESS

The variety and combinations of machine tools today are unlimited. Some of them are very small and can be mounted on a work bench*, but others are so large that we have to construct special buildings to house them.

There are some basic operations at any workshop. They are transporting, turning, drilling, measuring, size controlling, etc. The main machine tool of such a workshop is the multipurpose lathe*. What is a lathe? It is a power-driven machine with special tools, which can cut or form metal parts. The metal that cuts another metal must be very hard, and so tools should be made of very hard steel alloys. The tool itself is very small in comparison with the mechanism which is to direct it.

Technological progress improves accuracy of machine tools. Today's equipment can produce parts with very high accuracy. One can find a number of machine tools that can measure and inspect the main production parameters themselves - machine tools that are to handle the parts mechanically and automatically. Such machines can hold the parts, which are to be measured and are able to indicate precise

measurements themselves. A great many of such "clever" machines can be found today in our industry.

Since machine tools become faster and easy to operate, and more complex too, automatic measurements and inspection ought to be of greater importance and precision. Automation is one of the main factors, which effect engineering and, thus, man's progress.

*work bench - верстак
*lathe – токарный станок

ВАРИАНТ 5

I. Перепишите предложения. Переведите их на русский язык, обращая внимание на неопределенные местоимения *some, any, no* и их производные. (§ 1)

1. There is somebody in the lecture-hall. It is the student of our group.
2. The new equipment we have got some weeks ago was manufactured somewhere in Europe.
3. I cannot find anybody in this repair shop. Will you call a mechanic?
4. Nobody can explain me the reason of this engine noise.

III. Перепишите следующие предложения. Выпишите причастия, определите их функции. Переведите предложения на русский язык. (§ 4)

Образец: Designing new cars engineers use **advanced** technologies.-

designing – Participle I, обстоятельство

advanced – Participle II, определение

Конструируя новые автомобили, инженеры используют передовые технологии.

1. He cut his hand while he was repairing his car in the garage.

2 The very first world motor vehicle was invented and built in 1885.

3. The model introduced in 2008 is well known for its progressive design.

4. This is a new engine type showing the highest efficiency.

III. Перепишите следующие предложения, подчеркивая в каждом из них глагол-сказуемое. Определите видовременную форму и залог сказуемого и переведите предложения на русский язык. (§ 2)

Образец: This company **has started** to produce its vehicles in our country. **–**

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Эта компания начала производить свои автомобили в нашей стране.

1. The electrical equipment controls the start of engine and the operation of its systems.

2. John Roebuck was the partner of James Watt financing his researches.

3. Modern cars have been equipped with first-aid kits.

4. Learner–drivers are not allowed to drive their own cars until they get driving license.

IV. Перепишите следующие предложения, подчеркивая в каждом из них модальные глаголы или их эквиваленты. Переведите предложения на русский язык. (§ 3)

1. Modern fuel system filters must remove rust, dust and heavy particles from fuel.

2. General Motor's light-weight composite material called SMC 3374 can withstand high temperatures.

3. Qualified engineers are to define the technological properties of these materials.

4. Any driver should give his automobile a good maintenance.

V. Перепишите текст и переведите его на русский язык (письменно).

THE EARLY DAYS OF THE AUTOMOBILE

The first self-propelled vehicle was constructed by the French engineer Cugnot (Кюньо) in 1763. He built a steam-driven vehicle which had three wheels, carried two passengers and ran at maximum speed of four miles. The car was not perfect and efficient. The supply of steam lasted only 15 minutes and the carriage had to stop every 100 yards to make more steam.

In 1825 a steam engine was built in Great Britain. The vehicle carried 18 passengers and covered 8 miles in 45 minutes. However the progress of motor cars met with great opposition in Great Britain.

From 1860 to 1900 was a period of application of gasoline engines to motor cars in many countries. Nicolaus Otto introduced the four-stroke cycle of operation. The cars of that time were very small, two-seated cars with no roof, driven by an engine placed under the seat. Drivers had to carry large cans of fuel and separate spare tires, because there were no repair or filling stations to serve them.

After the I World War it became possible to achieve greater reliability of motor cars, brakes became more efficient. Constant efforts were made to standardize common components. Multi-cylinder engines came into use; most commonly used were four-cylinder engines. So, the automobile was not invented in a single day by a single inventor.

КОНТРОЛЬНАЯ РАБОТА
ПО СПЕЦИАЛЬНОСТИ “ АГРОИНЖЕНЕРИЯ ”

ВАРИАНТ 1

I. Перепишите следующие предложения. Переведите предложения на русский язык, обращая внимание на неопределенные местоимения *some, any, no* и их производные. (§ 1)

1. He will give you some information about farm product processing in the region.
2. Any student can use these machine tools, as he knows much about them.
3. This combine meets some international standards, but not all of them.
4. No operator can tell you anything about that type of tractor.

II. Перепишите следующие предложения. Выпишите причастия, определите их функции. Переведите предложения на русский язык. (§4)

Образец: Designing new cars engineers use **advanced** technologies.-

designing – Participle I, обстоятельство

advanced – Participle II, определение

Конструируя новые автомобили, инженеры используют передовые технологии.

1. Electricity operates various automatic devices employed in industry.
2. Tomorrow these inventors will be there describing and illustrating new vehicles.
3. Today there are few specialists knowing the details of this combine and how it works.
4. These newly purchased machines required a whole crew of qualified personnel.

III. Перепишите следующие предложения, подчеркивая в каждом из них глагол-сказуемое. Определите видовременную форму и залог сказуемого и переведите предложения на русский язык. (§ 2)

Образец: This company **has started** to produce its vehicles in our country. **–**

has started – Present Perfect Active

Эта компания начала производить свои автомобили в нашей стране.

1. Einstein was the physicist who developed the theory of relativity.
2. Agricultural machines are used to till soil and to plant cereals and vegetables.
3. The production of John Deere combines will be increased next year.
4. This year Rostselmash has started to change its company's infrastructure.

IV. Перепишите следующие предложения, подчеркивая в каждом из них модальные глаголы или их эквиваленты. Переведите предложения на русский язык. (§ 3)

1. This equipment can produce and control machine parts with very high accuracy.
2. One must know and observe basic rules to prevent accidents in operating vehicles.
3. The people had to irrigate this part of the desert for crop cultivation.
4. You should control the temperature of fuel-air mixture that forms the tractor exhaust.

V. Перепишите текст и переведите его на русский язык (письменно).

AGRICULTURAL MACHINERY

Agricultural machines are used to till soil and to plant, cultivate and harvest crops. Since ancient times, when people began cultivating plants, they have used tools to help them grow and harvest crops. They used pointed tools to dig and keep soil loosened, and sharp, knife-like objects to harvest ripened crops. Modifications of these early implements led to the development of small hand tools that are still used in gardening, such as the spade, hoe, rake and trowel, and larger implements, such as ploughs and harrows that are drawn by simple machines.

Modern machinery is used extensively in Western Europe, Australia, the United States, the Russian Federation and Canada.

Modern large agricultural implements, adapted to large-scale farming methods, are usually powered by diesel- or petrol-fuelled internal combustion engines. The most important implement of modern agriculture is the tractor. It provides power, via its power shaft *, for the operation of machines drawn behind the tractor.

The PTO shafts of tractors can also be set up to drive belts that operate equipment such as feed grinders, pumps, and electric-power generators. Small implements, such as portable irrigators, may be powered by individual motors.

Use of agricultural machinery reduces the amount of human labour needed for growing and harvesting crops.

*power shaft = PTO shaft – вал отбора мощности

ВАРИАНТ 2

I. Перепишите следующие предложения. Переведите предложения на русский язык, обращая внимание на неопределенные местоимения *some, any, no* и их производные. (§ 1)

1. Can you tell me something about the specialists who work on this farm?
2. This model of a combine harvester was designed somewhere in the United States or Britain.
3. All these dairy machines are in good condition. You can use any of them on your farm.
4. This type of engine has almost no disadvantages.

II. Перепишите следующие предложения. Выпишите причастия, определите их функции. Переведите предложения на русский язык. (§ 4)

Образец: Designing new cars engineers use **advanced** technologies.-

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advanced – Participle II, определение

Конструируя новые автомобили, инженеры используют передовые технологии.

1. The petrol is pumped from the main tank to the small chamber, located above the cylinder.
2. When used on heavy soils track type tractors show good performance.
3. The CLAAS Company has started to produce its farm machinery in Russia.
4. Length, capacity and weight can be measured using standard units of the International System.

III. Перепишите следующие предложения, подчеркивая в каждом из них глагол-сказуемое. Определите видовременную форму и залог сказуемого и переведите предложения на русский язык. (§ 2)

Образец: This company **has started** to produce its vehicles in our country. **–**

has started – Present Perfect Active

Эта компания начала производить свои автомобили в нашей стране.

1. Agricultural machines are used to till soil and to plant cereals and vegetables.
2. Every time we receive a new combine, there are some problems with documents.
3. You will see the modern farm equipment as soon as you come to our factory.
4. By the end of last year new cultivators had been bought by our farm.

IV. Перепишите следующие предложения, подчеркивая в каждом из них модальные глаголы или их эквиваленты. Переведите предложения на русский язык. (§ 3)

1. The Don harvester can overcome steep slopes and work in rice fields.
2. I understand your farm situation perfectly. You needn't explain any further.
3. Jack ought not to go to bed so late: he is to pass exam tomorrow.
4. Unauthorized personnel must not be permitted to operate complex machinery.

V. Перепишите текст и переведите его на русский язык (письменно).

IMPLEMENTS FOR GROWING CROPS

Many types of implements have been developed for the activities involved in growing crops. These activities include breaking ground, planting, weeding, fertilizing, and combating pests.

Ground is broken by ploughs to prepare the seed-bed. A plough consists of a blade-like ploughshare that cuts under, then lifts, turns, and pulverizes the soil. Modern tractor ploughs are usually equipped with two or more ploughshares so that a wide area of ground can be broken at a single sweep. Harrows are used to smooth the ploughed land and sometimes to cover seeds and fertilizer with earth. The disc harrow, which has curved, sharp-edged steel discs, is used mainly to cut up crop residues before ploughing and to bury weeds during seed-bed preparation.

Rollers with V- shaped wheels break up clods of soil to improve the aeration of the soil and its capacity for taking in water.

Some cereal crops are still planted by scattering the seeds over a wide area. Specialized implements called planters are used for sowing crops that are planted in rows, such as maize. After crops have begun to grow, a cultivator is used to destroy weeds and aerate the soil. So, use of agricultural machinery substantially reduces the amount of human labour needed for growing crops.

ВАРИАНТ 3

I. Перепишите следующие предложения. Переведите предложения на русский язык, обращая внимание на неопределенные местоимения *some, any, no* и их производные. (§ 1)

1. This device hasn't any disadvantages, for it is our new modification launched last year.
2. If there are some new words in this text on tractors, use a dictionary.
3. I have no money, so I cannot buy anything now.
4. The new implement is so simple that anyone can attach or remove it from the combine.

II. Перепишите следующие предложения. Выпишите причастия, определите их функции. Переведите предложения на русский язык. (§ 4)

Образец: Designing new cars engineers use **advanced** technologies.-

designing – Participle I, обстоятельство

advanced – Participle II, определение

Конструируя новые автомобили, инженеры используют передовые технологии.

1. Mendeleyev is known for his development of the Periodic table.
2. Tomorrow these inventors will be on the plant describing and illustrating new vehicles.

3. Performing all kinds of work this tractor type can be used for a wide range of tasks.
4. When grown in mild climatic conditions bean crops give high yields.

III. Перепишите следующие предложения, подчеркивая в каждом из них глагол-сказуемое. Определите видовременную форму и залог сказуемого и переведите предложения на русский язык. (§ 2)

Образец: This company **has started** to produce its vehicles in our country. **–**

has started – Present Perfect Active

Эта компания начала производить свои автомобили в нашей стране.

1. Our engineers are currently working at the tractor engine design improvements.
2. The horse on farms was replaced by a primitive tractor.
3. Designing a new device the engineers carry out a lot of tests.
4. The production of John Deere combines will be increased next year.

IV. Перепишите следующие предложения, подчеркивая в каждом из них модальные глаголы или их эквиваленты. Переведите предложения на русский язык. (§ 3)

1. Fertilizers can be applied during the winter months or shortly before seeding in spring.
2. You should enter the Agricultural University in Moscow.
3. Steels and its products may be used in different branches of industry and agriculture.
4. You are to be a good specialist in farm mechanization.

V. Перепишите текст и переведите его на русский язык (письменно).

THE MODERN FARM TRACTOR

Tractors may be classified according to type of engine, how the fuel gets into the cylinder. An internal combustion engine is one in which the fuel is burned, and the

power is generated within a closed cylinder. An external combustion engine is one in which the fuel is burned outside of the cylinder, and the power generated is released through the cylinder.

The engine used may be of two or four cycles, single or multiple cylinder, low, medium or high compression. It requires constant, systematic care and maintenance for the greatest efficiency and long life.

The modern farm tractor is the result of many years of development. Its present efficiency is possible because of engineering progress in design, metallurgy, fuels, lubricants, manufacturing methods and in many other respects.

The farm tractor is capable of working long hours at capacity loads in the heat and dust of summer or in the cold and snow of winter. Long continued good performance depends upon the operator. A careless operator can allow tractor motor to ruin itself in a few minutes, whereas a careful operator can prolong indefinitely the useful life and efficiency of a similar motor. Small difficulties are to be prevented from becoming large ones, which may be time consuming and expensive.

ВАРИАНТ 4

I. Перепишите следующие предложения. Переведите предложения на русский язык, обращая внимание на неопределенные местоимения *some, any, no* и их производные. (§ 1)

1. Some of these farm machines are not in good condition.
2. This machine is very easy to use. Anyone can learn how to operate it.
3. Has your farm any new soil cultivating implements?
4. This load-lifting machine can be used anywhere in farm and municipal activity.

II. Перепишите следующие предложения. Выпишите причастия, определите их функции. Переведите предложения на русский язык. (§ 4)

Образец: Designing new cars engineers use **advanced** technologies.-

designing – Participle I, обстоятельство

advanced – Participle II, определение

Конструируя новые автомобили, инженеры используют передовые технологии.

1. The Internet technology was suggested and developed by Vinton Cerf in 1973.
2. It is important to know plant structure making the feeds for dairy cows.
3. The clutch installed in our typical tractors may be operated by means of a foot pedal.
4. The first steam engine in England was used when pumping water from local wells.

III. Перепишите следующие предложения, подчеркивая в каждом из них глагол-сказуемое. Определите видовременную форму и залог сказуемого и переведите предложения на русский язык. (§ 2)

Образец: This company **has started** to produce its vehicles in our country. **–**

has started – Present Perfect Active

Эта компания начала производить свои автомобили в нашей стране.

1. Every year the plant plans to make 1.700 tractors that will drive field machines later.
2. The assembly-line production of cars was invented by Henry Ford.
3. This machine has not worked for years, as nobody can fix it for our farm.
4. An improved model of a light tractor was recently presented by the Ford Company.

IV. Перепишите следующие предложения, подчеркивая в каждом из них модальные глаголы или их эквиваленты. Переведите предложения на русский язык. (§ 3)

1. These methods may be carried out in various ways in our region.
2. Agricultural machines are to operate under very harsh conditions.
3. Every owner of a truck must know general principles of its work.
4. Parks and gardens can grow and bring fruits even on poor soils of extreme north.

V. Перепишите текст и переведите его на русский язык (письменно).

IMPLEMENTS FOR HARVESTING CROPS

Most cereal crops are harvested by using a combine – a machine that removes the fruiting heads, beats off the grain kernels, and cleans the grain as the combine moves through the fields. The cleaned grain is accumulated in an attached grain tank.

Wheat and other cereal crops are harvested by a combine which, as it moves along the rows, picks the ears from the stalks and husks them. The ears are then transferred either to a sheller, which removes the kernels from the ear, or to a vehicle trailing behind the machines.

Hay harvesting usually requires several steps. First, the hay is cut close to the ground with a mover. After drying in the sun, most hay is baled. In baling, the pick- up baler lifts the hay to a conveyor that carries it to a baling chamber, which compresses the hay into bales weighing up to 57 kg or more and ties each bale with heavy twine or wire.

Specialized machinery is also used to harvest large root crops such as potatoes and sugar beet and to harvest fruits and vegetables. Some mechanical fruit-pickers that are used to harvest tree fruits, such as plums, cherries, and apricots shake the fruit tree, causing the fruit to fall on to a raised catching frame that surrounds the tree.

Due to the use of agricultural machinery the average amount of labour per hectare to produce and harvest crops has fallen to a quarter of what was required a few decades ago.

ВАРИАНТ 5

I. Перепишите следующие предложения. Переведите предложения на русский язык, обращая внимание на неопределенные местоимения *some, any, no* и их производные. (§ 1)

1. All these dairy machines are in good condition. You can use any of them on your farm.
2. Could you name some advantages of this model of a reversible plow over other ones?
3. Anybody knows that man. He is a famous inventor of farm implements.
4. This harvesting machine has no modifications.

II. Перепишите следующие предложения. Выпишите причастия, определите их функции. Переведите предложения на русский язык. (§ 4)

Образец: Designing new cars engineers use **advanced** technologies.-

designing – Participle I, обстоятельство

advanced – Participle II, определение

Конструируя новые автомобили, инженеры используют передовые технологии.

1. Our farm has modernized its worn-out combine and a couple of tractors too.
2. Reading foreign agricultural journals we learn more about new farm machinery.
3. On combine harvesters the engine and the transmission are mounted to a rigid frame.
4. There are a lot of innovative projects dealing with farm machinery coming next month.

III. Перепишите следующие предложения, подчеркивая в каждом из них глагол-сказуемое. Определите видовременную форму и залог сказуемого и переведите предложения на русский язык. (§ 2)

Образец: This company **has started** to produce its vehicles in our country. **–**

has started – Present Perfect Active

Эта компания начала производить свои автомобили в нашей стране.

1. These hay conditioning machines work fast and can turn a wide stripe of material easily.
2. Advanced technology has given us a machine that is very flexible - a combine.
3. In 1940 primitive self-propelled harvesting machines came into popular use.

4. The combine will be modified as soon as engineers agree on all the construction points.

IV. Перепишите следующие предложения, подчеркивая в каждом из них модальные глаголы или их эквиваленты. Переведите предложения на русский язык. (§ 3)

1. A significant change in one area of the combine may cause problems in other areas.
2. Because of high speeds and heavy load parts rapidly wear out and cars have to be repaired.
3. When designing this harrow, the engineer ought to consider many points.
4. This combine part can be attached or removed in a few minutes by one man.

V. Перепишите текст и переведите его на русский язык (письменно).

HISTORY OF AGRICULTURAL MACHINERY

From the earliest time people have been trying to develop better tools for tilling, more efficient methods of using the land.

Man required some 10, 000 years to learn to make bread. And, until the 19th century, man's tools for tilling the soil remained mainly unchanged—the sharpened stick, the simple hoe, the crude plow.

In the middle of the 18th century farmers tried a device to ease their lives. That was the moldboard plow which was designed to eliminate weeds, by turning over a thick layer of earth. It remained unchanged for the next century, although the steel plow was introduced in 1837.

But progress in the design of other farming implements and tools advanced steadily. In 1831 the reaper appeared. In 1839 came disk plows. The year 1869 saw the appearance of the mechanical corn planter.

The first combine was built in 1836 and commercial production of combines started in the 1880's.

Of greatest significance, however, was the development of mechanical power for farm work. The most far-reaching invention for agriculture was the gasoline engine mounted on a farm tractor. This combination appeared as the 20th century opened. Today, the farmer has a wide range of tractor makes — gasoline and diesel, with engines varying from 20 h. p. to 400 h. p. With this efficient power, the farmer is able to plow and disk, to harrow, to plant, to fertilize, and finally to harvest faster, easier and more profitably.

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ПРИЛОЖЕНИЯ

Приложение А

ГРАММАТИЧЕСКИЙ СПРАВОЧНИК

Неправильные (нестандартные) глаголы

Infinitive (I форма)	Past Indefinite (II форма)	Participle II (III форма)	Перевод
be	was, were	been	быть
become	became	become	становиться
begin	began	begun	начинать (ся)
break	broke	broken	ломать
bring	brought	brought	приносить
build	built	built	строить
burn	burnt	burnt	гореть, жечь
buy	bought	bought	покупать
choose	chose	chosen	выбирать
come	came	come	приходить
cut	cut	cut	резать
do	did	done	делать
draw	drew	drawn	тащить, рисовать
drink	drank	drunk	пить
drive	drove	driven	везти, ехать
eat	ate	eaten	есть
fall	fell	fallen	падать
feel	felt	felt	чувствовать
fight	fought	fought	бороться
find	found	found	находить
fly	flew	flown	летать
forget	forgot	forgotten	забывать

get	got	got	получать, становиться
give	gave	given	давать
go	went	gone	идти, ехать
grow	grew	grown	расти, выращивать
hang	hung	hung	вешать
have	had	had	иметь
hear	heard	heard	слышать
hold	held	held	держать
keep	kept	kept	хранить
know	knew	known	знать
lead	led	led	вести
learn	learnt, learned	learnt, learned	учить(ся)
leave	left	left	оставлять
let	let	let	позволять
light	lit	lit	зажигать
lose	lost	lost	терять
make	made	made	делать
mean	meant	meant	значить
meet	met	met	встречать
put	put	put	класть
read	read [red]	read [red]	читать
ring	rang	rung	звонить
run	ran	run	бежать
say	said	said	сказать, говорить
see	saw	seen	видеть
sell	sold	sold	продавать
send	sent	sent	посылать
set	set	set	устанавливать
show	showed	shown	показывать
shut	shut	shut	закрывать

sing	sang	sung	петь
sit	sat	sat	сидеть
sleep	slept	slept	спать
speak	spoke	spoken	говорить
spend	spent	spent	тратить, проводить
stand	stood	stood	стоять
swim	swam	swum	плавать
take	took	taken	брать
teach	taught	taught	учить, обучать
tell	told	told	сказать
think	thought	thought	думать
throw	threw	thrown	бросать
understand	understood	understood	понимать
win	won	won	выигрывать
write	wrote	written	писать

§1. Употребление неопределенных местоимений «some, any, no» и их производных.

Тип предложения	Местоимение	Перевод
Утвердительное	some	некоторый, несколько, какой-то
	somebody, someone	кто-то
	something	что-то
	somewhere	где-то, куда-то
	every	каждый, всякий
	everybody, everyone	каждый, всякий, все
	everything	всё
	everywhere	везде, всюду
	any	любой, всякий
	anybody	каждый, любой
	anything	всё, что угодно
	anywhere	где угодно, куда угодно
Вопросительное	any	какой-нибудь
	anybody, anyone	кто-нибудь
	anything	что-нибудь
	anywhere	где-нибудь, куда-нибудь
Отрицательное	no	никакой
	nobody, no one	никто
	nothing	ничто
	nowhere	нигде, никуда

§ 2. TENSE FORMS

ACTIVE VOICE

Времена активного (действительного) залога

	SIMPLE Простое (факт действия)	**CONTINUOUS Длительное (процесс действия)**	**PERFECT Совершенное (результат действия)**	**PERFECT CONTINUOUS Длительно-совершенное**
PRESENT Настоящее	***1V, Vs*** I **do** my homework. *Я **делаю** домашнюю работу (обычно)* **Tense markers:** usually**,** every day, regularly, always, seldom, rarely, sometimes	***am, is, are+Ving*** I **am doing** my homework. *Я **делаю** домашнюю работу (сейчас)* **Tense markers:** now, currently, at the moment	***have,has+3V*** I **have done** my homework. *Я **сделал** домашнюю работу (уже)* **Tense markers:** already, just, lately, recently, never	***have, has been+Ving*** I **have been doing** my homework. *Я **делаю** домашнюю работу (уже 2 часа)* **Tense markers:** for two hours, since I came home
PAST Прошедшее	***2V, Ved*** I **did** my homework. *Я **(с)делал** домашнюю работу (вчера)…*	***was, were+Ving*** I **was doing** my homework. *Я **делал** домашнюю работу (в тот момент)*	***had + 3V*** I **had done** my homework. *Я **сделал** домашнюю работу (к тому моменту)*	***had been+Ving*** I **had been doing** my homework. *Я **делал** домашнюю работу (2 часа пока…)*

	Tense markers: yesterday, the day before yesterday, last week, two days ago	**Tense markers:** at this time yesterday, at 8 p.m. yesterday, when my friend called me, while my mother was cooking dinner	**Tense markers:** by 10 p.m. yesterday, when you rang me up, before the soccer match began, etc.	**Tense markers:** for two hours before my friend came to me
FUTURE **Будущее**	***will +1V*** **I will do** my homework. ***Я сделаю, буду делать*** *домашнюю работу (завтра)* **Tense markers:** tomorrow, the day after tomorrow, next week, etc.	***will be + Ving*** I **will be doing** my homework. *Я **буду делать** домашнюю работу (в тот момент)* **Tense markers:** at this time tomorrow, at 8 p.m. tomorrow,	***will have+3V*** I **will have done** my homework. *Я **сделаю** домашнюю работу (к тому моменту)* **Tense markers:** by 10 p.m. tomorrow, when you come to me, before the soccer match begins, etc.	***will have been+ Ving*** **I will have been doing** my homework. *Я **буду делать** домашнюю работу (два часа до того, как лягу спать)* **Tense markers:** for two hours before I go to bed.

§2. PASSIVE VOICE

Времена пассивного (страдательного) залога

	SIMPLE **Простое**	**CONTINUOUS** **Длительное**	**PERFECT** **Совершенное**
PRESENT	***am,is,are+3V(Ved)*** My homework **is done.** *Моя домашняя работа* ***выполняется***	***am,is,are+being+3V (Ved)*** My homework **is being done.** *Моя домашняя работа* ***выполняется.***	***have, has +been+3V(Ved)*** My homework **has been done.** *Моя домашняя работа* ***выполнена.***
PAST	***was,were+3V(Ved)*** My homework **was done.** *Моя домашняя работа* ***была выполнена.***	***was, were +being+3V(Ved)*** My homework **was being done.** *Моя домашняя работа* ***выполнялась.***	***had+been+3V(Ved)*** My homework **had been done.** *Моя домашняя работа* ***была выполнена.***
FUTURE	***will+be+3V(Ved)*** My homework **will be done.** *Моя домашняя работа* ***будет выполнена.***	____	***will+have+been+3V (Ved)*** My homework **will have been done.** *Моя домашняя работа* ***будет выполнена.***

§ 3. **МОДАЛЬНЫЕ ГЛАГОЛЫ**

НАСТОЯЩЕЕ ВРЕМЯ	**ПРОШЕДШЕЕ ВРЕМЯ**	**БУДУЩЕЕ ВРЕМЯ**
1.**CAN –** 1) уметь, мочь 2) возможно **am, is, are able to-** быть в состоянии	**COULD – мог, могли** **was, were able to –** был(и) в состоянии	**will be able to** – сможет, будет в состоянии
2.**MAY -**1) мочь 2) может быть **am, is, are allowed to -** иметь разрешение	**MIGHT –** мог, могли **was, were allowed to** – мог, могли; имел(и) разрешение	**will be allowed to –** сможет (смогут)
3.**MUST** – 1) должен, обязан 2) должно быть, вероятно		
4.**HAVE TO/HAS TO** – должен, приходится	**HAD TO –** должен был, должны были	**will have to** - должен будет должны будут
5.**BE TO** **(am, is, are to)** - должен (по плану, ïî ðàñïèñàíèþ)	**WAS TO -** должен был WERE TO – должны были	
6. SHOULD – следует рекомендуется,		
7. **OUGHT TO –** должен, обязан		

§ 4. **ПРИЧАСТИЯ (PARTICIPLES)**

Функция в предложении	**Participle I (Причастие I) V+ing**	**Participle II (Причастие II) правильные гл. – Ved неправильные гл. – 3V**
Определение (стоит перед или после *определяемого существительного*)	A runn**ing** *engine* - Работа**ющ**ий двигатель. *Engine* runn**ing** on gas – Двигатель, работа**ющ**ий на газе.	A crash**ed** car – разби**т**ый автомобиль. A car **bought** last year– Автомобиль, купл**енн**ый в прошлом году.
Обстоятельство (стоит в начале или середине предложения, часто после союзов *when, while)*	Driv**ing** his car he usually obeys the rules. – Управл**яя** своим автомобилем (при управлении…), он обычно соблюдает правила.	*When* **equipped** with ABS, a car becomes safer. – **Когда автомобиль оснащен АБС,** он становится безопасней. Или - **Оснащенный АБС**, автомобиль безопаснее.
Часть сказуемого (стоит после вспомогательного глагола)	Участвует в образовании времен группы Continuous **be + Participle I (Ving)** He **is repairing** his car now. - Он **ремонтирует** свой автомобиль сейчас.	Участвует в образовании: 1) времен группы Perfect **have + Participle II** He **has** already **repaired** his car. – Он уже **отремонтировал** свой автомобиль. 2) страдательного залога **be + PII** His car **was repaired** yesterday. - Его автомобиль **был отремонтирован** вчера.

Приложение Б

СЛОВАРНЫЙ МИНИМУМ

1.	vehicle	транспортное средство
2.	lorry, a truck	грузовик
3.	assembly line	конвейер
4.	car, an automobile	автомобиль
5.	body	корпус, кузов
6.	tip – up lorry (dump truck)	самосвал
7.	cross – country vehicle	внедорожное транспортное средство
8.	capacity	мощность, вместимость, объем
9.	load , cargo	груз
10.	drive	управлять, ехать
11.	drive	привод
12.	wheel	колесо
13.	axle	ось
14.	suspension	подвеска
15.	produce	производить
16.	traffic	движение, транспорт
17.	safety	безопасность
18.	fuel	топливо
19.	petrol, gasoline	бензин
20.	tyre (tire)	шина
21.	repair	ремонтировать
22.	gear box	коробка передач
23.	lever	рычаг
24.	dashboard	панель приборов
25.	frame	рама
26.	seat	сиденье

27.	windshield (windscreen)	лобовое стекло
28.	engine	двигатель
29.	stroke	ход, такт
30.	valve	клапан
31 .	piston	поршень
32.	adjust	регулировать
33.	switch on	включать
34.	switch off	выключать
35.	design	конструкция
36.	device	прибор, механизм
37.	implement	орудие
38.	install	устанавливать
39.	tractor	тягач, трактор
40.	h.p. (horse power)	лошадиная сила
41.	shop	цех, мастерская
42.	equip	оборудовать, оснащать
43.	maintenance	техническое обслуживание
44.	efficiency	эффективность, коэффициент полезного действия
45.	break	ломать, нарушать
46.	driving license	водительские права
47.	road	дорога
48.	test	испытывать
49.	spare part	запасная часть
50.	accident	авария

Приложение В

ЭКЗАМЕНАЦИОННЫЕ ТЕМЫ

1. ABOUT MYSELF AND MY FAMILY

1) Let me introduce myself and my family.
2) My name / first name is …
3) My surname / last name is …
4) I am … (years old).
5) I was born on the … of …, 1992.
6) I am from Kirov (from the town of Urzhum/ from the settlement of …/ from the village of …, Lusa district, Kirov region).
7) Now I am a student of the Vyatka State Agricultural Academy.
8) I am a first/second/third-year student.
9) I am a part-time student.
10) I study at the Faculty of Engineering.
11) I am going to become an engineer.
12) As for my family it is large / not large / small /.
13) We are four: my mother, my father, my elder/younger brother/sister, (my husband, my wife, my son, my daughter) and me.
14) My mother's (father's) name is …
15) She (He) is … (years old).
16) She (He) is an engineer (works as an engineer).
17) My younger brother / sister / son / daughter is a schoolboy/schoolgirl.
18) My elder bother/sister is married.
18) My family is loving and friendly.
19) I have some hobbies:

driving – ездить на машине

fishing – рыбачить

going to the cinema/theatre – ходить в кино/театр

hunting – охотиться

meeting friends – встречаться с друзьями

playing computer games – играть в компьютерные игры

reading – читать

doing sports – заниматься спортом

going to the gym – ходить в спортзал

surfing the Internet – сидеть в Интернете

travelling – путешествовать

watching TV – смотреть телевизор

spending time with my family – проводить время с семьей

20) I hope to get a good education and to become a qualified specialist.

21) I dream of …

finding an interesting and well-paid job – найти интересную и высокооплачиваемую работу

having a big and happy family – иметь большую и счастливую семью

starting my own business – начать свой собственный бизнес

Words

Let me	Разрешите мне
to introduce oneself	представиться
to be born	родиться
settlement	посёлок
village	деревня
district	район
first(second/third)-year student	студент первого (второго, третьего) курса
full-time student	студент очной формы обучения
part-time student	студент заочной формы обучения
to be going to	собираться сделать что-то
to become	стать, становиться
as for	что касается
to work as	работать кем-то
to consist of	состоять из
to be married	быть женатым, замужней
to hope	надеяться
to get an education	получить образование
to dream of	мечтать
to find	найти, находить
a well-paid job	высокооплачиваемая работа
own	собственный

2. ENGINEERING FACULTY

The Faculty of Farm Mechanization was founded in 1952. In 1998 it was renamed the Engineering Faculty. Young people study at the faculty in the day-time and by correspondence. The course of study is four years. After that the students get a bachelor degree. There are also master's programs and a post-graduate course.

The students are trained in such specialties as:

«Farm engineering»;

«Automobiles and auto service».

The teachers of 5 chairs train the future engineers. Among them are professors, doctors of science, associate professors and candidates of science. They teach the students such subjects as Mathematics, Physics, Drawing, Foreign Languages, Theoretical Mechanics, Strength of Materials and others.

At the Academy the students get skills of metalwork, turning, welding and qualifications of the driver and tractor operator. Students have their practice in agricultural, industrial, repairing, auto-servicing and other enterprises.

After graduating from the faculty young specialists work in the field of operating, servicing, designing and modernizing different kinds of machinery and equipment; as engineers, chief engineers and heads of farms, food industry enterprises and repair-technical enterprises.

Words

to found	основывать, учреждать
bachelor	бакалавр
master	магистр
extreme situation	чрезвычайная ситуация, авария
scientific	научный
associate professor	доцент
Strength of Materials	сопротивление материалов

Drawing	инженерная графика
foreign languages	иностранные языки
to operate	работать, управлять
skills	умения
metalwork	слесарное дело
turning	токарное дело
welding	сварка
enterprise	предприятие
graduate	выпускник
post-graduate course	аспирантура
designing	разработка
machinery	техника
equipment	оборудование

3. KIROV

Kirov region is one of the largest in our country. It borders on Perm and Nizhni Novgorod regions, Komi, Tatarstan, Mari Al and Udmurt Republics. Kirov region is rich in water and mineral resources, such as natural gas, oil, peat, timber, metals and others.

Kirov is the centre of Kirov region. It was founded in 1374. Its ancient names were Khlynov and Vyatka. In 1934 it was renamed Kirov.

Vyatka land gave birth to many great sons of Russia. They are artists Vasnetsovs, singer Shalyapin, actor Chirkov, writers Likhanov, Krupin, Olympic champions Maltsev, Myshkin and others.

Many outstanding people were in exile in Vyatka. Among them are writers M. Saltykov-Shchedrin, A. Hertsen, V. Korolenko, Alexander Grin; architect Vitberg.

We are proud of our war heroes. Among them are famous marshals I.Konev, L. Govorov, K.Vershinin, thousands of soldiers and officers as well.

The numerous industrial enterprises in Kirov produce timber, fur, washing machines, furniture, tires, textiles, toys, skis, foodstuffs and other goods.

Kirov is a cultural centre. There are Drama Theatre, The Theatre in Spasskaya Street and the Puppet Theatre ; among the museums are the Art Museum named after brothers Vasnetsovs and the Museum of Regional Studies.

There are some higher educational institutions in our town. Kirov State Medical Academy, the Vyatka State Agricultural Academy and the Vyatka State University turn out many skilled specialists every year.

There are many places of interest in our town. The Theatre Square, the Diorama, the Circus, the Philharmonic Concert Hall, a number of parks and clubs are popular with townspeople. Such sights as Alexander Grin Embankment with the Eternal Fire and a Monument to the Heroes of the Great Patriotic War, the Exhibition Hall and the old part of the town with its ancient buildings are worth seeing.

Kirov is growing from day to day.

Words

region	область
borders on	граничит
peat	торф
was founded	был основан
writer	писатель
architect	архитектор
give birth	дать жизнь, родить
artist	художник
as well	а также
enterprise	предприятие

timber	древесина
fur	мех
washing machine	стиральная машина
furniture	мебель
tire	шина
cultural	культурный
The Museum of Regional Studies	краеведческий музей
scientific	научный
University of Humanities	гуманитарный университет
Puppet theatre	кукольный театр
townspeople	жители города
Circus	цирк
sight	достопримечательность
Eternal Fire	Вечный огонь
Exhibition Hall	выставочный зал
ancient	древний
worth seeing	стоит посмотреть

Приложение Г

ТЕКСТЫ ДЛЯ ДОПОЛНИТЕЛЬНОГО ЧТЕНИЯ

Text 1. Deere and Company (2961)

Deere & Company, commonly known by its brand name **John Deere**, is an American corporation based in Moline, Illinois, and one of the largest manufacturers of agricultural machinery in the world. In 2012, it was listed as 97th in the Fortune 500 America's ranking and 348th in the Fortune Global 500 ranking. Deere and Company agricultural products, sold under the John Deere name, include tractors, combine harvesters, cotton harvesters, balers, planters/seeders, sprayers, and ATVs (all-terrain vehicles). The company is also a manufacturer of construction equipment and forestry equipment, as well as a supplier of diesel engines and drivetrains (axles, transmissions, gearboxes) used in heavy equipment. Additionally, John Deere manufactures equipment used in lawn, grounds, and turf care, such as lawn mowers, zero-turn lawn mowers, lawn tractors, and snow throwers. To support the core businesses, John Deere also provides financial services and other related activities.

The company's slogan is "Nothing Runs Like a Deere" and has a picture of a leaping deer as a logo a word play pun on "nothing runs like a deer". Bob Wright, a copywriter at the Gardner Agency in St. Louis, Missouri, coined the phrase "Nothing Runs Like a Deere" for a marketing campaign to sell snowmobiles. The company's products are also identifiable by its distinctive shade of green paint, usually augmented by yellow trim.

20th century

Increased competition during the early 1900s from the new International Harvester Company led the company to expand its offerings in the implement business, but it was the production of gasoline tractors which would come to define Deere & Company's operations during the twentieth century.

In 1912, Deere & Company president William Butterworth, who had replaced Charles Deere after his death in 1907, began the company's expansion into the tractor

business. Deere & Company briefly experimented with its own tractor models, the most successful of which was the Dain All-Wheel-Drive, but in the end decided to continue its foray into the tractor business by purchasing the Waterloo Gasoline Engine Company in 1918, which manufactured the popular Waterloo Boy tractor at its facilities in Waterloo, Iowa. Deere & Company continued to sell tractors under the Waterloo Boy name until 1923, when the John Deere Model D was introduced. The company still manufactures most of its tractors in Waterloo, Iowa. On an episode of the Travel Channel series "Made in America" that profiled Deere & Company, host John Ratzenberger stated that the company never repossessed any equipment from American farmers during the Great Depression.

21st century

In 2006 Deere & Company employs approximately 49,000 people in 27 countries worldwide, including the United States, Australia, Turkey, Canada, United Kingdom, China, France, Germany, Spain, Italy, India, Poland, Mexico, Argentina, Brazil, Morocco and South Africa, among many others and is the largest agriculture machinery company in the world. Inside the United States, the company's primary locations are its administrative center in Moline, Illinois and manufacturing factories in central and southeastern United States.

Products

John Deere manufactures a wide range of products, with several models of each in many cases.

Agricultural equipment

Agricultural products include, amongst others, tractors, combine harvesters, cotton harvesters, balers, planters/seeders, sillage machines, and sprayers

Text 2. Agricultural Machinery (3044)

Agricultural machinery is machinery used in the operation of an agricultural area or farm.

History

With the coming of the Industrial Revolution and the development of more complicated machines, farming methods took a great leap forward. Instead of harvesting grain by hand with a sharp blade, wheeled machines cut a continuous swath. Instead of threshing the grain by beating it with sticks, threshing machines separated the seeds from the heads and stalks. The first tractors appeared in the late 19th century.

Steam power

Power for agricultural machinery was originally supplied by horses or other domesticated animals. With the invention of steam power came the portable engine, and later the traction engine, a multipurpose, mobile energy source that was the ground-crawling cousin to the steam locomotive. Agricultural steam engines took over the heavy pulling work of horses, and were also equipped with a pulley that could power stationary machines via the use of a long belt.

The steam-powered machines were low-powered by today's standards but, because of their size and their low gear ratios, they could provide a large drawbar pull. Their slow speed led farmers to comment that tractors had two speeds: "slow, and damn slow."

Internal combustion engines

The internal combustion engine; first the petrol engine, and later diesel engines; became the main source of power for the next generation of tractors. These engines also contributed to the development of the self-propelled, combined harvester and thresher, or combine harvester (also shortened to 'combine'). Instead of cutting the grain stalks and transporting them to a stationary threshing machine, these combines cut, threshed, and separated the grain while moving continuously through the field.

Types

Combines might have taken the harvesting job away from tractors, but tractors still do the majority of work on a modern farm. They are used to pull implements—machines that till the ground, plant seed, and perform other tasks.

Tillage implements prepare the soil for planting by loosening the soil and killing weeds or competing plants. The best-known is the plow, the ancient implement that

was upgraded in 1838 by John Deere. Plows are now used less frequently in the U.S. than formerly, with offset disks used instead to turn over the soil, and chisels used to gain the depth needed to retain moisture. The most common type of seeder is called a planter, and spaces seeds out equally in long rows, which are usually two to three feet apart. Some crops are planted by drills, which put out much more seed in rows less than a foot apart, blanketing the field with crops. Transplanters automate the task of transplanting seedlings to the field. With the widespread use of plastic mulch, plastic mulch layers, transplanters, and seeders lay down long rows of plastic, and plant through them automatically.

After planting, other implements can be used to cultivate weeds from between rows, or to spread fertilizer and pesticides. Hay balers can be used to tightly package grass or alfalfa into a storable form for the winter months.

Modern irrigation relies on machinery. Engines, pumps and other specialized gear provide water quickly and in high volumes to large areas of land. Similar types of equipment can be used to deliver fertilizers and pesticides. Besides the tractor, other vehicles have been adapted for use in farming, including trucks, airplanes, and helicopters, such as for transporting crops and making equipment mobile, to aerial spraying and livestock herd management.

TEXT 3. Automobile safety (2474)

Automobile safety is the study and practice of design, construction, equipment and regulation to minimize the occurrence and consequences of automobile accidents. Road traffic safety more broadly includes roadway design.

Active and passive safety

The terms "active" and "passive" are simple but important terms in the world of automotive safety. "Active safety" is used to refer to technology assisting in the prevention of a crash and "passive safety" to components of the vehicle (primarily airbags, seatbelts and the physical structure of the vehicle) that help to protect occupants during a crash.

Crash avoidance

Crash avoidance systems and devices help the driver — and, increasingly, help the vehicle itself — to avoid a collision. This category includes:

• The vehicle's headlamps, reflectors, and other lights and signals

• The vehicle's mirrors

• The vehicle's brakes, steering, and suspension systems

Driver assistance

A subset of crash avoidance is driver assistance systems, which help the driver to detect obstacles and to control the vehicle. Driver assistance systems include:

• Automatic Braking systems to prevent or reduce the severity of collision.

• Infrared night vision systems to increase seeing distance beyond headlamp range

• Adaptive headlamps control the direction and range of the headlight beams to light the driver's way through curves and maximize seeing distance without partially blinding other drivers

• Reverse backup sensors, which alert drivers to difficult-to-see objects in their path when reversing

• Backup camera

• Adaptive cruise control which maintains a safe distance from the vehicle in front

• Lane departure warning systems to alert the driver of an unintended departure from the intended lane of travel

• Tire pressure monitoring systems or Deflation Detection Systems

• Traction control systems which restore traction if driven wheels begin to spin

• Electronic Stability Control, which intervenes to avert an impending loss of control

• Anti-lock braking systems

• Electronic brakeforce distribution systems

• Emergency brake assist systems

• Cornering Brake Control systems

• Pre-crash system

• Automated parking system

• Obstacle detection sensor systems notify a driver how close their vehicle is to an object - usually providing a distance measurement, to the inch, as to how close they are.

Pedestrian safety

Automobiles are much more dangerous to pedestrians than they are to drivers and passengers. Two-thirds of 1.3 million yearly auto related deaths are pedestrians.Since at least the early 1970s, attention has also been given to vehicle design regarding the safety of pedestrians in car-pedestrian collisions. Proposals in Europe would require cars sold there to have a minimum/maximum hood (bonnet) height. From 2006 the use of "bull bars", a fashion on 4x4s and SUVs, became illegal in
the European Union, after having been banned on all new cars in 2002.

Text 4. Future car technologies (3971)

Potential future car technologies include varied energy sources and materials, which are being developed in order to make automobiles more energy efficient with reduced regulated emissions. Cars are being developed in many different ways. With rising gas prices, the future of the automobile is now leading towards fuel efficiency, energy-savers, hybrid vehicles, battery electric vehicles, and fuel-cell vehicles.

Advanced control

• Platoons of cars that are controlled by the lead car
• Vehicle infrastructure integration
• Driverless car
• Interactive dashboard and wind shield

Energy sources

One major problem in developing cleaner, energy efficient automobiles is the source of power to drive the engine. A variety of alternative fuel vehicles have been proposed or sold, including electric cars, hydrogen cars, compressed-air cars and liquid nitrogen cars.

In one experiment done to improve the future of cars, an old kind of battery was installed which can not be removed, and recharged in two different ways. First, by a generator integrated with the IC and second by removing the cassettes so that they can be recharged off-board in the home.

Energy saver

Actual automobiles operate at about 15% efficiency. The rest of the energy is lost to engine and drive-train inefficiencies and idling. Therefore, the potential to improve fuel efficiency with advanced technologies is enormous.

Various technologies have been developed and utilized to increase the energy efficiency of conventional cars or supplement them, resulting in energy savings.

• Regenerative braking technology saves and stores energy for future use or as back up power. When conventional brakes are used, 100% of the kinetic energy lost is converted to thermal energy, and dissipated in the form of heat.

Regenerative braking recovers some of this energy to recharge the batteries in a hybrid vehicle.

• BMW's Turbosteamer concept uses energy from the exhaust gases of the traditional Internal Combustion Engine (ICE) to power a steam engine which also contributes power to the automobile (Hanlon, 2005). This can increase energy efficiency by up to 15%.

• Compressed air Hybrid is an engine made by researchers at Brunel University in Britain, which forces highly compressed air into the engine, which they claim reduces fuel consumption by 30%.

• Utilization of waste heat from D.W. as useful mechanical energy through exhaust powered steam, stirling engines, thermal diodes, etc.

• Using computational fluid dynamics in the design stage can produce vehicles which take significantly less energy to push through the air, a major consideration at highway speeds. The Volkswagen 1-litre car and Aptera 2 Series are examples of ultra-low-drag vehicles.

Materials

Lighter materials can make cars more fuel efficient and increase performance.

• Duraluminum, fiberglass, carbon fiber, and carbon nanotubes may totally replace all steel in cars, potentially improving lightness and strength. Aluminum, carbon fiber and fiberglass are used in cars today.

• Plastic and foam for the car's shell; foam can provide additional safety for pedestrians, and can also make the car buoyant.

• Water-repellant glass

Carbon Fiber

Racing cars used to be made of the same sort of materials as road cars, that is steel, aluminum and other metals. In the early 1980s, however, Formula 1 underwent the beginnings of a revolution that has become its hallmark today:

the use of carbon composite materials to build the chassis. Today, most of the racing car chassis - the monocoque, suspension, wings and engine cover - is built with carbon fiber. This material has four advantages over every other kind of material for racing car construction:

• It is super lightweight.

• It is super strong.

• It is super stiff.

• It can be easily molded into all kinds of different shapes. The high cost of carbon fiber is mitigated by the material's unsurpassed strength-to-weight ratio, and low weight is essential for high-performance automobile racing. Racecar manufacturers have also developed methods to give carbon fiber pieces strength in a certain direction, making it strong in a load-bearing direction, but weak in directions where little or no load would be placed on the member.

If we could replace the body parts of the ordinary cars with these strong carbon fiber the weight of the body parts can be significantly reduced. When the weight is considerably decreased without compromising on the strength, the performance vary to a large extend. By making the body panels with lightweight materials the centre of mass height can be lowered which gives the SUV type vehicles an improved principle performance as like other sports cars.

Приложение Д

ТЕРМИНОЛОГИЧЕСКИЙ СЛОВАРЬ

Agriculture	Сельское хозяйство
Air-cooled engine	Двигатель воздушного охлаждения
Animal power	Животная тяга
Arm	Рычаг, рукоятка
Arrangement	Устройство, установка
Attach	Прикреплять, присоединять, навешивать
Bale	Кипа, тюк
Bearing	Подшипник
Belt	Ремень
Belt drive	Ременная передача
Blade	Нож
Bolt	Соединять болтами
Brake	Тормоз
Break	Дробить, измельчать
Burn	Гореть, сжигать
Cam	Кулачок
Carry	Поддерживать
Chassis	Рама машины, шасси
Clearance	Зазор
Clutch	Муфта, зубец
Combine	Комбайн

Combustion	Сгорание, горение, сжигание
Compress	Сжимать, сдавливать
Connecting rod	Шатун
Convert	Превращать(ся)
Coolant	Охладитель
Cooling system	Система охлаждения
Cotton picker	Хлопкоуборочный комбайн
Control	Регулирование, управление, регулятор
Coulter	Нож (плуга), предплужник
Crank	Кривошип, коленчатый рычаг
Crankcase	Картер, кожух кривошипа
Crankshaft	Коленчатый вал
Crawler	Гусеничный трактор
Cultivation	Обработка почвы, возделывание
Cup-type potato planter	Картофелесажалка с ложечными высаживающими аппаратами
Cutting	Косьба, скашивание, режущий
Cylinder	Цилиндр
Depression	Углубление
Design	Конструкция, предназначать
Differential	Дифференциал
Differential lock	Механизм блокировки дифференциала
Drawbar	Сцепное устройство
Drilling	Рядовой посев

Drive wheel	Ведущее колесо
Dropping	Высевающий
Duty	Нагрузка, режим работы
Engine	Двигатель, машина, локомотив
Ejector	Выбрасыватель
Eject	Выталкивать
Endless track	Замкнутая гусеница
Equip	Оборудовать
Equipment	Оборудование
Escape	Улетучиваться
Exhaust gases	Выхлопные газы
Expand	Расширять(ся)
Fertilizer	Удобрение
Flushing agent	Прикрытие для отвода дождевой воды
Force	Сила
Frame	Рама
Friction	Трение
Frog	Башмак
Front axle	Передняя ось
Fuel	Топливо
Fuel injection pump	Топливный насос
Furrow	Борозда
Gear	Зубчатое колесо, привод, передача
Gearbox	Коробка передач

Bevel gear	Коническое зубчатое колесо
General purpose tractor	Трактор общего назначения
Governor	Регулятор
Grain binder	Жатка-сноповязалка
Grain reaper	Жатка
Grinding	Дробление
Harrow	Борона, бороновать
Harvester	Уборочная машина
Heavy harrow	Культиватор для тяжелых условий работы
Hoist	Лебедка, подъёмник
Hopper	Бункер
Horse-powered	Конно-приводной
Implement	Орудие
Implements	Сельскохозяйственный инвентарь
Injector	Форсунка, инжектор
Intake	Впуск, впускной
Internal combustion engine	Двигатель внутреннего сгорания
Landside	Полевая доска (плуга)
Lever	Рычаг, зацепление
Liquid	Жидкость
Lubricant	Смазочный материал
Lubricate	Смазывать
Lubricating system	Система смазки
Lubrication	Смазка, смазывание

Make	Изделие, тип, делать, изготовлять
Moldboard	Отвал
Moldboard plow	Отвальный плуг
Moldboard shape	Орган отвального плуга
Mole drainage	Кротовый дренаж
Motion	Движение
Mount	Устанавливать, монтировать
Mounted	Навесной
Move down	Опускать
Moving	Движение
Mow	Косить, жать
Mowing	Косьба
Oil	Масло, нефть, смазочный материал
Oiler	Масленка, смазчик
Operate	Управлять, приводить в действие
Operator	Механик
Passage	Проход, канал
Petrol	Бензин
Performance	Эксплуатационные качества, производительность
Picker-type potato planter	Картофелесажалка с накалывающими высаживающими аппаратами
Pin	Палец, ось, штифт
Piston	Поршень
Planter	Сажалка, сеялка для гнездового посева

Plow	Плуг
Power	Мощность, силовая передача
Powered	Приводной
Power shaft	Приводной или передаточный вал
Power train	Трансмиссия
Prong	Вилка, вильчатый копач
Pull	Тянуть, буксовать
Pump	Насос
Rear	Задний
Reel	Мотовило
Rigid	Жесткий, неподвижно закрепленный
Roller	Каток
Rotary	Вращательный
Row	Ряд, рядок; борозда, междурядье
Row-crop cultivation	Междурядная обработка
Rubber tire	Резиновая шина, резиновый обод
Saw	Пила
Scraper	Скребок, чистик, скрепер, грейдер
Seal	Уплотнение, сальник, придавать непроницаемость
Seedbed	Пашня, подготовленная к посеву, посев
Seeding	Сев, посев
Shaft	Вал
Shape	Модель, образец
Share	Лемех, сошник

Soil	Почва
Speed	Скорость
Spraying	Опрыскивание
Spring ring	Пружинящее колесо
Steam	Пар, паровой
Steering	Рулевое управление
Sump	Отстойник, картер, поддон
Supply	Обеспечивать, снабжать
Swather	Валкоукладчик
Tedding	Ворошение
Three-point linkage	Трехточечная навеска
Thresh	Молотить
Threshing floor	Ток, гумно
Throttle	Дроссель
Tillage tool	Почвообрабатывающее орудие
Tine	Стойка (культиватора)
Tire	Шина
Track	Гусеница
Tracklayer	Гусеничный трактор
Traction	Тяга, передвижение
Treadmill	Стенд с беговыми барабанами или бесконечной лентой
Tuber-unit planter	Сажалка для посадки клубнями
Turn	Оборот (колеса), вращать(ся)
Turn over	Перевертывать(ся), опрокидывать(ся)

Two-stroke	Двухтактный
Valve	Клапан
Water-cooled engine	Двигатель водяного охлаждения
Wear	Износ, изнашивание
Wheel	Колесо
Weight	Вес

Учебное издание

ОКСАНА МИХАЙЛОВНА КОЧУРОВА

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